

ESSENTIAL TIPS: **WEATHERING HOW-TO** p.24



**New Athearn
GP18 tested** p.56

November 2021 • Trains.com

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Sneak peek at *Great Model Railroads 2022* p.62

How to detail war emergency hopper cars p.34

Model fusees with this simple LED project p.30

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**N Scale
F40PH-2D Locos**



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Run Loco: Recall the loco or press Loco and enter #, ↓. **Adjust Speed:** Use knob or press +1 / -1. **F0 - F9:** Press 0 - 9. **F10-28:** Press Shift, then two digits. **Delete Loco:** Press & hold Del. **Stop:** Press Stop. **Turn on/off layout:** Press & hold Stop. **Speed Steps:** Press Spd Step to select 14/28/128, ↓. **Yard mode on/off:** Press Sys, 3. **Accessory:** Press Accy, enter #, ↓. Press 1 / 2 for on / off. **Route:** Press Route, enter #, ↓. **Fast Clock:** Press Time. **Program on Prog Track:** Press Prog to select Prog Prog Track, ↓. To program following items, enter #, ↓. To skip press ↓. **Adr = Address, SV = Start Voltage, Acc = Accelerate, dEc = Decelerate, TV = Top Voltage. CV # prompt for CV. Enter CV #, ↓.**

Then CV data, ↓. Program on Main: Press Prog to select Prog Main, ↓. For Current Loco press ↓, or enter Loco #, ↓. Then same way as above. **Read on Prog Track:** Press Prog to select rEAd, ↓. To read data press ↓. To skip press Shift. **Err = error. Set Consist:** Press Consist to select SET, ↓. Enter consist # (1-127), ↓. To add loco enter #, ↓. Now use consist # as loco # to run the group. **Clear Consist:** Press Consist to select CLr, ↓. Enter consist #, ↓. **Set Old Consist:** Press Consist to select Old SET, ↓. Enter lead #, ↓. To add loco enter #, ↓. **Run old consist group:** Press Consist, Loco. Enter lead # ↓. **Clear Old Consist:** Press Consist to select Old CLr, ↓. **Set Cab #:** Press Sys, 6. Enter cab #, ↓. Each cab must have unique #. Cab #1 is master and has following features. **Set last cab allowed to program on Main or Prog track:** Press Sys, 7 or 8 respectively. Enter #, ↓. **Set Route:** Press Sys, 5, ↓. Enter route #, ↓. To add accessory enter #, ↓. **Clear Route:** Press Sys, 0, ↓. Enter route #, ↓. **Set Time:** Press Sys, 1. Enter, time, ↓. **Set Rate:** Push Sys, 2. Enter rate (how many seconds for a minute), ↓. **Select AM, PM, or Military Time:** Press Sys, 4.

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On the cover: Fall scenery prevails on John Ciesla's layout, whose setting moves depending on the equipment run. John Ciesla photo



Next issue

In **December**, see a layout where the Santa Fe meets Colorado narrow gauge. Also, model a half-full coal hopper, scratchbuild a semaphore with 3-D printed parts, and more!

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HO Models Shown



Sketching with Steve

Before you go running off to design a track plan using complicated computer software, Senior Associate Editor Steven Otte has another solution that may save you some stress: a track template. Read the latest edition of *Sketching with Steve*, as Steve explains the pros and cons of a tool that many may have dismissed as a way of the past.



Layout video

Interested in seeing more of Campbell Road? This 11 x 30-foot HO scale model railroad, first featured in the September 2021 issue of *Model Railroader*, is a freelanced Appalachian layout chock full of impressive details! Head on over to Trains.com to check out the layout video shot by Contributing Editor Lou Sassi as he explores the railroad and captures some of the trains in action.



The NCTD Sprinter

The Sprinter provides clean, quiet, diesel-powered commuter service in northern San Diego County. It connects with trains of Amtrak's Surfliner, plus Metrolink and the Coaster. These new PIKO double-ended articulated models feature interior details and lights, as well as directional lights.

Build a typical consist with two road numbers coupled together.



Coming soon in DC non-sound and two DCC/Sound road numbers. The PIKO SmartSound Decoder is packed with over four minutes of unique, authentic sounds of the real Sprinter, including short horn, long horn, grade crossing horn and FRA emergency horn, crossing bell, motor, brake and curve sounds, official NCTD announcements (some even bi-lingual), and every single station stop announcement!

All PIKO HO models operate on Code 100 or Code 83 rail.

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PIKO

A photograph of a black Shay steam locomotive with three large horizontal cylinders, positioned on a set of tracks in an outdoor setting. The locomotive is facing right, and its number "3" is visible on the front.

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THE SHAY



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

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

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DCC Sound \$449

HO scale

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Introducing the variable location layout

We usually have an idea of what we want to model – the scale we will use, the era, the region, and the railroad. Actually getting around to building the layout is another thing, but having the basics in place is a start.

But what if you have more than one favorite railroad? That was the dilemma faced by John Ciesla, whose HO

scale Eastport Branch model railroad is featured on this month's cover.

John's 15 x 20-foot layout consists of connected modules that hug the walls of his basement. Each module can operate as separate switching layout or combine to give trains on this New England-themed layout plenty of running room.



New Hampshire's Crawford Notch is shown in fall splendor on John Ciesla's HO scale Eastport Branch. John Ciesla photo

"New England-themed" isn't a very specific description – and that's the point. John took a different path and built what he calls a "variable location layout."

John has collected equipment from many Northeast railroads, and he uses the same scenes to represent railroads from Long Island to the Maine coast.

"This helps keep the layout fresh," John explains.

Hey, if you can't decide what to model, model it all! Check out John's article starting on page 40.

Alex Nawotka's N scale layout is set at the opposite side of the continental U.S. in western Montana and eastern Washington State, and it has some thoughtful design aspects of its own.

Although this is Alex's first serious layout, and measures just 10 x 10 feet, he



included adequate hidden staging, a small yard for switching, and a few well-chosen industries.

"It came out much better than I expected for the first time doing this," Alex told author Tony Koester. Read how Alex's good planning paid off in Tony's feature starting on page 48.

Model Railroader

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We welcome contributions from readers, including articles, photographs, and drawings. For more information on submitting material, e-mail Editor Carl Swanson at cswanson@kalmbach.com. Model Railroader assumes no responsibility for the safe return of unsolicited material. We assume unsolicited material is intended for publication by Kalmbach Media unless otherwise noted. We assume letters, questions, news releases, and club news items are contributed gratis.

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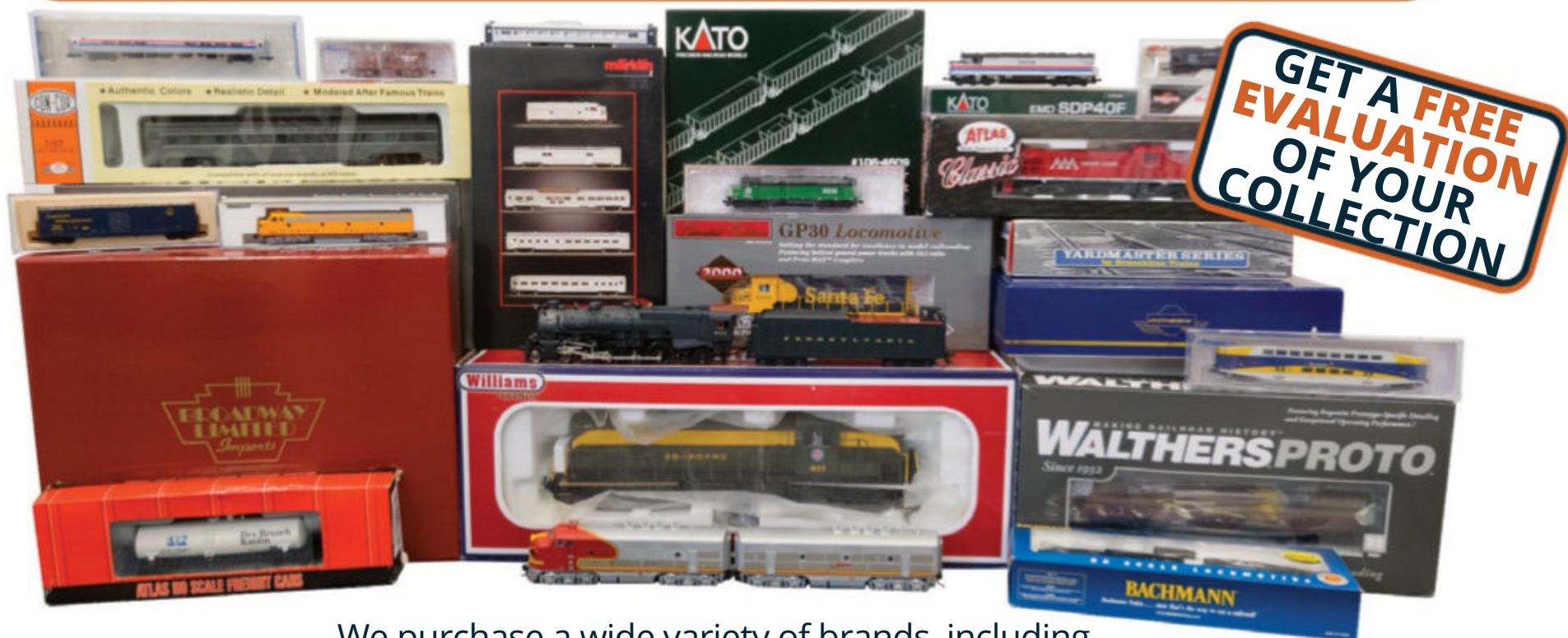
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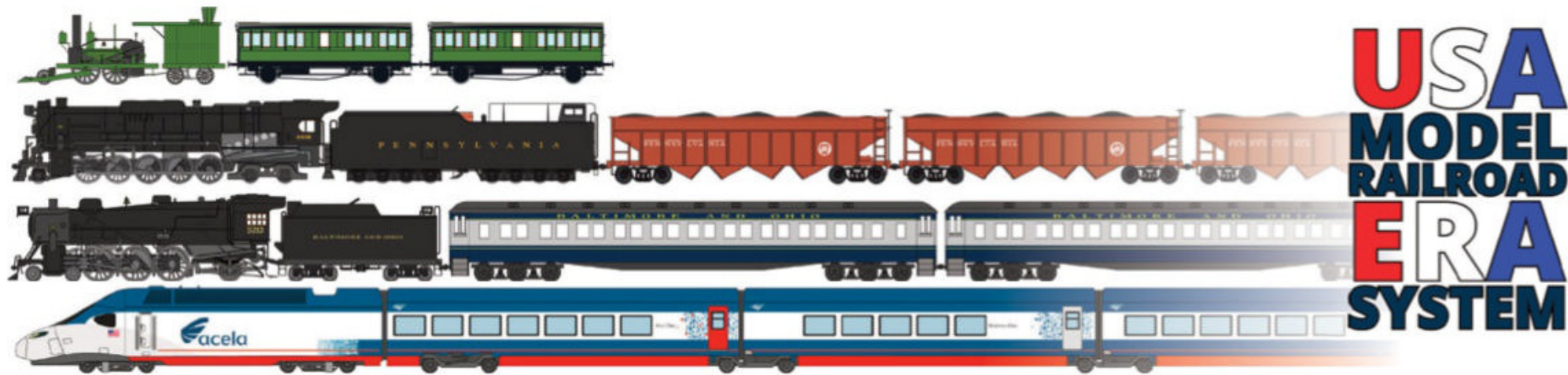
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Many thanks for the warm welcome you have given us. We have successfully negotiated hundreds of deals and we are ready for more. We apologize for the slight delay in processing some of your lists: we are now working on a **24-48 hour** response time to make you an offer.

Our era system has also a great response. Thank you for the applause and criticism, we understand this method of categorization is not to everyone’s liking. We are reviewing all your suggestions and hope to improve it further.

I hope you are well and I look forward to getting the opportunity to meet with you, if you are at any of the events I hope for Hattons to attend over the next year.

Richard Davies
CEO

Shouldn't America have its own Era System?
Please join us at hattonsmodelmoney.com/US-Eras and give us your thoughts and opinions.
We'd love your assistance in developing one!

Our proposed method of grouping products based on prototypes across nearly 200 years of railroads in the United States!

Era	Date	Name	Steam	Alco	EMD	GE	Passenger
1	1827-1880	Old Time	American 4-4-0s				Open vestibule wood cars <60ft
2	1880-1916	Turn of the Century	Atlantics, Moguls, Consolidations, Camelbacks				Closed vestibule wood cars 80ft
3	1917-1928	Golden Age	USRA to Superpower and Modern Steam				Steel Clerestory/Early streamliners
4	1929-1949	Superpower	4-6-4s, 2-8-4s, 4-8-4s, 2-10-4s and 2-6-6-4s	Small switchers HH, S and DL series	NW Series/Streamline Trainsets/Early E Series		
5	1949-1960	Steam/Diesel Transition	Steam Decline	FA/PA/S Series Early RS Series	E/F/SW Series Early GP/SD Series	U Series launched	Rise of the post-war streamliner
6	1960-1972	1st Gen	End of steam	RS27-36/Century Series	SW1000/1500, GP20 to SD45	U Series	Decline of the post-war streamliner
7	1972-1979	2nd Gen			GP/MP15, GP/SD50, GP/SD60, Dash 2 Series	Dash 7	Amtrak Heritage/Amfleet
8	1980-1989	Eighties			GP50/60 SD50/60	Dash 8	Amtrak Superliners/Amfleet II
9	1990-2010	Nineties and noughties			SD70 Early AC traction	Dash 9, Early AC	Amtrak Viewliner/Superliner 2
10	2010 to Present	Current			SD70 ACe-T4	AC Series, GEVO	Avelia Liberty (Amtrak Acela II)

Thank you to **Mr H. Fuller, Mr R. Shirey, Mr J. Agneta** and many others for their help in progressing the eras we proposed in our previous advertisements.

We welcome assistance in developing this resource - please contact our proprietor Richard Davies on richard@hattons.co.uk if you are interested in participating with this project.

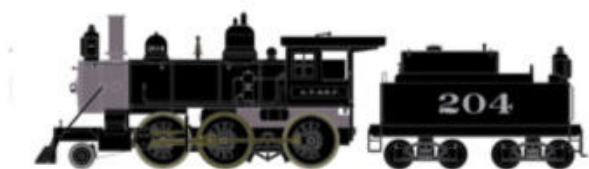
HO scale



Alco C-424 diesel locomotives. Atlas offers these four-axle road units decorated for Morristown & Erie (Phase II re-issue with new sill stripes), Green Bay & Western (Phases I and II), Delaware-Lackawanna (Phase II, one road number), Erie Lackawanna (Phase I, three numbers), and Minnesota Commercial (Phase II, three numbers). The HO scale models are offered in two numbers per scheme unless noted; undecorated models are also available in Phase I and II body

styles. Features on the Classic series locomotives include factory-installed grab irons, ladders, air horn, and see-through plastic drop steps; two painted crew figures; and Accumate couplers. Direct-current models with an 8-pin plug for Digital Command Control decoder are priced at **\$169.95**. Versions with a dual-mode ESU LokSound Select sound decoder sell for **\$279.95**. Atlas Model Railroad Co., 908-687-0880, shop.atlasrr.com

HO scale locomotives



- **2-6-0 Mogul steam locomotive.** Atchison, Topeka & Santa Fe; Boston & Maine; Canadian National; Denver & Rio Grande Western; New York Central; and Southern Pacific. Two road numbers per scheme. Upgraded Model Die Casting (Roundhouse) tooling with railroad-specific smokestack, dome, headlight, lead truck, and tender; upgraded drive mechanism; light-emitting-diode lighting; and McHenry scale couplers. Direct-current model with 21-pin plug, \$209.99; with dual-mode SoundTraxx Econami sound decoder, \$269.99. August 2022. Ready-to-Roll. Athearn Trains, 800-338-4639, athearn.com



- **General Electric U25B diesel locomotive.** Low short hood: Erie Lackawanna (early scheme); Atchison, Topeka & Santa Fe (pinstripe scheme); Great Northern (simplified Omaha Orange and Pullman Green scheme); Penn Central (black and white); and New York, New Haven & Hartford (black,

white, and orange). High short hood: GE Demonstrator (red with white stripe in three road numbers, white-over-red scheme in one number), St. Louis-San Francisco (Frisco, Mandarin Orange and white), and Union Pacific (Armour Yellow and Harbor Mist Gray with "Dependable Transportation" slogan on cab). Four numbers per scheme unless noted. Prototype-specific air tanks, exhaust stack, and fuel tanks; illuminated control stand; working step lights on low short hood models; and working inspection lights on all models. Direct-current model with 21-pin plug, \$239.95; with dual-mode ESU LokSound V5 sound decoder, \$349.95. Mid 2022. Rapido Trains Inc., 905-474-3314, rapidotrains.com



- **Canadian National GP9RM diesel locomotive kit.** With 36" and 48" fans (both styles offered in three versions: with louvers on cab's left side, without louvers, and raised utility box on right side). Kit includes 3-D printed locomotive shell and detail parts; etched-metal steps, fan grills and blades, stanchions, windshield wipers, and door handles; formed wire grab irons, handrails, and

N scale



Controlled entry kiosks. Jacksonville Terminal Co. has released these factory-assembled and painted details in six paint schemes. The N scale controlled entry kiosks (three-pack, **\$36.95**) feature injection-molded plastic construction with a curb island and kiosk, gate cabinet, positionable gate, and camera tree. Jacksonville Terminal Co., 904-253-3430, jtcmodeltrains.com

In Memoriam

Robert Weaver

Robert Weaver, who established Quality Craft/Weaver Model Trains, died on August 7, 2021. He was 93 years old.

Robert, along with his wife, Shirley, started Quality Craft/Weaver Model Trains in Northumberland, Pa., in 1965. For more than 50 years, the company produced plastic and brass O gauge two- and three-rail locomotives and rolling stock.

The manufacturing side of the business ended operation in 2015. Atlas O and Lionel later purchasing some of the Weaver tooling.

lift rings; and two types of class light assemblies. Designed to fit Walther's Mainline GP9 chassis. \$109.92. Maple Leaf Trains, +972-52-621-6455, mapleleaftrains.com

HO scale freight cars



- **Assorted freight car kits.** Chicago, Burlington & Quincy single-sheathed twin hopper, \$18.98. Burlington Northern American Car & Foundry 2,970-cubic-foot-capacity two-bay Center Flow covered hopper, \$20.98. Canadian Pacific 40-foot riveted-side boxcar (step gothic lettering and "Newsprint Service Only" shield), \$19.98. Illinois Central 40-foot double-sheathed refrigerator car (yellow and brown with "Central Despatch" lettering), \$20.98. Nickel Plate Road 36-foot wood boxcars (Fowler, double-sheathed with fish-belly underframe, and double-sheathed with straight underframe: single car, \$19.98; three-pack, \$58.98). Injection-molded plastic kits with plastic wheelsets, trucks, and Accumate couplers. Accurail, 630-365-1173, accurail.com
- **Sun Belt System 70-ton wood-chip hopper.** Solid-bearing trucks, metal wheelsets, and body-mounted couplers. Four road numbers (only 50 of each number will be produced). \$29.95.

Bowser Trains, 800-327-5126, bowser-trains.com



- **Evans 4,780-cubic-foot-capacity three-bay covered hopper.** Archer-Daniels-Midland (blue, yellow, and gray paint schemes); Boston & Maine (blue); Farmer's Cooperative Association, St. Edwards, Neb.; Missouri-Kansas-Texas (green and yellow billboard lettering); and Union Pacific (gray with shield herald and Missouri-Kansas-Texas reporting marks). Four road numbers per scheme. Factory-installed grab irons, see-through etched-metal walkways and crossover platforms, and separate vibrator brackets on hopper bays. \$39.98. Walther's Proto. Wm. K. Walther's Inc., 414-527-0770, walther's.com

HO scale structures

- **Country butcher.** Laser-cut cardboard low-relief kit. Includes customizable display case and detailed instructions. Measures 2.36" x 1.57" x 4.52". \$33.05. Price may vary based on exchange rate. Minifer, minifer.fr/en

N scale locomotives



- **Electro-Motive Division F59PHI diesel locomotive.** Metra (Chicago & North Western, Milwaukee Road, and Rock Island heritage schemes, one number each), Amtrak ("Be Track Smart" in one road number and as-delivered and Amtrak California schemes), North Carolina Department of Transportation, and Metrolink. Two numbers per scheme unless noted. All-wheel electrical pickup; die-cast metal frame; separate, factory-applied air horn, handrails on rear pilot, wire grab irons, and snow plow; light-emitting-diode lighting; and McHenry scale couplers. Direct-current model, \$149.99; with dual-mode SoundTraxx Tsunami 2 sound decoder, \$249.99. September 2022. Athearn N. Athearn Trains, 800-338-4639, athearn.com

Club offerings



- **Rockford Brewing Co. 40-foot double-sheathed refrigerator car.** Accurail HO scale kit custom-decorated for the Arlington Heights Society of Model Engineers. One road number. Solid-bearing trucks, plastic wheelsets, and Accumate couplers. \$29.98 plus \$8.45 shipping for one car, \$9.75 for multiple cars to addresses in the United States, and \$21.25 for foreign orders of any size. AHSOME, 918 W. Colfax St., Palatine, IL 60067



- **Shop of Siebert Inc. 40-foot steel double-door boxcar.** Accurail HO scale kit custom-decorated for the Illini Chapter of the Professional Car Society. One road number; renumbering decals available upon request. Plastic wheelsets and Accumate couplers. \$23.98 plus \$8.45 shipping for one car, \$9.75 for multiple cars to addresses in the United States, and \$21.25 for foreign orders of any size. Illini Chapter PCS, 918 W. Colfax St., Palatine, IL 60067

N scale freight cars



- **Pacific Car & Foundry 5,195-cubic-foot-capacity boxcar.** Amtrak (phase 4 and green schemes, three road numbers each), Columbus & Greenville (Southern Pacific patchout, six numbers), Golden West Service (with Ventura County reporting marks in 12 numbers and SP marks in six numbers), Southern Pacific (as-delivered scheme, 12 numbers), and Union Pacific (repainted with shield herald and SP marks, six numbers). Also

available undecorated. Hydra-Cushion underframe; separate, factory-applied uncoupling levers, door latch mechanism, and end ladders; road-number specific paint patches as appropriate, and full underbody brake rigging. Single car, \$36.95; Amtrak three-pack, \$149.95; and six-pack, \$221.70. Rapido Trains Inc., 905-474-3314, rapidotrains.com

N scale structures



- **Sherwood's Bridge.** Base kit (\$39.95) includes 9" span with two end abutments and one pier set. Expansion kit (\$19.95) contains 5" span with one pier set. Base and expansion box set (\$49.95) includes one of each kit. Kits feature lattice truss design, interlocking spans, wood deck and guardrails, 2½" pier sets, concrete

abutments, and illustrated instructions. Base kit is 10" long x 3¼" high. Expansion kit is 5" long x 3¼" high. Track and rolling stock shown not included. The N Scale Architect, 607-746-8416, thenarch.com

O scale freight cars

- **Gunderson Multi-Max auto rack.** BNSF Ry. (orange), Canadian Pacific (white with red "CP" lettering and SOO

reporting marks), Kansas City Southern (yellow with Kansas City Southern Lines and Kansas City Southern de Mexico heralds), Norfolk Southern (yellow with Thoroughbred herald), and Union Pacific (yellow with shield herald and "Building America" slogan). Four road numbers per scheme. New superstructure, flatcar, and truck tooling; positionable end doors; and removable interior deck (additional deck available separately to convert from bi-level to tri-level).

N scale



Pullman-Standard lightweight coach. RailSmith Models recently released this ready-to-run car decorated in Northern Pacific's 1947 *North Coast Limited* Pine Tree scheme. The N scale injection-molded plastic model has painted molded grab irons on the sides, sprung diaphragms, metal wheels, a plastic interior, and truck-mounted couplers. Single cars sell for \$49; two-packs are priced at \$89. RailSmith Models, lowellsmith.net/railsmith

4 ALL-NEW ANNOUNCEMENTS

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Arrives December 2021



HO EMC E1
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locomotives built by the company. *Baldwin-Westinghouse Standard Electric Locomotives* examines engines designed for freight operations. Softcover, 108 pages. \$35. Manufacturers' Catalog Archive series. SilverLake Images LLC and Ron's Books, 914-967-7541, ronsbooks.com **MR**

HO scale



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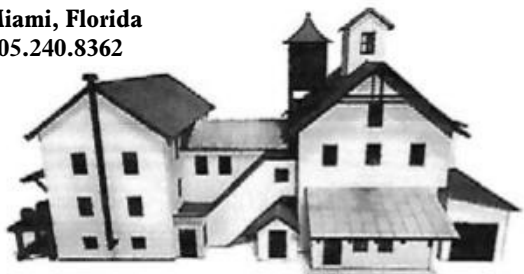
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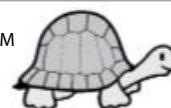
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Ask MR



Canadian National distributed braking car 0069 is seen in a southbound intermodal train at Ackerville, Wis., on March 21, 2021. The built-in FRED is visible on the car end, next to the brake wheel. The car and three of its kind were being moved to summer storage. Cody Grivno photo

Why do these boxcars have built-in lights?

Q I recently saw these bright orange boxcars parked near the Canadian National Woodcrest Shops. They have CN reporting marks, though I haven't gotten close enough to get specific numbers. Many of them have red lights on both ends that look to be like the ones used at crossing gates. They must move these cars often, because I notice the number and position of the cars are different almost every time I pass there. What are these cars carrying that warrants the extra visibility?

Ed Schmidt, Des Plaines, Ill.

A Those aren't general-service boxcars, but rather, what Canadian National calls Distributed Braking Cars. They're designed to help keep up brake line pressure during long trips through the Canadian winter, when cold temperatures can cause the air in the brake lines to contract.

Though they started life as American Car & Foundry 7,596-cubic-foot boxcars, they were outfitted at CN's Transcona Shops with a diesel fuel tank, air compressor, and other equipment. Some external spotting features include a personnel door on the side and, on the roof, a pair of antennas and a GPS dome.

The light you observed on the car end is a built-in End of Train Device (EOT or ETD), also known as a Flashing Rear End Device (FRED). It would be turned on if the car were put on the end of a train, though the cars can also serve their braking purpose in the middle of a consist.

For more information about the history of these cars and hints on how to model them, check out the May installment of "Cody's Trackside Finds" at Trains.com/MRR/how-to/prototype-railroads/codys-trackside-finds/.

Q I have several HO track cleaning cars and they work fine generally. However, for my rerailers, the track is set low in the surrounding plastic and the cleaning car doesn't clean the track well at all. Any ideas or suggestions?

Thomas Germroth, Middle River, Md.

A The answer might be a customized track-cleaning car. You remember those old-fashioned homebrew track-cleaning cars with the tempered hardboard pad underneath? Get or make one of those and run it over your exposed rails until it becomes obvious exactly where on the pad the rails ride. Then use a

chisel-bladed hobby knife to thin the pad everywhere but those areas, so that the pad rides only on the rails and will pass over the raised plastic parts of the rerailers. Such a car won't clean rails that fall between the gauge, like turnout closure rails, and it might have trouble on curves. But you can try using a modified car just on the hidden track that's giving you problems. Good luck.

Q When MR's Cody Grivno paints plastic structures, he advises to prime

Send questions and tips to associate editor Steven Otte at AskTrains@Trains.com.

the surface with Rust-Oleum 2X Ultra Cover Flat Gray Primer. Rust-Oleum makes that same paint in colors. One of the colors is just what I want. Do I still have to add the grey primer coat?

Larry Hempel, Elsberry, Mo.

A Cody uses primer for a couple reasons: first, to ensure that all model parts, regardless of the color plastic they were molded in, are of a uniform color so the final paint coats come out as expected; and second, because Cody might want to use a paint that might not stick all that well to unprimed plastic. If neither of those are going to be an issue for you, use the color you want.

Q What weight of rail (pounds per yard) does code 83 represent? Maybe you could publish a table of weight vs. code vs. scale?

Jeff Schredder, Burbank, Calif.

A The relation of model rail code to prototype rail weight depends, of course, on scale. I found in the March 1940 issue

of *Model Railroader* a table that gave the prototype rail height for different weights of rail. It's a simple matter to convert rail code (which is thousandths of an inch of rail height) to scale height, and from there check the table to find the closest prototype rail weight.

The most common HO scale rail codes are code 70, 83, and 100, corresponding to .07", .083", and .1". Multiplying .07 by 87.1 (the proportion of HO scale to the prototype) gives us a scale rail height of approximately 6". According to the chart, 6" is the prototype height of 100 lb. rail, a fairly heavy branchline or light mainline rail. Code 83 comes out to 7 $\frac{1}{4}$ ", which is a little bigger than code 140 rail, used only on the heaviest main lines. Code 100 rail is a scale 8 $\frac{3}{4}$ " high, which is larger than the 8" height of 152 lb. rail, the heaviest rail used on any of the prototypes.

Since scale rail can be made only so small, N scale rail tends to be even heavier than the prototype. Codes 40, 55, and 80 are common. These correspond roughly to 6 $\frac{3}{8}$ " (100 lb.), 8 $\frac{3}{4}$ " (larger than



Newly installed rail on CSX's Toledo Subdivision near Deshler, Ohio, is seen on Oct. 8, 2010. The first part of the manufacturer's marks on the side of the rail, 136 RE, identify this as 136-pound rail, typical of modern main lines. Eric Powell photo

152 lb.), and 12 $\frac{3}{4}$ " (much larger than anything used on the prototype).

As you might guess, larger scale rail is closer to prototype height. Code 125 O scale rail is 6" high, matching the height of 100 lb. rail. Code 148 comes out to just over 7" in O scale, close to the height of 140 lb. rail.

Union Pacific Railroad (UP) class 4000

The Union Pacific Railroad rolled out the biggest restoration of 2019, the complete overhaul of the largest steam locomotive in the world – the Big Boy, road number 4014.

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Q I've tried using track-planning software, but things won't match up. Where can I get the dimensions for N scale turnouts and track? Because of COVID-19, it's hard to find retailers that are open, and buying online could be an expensive way to find out a project won't work.

Larry Slid, Surrey, B.C.

A Many track planning computer programs have libraries of commonly available track components with accurate dimensions, so you can be confident track plans created using those turnouts and track sections will fit as planned. If a track configuration doesn't work in a planning program, it's a good bet it wouldn't work in real life, either.

If you'd prefer to work on paper, most track manufacturers have information like dimensions and even downloadable templates on their websites. If they don't, buy one turnout and photocopy it to make your own templates. Cut them out and tape them together to test different track configurations. **MR**

READER TIP

An easy gravel-textured roof

Here's a fast and easy way to make a gravel roof. The roof in this photo was painted with Rust-Oleum American Accents stone textured finish. It went on in one coat and looks even better in person than in the photo. This paint should be available just about anywhere spray paints are sold (I got mine at Ace Hardware). It even has the nubby texture feel you'd expect from the real roof. It comes in a wide variety of colors, too.

I sprayed it directly on the styrene roof of this Walthers kit. It should be noted that this paint will not go on this smoothly on all plastics. For example, it will bead up and look awful if applied directly on ABS, like that used in some Plastruct products. However, a coat of plastic-compatible primer fixes the problem. Since some Rust-Oleum paints aren't designed for plastic, a coat of primer is probably a good idea no matter what. – Richard Nelson



Richard Nelson attained the gravel-roof appearance on this HO scale building by spraying it with a faux-stone paint. Richard Nelson photo



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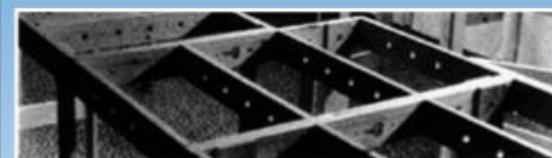
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Cody Grivno turned this Rapido Trains HO scale American Car & Foundry Flexi Flo covered hopper (inset) into a realistically weathered freight car. The car will be a regular visitor to the Jones Island section of our staff layout. Photos by the author

How to weather a covered cement hopper

The **LafargeHolcim cement plant** is one of the new industries planned for the Jones Island section of our HO scale Milwaukee, Racine & Troy staff layout. Eric White is scratchbuilding the towering industry for an upcoming issue of the magazine.

Though we have plenty of two-bay Center Flow covered hoppers that would look right at home at LafargeHolcim, we couldn't pass up the opportunity to pick up four new Rapido Trains American Car & Foundry Flexi Flo covered hoppers lettered for Lafarge.

To give the cars an in-service look, I used a mix of contemporary and time-tested techniques to weather the cars.

I turned to spray paint and alcohol-and-powered-pastel washes to give the wheelsets and couplers the look of gritty, worn metal. I used full-strength paint and a brush to pick out some details on the trucks. I went old school with an airbrush and thinned paints to weather the carbody.

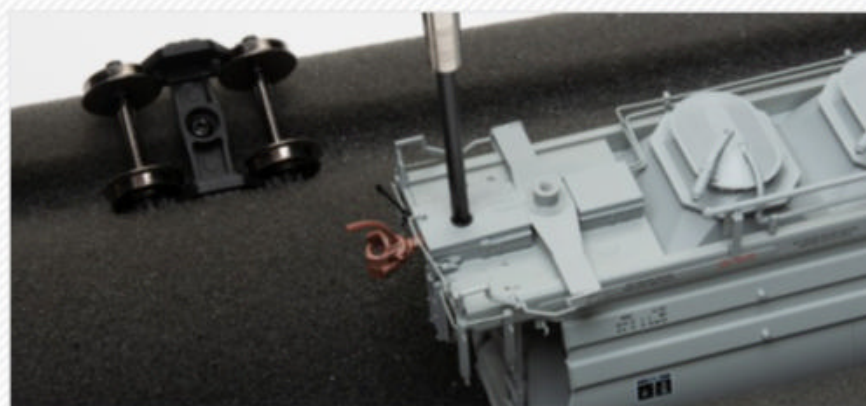
When in doubt on how a car should look, refer to prototype images. Now head over to the workbench and have some fun.

STEP 1 DISASSEMBLY AND CLEANING



Before I could start weathering the covered hopper, I needed to remove some parts. Since the model has many fragile details, I set the car in a foam work cradle.

First, I used a Phillips screwdriver to remove the washer-head screws that secured the trucks to the kingpins. There's a clear plastic washer under each truck. Set the screws and washers in a safe place until it's time to reassemble the model. Learn more about that in **Step 6** on page 28.



Next, I unscrewed the draft-gear box covers to remove the metal couplers. One end of the uncoupling lever is attached to the cover, so lift it off carefully. After the couplers were removed, I reattached the covers so they'd be weathered with the rest of the car.

Finally, I used a cotton swab to wipe the model with 70 percent isopropyl alcohol. This removes skin oils and other impurities that may be on the model. After the cars were cleaned, I only handled them while wearing gloves.

STEP 2 WEATHERING THE CAR



Weathering the cars was a fairly quick process using acrylic paints. I started by spraying the entire model with Vallejo Model Air White Gray (no. 71.119) thinned to a wash with airbrush thinner (no. 71.261), as seen at upper left. This helped tone down the original paint.

To simulate dust and grime, I sprayed the lower portion of the cars with Micro-Mark MicroLux Railroad Tie Brown (no. 29.003). I thinned the paint with the same airbrush thinner as before. See the upper right image.

I let the thinned paint dry overnight. Then I masked the running boards with Tamiya 10mm tape, trimmed to fit. I used Vallejo Model Air M495 Light Gray (no. 71.298) to simulate cement dust on the roof and sides. I built up the effect in light layers, as shown at lower left.

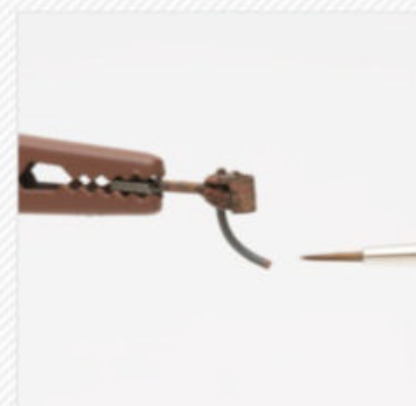
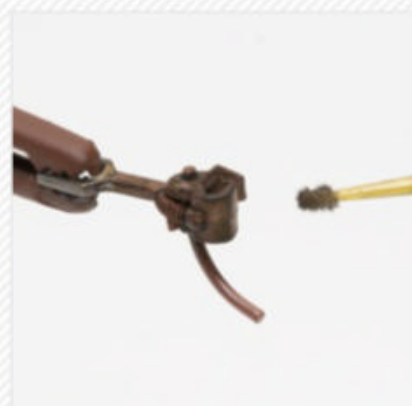
Then I removed the masking tape and let the paint dry for 24 hours. To protect the weathering and give the models a uniform flat finish, I applied Vallejo Matte Varnish (no. 70.520, lower right) with an airbrush.

STEP 3 COUPLER ENHANCEMENTS



The Rapido covered hoppers are equipped with metal couplers factory-painted a rusty brown color. Though they could be left as-is, I wanted to give the couplers a weathered metal appearance.

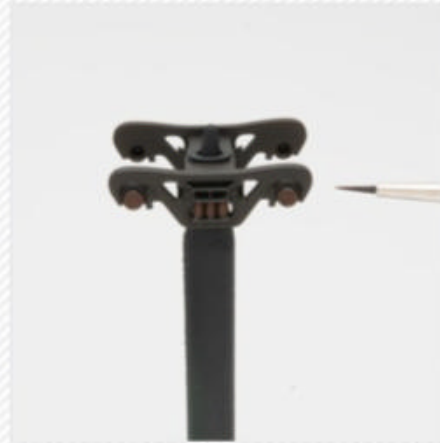
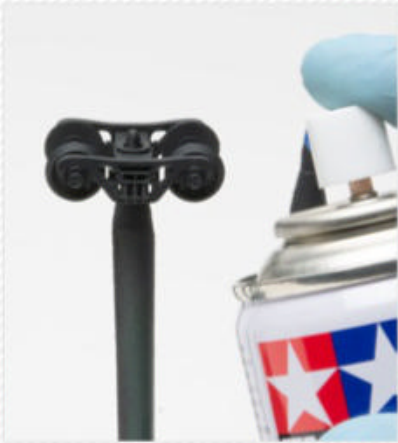
I started by putting the couplers for all four cars in a homemade jig we had in the workshop. Then I sprayed the couplers with Testor's Dullcote (do this in a well-ventilated area and wear personal protective equipment). I let the Dullcote dry thoroughly before proceeding.



Next, I used a Microbrush to apply Monroe Models Dark Buff (no. 493-977) and Quick Age (no. 493-978) Weathering Wash to the couplers. The washes are a mix of powdered pastels and isopropyl alcohol. When dry, they give the couplers a realistic, gritty finish.

To make the trip pins look like air hoses, I brush-painted them with Vallejo Model Air Dark Gray RLM42 (no. 71.123). Once that dried, I painted the tips with the same firm's Rust (no. 71.080).

STEP 4 DETAILING THE TRUCKS



Trucks are often overlooked when freight cars are weathered. There are a lot of great details on the castings that, with a bit of effort, can give your models that extra bit of realism.

I put plastic wheelsets in the castings to mask the sockets. Then I spray-painted the plastic parts with Tamiya Rubber Black (no. TS-82, left). This provides the base coat for the rest of the weathering.

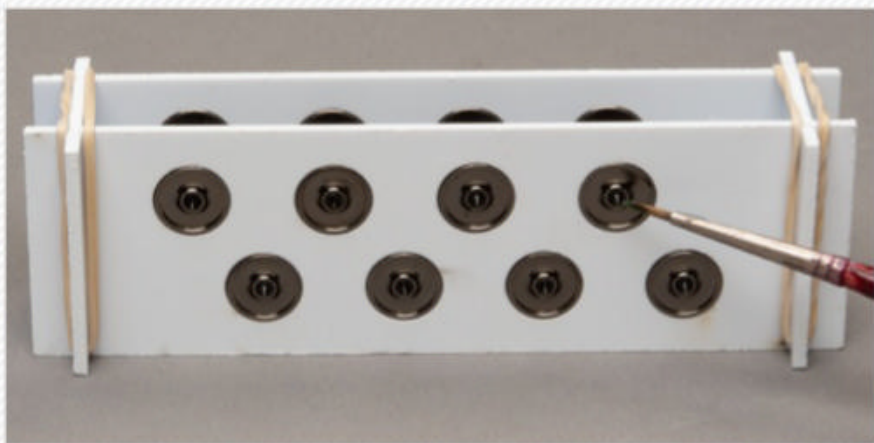
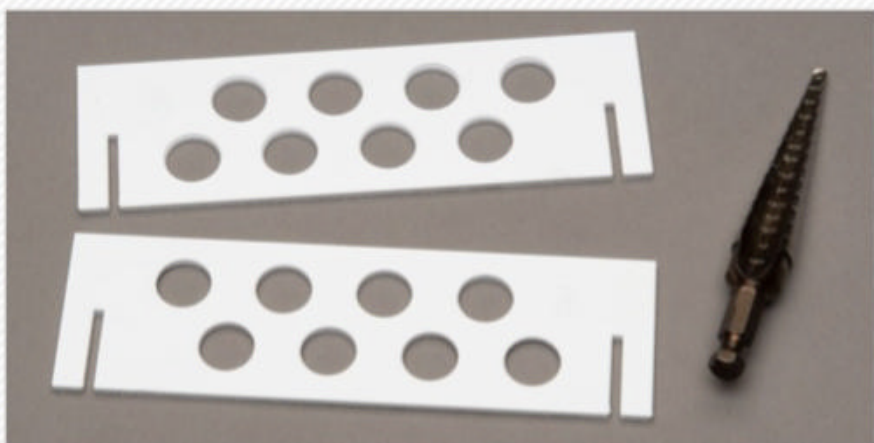
I let the paint dry for 24 hours. Then I removed the wheelsets and applied two coats of Vallejo Oiled Earth

Model Wash (no. 76.521) with a paintbrush. This gives the trucks a slightly warm tone, like that of oxidized metal.

Then I used a finer brush to paint the roller-bearing caps and springs with the Vallejo Model Air Rust I used earlier. I left some bearing caps unpainted to prevent the trucks from all having the same look.

When studying prototype photos, I noticed the roller-bearing adapters were gray one on some of the Lafarge cars. I captured that look with Model Air Light Gray (no. 71.050).

STEP 5 SHINY METAL NO MORE



Normally I paint the wheelsets on freight cars with a Microbrush. But with 16 wheelsets to paint, I needed something quicker. I used a Modeler's Choice no. 236 wheelset painting jig [This product is no longer produced. Laser-cut acrylic jigs are available from American Model Builders and MinuteMan Scale Models. – Ed.]

The holes in the styrene jig were a bit small for the Rapido metal wheelsets, so I used a step bit to enlarge them. The step bit, available at most home-improvement stores, is shown in the upper left image.

After putting the wheelsets into the jig, I used a cotton swab dipped in isopropyl alcohol to clean them. This

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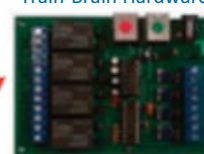
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STEP 5 SHINY METAL NO MORE (CONT'D)



removes impurities from the manufacturing process that may affect paint adhesion.

To keep paint off the needle-point axle tips while painting, I used a brush to apply Microscale Micro Mask. This is a liquid masking medium that works well for items that are hard to mask with tape. Similar products are available from Humbrol and Vallejo.

I let the Micro Mask dry for a few hours, then spray-painted the wheelsets with Tamiya Red Brown (TS-1). The design of the styrene jig makes it easy to cover wheel



faces, backs, and axles without getting paint on the treads.

After the paint was thoroughly dry, I sprayed the wheelsets with Testor's Dullcote. Once the clear flat coat had dried, I used a Microbrush to apply Monroe Models Rusty Brown Weathering Wash (no. 493-975, left).

I followed that up with the same company's Grimy Black Weathering Wash (no. 493-976, right). Then I scraped off the Micro Mask with a pointed-end toothpick (a sharp no. 11 blade would also work).

STEP 6 FINAL ASSEMBLY



With everything weathered, it was time to put the covered hoppers back together. Since I left the trip pins on the couplers, I removed the plastic trainline air hose from each end of the cars. Gently rocking a no. 11 blade under the casting was all it took to release the part, as shown in the photo at left.

Next, I reinstalled the couplers, making sure they traveled freely through their range of motion (Rapido couplers have separate metal centering springs in the draft-gear boxes). After attaching the formed-wire uncoupling levers, I secured the draft-gear box covers with the



supplied Phillips-head screws. This can be seen in the middle photo above.

Finally, I set the clear plastic washers over the kingpins. I secured the trucks, with the weathered wheelsets installed, to the model with the washer-head screws. One screw should be tight enough that the truck rotates freely but doesn't wobble. The other should be loose enough that the truck has some lateral and longitudinal play.

With that, the Lafarge Flexi Flo covered hoppers are ready to start hauling cement to Jones Island on our Milwaukee, Racine & Troy staff layout. 



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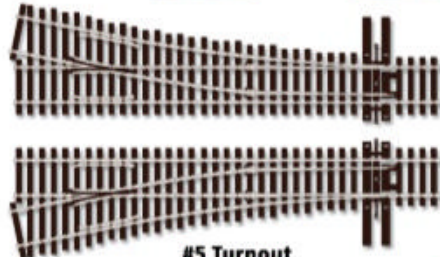
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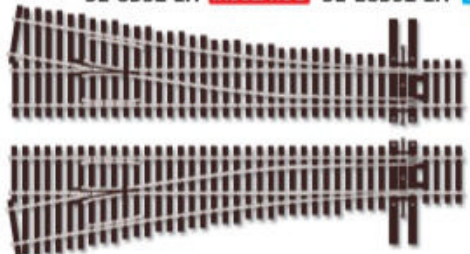
Flexible Track
SL-8300 (Wooden sleeper type) SL-8302 (Concrete sleeper type)



#4 Wye Turnout
SL-8348 INSULFROG SL-E8348 ELECTROFROG



#5 Turnout
SL-8351 RH INSULFROG SL-E8351 RH ELECTROFROG
SL-8352 LH INSULFROG SL-E8352 LH ELECTROFROG



#6 Turnout
SL-8361 RH UNIFROG
SL-8362 LH UNIFROG



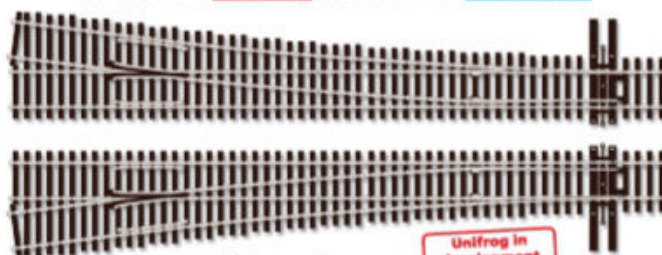
#6 Double Slip SL-U8363
UNIFROG



#6 Diamond Crossing SL-U8364
UNIFROG



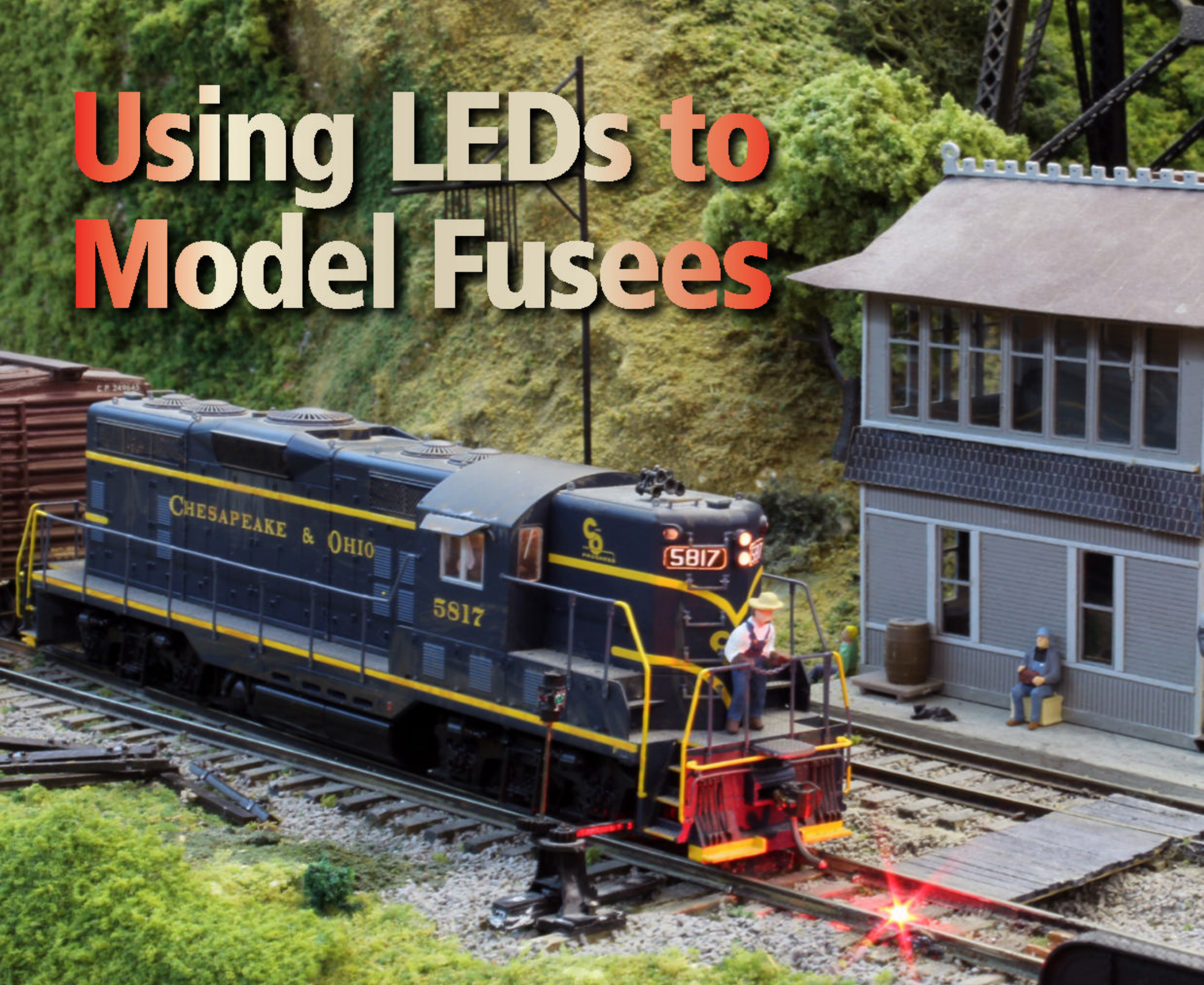
#7 Curved Turnout
SL-8376 RH INSULFROG SL-E8376 RH ELECTROFROG
SL-8377 LH INSULFROG SL-E8377 LH ELECTROFROG



#8 Turnout
SL-8381 RH INSULFROG SL-E8381 RH ELECTROFROG
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Unifrog in
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Using LEDs to Model Fusees



Protect your train crews from collisions with this simple scenery detail

By John Brown • Photos by the author

My journey to modeling fusees started when my brass Chesapeake & Ohio 0-10-0 steam locomotive needed a front headlight. There wasn't one on the engine when I bought it secondhand back in 1980. I checked my local hobby shop, but all the bulbs were either the wrong voltage or too large to fit the locomotive's headlight casting. Then I found the solution to my problem: Evan Designs white nano chip light-emitting diodes (LEDs).

Evan Designs produces pre-wired surface-mount LEDs in three sizes. Its

pico LED is the smallest, measuring only .5mm x .7mm x 1mm. Then there's the nano, which is .8mm x 1.1mm x 1.6mm. The chip, the biggest of the three, measures 1.1mm x 1.6mm x 3.2mm.

Evan's LEDs have a range of 9 to 18V volts and come equipped with a miniature circuit containing a resistor, which I liked. The LEDs will work on AC, DC, and DCC and have rectifiers.

I installed the LED into my steam locomotive by first drilling a hole through the brass headlight casting. I then set the LED in as far as I could. When I turned the track power on, the

LED blew. Then I realized my mistake – I had not noticed that the LED leads were bare. I had managed to touch one side of the LED to the brass headlight housing, causing it to blow. I installed another LED, this time placing white glue in the brass housing and making sure I had clearance. It fit perfectly.

I liked the LED's size and brightness and noticed that Evan Designs offered different colors, including warm white, cool white, red, yellow, green, blue, and orange. The red ones got me thinking as to how they would work on my model railroad.



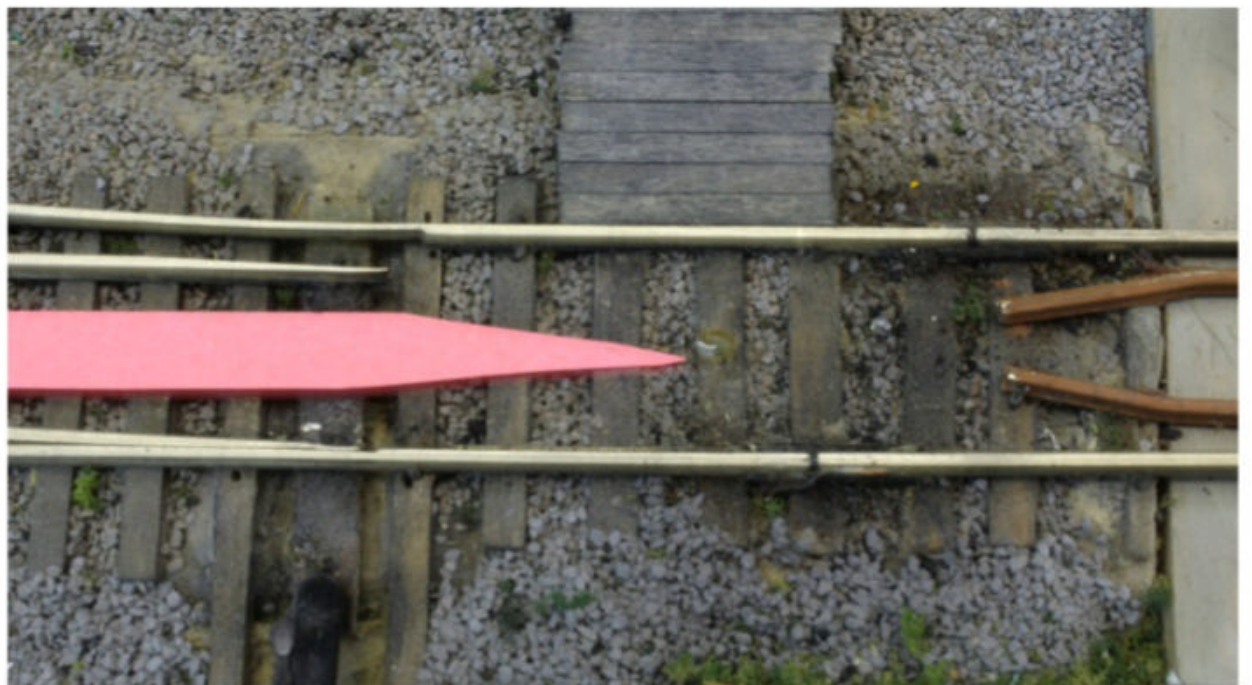
With the order board down for repairs at MA Cabin in Mayersdale, W.Va., the operator has placed a lighted fusee in the gauge of the rail to signal GP7 no. 5817 to stop. John Brown explains how he modeled this detail using light-emitting diodes.

Solving safety issues

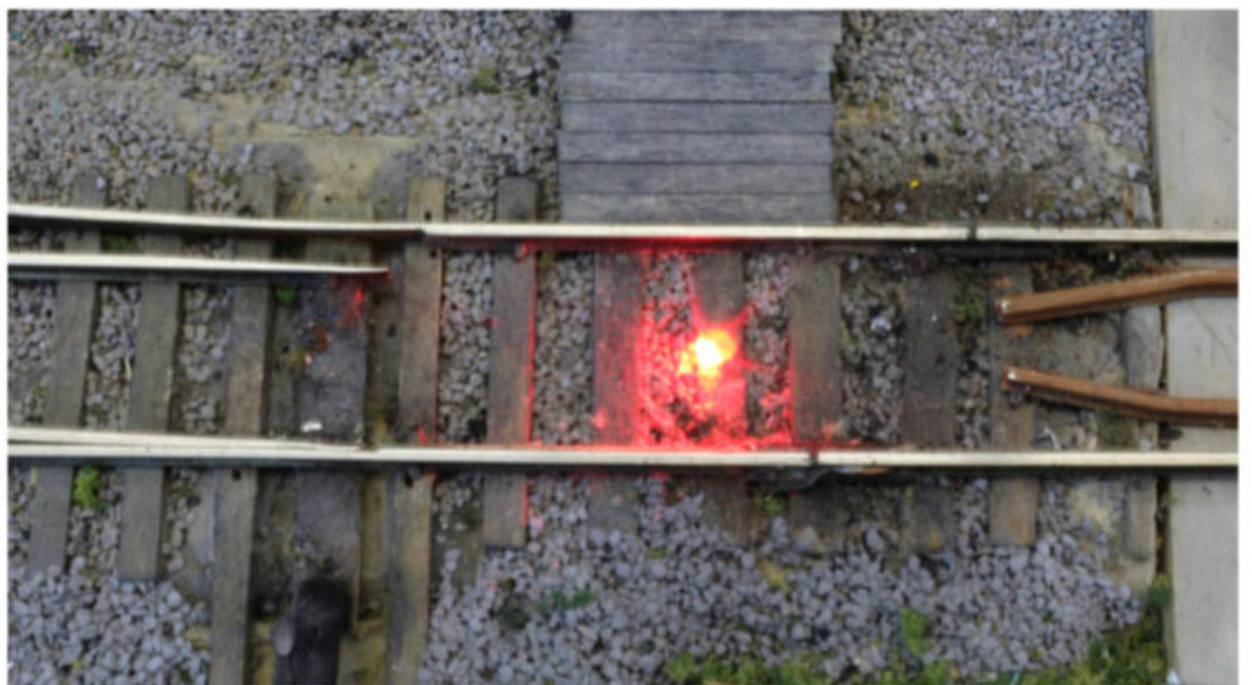
I model the Chesapeake & Ohio Ry. in the mid-1950s in the coalfields around Thurmond, W.Va. I have three freight yards and three small towns on my layout. The yards have Tomar single-head searchlight signals at their yard limits. When a train approaches the signal, the conductor calls the yardmaster. The searchlight signal changes from red to green and the train enters the yard. The yardmaster then returns the searchlight signal to red to stop other crews from entering the yard.



In the era John models, crews dropped burning fusees in the gauge of the rail to prevent collisions. This served the same purpose as a searchlight signal or order board, letting approaching trains know to stop.



Because of the LED's small size, it blends into the crosstie once it has been installed, looking more like a stray granule of ballast. John used a red arrow to point to where the unlit LED is located.



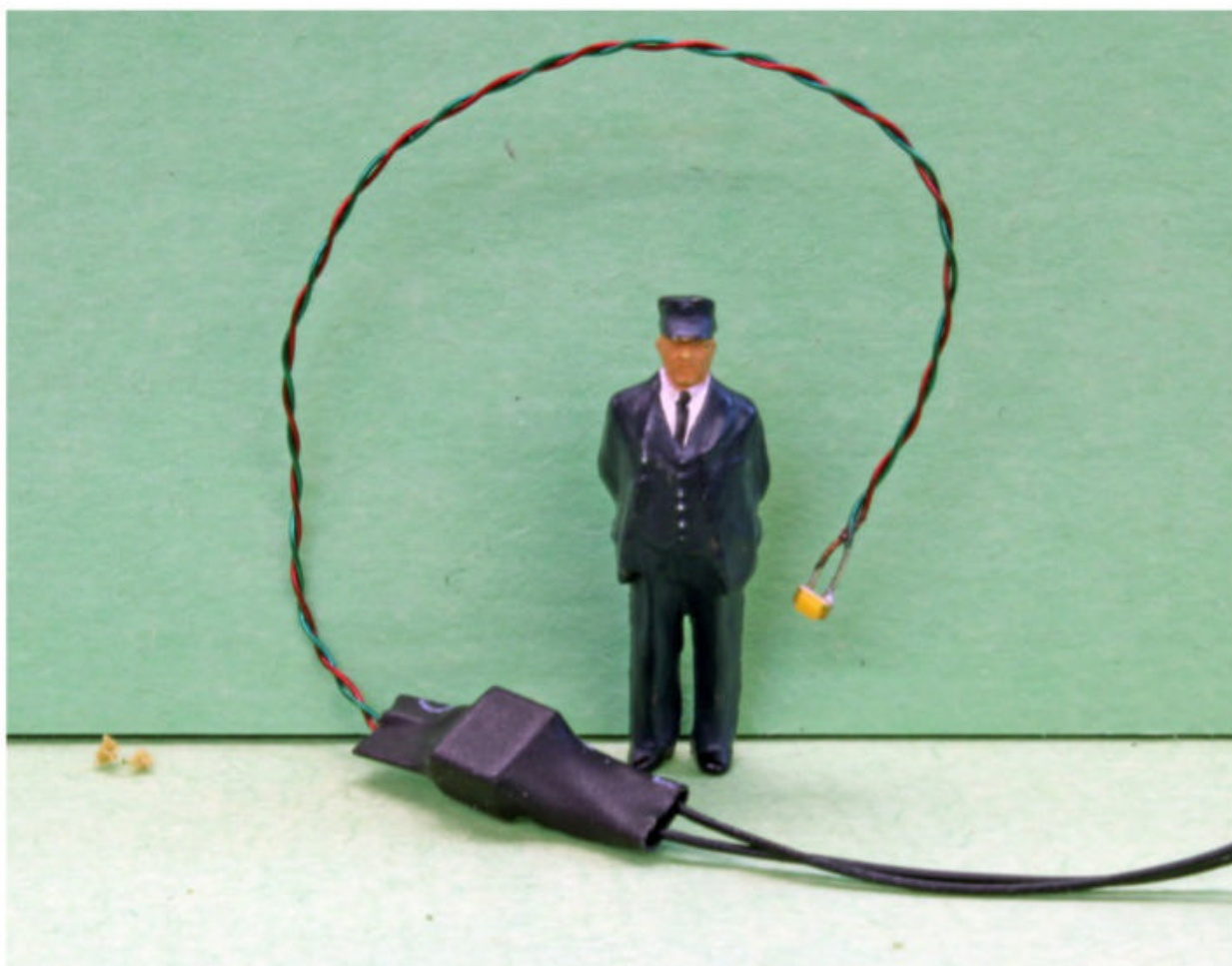
The illuminated LED is quite bright, making it easy for train crews to see under normal layout lighting conditions.



Chesapeake & Ohio 0-10-0 no. 136, fitted with an LED headlight, is stopped by the Callow Telegraph Tower for an updated switching list.

Toning down bright LEDs

If an LED is too bright, add a small amount of similar colored paint. Enamel paint tones down the brightness by about 25 percent, while acrylics reduce the shine by half or more. Don't use hot glue when attaching an LED. Instead, use holding wax, Goop adhesive, white glue, or tape. – *John Brown*



John posed an HO scale conductor figure next to the LED and resistor he used for his fusee project. The LED is roughly the same size as the figure's hat.

Two of the towns, one on the main-line and one on a branch line, also have searchlight signals. Under typical conditions, the signals are green. When a freight crew is switching in those towns, the conductor changes the aspect to red to protect the train.

The searchlight signals are at the yard limits of the towns because each end of

the yard has a tunnel to convey a sense of distance and to break up the scenes. However, the tunnels restrict the crews' vision ahead of their train. The searchlight signals prevent train crews from bringing their trains into yard limits without the yardmaster's permission, potentially causing collisions or interfering with the yard switchers.

I also have one town, Rowland, W.Va, with four sidings off the main line, one of them double-tracked. All four of these switching locations are between tunnels, and a couple of times the following trains have run into the caboose of the way freights.

I wanted a solution to save the expense of another set of Tomar searchlight signals. In the era I model, crews dropped fusees between the rails to signal trains to stop. Like a searchlight signal displaying a red aspect or an order board at a station set to the "stop" position, no train was to pass a burning fusee.

Installing the fusee

A red nano LED from my local hobby shop was the answer to protecting train crews. I installed an LED fusee on either side of the tunnels on both sides of my town and sidings. I picked a tie that was a fair distance from the tunnel portal so the engine wouldn't be idling in the portal. I then drilled a 1/8" hole through the ties, roadbed, and table.

I had to push the nano LED up from below the table because the resistor is larger than the LED. Make sure the hole is free of splinters and other debris so you don't damage the LED during installation. The LED should be seated just above tie level.

I ran wires to single-pole single-throw (SPST) on-off toggle switches at the sidings and town where crews would be switching. I applied white glue around the LED and in the hole in the crosstie to hold it in place.

In operation, when the wayfreight crew arrives and has switching work at the sidings or town, the conductor flips the toggle switch to the ON position, illuminating the red fusee in the distance. The crew can conduct its work knowing that the train has protection, since an approaching engineer should stop in advance of the fusee.

Once the crew completes its switching duties, the conductor sets the toggle switch to OFF, and the fusee goes dark.

Consider a fusee or two to protect your train crews when they're working industries on your layout. **MR**

John Brown is a National Model Railroad Association Master Model Railroader and an active member of the organization's Niagara Frontier Region. The Ontario resident is also a member of the Chesapeake & Ohio Historical Society.



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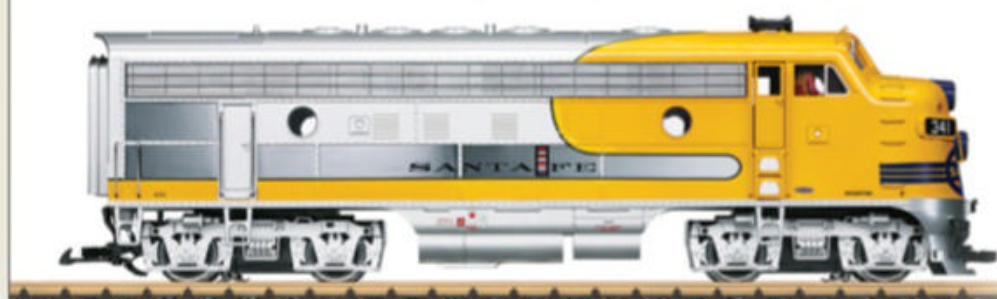
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Mont Switzer explains how he detailed and weathered these war emergency hoppers for his HO scale Monon layout.



Detail and weather WAR EMERGENCY HOPPERS

Enhance commercial HO scale models using these easy-to-follow techniques

By Mont Switzer

Photos by the author

Fellow modelers Bill Hanley, Bob Chapman, and Chet French unknowingly broke a modeling log jam for me. I wanted to add composite-side war emergency hoppers to my late 1950s HO scale Monon RR layout. Through articles by and discussions with these gentlemen, I learned there were still substantial numbers of these cars, still with wood sides, in service during my modeling era.

This was good news for me. Over the years I'd squirreled away Life-Like Proto 2000 kits and later Walther's Proto ready-to-run models of these cars decorated for the Baltimore & Ohio RR (B&O), Louisville & Nashville RR (L&N), and Wabash RR (WAB). I selected these

railroads as they were all interchange partners with the Monon.

Knowing the cars would work on my model railroad, I did additional research. Ed Hawkins wrote articles in the December 2000 and April 2001 issues of *Railmodel Journal* (RMJ) magazine. The stories, which included photos of full-size cars, covered the various prototypes in detail and the years the cars were in operation.

Ed chronicled the 50- and 70-ton versions of these cars in an expanded study in *Railroad Prototype Cyclopedia* (RPCYC) no. 29. The article was loaded with excellent prototype photos. This edition of the RPCYC is out of print, but you can find it at brick-and-mortar and

online used-book retailers as well as online auction websites.

The information from these sources helped shape the upgrades I made to models decorated for the B&O, L&N, and Wabash. These techniques can be used for hoppers operated by other railroads as well. 

Mont Switzer lives with his wife of 49 years, Cheryl, in rural Indiana. They have one daughter and three grandchildren, all of whom enjoy seeing the trains and trucks in "grandpa's basement." Mont is semi-retired from the trucking business, allowing more time to pursue model railroading, IndyCar racing, vintage cars and trucks, history, and domestic travel.



BALTIMORE & OHIO 30740

Baltimore & Ohio's class N-37 war emergency hoppers were numbered 30000 through 31027. Though the railroad began rebuilding its composite hoppers with steel sides as early as 1951, there were still more than 400 listed in the January 1958 *Official Railway Equipment Register* (ORER).

The Life-Like/Walthers model was a good match to a prototype photo in my collection. The big difference was the herald. The model had B&O's Capitol Dome herald, while the prototype had the 13 Great States herald.

I gently removed the factory-printed heralds with a sharp hobby knife (a single-edge razor blade would also work). With the herald gone, I applied Future Floor Finish (now

Pledge Floor Gloss) to the area and let it dry thoroughly. I then applied a 24" 13 Great States decal herald from Wildwood Station [See the "Materials list" on page 39 for the company's mailing address. – Ed.] I updated the car's reweigh data and date using the same scrape-and-replace method. More on that later.

The B&O cars were fitted with an Ajax hand brake housing and brake wheel. I used a razor blade to slice off the factory brake wheel. Then I used a pin vise and no. 55 bit to make a new hole in the former brake wheel location. I put a drop of cyanoacrylate adhesive (CA) in the new hole and slid a black Kadee Ajax brake wheel into the opening.

LOUISVILLE & NASHVILLE 31909

Louisville & Nashville's fleet of war emergency hoppers were numbered 31000 through 31999. The railroad began rebuilding its composite hoppers with steel in 1955, but it was a slow process. More than 700 composite cars were listed in the January 1958 ORER.

The model shown at right was decorated in its as-delivered scheme. Repainted cars had smaller reporting marks. I weathered the car heavily to suggest it had yet to be repainted (and it probably wouldn't be until the wood sides were replaced with steel).

The L&N war emergency hoppers had various brake wheels. They were applied 100 at a time as the cars were built, apparently based on war time parts availability. I sliced off the factory part and replaced it with a Kadee Boxcar Red Ajax wheel using the same techniques as before.





WABASH 39343

The Wabash rostered 400 war emergency hoppers, numbered 39000 to 39399. In the January 1958 ORER all of the railroad's composite hopper cars were listed as having wood sides. In the January 1959 ORER, the remaining 398 cars on the roster were noted as having all steel components.

When Walthers released its war emergency hopper decorated for Wabash, I was happy to see that it had the correct hopper door locking mechanisms and Miner brake wheel.

However, I replaced the factory solid-bearing trucks with Accurail Andrews solid-bearing trucks. When the Wabash assembled the full-size hoppers at its shop in Decatur, Ill., it equipped the cars with Andrews U-section trucks that it had on hand.

I weathered my model to look like it would have in 1958, just before it was taken out of service for rebuilding with steel panels.

SHARED DETAILS

For this project I added detail parts that were common to all three models. To make the best use of my workbench time, I added the parts in assembly line fashion.

Semi-scale couplers are the standard on my model railroad. I replaced the stock couplers with Kadee no. 153 short shank semi-scale whisker couplers. The couplers are drop-in replacements that don't require a phosphor bronze centering spring. I removed the trips pins as I used rubber air hoses on the cars.

I buy the couplers in bulk packs (25 pair) and weather them in large batches. I stick the couplers into a scrap chunk of foam to hold them upright. Then I airbrush the exposed surfaces with Rail Brown paint (most any rust or Earth-tone will do the trick). The key is to hold the airbrush away from the couplers so the paint is mostly dry when it hits the couplers. If the knuckle springs stick, apply a drop of MEK or lacquer thinner and work it back and forth until it functions properly.

Next, I reinforced the end sills to the right of the draft-gear box with an .080" piece of .060" styrene angle. I secured the styrene with plastic solvent cement.

I then used a no. 75 bit to drill a vertical hole through the angle to accommodate Precision Scale Co. brass air hose brackets. I filed the mounting pins so they were round, straight, and slightly pointed. Since I was gluing dissimilar materials, I attached the brass casting to the plastic body with cyanoacrylate adhesive (CA).



With the brackets in place, I added Hi-Tech Details rubber air hoses. After removing the parts from the sprue, I cut the shank to a long, pointed taper. Then I placed the shank into the brass casting and used tweezers to gently stretch it through. The shank returned to its normal shape, filling the hole without the need for adhesive. All of this can be seen in ①, opposite page.

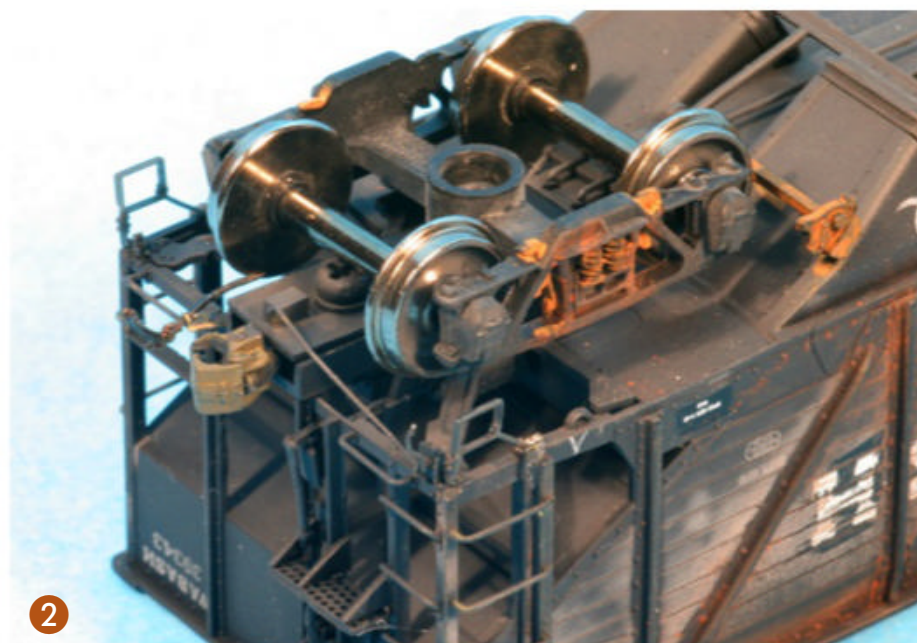
I used Tangent Scale Models uncoupling levers on the hoppers. First, I drilled no. 78 holes in the small panel below the ladder and secured the eyebolt from behind with CA.

Second, I fashioned a receiver block on the draft-gear box lid from .060" square styrene cut to a length of no more than .080". I attached the styrene to the cover directly behind the coupler with plastic solvent cement. Once the cement dried, I used a no. 75 bit to drill a hole in the front face of the block.

Finally, I threaded the pre-formed wire part through the eyebolt and pressed the end into the receiver block. Friction holds the part in place, so no adhesive is required. This glue-free assembly is handy should you ever need to work on the couplers ②.

The addition of the fine detail parts drew unwanted attention to the oversized molded stirrup steps. I carefully removed the parts and smoothed the areas with a no. 11 hobby knife and 240 grit sandpaper.

I replaced the molded parts with Tichy Train Group double offset bottom mount stirrups ③. I used a no. 75 bit to drill the holes for the mounting pins. I added a drop of CA to each pin before attaching the parts to the plastic body. The stirrups are molded in black engineering plastic, making them sturdy yet flexible once installed.



WOOD INTERIORS

The Life-Like Proto 2000 models lacked interior side panel detail. Bill Hanley of Wildwood Station acquainted me with laser-cut wood panels from Rail Scale Models. The peel-and-stick parts are a drop-in fit.

The Life-Like and Walthers hoppers have riveted steel slope sheets. Interior views of composite hoppers in RPCYC no. 29 show wood plank slope sheets. I cut new panels, a scale 9 feet wide by 8 feet long, from .040" basswood.

The basswood I had on hand was scribed for 12" boards. Since the planks on the prototype looked to be closer to 6" wide, scribe them accordingly prior to permanent installation. The back of a no. 11 blade is a handy tool for this.

I attached the wood slope sheets with Aleene's Tacky Glue. The glue remains flexible after it sets, which is perfect for this application as wood and plastic expand and contract at different rates.





THREE-STEP TRUCKS

The trucks on the hoppers are cast in slippery engineering plastic (see the left truck, above). Though the plastic makes the wheels roll freely, paint and weathering powders don't adhere to it well. To give the sideframes some tooth, I used a media blaster. I covered the axle sockets with masking tape before spraying the sideframes so the wheelsets would stay free rolling.

After being sprayed with a media blaster, the sideframes are a realistic gray black color with just enough tooth to hold

paint and weathering powders. See the second truck from left. I painted the brake shoes with rust-colored paint and applied light rust weathering powder to the spring packs. Black powders or a controlled drop of thin lubricant can be used to represent oil seepage from the journals.

I equipped the trucks with Reboxx .088" metal wheelsets. The narrower treads look better when the hopper is viewed from the end. I painted the wheelsets Grimy Black. Keep the paint off the wheel treads and axle tips.

REALISTIC WEATHERING

By the mid-1950s, most war emergency hoppers that still had wood panels were in pretty rough shape. The paint was flaking off the wood. Though the steel held paint better, the parts were starting to show rust.

Most cars displayed refreshed weight and journal repack data. New paint and lettering was applied to these areas of the car. The simplest way to simulate this is to mask these areas prior to weathering.

I weathered the exterior wood side panels using 80-grit sandpaper and a sharp single-edge razor blade. Leave enough lettering so operators can read the reporting marks. If you go too far with this step, you can follow the railroad

practice of repainting just the area where the reporting mark and road number is applied.

All but the newest hopper cars were coated in coal dust. I used an airbrush to apply a fine mist of Grimy Black paint to the sides, ends, and interior. The hopper underbodies were subjected to road grime, soot from open flame car heaters, and coal dust. I applied a heavier coating to the bottom of the car.

Before the Grimy Black paint had dried, I pulled the paint down with a wide paintbrush loaded with thinner. Limit this to no more than two passes. Too many passes over the same area can destroy the factory lettering or cause it to run.



I followed this up with an application of Testor's Dullcote. I added a few drops of black to the Dullcote to help blend the lettering into the car sides.

After the Dullcote dried I used a brush to apply Weather All, an alcohol-based wash, to the wood portions of the car exteriors. The alcohol reacted with the Dullcote, causing it to fog up.

Then I used Bragdon Enterprises weathering powders to simulate rust on the metal components. I pulled powders vertically down the carsides. All of this can be seen in ❶, opposite page.

With the weathering completed, I removed the masking tape to expose the fresh paint under the weight and journal repack data ❷. If the car has New weighing data, replace it with a location and date suitable for your modeling era.

Not all self-clearing cars lived up to their name. Coal that hung up in the car while unloading would fall into the hoppers as the car made its way back for another load. I added this residue with a little Elmer's glue and some loose coal ❸.



COAL LOADS

I purchased one-piece cast-resin coal loads from Model Rail Stuff. The loads were designed to fit the WalthersProto hoppers, but I had to modify them slightly to fit around the wood interior panels. I used a large bastard file to remove material from the sides and ends of the loads until they seated properly.

I wrote the car type and number on the bottom of any coal loads that were modified to fit certain cars. The loads aren't railroad specific, though this could also be a modeling challenge.

With that, I put the trucks back on the car and put the war emergency hoppers into service on my Monon layout. These weather-beaten hoppers further reinforce the era of my HO scale layout.



Materials list

Accurail

103 Andrews trucks (Wabash car)

Evergreen Scale Models styrene

153 .060" x .060" strip

291 .060" angle

Hi-Tech Details

6038 22" rubber air hoses

Kadee Quality Products

153 couplers, short shank

2020 Ajax brake wheel (Boxcar Red)

2040 Ajax brake wheel (black)

Model Rail Stuff

232 coal load

Precision Scale Co.

39156 air hose brackets

48276 eyebolts

Rail Scale Models

A205 interior wood panels

Reboxx

WS2-1000 .088" wheelsets (for Accurail Andrews trucks)

WS2-1005 .088" wheelsets (for Proto 2000 kit trucks)

Tangent Scale Models

204 uncoupling levers

Tichy Train Group

3043 double offset bottom mount stirrup steps

Weather All

alcohol based weathering wash

Wildwood Station

5% William Hanley, 7273 Sandy Creek Dr., Raleigh, NC 27615
Baltimore & Ohio decal set with 24" 13 Great States herald

Miscellaneous

Scribed basswood

Going Out East



① Maine Central 2-8-0 Mogul no. 503 leads a snowplow extra over Willey Brook Bridge outside Crawford's Notch on John Ciesla's HO scale Eastport Branch model railroad. The layout represents an abstracted version of New England in autumn.

This freelanced HO scale layout changes locations across New England depending on the equipment run

By John F. Ciesla • Photos by the author

The Eastport Branch is the latest in a long line of model railroads I've built, stretching back many years. I grew up with prewar American Flyer and switched to HO scale in the late 1950s. I later continued the tradition with my own family and homes.

My previous basement layout, the Taconic & New England RR, took up

much of the circumference of the basement, wrapping twice around the room. Over the years I used the layout less frequently, and it was invaded by our family cats. The two duckunders became a nuisance. I finally decided it was time to pack it up, clean out the basement, and build something new.

The Eastport Branch consists of three HO scale sections along the walls of the

basement. The towns of Eastport, Chatham, and Crawford's are separate switching layouts, which may be operated independently or operated as a unified around-the-walls layout. They're linked by connecting tracks along the wall, by drop-down or swing gates, without the agony of duckunders.

Each is equipped with fascia panels and overhead lighting. Each acts as a



2 Maine Central no. 503 crosses Chatham Gorge while below a fly fisherman tries to get a few last casts in as the sun sets at the end of a perfect autumn day. The Mogul is a weathered Bachmann model and the high bridge includes Micro Engineering parts.



③ The layout is built on L-girders that rest on the top of built-in cabinets in John's basement, giving the layout a finished look. This view shows Chatham Gorge to the left, the locomotive terminal at center, and downtown Chatham at right.

separate stage that trains enter on one side and leave on the other. The towns have plenty of switching opportunities and give the line a sense of purpose.

The layout has what I call a "variable location." I have collected a great deal of equipment of various New England railroads over the years, along with the Long Island Rail Road (LIRR). Rather than having all sorts of equipment on the layout at one time, the Eastport Branch is "relocated" from time to time. It can be on the north fork of Long Island, allowing use of the LIRR equipment. Across Long Island Sound along the Connecticut shoreline and Massachusetts, the railroad can host Central Vermont, New Haven, or Boston & Albany equipment. It can also be moved farther north along the New Hampshire or Maine coast to use Maine Central and Boston & Maine equipment. Even some Rutland, Canadian National, Canadian Pacific, and Bangor & Aroostook trains have roamed the rails. This helps to keep the layout fresh.

Getting started

Eastport was the first module, started in 2006. It was planned to be a simple, compact switching layout along one wall. The town represents a fishing village set

along the Atlantic shoreline somewhere between the north fork of Long Island and far "out east" along the Maine coast. It includes a harbor, a busy industrial base, and the facilities of the railroad. Off in the distance, Eastport Inlet enters the Atlantic Ocean and is protected by the Eastport Lighthouse.

Eastport takes its inspiration from a series of articles by Iain Rice that began in the October 2003 *Model Railroader*. The articles described the construction of Roque Bluff, "a layout for those without the space for a layout."

I had a clean basement and a plan in my head, but I really didn't want to create another T&NE. Roque Bluff was nice and small, and it was set in New England, what more could I want?

Like many others, I would stand in the basement, tape measure in hand, looking here, measuring there, and trying to imagine how and where it could be built. I was also approaching retirement, was in the midst of restoring a 1968 Mustang, and the house needed some fix up and time with a paintbrush. But that darned track plan kept coming back to me. It was so small, it wouldn't take up much space after all.

Then came a rainy day when I cleaned off the dining room table, added the extension leaves, and unrolled a long roll of brown wrapping paper. I transferred the measurements of the area I would be using to the paper. I then laid out the Roque Bluff track plan and its extensions. I had more room than Iain Rice had, and was faced with the enjoyable problem of making a small railroad

larger, rather than trying to squeeze a larger layout into a smaller space. I strongly recommend the process of a full scale layout plan, as one can see immediately any clearance problems and provide adequate space for structures for the layout.

As I had greater depth available, I was able to include a turntable, a small roundhouse, and several additional yard tracks to add operational interest. It was important not to add so many tracks that the scenic elements would be lost.

The layout at a glance

Name: The Eastport Branch

Scale: HO (1:87.1)

Size: 15 x 20 feet

Prototype: freelanced, representing various New England railroads

Locale: New England

Era: steam-to-diesel transition era to second-generation diesel

Style: around the walls

Mainline run: 70 feet

Minimum radius: 26"

Maximum grade: 2 percent

Benchwork: L-girder on cabinet tops and wall brackets

Height: 47" to 50"

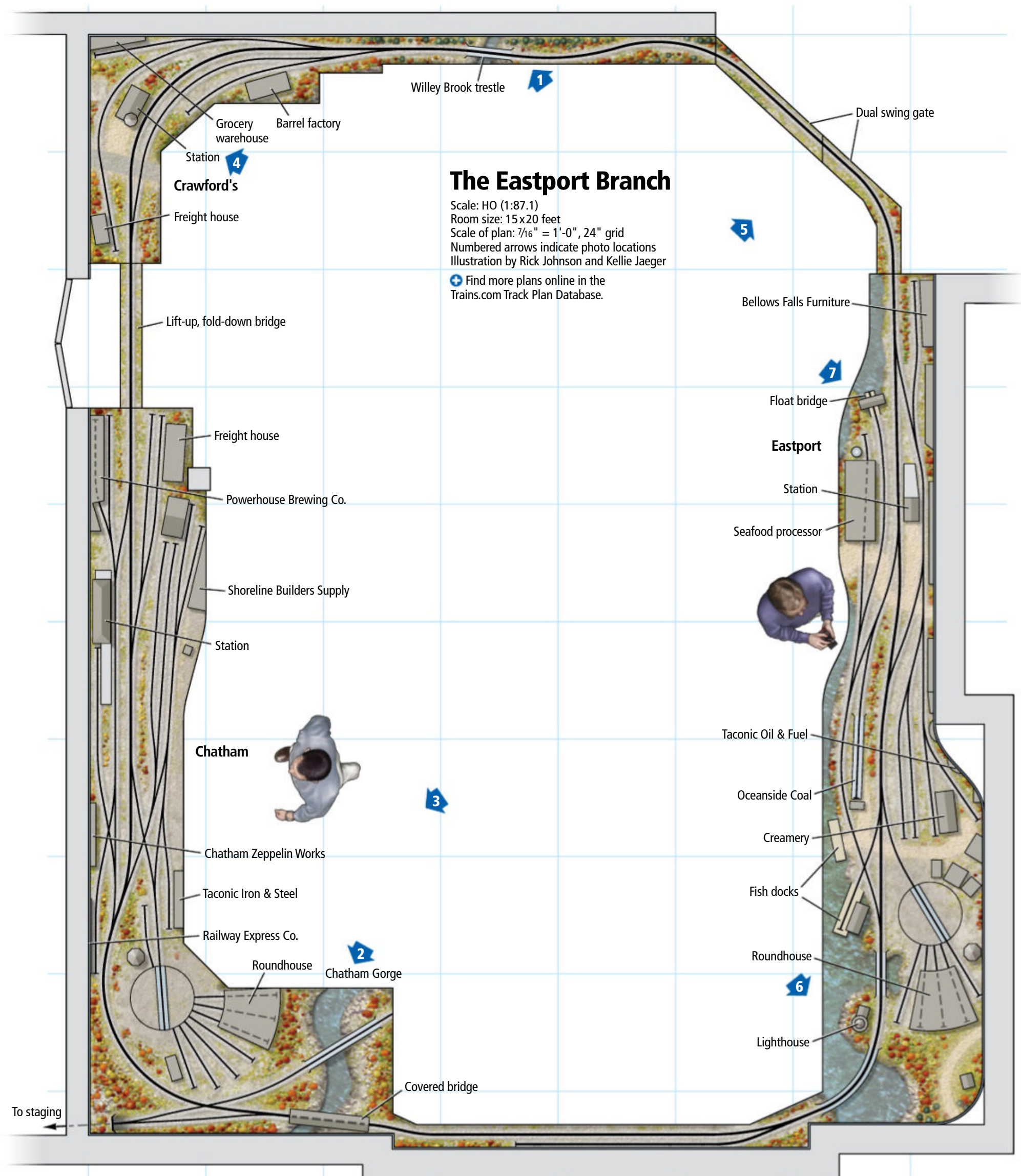
Roadbed: Homasote

Track: code 83

Scenery: carved foam board, plaster cloth, plaster rock castings

Backdrop: painted on back of rolled flooring material or directly on walls

Control: direct-current cab control

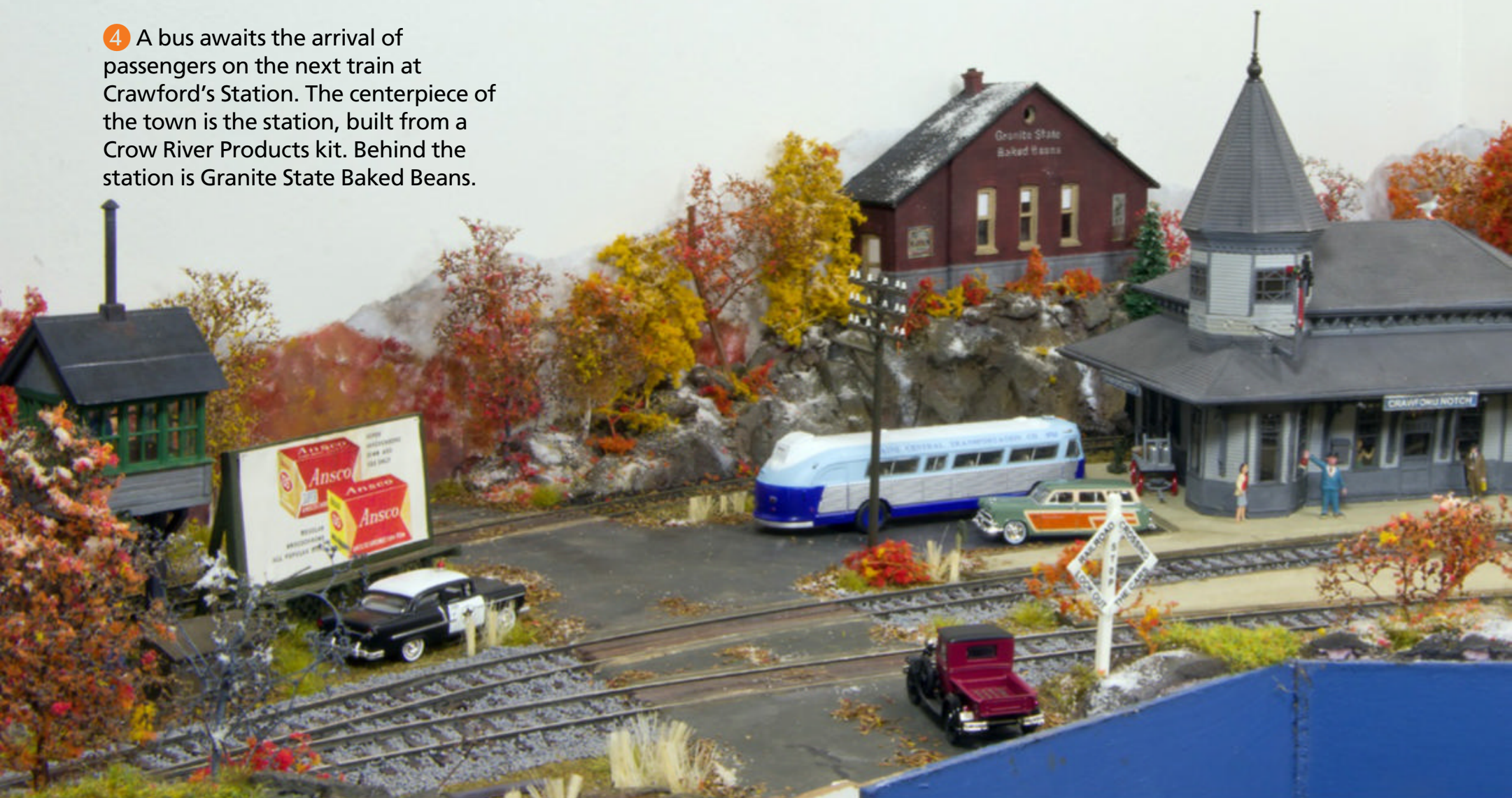


The Eastport Branch

Scale: HO (1:87.1)
Room size: 15x20 feet
Scale of plan: 7/16" = 1'-0", 24" grid
Numbered arrows indicate photo locations
Illustration by Rick Johnson and Kellie Jaeger

Find more plans online in the
Trains.com Track Plan Database.

4 A bus awaits the arrival of passengers on the next train at Crawford's Station. The centerpiece of the town is the station, built from a Crow River Products kit. Behind the station is Granite State Baked Beans.



With a full-scale track plan completed, the next part of the project was the many structures. I spent more than a year building the structures for Eastport. This turned into an advantage, as most structures were ready to be placed as soon as track was laid. It also kept the basement from looking like a long-term construction zone.

Eastport contains a mixture of scratchbuilt, kitbashed, and kit-built structures. Perhaps the most interesting is the float bridge, which was inspired by the LIRR's Long Island City operation. It used a combination of Micro Engineering girders, scratchbuilt items, and part of a Revell crossing guard shanty. Also of interest are two fishing piers and the wooden trestles to the "mainland."

Eastport was operated alone for about a year, until I started looking at the other side of the basement. Trains leaving Eastport needed a destination. It would also get rid of all those boxes filled with unused model railroad equipment. Thus the concept of Chatham was born.

Next stop, Chatham

Chatham is an inland town, representing the location of the junction of the Eastport Branch to the main line. It's set among rolling hills and contains the deep Chatham Gorge, a favorite spot for railfan photography and fishing. The

gorge was designed from the start to be a photo location, to capture trains as they cross over the high iron bridge.

Chatham was built using the same techniques as Eastport. The section was laid out full scale, and buildings were constructed before track laying to assure they would have sufficient space.

Like Eastport, Chatham includes a small locomotive servicing facility to turn and maintain locomotives, and has numerous industries served by sidings. There are many switching opportunities in Chatham.

The town has several unique buildings, such as the Powerhouse Brewery, made from a kitbashed Design Preservation Models powerhouse kit. Shoreline Builders Supply is a cutaway structure that's placed at the edge of the module to show off its detailed interior. Perhaps the most unusual is the Chatham Zeppelin Works with its large hangar-like roof.

Chatham Gorge is a prime photo location, with both a covered bridge (from a Campbell kit) and a steel main-line bridge (built with Micro Engineering components). Deep in the gorge winds the Chatham River, along with several waterfalls and a swift current. The falls and waves were made using Woodland Scenics Water Effects.

The gorge itself is made from layers of foam insulation overlaid with plaster

cloth and rock molds, then painted. Along the sides are many colorful autumnal trees made using Scenic Express SuperTrees with Woodland Scenics foliage. To complete the scene, several fishermen are trying their luck along the river.

By varying the lighting and placement of photo lights I've been able to take successful photos simulating "sweet" late afternoon light, as just before sunset.

Adding Crawford's

With these two sections completed, the layout was operated point-to-point. But I was often asked, "When are you going extend the railroad around the basement?" or "Wouldn't it be great to sit here and just watch the trains go around?" There were major obstacles in the way, as we learned the hard way from the previous layout. They had to be overcome first.

Crawford's is the most rural and perhaps most dynamic of the three sections. It's also the smallest (as narrow as 6" in spots) and the most difficult to build, as I had to bridge the gaps across two doorways without liftouts or duckunders. Thus the construction of this last module was not started until 2017. The module receives its inspiration from the Maine Central RR's Mountain Division tracks



through Crawford's Notch, N.H. This is mountain railroading in late autumn, with leaves coming off the trees and an early season snowfall leaving patches of snow on ice-covered rocks. At the summit is the small town of Crawford's, with its famous station.

This station is the most recognizable structure. It was built from a Crow River Products kit of resin and plaster castings. It's painted in the period correct Maine Central gray-and-green scheme. Also at Crawford's is a wooden Maine Central freight house from Swampscot Models. It contains a full interior. The section also has several kitbashed industries.

The cliffs along the notch are insulation foam, however there's no plaster, plaster cloth, or rock castings. As an experiment, I carved the foam with a very thin serrated steak knife, cutting in and then twisting to break bits off. This created a highly realistic random effect of weathered rock without the mess of plaster. The foam was then painted. The broken-off bits were saved to become piles of talus at the base of the cliffs.

This was followed by planting the almost bare fall deciduous trees and a large number of N scale evergreens which duplicate the weather-stunted trees found in the Notch. A bit of Woodland Scenics snow and Gloss Medium for ice on the rocks, and the terrain was complete.



5 Rejecting the idea of lift-out, swing-up, and duckunder spans, John bridged the four-foot entrance to the layout room with a pair of swing gates that meet in the middle.

Bridging the gaps

Building the Crawford's module required overcoming two major construction issues to avoid head-banging duckunders. The biggest problem was the basement stairway, which comes down at a corner of the room, creating a 50" span to be bridged. On the other side of the basement, the doorway to the utility area had a span of 36". I'm not a fan of lift-out sections, and the height of the layout (approximately 50") made fold-up spans impractical.

The utility room doorway span was solved with help from a plan in the May 2014 *Model Railroader* for a fold-down bridge track that rode on a drawer slide, hinged on one end, and self-stored at the end of the layout structure.

The basement entrance, however, remained a problem. Many examples of swing gates were examined, but they were all rather short, at 24" to 36" in length. The basement corner span would have to be 50" long and contain two 45-degree turns to get around the corner. The answer I finally came up with was two swing gates that met in the middle. That's easy to say, but the tracks had to line up reliably both horizontally and vertically.

To give the gates the required stability, each is mounted to a bracket attached to wall studs. They would mate to the railroad on cradles to assure exact matching height for roadbed and track. The swinging portions were made approximately 24" deep, each with two heavy-duty hinges. Where the two gates come together, bottom plates ride up onto each other, ensuring a tight fit. The gates were designed so that minor adjustments could be made after installation. Later an indicator light was added as a visual confirmation that power was passing through the swing sections.

Overcoming these two obstacles made Crawford's possible and made getting into and out of the basement easy. Hardhats not needed! – *John Ciesla*

Design for operation

Construction of the modules has taken more than a decade, beginning in January 2008 when the first pieces of lumber were cut for Eastport. Work on the Chatham module began in January 2009, and the Crawford's section began in late 2017.

The benchwork is conventional "L" girder, but instead of being placed on legs, it's supported on top of built-in cabinets around the room. Sections of Eastport and Crawford's are constructed on angle brackets screwed to the wall studs, helping to keep the floor clear and

serve as solid mounting locations for the swing gates.

Perhaps one of the most helpful tips I used during the design process was laying out the track plans full scale on heavy brown paper. This provided exact track placement relationships with structures and scenery and allowed the construction of bridges and buildings before building the layout. Many potential space problems were resolved prior to construction, rather than finding out later that a curve, siding, or structure wouldn't fit. The large paper plans also provided accurate cutting patterns for roadbed and supports.



6 Metro-North FL9 no. 2031 crosses Eastport Inlet on the curved trestle from the mainland, with the Atlantic Ocean in the background. At left is the Eastport lighthouse. The first section of the layout to be built, Eastport was inspired by Iain Rice's Roque Bluffs track plan.



Meet John Ciesla

John was introduced to model railroading by his father, a tool and die maker who passed on to John his love of anything mechanical. John and his brother grew up with his father's 1930s-era American Flyer trains, then changed over to HO scale in the late 1950s. He's retired from a career that included working for New York State's MTA and Conrail/Metro-North RR. He and his wife, Vida, have two grown sons, Peter and Michael. They also have a grandson, Nicholas.

Rolling stock enters the model railroad from the wider world in two locations. At Chatham, trains are brought onto the layout from a six-track staging yard located in an adjacent room. These trains travel through a short tunnel to Chatham Junction and then are backed into downtown Chatham. At Eastport, cars arrive by way of the car float. A two-track car barge is brought up to the float bridge by tugboat and is loaded or offloaded as needed.

The train control system is a two-cab, direct-current, block control system powered by two Model Rectifier Corp. Controlmaster 20 power packs with walkaround throttles. Each town has its own control panel with throttle outlets and blocks controlled by single-pole double-throw toggle switches. The throttles are wired so either can control the three sections.

Most turnouts are controlled by Caboose Industries ground throw mechanisms. There are only two powered turnouts on the layout, at Chatham Junction, which helps to keep wiring simple. Track and turnouts are Atlas and

Walthers code 83. The standard turnout is a no. 6, though some no. 4s are used in tight yard areas.

Operating the railroad is a rather casual affair, sometimes just doing local switching in one of the modules, or just turning on the power and watching the trains pass through the scenery. There's no use of any formal routing system, fast clock, or timetable operation. Dispatching and communications are generally handled with a loud "Hey you" across the room.

Locomotives and cars

Equipment used on the Eastport branch covers the popular steam-to-diesel transition era up to second-generation diesel power. There's a mix of equipment from older brass and plastic locomotives to several of the newer, smooth-running, high-tech locomotives.

Motive power is typical of the secondary New England lines, with the largest regularly used steam being light Mikados and Pacifics. Most steam locomotives are smaller Moguls, Ten-Wheelers,



and Consolidations. Diesels are all four-axle types, with quite a few Alco RS-1s and RS-3s. Most of the locomotives have been weathered and some have had details added.

Favorite trains include the typical New England milk trains and the beer train serving the Powerhouse Brewery. Passenger trains are usually short, two or three cars, some with open platforms. Other routes are served by RDCs. Shorter trains are necessary, as passing sidings are relatively short (eight or nine freight cars).

Because the railroads of New England operated economically, older pieces of equipment were made to last for many years, making for a very interesting mix of older wood and newer steel cars.

The large amount of equipment I've collected presented another problem to be overcome. To keep the yards from looking like storage facilities, I built a series of drawers under the modules, along with a large floor-mounted storage chest with drawers for freight cars. The chest also holds the car barge to move freight cars to the float bridge.



7 The Eastport float bridge was inspired by the Long Island Rail Road's float bridge on the East River in Long Island City, N.Y. The two-track car floats can be swapped on and off the layout. The structure was built with Micro Engineering girders, a Revell crossing shanty, and scratchbuilt parts.

The road ahead

The Eastport Branch is set in the peak of autumn. Each year New England comes alive with brilliant yellows, oranges, and reds as Maple, Oak, Birch, and other hardwood trees and numerous

smaller shrubs get ready for the impending winter. And as the altitude varies, the weather varies, too. Along the Eastport bulkhead are two sunbathers catching the last warm rays of the autumn sun, while up in Crawford Notch, the autumn trees have been dusted with the first snow of the season.

Revisions and additions to the scenery is a never-ending yet enjoyable task. It's been over a decade since the Eastport Branch was begun, and it will never be truly finished. But now I can finally stand in the center of the basement and watch the trains go around! **MR**



LEAR ON THE

Alex Nawotka's first effort was a big step forward

By Tony Koester

Photos by the author

In northwestern New Jersey we're blessed with access to several hobby shops that speak model railroading. One of them is F&M Hobbies in Flanders. The proprietor, Jim, and his employees are very supportive of our hobby. In an effort to learn more about modeling in the deep end of the pool, Jim and his right-hand man, Mitchell, have visited my Nickel Plate layout as well as Perry Squier's Pittsburg, Shawmut & Northern just down the road.

One of Jim's regular customers, Alex Nawotka, was eager to show him photos of a modest-size, U-shaped N scale layout he had built. Jim shared them with

Perry and suggested we contact Alex about a visit.

An opportunity

It's always interesting to visit a model railroad. Someone once said, with reasonable accuracy, that you can learn something from every layout you see. Since almost all of Perry's and my regular operators model in HO, visiting a recently built N scale railroad would be an opportunity to become updated on N scale products, quality, operational characteristics, scenery and structure availability, and so on.



NINE JOB

We weren't disappointed. Alex had done a masterful job on the scenery and structures, and also included industries to support hours of challenging switching. Despite this being what he called his first "real" layout, he had included hidden staging behind the backdrop so through trains appeared to be going to or coming from distant points.

The railroad has an obvious Northwestern flavor, but Alex was quick to point out that it has no specific prototype: "As I have always been interested in mountain railroading, my chosen theme was a small Western mountain valley working-class town. As such, the setting

is perhaps somewhere in western Montana and eastern Washington."

The basic track plan was adapted from an L-shaped plan he found in October 2000 MR. Alex added an extension along the left side to create a major industrial switching area.

Era and industry

The railroad is set in the 1970s into the '80s, as Alex enjoys putting diesel locomotives to work. He's of retirement age, and he wondered aloud whether his lack of desire to model steam power was a little unusual.

① Great Northern's *Empire Builder* rounds the bend along the Indian Falls River as it heads west out of Montgomery, Mont., along the Big Horn Range of the Rocky Mountains on Alex Nawotka's N scale Montgomery & Cole Subdivision layout.

He has some interest in passenger trains, so he purchased Kato Great Northern F7A and B units to power the *Empire Builder*, which makes an occasional appearance. The rest of the motive power reflects the Western mountain setting: primarily Great Northern, BNSF Ry., and Canadian Pacific.

When it came to choosing appropriate industries, Alex did well for a beginning modeler. The predominant industries on the layout are lumber, agriculture, chemicals, and coal. "I know that coal is out of place in this setting," Alex confided. "Ore mining would have been a better choice. But I wanted to have some mining industry on the layout that would enable me to put a conveyor into a hillside."

Alex included a small intermodal operation. The Cole Industrial Spur serves as a minor distribution point where containers are loaded onto trucks for delivery to non-rail-served industries. He also included a small yard for switching cars and building trains for deliveries to the various rail-served industries on the railroad.

"While I did not build the layout with operation in mind – I initially wanted just to be able to run trains – the railroad is conducive to interesting operation," Alex told me. "I would just have to add waybills to enable building and dispatching trains as well as spotting cars at appropriate industries."

Personal preferences

That Alex enjoys modeling mountain railroading and grand scenic elements is obvious. His original plan was simply to build and scenic a complete layout from start to finish. As often happens, along the way he has become much more interested in the operational aspects.

But the sheer joy of running trains hasn't departed the room: "I love having my grandkids over to help run the trains," Alex said with a big smile. "It's fun to see their eyes light up when they take control of their own locomotives and trains."

Although he doesn't currently hold operating sessions, Alex is well into the planning of a follow-on railroad that's more focused on operation. The plan will



② A pair of 3,600-hp EMD SD45s in GN's last paint scheme prior to the Burlington Northern merger in 1970 leads an eastbound freight past the arriving *Empire Builder* at the small frame depot in Montgomery, Mont.

this layout in HO in my current basement," Alex reflected.

For a first – or second or third, for that matter – layout, the scenery is well done. "It came out much better than I expected for the first time doing this," Alex admitted with a grin. "There are a lot of great products that are really easy to use and nearly goof-proof, although I did make my share of mistakes."

He did one important thing right by looking at photos of areas he planned to model. Too many modelers rely on their inner muse to create fanciful scenes that bear little or no relationship to the region they profess to be modeling.

Alex used a mix of structures, some factory-assembled and others kits, in both styrene and wood. He painted and weathered the structures to avoid that fresh-out-of-the-box look.

For benchwork, he bought Mianne components that he covered with a ½" plywood subroadbed topped with two 2" sheets of extruded-foam insulation foam board. "I used foam board primarily for the scenery base because of the ease with which I could carve it and shape it," Alex reported. Two layers afforded the depth he needed to cut in deep streambeds.

The mountain walls are a mix of foam rocks, rubber rocks from Cripplebush, and prefabricated rocks from Woodland Scenics, all painted and weathered to match the type of rock strata typically found in the Western mountains. An extruded foam ribbing covered with either plaster cloth or Woodland Scenics Shaper Sheets created the basic mountain shapes.



③ By adding an extension to the published track plan that served as the basis for his N scale railroad, Alex was able to include a number of industries, including a busy intermodal yard.

allow trains either to run continuously or switch industries, rather than be a strictly point-to-point arrangement.

With a little help from his friends

Like many of us, Alex has been interested in model railroading since getting his first Lionel train set when he was 10 years old. Also like many of us, school, military service, family, and work got in the way of actually putting together his first "real layout" until about three years ago. That's when he retired and finally had enough time to start and actually complete his first layout.

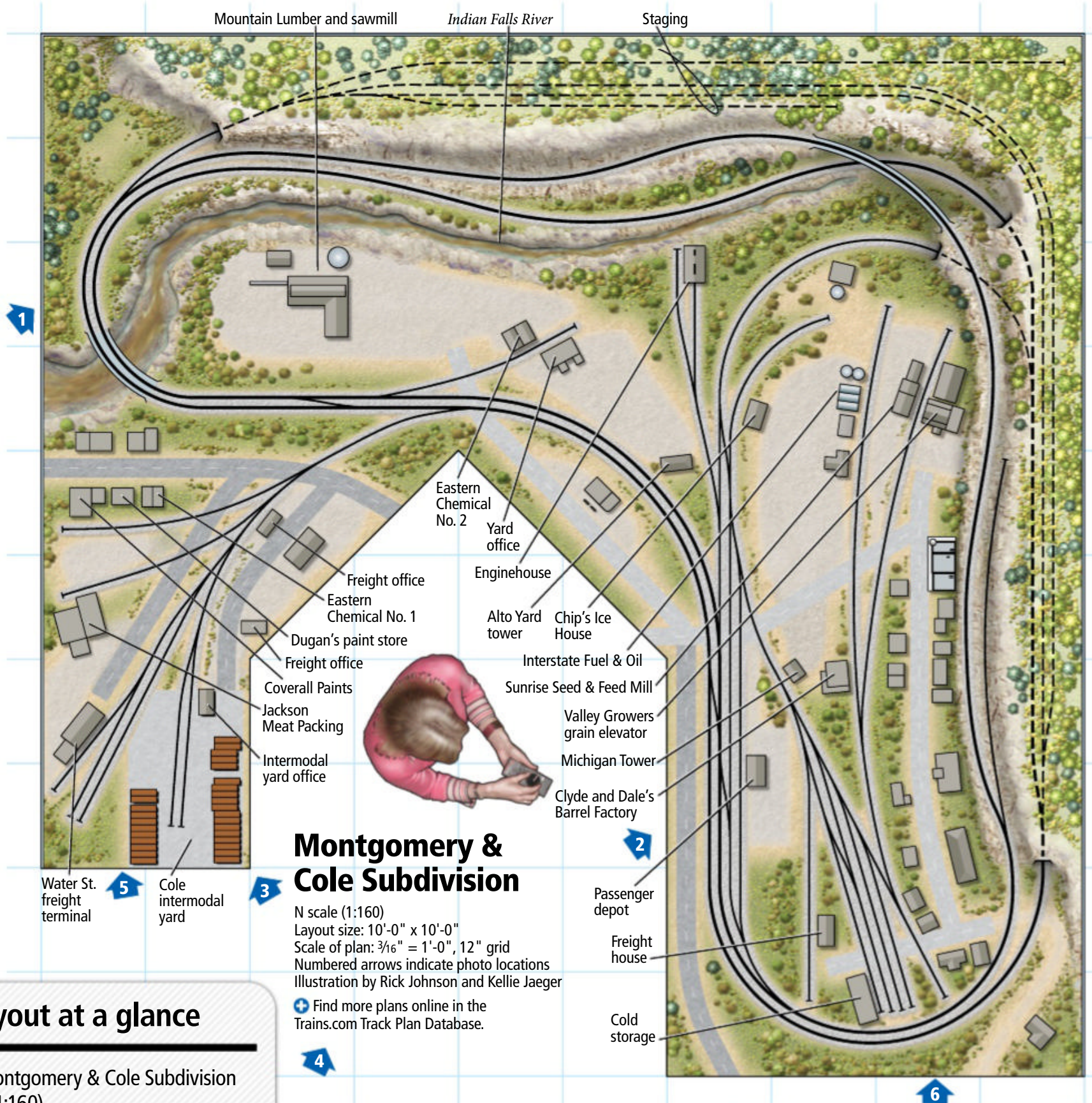
"It took me about two years to plan, build, and scenic the railroad," he recalls. "It was all very satisfying, even though I encountered many obstacles and challenges along the way. I learned many skills in building the layout – wiring, benchwork, painting and

weathering structures, and attempting to create realistic scenery."

Those challenges also created many new friendships as Alex sought help from other model railroaders when he was stumped in trying to figure out a way to do certain things. Three members of the Garden State Division of the Northeastern Region of the NMRA were especially helpful.

Why N scale?

Alex has limited room in his town-house basement for a model railroad, but he didn't want his first layout simply to be built on a 4 x 8 sheet of plywood. By modeling in N scale, a relatively small layout – less than 100 square feet – was able to support a fairly long mainline run, a small yard for car storage and switching, and adequate staging. "I wouldn't have had the space to duplicate



Montgomery & Cole Subdivision

N scale (1:160)
Layout size: 10'-0" x 10'-0"
Scale of plan: $\frac{3}{16}$ " = 1'-0", 12" grid
Numbered arrows indicate photo locations
Illustration by Rick Johnson and Kellie Jaeger

Find more plans online in the
Trains.com Track Plan Database.

The layout at a glance

Name: Montgomery & Cole Subdivision

Scale: N (1:160)

Size: 10'-0" x 10'-0"

Prototype: Great Northern, BNSF Ry.,
and CP Rail

Locale: western Montana, eastern
Washington

Era: 1970s - '80s

Style: walk-in

Mainline run: 78 feet

Minimum radius: 9"

Minimum turnout: no. 6

Maximum grade: 3.5 percent

Benchwork: open grid

Height: 44½"

Roadbed: ⅛" cork over 4" extruded-
foam insulation board for main lines

Track: Peco code 80

Backdrop: painted on 1" extruded-foam
insulation board

Control: NCE Digital Command Control
with radio throttles



4 This overview of the layout shows the degree of completeness Alex Nawotka achieved on his first N scale layout in only two years.



That N scale's compact size isn't a hindrance to detailed scenes is evident in the several urban areas Alex modeled. Many of the paved roads were made using Woodland Scenics road paving materials.

Making concrete roads

To make the concrete roads on the layout using Woodland Scenics Smooth-It plaster, paving tape, and concrete color, I first marked out the roadways on the subroadbed. I made them about 21 scale feet wide. Next, I attached Woodland Scenics paving tape to the outside lines of the roadway. In N scale, only one layer of paving tape is needed to give sufficient depth.

I then mixed the Smooth-It plaster to a consistency slightly thicker than milk and poured it into the cavity created by the paving tape. I found that using too much Smooth-It could create a mess when I "floated" the surface (just like paving a driveway or a sidewalk with real concrete). I dragged the styrene screed over the tape guides to smooth the surface. I found that only one or two passes of the screed produced the best results; any bumps or small voids were later smoothed out using a fine grit sandpaper block.

I could easily bend or form the paving tape to conform to nearly any shape; I wasn't limited to right-angled corners. It's important to remove the paving tape once the plaster has started to set but is not yet dry. If the plaster seeps under the edge of the paving tape and you wait to remove the tape until the plaster is completely set, you run a risk of pulling away chunks of roadbed.

To make the sidewalks and curbs, I used two layers of paving tape – one right on top of another for the edge of the sidewalk away from the street and one layer on top of the outer edge of the completely dried roadway. I used a fine-grit sanding block to remove any imperfections.

I painted two coats of Woodland Scenics concrete-colored liquid pigment on all of the roadways using a foam brush, which I found to work best.

When dry, I used the back of a no. 11 hobby knife blade to scribe expansion joints in both the road and the sidewalks and curbs. I made several light passes instead of one or two heavy passes, always using a straightedge. I let the original color of the Smooth-It come through the scribe line, as it gave a nice contrast to the smooth sections of painted pavement and made the separations look more realistic.

I used Doc O'Brien's weathering powders – black, grungy gray, and a small amount of burnt sienna – to lightly weather the roadways by taking a bit of powder on the end of a soft makeup brush and dragging it down the center of each side of the road. A little goes a long way in doing this! I used Woodland Scenics yellow-stripe dry transfers to make double or single pavement markings where appropriate. A good burnishing tool really helps in getting the transfer to stick to the pavement.

The last step was putting in oil spots in a few areas where it made sense and coming in with a sharp no. 11 blade to gouge small potholes and areas where the roadway is old and really worn down. – Alex Nawotka



Asphalt roadways are formed from Busch's N scale flexible, self-adhesive ribbon roadway. "The flexibility of slightly stretching the product enables the user to make smooth curves without distorting the roadway width and striping," Alex reports, "and it is very easy to lay down and weather."

He used Woodland Scenics Smooth-It plaster and paving tape to make the concrete roads on the layout. (See "Making concrete roads" at left.)

Alex used .040" styrene to model the concrete pad for the small intermodal yard. This was scribed, painted, and weathered with powdered chalks to achieve a well-worn look.

The learning curve

Again, like many of us, Alex found that wiring the layout proved to be the biggest challenge, as he had never done any kind of electrical work before. After viewing many videos, he laid out the track bus for the NCE Digital Command Control (DCC) system, plus a separate DC bus for the 42 Tortoise by Circuitron switch motors on the layout.

Alex dropped track feeders (22AWG solid wire) from the Peco flextrack to the bus about every 3 feet, wisely not relying on rail joiners to carry the current between track sections. All flextrack was soldered at the joints to enhance electrical pickup and minimize voltage drop along the rails.

Instead of attaching the switch motors to the plywood subroadbed, Alex mounted them in the foam base. To do this, he cut holes for them in the foam, and then drilled holes through the subroadbed for the wires to the DC switch-motor bus. He mounted each motor on a 1/4" plywood base plate and fitted and glued these base plates (after making



5 A CP Rail Geep drops a pair of boxcars at the Water Street freight terminal before switching the Jackson Meat Packing plant in the background.

sure the switch was wired properly and working) into a cutout in the foam.

He had to ensure that these base plates were flat and flush to the foam board into which they were glued. When he was finished, all of the switch motors worked when powered up the first time. But he has since decided that the benefits of not having to crawl under the layout to install and wire the switch motors could be offset by the need to dig one out of the scenery if a problem develops.

As luck would have it, he had been running the railroad for about a year when a persistent short developed. Since Alex had not initially divided the layout into power districts, it was difficult to locate the short.

“Bob Dennis from the Garden State Division of the NMRA’s Northeastern Region showed me how to put in three separate zones covered by circuit breakers,” Alex recalls, “and gave me a procedure to systematically test the track and turnouts for shorts.”

After much troubleshooting and angst, he finally located the short (a bad turnout) and fixed it. This was a challenge, as by this time the scenery was

Meet Alex Nawotka

Alex Nawotka lives in Mount Olive Township, N.J., with his wife of 36 years, Deborah. He retired after more than 40 years as an executive in the pharmaceutical industry. Alex is an avid reader and enjoys skiing in the winter and cycling in the summer months.



6 Downtown Montgomery features everything from homes and businesses lining the main street to several industries that add switching chores for the local’s crew.

complete, and he had to tear apart the section that needed to be replaced.

Digital Command Control

Alex chose DCC because he wanted to be able to operate several locomotives simultaneously and independently without complicated block wiring. He selected the NCE system because its Pro Cabs are clearly labeled for various commonly used functions such as horn, bell, and headlight. He also likes NCE’s programming-on-the-main capabilities and the ease of consisting diesels without having to learn about configuration variables (CVs) or keep track of consist numbers.

Due to the small size of N scale locomotives and his admitted lack of electrical expertise, Alex either buys locomotives with decoders already installed or outsources installation. I was impressed

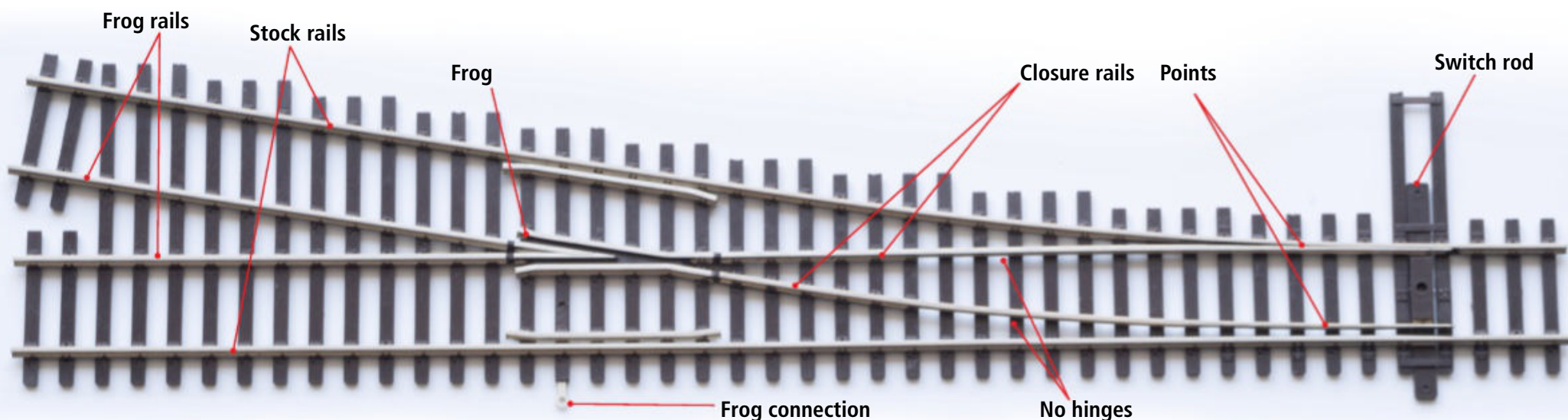
by the volume of the sound coming out of the small speakers.

A great first effort

I think you’ll agree that for a first effort, Alex has done a very good job. The layout has served as a classroom for him to develop skills he never had or didn’t realize he had. He’s discovered the value of turning to the local NMRA division for help when his own persistence wasn’t sufficient.

With his enhanced skill sets, he’s ready to tackle his next layout, one that can be built quickly and transported to a new location due to a pending move. Everything from scale to geographical location is on the table, as Alex discovered that solving problems and accepting new challenges adds to his enjoyment of our broad-shouldered hobby. **MR**

The new Walthers turnouts are here



1 The new Walthers turnouts features realistic looking ties and silver-colored rail. Two very desirable improvements include a connection for powering the frog and no hinges for the points.

The new Walthers turnouts

are here, and they're worth your wait. The new turnouts 1 include additional features that make them worthy of consideration for use on your layout. In addition, installation instructions are better, too. You no longer have to do things to your turnouts to make them useful, and you don't need a lot of electrical knowledge to wire them up. I was impressed that the instructions also told you how to make sure frog polarity is right if you choose to power it.

Like their predecessors, the latest generation of turnouts is DCC friendly. Turnouts that are DCC friendly minimize the possibility of a short shutting down part of your railroad due to metal wheels contacting adjacent rails that are at a different polarity. See wiring fordcc.com/switches.htm for more on DCC-friendly turnouts.

Walthers has always had a large selection of turnouts and included offerings not made by anyone else. The new Walthers Track line is available in code 83 and code 100. While the full offering isn't yet out, the package for the

code 83 indicates that the line will include turnouts from no. 4 to no. 10, a no. 6 double crossover, and curved turnouts in 20"/24" and 24"/28" sizes. The website shows that Code 100 will cover no. 4 to no. 6 turnouts. Check out the Walthers website at walthers.com/catalogsearch/result/?q=948-+Turnout to see what is currently available.

Helpful features. The nickel-silver alloy used by Walthers is silver in color for those who want a more realistic-looking railhead. The thin-profile ties are brown with a wood-grain texture. Holes for track nails are started on the back side of the ties, but don't go all the way through. Just drill out the ones you want to use.

A number of features make wiring this turnout simpler and quicker. The frog rails are internally connected to the stock rails 2. The closure rails are internally connected to the stock

rails, as well. Another very desirable feature is that the closure rails and point rails are all one piece – no point hinges to cause long-term conductivity problems. If you don't power the frog, all you need to do is attach a feeder from each stock rail to your track bus and you're in business. Minimal soldering means you're less likely to damage your turnout and knock it out of gauge. Nice!

Probably the riskiest soldering operation on a turnout is powering the frog. Walthers helps you out here, as well, and eliminates this risk for you. The turnout features a terminal that sticks out the

side 1 to which you can solder a feeder wire. This keeps the heat away from the frog and keeps your turnout in gauge. When done, you might gently bend it down, or you can paint it brown or gray to hide it in your ballast.

Of course, there's the age-old question, do you need to power

your frog? If all your locomotives have stay-alive circuits, have all or many-wheel pickup, or long wheelbases, maybe you don't need to. With the terminal sticking out the side of the turnout, this is a decision you can easily put off until you see if you have any problems with your locomotive fleet.

Not to be outdone by the competition, the switch rod features a spring to hold the points against the stock rail. If you're using a switch machine that provides the holding pressure for you, you will want to remove the spring. The instructions tell you how to remove the cover on the back and take out the spring.

Bigger is better. One thing that caught my eye when I opened the package was the length of the new Walthers turnouts. A Walthers no. 6 is 11³/₈" long, vs. a Peco no. 6 at 9³/₁₆". But don't panic; this story has a happy ending!

Look carefully at the comparison photo 3. The features of the two turnouts are essentially the same length, as they should be, except for the length of the frog rails. The frog rails on the Walthers



THE NEW
TURNOUTS
INCLUDE
FEATURES THAT
MAKE THEM
WORTHY OF
CONSIDERATION FOR
YOUR LAYOUT.
— ALLAN

turnout (top) are approximately twice as long. So yes, if you want to shorten the turnout by cutting the frog rails, you can do that. The Walthers instructions talk about that. [Also see Rehab My Railroad in the October 2021 issue of MR. – Ed.] The only thing to watch for is that if you shorten the turnout too much, you'll remove the bonds and will have to attach feeders to the now isolated frog rails or get power from the connected track.

Here's the real advantage of the longer frog rails. Have you ever had several turnouts close together and needed to add a tiny piece of track to connect them? Your eyes should be getting wide right now. Now you no longer need to add those tiny pieces of connecting track or the feeders for them!

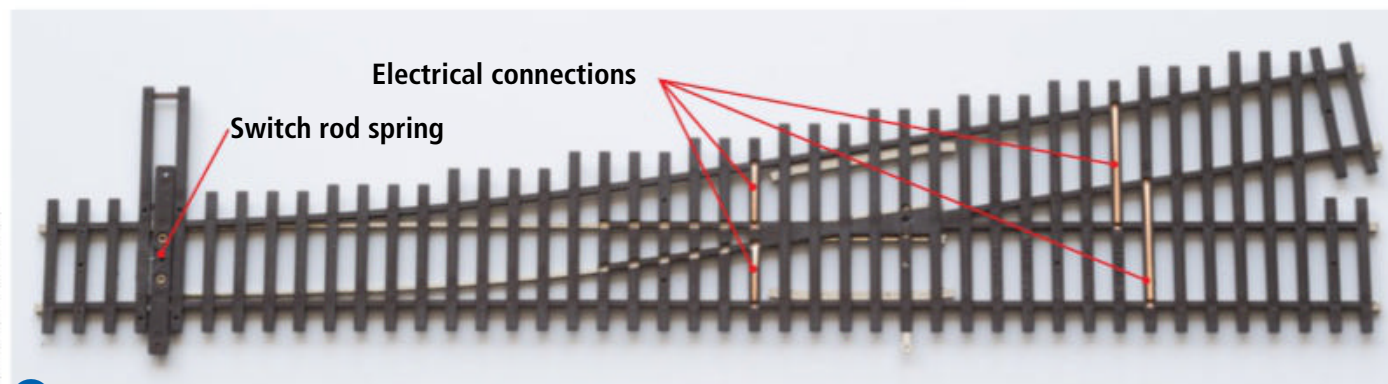
The switch rod is thicker than the ties. Having worked with turnouts with delicate switch rods that couldn't be repaired, I'm not bothered by these husky switch rods. If you want, you can paint them with some gray stripes to make them blend in with the ballast and appear narrower.

The new turnouts give us options we've never had before. These turnouts should be a welcome addition to your layout. Welcome back to the turnout game, Walthers!

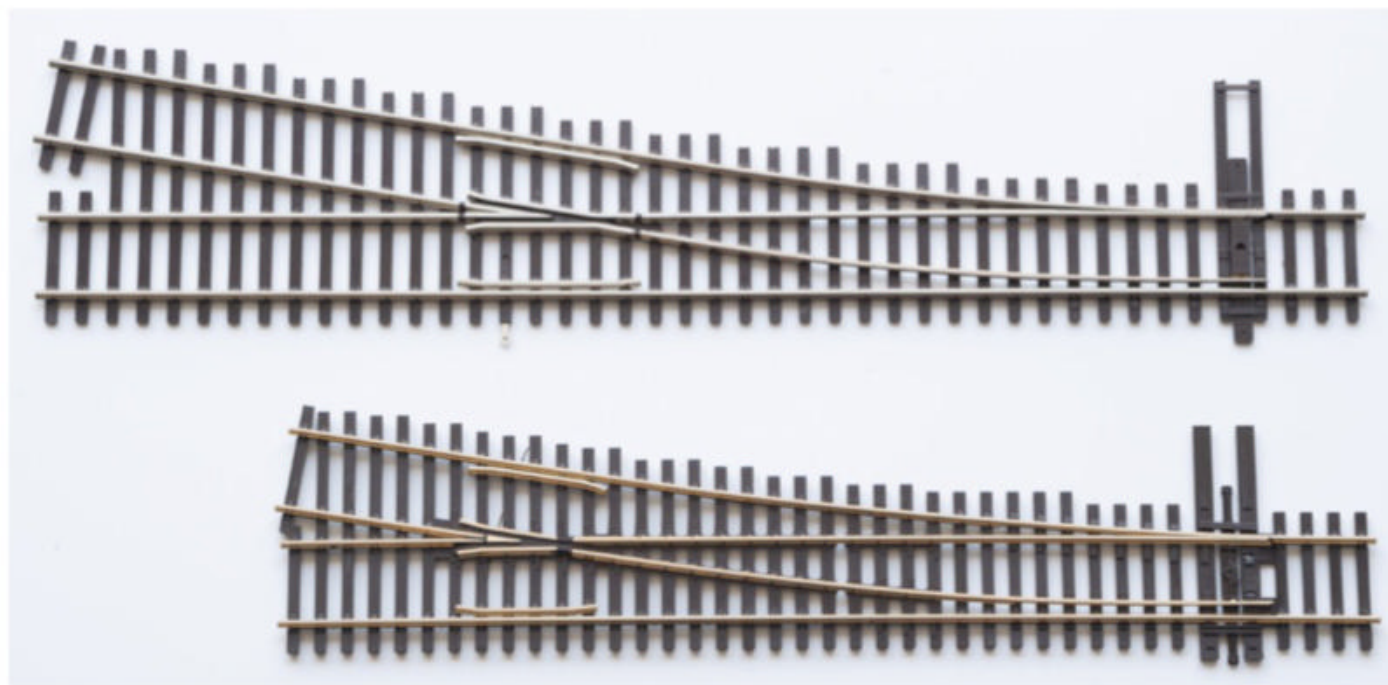
For the web links that appear in this column, bookmark WiringForDCC.com/dcc_currents.htm.

Q I will have a rather large DCC reverse loop that will have other locomotives doing switching within the loop. In fact, that loop and the trackage within it will make up more than half the layout. Will there be any effects on those locomotives within the loop when another one enters and/or leaves the loop?

*Richard Reitz
Vestal, N.Y.*



2 Walthers has added electrical connections from the stock rails to both the closure rails and the frog rails so you don't have to. Just connect your feeders to the stock rails and you're in business. You can also power the frog.



3 The Walthers no. 6 (top) is longer than a Peco no. 6 (bottom), but upon close examination, you will notice that the various features are in about the same places. The only real difference is that the Walthers frog rails are longer. You can shorten them if you need to.

A DCC locomotives are insensitive to polarity of the track power. You won't notice any problem to locomotives within a reversing section when another one enters or exits the reversing loop. You just can't have locomotives entering and exiting two different entrances of a reversing loop at the same time.

Q Atlas has published an excellent wiring diagram showing how to create an interlocking connection between its two-headed signal and an Atlas switch motor. I want to substitute a Tortoise by Circuitron switch motor for the Atlas switch motor, but don't want to proceed until I have a clear understanding of how to wire the Tortoise to the Atlas control boards. On a number of schematics I've seen showing

Tortoises connected to signals, the schematic shows a resistor between the signal and Tortoise. Among other things, I suspect that in-line resistors may be required, but have no idea of what type.

*Bill Wilken
Granville, Ohio*

A I reviewed the Atlas schematic you supplied and also went to the Atlas website to learn a little bit about the Atlas Signal Control Board (SCB). I found that it doesn't control the Atlas switch machine or Tortoise as you desire. Rather, the Atlas switch machine or a Tortoise provides input to it. For more on the Atlas SCB, go to the Atlas website at [download.atlasrr.com/pdf/Instructions/Atlas Model Signal Manual.pdf](http://download.atlasrr.com/pdf/Instructions/Atlas%20Model%20Signal%20Manual.pdf) and shop.atlasrr.com/t-manuals.aspx.

You can control the Tortoise with DCC via an accessory decoder, like those made by NCE or Digitrax, or through any traditional means. For more on controlling Tortoise by Circuitron switch machines, visit my website at wiringfordcc.com/sw_ctl.htm.

Q Years ago I purchased a PECO 3-way turnout. The original packaging and its wiring diagram is long gone. I have no idea if it is an Electrofrog or an Insulfrog. How can I tell the difference so I can wire it correctly?

*Jerry Parr
Littleton, Colo.*

A I have pictures of the frogs of both kinds of turnouts on my website at wiringfordcc.com/switches_peco.htm#a8. 



Athearn Genesis HO scale EMD GP18

Full-sized railroads loved EMD Geeps and kept ordering them from their initial release in 1949 right into the beginning of the 21st century. Railroads looking for new Geeps in the late 1950s bought GP18s until 1963, and now you can add that model to your layout in HO scale from Athearn Genesis.

The Electro-Motive Division (EMD) of General Motors built the 1,800-hp GP18 from December 1959 through November 1963, constructing 350 locomotives for U.S. railroads, plus 40 more for railroads in Mexico and about a dozen for markets outside North America.

Like preceding models of Geep, the GP18 used EMD's successful 567 series of diesel engines in non-turbocharged, 16-cylinder form. Two spotting features differentiating GP18s from earlier Geeps are two 48" radiator fans on the top of the long hood instead of four 36" fans (a feature shared with late GP9s) and fabricated grills over the radiator openings on the sides of the long hood instead of "chicken wire" grills.

Otherwise, a GP18 looked much like its older brothers, built on the same length frame and riding on the same Blomberg trucks. Low short hoods were an available option, as were dynamic

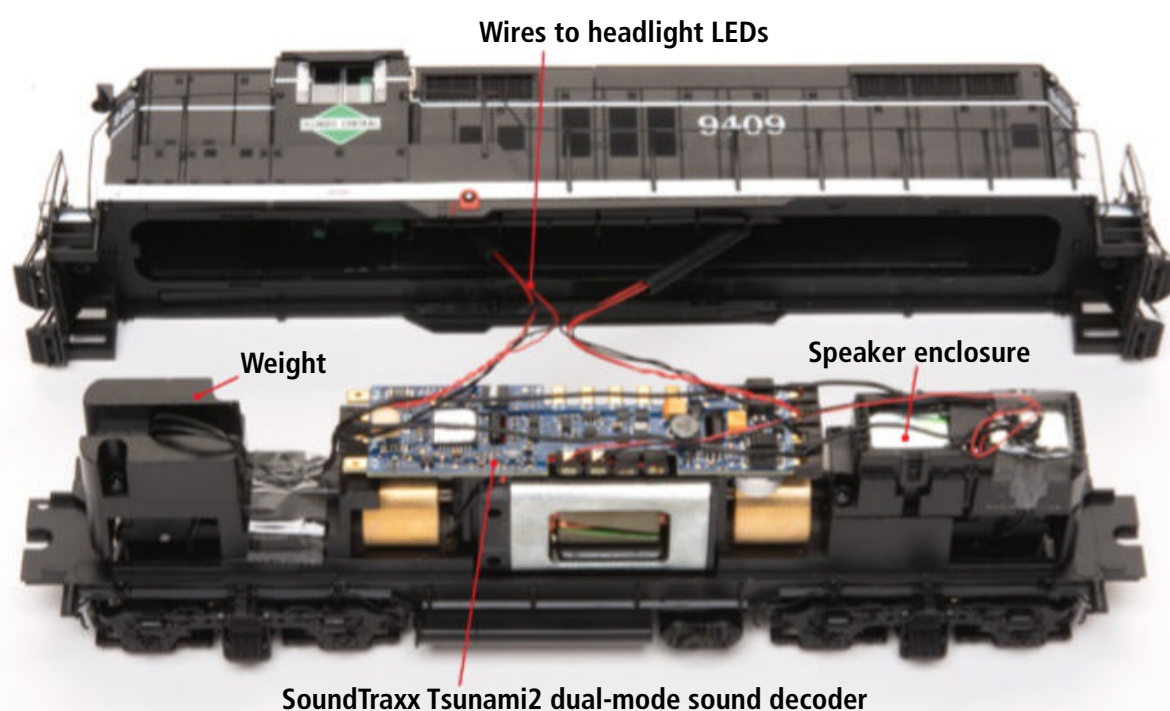
brakes. Grand Trunk Western had GP18s with steam generators.

Missouri Pacific ordered more than twice as many GP18s as any other railroad, 146. The next most prolific buyer was Norfolk & Western, with 48. Ferrocarriles Nacionales de México (the National Railways of Mexico) came in third with 37. Other owners with double-digit rosters include Grand Trunk Western; New York, Chicago & St. Louis (Nickel Plate Road); Norfolk Southern; Chicago, Rock Island & Pacific (Rock Island); Seaboard Air Line; and the Araraquara Ry. (Brazil).

New York, Susquehanna & Western no. 1800 has been photographed as recently as March 2021 as East Penn Ry. no. 1800. Other shortlines also ran GP18s into the 2010s.

Our sample model from Athearn is decorated as Illinois Central (IC) no. 9409, one of 29 locomotives numbered 9400-9428 and built under two orders – 15 in 1960 and 14 more in 1963. This is a solid black model with a white stripe along the top of the hood and green diamond IC logo on the cab sides for excitement. The paint is opaque, as is the striping.

The green-and-white IC logo is in register. This locomotive were delivered before the era of warning labels everywhere, so there's not a lot of reading to do. Detail painting includes EMD builder's plates, an F in a circle denoting the front of the locomotive, and red highlights around the fuel filler and fuel gauge.



The Athearn Genesis GP18 locomotive has a die-cast metal frame. A five-pole, skew-wound motor is mounted to the center of the frame and drives all wheels, which also pick up current.

PERFORMANCE CHARTS	
DRAWBAR PULL	2.72 ounces equivalent to 38 freight cars
SCALE SPEED (DC)	
VOLTS	SCALE MPH
9 (start)	1
10	9
11	16
12	28
13	40
14	57
SCALE SPEED (DCC)	
SPEED STEP	SCALE MPH
1	4
7	29
14	61
21	74
28	77

But there are a lot of detail parts. As part of Athearn's Genesis line, almost everything is a separately applied part. From the top down, there are wire lift rings and grab irons on the roof, along with metal grills on the 48" radiator fans. A nose-mounted bell sits above the headlight on our IC unit. Photo-etched metal grills cover the radiator shutters on the tops of the long hood sides. Windshield wipers, wind deflectors, and sun shades adorn the cab, which has a detailed interior.

The pilots have see-through footboards, m.u. hoses, uncoupling levers, and wire handrails. The locomotive handrails are flexible plastic molded to scale size. The trucks have separately applied brake cylinders and spring hangers. Sand lines and air lines give the underframe a busy look. Overall dimensions matched drawings in *Model Railroader Cyclopedia: Vol. 2, Diesel Locomotives* (Kalmbach Books, out of print).

Under the hood is an open-frame, skew-wound motor with brass flywheels mounted to a die-cast metal frame. There's a separate die-cast metal weight under the short hood. The speaker enclosure is mounted over the rear truck. The SoundTraxx Tsunami2 dual-mode sound decoder in our Digital Command Control (DCC)-equipped model snaps onto a plastic bracket that fit over the motor.

All eight wheels pick up current from the tracks and apply tractive effort to the rails through the usual driveshaft to the gear towers on both trucks.

To remove the shell, start with the couplers. Our sample's frame fit tightly, but I was able to slip a pair of curved tweezers into the coupler openings on the pilots to gently lever the frame down

out of the body. Be careful of the headlight wires that tether the body shell to the chassis.

If you wanted to add engineer and/or fireman figures to the cab, it might be easier to slip them in through the opening cab windows, as the handrails were securely mounted to the cab sides. I was able to carefully push on the cab mounting tabs inside the long and short hoods, then use the same curved tweezers to lift the cab free. The included exploded-view drawings are helpful for figuring out how to disassemble the model if need be.

On the test track, I found sounds started with 6.5V of DC power from a power pack. The locomotive started moving at 1 scale mph at 9V, and topped out at 57 scale mph at 14V, the most our test power pack puts out.

Sounds were automatic on DC power, and the headlight was directional. If I flipped the direction switch while the locomotive was still moving, I could keep the sound from dropping and restarting, which wasn't the case if I stopped the locomotive.

Of course, in DCC the SoundTraxx-equipped locomotive performed much better. In speed step 1, the locomotive rolled at 3.9 scale mph using our standard 28-step testing. I checked configuration variable (CV) 2, which sets the starting voltage, but it was already set to 0. I tested again in 128 speed steps and found the locomotive moved at just over 1 scale mph in speed step 1. In speed step 28, the locomotive reached a top speed of 77 scale mph, within the range of road-switcher locomotives.

The Athearn GP18 has the full suite of SoundTraxx Tsunami2 features. Multiple sounds are available, as is fine-tuning of control features. However, a program such as the free downloadable Java Model Railroad Interface (JMRI) DecoderPro, available at jmri.org, might be required to access all of them.

Our Athearn GP18 weighed 11.6 ounces and produced 2.72 ounces of drawbar pull, equivalent to 38 freight cars on straight and level track. On our staff layout, the Milwaukee, Racine & Troy, the GP18 pulled 12 50-foot boxcars up the 3 percent curving grade from Williams Bay Junction to the high bridge at Winter Hill.

I also tested the locomotive on my home switching layout, where it

Facts & features

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

Manufacturer

Athearn Trains
2904 Research Rd.
Champaign, IL 61822
athearn.com

Era: 1960-1985 (as decorated)

Road names: Illinois Central, Baltimore & Ohio (one road number), Burlington Northern, Nickle Plate Road, Norfolk & Western, and Northern Pacific. Four road numbers per scheme unless noted.

Features

- 21-pin NEM connector (direct current models only)
- All-wheel drive and electrical pickup
- Bi-directional constant light-emitting diode lighting
- Blomberg-B trucks with appropriate bearing caps
- Body-mounted McHenry operating scale knuckle couplers, at correct height
- Detailed fuel tank
- Die-cast metal frame
- Etched metal radiator intake grills and fan grills
- Genesis driveline with 5-pole skew-wound motor and machined flywheels
- Plastic handrails
- Positionable cab windows and detailed cab interior
- MU stands
- Nub-style walkway tread
- RP-25 contour wheels, in gauge
- Separate, factory-applied lift rings, sand lines, uncoupling levers, and windshield wipers
- Speed recorder if prototype-appropriate
- Trainline and m.u. hoses
- Wire grab irons
- Weight: 11.6 ounces

performed well moving cars through the layout's Atlas no. 4 and no. 6 turnouts.

GP18s were among the last of the classic-looking Geeps, so if you want these iconic locomotives, but model a later era than the popular steam-to-diesel transition era, these are the Geeps you might want. Athearn's highly detailed and great operating models would be the place to start. Now, if only they came in Cornell Red ... – *Eric White, senior editor*

Walthers Mainline HO standard- cupola caboose



A **standard-cupola caboose** is the latest addition to the WalthersMainline series of HO scale rolling stock. The ready-to-run car is offered with two cupola window styles, see-through plastic running boards, and body-mounted Proto-Max metal couplers.

The prototype. The WalthersMainline model is based on a Great Northern (GN) prototype built by the International Car Division of Morrison International Corp. under lot no. 845. The cabooses were constructed in two batches. Cars X66 through X85 were built between November 1963 and January 1964. Cabooses X86 through X95 rolled off the production line in January and February 1964.

Our sample is decorated as GN X84. A photo in *Burlington Northern Cabooses 1970-1995* by Robert C. Del Grosso (Great Northern Pacific Publications, 2006) shows the former

X84 freshly repainted Burlington Northern Cascade Green with yellow ends and numbered 10244 in June 1970. Images from the late 1970s show other cabooses from this group still in the original red scheme but with patched reporting marks and road numbers.

The model. The standard-cupola caboose has a plastic body with a separate cupola. The cupola has a tab on each end that locks under the bottom of the roof. Clear plastic inserts, one each for the body and cupola, serve as the glazing for the windows.

Up on top, the model features a Stanray overhanging diagonal-panel roof; plastic running boards; and a separate, factory-applied toilet vent and smokejack.

The underbody, which has tabs that lock into slots on the interior of the carbody, consists of molded center sills, two crossmembers, body bolsters, kingpins, and draft-gear boxes with separate, screw-mounted covers. The air reservoir, brake cylinder, and control valve are separate pieces with plastic piping. The GN model has a toolbox, a feature added as appropriate. The end platforms have molded grating; the steps are smooth. A 1 1/16" x 4" steel weight is attached to the top of the underbody with two Phillips-head screws.

Molded end cages with ladders; handrails; gates; brake stands; and separate, factory-applied brake wheels are glued to each end.

There are molded drill-starter points on the sides and ends of the carbody, the lower corners of the end cages, and the corners of the cupola roof for grab irons. These are available as separate-sale kit from Walthers, item no. 910-201 (\$9.98).

By the numbers. I compared the model to a prototype photo of X84 in *Great Northern Equipment Color Pictorial – Book Three* by Scott R. Thompson (Four Ways West Publications, 2000). The

lettering placement matches prototype photos. The lightning bolt by the RADIO EQUIPPED stencil looks too short; the window with the rounded corners on each side should be trimmed in black; there should be 12 sill stripes; and the safety slogan should be THE BEST WAY IS THE SAFE WAY.

The red and black paint is smooth and evenly applied. Information in Great Northern Ry. Historical Society (GNRHS) Reference Sheet no. 99 indicates the toilet vent and smokejack were originally painted silver. The smokejack had weathered to a rusty black color in the prototype image in Thompson's book.

The end cages lack the filler screens found on the prototype cabooses. The gates should have the GN SAFETY FIRST logo. These can be found in Microscale decal set no. 87-285.

The caboose's dimensions closely follow published data in GNRHS Reference Sheet no. 99. The model rides on Barber roller-bearing caboose trucks with correctly gauged 33" metal wheels mounted on plastic axles. Great Northern cars had solid-bearing Barber swing-motion trucks. The Proto-Max metal couplers are at the correct height. At 3.5 ounces, the model is properly weighted per National Model Railroad Association Recommended Practice 20.1.

I tested the caboose on our HO scale Wisconsin & Southern staff layout. It operated without incident while being pushed and pulled in a train.

I'm a fan. The International standard-cupola caboose is a welcomed addition to the WalthersMainline, especially for a BN modeler like myself. The model is fine out of the box, but leaves plenty of opportunity for extra details if you want to take the caboose to the next level. I already have both GN road numbers. Here's hoping I'll be seeing some Cascade Green in the next run! – *Cody Grivno, group technical editor*

Facts & features

Price: \$39.98

Manufacturer

Wm. K. Walthers Inc.
5601 W. Florist Ave.
Milwaukee, WI 53218
walthers.com

Era: 1963 to 1970 (as decorated)

Road names: Great Northern, Boston & Maine, Maine Central, Norfolk & Western, Norfolk Southern, and Northern Pacific. Two road numbers per scheme. Also available undecorated.

Features

- 33" turned-metal wheels on plastic axles, correctly gauged
- Proto-Max metal couplers, at correct height
- Weight: 3.5 ounces, correct per National Model Railroad Association Recommended Practice 20.1.



JTC N scale 53-foot 17-post NSC well car

Jacksonville Terminal Co. (JTC), best known for its magnetically interlocking intermodal freight containers, is expanding its line of cars that carry those containers. The newest offering from the manufacturer is a 53-foot, 17-post National Steel Car double-stack well car in N scale. The cars have die-cast metal bodies, etched stainless steel details, and Micro-Trains Line trucks and couplers.

National Steel Car, a car builder based in Hamilton, Ont., built 5,000 of these 73-foot-long, single-well cars in nine batches, starting in November 2002 and finishing in May 2005.

We found prototype photos online. The models appear faithful to the prototype, from the placement of details to the lettering, heralds, and placards. The prototypes bore varying amounts of grime, but the paint colors matched, too.

The paint and printing was well done. The yellow paint was even and the black printing looked good. All but the smallest lettering was legible when magnified.

The end platforms, stirrup steps, and handrails are etched and formed stainless steel. Though the steps and handrails appear quite fine, they seem rather durable, bending under stress rather than breaking like thin plastic might.

All the dimensions of the model that I checked with my N scale rule matched published dimensions of the prototype, with one exception. That exception was the width, which was wider than the prototype by less than a scale foot. This is to be expected. The car fell shy of the National Model Railroad Association's recommended weight for an N scale car of its length, but once you add a container or two, it should come up to the proper RP-20.1 weight.

The floor of the well has sockets for the alignment pins most model containers have on their bottom corners. I tested them with an assortment of N scale containers we had at the office. All fit, though not all of their pins matched up exactly with the sockets.

Facts & features

Price: \$44.95 (single), \$88.95 (two-pack)

Manufacturer

Jacksonville Terminal Co.
9526 Argyle Forest Blvd.
Suite B2, No. 406
Jacksonville, FL 32222
jtcmodeltrains.com

Era: late 2002 to present

Road names: TTX (five road numbers),
CP Rail (one road number)

The manufacturer recommends an 18" minimum radius for these cars. I tested the cars on our State Line Route project layout, and they transited its 14" curves without issues.

Jacksonville Terminal Co.'s latest offerings look as good as they roll. Add some to your intermodal fleet. – *Steven Otte, senior associate editor*

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Going to rules school

Fred Gamst, noted anthropologist and railroad author, observed that industrial rules have plagued mankind with migraines since they first appeared in the late 18th century. Many see the hobby as an escape from workday policies and procedures, not one that brings headaches home. Stay with me, because this is an attempt at a cure.

I always enjoyed the riddle of rules. I puzzled over the wrinkled, used train orders I begged from crews as a skinny kid sporting a crew cut and Coke-bottle glasses. Thirty-odd years later, Tony Koester organized a “rules school” over which Steve King presided. We called it Kingfest. And it was festive indeed when I began learning the meaning of my collection of orders. “Oh! So that’s what ‘run extra’ means!”

Rulebooks intimidate easily; today’s are as thick as textbooks. Most timetable-and-train-order (TTTO) rulebooks seem like pocket guides by comparison. In fact, one easily fit a pocket in which an employee could carry it while on duty.

A working knowledge of rules has always been required, and railroaders were tested for it. I found some written TTTO-era exams in an online auction, and a friend made a gift of a 1938 copy of *Catechism on the Standard Code*, a handy reference in question-and-answer format. An examination record – a wallet-sized card indicating that its bearer passed – is another item in my collection.

These practices were strict, but they were not punitive. Periodic safety and rules meetings were refreshers during which instructors reviewed rules and situations



Delaware, Lackawanna & Western fitted several cars as traveling classrooms. This Safety Instruction Car served as a yard office in Portland, Pa., later in life, seen in 1975. Jerry Dziedzic photo

in which they applied. Some railroads outfitted passenger equipment as a classroom, like the Lackawanna Safety Instruction Car in the photo, though it served as a yard office by the time I found it. Others put an idle coach to use. (A local diner served as our Kingfest venue, despite its lack of railroad car heritage.) This equipment was sent to outlying locations where employees collected. A car like this can make an interesting move on a layout.

Mastering textbook-length rulebooks isn’t for everyone. But learning a few operating rules might help one handle prototypical TTTO operation more confidently. Let’s review them, some simplified.

RULE 92: A TRAIN MUST NOT LEAVE A STATION BEFORE ITS SCHEDULED DEPARTURE TIME. Schedules are designed to separate trains safely. If the earliest No. 1, a westbound first-class train operating on single track, can leave Summit is 2:03 p.m., then eastbound trains know No. 1 can be no farther west than Summit at that time. The

nearer to Summit and to 2:03 p.m. it gets, the better inferior trains must prepare to clear the main track in time for No. 1 to proceed.

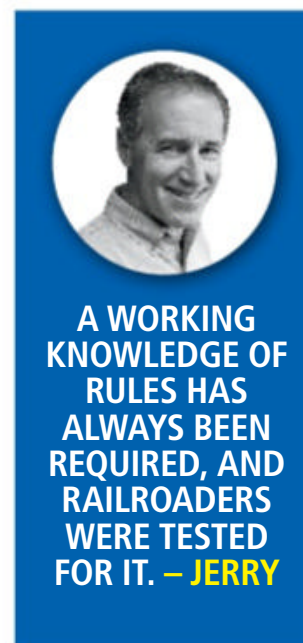
RULE 93: WITHIN YARD LIMITS THE MAIN TRACK MAY BE USED, PROTECTING AGAINST FIRST-CLASS TRAINS. Let’s give Summit a yard. This rule applies to the main track, which is controlled by a dispatcher, not the yardmaster. It gives a switch crew authority to use the main provided it clears superior trains’ schedules or flags against them. All except first class trains must operate at restricted speed, prepared to stop if the switch crew or another train is ahead.

RULE 99: WHEN A TRAIN STOPS AND MAY BE OVERTAKEN BY ANOTHER TRAIN, THE FLAGMAN MUST ENSURE FULL PROTECTION. Complying always assumes that a train is following. This applies to all trains, even

first-class. Should No. 1 be delayed at Summit, its flagman must go back far enough, considering the speed and braking distance of an oncoming train, to prevent a collision.

Most of us are sometime railroaders in need of refreshers. Tony’s crew briefings include a short “rule of the day” discussion, which I copied. Mine include reminders about rules and special instructions like speed limits. Operating sessions improve when I prepare my crew members, prompting them with questions.

Who hasn’t studied a technical manual or other complex documentation? Perhaps calling rulebooks “operating manuals” would make them easier to swallow. Nevertheless, like a quick-start guide, these few rules will make you look like a pro. **MR**





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Trackside Photos



Great Model Railroads 2022 is packed with articles, photos, tips, tricks, and track plans from nine incredible layouts in HO,

N, and O scales. This month, Trackside Photos features images from four of those model railroads. *Great Model Railroads 2022* goes on sale in October at your local hobby store. You can also order directly from our Customer Service hotline at 877-246-4879 or online from KalmbachHobbyStore.com.



Extra 1610 West, hauling a classified wartime load, has completed its coaling stop at Thurmond, W.Va., on Ted Pamperin's HO scale New River Subdivision. Since the layout is set during World War II, military bridge traffic is a frequent sight. Paul Dolkos photo



A customer at the Mattawana Post Office watches a consist of Conrail GP38-2s blast across the grade crossing on Neal Schorr's O scale Pennsylvania Middle Division. Different parts of the layout model the Juniata Valley from the 1930s to the 1980s. Neal's son Steven superdetailed the three-rail Weaver units. Neal Schorr photo



Streetcars circle past the iconic ship's-wheel-shaped Fisherman's Wharf sign on Harvey Simon's HO scale San Francisco F Line traction layout. The trolley line, first seen in the July 2018 issue of *Model Railroader*, has now reached its destination, passing many recognizable San Francisco landmarks along the way. Harvey Simon photo



Tenino Western 2-8-2 Mikado no. 49, an aging second-hand purchase, hauls a mile-long log train over Salmon Creek Trestle on Tyler Whitcomb's N scale model railroad. The freelanced layout, set in the mid-1980s to mid-1990s, is inspired by Pacific Northwest logging short lines. Tyler Whitcomb photo

Send us your photos

Trackside Photos is a showcase for the work of *Model Railroader* readers. Send your photos (digital images 5 megapixels or larger) to: *Model Railroader*, Trackside Photos, P.O. Box 1612, Waukesha, WI 53187-1612; or upload them to <http://fileupload.kalmbach.com/contribute>. For our photo submission guidelines, contact associate editor Steven Otte at sotte@mrmag.com.

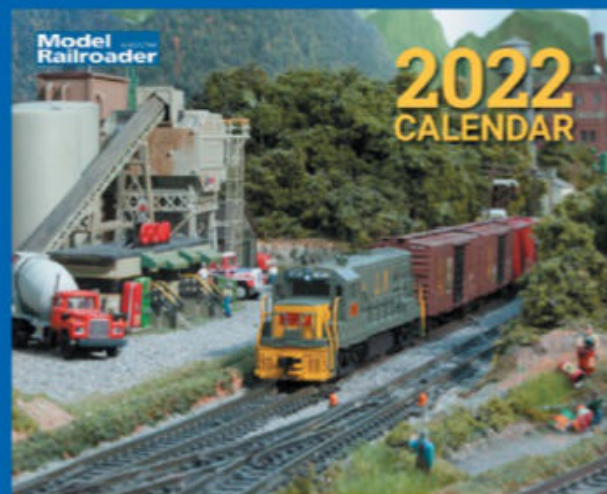
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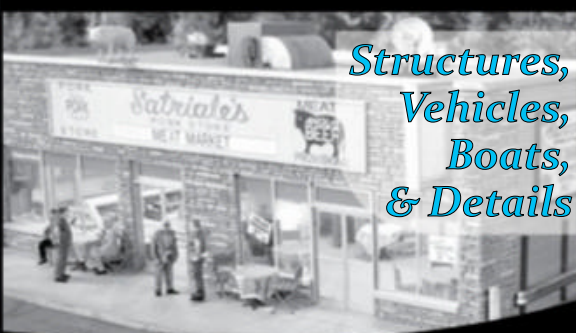
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All ads must be prepaid and pertain to the subject of model railroading.

Schedule of Events

AZ, GLENDALE: ARHS Model Train Swap Meet. Glendale Christian Church, 9661 North 59th Ave. Saturday, October 9, 2021, 9:00am-1:00pm. Admission \$5.00. Tables \$25.00 - to sign up send check or money order to ARHS, PO Box 5816, Glendale, AZ 85312-5816. Contact: Craig Faris 623-340-3529.

AZ, PHOENIX: Sahuaro Central Swap Meet. Saturday, October 30, 2021, 9:00am-1:00pm. Adobe Mountain Desert Railroad Park, 22822 N. 43rd Ave., Glendale, AZ 85310. Admission \$5.00. Children 12 & under free w/ paid adult. Swap meet and operating layouts. Information: Steven David at steves-train@cox.net, 623-889-4613 or go to: www.adobemtndesertrrpark.com and click on the event flyer.

CA, CARMICHAEL (SACRAMENTO): TTOS-Sacramento Valley Division River City Toy Train Meet. Saturday, November 13, 2021, 10am-3pm. Carmichael Elks Lodge, 5631 Cypress Ave., Carmichael, CA 95608. All gauges – all ages! Admission: \$5 per adult or child over 12. Children 12 or under, free with adult. Food and refreshments. Free parking. Contact: John DeHaan, 707-483-9053

CA, SIMI VALLEY: Swap Meet. Santa Susana Railroad Historical Society, Santa Susana Park, 6503 Katherine Rd., November 6, 2021, 8:00am-11:00am. \$2.00 donation, kids under 12 free. All scales, equipment, scenery, books and photos. For vendor table availability contact Chris, 805-494-1044. Website: www.santasusanapacific.org

CO, LOVELAND: Rocky Mountain Train Show November 27 & 28, 2021. The Ranch Complex, 5280 Arena Circle, Loveland, CO 80538. Saturday, 9am-5pm, Sunday 9am-3pm. 200+ sales tables, 50+ vendors, operating layouts, model trains of all scales. Admission \$8.00, under 12 free. Free parking. 303-364 0274 www.RockyMountainTrainShow.com Information@RockyMountainTrainShow.com

CT, NORTH HAVEN: Classic Shows, LLC will hold a Train and Toy Show on Sunday, November 7, 2021 from 9:00am-1:00pm at the Best Western Hotel, 201 Washington Avenue, exit 12 on Interstate 91. Admission \$6.00, children 15 and under are free with an adult. For information, please call 203-926-1327 or go to www.ClassicShowsLLC.com

FL, OCALA: Lions Tri-Annual Train Show. First Christian Church, 1908 E. Fort King St., Ocala, FL 34471. Saturday, November 6, 2021, 9:00am-2:00pm. Adults \$5.00, children 12 and under free w/adult. Bring two canned goods and receive \$1.00 off admission. Information: Bob 352-694-6381 or cell 813-203-3216

IA, HAMPTON: NCIMRRC Train Show. Franklin County Convention Center, 1008 Central Avenue W., Hampton, IA 50441. Sunday, October 31, 2021. 9:00am-3:00pm. Admission \$5.00. Trains (all scales), memorabilia and collectibles to buy, sell and trade. Individual tables welcome. For information or table reservations contact, Eastside Trains, 641-456-1998, email: eastsidetrains@gmail.com

IL, ST. CHARLES: 30th Annual Chicago Railroadiana and Model Train Show. Kane County Fairgrounds, 525 South Randall Rd. Sunday, October 17, 2021, 10:00am-3:00pm. Admission: \$6.00 (includes tax). Tables \$60.00. For information: 847-358-1185, RussFierce@aol.com or www.RRShows.com

IN, DANVILLE: Central Indiana Division-NMRA annual Danville Train Show (Indianapolis area) at Hendricks County Fair Grounds, 1900 E. Main St., Danville, IN 46122. Saturday, November 20, 2021. 10:00am-3:00pm. Admission \$3.00 adults, \$5.00 family. Operating Layouts, Vendors, Clinics, Food. Dealer Tables 8 feet at \$16.00. Info: johnporay@gmail.com or 317-627-1660. CID website http://cidnmra.org

IN, MICHIGAN CITY: Duneland Model RR Club Train Show and Swap Meet. IBEW Building, 301 East 8th St., Michigan City, IN 46360. Sunday, November 21, 2021, 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. (Masks are optional.)

KS, DODGE CITY: Boot Hill Model Railroad Club Train Show. Western State Bank Expo Center. 11333 U.S. Hwy 283, Zip: 67801. November 20 & 21, 2021. Saturday 10am-6pm and Sunday 11am-4pm. Admission: \$6 adults, good for both days. 10 and under free w/paid adult. Food available. Additional info, contact Henry Turner 620-271-4306. Email: hat9@cox.net or cwht@cox.net

MA, MARLBOROUGH: Hub Division NER/NMRA. Royal Plaza Trade Center, 181 Boston Post Road (Rte. 20 West), Marlborough, MA. Saturday December 4, 2021, 10am-5pm and Sunday December 5, 2021, 10am-4pm. Admission: \$12.00; Children under 12 and Scouts in Uniform FREE. Admission good both days. Information: Mark 508-528-8587; E-mail TE.info@hubdiv.org; website: www.hubdiv.org

MA, RAYNHAM: OLD COLONY MODEL RAILROAD CLUB 2nd ANNUAL MODEL RAILROAD OPEN HOUSE. Raynham Depot, Suite 16, 770 Broadway, Raynham, MA 02767. Exit 22 (old exit 8) from Route 495. Saturday, October 23, 2021, 10:00am-3:30pm. Admission Free - Donations Appreciated. Contact Dennis Ingalls, 508-558-9883, email: dingalls@comcast.net

ME, BREWER: Eastern Maine Model Railroad Club Show. Jeff's Catering in Brewer, 15 Littlefield Way, Brewer, ME 04412. Saturday, November 20, 2021, 10:00am-3:00pm. Admission \$4.00 for adults, under 12 free. Dealers, silent auction and operating layouts. Geoff Anthony, PO Box 187, Blue Hill, ME 04614, 207-374-2786, dahak@roadrunner.com

MI, EAST LANSING: Lansing Model Railroad Club Show and Sale. Michigan State University Pavilion. Sunday, November 14, 2021, 10:00am-4:00pm. Admission \$6.00, under 12 free. Michigan's largest train show: layouts, demonstrations and 500+ tables. Free parking. Flyer, table forms and map www.lmrc.org or call Ron St. Laurent 517-256-3588.

MI, KALAMAZOO: Southwest Michigan Train Show & Sale. Kalamazoo County Expo Center, 2900 Lake Street. Sunday, October 31, 2021, 10am-3pm. Admission \$6.00; Children 12 and under free. Operating layouts, clinics, vendors, railroad memorabilia, model trains, accessories, door prizes. Free parking, concessions and more! Presented by Kalamazoo Model Railroad Historical Society. Contact David Hayes-Moats 269-344-0906, www.kmrhs.org

MI, SALINE: Southeast Michigan Model Railroad Flea Market & Show presented by Rails on Wheels. Washtenaw Farm Council Grounds; 5055 Ann Arbor Saline Road, Saline, MI 48103. Sunday, November 28, 2021. 10am-3pm. Adults \$4. Children under 12 FREE with an adult. Early Bird Special 8am-10am \$10. Modular layouts. Refreshments. Free Parking. Contact John Young, 517-449-9063, cdjhyoung@yahoo.com

MN, ST. CLOUD: Granite City Train Show and Sale. River's Edge Convention Center, 10 4th Avenue South. Saturday, November 13, 2021, 9:00am-3:00pm. \$6.00, 10/under free. Buy/sell model/toy trains, books, videos, railroad collectibles. Operating model & toy train display. Win a LIONEL train set or FSM structure kit. 320-255-0033; edwardolson@cloudnet.com or www.GraniteCityTrainShow.com

MN, WOODBURY: Newport Model RR Club Flea Market & Train Show. We are back in business, most popular scales represented! Woodbury High School, 2665 Woodlane Drive, Woodbury, MN 55125. October 23, 2021, 9:00am-2:00pm. Admission \$5.00. Club Address: Newport Train Club, PO Box 0061, St. Paul Park, MN 55071. Contact: Ed, 651-233-3310 or Mark, 651-207-7747

MO, CAMDENTON: Lake of the Ozarks Train Club Show. October 23, 2021. 9:00am – 3:00pm. 1064 N. Business Rt 5, Camdenton, MO 65020. Vendors - \$15 per table. Call Stan Schroeder, 573-286-8921

MO, SEDALIA: Sedalia Rails Train Show. November 6, 2021, at Liberty Park Convention Hall, 3rd Street & Highway 65. 8:30am to 3:00pm. Operating layouts, rides on an outdoor railway, door prizes, food, sales of all types of models and railroad items. Individuals and dealer tables are \$15.00 each. Admission \$5.00, under 12 free. Call 660-668-0899 or Email: klbird530@gmail.com

NH, DOVER: The Great Northern New England Train Show. Dover Lodge of Elks #184, 282 Durham Road, Dover, NH 03820. Saturday, October 30, 2021, 10:00am-3:00pm. Admission: \$5.00 per family. Exhibitor tables \$25.00, includes entrance fee. All scales, operating layout, railroadiana items, and food on premises. Contact Ed Martin, efmenter@aol.com or 603-362-4300

NJ, BRICK: ECTP and Collectibles LLC presents The Brick Train Show. Elks Lodge, 2491 Hooper Avenue, Brick, NJ 08723. Sunday, November 7, 2021, 9:00am-2:00pm. Admission: \$6.00; under 10 free with adult. John LaLima 732-845-5966. Go to www.eastcoasttrainparts.com and click on The Brick Show.

NY, ALBANY: December 5, 2021, "Great Train Extravaganza"™. Largest model train show in Capitol Region. Empire State Convention Center. 10am-4pm. \$7 adults, children free. Operating layouts, all scales, plus Legos. 300+ tables: model trains, train sets, craftsman kits, buildings, accessories/parts, scenery, books, DVDs, railroad memorabilia/prints, switching puzzle, educational and NMRA displays. Door prizes. Refreshments. www.gtealbany.com, 518-668-9892, trains@gtealbany.com

NY, BUFFALO/HAMBURG: WNYRHS Train & Toy Show. November 20-21, 2021 & February 12-13, 2022. Fair Grounds Event Center. 5820 South Park Ave., Hamburg, NY 14075. Saturday 10:00am-5:00pm, Sunday 10:00am-4:00pm. 350 tables. Adults: \$8.00, Children 12 and under FREE. Bring the family! Stroller friendly! Layouts, demo's, children's area. Contact: Art Toale 716-837-1791, Email: feebeelovr@yahoo.com

OH, DAYTON: Dayton Train Show, The New Montgomery County Fairgrounds, 645 Infirmary Road, Dayton, OH 45417. November 6-7, 2021. Saturday, November 6, 11am-5pm and Sunday, November 7, 11am-4pm. Admission: \$8.00 per adult, children 12 and under free with paid adult. Gail Yarnall, PO Box 341233, Dayton, OH 45434, NMRA.Div.3@gmail.com. Go to http://www.DaytonTrainShow.com for updates.

OH, MASSILLON: CJ Trains Winter Train and Toy Show. Massillon Knights of Columbus Hall, 988 Cherry Road NW, 44647. Sunday, December 12, 2021, 10:00am-3:00pm. Admission: \$5.00, 12 and under FREE. \$25/dealer table, 152 - 8' dealer tables. Jon Ulbright, PO Box 446, Wooster, OH 44691, 330-262-7488, cathijon@sssnet.com www.cjtrains.com

OH, MT. HOPE: CJ Trains Fall Train and Toy Show. Mt. Hope Event Center, 8076 St. Rt. 241, Zip 44660. Saturday, November 6, 2021, 10:00am-4:00pm. Admission: \$5.00, under 12/FREE. \$25/dealer table, 600+ 8' dealer tables. Contact: Jon Ulbright, PO Box 446, Wooster, OH 44691. 330-262-7488, cathijon@sssnet.com www.cjtrains.com (GPS info: 8076 St. Rt. 241, Millersburg, OH 44654)

PA, ALLENTOWN: ATMA First Frost Train Meet. Allentown Fairgrounds Agri-Plex, 1925 W. Chew Street, Allentown, PA 18104. November 13 & 14, 2021. Saturday 9am-4pm, Sunday 9am-3pm. Advance tickets, admitted at 8am. \$10 adults, 12 and under FREE with adult ticket purchase. For more info, visit www.allentowntrainmeet.com or call 610-442-2859

PA, MONACA: Beaver County Model RR Fall Train Show & Sale. Monaca Turners, 1700 Old Brodhead Road. Sunday, November 21, 2021, 10:00am-3:00pm. Adults \$5.00, under 12 free. All scales, 50/50 raffle, food, fun for the whole family! Sponsored by Beaver County Model RR & Historical Society. Contact: Walt Steiner 724-843-3783 or www.bcmrr.railfan.net or beavercitymrr@gmail.com

PA, NEW CASTLE: BLRHS Fall Train Show. Shenango Twp VFD Social Hall, 2424 E. Washington St., Zip: 16101. Next to Dunkin Donuts. Sunday, October 10, 2021, 10:00am-3:00pm. Adults \$5.00 (\$4.00 if you mention Model Railroader ad). Children under 12 free. Tables \$25 each. For show info: blrhsinc.org or table reservations: George Alberti, galberti990@gmail.com 724-581-5560

UT, SALT LAKE: 34th annual Intermountain Train Expo presented by the Northern Utah Division-NMRA. Legacy Events Center, 151 South 1100 West, Farmington, UT. November 5-7, 2021. Friday 3pm-9pm, Saturday 9am-9pm, Sunday 9am-4pm. Admission: adults \$10, children 9-12 \$7, under 9 free. Food, free parking, nearby lodging. Best hands-on show! Boxcar races, demolition derby, clinics, and more! www.IntermountainTrainExpo.com

WA, KENT: Boeing Employees Model Railroad Club Annual Swap Meet, 525 4th Avenue North, Kent Commons. November 13, 2021, 9:30am-4:00pm based on current Covid-19 status. \$10.00 admission, under 16 free. Ed Sherry, 550 SW Colewood Lane, Normandy Park, WA 98166; 206-244-3884; swapmeet@bemrrc.com

WA, SPOKANE: River City Modelers Fall Train Show, Spokane Fairgrounds, 404 N. Havana. Sunday, October 10, 2021, 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 table rental or general info, contact: Shirley Sample, 509-991-2317 or email: shirley@busnws.com

All listed events were confirmed as active at the time of press. Please contact event sponsor for updated status of the event.

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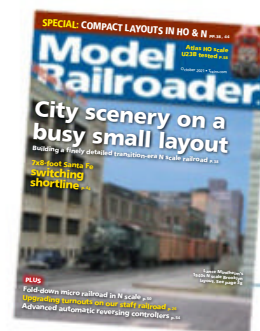
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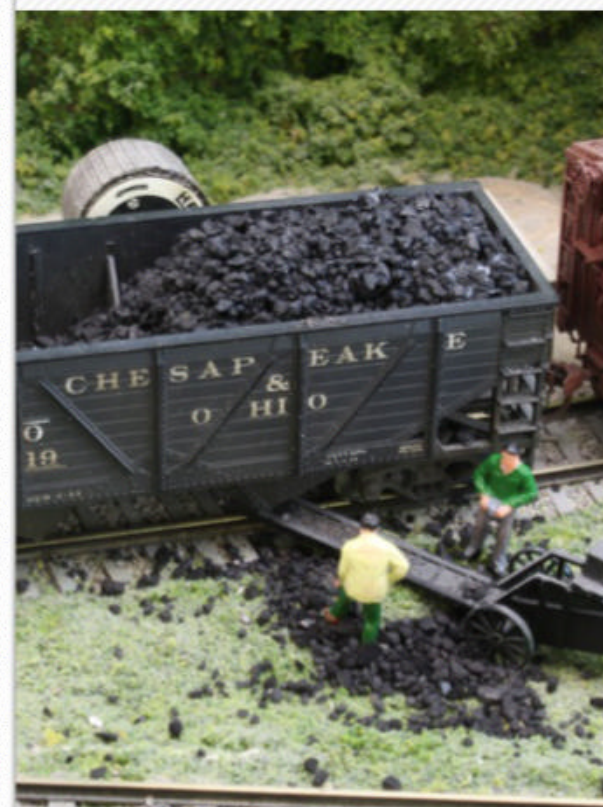
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Providing quiet zones



When veteran modeler Paul Dolkos built his second model railroad in the modestly proportioned basement of his Virginia townhouse, he provided a lengthy switching-free “quiet zone” that allows the railroad to breathe. Paul J. Dolkos photo

It's always nice when you get a note from upper management telling you they enjoyed something you had a hand in creating. In this case, it was an email from David Popp, the executive producer of Trains.com and a friend since his days on the staff of *Model Railroader*. He's also a contributor to *Model Railroad Planning*, the annual special issue of MR that I edit, as his busy schedule permits.

“I finally got to look at MRP 2021 today over lunch. It was a rare treat to sit quietly with a magazine while I ate instead of just to keep working. I really liked Chuck Hitchcock's new layout, and I caught myself thinking, ‘Wow, it's nice to see Chuck tackle a compact branchline railroad while downsizing in retirement. He's done a great job, and it just looks right.’

“Then I looked at the footprint with the track plan – 28 x 30 feet! I realized that the reason it looks right is that he's given the subject the space it requires to breathe.

“Not all of us have that much square footage to build a layout, but it got me thinking along the lines of ‘less is really more’ when it comes to modeling a railroad. Something as large as a train, even one on a branch line, needs to have the correct amount of space surrounding it. And instead of filling the space he had with as much track as possible, he chose to treat the subject accurately instead. You can switch any town on his new layout without having your train parked in the next town over to do it.”

Veteran modeler and Chuck's close friend Paul Dolkos agrees with David's thoughts about providing breathing room on sections of a layout. He refers to these sections as “quiet zones.”

“When I was building the Baltimore Harbor District,” Paul recalls, “instead of another switching area in the 17 feet between the Canton Yard and the rye distillery at the end of the room, I created

a rather complex quiet zone. The gently curving track crosses a bridge on three deck-girder sections and a swing bridge and passes by an oyster-packing house that is strictly scenery. Nice to look at but nothing to switch.

“On Chuck Hitchcock's Santa Fe branch line,” he adds, “the quiet zones give one a chance to stop and take a break. Quiet zones are an important layout element.”

Gerry Leone discussed allowing “spaces between places” in MRP 2017, suggesting that we give our eyes a treat and then allow them to rest as trains traverse less intensely scenicked portions of our railroads.

On my Nickel Plate Road, I didn't think in

terms of quiet zones or giving viewers' eyes a break. But that comes naturally when you're modeling granger country, as most of the track is spiked down through fields rather than urban canyons.

As I describe modeling flatlands railroading, the attribute I most often point to is the interchanges between railroads – so-called “universal industries,” in that any type and quantity of freight car can be exchanged there. This makes them far more valuable sources of tonnage than almost any conventional industry you can name, and you don't even have to build any supporting structures.

But there's an elegance to farm country that we have too long overlooked: the beautiful barns and farm houses, the stately rows of fence posts standing like sentries guarding the fields, the rows of corn and carpets of wheat standing proud.

These agrarian features are not so intense that they interfere with the quiet-zone principles. They do not require direct involvement of the railroad until it reaches the next small town and serves the

grain elevator and perhaps a team track, lumberyard, and so on – exactly as Chuck Hitchcock's railroad does. So does my own, in town after town between the two terminals.

Quiet, please! Perhaps that should be a sign we hang on our railroads as we plan and construct our scenery. Like us, they need to breathe. **MR**



ON MY NICKEL PLATE ROAD, I DIDN'T THINK IN TERMS OF QUIET ZONES. BUT THAT COMES NATURALLY WHEN YOU'RE MODELING GRANGER COUNTRY.
– TONY

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Right now Amtrak® is operating 55 Viewliner® II Baggage cars, wearing a special "Phase III heritage" paint scheme that combines the classic red-white-and-blue stripes with Amtrak's new modern logo and the phrase "Amtrak America". While the Viewliner and Amfleet® single-level cars are typically designed for use throughout the Eastern United States on long distance trains, the new Viewliner II Baggage cars are also used on Superliner® trains, making them extremely versatile and a great addition to a model railroader's modern N scale Amtrak fleet!

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Item #	Description	MSRP
#106-8001	N ACS-64 & Amfleet I Phase VI 5-Unit Bookcase Set	\$250
#106-8001-DCC	N ACS-64 & Amfleet I Phase VI 5-Unit Bookcase Set w/ DCC - Includes ACS-64 #621, 3 x Amfleet I Coaches, 1 x Amfleet I Cafe	\$330
#106-8002	N Amfleet I Phase VI 2-Car Set A - Includes 2 x Amfleet I Coaches	\$55
#106-8002-1	N Amfleet I Phase VI 2-Car Set A w/ Lights	\$85
#137-3001	N Siemens ACS-64 Amtrak #600 "David L Gunn"	\$150
#137-3001-DCC	N Siemens ACS-64 Amtrak #600 w/ Pre-Installed DCC	\$230
#137-3002	N Siemens ACS-64 Amtrak #627	\$150
#137-3002-DCC	N Siemens ACS-64 Amtrak #627 w/ Pre-Installed DCC	\$230
#137-3003	N Siemens ACS-64 Amtrak #648	\$150
#137-3003-DCC	N Siemens ACS-64 Amtrak #648 w/ Pre-Installed DCC	\$230
#156-0957	N Amtrak Superliner II Transition Sleeper PhVI #39041	\$35
#156-0957-1	N Amtrak Superliner II Transition Sleeper PhVI #39041 w/ Lights	\$50
#156-0958	NEW! N Amtrak Viewliner II Baggage Phase III (Heritage) #61015	\$35
#156-0958-1	NEW! N Amtrak Viewliner II Baggage PhIII (Heritage) #61015 w/ Lights	\$50
#156-0959	NEW! N Amtrak Viewliner II Baggage Phase III (Heritage) #61024	\$35
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