

TESTED: RAPIDO'S UPDATED RS-11 p.13

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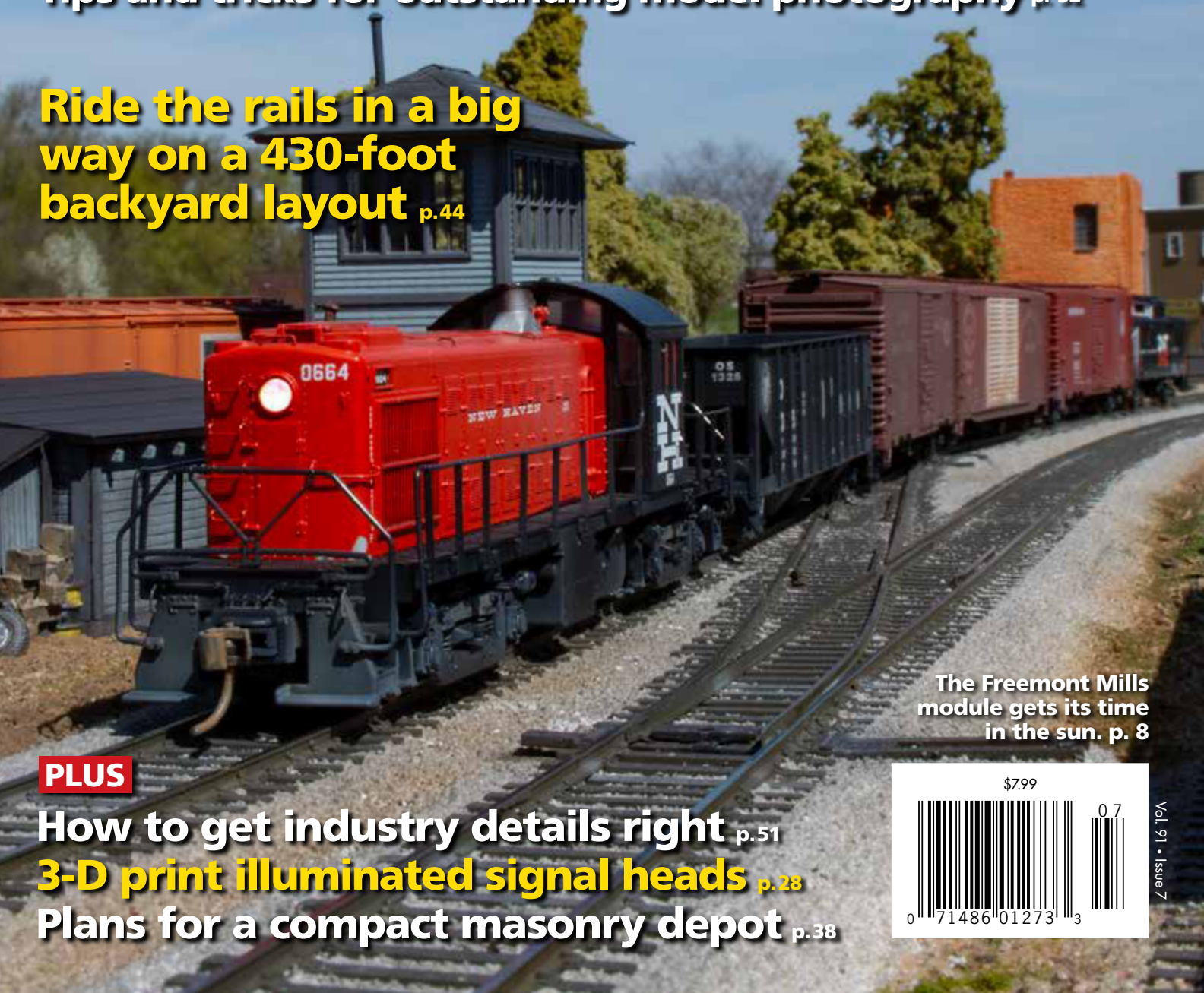
July 2024
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Capture the perfect scene

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How to get industry details right p.51

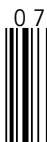
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Vol. 91 • Issue 7

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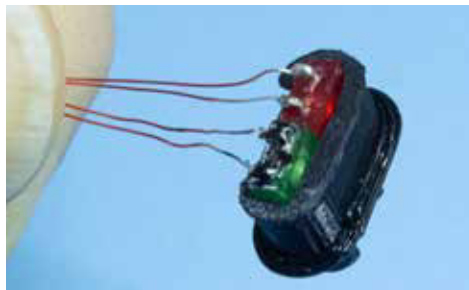
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On the cover: *Model Railroader's* 2024 project, the Freemont Mills Free-Mo module, is photographed outdoors. Cody Grivno photo



Next issue

In **August**, learn how to model a unique structure with 3-D printing. Plus, visit an HO commuter line and an On30 logging road, scratchbuild three M-O-W cars, and more!

Model Railroader (USPS 529-810, ISSN 0026-7341) is published monthly by Kalmbach Media Co., 21027 Crossroads Circle, P.O. Box 1612, Waukesha, WI 53187-1612. Periodicals postage paid at Waukesha, Wis., and additional offices. POSTMASTER: Send address changes to *Model Railroader*, P.O. Box 850, Lincolnshire, IL 60069. Printed in USA. Canada Publication Mail Agreement # 40010760.



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Conducted by Bryson Sleppy



Steve Miazga's N scale Missabe Junction operating session

Enjoy an **insider's look** at an informal operating session hosted on Steve Miazga's N scale model railroad, set in northern Wisconsin. The real thrill comes from seeing Steve and his friends, including notables like current MR editor Eric White and former MR managing editor Jim Kelly, gather to set the model railroad into motion! Be sure to scan the QR code above to watch this video and more on Trains.com.



Non-traditional model railroad benchwork

Model railroad benchwork is the support structure that hold up our train layouts. It's traditionally made of wood with a plywood surface, and this is fine for many builders. But sometimes, there's a need for non-traditional model railroad benchwork.

Follow along as editor Eric White explores various forms of benchwork that a model railroad can be built on that aren't your standard L-girder or open grid system. Like a bookshelf, or a shelf with no visible supports at all. If you have ideas of building a layout but just can't find the ground clearance to do so, this is just the article for you. Find this and more fun tips and tricks, only on Trains.com.



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Shining a light on your model railroading



Senior Editor Cody Grivno works to set up his camera for the perfect shot of our Freemont Mills Free-mo project for this month's cover photo. Perfect weather and surroundings that blended with our modeling sped the process. Eric White photo

We're always looking for ways to make our model railroads look more realistic, and once we do, we're going to want to share that with others. Often that means taking photographs.

Effective lighting is an aspect of photography that can take lots of practice and experimentation, but natural light can be much more

forgiving. While modeling outdoors isn't necessarily the solution, building a layout or diorama that can be taken outside when the weather cooperates is one way to get the advantages of natural light and shadow. Duane Ericson is sharing a second layout with us, and like the first, featured in the April 2015 issue of *Model*

Railroader, his excellent images make the most of natural light.

With a trend toward smaller layouts, it's possible to build something that can be moved outdoors. Duane offers some useful tips on how to design a layout that will look its best under natural light. You can read more about that on page 32.

Looking for a cover image for this month, I thought of our own moveable layout, the Freemont Mills Free-Mo module. We didn't build this with the idea of photographing it outdoors, but it was meant to move. Since the weather was cooperating, Cody Grivno and I packed up the camera gear and took our layout for a ride down the elevator and out in front of Kalmbach HQ.

We were able to find a spot where the trees on the rear edge of the layout blended well



into the line of trees that runs behind the empty lot next to our offices. That made setting up the shot much easier.

Photographing your models under natural light can be very rewarding. You might even have a spot on your indoor layout where the sun shines in through a window. You wouldn't even have to go outside!

Model Railroader

Model railroading is fun!

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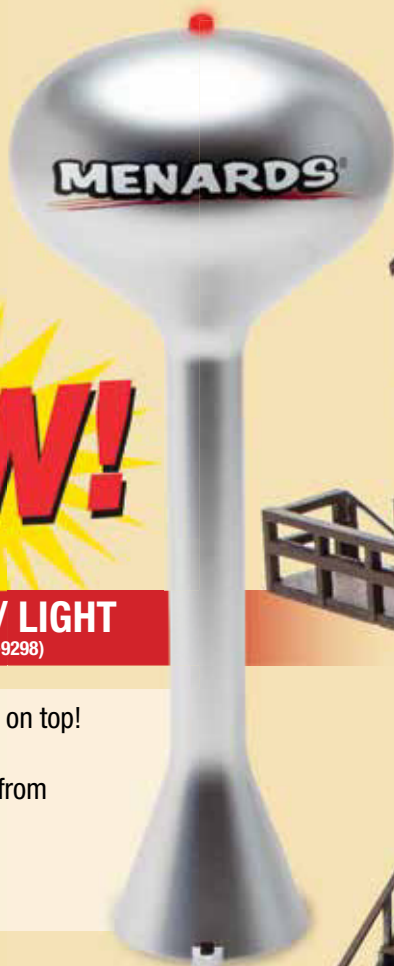
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and Jack the German Shepherd lounging on the sidewalk!



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and much more!

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lights under the eaves!



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HO scale



Electro-Motive Division SD40-2 diesel locomotives. The latest run of six-axle special duty locomotives from ScaleTrains includes Soo Line; Burlington Northern (SD40-2B and SD40-2 body styles); Chicago, Rock Island & Pacific; Conrail; Electro-Motive Division (Illinois Central Gulf patch); Illinois Central Gulf; and Atchison, Topeka & Santa Fe. This run includes new

features such as light-emitting diode walkway, ground, and ditch lights as appropriate. Separately applied details include snowplows, uncoupling levers, and more as applicable. Direct-current models are **\$199.99** and models with DCC and sound are priced at **\$299.99**. Rivet Counter line. ScaleTrains, 844-987-2467, scaletrains.com

HO scale locomotives



• Montreal Locomotive Works CNR H-6d/g 4-6-0 steam locomotive.

Canadian National. Sixteen road numbers available. Also available undecorated. Road-number-specific details

including various coal or oil tender variations, wood or steel cab, manual or power reverser, vertical or horizontal slat pilot, bell location, and headlight size. Light-emitting diode headlight, marker lights, classification lights, and flickering firebox light. Complete piping, underbody, and tender details. Direct-current model, \$499.95; with DCC and sound, \$599.95. Rapido Trains Inc., 905-474-3314, rapidotrains.com



• Norfolk & Western Class J 4-8-4 steam locomotive.

Norfolk & Western. Four road numbers. Early as-built, late as-built, and post-2015 versions. Light-emitting diode headlight, backup light, number boxes, cab interior, and classification lights. Die-cast metal boiler and tender body. Synchronized puffing smoke unit. Metal semi-scale Type E couplers. Direct-current model, \$424.99; with DCC and sound, \$524.99. Fox Valley Models line. ScaleTrains, 844-987-2467, scaletrains.com

N scale



Electro-Motive Division GP15-1 diesel locomotive. This road locomotive from Atlas Model Railroad Co. is decorated for Burlington Northern, California Northern, Conrail, GMTX, Missouri Pacific, Union Pacific, and York Rail in multiple road numbers are available per scheme. An undecorated version is also available. The N scale GP15-1 features directional light-emitting diode lighting, blackened metal wheels, and Accumate knuckle couplers. The direct-current model sells for **\$124.95**. Trainman series. Atlas Model Railroad Co., 908-678-0880, shop.atlasrr.com

HO scale rolling stock



• **American Car & Foundry 70-ton two-bay covered hopper.** Detroit, Toledo & Ironton; Alcoa Aluminum; Chicago Great Western; Delaware & Hudson; Delaware, Lackawanna & Western; Detroit & Toledo Short Line; Lehigh Cement; Minneapolis & St. Louis; New York, New Haven &



Hartford; Nickel Plate Road; Norfolk & Western; Pennwalt Chemicals; Southern Pacific; Spokane International; Union Carbide/Linde; Union Pacific; U.S. Phosphoric Products; Weyerhaeuser; and XTRA/Western Pacesetters. Two or three road numbers per scheme. \$29.95. Bowser Manufacturing Co. Inc., 570-368-2379, bowser-trains.com



• **General American 1928-design 6,000-gallon, three-compartment tank car.** Celanese, Champlin Refining Co., General American Transportation, Hercules Powder Co., John H. Grace, Magnolia Petroleum Co., Mid-Continent Petroleum Corp., Mobil Oil Co., Pittsburgh Coke & Chemical, and Standard Tank Car Co. Multiple road numbers per scheme. Also available undecorated as kit or ready-to-run. Fully riveted body and underframe. Separately applied tank handrail and strap detail. Full brake detail and air line. \$48.95. Tangent Scale Models, 828-412-3886, tangentscalemodels.com



• **ITEL Corp. IMPACK spine car.** Atchison, Topeka & Santa Fe; Burlington Northern; and Trailer Train. Two five- or 10-unit sets per scheme as appropriate. Separately applied brake wheel. Hidden

die-cast metal weight. Can fit most 40- or 45-foot trailers. Five-pack, \$159.99; 10-pack, \$269.99. Athearn Trains, 800-338-4639, athearn.com



• **Pacific Car & Foundry 5241 boxcar with exterior posts.** Boston & Maine, Berlin Mills, East Erie Commercial, Olympic RR, Guilford, St. Lawrence & Atlantic, Saratoga & North Creek, and Union Pacific. Multiple numbers per scheme. Three door styles. Full underbody detail. Separately applied wire grab irons. Single car, \$54.95; three-pack, \$164.84; six-pack, \$329.70. Rapido Trains Inc., 905-474-3314, rapidotrains.com

HO scale passenger equipment



• **Gloucester subway car.** Toronto Transit Commission. Available as two-car unpowered display train in 1954 St. Clair station diorama, four-car operating set, and two-car operating add-on set. Detailed interior including seats and hand holds. Light-emitting diode headlights, rear marker lights, destination sign, and interior lighting. Detailed underbody. Wire grab irons. Two car display set, \$249.95; direct-current two-car set, \$279.95; two-car set with DCC

Continued on page 14

In Memoriam

Kirk Reddie 1955-2024

Kirk Reddie, 69, passed away on April 8, 2024. The Editor and Publisher of *N Scale Railroading* magazine grew up and resided in Shoreline, Wash.



When he was 4 years old, he received an American Flyer train set. His modeling focus shifted to HO scale when he was in eighth grade. Kirk switched to N scale in 1975. He noted that Jim Hediger's December 1976 article "The Ntrak Story" was a big inspiration to his 1:160 modeling efforts.

In addition to working on the magazine, Kirk was in the process of building the N scale Chicago, Milwaukee & Puget Sound. The 48 x 96-foot layout was the subject of several articles for *N Scale Railroading* and also featured in November 2022 issue of *Model Railroader*. The multi-deck layout was set in the Pacific Northwest circa 1950 and modeled five railroads (Great Northern; Milwaukee Road; Northern Pacific; Pacific Coast RR; Spokane, Portland & Seattle; and Union Pacific) between Argo Junction and Black River Junction, south of Seattle.

Athearn Genesis HO General Electric P40DC



The HO scale General Electric (GE) P40DC diesel locomotive has returned to the Athearn product lineup. The Genesis-series model features a newly tooled body with cab mounted strobe lights, a red emergency light, and other prototype-specific details.

Our review sample is decorated as Amtrak P40DC No. 813, part of the passenger carrier's 800 through 843 series. The full-size unit was built in June 1993. In Amtrak terminology, the locomotive was classified a Dash 8-40BP. The passenger diesel was also known as an AMD-103 (Amtrak Monocoque Diesel — 103 mph) and P40.

After a decade of service, the 813 was stored dead in June 2003. The four-axle passenger unit was retired in October 2019 and sold to Larry's Truck & Electric, a McDonald, Ohio-based company that scraps, rebuilds, leases, and resells diesel locomotives.

Athearn's model of the 813 is detailed in its as-built configuration, with strobe lights and a red emergency light above the cab windows and a rear hostler window. Though the emergency light is wired, it's not connected and therefore non-functioning.

The P40DC has a plastic body with many factory-applied parts, including wire vertical handrails, plastic Sinclair and end-of-train device antennas, and a cast-metal five-chime air horn.

The model has a detailed cab interior that includes a floor, three seats, engineer and conductor cab consoles, and a rear wall. Crew figures aren't included but would be easy to install.

To separate the shell from the chassis, you need to remove two screws — one behind the front truck on the engineer's side, the other in front of the rear truck on the conductor's side. Wires for the strobe lights are connected to the sound board, so slide the shell off slowly.

A motor with dual flywheels is centered in the die-cast metal chassis. Sound-equipped models have two 28mm round speakers, one each above the front and rear trucks.

The P40DC we received is neatly decorated in the phase 3 scheme. The color separation lines are crisp, and the lettering placement matches prototype photos I found online. The model's dimensions closely follow prototype drawings in the January 1994 *Model Railroader*.

I used an NCE Power Cab to test our sound-equipped P40DC. At step 1, the model moved at 5 scale mph. The passenger hauler hit 88 smph at step 28. The prototypes could run 110 mph. The speed range can be fine tuned using configuration variables.

Then I took the Athearn model to our Milwaukee, Racine & Troy layout. It pulled a passenger train between Troy and Williams Bay without issue. The four-axle unit

pulled 10 Superliner cars up the 3% grade between Bay Junction and Skyridge.

The Athearn Genesis GE P40DC is a major leap forward from the direct current blue box kit released in the 1990s. Improved paint, better details, and advanced lighting features make this passenger hauler look (and sound) more like its prototype counterpart. — *Cody Grivno, senior editor*

Facts & features

Price: Direct-current model with 21-pin NEM connector, \$209.99 to \$219.99; with dual-mode SoundTraxx Tsunami 2 sound decoder, \$309.99 to \$319.99

Manufacturer

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

Era: June 1993 to June 2003 (as decorated)

Road names: P40DC — Amtrak (phase 3 and 5 paint schemes). P42DC — Amtrak (phase 4 and Operation Lifesaver) and VIA Rail Canada (2015 repaint, "Love the Way," and Poppy schemes). One to three numbers per scheme.

Features

- Correctly gauged metal wheels
- McHenry scale couplers, at correct height
- Minimum radius, 18"; recommended radius, 22"
- Weight: 1 pound, 7.4 ounces



Rapido Trains HO Alco RS11



A new run of HO scale Alco RS11 diesel locomotives is now available from Rapido Trains. The model features many newly tooled, railroad-specific details; illuminated number boxes, class lights, and control stand lights; and a new five-pole, skew-wound motor.

Alco produced the RS11 from February 1956 until May 1961. During that time, it built 327 locomotives for railroads in the United States and 99 for lines in Mexico. The 1,800hp road switchers were fitted with a 12-cylinder 251B engine.

The sample we received is decorated as Duluth, Winnipeg & Pacific No. 3600, part of the railroad's 3600 through 3614 series. The unit was originally painted in parent Canadian National's green-and-yellow scheme. It was later repainted in the 1962 black-and-orange scheme with large DW&P lettering on the long hood.

Starting in 1979, DW&P's RS11s were transferred to sister road Central Vermont. Today, the 3600 is on the Depew, Lancaster & Western, where it's the carrier's No. 1800.

The Rapido Trains RS11 has a multi-piece injection-molded plastic body with a heavy, die-cast metal chassis. The side handrails are metal with plastic stanchions. The end handrails and stanchions are plastic.

The model features many free-standing details, including wire grab irons, see-through steps, and metal diamond plate on the walkways. Railroad-specific details on the DW&P model include a recessed brake wheel on the

long hood, etched-metal chicken wire instead of a grill over the intercooler, and a conical exhaust stack. Plastic cab sunshades and an oval exhaust stack are included with the model.

One of the biggest upgrades to the RS11 is how the shell is attached to the chassis. The original version required a multi-step disassembly process, outlined in a video on the manufacturer's website. On this run, all you have to do is remove the front and rear draft-gear boxes and two screws flanking the boxes. Wires from the printed-circuit board are tethered to the cab interior.

Our review sample is decorated in Duluth, Winnipeg & Pacific's as-delivered green-and-yellow scheme. The paint is smooth and evenly applied, and the yellow is opaque. The separation lines between colors are crisp.

I compared the Rapido Trains RS11 to drawings published in the 1956 *Locomotive Cyclopedic of American Practice* (Simmons-Boardman Publishing Corp.) The model's dimensions accurately match the elevation drawings.

The sample we received has a dual-mode ESU LokSound Select V5 decoder. I tested the locomotive in our workshop with an NCE Power Cab. At step 1, the four-axle road switcher moved at less than 1 scale mph. At step 28 the RS11 achieved a top speed of 77 smph. The full-size units had a top speed of 65 to 92 mph, depending on the gear ratio.

Then I took the locomotive over to our staff layout. The unit ran without

incident leading a pulpwood train on the Wisconsin & Southern. The RS11 was able to take 10 50-foot insulated boxcars up the 3% grade between Bay Junction and Skyridge.

Rapido took the lessons it learned from the first run of the RS11 and made the four-axle road switcher even better. From railroad-specific details to authentic Alco 251B diesel engine sounds, this HO scale model is an all-around winner. — *Cody Grivno, senior editor*

Facts & features

Price: Direct-current with 21-pin connector, \$225; with dual-mode ESU LokSound V5 sound decoder, \$335

Manufacturer

Rapido Trains
500 Alden Rd., Unit 21
Markham, ON, Canada
L3R 5H5
rapidotrains.com

Era: February 1956 to 1980s (varies depending on paint scheme)

Road names: Duluth, Winnipeg & Pacific; Burlington Northern; Central Vermont; Delaware & Hudson; Maine Central; New York Central; Nickel Plate Road; Portland Terminal; and Seaboard Air Line. One to four road numbers per paint scheme.

Features

- Metal couplers, at correct height
- Metal wheel stubs mounted on plastic axles, correctly gauged
- Weight: 13.1 ounces

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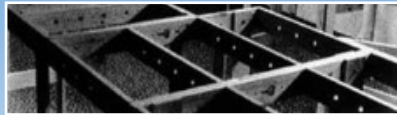
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Model Railroader July 2024

News & Reviews

Continued from page 11

and sound, \$479.95; direct-current four-car set, \$549.95; four-car set with DCC and sound, \$749.95. Rapido Trains Inc., 905-474-3314, rapidotrains.com



• **Siemens Venture coach.** Amtrak Midwest. Four road numbers available. Detailed interior with prototypical configurations. Road-specific body configuration. Light-emitting diode interior lighting and user-controlled marker lights. Modeler-installed close couplers included. Blackened metal RP-25 con-tour wheelsets. \$149. Bachmann Trains, 215-533-1600, bachmanntrains.com



• **Union Pacific business car Kenefick.** One road number. Four versions: Union Pacific herald, Big Boy Tour drumhead, Seal of the President of the United States drumhead (George H.W. Bush funeral train), and Spirit of the Union Pacific drumhead. Detailed interior. Separately applied details including handrails and antenna arrangement. Underbody detail with warning labels. Light-emitting diode ditch lights, marker lights, tail-lights, interior lights, and drumhead as applicable. Minimum radius: 18". \$129.99. Broadway Limited Imports, 386-673-8900, broadway-limited.com

HO scale structures



• **Vintage bowling alley.** Cinder block and decorative brick wall details. Separate large pane windows and traditional "glass" entry/exit doors. Roof-mounted air conditioners and large vents. Separate electrical box, gas meter, and down-spouts. Detailed base with sidewalk. Printed interior and marquee signs included. Freestanding street sign. Building (without street sign) measures 12 3/8" x 7 1/16" x 3". \$64.98. Walthers Cornerstone. Wm. K. Walthers Inc., 414-527-0770, walthers.com

QUICKLOOK

Atlas N scale Thrall 4750 covered hopper

Price: \$24.95 (undecorated, \$17.95)

Manufacturer

Atlas Model Railroad Co.
378 Florence Ave.
Hillside, NJ 07205
shop.atlasrr.com

Road names: New paint schemes: Transportation Corp. of America; Burlington Northern (with FRA-224 stripes); CATX; David J. Joseph Transportation; Midwest Railcar; Minneapolis, Northfield & Southern; and Rail Logistics. New road numbers: Canadian National and Peavey. Also available undecorated.

Era: Late 1970s to present

Comments: Atlas is offering its Trainman series Thrall 4,750-cubic-foot capacity three-bay covered hopper in new paint schemes and road numbers. The model is based on full-size cars built in the late 1970s and early 1980s.



The sample we received is decorated as Transportation Corp. of America 60078, part of the leasing company's 60000 through 60199 series built by Thrall Car between June and September 1979. Cars 60069 through 60084 were leased to Farmers Co-op Grain & Supply Co. of Minden, Neb.

The Atlas model has a one-piece plastic body with separate slope sheets. Freestanding details include the air reservoir, control valve, and brake wheel. The brake cylinder is molded, as are the ladder rungs, stirrup steps, and cross-over platforms.

On top, the model has a separate press-fit roof with molded hatch covers. The factory-applied plastic running board casting has molded corner grab irons. Inside, shaped steel weights are secured with screws.

Below the sills, the covered hopper has pin-mounted roller-bearing trucks.

The hopper bays have molded shaker brackets and basic outlet gates.

Our sample is neatly painted red and white. The placement of the graphics matches a prototype image of car 60078 that I found online. The model's dimensions closely follow prototype drawings published in the April 1990 *Mainline Modeler*.

The covered hopper weighs 1.1 ounces, which is correct per National Model Railroad Association Recommended Practice 20.1. The 36" plastic wheelsets are correctly gauged. The Accumate truck-mounted couplers are .010" low on both ends.

The Atlas Trainman N scale Thrall 4,750-cubic-foot capacity covered hopper is ideal for layouts from the late 1970s to the present day. The car would look right at home by a grain elevator or in a freight train. — *Cody Grivno, senior editor*



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QUICKLOOK

Milwaukee, Racine & Troy HO scale buffer car

Price: \$27.99

Manufacturer

Produced by Accurail, available from Kalmbach Hobby Store
KalmbachHobbyStore.com

Era: 2015+

Comments: An HO scale Milwaukee, Racine & Troy buffer car is the latest addition to the Kalmbach Hobby Store. The injection-molded plastic kit, produced in the United States of America by Accurail Inc., uses the manufacturer's 6500-series Pullman-Standard 4,750-cubic-foot capacity three-bay covered hopper tooling.

The model was inspired by covered hoppers commonly found on unit ethanol and crude oil trains. On the prototype, buffer cars are placed between the locomotive(s) and tank cars and at the end of the train. The cars are loaded with inert material.

The kit features a one-piece body with molded longitudinal running boards. The latitudinal boards and end extensions, cast as a single unit, are modeler installed. Other freestanding parts include the slope sheets, hatch cover, end cages, end braces, brake appliances, and crossover platforms.

The underbody has molded shaker brackets and several modeler-installed parts, including eight center sill sections, three outlet gates, bolster plates, and draft-gear box covers. A steel weight spans the top of the underbody. Accurail recommends using cyanoacrylate adhesive or double-sided tape to attach the weight. Do not use solvent-based adhesives, as this may damage the plastic.

Written, illustrated instructions printed on a double-sided sheet outline

the 16-step assembly process. Suggested tools to build the kit include a hobby knife, sprue cutters, tweezers, and a small Phillips-head screwdriver.

The model's dimensions closely follow prototype drawings published in the December 1983 *Mainline Modeler*. At 4.4 ounces, the covered hopper is .4 ounce too light based on National Model Railroad Association Recommended Practice 20.1. The body-mounted Accumate couplers are at the correct height. The 33" Delrin wheels are correctly gauged, but the car should ride on 36" wheelsets.

If you model the modern era and need a buffer car for your unit ethanol or crude oil trains, you'll want to add this limited-edition HO scale car to your fleet. The model is offered in one road number. — *Cody Grivno, senior editor*





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Union Pacific 4-6-6-4 No. 3827 pulls a reefer extra eastbound toward Minidoka, Idaho, in September 1953. Trains just like this would haul the potato harvest in Idaho. W.E. Molloy photo

Industries for a 1940s Idaho model railroad

Q I am looking for suggestions for industries for an Idaho model railroad in the 1940s. I'm working on building an HO scale 10 x 11-foot around-the-walls model railroad. I have decided to model a small town in rural Idaho along the Union Pacific in 1942. I am looking for a few plausible industries to include. I already have a team track and a small passenger station and have bent some of the facts to include coal service. I also have two small staging tracks. Do you have any suggestions that would make for lively operations while keeping the layout plausible within my constraints?

Nate Simpson, Meridian, Idaho

A Idaho, huh? I bet you can already guess my answer: potatoes. In 1940, Idaho provided the United States with two-thirds of its potatoes. Nearly 80% of Idaho workers either owned a potato farm or worked on one. During World War II, the period you're modeling, potato production ramped up even above its usual levels to fill the nation's wartime larders. From January 1942 to January 1943, Idaho produced more potatoes than it did in the years 1935 to 1940 combined!

So I'd think that even on a small layout, each of your towns should have one or more potato warehouses. If you model harvest time (in Idaho, this is generally September and October), your railroad should run plenty of hotshot reefer extras to haul all this produce. This will add to the challenge of running your usual passenger and freight locals, as they'll have to clear up when the Spud Extra comes through.

But as an Idahoan, you might find the potato industry to be kind of obvious and boring. Luckily, there were other industries in the state in the 1940s. There was enough wheat farming that a grain elevator wouldn't be out of place. Mining was a big part of the state's early days, with gold, silver, zinc, lead, copper, manganese, and molybdenum among the ores extracted. The timber, paper, and wood products industries were also represented.

And those are just the large producers in the state. You can always add an industry that receives freight from outside the modeled part of the world, like a coal or oil dealer, warehouse, grocery distributor, cold storage, or lumberyard. And universal industries like those team tracks you mention are always a good idea.

Q I always thought N gauge track was the go-to for narrow gauge HO equipment. I found out yesterday that is not true. I got a model kit for an HOn3 locomotive. Everything was going smoothly until I discovered the wheels and trucks supplied with the kit are spaced too far apart for N gauge track. The distance between wheel flanges is about $\frac{1}{8}$ " too much. So what gauge track do I look for, buy, and use with this locomotive?

Horse Veit, Craig, Alaska

A You're right; N scale track is the wrong gauge for HOn3 trains. N scale track gauge is 9mm, while HOn3 — 36" narrow gauge at a scale of 1:87.1 — works out to about 10.5mm.

Three-foot was the most commonly used narrow gauge in the United States. Some of the most famous narrow gauge railroads in the country ran on 36" gauge rails, including the Denver & Rio Grande Western, Rio Grande Southern, East Tennessee & Western North Carolina (or "Tweetsie"), Colorado & Southern, White Pass & Yukon, and several short lines owned and operated by Southern Pacific. There were dozens more.

You didn't just imagine that N scale track is used in HO scale, though. N scale's 9mm gauge comes out to just about 30.5" in HO scale. Although it wasn't as popular as 36" gauge, 30" gauge prototypes did exist. And the simplicity of using N scale locomotive mechanisms to model HO scale narrow gauge equipment has made HOn30 (also called HOn2½) a well-known modeling scale.

If you want to model in HOn3, you can without much difficulty. Some HOn3 modelers to whom historical authenticity is important handlay their rails, but that's not necessary. HOn3 track and trains are commercially available. Track is offered by such companies as Micro Engineering and Peco.

Locomotives and rolling stock in HOn3 are a little harder to get your hands on. Brass locomotives and brass, resin, and 3-D printed car kits are available. Look in hobby shops and at train shows for products from Blackstone Models (a subsidiary of SoundTraxx). San Juan Details (sanjuandetails.com) also offers some Colorado & Southern-prototype car kits in HOn3.

Send questions to Senior Associate Editor Steven Otte at AskTrains@Trains.com.

Q In your "Ask MR" column "Speed matching DCC locomotives for better consisting" (December 2022), you suggest turning off the locomotives' momentum, because momentum will interfere with speed matching. My question is: How do I know if the ESU decoders in my locomotives are programed with momentum?

Pat Stetson

A You can check your locomotive's DCC momentum settings by putting your locomotive on a programming track and reading the value of two Configuration Variables: CV3 and CV4. The first, CV3, is the setting for acceleration. The value should be somewhere between 0 and 31. The higher the value, the longer it will take your locomotive to get up to speed. Zero is an immediate response; each point of CV value above that means a speed change of 1 speed step will take approximately $\frac{1}{10}$ of a second. So a value of 5 means your engine will take about 5 seconds to go from speed step 0 to step 10 (half a second per step). Configuration Variable 4 likewise handles deceleration. Each point of value of this CV means it takes $\frac{1}{10}$ of a second to slow down by one speed step.

There's a practical way to test it, too. Put your locomotive on a DCC layout and quickly crank the throttle all the way up to speed step 28. Note whether it works its way up to speed gradually or takes off at full speed right away. Let it run, then quickly dial the throttle back down to 0. If the locomotive slows gradually, it's programmed with momentum. If it stops immediately, it isn't.

Q I have a trestle over a deep ravine on my layout and would like to automatically slow DCC locomotives approaching the bridge to avoid too rapid an entry. Is there a method to provide such "auto deceleration?"

Paul Savello, Cedar City, Utah

A Such a thing might be possible, but it would be insanely difficult. You would need a circuit to detect the locomotive as it enters the approach to the bridge. You would need some way to detect the DCC address of the locomotive in question. Then you'd need a DCC-connected programmable system, like an Arduino, to send a command to the DCC bus to slow down that locomotive. Step 1 is easily doable; step 3 is possible, but probably



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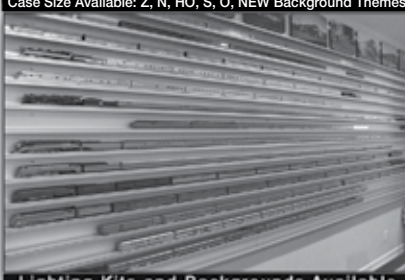
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If your model railroad has a high, curved trestle, like Skyridge on our HO scale Milwaukee, Racine & Troy, you may want to automatically slow DCC locomotives approaching it. Unfortunately, there's no easy way to do that. Bill Zuback photo

prohibitively complicated; and I have no idea how you'd accomplish step 2. A scale ACI scanner, perhaps?

Now, if you had a direct-current layout, you could just add a resistor to lower the voltage to that stretch of track. But since the voltage to a DCC-equipped locomotive's motor is governed by the decoder, that tactic would not work reliably, and might cause the locomotive to

stall completely if the voltage dropped below the requirements for sound effects. So the short answer is no. Sorry.

I would instead suggest putting a rule in the Employee Timetable requiring reduced speed on that bridge. If your operators forget or ignore that rule, a trackside signal set to a "Limited Clear" or "Medium Clear" aspect should serve as a reminder.

Q Do you have any suggestions on how to replace trucks on Walthers HO Horizon cars (item No. 932-6073)?

Daniel Kielty

A That part number corresponds to an HO scale Massachusetts Bay Transportation Authority commuter car. The Horizon fleet passenger cars, used by Amtrak as well as municipal transit authorities like MBTA, were built by Bombardier. Those cars ride on General Steel Industries G70 outside-bearing trucks. In addition to Wm. K. Walthers, Rapido Trains also makes HO scale versions of these cars. Luckily, Rapido also sells its GSI-70 trucks separately.

I can't promise the Rapido trucks will fit the Walthers car without modifications, but it's worth trying a pair. If they don't fit the Walthers cars' kingpins, or if they alter the height of the cars, you might have to rebuild the cars' bolsters with styrene. There's an article on our website that offers tips on how to do it: trains.com/mrr/how-to/tips-for-better-passenger-cars-car-height/. **MR**

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Tom McColloch shares how he made electromagnetic uncouplers for his HO scale Rochester & Lake Erie RR. He has made 50 of them using off-the-shelf components found at big-box retailers and electronics supply houses. Photos by the author

Do-it-yourself electromagnetic uncouplers

All of the locomotives and freight cars on my HO scale layout are equipped with Kadee knuckle couplers. I enjoy the operating enhancement of uncoupling cars without having to reach into the layout. I find that the illusion of a detailed model railroad scene is spoiled when a giant hand and a pointed stick are introduced to break up a train.

However, I don't like the appearance of permanent magnets between the rails,

and I've found no adequate way to hide them. The permanent magnets that are about the thickness of the roadbed and fit under the ties work well and are hidden. But they will uncouple any cars that happen to be spotted over them, so inadvertent uncoupling is common.

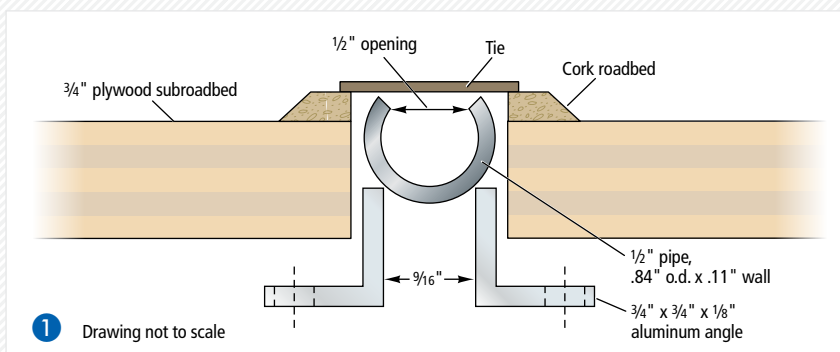
I tried using commercial electromagnetic uncouplers, but found them to be unreliable and difficult to mount. That's when I decided to construct my own

electromagnetic uncouplers following a concept I saw in *Model Railroader* many years ago.

If you're looking for a hands-free option for uncoupling cars, give these techniques a try. [MR](#)

Tom McColloch's first article for Model Railroader, "Big-time railroading on a club layout," appeared in the September 2008 issue.

STEP 1 CONSTRUCTING AND INSTALLING THE ELECTROMAGNET



I construct my electromagnetic uncouplers using off-the-shelf components ①. First, I cut a 1/2" long piece of 1/2" black iron pipe (.84" outside diameter by .11" wall thickness). Then I cut out a 1/2"-wide section, giving the pipe a U shape.

Next, I use two-part epoxy to attach two pieces of 3/4" x 3/4" x 1/8" aluminum angle to the pipe. I made a fixture to hold the angle in position while the epoxy cures.

STEP 1 CONSTRUCTING AND INSTALLING THE ELECTROMAGNET (CONT'D)



I wind the magnet with approximately 250 loops (80 feet) of 26AWG magnet wire **2**. The wire should not extend above the opening in the top of the pipe.

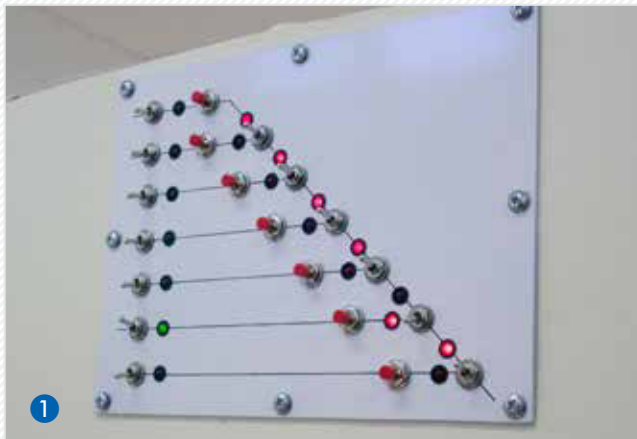
Next, I cut a 1" wide by 2" long opening in the roadbed and subroadbed **3**. This is best done while laying track, as it's difficult to cut the opening from below the layout.

I then fasten the uncoupler to the subroadbed with two wood screws through holes in the aluminum angle **4**. This draws the pipe gently against the bottom of the ties.

The magnet has to be installed snugly against the bottom of the ties **5**. If it's suspended below the ties, the magnetic field at the coupler trip pins will be too weak to be effective. Installed at the correct height, the magnet provides plenty of force to open the couplers. It's long enough that exact spotting of the cars isn't critical.

I finish this step of the project by placing masking tape over the opening, then ballasting the track. Since the ballast conceals the location of the electromagnet, I mark the locations with pieces of stained stripwood.

STEP 2 POWER SUPPLY, OPERATION, AND TIMER



The uncoupler coil resistance is about 5Ω , so it draws 4A when operated at 20VDC. I energize the magnet through relay contacts and a momentary contact push-button switch. In the fascia-mounted control panel shown in 1, the toggles and red lights are for turnouts, the red push buttons activate the uncouplers, and the toggles with green lights control the siding power.

The transformer powering the magnet must be rated for at least 5 amps. The one I use produces 24V at no load, but drops to 20V at the 4A load. If the output voltage drops too low, the magnet will lose effectiveness.

For reliable uncoupling, the cars spotted over the electromagnet need to have slack in the couplers. If the cars are stretched, the electromagnet will not open the couplers. I push cars over the uncoupler location, energize the electromagnet, and then pull the lead car away. If a car needs to be spotted farther down the track, I push the lead car back over the uncoupler, re-energize the uncoupler to open the knuckles, and then push the car to its spot.

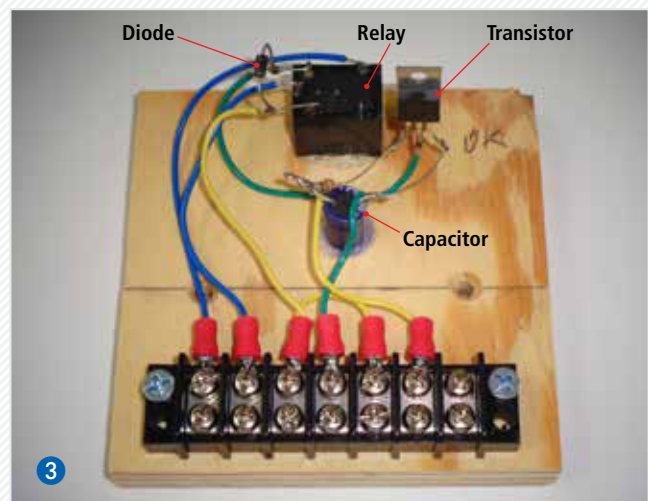
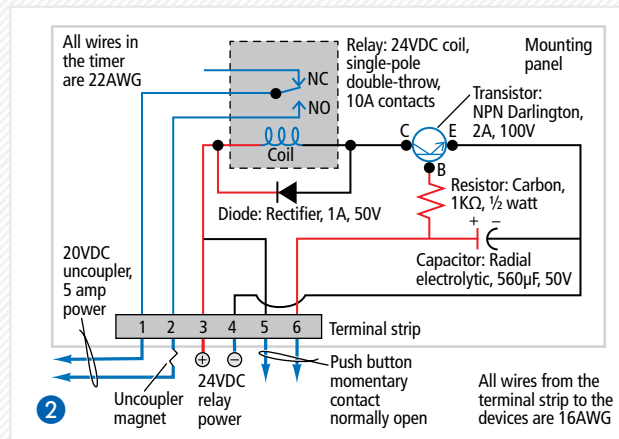
Once I started using the electromagnets, I found it awkward to hold the Digital Command Control cab, operate the throttle, and depress the electromagnet push button simultaneously. I needed to keep the uncoupler energized for a few seconds with a single press of the button.

After reading an article in the November 2015 *Model Railroader* on transistor timing circuits, I did some research, purchased components from an electronics supply house, and developed the transistor timer circuit shown in 2.

The circuit may look complicated, but once studied, it's not difficult to figure out. A larger capacitor will keep the transistor powered for a longer period of time, and therefore keep the electromagnet energized for a longer period. I ultimately selected a capacitor that keeps the electromagnet energized for about three seconds, sufficient time to uncouple the cars 3.

There is a concern about keeping the electromagnet energized for too long, as it will get warm and could be damaged. To be safe, I installed a 5A fuse in the power supply output for the electromagnets.

I've installed 50 of these electromagnet uncouplers with the associated timers on my model railroad. The layout is



Materials list

Electromagnet

$\frac{1}{2}$ " black iron pipe, $1\frac{1}{2}$ " long
 $\frac{3}{4}$ " x $\frac{3}{4}$ " x $\frac{1}{8}$ " aluminum angle
 26AWG magnet wire
 Two-part epoxy

Timer

Capacitor: Radial, 330MDF, 50V
 Diode: Rectifier, 1A, 50V
 Relay: 24VDC coil, single-pole double-throw, 10A contacts
 Resistor: Carbon, $1K\Omega$, $\frac{1}{2}$ watt
 Terminal strip: Dual row strip, 20A
 Transistor: NPN Darlington, 2A, 100V

operated regularly with local members of the Central Arizona Model Railroad Club. The uncouplers work well, and operators enjoy the flexibility of hands-free uncoupling and the ability to spot cars at many locations on the HO scale Rochester & Lake Erie RR.

MODEL RAILROADER HALL OF FAME

A scratchbuilder, a photographer, and a publisher who each promoted our hobby

NOMINEES

By Bryson Sleppy

It's time for the next installment in the Model Railroader Hall of Fame series. If you didn't now, we're creating a hall of fame for the 90th anniversary year of *Model Railroader*. In order to be nominated for the hall of fame, a nominee must have made a significant contribution to the model railroading hobby and must be no longer living.

Keep in mind that voting is cumulative, so be sure to vote for months that you have missed.

Do you have a model railroader in mind who we may have overlooked? Send an e-mail to the addresses listed on page 8 of this issue.



Use this QR code to cast your vote for the Model Railroader Hall of Fame

Victor Roseman (1948-2024)

Victor Roseman, or Vic, was a skilled model railroader and historian. Having many credits in both books and articles, he often used the byline V.S. Roseman.

This work, which spanned from detailing to operations, appeared regularly in various publications throughout the United States and Europe.

I personally enjoyed Vic's many articles throughout the pages of *Model Railroader* regarding passenger and marine modeling.

Though Vic didn't have a model railroad himself, he built many detailed dioramas that he photographed both indoors and outdoors.

The first work of Vic's to show up in the pages of MR was in March 1977's *Trackside Photos*, depicting a meet between an Alco RS2 and a Budd Rail Diesel Car. Since the photo was taken outdoors under natural light, I couldn't tell if it was the model or the prototype.

Just three months later, he would earn his spot on the cover of the magazine featuring a Central RR of New Jersey F3.

Victor passed away on January 5, 2024, in Brooklyn, N.Y.



Victor Roseman

Dean Freytag (1924-2010)

Dean Freytag, well-known for being an early proponent of scratchbuilding steel mill structures from styrene, was an inspiration to many heavy industry modelers.

Dean was fascinated by the steel industry and taught himself the inner workings of the industry. Many of his scratchbuilt steel mill structures populated his South Ridge Lines HO scale layout. The layout was featured in the November 1980 issue of MR with an update in November 2003. With his knowledge, he assisted various manufacturers with new product research and development.

In addition to being a well-known modeler and clinician, Dean was also a prolific author. Throughout more than half a century, he wrote more than 50 articles and two books, *The History, Making & Modeling Of Steel* (Wm. K. Walther's Inc.) and *The Cyclopedia Of Industrial Modeling* (Plastruct). Both are still available after multiple reprints.

He shared his love of the hobby anyone who would listen.

Dean passed away on December 25, 2010 in Ashland, Ohio.



Dean Freytag

Photo courtesy of Wm. K. Walther's

Harold H. Carstens (1925-2009)

Harold Carstens joined the staff of *Railroad Model Craftsman* as an associate editor in 1952.

Affectionately known as "Hal," he became the company's president in 1962. He became well-known by many through this position.

Following his rise to the company presidency, Carstens went on to found several other magazines, including *Creative Crafts*, *The Miniature Magazine*, and *Railfan*. His first article was published in *Railroad Model Craftsman* while he was a student in high school.

Hal served as the president of the former Hobby Industry Association from 1970 to 1971 and was awarded the HIA's Meritorious Award of Honor. He also received the NMRA's Distinguished Service Award and was named a Pioneer of Model Railroading. In addition, he was a past president of the Train Collector's Association Inc.

Former Kalmbach vice president Russ Larson remembered Carstens as "having a good sense of humor, but also being a good competitor and conducting his publishing house with integrity."

Hal died on June 23, 2009. **MR**



Harold H. Carstens

Photo courtesy of Carstens Publications

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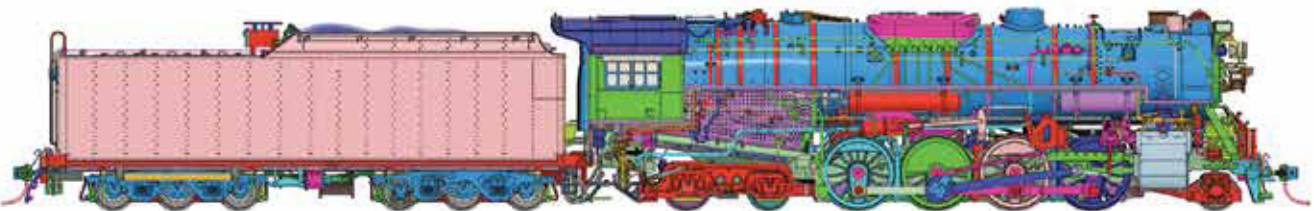
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3-D print an operating signal

Add interest to your layout with these simple lineside details

By **Colin Clews** • Photos by the author

Creating items for my model railroad

is an aspect of the hobby that I enjoy. Recently, I decided to make operating signals for my layout using 3-D printed parts and light-emitting diodes (LEDs).

The definition of a “prototype signal” on a model railroad varies. For some, it’s the type and arrangement of aspects to best replicate the style that the prototype

railroad used. For others, it’s the size of the signal to fit the layout scale with sufficient detailing to make it look realistic.

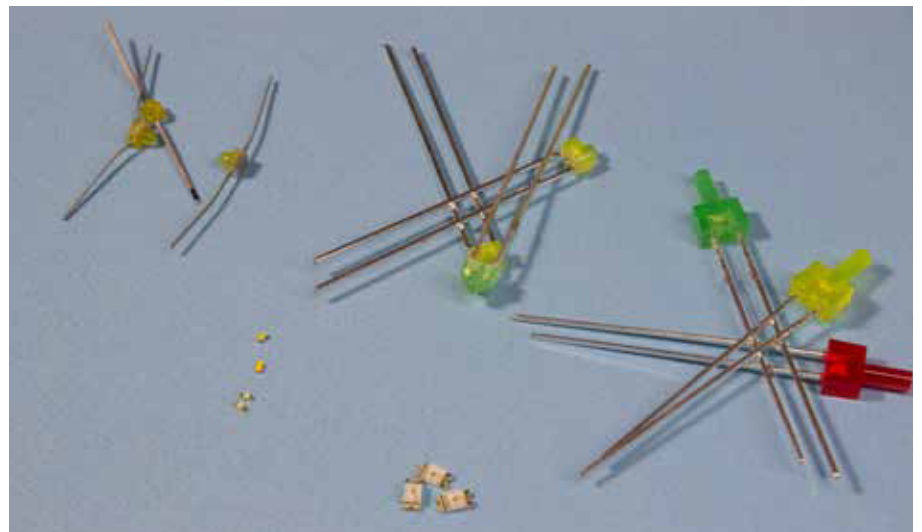
The options are strictly personal: do I buy prototypical lights ready for use, or do I do my own detailing to make the signals more to my liking? This article describes the steps I went through to create working trackside signals.

The LEDs

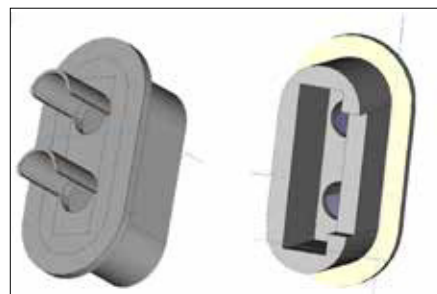
To start, we need the smallest LEDs to permit easy installation and electrical connections. There are several different types of LEDs, with the most common being through-hole and surface mount (SMD), as shown in ①. As evident in this picture, SMDs are too small for this



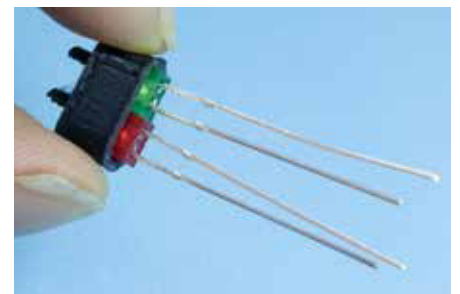
Collin Clews shares how he added signals to his model railroad using 3-D printed heads and light-emitting diodes. His techniques are best suited for HO and N scales, but can be adapted to larger scales.



① Light-emitting diodes (LEDs) come in different sizes. Shown from left to right on the top row are 1.6mm, 1.8mm, and 2mm LEDs. The bottom row shows examples of 0403 and 1206 form factor SMDs, respectively.



② The front and rear of the 3-D printed signal housing. The pocket visible in the rear view allows the wires to emerge from the housing.



③ To ensure the rest of the project goes smoothly, test fit the LEDs inside of the housing. Don’t force the diodes, as this may crack the 3-D printed part.

project. The 0403 and the 1206 form factors are shown. The two-leg varieties shown include 1.6mm, 1.8mm, and 2mm.

If I wanted to install these in 3-D printed housings, the 1.6mm LED would be difficult to mount and wire. The 1.8mm is better, but the lens projection isn't enough to penetrate through the housing. The 2mm LED was the best option for this situation.

The dimensions of the 2mm LED are .10 x .14 x .19 inches. I found that for effective 3-D printing, the sides of the housing need to be a minimum of .040".

Having determined the dimensions of the LED, I had a shell 3-D printed to hold the LEDs.

Creating the signal

I used a computer-aided design (CAD) program to design the signal heads **2**. After printing, the first step in the assembly was to remove any flash from the printing process. A new, sharp No. 11 blade in a hobby knife easily cleans up the flash and gives us square inside corners.

I also used a $\frac{3}{32}$ " drill in a pin vise to clean out the holes and make sure the LED could be installed without breaking. Once the corners were cleaned out, I test-fit the LEDs to avoid future installation issues **3**. The LEDs should be snug so they don't slip out of the housing during the wiring.

To keep everything as compact as possible, I bent the legs of the LEDs at a 90-degree angle as close to the LED body as possible **4**. After trimming the legs, I left two small lugs to which the wires would be soldered.

I used 33AWG wire for the low-current LEDs. To preserve space in the mast, I used magnet wire instead of insulated wire. The wire was prepped for soldering by melting a blob of solder on the end of the iron and inserting the end of the wire for about 2-3 seconds. This will burn off the varnish and tin the end of the wire. Then, the wires can be soldered to the LEDs **5**.

The LEDs were now ready to be inserted into the signal head. Make sure they're pushed in completely and that the wires are in the pocket on the side of the head.

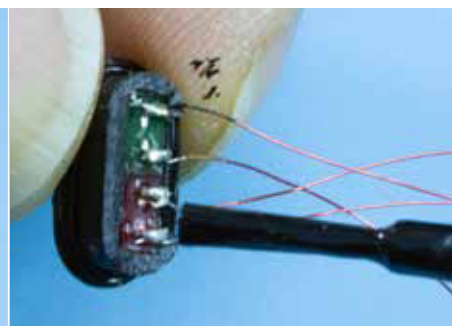
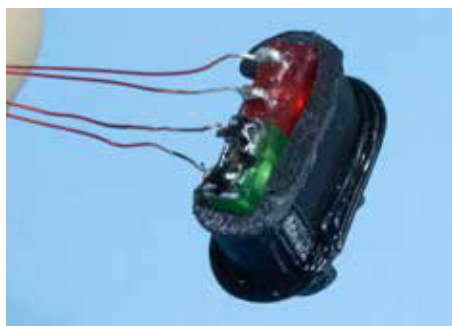
Soldering the wires may have burned off varnish further up the wire. To eliminate a short circuit, I coated the solder joints and the ends of



4 The legs (or leads) of each LED must be bent at a 90-degree angle (left) and trimmed (right) in order for the light to fit inside of the housing without exposing the leads outside of the signal head.



5 Since these LEDs draw a low amount of current, Colin soldered 33AWG magnet wire to each respective lead. Tinning magnet wire is imperative, so he burns the wire varnish insulation off prior to soldering.



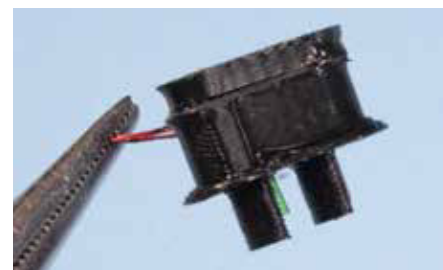
6 After inserting the wired LEDs into the signal head (left), it's important to coat the wires to prevent shorts. Colin used clear fingernail polish, as shown at right.

the wires with nail polish **6**.

This is a good time to test the LEDs. The easiest way is to use a coin cell. Gather the two leads from one of the LEDs and pinch the coin battery between them. If it doesn't light up, reverse the leads. If it still doesn't turn on, check the LED connections for a short. Repeat for the other LED.

Before gluing the back and enclosing the LEDs, the leads needed to be pinched together so that they can all feed into the same hole in the mast. This is why the nail polish insulation is important. With the wires pinched together, all wires will neatly fit into a single hole in the mast. Now the back can be glued to the head **7**.

I used 2mm plastic tube for the mast. I haven't been able to locate it in black, so I ended up painting the mast. After



7 Once the LEDs are inserted into the head and the wires are pinched in the pocket within the head, Colin glued the back onto the housing and touched up the paint.

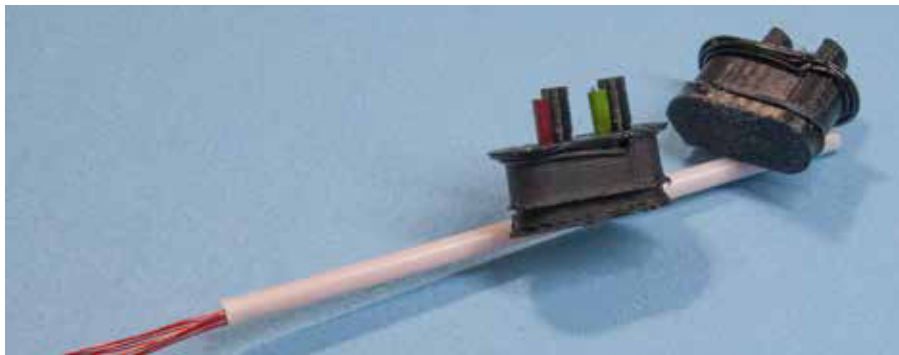
cutting the tube into 2" lengths, I drilled two holes using a No. 64 bit. They are located $\frac{1}{4}$ " and $\frac{7}{8}$ " from the top **8**.

Next, I fed the wires through the mast **9**. In this situation I used the upper head as the red/green indication for the main line and the lower head as the red/yellow indication for a branchline.

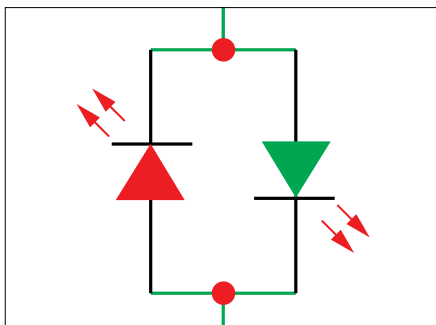




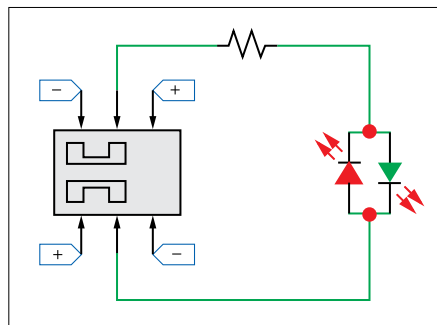
8 Colin cut 2" lengths of 2mm styrene tubing for the signal masts. Unfortunately he could only find the material in white. He later painted the material black to match the signal heads.



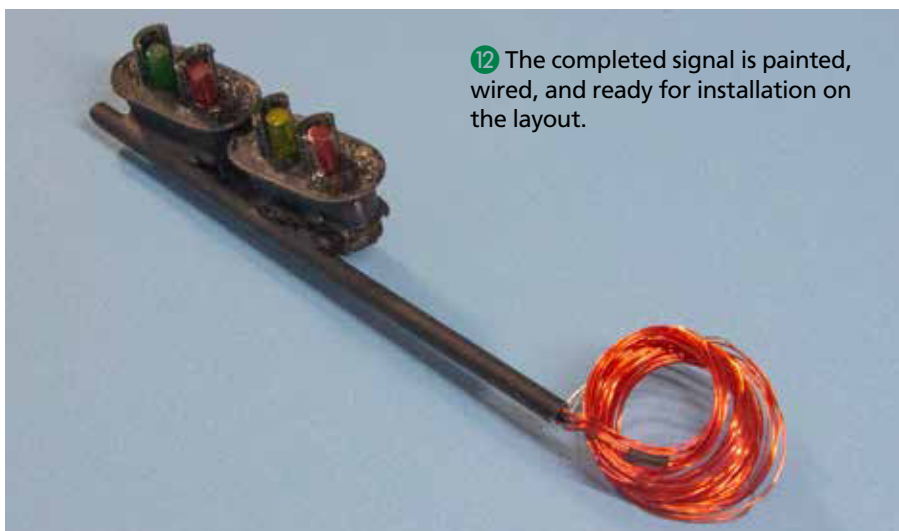
9 When ready to assemble the signals, Colin fed the wires into the mast through holes drilled with a No. 64 bit. He applied a small piece of heat-shrink tubing to the wires at the bottom of the mast to help with identification.



10 Wiring the LEDs in a reversed parallel configuration will allow only one LED to turn on depending on the polarity of the power source. Kellie Jaeger illustrations



11 Another way to wire the signals is with a double-pole double-throw switch in the circuit for one signal head. This will not permit a red-over-red aspect.



12 The completed signal is painted, wired, and ready for installation on the layout.

To make the identification of the wires easier, I put a small piece of $\frac{3}{64}$ " heat-shrink tubing on the four wires from the first head before feeding in the wires for the second head.

To glue the heads to the mast, I put a small dab of glue on the side of the head and pulled the wires so that the signal head was tight against and square to the mast. I also used small clamps to prevent the signal heads from twisting out of alignment before the glue dried.

Wiring the LEDs

The next step was to identify the wires. From the previous step, there should be two groups of four wires coming from the bottom of the mast. For the upper head, I took one wire and held it to the positive of a coin cell battery. In turn, I connected each of the remaining wires to the negative. When the red LED comes on, I marked the wires as RED+ and RED-. Then I repeated the process for the green LED, marking as GREEN+ and GREEN-.

I then connected RED+ to GREEN- and RED- to GREEN+ 10.

When connected in this manner, only one LED will turn on depending on which way the battery is connected.

I then repeated this procedure for the lower RED/YELLOW signal.

The signals for each head can be controlled via a double-pole double-throw toggle switch 11. If a toggle is used for each head, all signal modes can be achieved, including:

RED over RED: Upper signal head is red; lower signal head is red.

GREEN over RED: Upper signal head is green; lower signal head is red.

RED over YELLOW: Upper signal head is red; lower signal head is yellow.

Alternatively, both heads can be controlled by a single switch. However this will not permit a RED over RED signal.

My techniques produce signals suitable for HO and N scales. By increasing the LED size, signals could also be made for S, O, and G scales.

These signals 12 became the starting point for my larger project of creating a block controller for a passing siding. In this project, I use an Arduino to sense train movements, control the turnouts, and operate the signals at both ends of the block. This project can be found by scanning the QR code on page 29. [MR](#)

Colin Clews lives in Barrie, Ont., Canada. This is his second article in Model Railroader.



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Narrow gauge, SP

This On30 sectional layout is set in
California's Owens Valley

By **Duane Ericson** • Photos by the author



① Narrow gauge Baldwin 4-6-0 No. 18 leads a freight through California's Owens Valley on Duane Ericson's On30 Southern Pacific Keeler Branch. The sectional 6 x 17-foot layout is set in the 1950s during the final decade of SP's narrow gauge operations.

style





② Highway 127 is a perfect vantage point for railfanning in Keeler, Calif. Southern Pacific No. 18 and a wood combine wait near the station for the next run. Duane used finely sifted calcium carbonate for the scenery base on each section.

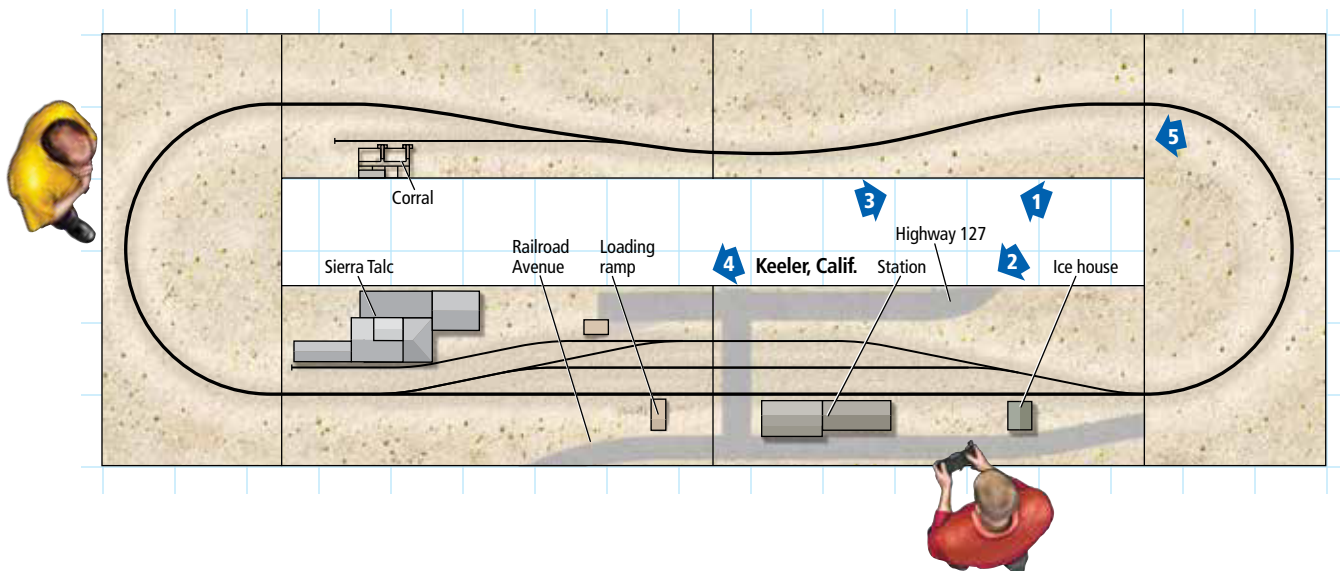
In the years since dismantling my Torres & Prietas layout, featured in the April 2015 issue of *Model Railroader*, I've turned my attention to building an On30 sectional layout based on Southern Pacific's narrow gauge Keeler Branch in California's Owens Valley. My interest in modeling the SP was inspired by not only the dramatic landscape that its narrow gauge line ran through, but also my limited connection with the railroad's only narrow gauge diesel locomotive.

Around the time I built the On30 Torres & Prietas RR, I was researching and writing my self-published book *Sonora Narrow Gauge: Railroads, Mines, Trams & Scams South of the Border* (2010). During a research trip to Mexico, I was granted access to photograph former Southern Pacific General Electric 50-ton diesel No. 1.

The end-cab unit, affectionately known as the "Little Giant," was stored behind locked gates at an industrial complex. The diesel was converted to standard gauge after it left the SP roster. During my visit, the engine was parked on a siding and in pretty rough shape, with faded paint and cracked windows.

In addition to taking photos, I had a chance to sit in the engineer's seat of this piece of SP history. When Rich Yoder Models offered a brass import of this one-of-a-kind locomotive in On30, I couldn't pass up the chance to purchase it and build an appropriate landscape to operate it in.





Southern Pacific Keeler Branch

On30 (1:48 proportion, 30" narrow gauge, also called On2½)

Layout size: 6 x 17 feet

Scale of plan: ¾" = 1'-0", 12" grid

Numbered arrows indicate photo locations

Illustration by Kellie Jaeger

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

The layout at a glance

Name: Southern Pacific Keeler Branch

Scale: On30 (1:48 proportion, 30" narrow gauge, also called On2½)

Size: 6 x 17 feet

Prototype: SP narrow gauge

Locale: Owens Valley, California

Era: 1950s

Style: sectional

Mainline run: 36 feet

Minimum radius: 24"

Minimum turnout: No. 5

Maximum grade: none

Benchwork: open grid

Height: 50"

Roadbed: 1 x 4 clear pine

Track: Micro Engineering code 83

Scenery: sifted, demagnetized soil

Backdrop: none

Control: Direct current, Model Rectifier Corp. Tech 6

3 Southern Pacific General Electric 50-ton diesel No. 1, called the "Little Giant," skirts past a ridge of the Inyo Mountains. After the narrow gauge line was abandoned in 1960, the full-size diesel was sent to a copper mine in Mexico, where it earned its keep for several more years.





Duane set the sections depicting Keeler, Calif., on sawhorses when photographing his layout in the Owens Valley.

Tips for photographing models outdoors

Photographing outdoors can be both rewarding and humbling. When successful, nothing compares to the quality of natural light and the way it reacts to a well-crafted scene. Even Hollywood, with its lighting experts and almost unlimited budgets, can't re-create the feel of sunlight in its studios.

On the other hand, placing models next to the real thing can be humbling. Often what looks acceptable on the workbench looks toy-like when directly compared to a real structure or landscape.

Based on mistakes I've made over the years, here are a few tips to help you the next time you photograph your models outdoors.

- When planning your layout, leave a generous foreground between the edge of the layout and track. In O scale, I try to leave about a foot. Without ample foreground, it's difficult to get realistic photographs.
- When possible, design visual breaks at the edge of the layout or section to separate it from the background. The transition between the model and real thing is one of the most challenging parts of photographing outdoors.
- Matching the color of the rocks, soil, and vegetation presents another challenge. I often refer to photographs or Google Earth to match the colors. However, even in the desert, colors change throughout the seasons.
- Natural light tends to filter through trees, shrubs, and grass. Traditional modeling standbys like ground foam aren't translucent and will appear unrealistic under natural light.
- Metal and wood models photograph better in sunlight than plastic. Even well-painted plastic can have an unnatural shine in direct light.
- Place the sections atop tall sawhorses on high ground to photograph them. This will help with the background perspective.
- Place the camera as low as practical.
- Watch the weather, particularly wind forecasts. A breeze of only 10 mph will knock over small details. Stronger wind can derail trains. — *Duane Ericson*

Switching to sectional

My Torres & Prietas was an island-style layout built in half of our two-car garage. I constructed the model railroad on wheels so I could photograph it outdoors. Though I wanted to take pictures of the Keeler Branch outdoors, I took a different approach and built my new layout in sections.

Each lightweight section uses open-grid benchwork (1 x 4 pine) covered with

2"-thick extruded-foam insulation board. I originally intended to build the layout to Pacific Northwest On30 modular standards. However, I chose sections instead, as they better fit each scene.

The Keeler, Calif., side of the layout is made up of a pair of 2'-6" x 6'-0" sections. Across from that are a set of 2'-0" x 6'-0" sections. The side opposite Keeler represents the narrow gauge line as it crosses the desert floor, with a single spur serving a corral. The end sections, which I've

yet to finish, measure 2'-6" x 6'-0" and serve as return loops.

I attached the Micro Engineering code 83 track to 1 x 4 clear pine roadbed. The 24" radius curves and No. 5 turnouts are sufficient for the short wheelbase narrow gauge models. The layout height is 50" throughout, so there are no grades.

Scenery and structures

I scenicked the sections with a naturally occurring form of calcium carbonate (chalk) from an abandoned mine in California. The material closely matches the alkali flats and sand dunes found along the southern end of the full-size SP narrow gauge. Prior to applying the calcium carbonate, I passed magnets over it to remove any metallic elements.

Modeling even a tiny hamlet like Keeler, Calif. (population 71) involves compromise. Though the three-track yard reasonably represents the prototype, the structures required a fair amount of selective compression.

The two large structures at Keeler, Sierra Talc and the Southern Pacific station, were reduced to approximately half the footprint of the full-size buildings by focusing on the character-defining features. I built the structures by applying weathered basswood over a sturdy base. Then I added San Juan Details injection-molded plastic parts to the buildings.

As a hobby within the hobby, I enjoy building architectural models. I currently have shelves of them that lack a permanent place on the layout. Some of these structures appear in the photographs accompanying this article but aren't depicted on the track plan, such as the station at Kearsarge, Calif.

The structures and rolling stock are weathered to reflect exposure to the wind-swept, sun-baked environment of the Owens Valley. Some of my techniques include chalking and spray paint.

I also enjoy the challenge of finding out-of-the-box solutions for modeling. For example, I used aluminum cans for most corrugated metal and standing-seam roofs, and pillow fiber tufts for the desert brush. The asphalt-covered streets in Keeler are Bondo, a filler used in auto body repair, coated with flat spray paint.

Thanks for the inspiration

Like many of us, I remember waiting for the latest issues of *Model Railroader*, *Trains*, and other magazines to reach the local hobby shop. With each issue, we were treated to the work of talented

④ Sierra Talc is one of the few rail-served customers on Duane's layout. Southern Pacific 4-6-0 No. 18, a modified Bachmann model, spots a boxcar at the plant.



⑤ With the afternoon sun casting long shadows, Southern Pacific 4-6-0 No. 18 leads its train past the Kearsarge, Calif., station, temporarily placed in the scene for photos. By photographing the sections outdoors, Duane was able to get light and shadow effects that are difficult to re-create with artificial lighting.

modelers and photographers, like Bob Hayden and the late Malcolm Furlow.

The stark desert landscape of my On30 SP Keeler Branch doesn't resemble the Down East Maine coast woodlands of Bob's Carrabasset & Dead River or the Colorado Rockies of Malcolm's San Juan Central. But to this day, I'm still influenced by the way both men captured the feel of the scenes without relying on

computer programs to enhance their modeling efforts.

As a tip of the hat to those who inspired me, I traveled to the Owens Valley with three of my six SP narrow gauge sections and photographed them in natural light. It was my hope to capture the layout with images taken as though I'd stumbled upon the operation before abandonment in 1960. [MR](#)

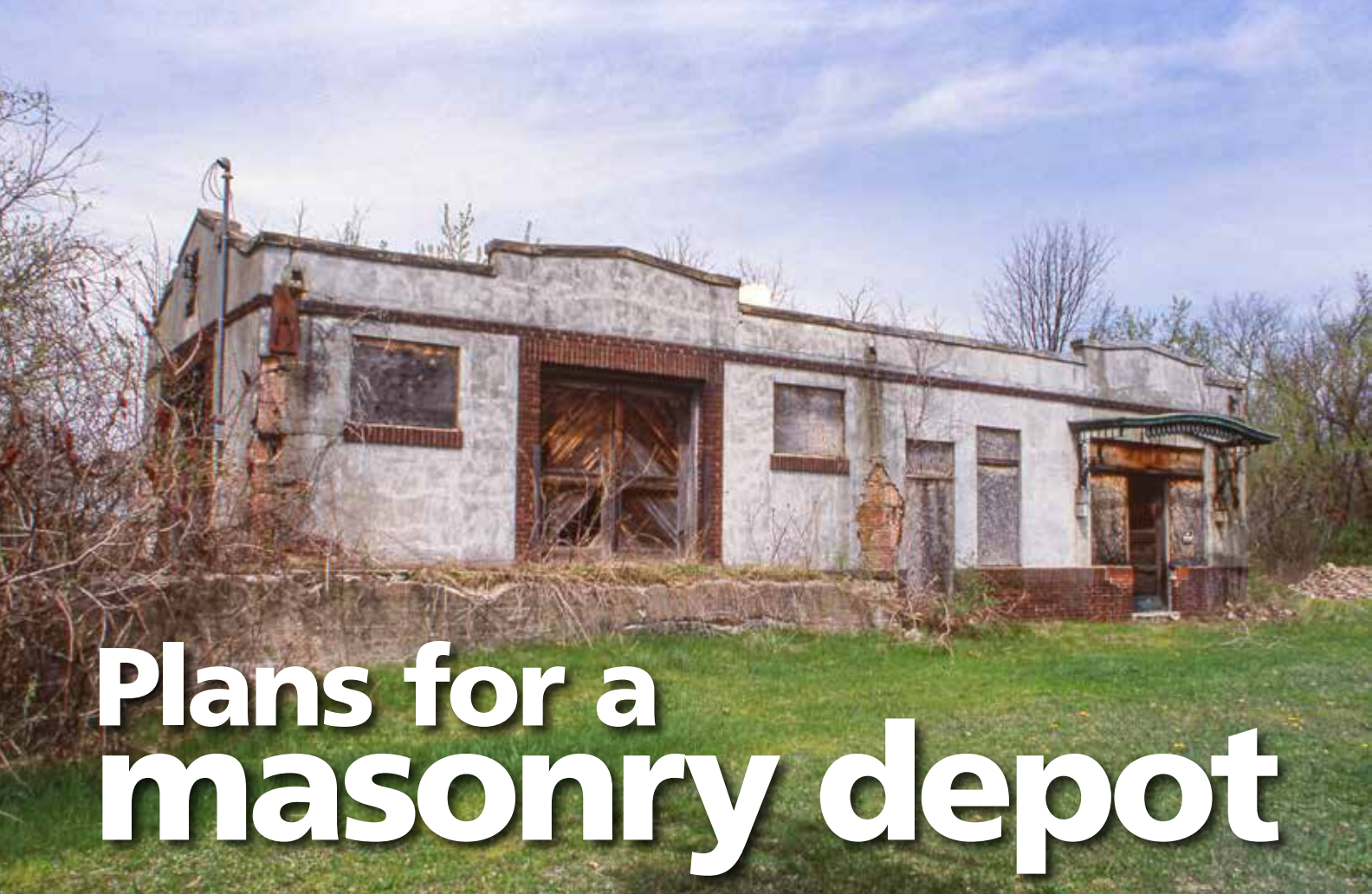


Meet Duane Ericson

Duane Ericson is a historical archaeologist with the Bureau of Land Management's Abandoned Mining Lands program. Though stationed out of Medford, Ore., he has recorded and preserved historic landscapes, mines, ghost towns, and architecture throughout the American West.

He credits much of his early interest in history and railroads to *Trains* and *Model Railroader* during the 1970s. He has published two books on narrow gauge mining railroads and is currently writing a third on mining camp architecture.

Duane has been married to his wife, Gretchen, for more than 20 years. Together, they have three children and three grandchildren.



Plans for a masonry depot

The Lehigh Valley depot in Gorham, N.Y., is the subject of Harold Russell's latest prototype drawings. The concrete block and stucco building was located on the railroad's Naples Branch in the central part of the Empire State.

This Lehigh Valley structure is located Gorham, N.Y.

By Harold W. Russell • Photos and illustrations by the author

The Naples Branch of the Lehigh Valley ran southwest from Geneva to Naples, N.Y., in the central part of the state. Along the way the railroad passed through many small communities, each with a wood depot. The exception was Gorham, which was home to an elaborate concrete block and stucco structure. The depot's flowing lines and glass patterns surrounding the canopies make it an interesting modeling subject.

Prototype history

In the middle of the 19th century, the area between of Geneva and Naples was noted for its nurseries, foundries, and glass and brick foundries. Later, Naples gained fame for its wineries. The shores of the nearby Finger Lakes have an ideal climate for grape growing. At the time, the market for these businesses was

primarily local, since the area lacked good transportation.

The residents of the Naples Valley saw Geneva, their rail-served neighbor to the north, as a gateway for their products. In 1871, the 29-mile Geneva & Southwestern Ry. was chartered. The proposed line would connect Naples, Middlesex, Valley View, Rushville, Gorham, and Stanley to Geneva, joining the Lehigh Valley west of its depot.

The villages along the line were bonded for the railroad's construction. By 1872 the route was surveyed, grading commenced, and some bridges were built. But the financial panic of 1873 brought all work to a halt. The bonded villages lost their money.

In 1892, the Middlesex Valley RR was incorporated, with its construction using the graded right-of-way of the Geneva & Southwestern. The railroad was finished

in 1894. The Lehigh Valley acquired it a year later when it purchased all the railroad's capital stock. The line then became known as the Naples Branch of the Lehigh Valley.

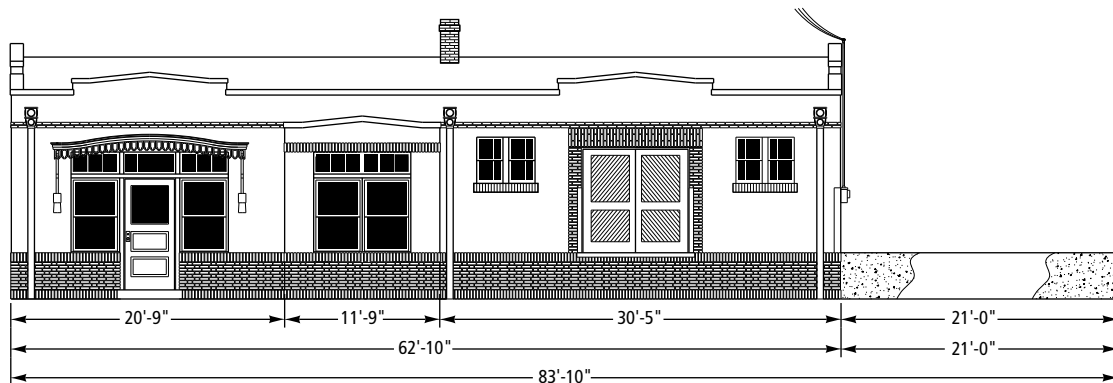
Fancy in a no-frills era

When the Middlesex Valley RR built its depots, each community was offered a standard, no-frills single-floor wood building. Photographs show that Stanley, Rushville, and Middlesex chose this option. Naples, the largest community on the branch line, built a two-story wood depot. Both the Naples and Rushville depots were distinguished by gingerbread at their roof peaks.

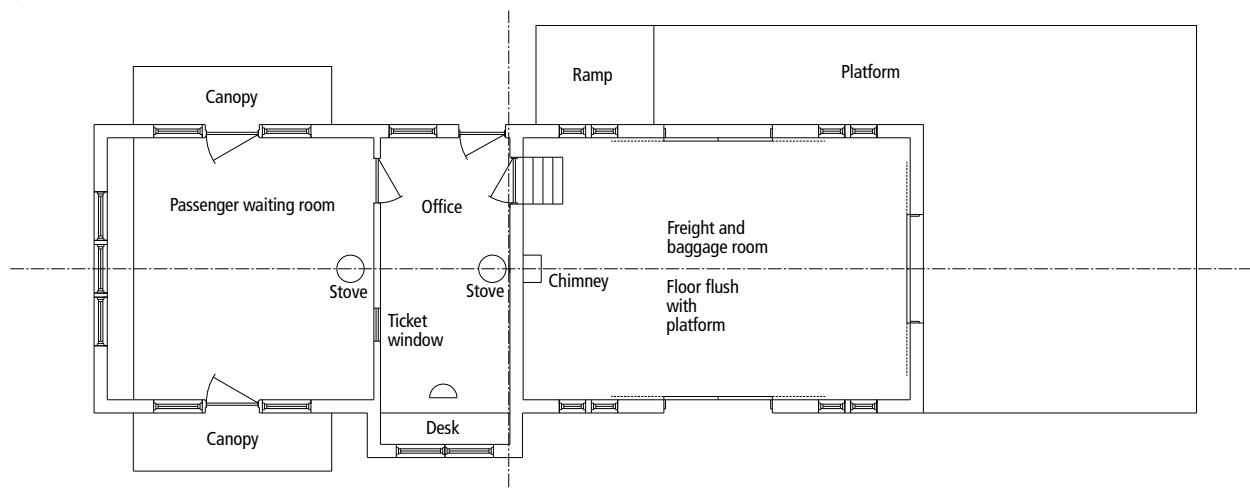
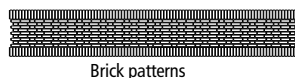
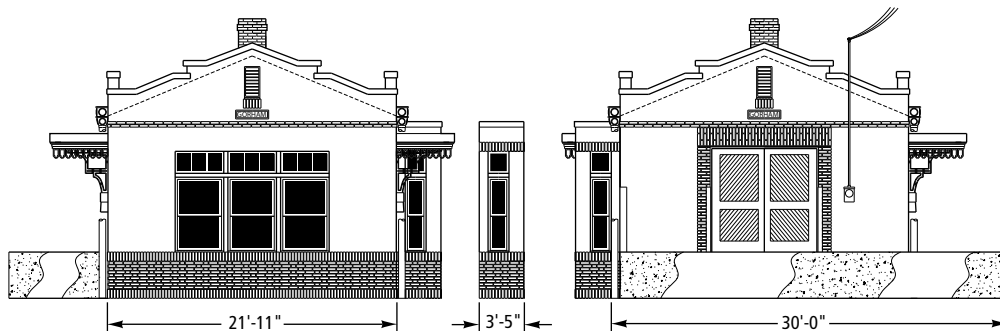
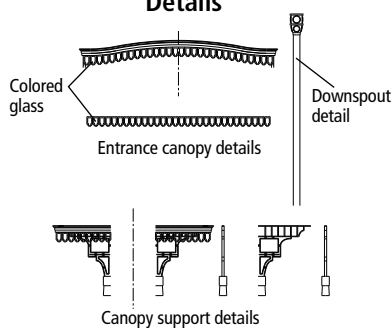
Gorham was the exception. Its leadership, viewing the town as an up-and-coming community, chose to build a formidable concrete block and stucco

MORE ON THE WEB

Subscribers to our website can download and print drawings of the Lehigh Valley depot on Trains.com



Details



1/2 HO scale

TO CONVERT 1/2 HO SCALE
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The passenger waiting room end of the depot was inaccessible when Harold visited the depot to take photos and get measurements. The interior floor plan shown in the accompanying drawings is speculative.

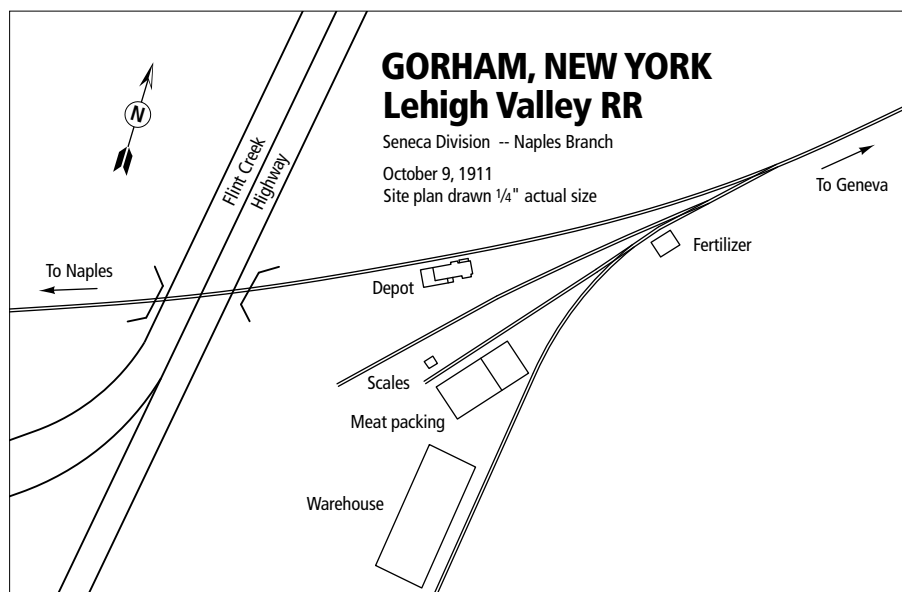
structure that would be indicative of the community's wealth and well being. Because of Gorham's wisdom, this passenger depot is the only one on the Naples Branch still in existence. The Naples freight house still exists by taking turns as a business and residence.

Making the plans

The drawings of the Gorham depot were made by measuring the full-size structure. The building is a combination passenger/baggage or freight design. The freight portion has an elevated floor to match the height of the concrete platform. There's no platform on the track side. Presumably the height of baggage carts was equal to this floor height. A short stairway connected the freight and baggage room with the office.

The structure's trackside and roadside walls are mirror images of each other. Rather ornate and elegant canopies covered the two entrances to the passenger section of the depot. The gingerbread trim that surrounds the canopy was filled with tinted glass.

When I visited, the depot was heavily overgrown and some of the stucco was spalling off the walls. The tracks were removed years ago. The inside of the passenger section was inaccessible, so the floor plan is speculative. We were able to stick a camera inside the freight section.



An LV 1911 site map shows that the development of the area surrounding the Gorham depot. It had several industries including a warehouse, meat packing plant, and fertilizer company.

Modeling considerations

A model of the Gorham depot would be a distinctive addition to your model railroad. The ornate gingerbread could be best modeled with photo etching. Brick materials are available from various manufacturers. When I last visited,

the building was weathered white stucco with red bricks.

To read more on the Naples Branch, see *Upstate Odyssey, The Lehigh Valley Railroad in Western New York* by Mary Hamilton Dann (Railroad Research Publications, 1997). Though the book is out of print, copies are still available through used book dealers. [MR](#)

Harold W. Russell's illustrations have been appearing in Model Railroader magazine since the mid-1960s. He has more than 150 bylines to his credit.

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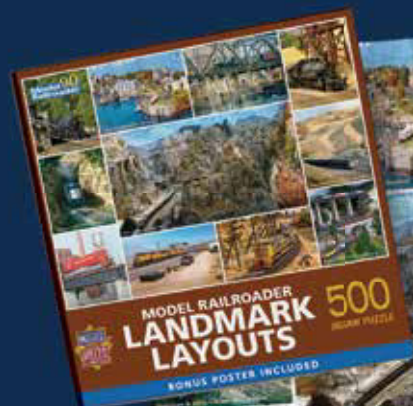
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NYC Mail and Express X342, Ann Arbor, Mich., 1953

It's Monday, Oct. 19, 1953, in Ann Arbor, Mich. New York Central eastbound mail and express train X342 has just set out the express car the REA truck is unloading. Its 8:40 a.m. station stop completed, the 5400-series Hudson-powered train will pass under the Broadway

Street bridge, resuming its Chicago-to-Detroit run.

My wife, Brook, and I used Sanborn fire insurance maps, track maps, and period photos to create this scene on our HO scale Michigan Lines. Our prototype-based layout models the major rail lines radiating from Detroit to 20

Michigan cities that have a special meaning for us. Ann Arbor is one of them. It was my hometown, and Brook and I met there while attending the University of Michigan.

The prototype photo came from the New York Central System Historical Society Archives. Pictured is the

eastern half of the main line's S-curve through the Huron Valley, which trains must negotiate entering and leaving Ann Arbor. When constructing the layout, we accurately replicated this track geometry, the foundation of this prototype-to-model comparison.

Send us your scenes

Have you modeled a scene based on a prototype photo? E-mail both the prototype and model photos, along with a description of the scene and the modeling techniques shown, to Senior Associate Editor Steven Otte at sotte@kalmbach.com. Be sure to put "Prototype to Model" in the subject line.

Moving from left to right in the model photo, a Sylvan 1947-1953 Chevy REA truck **1** unloads a resin express car **2** at Brook's scratchbuilt NYC freight house **3**. The locomotive is a 5400 series J3a Hudson by Rivarossi **4**. Coupled behind are a Walther's express boxcar **5**, a resin reefer **6**, and a Kadee PS-1 boxcar **7**. Walther's 85-foot heavyweights complete the consist **8**.

The adjacent caboose **9** is a Walther's model. Also in view are a Tichy water column **10** and Walther's utility poles **11**. Structures and rolling stock were weathered using an airbrush and weathering powders.

On the far right is the Washtenaw Coal Gas Works.

The gas holder is a Walther's kit **12**. Brook scratchbuilt and added the two warehouses that were originally omitted to allow space for additional gas holders.

Our friend John Bussard combined Walther's overpass kits **13** to build the Broadway Street bridge. To ensure the prototype's telltales appeared in our image, Brook fashioned a D-shaped fixture that could be hand-held above the camera. It took 50 tries to get the shot! **MR**

Jay and Brook Qualman's home overlooks a railroad in Milford, Mich., and its lower level was designed for their 3,000-square-foot layout. The couple is active in the National Model Railroad Association.

It's a Monday morning in October 1953 in Ann Arbor, Mich., and New York Central mail and express Extra X342 East has dropped off one express car and picked up another in preparation for the rest of its run to Detroit. The model 5400-series class J3a Hudson locomotive is by Rivarossi.

Model photo: Jay and Brook Qualman; prototype photo: New York Central System Historical Society Archives



American in a German backyard



This 430-foot-long garden railway showcases the long trains and main lines of the American West

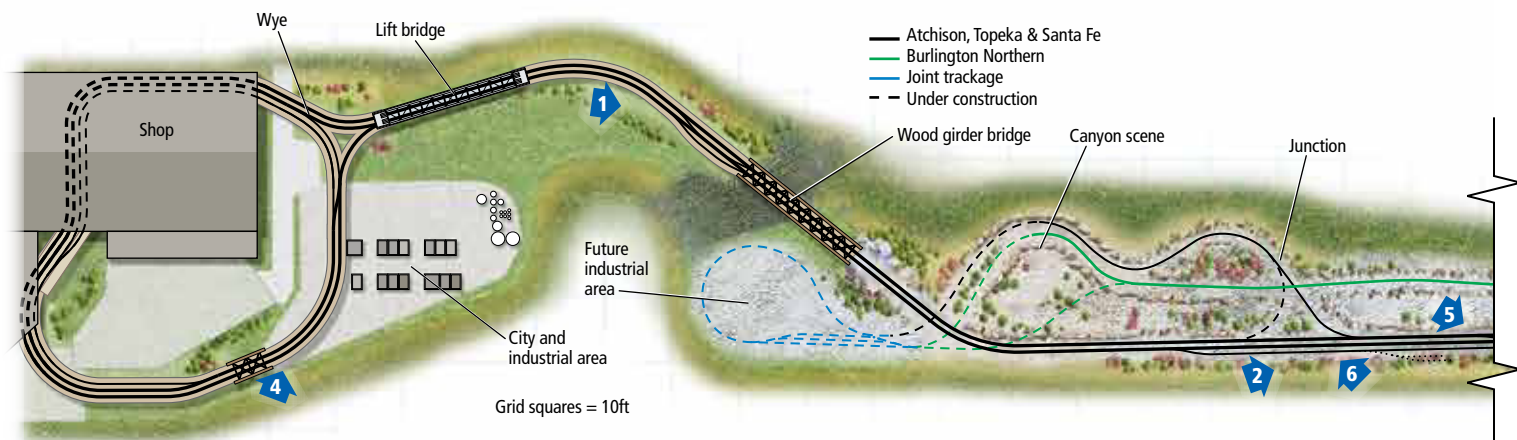
by Hans-Jürgen Götz

Photos by Hans-Jürgen Götz and Oliver Jöst



trains

① A visiting Northern Pacific streamliner leans into a superelevated curve on Oliver Jöst's large scale garden railway in Cuxhaven, Germany. The railroad, 430 feet in length, gives Oliver's American-prototype model trains room to stretch their legs.



2 A mixed freight train led by an Electro-Motive Division NW2 cow/calf set heads southbound. This view from near the midpoint of the layout looks toward the yard, train storage (tube), and future mountain that will enclose the turnback loop.

One advantage of garden railways is that they can be much bigger than could be accommodated in a home basement or attic. But a typical rectangular backyard can still get cramped if the trains are large scale. Oliver “Olli” Jöst of Cuxhaven, Germany, doesn’t have that problem.

Oliver’s interest in model trains began in 1984, when at the age of 2, he was given a Faller O gauge toy train set. Two years later he got an HO scale set, then in 1995, an LGB large scale set. He was immediately bitten by the garden railway bug. He built a temporary railroad in his yard, then another in a separate lot next to his parents’ house. He was interested

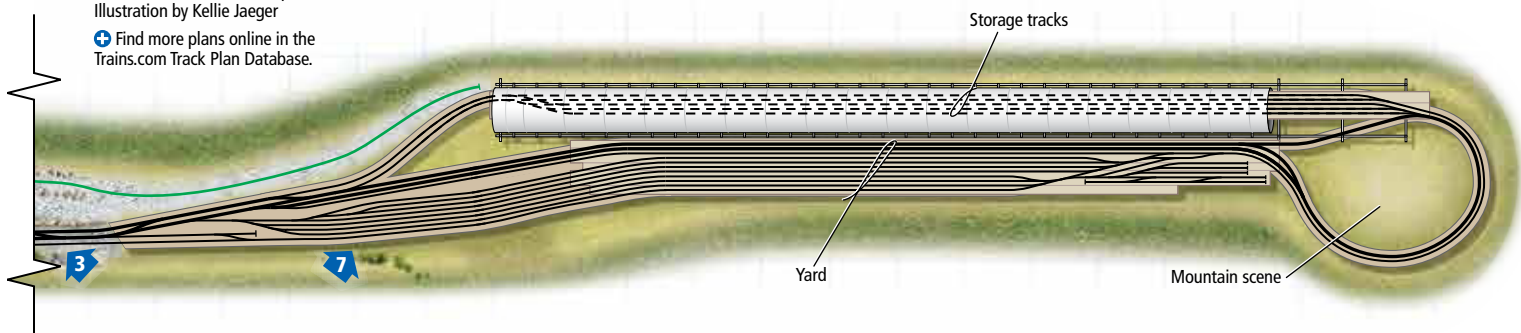
not in the trains of his native Germany, but American railroads. He started collecting American-prototype locomotives and cars from LGB, Bachmann Trains, American Mainline (Accucraft), Aristocraft, and USA Trains.

Unfortunately, a house expansion in 2008 meant the railroad had to come down, and the track and trains went into

Olli's Railroad

Large scale (1:29)
Size: 20 x 430 feet
Numbered arrows indicate photo locations
Illustration by Kellie Jaeger

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



boxes. Oliver kept himself busy by upgrading his rolling stock, replacing trucks, wheelsets, and couplers.

Then Oliver and his wife, Marina, bought a small house with a big yard in the countryside near the northern German town of Cuxhaven. The lot was too long and narrow for most uses — almost 650 feet deep but only 40 to 50 feet wide — but Olli thought it was perfect for a long, straight model railroad.

Designing the railroad

One advantage of the rural location is that it's perfect for photography. There are no neighboring buildings to spoil the illusion of scale. Occasionally, though, the neighbor's cows will stick their heads over the fence to curiously watch the goings on.

Oliver was inspired by two friends of his, Jens Bang and Marty Cozad, both of whom have garden railroads in the United States and have visited Oliver's railroad. Oliver drew out a track plan on paper, but adjusted it numerous times during construction. His goal was to integrate the railroad into the terrain, not just place it on top.

The basic design is a dogbone, a double-track main line with a loop at each end. Because the two loops are 430 feet apart — almost 1½ times the length of a football field — an observer needs binoculars to see both ends at the same time. It takes a train more than 10 minutes to circuit the entire loop.

A large rail yard is under construction. This part of the layout already exists but needs more tracks to be able to build and break down the long freight trains, which can reach a length of up to 108 feet. So far, the yard has only been used as visible staging.

The main line and yard represent the Atchison, Topeka & Santa Fe in the 1970s and 1980s. (Oliver does run trains

The layout at a glance

Name: Olli's Railroad
Scale: large scale (1:29)
Size: 20 x 430 feet
Prototype: Atchison, Topeka & Santa Fe and Burlington Northern
Locale: American West
Era: 1970s and 1980s
Style: walkaround garden
Mainline run: 850 feet
Minimum radius: 7 feet
Minimum turnout: LGB R5 (main), LGB R3 (industrial area)

Maximum grade: 1.2%
Benchwork: welded steel framework backfilled with earth
Height: 19" to 38"
Roadbed: none
Track: LGB flextrack with LGB, Aristo-Craft and Thiel-Gleis turnouts
Scenery: natural
Backdrop: none
Control: Lenz Digital Command Control



➊ Three Union Pacific 4-8-8-4 Big Boys line up for the railroad photographer at the water and sanding facility near the middle of the main line. The steam locomotives are USA Trains models.

from other railroads and eras, though.) There's also a single-track branch line representing the Burlington Northern. This line, still under construction, will travel through picturesque canyons and over sweeping trestles to reach an industrial area. An interchange between the two lines is also planned.

Construction

What makes the construction of this layout special to Oliver is the variety of activities, from driving an excavator to the interior design of the model houses. "Building, constructing, and the connection to nature inspires me about the



4 Oliver checks a turnout on the wye near the loop at the shop end of the layout. The lift bridge in the background works; the chain drive in the towers can lift it to give more than 7 feet of clearance for people and construction equipment.

hobby,” Oliver says. “Ultimately, the train only runs in circles or from A to B, no matter how big or small the layout is.”

Construction began in 2016. Rather than place the track on ballast, wood posts, concrete, or other traditional subroadbed choices, Oliver bolted and welded together a strong steel framework with legs that elevated the track between 19 and 38 inches above the ground. He then surrounded it with metal and stone retaining walls and filled in the terrain with sand and dirt. The assembly is so sturdy a person can walk on the track and not sink into the soil.

The layout uses brass LGB track with turnouts from LGB, Aristo-Craft, and Thiel-Gleis (a German manufacturer). To keep the hollow plastic ties from breaking down over time, Oliver fills them with epoxy resin before installing the track. He then secures them to the steel subroadbed with screws every 12”. He superelevates the curves by placing 6AWG solid copper wire, which is about 4mm thick, under the outer rail. The track is ballasted with fine, loose gravel.

Oliver has built a unique outdoor shelter for his five-track storage yard, which protects trains when the railroad isn’t in use. The shelter is made from a

111-foot-long stainless-steel tube that used to be part of a smokestack at a gas-fired power plant. The tube is 5’-6” inside diameter, so a person can walk through the tunnel alongside the tracks. Oliver is planning to add six more tracks on two levels, each of which can hold trains up to 108 feet long. The tube has doors at either end that can be closed to protect the trains from weather and theft.

The highlight of the model railroad is an 18-foot-long double-track lift bridge. The aluminum arch bridge, which Oliver bought used, is fixed to two steel towers with chain drives that can lift it to

provide more than 7 feet of clearance. This is enough for Oliver’s skid-steer excavator, self-propelled roller, and other small equipment to drive through to get from one side of the layout to the other. This equipment has been invaluable in moving the literal tons of steel, dirt, sand, gravel, concrete, and decorative rock used in the layout.

There is a small station with a passing track in the center of the railroad. Its tracks, junctions, and structures offer an interesting photo location.

Marina helps Oliver with the track laying and ballasting, as well as with the planning and planting of the surrounding garden. She also enjoys setting up scenes around the layout with 1:29 figures and structures.

Wiring and control

The locomotives are run by a Lenz LZV100 Digital Command Control (DCC) system and track power. This allows multiple trains to run on different parts of the layout simultaneously. Oliver also enjoys the sound of diesel and steam engines, horns, whistles, and bells from the locomotives’ sound decoders.

Four MD30B DCC boosters from MD Electronics are distributed along the route to power the track. Each one delivers up to 25A of current. The boosters are supplied by appropriate DC switching power supplies and protected from moisture in weatherproof cabinets.

A layout as large as Oliver’s needs to have special precautions taken against voltage drop. In order to minimize this, all rails are connected with screw-in rail joiners custom made by Oliver. Rail



5 A short local freight waits for clearance to emerge from the passing track at the center of the main line. This busy area is also the junction to the Burlington Northern branch line.



6 Steam and diesel-era passenger trains pass on the 1.2% grade. Though his railroad models the 1970s and 1980s, Oliver also runs both older and more modern equipment. The E8 diesels are Aristo-Craft models.

joints are also protected against corrosion with copper paste. The power bus is 6AWG copper wire, with rail feeders every 16 feet.

Oliver has a Lenz LH100 handheld controller, but since it has a cord, it's not useful for walking around the layout. Most of his throttles are wireless, such as the Navigator from Massoth or the FUNKY II by Matthias Manhart from Switzerland. But even those don't have the range to cover the entire layout, so Oliver has also installed a Wi-Fi network to allow control using the TouchCab app on a smartphone or tablet.

The Lenz DCC system can be integrated into the home network via an optional USB/Ethernet interface. Routers and repeaters that support "mesh" technology can extend the range of the Wi-Fi network inexpensively. Oliver has installed several such Wi-Fi extenders in weather-proof enclosures along the route, allowing smartphones and tablets to connect to the network all along the route. The only drawback is that the

Lenz software interface limits the number of simultaneously connected devices to eight.

The model railroad also has a LocoNet signaling and control bus. Oliver has had no problems with signal degradation or interference over the long length of the cables. The cables themselves and their connectors are inexpensive and can be easily strung together to any length needed.

Challenges of a large layout

Due to its size, the railroad faces some challenges that smaller layouts, even other garden railways, don't have to deal with. Some of these problems are similar to those faced by prototype railroads, and their solutions are also similar.

Since the entire railroad can't be viewed from any single point on the site, Oliver found it necessary to monitor

certain important areas with cameras. These are also integrated via the Wi-Fi network, and their images can be viewed on any smartphone.

Communication between operators is also not that easy. The only thing that helps is small walkie-talkies or, if necessary, a call to the operator's cell phone. This becomes particularly important when someone or something causes an emergency stop. Then the operators in the control center need to know who it was, where it happened, and why. It's Murphy's Law that when something goes wrong on the layout, it's not going to happen where someone can easily find it.

Another challenge not faced by smaller garden railroads is the behavior of the tracks due to temperature changes. The brass rails and the steel frameworks change dimensions due to temperature differently. To prevent rail kinks from forming,

MORE ON THE WEB

Videos of Oliver Jöst's large scale garden railroad are on YouTube at [youtube.com/@ollisrailroad](https://www.youtube.com/@ollisrailroad)



7 Oliver watches a long freight train, pulled by a seven-diesel consist, emerge from the train shed. The shed, made from a former power plant smokestack, is 110 feet long, has five storage tracks, and can be closed to protect the trains.

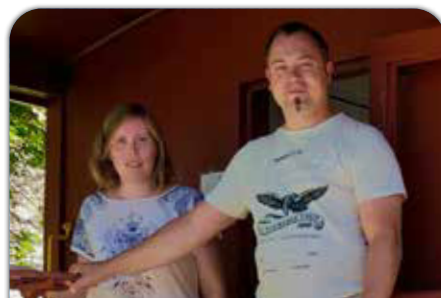
Oliver modified LGB track pieces into expansion sections that can grow or shrink as needed.

Keeping this much track clean is also a problem. If the layout hasn't been run in a while, Oliver has to walk the length of the railroad and remove the dirt, leaves, snails, and bird droppings that have accumulated. In addition, three track cleaning locomotives from LGB are used. Oliver runs them over main lines

and sidings alike between operating sessions to keep things clean.

Oliver connects his multiple consists with power connections between the locomotives. If an engine hits a dirty patch of track and loses contact with the rails, it can still draw power from other locomotives ahead or behind. The metal wheels of the engines and many cars on the layout do a good job of polishing the railhead. The biggest problem is rain, which splashes dust onto the track. This can cause locomotives pulling long, heavy trains to slip on the inclines.

The most severe damage ever to happen to the layout was as result of storm Sabine in 2020. When it swept across northern Germany, an old tree in the neighbor's yard was toppled by the wind. The tree fell over the fence and onto a section of the layout that was under construction, denting the steel frame and destroying the track mounted on it.



Meet Oliver Jöst

Oliver "Olli" Jöst lives near the small town of Cuxhaven, Germany, with his wife, Marina, who shares the hobby with him. He is a construction and project manager specializing in piping systems for chemical companies in Europe.

Operations

Most of the turnouts on the railroad are operated manually by the engineers following their trains. Turnouts at important junctions are remotely controlled by EPL switch motors from LGB. In the future, Oliver plans to install servo-based switch machines with end

position indicators. He believes servos drive the switches and hold them in position more reliably. This is especially important on a garden railway where falling leaves and other debris can block the switches. The end position detection ensures that the train will pass through a turnout only when it is properly set.

At least once a year, Oliver hosts a weekend open house and operating session. Every August, when it rains less in the north and the temperatures are rising, all model railroad fans in the village are invited to marvel at the layout in operation. Families come with their children, grandparents with their grandchildren, and model railroaders with their own large scale trains.

Prior to that event, Oliver, Marina, and their friends and family spend about two weeks preparing for the big day. From track cleaning and repairs to weeding and lawn mowing, there's a lot to do. After all, the aim is to present the layout to the amazed audience in the best possible setting.

The reward is the astonished faces and admiring comments of the visitors when the long freight trains, pulled by as many as eight roaring diesels or puffing steam locomotives, drive over the route. The sound of the metal wheels on the many cars does the rest. **MR**



Ed West is at the throttle of Forney No. 10 as it rolls into Strong, Maine, while two Forster employees kibitz on the lead to the mill. At the end of the siding is a pulpwood car waiting to be unloaded. Researching how toothpick mills and tanneries worked helped Lou Sassi pick more realistic details for his On30 model railroad.

DETAILS make the difference

Researching how industries work can guide you to more realistic scenery

by Lou Sassi

Photos by the author unless noted

Over the past 40-plus years, I've found it a not only challenging but rewarding experience to delve into the history and workings of the industries I modeled on my HO scale West Hoosic Division and my On30 Sandy River & Rangeley Lakes (SR&RL) layouts.

I could simply work from photographs of a prototype and model what I see there. But I find it more interesting to understand what an industry does and how those scenic details are used. This lets me build a more realistic scene. Let's talk about a couple of the industries on my layout as examples.

Peerless Tanning

I included a model of Peerless Tanning on both my railroads. It was also featured in my scenery book *How to Build and Detail Model Railroad Scenes, Vol. 1*, published by Kalmbach in 2004.

My wife, Cheryl, and I first saw Peerless, located in Johnstown, N.Y., as we passed it twice a day while driving to and from our jobs at General Electric's Schenectady plant from 1964 to 1968. At that time Peerless was still in operation, although on its last legs. When we passed the mill, I often said to Cheryl that we should take photos and measurements of it so I could model it someday.



Lou's model of Peerless Tanning is surrounded by details matching those seen in prototype photos. The structure appeared in Lou's books *Basic Scenery for Model Railroaders Vol. 1* and *Vol. 2* and *How to Build Model Railroad Scenes Vol. 1* from Kalmbach.



Lou's wife, Cheryl Sassi, holds a range pole against the prototype Peerless Tanning factory while Lou photographs the building. Lou would later model the building on two different layouts.

In 1998, we finally did. After asking the owner's permission, Cheryl held a range pole up against the building at different locations as I photographed each facade from a distance. We also took measurements and drew scale drawings of the main building and additions. Fortunately, because Peerless was still in operation, there was a lot of paraphernalia from the leather treating process lying about.

My first freelance mill, using the Peerless name and built by my good friend Rich Cobb, an accomplished scratchbuilder, appeared in both *Basic Scenery for Model Railroaders Vol. 1* and *Vol. 2*. In 1994, while compiling *How to*

Build and Detail Model Railroad Scenes, I asked Rich to build an HO replica of the tannery, which I would feature in a number of chapters.

At the same time, I decided to do some research on the tanning industry in order to learn more about what took place inside them and the reason for all the barrels, boxes, and other items found outside them. Eventually, I spoke to Barbara McMartin, author of the hardcover book *The Glove Cities* (Lake View Press, 1999). I bought her book, which was an excellent source of information on the leather and glove industries.

I found out that the smaller additions to the right rear of Peerless' main

Materials List

Peerless Tanning Scale Structures Limited (scale-structures.com)

2017 barrels
2126 and 2128 sacks
2151 boxes
2281 dollies
2311 and 2312 welding cart and hose
2349 and 2463 oil drums
2455 and 2501 pallets

Woodland Scenics (woodlandscenics.com)

1823 dock workers

Forster's Mill Narrow Gauge Model Company (narrowgaugemodeling.com)

NGM-C115 crates
NGM-231 crates
NGM-C020 pallets
NGM-FV107 worker 2
NGM-FV108 worker 3
NGM-FV109 worker 4

Tichy Train Group (tichytraingroup.com)

2024 55-gallon drums
3507 35-gallon drums (actually S scale 55-gallon drums)

Miscellaneous

river birch twigs from Lou's front yard

building — consisting of brick, corrugated metal, and wooden substructures, with a pipe running from the second floor of the main building to the corrugated addition — were there because of a process called beaming. This is the shaving of leather into different thicknesses by special machines equipped with blades or sanding discs. This creates a lot of dust, which was drawn out of the building through the previously mentioned pipe by fans and deposited into large bags that were eventually removed and disposed of. All of this took place inside those smaller additions.

The large smokestack to the left of the dust collector served the building's boiler room. The boiler provided both heat for the building and the hot water needed in the production process.

What about the steel drums outside the building? The larger ones would have contained hides, while the others held chrome, lime, acid, salt, and dyes.

The products emerging from Peerless would have been finished, tanned, and

dyed hides of different sizes, colors, and thicknesses. They would have been shipped in boxes or wooden barrels to other manufacturers to be made into jackets, gloves, pocketbooks, shoes, and the like. The pallets would have been used during loading and unloading.

I turned to Scale Structures Ltd. for the boxes, barrels, pallets, and such. Woodland Scenics provided the dock men turned mill workers wandering around the yard of my HO scale version.

Forster's Toothpick Mill

Forster's was located in Strong, Maine, on both the prototype SR&RL and my On30 version. By reading books on the SR&RL, I learned that Forster's primary product was toothpicks. I also noticed in photos of the mill numerous 4-foot long lengths of wood stacked vertically around the mill property. This piqued my interest, leading me to eventually purchase an informative book by Henry Petroski titled *The Toothpick* (Vintage, 2008).

I learned from that book that Forster's was a dominant presence in the village of Strong, operating from 1887 into the late 1990s. It was purchased by the Diamond Toothpick Co. in 1995 and eventually shut down due to foreign competition. It actually managed to survive the SR&RL, which ended operations in 1935, by a few decades.

Petroski's book also mentions that the toothpicks were made primarily from white birch wood along with, to a lesser extent, spruce. Since white birch and spruce were (and still are) two of the most dominant species in the woods of Maine, the reason for Forster's Mill locating in the tiny, secluded hamlet of Strong becomes apparent.

The book also said that "In the mid 1990s while driving through Maine the writer, Sue Hubbell, while passing through the village of Strong, came upon a towering pile of birch logs stacked beside a large mysterious looking factory building." After a bit of exploration, she met Forster Vice President Richard Campbell, who told her that Forster's company was the biggest toothpick maker in the United States, and possibly the world, at that time.

After reading this, I decided to do some more research, and further discovered that the Foster Mill produced a variety of toothpicks under different labels. I cruised eBay and came up with three of them, plus a steel dispenser of the period, the type found in restaurants



Lou chopped twigs from the birch trees in his front yard to scale 4-foot lengths to model the log stacks surrounding his O scale model of Forster's Mill. Figures, pallets, crates, and vehicles complete the detailing.



Four-foot-long birch logs stand stacked around the prototype Forster Mill in Strong, Maine, waiting to be transformed into toothpicks. Peter S. Barney photo

and diners. These are now on display in my train room.

With all this in mind, I decided to add some birch logs stacked around my mill to replicate those in the prototype photos. Since we have two birch trees in our front yard that are continually dropping branches and twigs, I picked up a few. Not only did these provide me with raw materials for Forster's, but also encouraged me to clean up our yard, killing two birds with one stone!

I used a NorthWest Short Line Chopper to cut them into O scale 4-foot lengths and stack them around the building, one of my least expensive detailing projects. I also replaced the cast-resin wood loads on my Bachmann pulpwood cars with those same logs and

spotted them at the mill. I added some boxes, crates, barrels, and pallets from Narrow Gauge Modeling Co. (narrowgagemodeling.com), along with three of its mill workers to complete the scene.

The details do it

And that's it. By doing a bit of research, I managed to make both Peerless and Forster much more realistic representations of their prototype counterparts, while at the same time learning quite a bit about the workings and products of the industries I chose to model. Research can be both a rewarding and interesting hobby in itself. If you haven't already done so, try it, I think you will like it! 

Milepost 100

Mileposts are prominent features on railroad rights-of-way. Railroaders use them to report accurate train locations and identify limits of track warrants and slow orders. One hundred is a notable mile because this was the traditional length of a division, where engine facilities stood and crew changes took place. Now, dear reader, you've turned the page to another milepost, the 100th appearance of On Operation. *Model Railroader's* editors are indulging me in reflections on this occasion, sparing you of my usual soapboxing about rulebook brain-teasers. I hope you'll read on.

When then-Editor Neil Besouglhoff offered me the work, I hesitated because Andy Sperandio is a tough act to follow. Explaining why trots out one of my old fancies. I picture a dog chasing a bus, running flat out, barking wildly, smothered in exhaust. The bus stops and the dog saunters away with a self-satisfied look, but he also seems puzzled because he's not sure what to do with his catch. I wasn't sure, either. Submitting three tryout columns is one thing, but meeting a deadline month after month is a commitment. I'm glad I made it.

Taking the job expanded my horizons. It broke me out of life-long myopia regarding the post-war anthracite roads, particularly my hometown Susquehanna. Exploring column topics better informed me about game-changing events

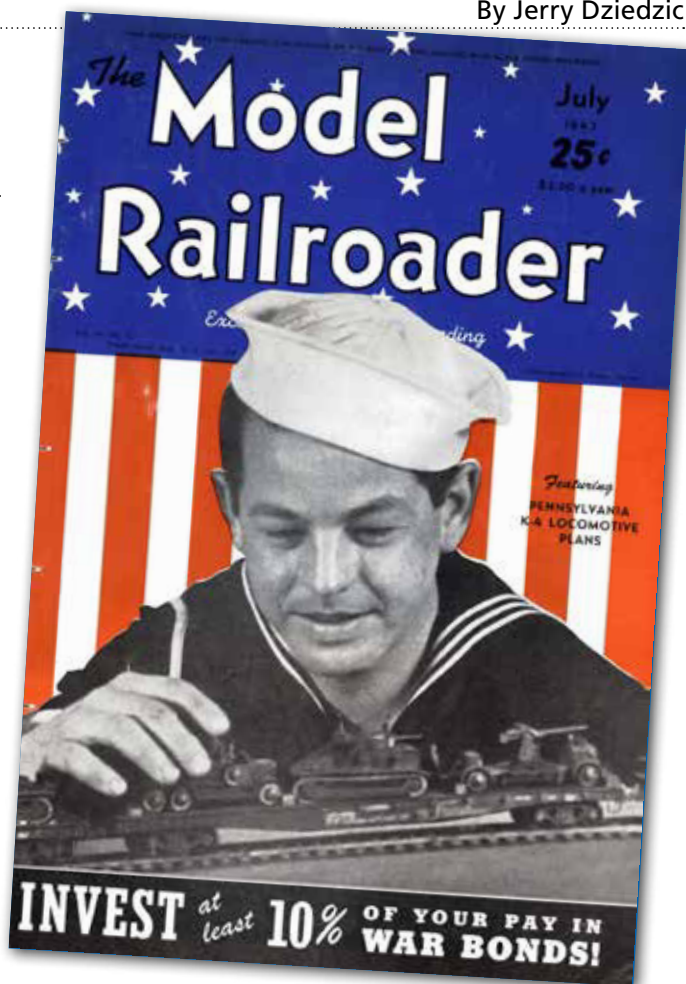
like Rock Island's development of "voice control" between Kansas City and St. Louis in 1974, marking the transition from train orders to radio methods. Similarly, I learned how modern Centralized Traffic Control operation evolved from local interlockings controlled by tower operators.

Our hobby has parallels in the impact of modern technology. We've moved from rotary switch block control to Digital Command Control, from rheostats to Arduinos, and from stripwood scratch-building to 3-D printing.

The job also increased my regard for our hobby's collegiality. I like doing deep background on a topic, running down information my curiosity leads me to. Last September's "Rain, Ruth and a rule" is a good example. It emerged from an old newspaper clipping a friend urged me to write about. The clipping held some vague clues. The town clerk of Passaic, N.J., helped me track down Mark Auerbach, a local historian who helped with more material than the story could hold. He shared an image of the telegram that Babe sent the boys, promising to host

them at Yankee Stadium. Other material from Mark had me poking into how the Associated Press transmitted Wirephotos at that time.

Locating an illustration for a column is often harder than writing it. I've enjoyed wonderful cooperation from friends who posed scenes on their



Jerry chose this vintage 1943 cover for On Operation in MR's milepost 1,000 issue. "Wouldn't red, white and blue make a July issue jump off a wartime newsstand? Frank Taylor's design uses the sailor and the mechanized equipment to honor all the nation's forces." Al Kalmbach made Frank his successor as editor a year earlier.

layouts for me. Similarly, photographers and collectors have given permission for publication freely.

Serendipity strikes, too. I ran across a photo perfect for my March 2021 "The ritual of train registers," but it was a poor scan, unfit for publication. Tracking down the original seemed like a lost cause, but a few inquiries led me to Jeff Kovacs. Remarkably, his home is only a 10-minute drive from mine!

Do you wonder if I'll name favorites? Some that cross my mind are mailbags like "A blooper, High Ball and Porky Pig" from June 2022 and "Stop the presses" from July 2019. As I wrote then, I enjoy hearing from readers,

especially when a blooper that I've committed has me laugh at myself.

MR's pages featured prototype operation throughout its 90 years, since July 1934 reported on New York's Brooklyn Railroad Club. This makes "Was Al Kalmbach a railroader?", which appeared in MR's milepost 1,000th issue in April 2017, special.

One last thought. I wrote to MR asking about Susquehanna motive power when I was a teen in the '60s, naively expecting a reply. Indeed, Gordy Odegard answered with a short, informative note. Who knew half a century later I'd join the magazine and discover another way to enjoy this wonderful hobby? **MR**

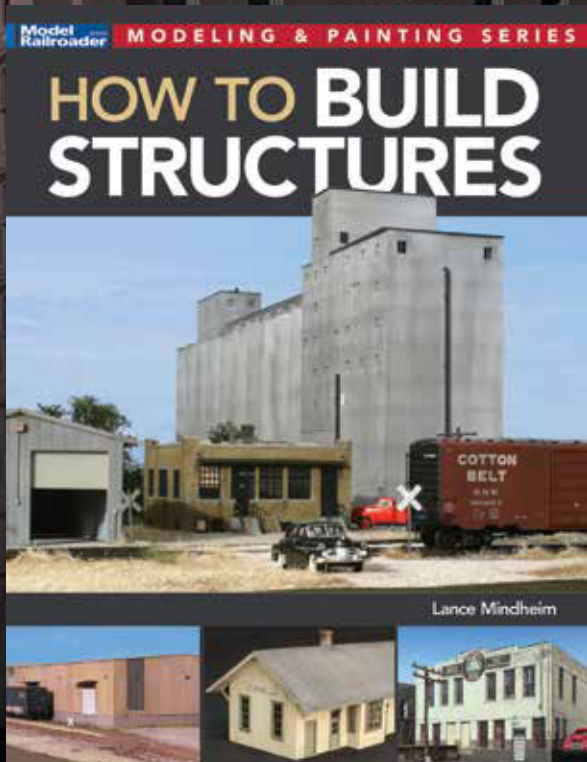


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Union Pacific 672, an Electro-Motive Division GP38-2, idles at Gardner Yard while its crew is off getting lunch at the beanery on a sunny August day in 1979. Patrice Larose of Montreal shot the photo on his HO scale model railroad, which was dismantled due to a move. Patrice is working on a new layout.





Galeton & Chestnut Lake RR 2-8-0
Consolidation No. 2 departs the locomotive service area adjacent to Main Street in Renovo, Pa., with a local freight in tow. Jerry Lauchle of State College, Pa., shot the photo on his HO scale layout. O'Neil's Fabrication, foreground left, was constructed from a Sierra West craftsman kit, while the water station and handcar shed are from a Fine Scale Miniatures kit. The Consolidation is a Sunset brass import.

Send us your photos

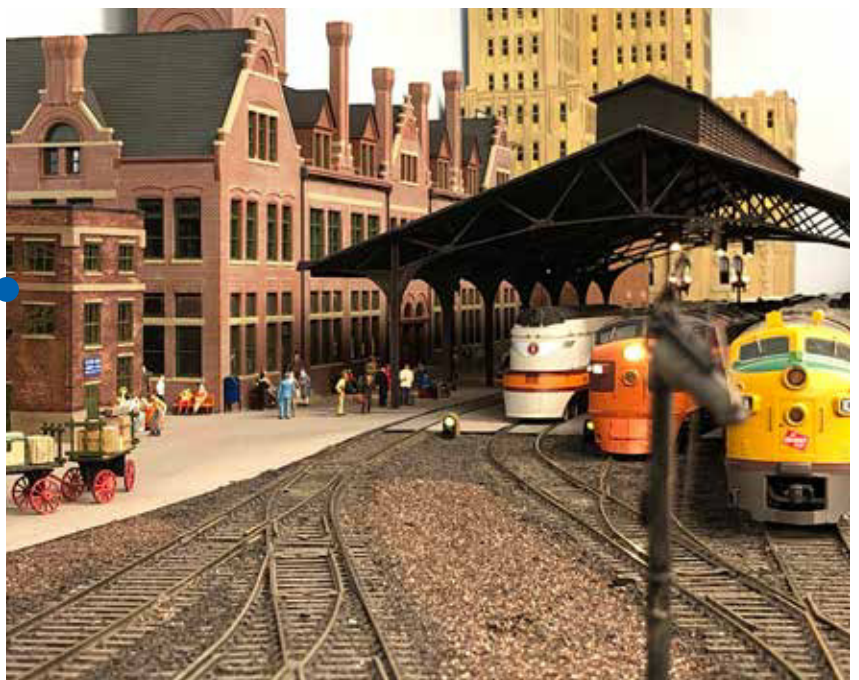
Trackside Photos is a showcase for the work of *Model Railroader* readers. Send your photos (digital images 5 megapixels or larger) to: *Model Railroader*, Trackside Photos, P.O. Box 1612, Waukesha, WI 53187-1612; or upload them to fileupload.kalmbach.com/contribute. For our photo submission guidelines,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



On a crisp fall afternoon in Hearst, Ontario, Extra 1569 gets the "all clear" from the conductor as it couples to a string of empty log cars at the Canadian Forest Products Mill. This scene takes place on the HO scale layout belonging to Doug DeWald of Perkaspie, Pa., which portrays modern shortline railroading in southern Ontario. The SW1200 is an Athearn model that has been detailed, weathered, and upgraded to replicate the prototype. Doug shot the photo.

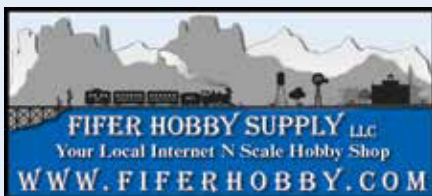


It's a meeting of westbounds as the *Afternoon Hiawatha* and *Chippewa Hiawatha* prepare for departure from Milwaukee's Everett Street station while old No. 1 waits to pull Train 23 to Madison. Jeff Traintime of Burbank, Calif., photographed the scene on his HO scale layout. The station and train shed are from Walthers, while the Railway Express building is from Monster Model and Laserworks. The locomotives are Fox Valley, Proto2000, and InterMountain Railway Co. models.





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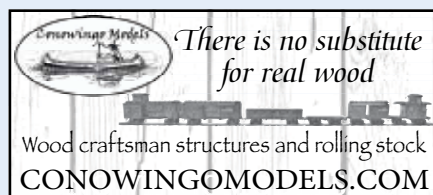
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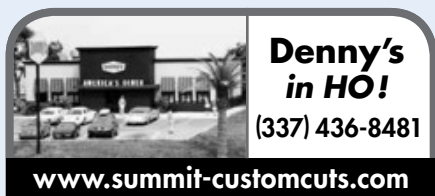
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Schedule of Events

CA, LONG BEACH: Join us by the Pacific Ocean in Long Beach, California for the Surfliner 2024 NMRA National Convention, August 4 - 11, 2024! Clinics, Layouts, Prototype Tours, General Interest Tours, and more. Bring the family to beautiful Southern California! Register today! www.Surfliner2024.org

FL, TALLAHASSEE: 33rd Annual Tallahassee Model Railroad Show and Sale! 2-DAYS! June 22-23, 2024. Saturday, 9:00am-5:00pm & Sunday, 9:00am-4:00pm. Leon County Fair Grounds, 441 Paul Russell Rd., Bldg. 2 & 4. Admission: Adults/Children 13 & over, \$10 BOTH DAYS! Scouts in uniform/children 12 & under FREE! Scales Z-GI Food! Contact: Andy Zimmerman, 850-524-4399. Email: GNTrainman@comcast.net

IL, GALESBURG: 2024 Galesburg Train Show. June 29-30. Saturday 10am-4pm, Sunday 10am-2pm. Knox College, T. Fleming Fieldhouse, 199 East Knox Street. Admission \$5, under 12 free. 400 tables of model trains, books, videos, t-shirts, memorabilia. 90+ vendors and exhibitors. Operating layouts. Tables \$30 each. Refreshments available. Handicap accessible. Show Directors: Greg Norris 309-335-2634, John Manderscheid 563-349-0134

IL, GREENVILLE: American Heritage Railroad Train Show @ American Farm Heritage Museum, 1395 Museum Ave., Greenville, IL 62246. I-70 @ IL Rt. 127 (Exit #45). Saturday, June 8, 2024, 10:00am-4:00pm. Admission: \$7.00, under 12 FREE. Train ride with paid admission. Operating layouts. Dealers welcome, \$15.00 per table. Contact Karl @ 618-699-5244.

IL, ST. CHARLES: 48th Annual Kane County Railroadiana and Model Train Show. Kane County Fairgrounds, (Front Building), 525 South Randall Rd., St. Charles, IL 60174. Sunday, June 9, 2024, 10:00am-3:00pm. Admission: \$6.00 (includes tax). Children under 12 FREE. Tables starting at \$65.00. For information: 847-358-1185, RussFierce@aol.com or www.RRShows.com

IN, INDIANAPOLIS: Central Indiana Division/NMRA announces the Franklin Train Show. Johnson County Fairgrounds, 250 Fairground St., Franklin, IN 46131. August 3-4, 2024. Saturday 10am-4pm, Sunday 10am-3pm. Admission: \$7/person, 16 and younger free w/adult. NMRA members (show membership card) \$5/person. Demos, Displays, Operating Layouts, Door Prizes, Free Parking, Food available. Info/table rental: Michael Roderick, 317-833-3556, FranklinTrainShow@gmail.com or www.cidnmra.org

MO, JOPLIN: Joplin History & Mineral Museum Model Train Show and Swap Meet. Saturday, July 20, 2024. 9:00am-3:00pm. Schifferdecker Park, 504 South Schifferdecker Ave., Joplin, MO 64801. Admission: \$5 adult, 12 and under admitted free with paid adult. Swap Tables \$20 each. Contact Steve Gardner, 620-230-9545 or email: sogardner1@att.net

OH, VAN WERT: Van Wert Railroad Heritage Weekend Model Railroad Show & Swap. Van Wert County Historical Society, Van Wert County Fairgrounds, 1055 S. Washington St., Van Wert, OH 45891. July 27-28, 2024. Saturday 10am-4pm & Sunday 10am-3pm. Adults \$6.00. Scouts in Uniform and Children 12 & under: FREE. Info: Chuck White, raicarman@frontier.com, 260-760-1666, www.vwrhw.com

OK, STILLWATER: Heartland Summer Toy Train Show. Saturday, July 13, 2024, 9am-3pm. Admission: \$5.00, kids under 18 free with paid adult. Payne County Fairgrounds Expo Center, 4518 Expo Circle E., Stillwater, OK 74075. Buy/Sell/Trade. Operating layouts and door prizes. Sponsored by the Heartland Toy Train Association. For further information visit: www.heartlandtoytrain.org

WI, LA CROSSE: Rail Fair, Copeland Park, Rose & Clinton Streets. Saturday, July 13, 2024, 10am-4pm. Admission \$5.00, under 12 free with adult. Railroad Show-Flea Market-Swap Meet. BUY/SELL/TRADE. Model, Toy & Antique Trains & Memorabilia, Railroad Exhibits & Displays. Information: 4000 Foundation, PO Box 3411, La Crosse, WI 54602, 608-781-9383 or 608-498-9522. www.4000foundation.org

WY, CHEYENNE: Sherman Hill Annual Train Show. Event Center at Archer. (I-80 East, exit 370) 3801 Archer Pkwy, Cheyenne, WY 82009. June 29 & 30, 2024. Saturday 9am-5pm; Sunday 10am-3pm. Admission: Adults \$10.00, Children under 12 free. All Scales, model train vendors, operating layouts, door prizes. For info call: Rick Caldwell, 307-321-3644 or email: shmrrcts@gmail.com

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

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A bit of daydreaming



A promo photo for Home Shops' new boxcars triggered Tony's pondering whether the Allegheny Midland could be relocated to the Midwest and become, perhaps, the Atlantic Midland, as this retouched photo suggests. Tony Koester photo

I suspect all of us let our minds wander away from focusing on the direct path to an objective now and then. What if this? What if that? Some of the world's most important discoveries have been made by someone indulging in a bit of daydreaming.

Where model railroaders are concerned, we might wonder what we'd do if we had a million dollars to invest in our next model railroad or a gymnasium to put it in.

Or we think about modeling in a different, sometimes larger, scale. I can't help but think about modeling one of the Wabash branch lines that was home to their fleet of 2-6-0 Moguls in O fine scale (Proto:48), or maybe the queen of East Coast 3-footers, the East Tennessee & Western North Carolina ("Tweetsie") in Gn3.

But then I remember my Midwestern roots and my love for a higher density of

traffic than the typical branch or narrow gauge line affords.

Not long ago, Home Shops asked me to send them painting and lettering information on Appalachian Lines-era Allegheny Midland boxcars. They were also doing cars for the other two Appalachian Lines member railroads, Allen McClelland's Virginian & Ohio (V&O) and Steve King's Virginia Midland (VM).

I quickly agreed, but I remain somewhat amazed that demand for Allegheny Midland-lettered equipment remains so strong almost a quarter century after it was displaced to make room for my current Nickel Plate Road layout. Strong V&O sales I understand; thanks to Allen's seminal "The V&O Story" series in *Railroad Model Craftsman*, the subsequent book in the 1970s, his many articles in RMC and MR, and his clinics at NMRA venues, modelers

came to appreciate everything he had single-handedly done to advance our hobby.

But I'll enjoy seeing the Allegheny Midland live on through the production of cars and even diesel locomotives ranging from Electro-Motive Division SD40-2s to today's General Electric GEVOs. Which brings us to the accompanying photograph.

The Midland Road —

Allegheny Midland's nickname and the way I prefer to refer to the railroad to underscore its strong ties to parent Nickel Plate Road until the NKP merged into the Norfolk & Western in 1964 — was a mountain goat. It had a number of central Appalachian

ridges to surmount in the heart of the Alleghenies.

But as I set up the photo for Home Shops' website using four of their AM boxcars coupled to a pair of InterMountain SDs, some old thoughts emerged.

"Midland" is often used to mean "Midwest." What if I had located the railroad in the Midwest instead of in Appalachia? Could I use the same paint scheme by painting over "Appalachian Lines?"

A half-hour's work with Photoshop erased the AL lettering and relettered the bridge, but one major problem remained: What would the "A" in AM stand for?

Clearly, it was time to put the railroad on a map (Toledo, Indianapolis & Kansas City?), but checking the index of several Midwestern states under "A" couldn't hurt.

Candidates: America/American and Atlantic were the only A-names with any sort of interstate significance. "Atlantic" could signify connections through the Great Lakes.

There are other concerns, such as how much traffic (number of trains) and the method of dispatching we'd have in the 1970s compared to the NKP in the 1950s.

Bottom line: I doubt that the

Nickel Plate will get bumped aside by Atlantic Midland units any time soon.

But it was fun to imagine an alternate history for a while. Maybe when no one's looking, a Midland Road train from the 1970s will make a run over the subdivision. **MR**



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