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**Tested: Walther's
Mainline F7** p.70

December 2018
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The Utah Belt turns 40

Up to date and looking great! p.46

**MRVP's Gerry Leone:
Fill an odd
space with
a park**

p.30



PLUS

Big-time U.S. railroading in the U.K. p.34

Quonset hut building flats made easy p.42

Modify a steam engine for new job p.56

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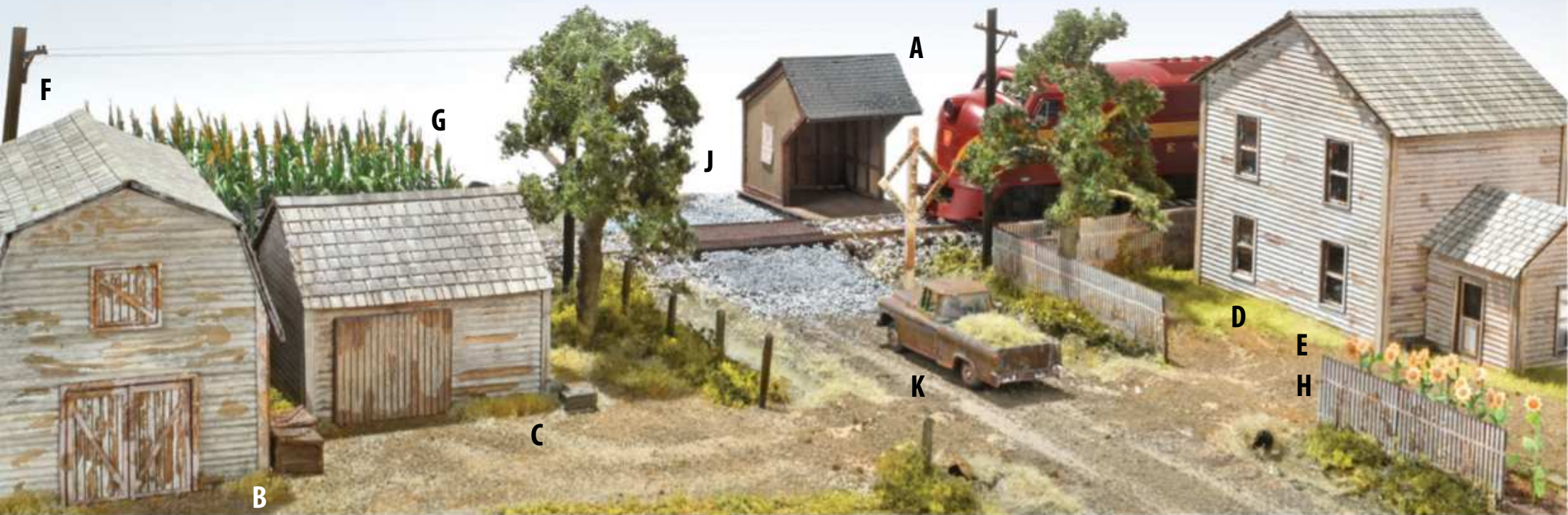
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With modular layouts, everyone does his part

by *Brian Moore*

- Online bonus ModelRailroader.com



42 Quonset hut building flats made easy

Cardboard tubes give these models the prototype's distinctive shape

by *Joseph Kreiss*

46 40 years on the Utah Belt

Evolving motive power, industries, operation, and scenery keep this HO scale railroad set in the present day

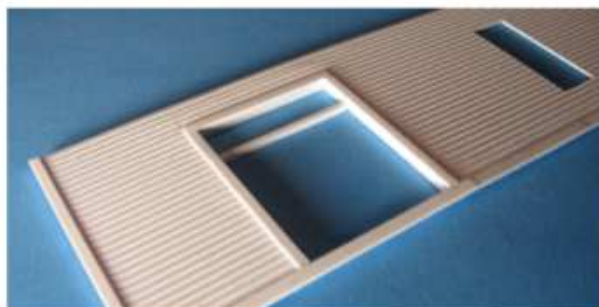
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Swapping out a lead axle for a trailing truck is just the start of this conversion

by *Robert A. Boyd*



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This O scale structure matches its full-size counterpart thanks to careful research and skilled modeling

by *Tom Houle*

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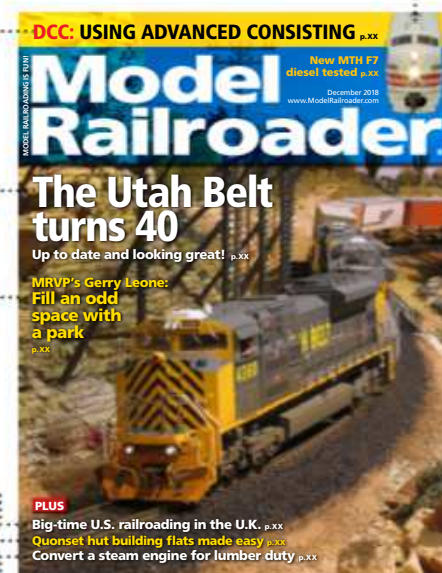
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On the cover: Modern mainline freight continues to roll on the always-current Utah Belt.

Eric Brooman photo



Next issue

In January, we kick off our 85th year with a final visit to Jim Hediger's Ohio Southern. We also look at founder Al Kalmbach's trains, introduce a project layout, and more!



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Link. Look. Learn more!

When this month's cover feature highlighting **Eric Brooman's Utah Belt HO scale layout** concludes in print, the story continues on Model Railroader Video Plus! Subscribers to the video streaming website can view exclusive high-definition video of the UB's modern motive power hauling fast freight through stunning southwestern scenery! Visit MRVideoPlus.com to start your subscription, and then enjoy numerous other top-notch videos that promise to aid and inspire!

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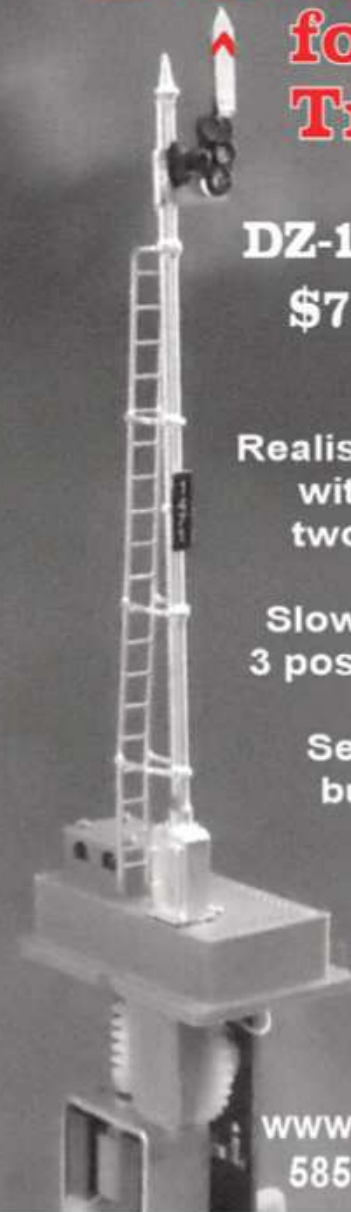
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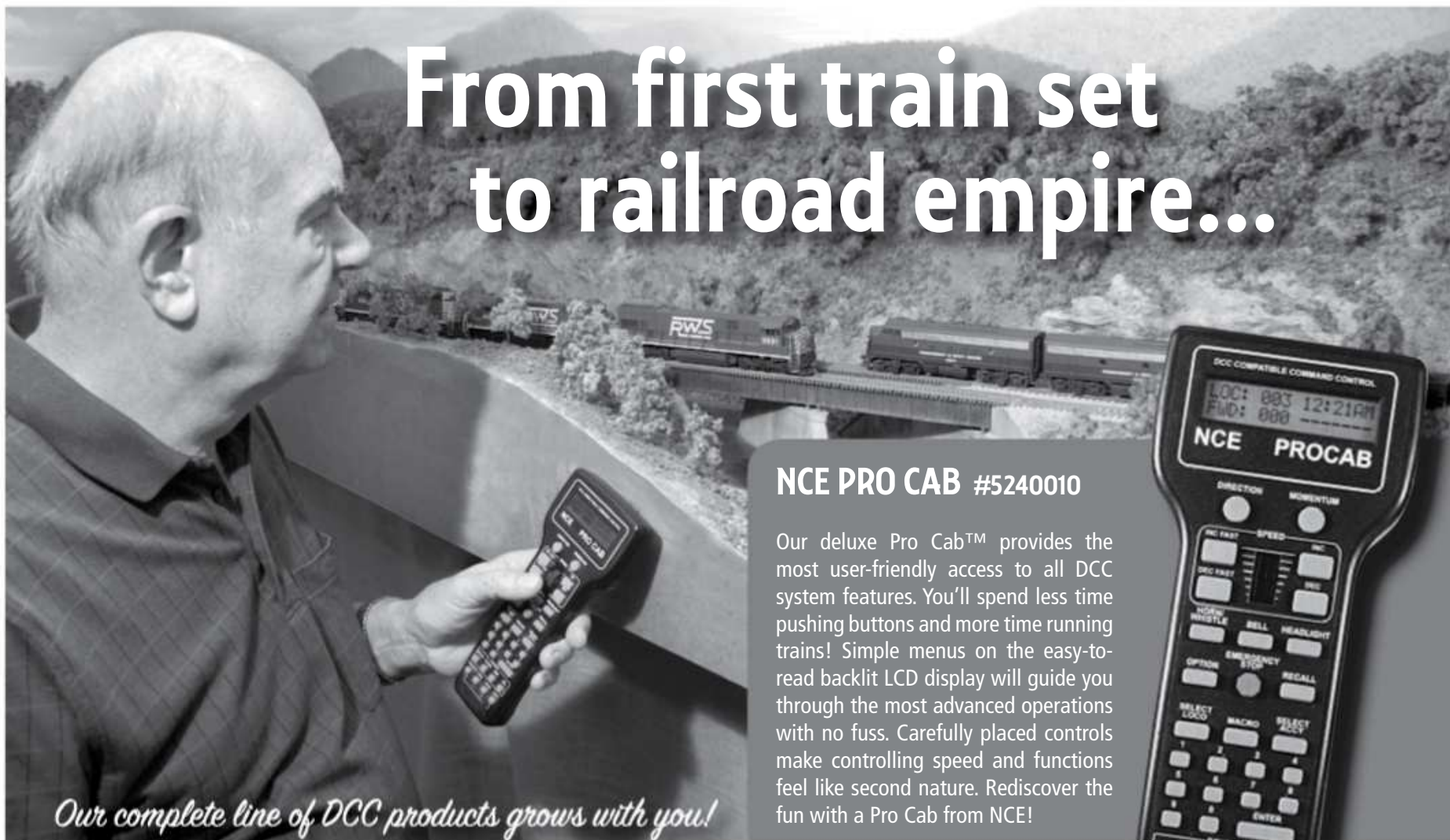
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Bonus trackside photos from the Utah Belt

It's always the present day on Eric Brooman's legendary Utah Belt layout. Turn to page 46 to see the latest updates to this proto-freelanced HO scale railroad. In addition to new motive power, you'll find changes to industries and towns. You'll even find that some of the trees have grown since our last visit to the UB. Click on the link under Online Extras at www.ModelRailroader.com to get this exclusive online gallery of new bonus photos taken along the Utah Belt.



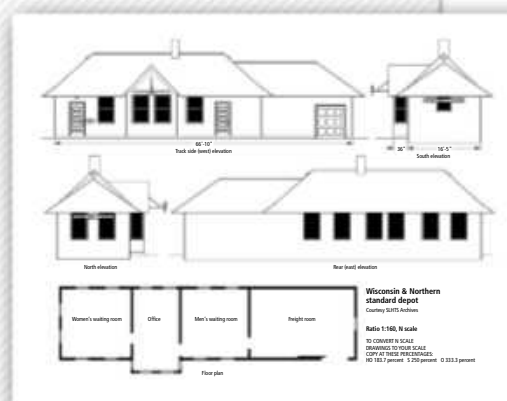
More from the SP Quisling Branch

Brian Moore's HO scale Quisling Branch featured on page 34 may look familiar to regular visitors to the MR website. For years, Brian has been sharing his layout videos on the User Videos page. Find this page under the Videos tab at www.ModelRailroader.com to watch a variety of operations on this Southern Pacific-inspired modular railroad.

PROJECT PLANS

Scratchbuild a small-town depot

On page 60 you'll learn how to scratchbuild a small-town depot based on a Soo Line prototype. As an online bonus, you can download a PDF copy of Tom Houle's O scale plans. You'll find many more project ideas by clicking on Tips & Projects under the How To tab at www.ModelRailroader.com.



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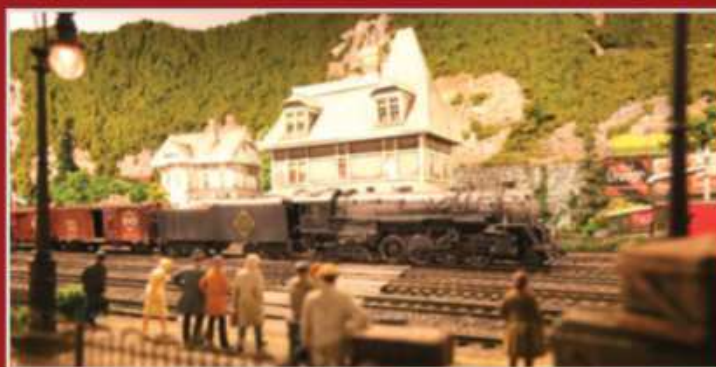
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Like vitamins for your modeling

I don't know about you, but there's a real ebb and flow to my modeling. Sometimes I'm very motivated to make progress on my model railroad. Other times I get a little, well, stagnant.

Not that I ever run out of projects to work on. But sometimes I do lack drive.

Part of it, certainly, is the seasonal factor. Living in the upper Midwest, I try to be outside as much as I can while it's warm and sunny during the summer and fall, which seem to last about a week each. That generally means little time is spent on modeling projects.

Winter, and usually spring, mean a good six months spent largely indoors. More gets done then.

One thing I noticed a few years ago, though, is I seem to get more done immediately after having gone to a train

show. Not really because I came home from it with a big bag of stuff (or several), but because of the things I saw there and people I met and talked to. They all served to inspire me.

It's like taking vitamins for my modeling.

It really doesn't matter what kind of an event it is. A local train show, a National Model Railroad Association convention or regional, or a prototype modelers meet all have the same effect: the injection of new ideas and a renewed vigor for what I'm doing. That usually equals progress.

There's something to learn at these events from each layout on display, no matter what scale. There are clinics to show you how to do something new. Inevitably there's also someone to meet who is doing something unique, different, or innovative.

And then there's the enthusiasm factor. Hundreds or thousands of model railroaders all in the same place at the same time are usually a very happy bunch, and are eager to share the hobby.

Let's not discount the value of the materials one can pick up at shows, either. Sometimes you find a tool to make a job easier, or the right car, or a needed reference book or photo.

You just never know until you go.

It might work for you, too. If you're feeling a little stalled on a project, a show might be the tonic you need to get going again. It doesn't have to be a big one. It could just be a local swap meet. But I guarantee you'll find something there that energizes you.

Speaking of unique, the Utah Belt definitely fits into that category. I can't imagine



there are many model railroads out there that have changed along with the decades like Eric Brooman's exceptional layout. You can see it starting on page 46.

Congratulations on reaching 40 years. I, for one, can't wait to see what inspiration the next decade brings.

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specific details, light-emitting diode headlights and ditch lights, RP-25 contour metal wheels, and Proto-Max metal couplers. Direct-current models retail for \$129.98. Versions with a dual-mode ESU sound decoder are priced at \$199.98. Wm. K. Walthers Inc., 414-527-0770, www.walthers.com

HO scale locomotives

- **Electro-Motive Division GP50 diesel locomotive.** BNSF Ry. (Heritage III, three road numbers), Genesee & Wyoming (Indiana & Ohio and Toledo, Peoria & Western; two numbers each), Illinois Central (black, one number), and Union Pacific (four numbers). Roadnumber-specific details, light-emitting-diode headlights, and vinyl m.u. hoses. Direct-current model with 21-pin connector for Digital Command Control decoder, \$189.98; with dual-mode SoundTraxx Tsunami2 sound decoder, \$279.98. May 2019. Genesis series. Athearn Trains, 800-338-4639, www.athearn.com

HO scale freight cars



- **Trinity 5,660-cubic-foot-capacity four-bay covered hopper.** New paint schemes: Bombardier Capital Rail Inc. (NBIX reporting marks), CIT Group (CEFX marks), First Union Rail, General American, Norfolk Southern, and Transportation Co. of America (TCMX marks). Six road numbers per scheme;

also available undecorated. Separately applied wire grab irons and uncoupling levers, etched-metal brake wheel platform, and body-mounted couplers. \$57.95 (undecorated, \$52.95). First quarter 2019. Master Line. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com



- **70-ton two-bay covered hopper.** Chicago, Burlington & Quincy (brown with black roof); Cedar Heights Clay (red, white, and blue); Central Soya (red, white, and blue herald); Delaware & Hudson (gray); Detroit, Toledo & Ironton (yellow); Erie Lackawanna (gray); Grand Trunk Western ("dry sand only" stencil); Great Northern (gray with black 1967 Rocky herald); Halliburton Services (gray and red); International Minerals & Chemical Corp. (gray); Mathieson (gray with green lettering); Shippers Car Division (brown); Southern Ry. (gray with green lettering); Union Carbide Linde (gray and green); U.S. Phosphoric Products (gray with red and black lettering); and Western Pacesetters/XTRA (gray with

multi-color herald). Three road numbers per scheme. Factory-assembled plastic model with separate brake appliances, plastic truck sideframes, and metal wheels. \$25.95. February 2019. Bowser Manufacturing Co. Inc., 800-327-5126, www.bowser-trains.com

- **American Car & Foundry 11,000-gallon tank car.** New paint scheme: Mathieson Chemicals (two road numbers). Full platform, no. 158 scale couplers, and two-piece self-centering trucks. \$44.95. Kadee Quality Products Co., 541-826-3883, www.kadee.com



- **Atchison, Topeka & Santa Fe class Bx-76 50-foot boxcar.** Separately applied plastic ladders and grab irons, metal wheelsets, and body-mounted Accumate couplers. Three road numbers (100 of each number produced). \$35 each; three-pack, \$100 plus shipping. Atlas Master Line model produced exclusively for Railroad Innovations, railroad.innovations@gmail.com, www.rr-innovations.com



- **Depressed-center flatcar.** Conrail, New York Central (six road numbers), Union Pacific (maintenance-of-way silver), Pittsburgh & Lake Erie, and TTX (four numbers). Three numbers per scheme unless noted. Wire grab irons, American Steel Foundries 100-ton Ride-Control trucks, and Kadee no. 5 couplers. \$39.99. Produced by ExactRail, available exclusively from TrainLife.com, 801-226-1909, www.trainlife.com



- **Southern Pacific class B-50-15 boxcar.** Original freight scheme with wood sheathing, Pacific Motor Trucks (PMT) service with steel sheathing, and postwar Overnight service with steel sheathing. Cast-urethane one-piece body, Hi-Tech rubber air hoses, Yarmouth etched bronze corner steps and Carmer uncoupling levers, and proprietary decals. Original freight scheme with wood or steel sheathing, Murphy radial roof, no end doors, and K/AB brakes [wood] or AB brakes [steel], \$45 each. Steel sheathed with

Murphy radial roof, no end doors, and AB brakes, PMT service, \$48; Overnight service, \$47. Kits also offered with Kadee no. 511 or Tahoe TMW-109 trucks and code 110 wheels or Tahoe Model Works TMW-209 trucks with semi-scale wheels, \$52 each. Westerfield Models LLC, 303-658-9343, www.westerfieldmodels.com

N scale locomotives

- **General Electric Dash 8-40C and Dash 8-40CW diesel locomotives.** New paint schemes. Dash 8-40C (two road numbers each unless noted): Citicorp (Union Pacific patchout with CREX reporting marks), Kansas City Southern de Mexico (*Southern Belle* scheme), Lancaster & Chester (light blue, one road number), and Pan Am (dark blue). Dash 8-40CW (three numbers each unless noted): Canadian National (red, white, and black with "wet noodle" herald and www.cn.ca), CSX (dark blue and yellow with Atlantic Coast Line, Chessie System, and Monon heritage heralds, one number each), and Norfolk Southern (black and white). New numbers. Dash 8-40CW: Conrail ("Quality" scheme, three numbers). Undecorated models (two body styles each) also available. Directional golden-white light-emitting-diode headlights, die-cast metal underframe, and Accumate couplers. Direct-current model with speaker, \$139.95 (undecorated, \$129.95); with ESU LokSound Digital Command Control sound decoder, \$249.95 (undecorated,

N scale



Rustic water tower. This factory-assembled, painted, and weathered structure includes a center scaffold for tower inspection, metal cross cables and trusses, and graffiti. The N scale model (\$69.99) includes a factory-installed red light-emitting-diode aircraft warning light (compatible with Just Plug Lighting System). Woodland Scenics, 573-346-5555, www.woodlandscenics.com

HO scale



Pennsylvania RR GG-1 electric locomotive. Bachmann offers this Sound Value line model decorated for Penn Central, Amtrak, and Pennsylvania RR (green with feathered stripe, Brunswick Green with single stripe, silver with red stripe [Congressional], and Tuscan Red with five stripes) in two road

numbers per scheme. The HO scale electric (\$329) has a die-cast metal frame, positionable metal pantographs that can be powered by overhead wire, and a dual-mode SoundTraxx Sound Value sound decoder. Bachmann, 215-533-1600, www.bachmanntrains.com

\$239.95). First quarter 2019. Master Line. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com



• **General Electric Dash 8-40CW diesel locomotive.** CSX; Atchison, Topeka & Santa Fe (red-and-silver warbonnet);

Canadian National ("wet noodle" herald with www.cn.ca); Norfolk Southern (thoroughbred scheme); and Union Pacific (Armour Yellow and Harbor Mist Gray). One road number per scheme. Die-cast metal frame, separately applied detail parts, and dual-mode SoundTraxx Econami sound decoder. \$319. Bachmann Trains, 215-533-1600, www.bachmanntrains.com

• **General Electric C39-8 diesel locomotive.** Conrail (five road numbers),

Norfolk Southern (six road numbers), and Pennsylvania Northeastern (Conrail and NS patchouts, one number each). Prototype-specific details, directional light-emitting-diode headlights, and all-wheel electrical pickup. Direct-current model with ESU Next18 connector, \$134.99; with dual-mode ESU LokSound Next18 Select Micro sound decoder featuring Full Throttle, \$224.99. Rivet Counter line. ScaleTrains.com, 844-987-2467, www.scaletrains.com.

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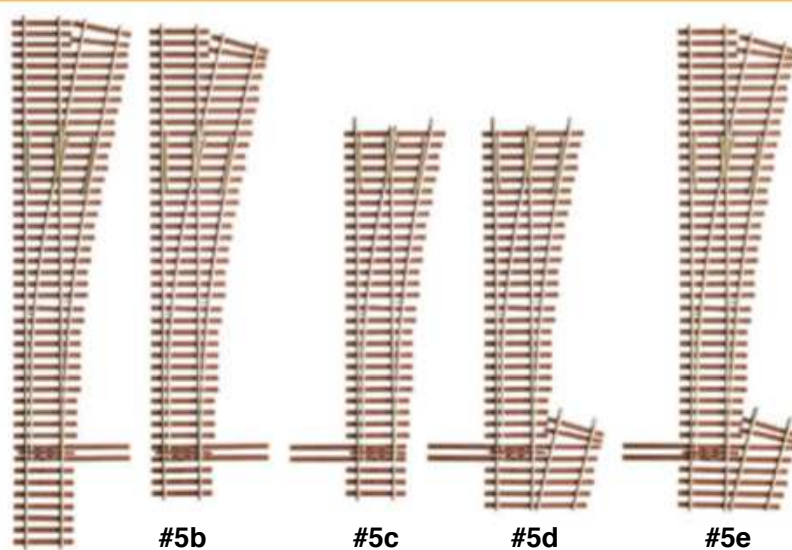
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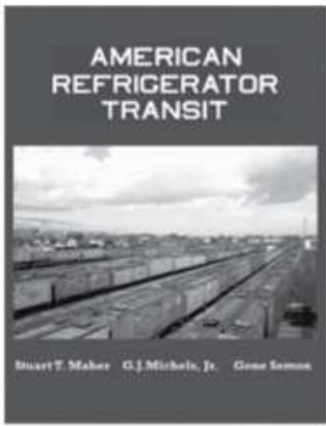
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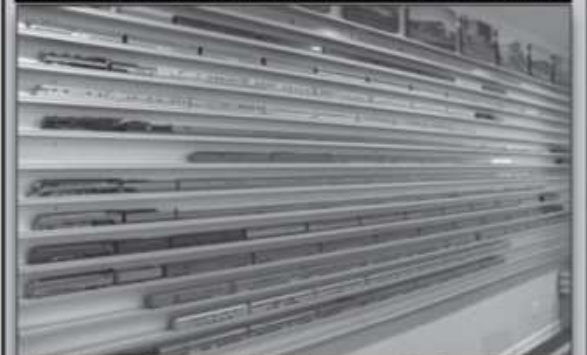
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- **General Electric Dash 8-40CM diesel locomotive.** British Columbia Ry. (as-delivered scheme, post-2010, and CN website); Canadian National (stripes, North America scheme, no stripes, and website); and Quebec, North Shore & Labrador (conditional release, orders must meet minimum to be produced). Two to six road numbers per scheme; also available undecorated (two body styles). Prototype-specific details; die-cast metal chassis; and operational headlights, rear lights, and ditch lights. Direct-current model with ESU Next18 connector, \$149.95; with dual-mode ESU LokSound sound decoder, \$259.95. Mid-2019. Rapido Trains Inc., 905-474-3314, www.rapidotrains.com

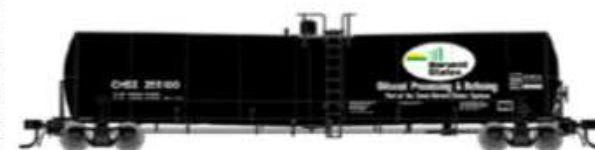
N scale freight cars

- **American Car & Foundry 50'-6" boxcar.** New paint schemes: Railbox (faded paint with patched reporting marks) and Missouri Pacific ("buzzsaw" herald). New road numbers: Atchison, Topeka & Santa Fe (large circle-cross herald); Apalachicola Northern (yellow); East

Erie Commercial (reporting marks only); Green Bay & Western (yellow); and Ontario Northland (blue and yellow). Two numbers per scheme; also available undecorated. Diagonal-panel roof, 10-foot Youngstown sliding door, and non-terminating corrugated ends. \$19.95 (undecorated, \$14.95). First quarter 2019. Trainman line. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com

- **Assorted freight cars.** Arizona & California 70-foot Husky-Stack well car, \$29.90. Conrail 33-foot two-bay hopper with coal load, \$26.90. Injection-molded plastic models with plastic wheelsets and Magne-Matic couplers. Micro-Trains Line Co., 541-535-1755, www.micro-trains.com

O scale freight cars



- **25,500-gallon tank car.** New paint schemes: Harvest States, CIT Group, Transportation Equipment, and Trinity



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Industries Leasing (crude and vegetable oil). Four road numbers per scheme; also available undecorated. Metal end sills, lower side safety rails, and safety rail support; body with jacket seams; and prototype-specific fittings and components. \$99.95 (undecorated, \$89.95). First quarter 2019. Master Line. Atlas O, 908-687-0880, www.atlasrr.com

Z scale freight cars



- **40-foot single-sheathed boxcar.** New paint scheme: Northern Pacific. Seven road numbers (single car, two-pack, and four-pack). Etched-metal running boards, positionable doors, blackened metal wheels, and AutoLatch couplers. American Z Line, 614-764-1703, www.americanzline.com

Electronics/controls

- **50 x 90mm oval speaker.** Compatible with SoundTraxx Tsunami2 TSU-4400 4-amp digital sound decoder in models with higher stall currents. Provides low frequency bass sounds. Peak power, 5 watts; impedance, 8 ohms. \$16.50 SoundTraxx, 970-259-0690, www.soundtraxx.com



- **AS6 decoder.** Six-function, drop-in non-sound mobile decoder for Atlas Model Railroad Co. HO scale Alco S-1, S-2, S-3, and S-4 diesel locomotives. Features back electro-motive force load compensation, RailCom, and programmable lighting effect. Compatible with light-emitting diodes (no external resistors required) and 12V incandescent bulbs. \$48.95. Train Control Systems, 215-453-9145, www.tcsdcc.com



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Showcase

1



1 Synchro Sound². This speaker from Model Rectifier Corp. (\$49.98) has assorted programmable features for non-sound Digital Command Control decoders. Model Rectifier Corp., www.modelrectifier.com

2 Johnstown America AeroFlo coal gondola. InterMountain offers new road numbers on these HO scale Value Line cars decorated for Burlington

2



5



Northern, BNSF Ry., Canadian National, and Procor. Each road name is offered in 13 numbers (single car, \$26.95; two six-packs, \$159.95). InterMountain Railway Co., intermountain-railway.com

3 Pullman-Standard PS-2CD 4,785-cubic-foot-capacity three-bay covered hopper. Conrail, Cargill, Penn Central, Norfolk Southern, A.E. Staley Manufacturing Co., and St.

4



Louis Southwestern are the road names on this HO scale Operator Line model. The covered hopper retails for \$25.99. ScaleTrains.com Inc., www.scaletrains.com

4 Tamiya masking tape. Now available at the Kalmbach Hobby Store are 6mm- (\$5.25), 10mm- (\$5.75), and 18mm-wide (\$7.50) rolls of Tamiya masking tape. The tape includes a plastic dispenser.

3

Kalmbach Hobby Store, KalmbachHobbyStore.com

5 Atchison, Topeka & Santa Fe class Bx-177 boxcars. Atlas offers this N scale car in its as-delivered scheme and with BNSF Ry.'s post-2005 herald in 12 numbers each. The Bx-177 boxcar has 100-ton trucks and 36" metal wheelsets. The car is priced at \$31.95. Atlas Model Railroad Co., www.atlasrr.com



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N scale



40-foot high-cube intermodal containers. New containers from Jacksonville Terminal Co. include CMA CGM, APL, Interasia, and CP Ships. The N scale injection-molded plastic containers have prototype-specific doors, a magnetic connecting system (three magnets in bottom and metal top plate), and Inter-Box Connecting pins. A two-pack retails for **\$29.95**. Jacksonville Terminal Co., 904-253-3430, www.jtcmmodeltrains.com

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Tools

- **TK3200 Pro-Modelers tool kit.** Model 2175ET sprue cutter, model 9180ET scissors for cutting photo-etched parts, and model 450 TweezerNose pliers. High-carbon steel construction with non-glare finish, Light-Touch return springs, and Xuro-Rubber soft cushioned rubber grips. \$69. Xuron Corp., 207-283-1401, www.xuron.com

Decals

- **Contemporary graffiti decals.** Set includes 17 pieces of graffiti. HO scale, \$10.75; N scale, \$8.75. Microscale Industries, 714-593-1422, www.microscale.com **MR**

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Inspired by Harold Russell's drawings, Rich Cobb built an HO depot modeled on the DL&W station in Avoca, N.Y. Rich Cobb photo

Modeling the DL&W

I really liked Harold Russell's article on the Delaware, Lackawanna & Western station in Avoca, N.Y. ["Drawings for a small-town depot," September]. Luckily, I had enough Grandt Line doors and windows on hand to make an HO scale model.

Rich Cobb, Clyde, N.Y.

awareness." We were focused on the dog-gone signal. – Jerry Dziedzic

Great articles – and memories

The October issue arrived in my mailbox today, and I had a huge smile when I saw the cover featuring Joe Leahy's Elmira, N.Y., layout ["Chasing trains on the Erie and Lackawanna"].

I grew up in Elmira during the 1940s and '50s. Joe did a great job of modeling the two passenger stations and siting the many industries and other buildings around the layout. Reading the article brought back a lot of memories.

*Douglas Rundell
Glen Ellyn, Ill.*

Superb article by Bob Warren in the October issue ["Operating on the Gorre & Daphetid"].

I was born in the early 1950s and remember seeing articles and advertisements that totally hooked me on model railroading. Everything John Allen did seemed to me like the work of a god – far beyond my capabilities, but always something to attempt to emulate.

*James Thompson
Kanata, Ont.*

Things are better, but ...

Hal Miller's October column, "You had to want to be a model railroader," made me wonder if it's really any easier today.

I recently tried to order a few things on one manufacturer's website, only to find they were sold out or backordered. I'm still waiting for products I ordered almost a year ago. And then there are models that need reworking because they don't meet National Model Railroad Association standards.

While the hobby has improved, it shouldn't have to be this frustrating.

*Wendell Ebbens
via email*

Correction

The correct part number for the Owl Mountain Models injection-molded plastic lumber load ["Three loads for open-top cars," October] is 3001.

Life imitates art

On a recent business trip, I drove west from Hartford, Conn., an area I hadn't been to before. But I knew exactly where I was once I saw a brick clock tower rising trackside in Waterbury, Conn., thanks to David Popp's excellent modeling on his N scale Naugatuck Valley RR in recent years.

It was funny to me when I knew the name of the town I was driving through that day, not from a map or GPS but from a model railroad.

*Mike Bivens
Oak Ridge, Tenn.*

Origins of manual block

I picked up the August 2018 issue on a whim. My normal modeling is U.K. prototype in N, but I've a fair bit of U.S. stuff and some ideas on how to use it.

I read the magazine with interest until I got to Jerry Dziedzic's column, where he essentially confessed his ignorance on manual block signal systems.

At that point, my interest was replaced with a degree of bemusement. The practice of passing trains from signal box to signal box using telegraphic bell codes was and still is widely practiced in the U.K. – practically all the heritage lines use it, and I believe part of the national rail network does, too.

I enjoyed the magazine, and will keep an eye out for future editions.

*Kevin Knight
Brisbane, Australia*

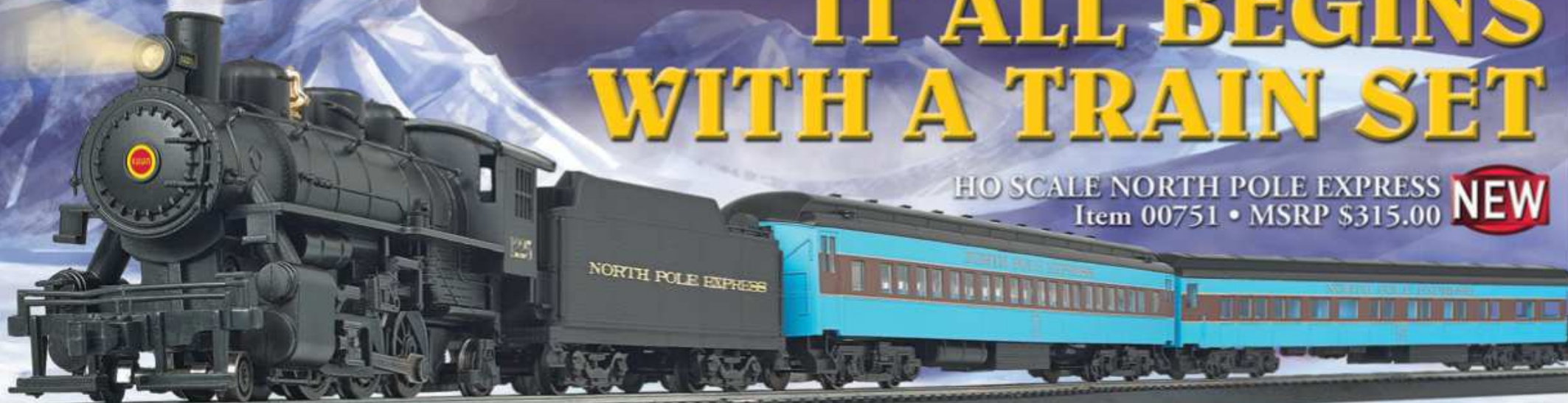
You gave me a laugh; your bemusement amused me.

Reflecting on your remarks, I realized that I'm guided by an unconscious decision to treat topics I choose in terms of North American practices. I'll continue this, because it's my knowledge base.

Nevertheless, one of the friends from whom I drew information for this particular column knows as much about U.K. railroading as anyone else. Neither one of us tumbled to manual block's origins in the signal boxes you point out! Accident investigators term this "situational

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Norman
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Former DCC Corner columnist Mike Polsgrove installed a board-replacement Digital Command Control decoder in this N scale Atlas GP40-2 for his August 2005 column. Bill Zuback photo

How do I pick a decoder for an older diesel?

Q I have recently converted my layout to Digital Command Control (DCC). I have a number of older Athearn and Atlas diesel locomotives that I'd like to convert to DCC. How do I go about selecting a decoder to fit specific older locomotives? Also, is there such a thing as a decoder for power and sound in one unit, or do I have to get separate decoders and put them together? Finally, is there a reference book that might contain answers to my questions? Thank you for any help you can provide.

Michael Barron, Augusta, Maine

A Although you can get motor-only, function-only, and sound-only decoders, there are plenty of DCC decoders that handle all those functions on one board.

Choosing and installing one doesn't have to be complex. Decoder manufacturers often make products specifically to take the place of the lighting circuit board in specific locomotive manufacturers' products; these are called board-replacement or "drop-in" decoders. All you have to do with these locomotives is to take off the body shell, remove the lighting board, and replace it with the decoder.

Other locomotives billed as "DCC-ready" will have a modular socket inside (8-pin, 9-pin, or 21-pin) designed to accept a decoder with the same kind of plug. Just remove the jumper board in the socket, replace it with the decoder, and you're good to go. (Just make sure the decoder you buy has the right kind of plug.)

Older locomotives sold before DCC was prevalent might require you to do some soldering; you'll either have to get a hardwired decoder, or install a wiring harness with a socket to plug a decoder into. You'll also have to isolate the motor from the frame. You might even need to add extra power pickups. It can get a bit tricky.

No matter what method of installation you use, be sure the sound decoder is programmed with the sounds appropriate for your locomotive.

We've run many articles about how to upgrade locomotives to DCC in our DCC Corner column. We've compiled number of those articles into handy books, including *DCC Projects and Applications Vol. 3*. It's available from the Kalmbach Hobby Store at www.KalmbachHobbyStore.com.

Q Here on the humid Oregon coast, the oxidation of track and locomotive wheels is a constant problem requiring endless cleaning. Great strides have been made in the radio-controlled model aircraft industry in the fields of electric motors and LiPo batteries. At least half the aircraft offered for sale are now battery-powered. A battery-powered, radio-controlled locomotive would solve my oxidation problem. What is the likelihood of manufacturers making this possible in the near future? Will MR nudge them in this direction?

John Rogan, Tillamook, Ore.

A Like the R/C aircraft hobby, the model railroad industry is making great strides in rechargeable batteries and R/C controllers. These components are being made smaller all the time, small enough to fit in On3 and even HO scale locomotives. We've run articles on what's called "dead rail" in the past; check out "Battery power and radio control" by Paul Dolkos in our May 2015 issue and "Battery power without compromises" by Larry Naus in June 2016.

Q The model railroad club I'm in tells me to stick with National Model Railroad Association (NMRA) module standards so my modules can be interchanged with the club layout. But I want to do my own layout to different standards. Am I stuck between a rock and a hard place?

Bruce Himmerick, Bremerton, Wash.

A Unfortunately, yes, you are stuck between a rock and a hard place. The point of modular standards is to make layout sections built by anyone, anywhere work with each other. If you don't want to follow those standards, your modules may not fit with those built by other club members. You'll have to decide what's more important to you – interoperability or uniqueness.

But you might find a compromise in Free-Mo, a modular standard that allows for more individuality. Free-Mo standards dictate only the shape of the end panels. In between those panels, you're free to build whatever shape, size, or configuration you like – modules need not even be rectangular. The hard part will be convincing others in your club

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

who have already invested in another modular standard to go along with Free-Mo. Good luck with that!

Q I'm looking into the possibility of equipping my diesel fleet with sound. I've heard many opinions on this subject ranging from "There's no model railroad without sound" to "I can no longer stand it and had to turn it off." What's your take on this subject? If I were to proceed, how do you suggest that I go about getting started with a 50-unit fleet?

Mark Masters, no address given

A It sounds like you're asking for an opinion about whether railroad sound is worth it. That is, I'm afraid, a matter of taste. I'd suggest you visit a few local modelers' layouts or nearby model train clubs to judge for yourself whether sound is something you would enjoy.

That said, you should know that DCC sound decoders have individual volume controls that can be easily adjusted if they prove to be annoying to your ear.

Most of today's sound decoders come with individual volume settings for each sound effect – engine, horn, bell, etc. If one seems too loud or drowns out the others, you can turn it down separately.

As for how to get started, the answer is one locomotive at a time. Equip your most frequently used locomotive with a sound decoder and speaker, and see how much sound adds to your operating experience. Some modelers greatly enjoy using sounds in a prototypical manner, triggering whistle and bell signals when the prototype would. Others are content to just let the ambient sound play in the background. You have to try it to see if the investment in time and money is worth it for you.

Q When doing a serious kitbash on a steam locomotive, I needed to equip it with an automatic train stopper. I had several photos, but none large enough to take measurements from nor to get a really good idea of the shape and detail. What are automatic train stoppers? How do they work? Even

Model Railroader Cyclopedia Vol. 1 – Steam Locomotives didn't have anything about them.

Ian Venables, Brisbane, Qld., Australia

A Automatic train stoppers aren't particularly well-known pieces of equipment. I found a diagram and description by searching Google Patents. Our sister publication, *Classic Trains*, also touched on the system in an article in one of its special issues, *Fast Trains* (2009).

Though some steam-era railroads experimented with the system, it wasn't widely adopted in the U.S. According to the patent, granted in May 1907, it worked by means of a conductive brush that contacted a signal rail alongside or between the stock rails. If the stock rails were electrically bridged by the wheelset of a car or locomotive in the block ahead, the signal rail would be electrified, and contact of the brush with this rail would activate a valve that would release the air in the train's brake system and bring it to a halt. Based on the diagrams shown with the patent, the only

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external component of this system on the locomotive would be the brush, which the diagram shows as mounted behind the pilot. On a model, it would be almost invisible.

Modeling an automatic train stopping system on your layout would consist of occasionally gluing short sections of rail between the gauge of your tracks. While it would be the rare observer who would know what you were modeling, such details might be useful to operators as cues to the location of block boundaries or hidden uncoupling ramps.

Q What would be an accurate diameter of a cul-de-sac on a two-lane road? I'm sticking with 3" for the road width (about 22 real feet in HO scale). I tried a 13¼" outside diameter, but even though that's about 50 scale feet across, it looks way too tight to me.

Dave Wereski, Wales, N.Y.

A An Internet search of municipal traffic engineering standards shows a variety of minimum radii for cul-de-sacs, rang-

READER TIP

Labeling paint jar lids

I really wish I had a workspace large enough to hold a rack for my paint bottles so I could see all my paint colors lined up like little soldiers. Alas, my work area is so small that my paint has to go in a drawer. The result often used to be a long search for the color I need. Fortunately, I found a solution: Avery self-stick labels no. 5247, which at 1" in diameter fit perfectly on the paint bottle tops. By printing my own labels on my inkjet printer, I can even select a font size



Dick Wissbaum uses 1" round peel-and-stick inkjet labels to label his paint jar lids for easy identification in his workbench drawer. Dick Wissbaum photo

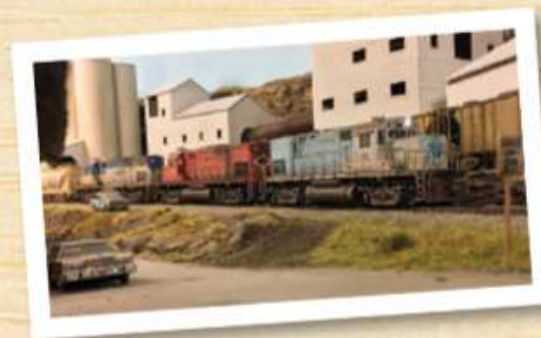
suitable for my tired old eyes. – *Dick Wissbaum, Newburg, Mo.*

[A dot of the paint color on the label would be a great visual aid, too. – *Ed.*]

ing from 30 to 40 feet for residential streets to 50 feet for commercial ones. Since most cars have an outside turning radius between 32 and 35 feet, a 30-foot cul-de-sac would be a little too tight – if your model cars actually had to navigate them, that is. But it's common for streets

and roads on our model railroads to be a shade narrower than on the prototype, so I think you could get away with an 8" diameter circle, which translates to a 29-scale-foot radius in HO scale. If that looks too tight to you, your initial choice of 50 scale feet is well within specs. **MR**

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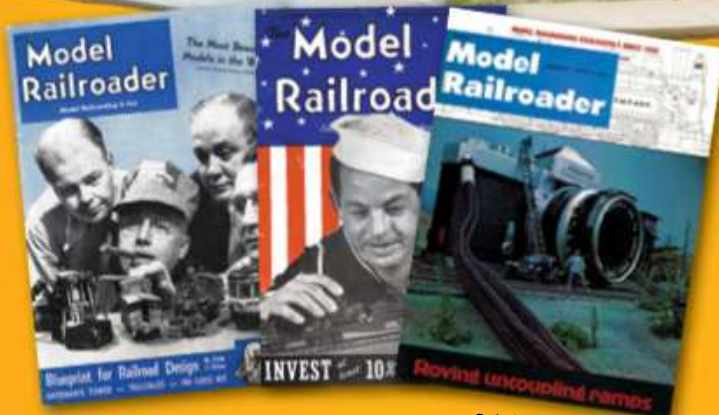
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Personal favorites from the Art Deco era

In an earlier life, I was an industrial designer working with three-dimensional forms and space. My interest in such things started as a child visiting wartime New York City American Flyer and Lionel showrooms. Flyer's 3/16"-to-the-foot O gauge models were so realistic, particularly its Baltimore & Ohio 5304 *Royal Blue* streamlined Pacific ... and I badly wanted one. But it was not to be.

Lionel's museum area a few steps outside its showroom had 072 streamliners to make one's heart beat fast: Union Pacific's M-10000 and the Milwaukee Road's *Hiawatha*, both running on its large showroom layout. Then, after the war, Lionel introduced a sleek GG1 and a New York Central 20th Century Limited streamlined model.

I came to know them better writing much later about model trains. Flyer's B&O *Royal Blue* had been Otto Kuhler's creation, as was the Milwaukee's *Hiawatha*.

Lionel's no. 221 NYC 20th Century was Henry Dreyfuss' 1938 Hudson cowl, albeit a 2-6-4. As a boy in my 1940s tinplate world, I was unaware that it was missing a pair of pilot wheels. There would be other Hudsons made in scale.

Over time, our Art Deco past caught up with us. In 2008, Con-Cor made a beautiful HO scale three-unit M-10000 with red striping, which Lionel's lacked.



Union Pacific M-10000

Lionel's *Hiawatha*, less the maroon striping, had a tender on two six-wheel tinplate trucks, rather than the six- and four-wheel trucks under the prototype.

A superb 1980s super-detailed O scale Overland Models brass version of the *Hiawatha*, with hinged smokebox doors, cab interior, complete backhead and tender replete with detail, contrasted greatly with Lionel's scale-tinplate version when later, exact detail was essential.

After World War II, Lionel's two new models were NYC's 20th Century streamlined Hudson and a Pennsylvania RR GG1. The GG1 was Raymond Loewy's restyling of "Rivets," the original PRR

prototype with a riveted, rather than welded, skin.

For me, it wasn't PRR's design any more, but Loewy's, particularly Lionel's tinplate version and the many HO models made over the decades since.

Dreyfuss' streamlined Hudson saw reproductions in O scale brass from Max Grey plus many others in HO. It and the GG1 are probably the most popular Art Deco replicated prototypes, even more than the *Hiawatha*.



Pennsylvania RR GG1



New York Central Hudson


Union Pacific's M-10000, the Pennsylvania RR's GG1 electric, and the New York Central's streamlined Hudson have been popular subjects for toy and model train manufacturers since they were roaming the full-sized rails. These HO scale models are from a 1970s Rivarossi catalogue.

And the *Royal Blue*? I've no information if scale models were ever made of it.

Railroads in the immediate pre- and postwar eras were absorbed in creating colorful modern streamlined locomotives and trains to attract riders. Most have passed into the mists of history.

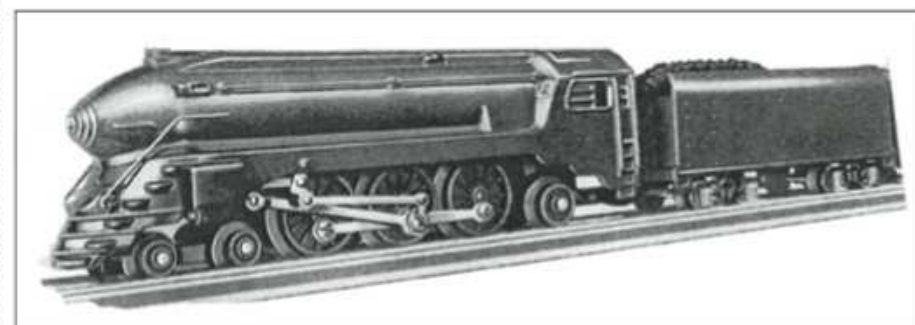
I came to own Flyer's Kuhler *Royal Blue* (in S), Lionel's UP M-10000, Dreyfuss' NYC 027 221, and Loewy's O gauge 2332 GG1 in my modest tinplate collection, reminders of when railroads

sought industrial designers to create fresh modern forms, and an era when automobile manufacturers called upon custom coach builders Rollston, LeBaron, Dietrich, and others to create unique automobiles for them. Railroads were just as eager to be different.

From these tinplate roots came my awareness of modern design and forms which influenced my professional life and appreciation of their origins. My boyhood favorites are still handsome in scale and tinplate. 



LIONEL'S MUSEUM AREA HAD 072 STREAMLINERS TO MAKE ONE'S HEART BEAT FAST: UNION PACIFIC'S M-10000 AND THE MILWAUKEE ROAD'S HIAWATHA, BOTH RUNNING ON ITS LARGE SHOWROOM LAYOUT. — KEITH



American Flyer's 3/16"-to-the-foot O gauge model of Baltimore & Ohio's *Royal Blue* streamliner was a flash of Art Deco style that set Keith Wills on the path of industrial design.

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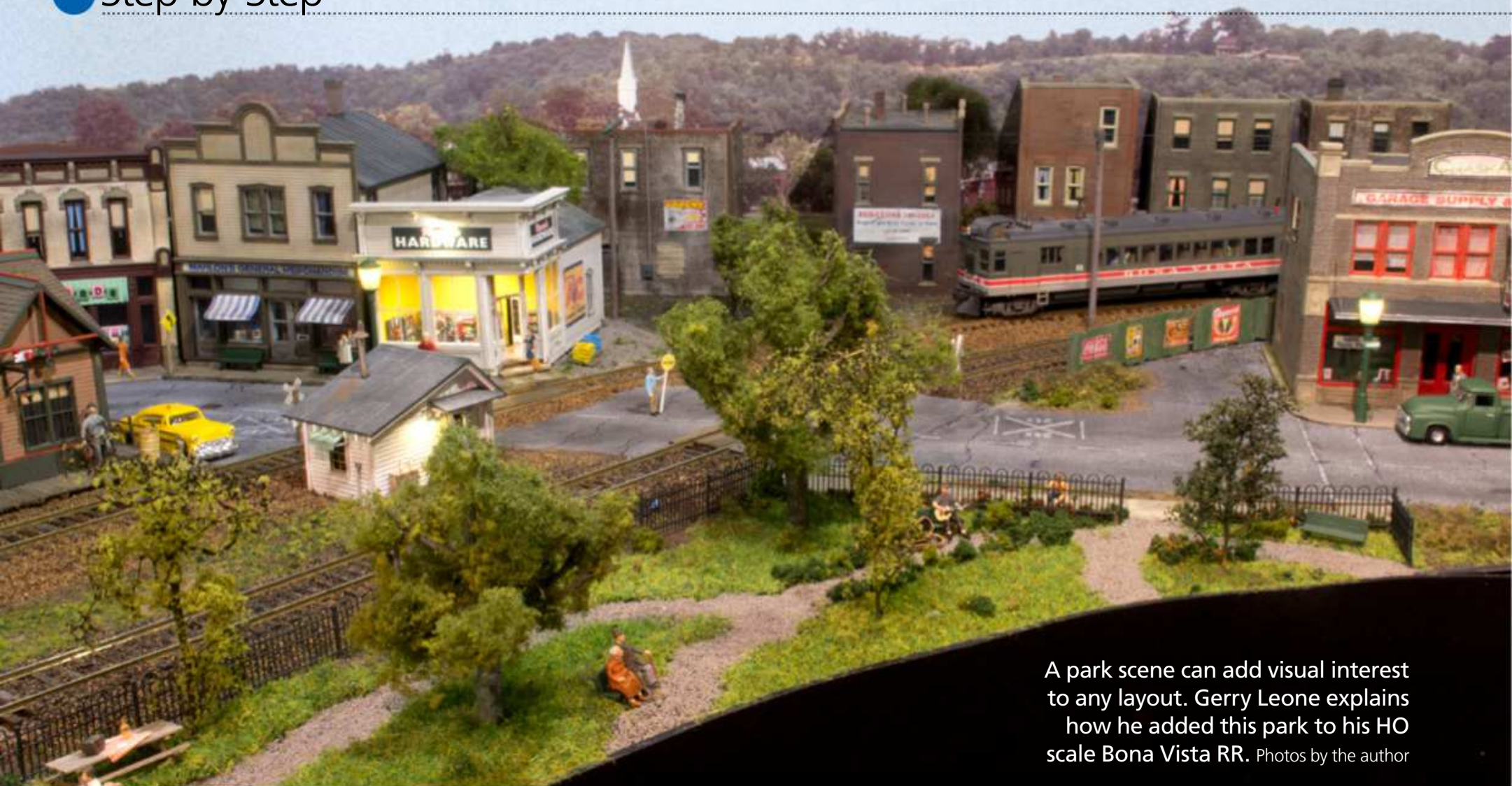
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A park scene can add visual interest to any layout. Gerry Leone explains how he added this park to his HO scale Bona Vista RR. Photos by the author

Add a park in a compact space

Real estate is a precious commodity on most model railroads. Naturally we fill up the good spots with industries and towns. But what about those little slivers of space that don't seem to lend themselves to much of anything?

I had one of those slivers in the town of Mill Creek on my HO scale Bona

Vista RR. It was right along the aisle, so I didn't want to put anything there that would obstruct the view of the town. Plus, it was too close to Main Street for an industry.

So I donated the land to the city for a little park. As it turned out, it's a feature that makes Mill Creek feel homey,

peaceful, and real, and keeps the layout from looking too crowded.

Follow along to see how the city built the park in Mill Creek (with my direction, of course).

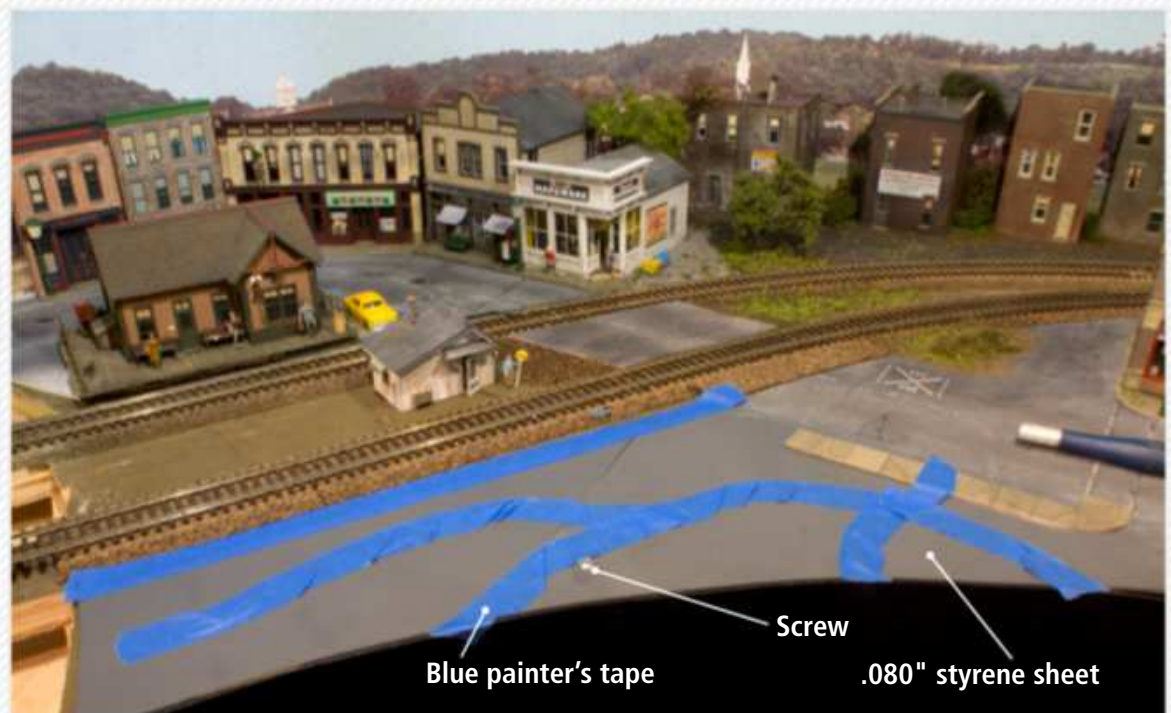
Gerry Leone is a contributing editor for Model Railroader Video Plus.

STEP 1 PATHS AND SCENERY PREP

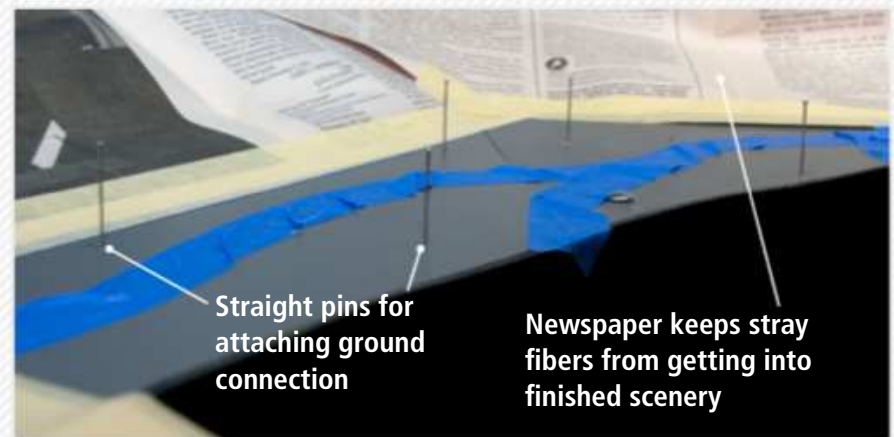
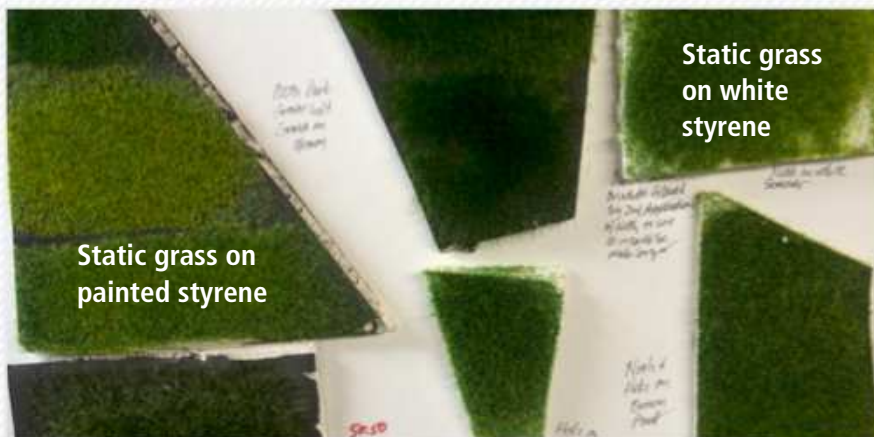
I used a piece of .080" styrene as a base for my park. I painted the plastic a flat, earth-toned color to prevent the white from showing through.



Gerry Leone shares more great modeling tips in "Off the Rails." Check out his monthly show at MRVideoPlus.com



STEP 1 PATHS AND SCENERY PREP (CONT'D)



To keep the styrene from curling, I screwed it to the plywood layout surface.

Next, I masked the areas where I'd later put pathways through the park with blue painter's tape (see opposite page). I curved the paths to add more interest and imply that the park continues on into the aisle.

I tested different brands and colors of static grass on white styrene and on styrene that I painted with flat, earth-toned paint. After comparing the samples, I used a

blend of various shades of green 2mm and 4mm fibers from Heki, Noch, and Scenic Express. The fibers give the park a bit of a "wild" look without looking like tall, unkempt weeds.

Anyone who's worked with static grass knows that it has a tendency to go everywhere. I covered the entire town of Mill Creek with newspapers. Then I tacked several straight pins into the styrene for the ground connection of the static grass applicator.

STEP 2 APPLYING STATIC GRASS



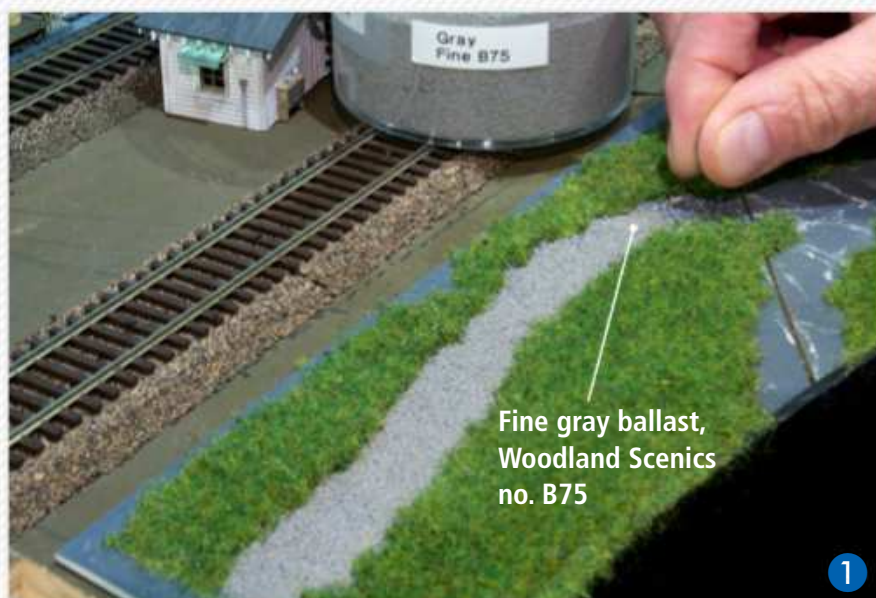
With the layout prepped, I coated the areas where I'd apply static grass with 70 percent isopropyl alcohol ①. This helps break the surface tension of the diluted white glue I added next ②.

I then poured a 50/50 mixture of white glue and water in the areas where the static grass would be added. I've found full-strength white glue is too thick to grab the small static grass fibers, while a more watery mixture doesn't hold the fibers upright.

I used a GrassTech I (www.grasstechusa.com) static grass applicator, attaching the ground wire to the pin nearest the area I was working. Then I pushed the power button and began gently shaking the applicator, keeping the sieve close enough to the glue so most of the grass fibers landed upright ③.



STEP 3 THE PATH AND FINAL SCENERY



Once the glue had dried, I pulled up the painters' tape and added Woodland Scenics fine gray ballast (no. B75) to the pathways ①. As an alternative, you could paint the pathways to resemble asphalt or use fine, beige ballast to represent class 5 crushed rock.

I doused the ballast with alcohol (again, as a surface tension-reducing agent), and followed that with a coating of diluted white glue. My mixing ratio for this application was one part white glue to four parts water.

To keep Mill Creek residents from wandering onto the Bona Vista's tracks, I added a hairpin fence from Atlas Model Railroad Co. (no. 0774). I attached the plastic fence to the styrene base with thick cyanoacrylate adhesive ②. I also sprinkled fine dirt along the fence line.

I used Woodland Scenics Clump-Foliage and Foliage Clusters for the bushes inside the park and along the street side of the fence ③. To give the impression of rose bushes, I lightly sprayed the Clump-Foliage with hair spray, then sprinkled on some Woodland Scenics red pollen (no. T4647).

No park would be complete without trees. I used a combination of Woodland Scenics armatures covered with the same company's foliage, as well as SuperTrees from Scenic Express. Small clips with pieces of styrene attached held the trees in place while the white glue dried ④.

It's the small details that bring the park to life and give visitors something to linger over. I added several figures to the scene, including a troubadour playing a guitar on a park bench, a city worker pruning rosebushes along the sidewalk, and a young couple looking at the city sights during a lunchtime picnic ⑤.

If you have an odd sliver of unused space on your model railroad, try adding a park. My park features paths and a picnic table, but yours might have slides and a merry-go-round. There's no wrong way to model a park. **MR**



Actual Athearn Genesis HO scale model depicted



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Big-time U.S. railroading in the U.K.



1 Where were you in 1982? On Brian Moore's Quisling, CA, HO scale modular layout, Dad wanted to look at trains, but then Junior saw that pesky "Wrath of Khan" billboard.

With modular layouts, everyone does his part

By Brian Moore • Photos by the author

One Saturday a month I carry my HO scale model railroad module – Quisling, CA – to a local Scout Hall. There, I meet a few friends who bring their modules, and we get a lot of pleasure running good-looking U.S.-outline, or prototype, trains in a reasonably prototypical way with a dispatcher.

While this activity is commonplace in North America, I'm a quarter of a world away in the nautical city of Plymouth in the far southwest of the United Kingdom, from where a certain *Mayflower* left in 1620. Here, I'm a member of the small but robust Western Union Division of the British Region of the National Model Railroad Association (NMRA).

After years in the hobby, it still surprises me that lots of railroad modelers continue to collect a large stash of locomotives, kits, and rolling stock, and then rarely seem to take them out of their boxes. Many don't seem to have access to a layout, big or small, and a common theme is that, one day, they'll do something big. How far that opportunity is in the future is usually a mystery.

I was a confirmed British-outline N scale modeler until 2000, when I visited California with my family for three fateful weeks. Essentially, I liked what I saw, something strange happened, and I returned home with a growing urge to model and learn more about the Southern Pacific RR.

What follows is an account of how a small group of model railroaders with a common interest in U.S. railroads learned to develop and increase running and operating enjoyment, despite, or perhaps because of, the lack of space they each had at home.

In search of the big country

Space, in the words of the fictional Capt. James T. Kirk, is the final frontier, and this is as true for the model railroader as it is for a starship commander. The relatively small size of U.K. homes has forced us Brits to design and build space-saving-but-interesting smaller layouts that can fit into any nook or cranny, or along a spare wall. The classic "small branch terminus to storage yard"

remains the most common type of home layout, in most scales, across our nation. But like most model railroaders, we also dream of the big country.

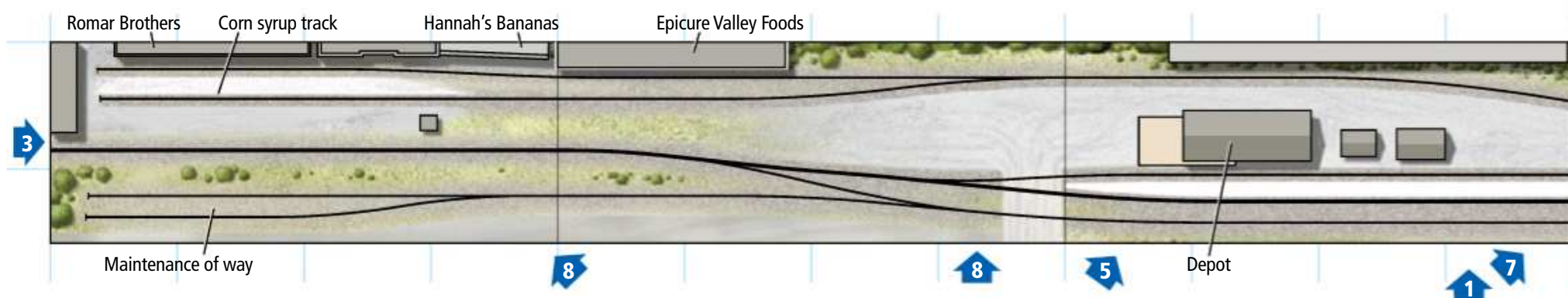
While there are many larger layouts in the U.K., most are "set-piece" and built in knock-down form by clubs, usually depicting a single location and only assembled and run infrequently at the many public exhibitions taking place across the realm every weekend.

Despite the long-established presence of modular model railroading in continental Europe and North America, it's only in comparatively recent times that "modular" has acquired a life of its own in the U.K., albeit with U.S.-outline modelers alone.

We've found that, if a few people each build a smaller, portable layout in the space confines of their home to an agreed common standard, and then carry them to a place where they can join all the bits together, a small group of model railroaders can have access to a much bigger and far more satisfying creation to play trains on. In addition, the layout can also be varied in design and



② Maintenance-of-way trains, such as this one behind a trio of GP9s, are a common sight on Brian's layout module. Brian belongs to a British club that meets monthly in a local hall to assemble its modules into a large layout for operating sessions.



③ An overview of Quisling, CA, shows Romar Brothers and the corn syrup loading at lower left, maintenance-of-way tracks at the lower right, and a glimpse of other modules and the general set-up at the Scout Hall.

size, depending on what space is available. What's not to like about that?

Modular HO at the club

Following some hard work by some good people in the NMRA British Region, a set of modular standards was agreed to, so that everything built anywhere would be instantly compatible nationally (you can look them up here: www.nmrabr.org.uk). Due to the modules' small size – many are 8 feet long or even shorter – individual modules can also be set up at home, between meets.

In standalone mode, a module can be worked on, and can still offer limited operation (more so with a detachable staging yard), but its full use is harnessed when it's joined to other modules to create a working railroad. At home, all you need to operate is a single locomotive

and a few cars. They can also be brought along to the monthly club meet to work across the much bigger layout.

At the hall by 8 a.m., seven or eight fellow club members spend a couple of hours setting up a reasonably sized modular model railroad to an agreed design. By 10:30, following a good deal of lifting, joining, attaching, and some minor cussing, we're ready to roll.

In our modular world, less really means more. If it's four-unit Electro-Motive Division SD75 diesel locomotive lash-ups and 70-car trains you're after, you won't find them here. What you will discover is how much pleasure you can have in running a lowly local freight across an extended switching district, and doing all the stuff the full-size trains do, too.

Module construction methods

Unlike the rest of the guys, who continue to rely on the traditional British methods of portable baseboard construction – plywood top and sides, separate legs, and no back scene, or backdrop – I attempted a different approach.

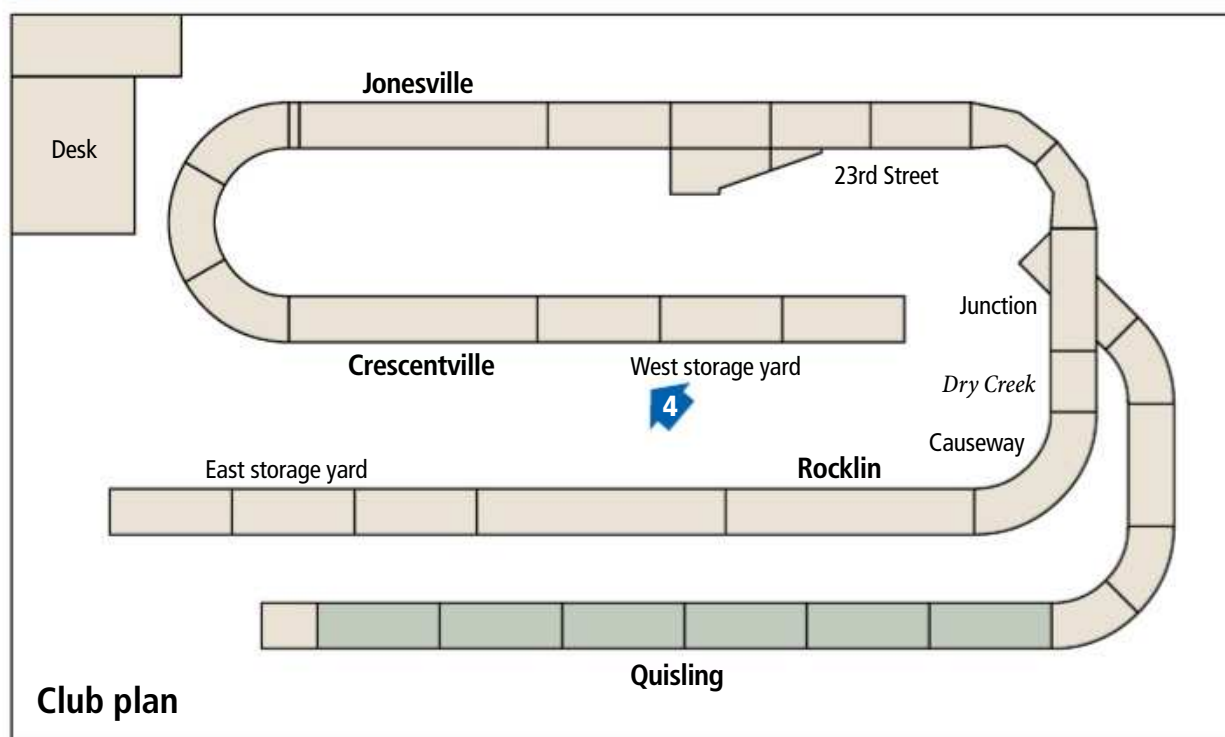
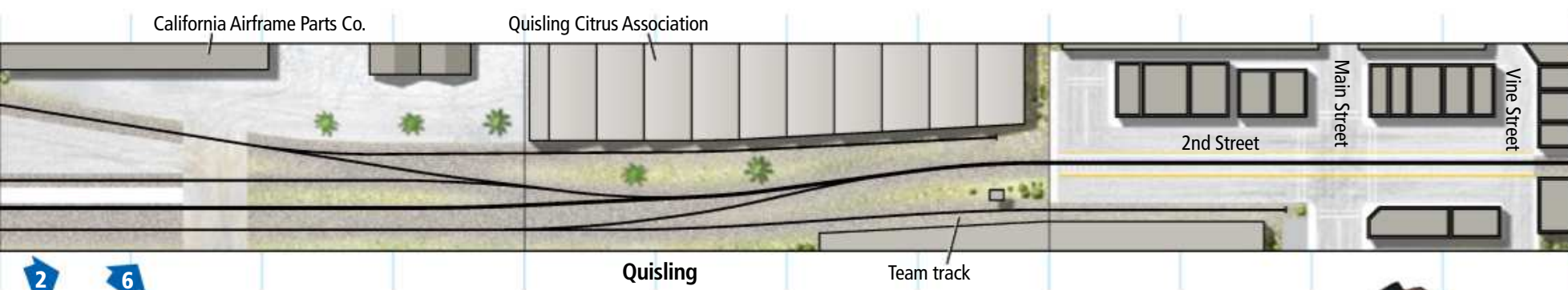
Seeing what Bill Darnaby did with extruded-foam insulation board when he constructed his landmark Maumee Route more than two decades ago

(see *Model Railroader*, March 1995), and learning that he hasn't experienced any problems with it up to the present time, I decided to investigate further. Could Bill's established ideas be transferred to portable layouts? Answer: Yes!

Using screws and foam-safe adhesive, I wrapped

MORE ON THE WEB

Readers can check out several videos of Brian Moore's modeling in action in the User Videos section of ModelRailroader.com



20 x 47-inch sheets of 2-inch extruded-foam insulation board with 3"-wide 6mm ($\frac{1}{4}$ ") and 9mm ($\frac{3}{8}$ ") marine-grade plywood on the sides and ends, respectively. One side of each section (my module is made up of six) was given a backdrop that stands 8" above track level.

This serves two roles. First, it protects the layout structures when the sections are carried in transit face-to-face, and second, it provides a useful and scale-accurate backdrop when taking pictures and videos of items and action on the module itself. Although it has a backdrop, Quisling can be operated from either side, and duplicate turnout controls are recessed into both sides.

Quisling, CA, started at 16 feet long, and once completed and tested, was extended to 24 feet. Six sections carried face-to-face in pairs make up the module, and it all fits into my car, with some space left over for carrying rolling stock boxes and all the clamps and electric paraphernalia associated with portable modules.

All six sections have permanently attached legs that swing up underneath when being carried. Only one section has two sets of legs – it's put up first – and the other five sections with one set of legs each are piggybacked up to it. I'm useless at electrics, and I'd like to thank my long-suffering friend Mike Ruby for all his continued help with my wiring requirements and issues.

The art of compromise

Since most club members have a relatively "modern" taste in era, we've settled on a generic "post-1970s" rule for equipment (essentially, no boxcars with running boards on revenue trains, or other "vintage" stock such as ice reefers, stockcars, etc.), and we limit locomotives to medium-sized diesels. "Preserved steam" is featured from time to time, but in an appropriate context. Passing sidings limit train lengths to a couple of Geeps, 10 cars, and a caboose – more than sufficient for the branchline flavor and active operations we seek to emulate.

In conceiving my module, I initially took a partial wrong turn. Choosing a circa-1982 period to model, my first wish was for a module based on Southern Pacific's Donner Pass. It took me too long to realize that a lone module depicting mountain railroading under ump-teen feet of snow would look totally out of place with the flatland modules of the rest of the gang.

I felt rather a turncoat dumping the Donner idea, and that's where the "Quisling" name first came up (Vidkun Quisling was a World War II Norwegian Nazi collaborator). I finally chose to depict a proto-freelance Southern Pacific location of the type common to the fruit and vegetable-growing central and northern California valleys. Since I wanted to give it a unique identity, I needed a name



Quisling, CA

HO scale (1:87.1)
Layout size: 24'-0" x 197"
Scale of plan: $\frac{5}{8}$ " = 1'-0", 12" grid
Numbered arrows indicate photo locations
Illustration by Rick Johnson

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

The layout at a glance

Name: Quisling, CA
Scale: HO (1:87.1)
Size: 21 inches x 24 feet
Prototype: proto-freelanced Southern Pacific
Locale: Central/Northern California
Era: circa 1982
Style: modular
Mainline run: 24 feet
Minimum radius: 42"
Minimum turnout: no. 6
Maximum grade: none
Benchwork: extruded-foam insulation board sheets, wrapped in plywood
Height: 45"
Roadbed: none
Track: Peco code 83
Scenery: various fine sands and grit
Backdrop: blue sky painted on plywood
Control: Lenz Digital Command Control



It's 7:20 a.m. on club day outside Brian's house, and the car is loaded. Everything required is present – including the toast, butter, and jam for after set up.



4 Paul Burton has just received a green from the dispatcher and takes the Quisling Turn out of Western Yard (staging), armed with his train's instructions. The "Begin CTC" flag at top center denotes that his train is entering a CTC (Centralized Traffic Control) district, and he must obey signals and clear his route with the dispatcher.

that didn't give any hint of where it was specifically based, and I found that in "Quisling." As the mayor of Quisling has often said, "We've been Quisling since the 1840s, long before that single lousy traitor was ever born."

Track and structures

As its centerpiece, Quisling has a Southern Pacific Standard Type 23 depot (an American Model Builders' laser-cut wood kit). The depot has a house track and is served by a single-track main line. There's also a passing track, a two-track maintenance-of-way facility, several industries, and a team track.

The latter was initially by the depot, and featured a loading dock. I was never happy with how it looked, so the team track is now off the passing track by 2nd Street. Two company structures now sit in place of the loading dock, near the depot.

Peco code 83 track has been used throughout (it's manufactured locally), and has proved fault-free. Turnouts, no. 8 on the main and no. 6 elsewhere, are lined with Conrad (www.conrad.com) switch motors, each controlled by a single-pole double-throw (SPDT) center-off switch. Track is glued directly to the layout surface, and I've used lots of thin balsa sheet to build up most of the surrounding ground to track level.

The whole module is almost perfectly flat, and in some places, I skimmed some

thin plaster on top of the balsa to provide what hopefully looks like natural undulation. I used fine sand and sifted dirt for the ground cover, along with various Woodland Scenics products. Everything was blended in with weathering applied with an airbrush.

I've tried to copy the type of low-key industrial buildings that were so common in California through the greater part of the 20th century. The Quisling Citrus Association is a large piece of foam board partially wrapped in Walthers Modular walls, with a saw-tooth roof made from lots of spare windows, balsa, and styrene.

The background semi-flat wooden structures were built quickly from styrene sheet, and other industrial buildings are mostly a confection of modified Auhagen (auhagen.de/en/Homepage_110.html) and Radical Flats (no longer in production) low-relief card structures, or cobbled from the spares box.

The California Airframe Parts Co. building is a photograph taken by noted Southern Pacific historian and modeler Tony Thompson. With Tony's permission, I used it on mine. I just stuck some sliding doors on the picture and added a partial roof.

The Quisling groove

I've always enjoyed street running, so trains can be seen and heard running



5 Club member Rob Mallett's Southern Pacific "commute" arrives at Quisling. The original position of the loading dock is seen to the left of the boxcar. The GP9 is a modified Proto 2000 model.

down Quisling's 2nd Street. The streets and most sidewalks are by Walthers. There are perhaps too many brick buildings (and particularly houses) to be wholly accurate for small-town California, but I already owned them and decided to put them to use.

I've spent some time in trying to give Quisling real-life character: the renowned Blue Diamond Jazz Bar is on Vine Street, across the road from the Quisling *Star-Telegram* on 2nd Street. I've settled on a "give-or-take" 1982 period, and the billboard advertisements reflect that time. British punk-rock band The Clash were touring California in 1982, and a billboard announces their forthcoming appearance at the Quisling Coliseum.

The long industry track behind the depot serves Epicure Valley Foods and



6 Here's an eclectic mix for today's Quisling Turn – an SD7 and SW1500 combination. Brian was inspired by a picture taken of such a duo in Guadalupe Yard in the early 1980s.



7 Preserved steam is hosted at Quisling, and Southern Pacific GS-4 no. 4449 is seen here coasting into town on a special train. The 4449 is a modified MTH model, with a different decoder and some added details.

Hannah's Bananas, with the Romar Brothers' facility having two tracks – one for boxcars and the other a corn syrup unloading facility. This was added after seeing Andy Sperandio's version for the Bay Junction project layout in the April 2011 issue of *Model Railroader*. The industry track also serves as a lead to the Quisling Citrus Association's packing house.

MOW plus added ingredients

Quisling has two short sidings where maintenance-of-way equipment is sometimes stored or serviced. Southern Pacific work trains call regularly, and passenger trains run across the modular layout at the monthly meet. Initially, because of a lack of turning facilities at Quisling, these were limited to push-pull Amtrak sets.

Club member Mel Rogers recently built a simple hand-operated turntable that I can attach to one end of Quisling, and we can now turn equipment. It allows even more operating diversity,



8 Trailer, but not for sale or rent. Many Southern Pacific depots and yards used a retired trailer for storage, and it's clear that this one's been here for a while.

since we can also turn steam locomotives and observation cars.

Locomotives and rolling stock

In the early 1980s, Southern Pacific's GP9s remained common on secondary routes across California, and they're the usual power for the regular Quisling Turn, which runs from Western Yard to Quisling and back. Cabooses are still

added to the ends of trains, and provide even more operating fun. Although not accurate for California, Quisling gets served at club meets by Amtrak push-pull commuter trains and SP "commutes."

The maintenance-of-way (MOW) facility gives further possibilities for operational variety. Southern Pacific MOW work train coaches are "near-enough" conversions, and I've also assembled some MOW-service boxcars,



9 This detailed and modified Walthers American crane usually arrives as part of a MOW train, but then travels under its own power to destinations across the modular layout.

flatcars, and gondolas. Also seen from time to time is SPMW 4098, a modified self-powered Walthers American crane, to which I've added a decoder and lights. As in reality, no. 4098 runs local distances under its own power across the whole layout, with its own flatcar and often trailing a gondola, too.

I also run a collection of Athearn blue-box mechanical reefers, many of which I've repainted and decaled. With a small bit of care, these can still look good, and are robust enough to survive the regular carrying and use at the club intact.

Modular railroading works for us

Instead of the usual and big "roundy-roundy" continuous layouts that many clubs and individuals continue to build (and if that's what floats your boat, all is well), we've ventured down a different path. Once the bullets were collectively chewed and spat out, our small group acquired a new direction and grasped many opportunities that were previously uncharted or unimagined. We're

running prototypical freight trains over a reasonably large layout, either using car cards or Java Model Railroad Interface (JMRI, jmri.sourceforge.net) to generate switch lists, under the radio control of a dispatcher, every month.

In the United Kingdom, much bigger two-day modular set-ups, run along similar lines to our own, now take place several times a year, and twice we've carried most of the club's modules about an hour away to a large event on the other side of the county of Devon, where they've been joined by 20 more.

With individuals each building smaller set-ups at home that they can also use as part of a larger combination, the builder, the finances, and the household won't get overwhelmed. Rationalized dreams have a better chance of becoming real – you don't need to build a multi-track, complicated module to have fun. Remember – less is more!

For me, it's provided the impetus to build and operate a chunk of railroad where I can run, showcase, photograph and video a reasonably accurate collection of Southern Pacific-related equipment and operations. In the course of a club session, I may find that my small part of '80s California is visited by an eastern railroad or even a Union Pacific GenSet. Conversely, my SP trains will

amble though and switch at some Midwest granger locations where they'd raise more than an eyebrow in reality – but that just adds to the mixture. As far as we're concerned, we've seen the future of model railroading in the 21st century, and it's modular. **MR**



Meet Brian Moore

Brian (front and center) spent his first 25 years in Glasgow, Scotland, before moving to the southwest of England in 1984. With the kids now grown and gone, he and his wife, Jane, have recently renovated and extended their house, which now includes a 15 x 25-foot basement.



QUONSET HUT BUILDING FLATS made easy

Cardboard tubes give these models the prototype's distinctive shape

By Joseph Kreiss

Photos by the author

Anyone who served in the military has likely slept, worked, ate, or received medical treatment in a Quonset hut. During World War II, between 150,000 and 170,000 Quonset huts were manufactured. Today, they can be found in cities and towns all across the United States, as well as in far-flung corners of the world.

Based on the design of the Nissen hut developed by the British during World War I, the Quonset hut was manufactured by a wide range of independent contractors in countries around the world. The first were made in 1941, when the United States Navy needed an all-purpose building that could be shipped anywhere and assembled quickly without skilled labor.

After the war, the United States military sold its surplus Quonset huts to the public. Postwar efforts pushed Quonset huts to homeowners and businesses as an inexpensive alternative to traditional stick-built structures. Many Quonset huts remain standing throughout the United States, which makes the iconic structure a must-have for model railroads featuring any era from the 1940s through today.

I'm modeling part of a U.S. Navy base at one end of my World War II-era On30 Mosquito Creek Lumber Co. swamp logging layout, which is set in Louisiana. Having a few Quonset huts on the base was a must. I wanted a row of them as shallow background buildings along a two-track yard at the Naval Air Base on my O scale layout.

Prototype research

I went to the Internet to research the history and view photos of World War II-vintage Quonset huts. I also photographed some of the Quonset huts still standing around my town ①. According to my research, the original Quonset hut design was a 16 x 36-foot structure framed with steel members with an 8-foot radius roof. The sides were made from corrugated steel sheets. The ends were covered with plywood, into which doors and windows were set.

The interior of the hut was insulated, with a pressed-wood lining and a wood floor. The building could be placed on concrete, on pilings, or directly on the ground with a wood floor. The original dimensions were tweaked in later



Sailors work the loading docks at a row of Quonset hut warehouses at Naval Air Station Blackwater on Joseph Kreiss' On30 scale Mosquito Creek Lumber Co. layout. Joseph scratchbuilt the structure flats from cardboard forming tube, sheet styrene, and printed siding.



① Joseph photographed some prototype Quonset huts in his hometown both for modeling guidance and for printable images of corrugated metal siding.



② Joseph chose an 8" diameter cardboard forming tube as the basis for his Quonset huts' curved rooflines. Modelers working in smaller scales could use mailing tubes instead.

versions to create the standard size of 20 x 48 feet, with a 10-foot radius roof. Other buildings were modified with 4-foot overhangs at each end to protect the doorways from the weather. Larger huts were developed, up to 40 x 100 feet, for use as warehouses.

Totally tubular

My O scale Quonset hut building flats are only about 2½" deep, but my technique can also be used to build complete structures in any scale.

The most daunting part of the scratchbuild was to replicate the hut's

signature curved roof. I experimented with various materials, from sheet styrene to old coffee cans, but none had the correct dimensions or "look" that I needed to build my models.

Then I had the idea of using a concrete forming tube. These heavy cardboard tubes are used in construction as a form when pouring concrete footings, round columns, and the like. They're available at home improvement stores in a variety of sizes. The material is cheap, lightweight yet strong, and cuts easily with a utility knife or handsaw.

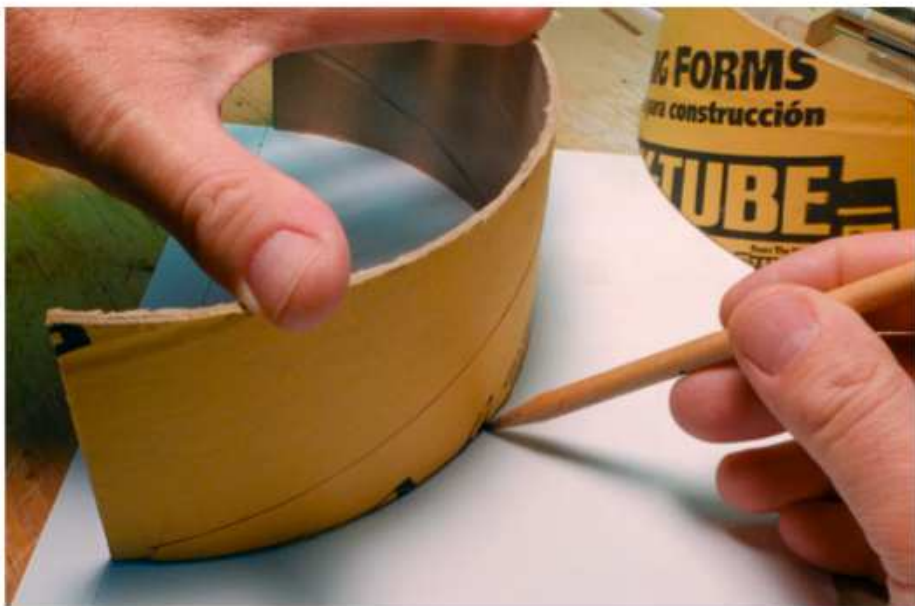
Before I headed to the store, I converted the scale dimensions I needed

into inches so I knew what size tube to buy. I settled on an 8" diameter tube, which scales out to 32 feet in O scale, close to the size used as Navy warehouses. Modelers working in HO or N scale could use smaller mailing tubes from the office supply store.

My 6-foot tube cost just under \$8. I could build many Quonset huts from a single tube. With only four shallow flats to build, I have a lot left over.

Construction

I began the build by cutting several 2½" thick sections ②. I used a small



③ Joseph traced the curve of a half-section of forming tube on a sheet of .040" plain styrene sheet to make the flat front walls of his Quonset huts.



④ After test-fitting the 2½" deep structure flats against his backdrop, Joseph decided to cut them down to make room for shallow loading docks.



⑤ Photos of prototype Quonset huts provided Joseph with realistic corrugated metal textures he could print out.



⑥ Joseph spray-painted the structure cores gray, then used spray-on adhesive to apply his printed siding photos.

carpenter's square to measure and mark the tube, then carefully followed the mark with a fine-toothed handsaw. I then cut these slices in half to form the half-round roof for the huts.

I used the cut tube sections as a template to transfer the outside radius of the tube to a sheet of Evergreen Scale Models .040" styrene ③. This would be used for the hut front walls. As I marked the styrene, I added an extra 3 scale feet below the floor level to elevate the hut's floor to boxcar door height. I could get two front walls from one sheet of styrene.

I also measured and marked the locations of the scale 12 x 12-foot warehouse door openings, the openings for the 3 x 7-foot personnel doors, and the 30" square window openings. These were cut using a fresh hobby knife blade and a metal straightedge. Additional sections of styrene were marked and cut for use as the building's foundation, floor, and inner support walls.

I adhered the cardboard tube to the styrene front walls using Walther's Goo rubberized adhesive, making sure the

curve of the tube lined up perfectly with the styrene front wall. I added interior walls and floors at this time, since I planned to model two of the large warehouse doors in the open position. I also glued additional hidden support pieces in place.

Once the glue had dried, I test-fit the flats on the layout to make sure they fit snug against the background and that there was enough track clearance so freight cars spotted at the huts wouldn't rub against the buildings ④. After this test fit, I decided the buildings would look better with loading docks and steps up to the doorways. I had to carefully trim another inch or so from the backs of the already assembled cardboard tubes to allow room for the loading dock to clear the track. So much for planning!

Painting and siding

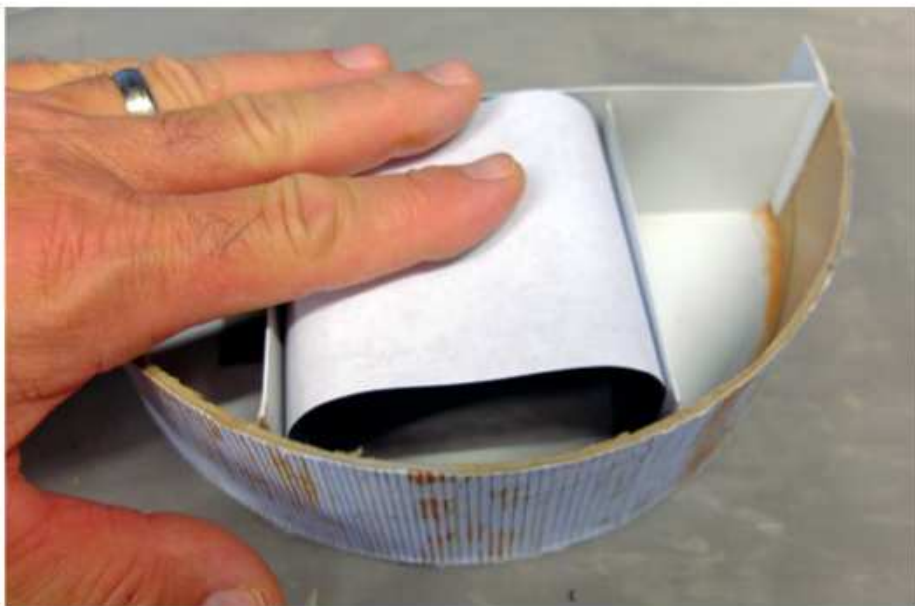
Happy with the new fit, I took the flats back to the workbench and sprayed the cardboard tubes and styrene fronts with flat gray primer. This would help

disguise any gaps in the siding material to come.

Because there are several old and weathered Quonset huts in my town that I could photograph, I used these images to create my own siding material on the computer. I dropped the image files into a word-processing program, which has top and side rulers and allows the stretching or compressing of the image to fit the size I needed. After some trial and error, I sized my photos to scale and printed sheets of the corrugated siding material on high-quality photo paper ⑤.

If you don't have access to Quonset huts to photograph, companies such as Clever Models (www.clevermodels.net) and Textures.com sell high-resolution siding textures on their websites that you can print out and use on structures in various scales.

I cut the corrugated siding photos to fit my Quonset hut roof areas. Again, I used the structures as a guide to mark and cut to size. I roughly cut more large sections of the photo to cover the building fronts.



7 Printing a photo of a prototype warehouse interior wider than the doorway and applying it in a curve gave the interior the illusion of depth.



8 Joseph added depth to the scene by printing out one of his prototype photos and gluing it to the backdrop behind the flats.

I laid the photos on newspaper and sprayed the backs with an all-purpose spray adhesive. [3M Super 77 spray adhesive is a brand we use. – Ed.] I carefully positioned the cutouts onto the structures and burnished the photos gently with my fingers to assure a strong bond **6**. I then carefully trimmed the excess material using a sharp hobby knife. The look of the corrugated siding brought the structures to life.

I framed the door openings with styrene strips painted gray to match the photo siding. I used scribed wood siding sheets, also painted gray, for the roll-up warehouse doors. Commercial plastic window castings were used for the windows. I retained the styrene cutouts from the doors and glued them in place to represent the personnel doors.

Interior

I wanted to have some of the warehouse doors open, but at less than 2" deep, there wasn't much room to add an interior to the huts. Since I was using photographs to represent the corrugated siding, why not use a photograph to add depth and detail to the interiors? I didn't have photos showing the inside of a Quonset hut during World War II to use, so I searched the Internet for something suitable. I eventually found a couple non-copyrighted images of warehouse interiors that had a generic, timeless look to them. I saved the images to my computer and then inserted them into a word processing document for scaling and printing.

The images needed to be about 7" wide by 3" tall to fit within the warehouse door openings. The door openings are around 3" x 3", but I made the photos wider so I could curve the image inside



9 Figures, vehicles, posters, and other details complete the trackside scene.

the building, rounding the corners and giving a seamless look to the interior scene **7**. After a test fit and a little trimming, the photo neatly slipped inside the opening and was stuck in place with spray adhesive.

Final details

The very narrow loading docks aren't even close to prototypical depth, but they have just enough of a presence to add visual interest and give a place to put figures and other details. The docks were made from dimensional strip styrene for supports with scribed flooring for the top. These assemblies were painted gray and weathered to match.

To finish the project, I printed and carefully cut out a scaled-down photo of a group of huts I'd snapped during my photo outing. I adhered this image to the layout's backdrop, which helped give the scene depth and interest without eating up any layout space **8**. Since the background photo and the photos I used for the siding material are of the same buildings, they match perfectly.

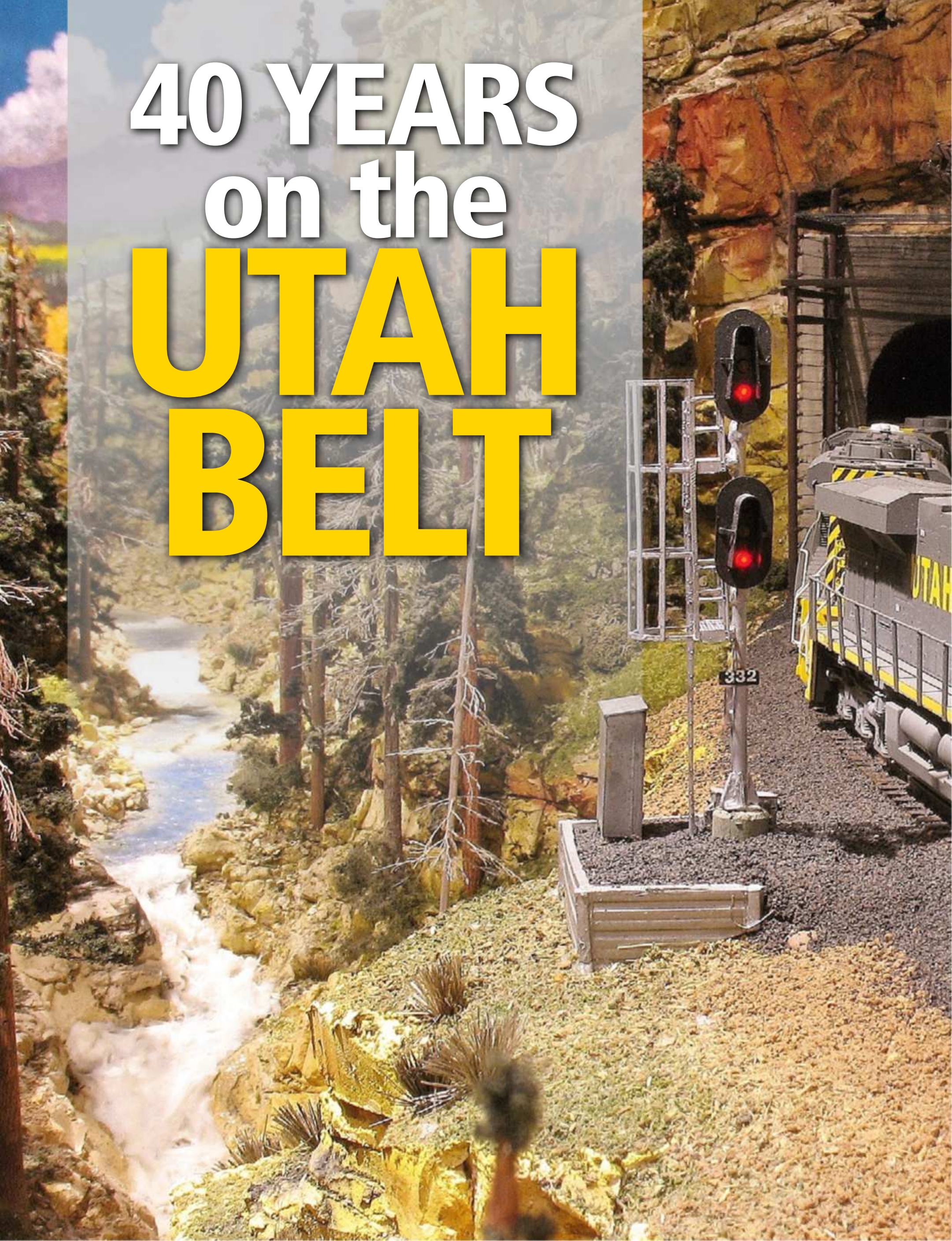
I painted the styrene floors of the huts to match the tones of the concrete floor in the background photo. Window and door awnings were made from scrap styrene pieces and painted to match. I touched up the photo siding material with acrylic paints to add and blend in rust and grime.

A few large crates, several fuel drums, and a handcart help hide the back seam between the floor and the interior photo. A "Buy War Bonds" poster, Coca-Cola cooler, telephone pole, Tamiya 1:48 scale Willys Jeep, and a few sailors complete the scene **9**.

Quonset huts can be found alongside or near the tracks all over the country. Adding a few of these signature structures to your layout, whether full buildings or just shallow building flats, will add history and interest to your town or industrial scenes. **MR**

Joseph Kreiss lives in Fairmont, Minn., where he models the Louisiana swamp logging scene in On30. His previous layout, the HO scale Big Island Rail, appeared in our January 2012 issue.

40 YEARS on the **UTAH BELT**





Evolving motive power, industries, operation, and scenery keep this HO scale railroad set in the present day

By Eric Brooman

Photos by the author

An autumn storm is brewing over the Continental Divide and will soon leave a fresh dusting of snow on the higher peaks. The pine-and-sage scented wind is noticeably cooler than the previous week. Ground squirrels scurry to gather winter provisions. It's the region's so-called "golden week," when the aspen trees reach their peak of fall color.

Far below the narrow shelf that the railroad has blasted from the walls of the canyon, the water of Furnace Creek bounds over boulders and rocks on its way to the Gulf of Mexico. Occasionally the wind will set the signal lines humming, as steel rails creak and expand under the hot sun.

From the other side of the pass, a barely discernible low bass rumble of man-made horsepower adds to this symphony and then suddenly disappears. An otherworldly whine begins to build, emanating with a rush of cold air from the portal of tunnel no. 4. The banshee howl of dynamic brakes holding back 10,000 tons of Utah coal bursts from the darkness. The sounds of the lead locomotive fade, replaced by those of heavily laden coal hoppers obediently heeling to the grade. The whine of dynamic brake fans again builds from the confines of the tunnel until the rear distributed-power unit (DPU) exits the tunnel portal.

For several minutes the mixture of sounds rises and falls as it echoes off the canyon walls. The smell of diesel exhaust

1 Leaning heavily on its dynamic brakes, an eastbound coal train with a General Electric ES44AC on point exits tunnel no. 4 in Furnace Creek Canyon. Modern motive power is among the many recent updates to Eric Brooman's ever-evolving HO scale Utah Belt.

The layout at a glance

Name: Utah Belt

Scale: HO (1:87.1)

Size: 22'-8" x 39'-6"

Prototype: freelanced

Locale: northern New Mexico

Era: the present

Style: linear walkaround

Mainline run: 173 feet

Minimum radius: 39"

Minimum turnout: no. 6

Maximum grade: 1.5 percent

Benchwork: L girder

Height: 46" to 58½"

Roadbed: cork on ¾" plywood, with ½" Homasote in yard and flat areas

Track: code 83 flextrack with handlaid turnouts (main line), code 70 (yards and secondary), code 100 (hidden staging)

Scenery: plaster over cardboard web

Backdrop: painted tempered hardboard

Control: direct-current cab control

mingled with the smell of hot brakes hangs in the air. Red signals, guardians of the pass, shimmer in the haze. When the train is gone, all that's left is the sound of the wind and the stream.

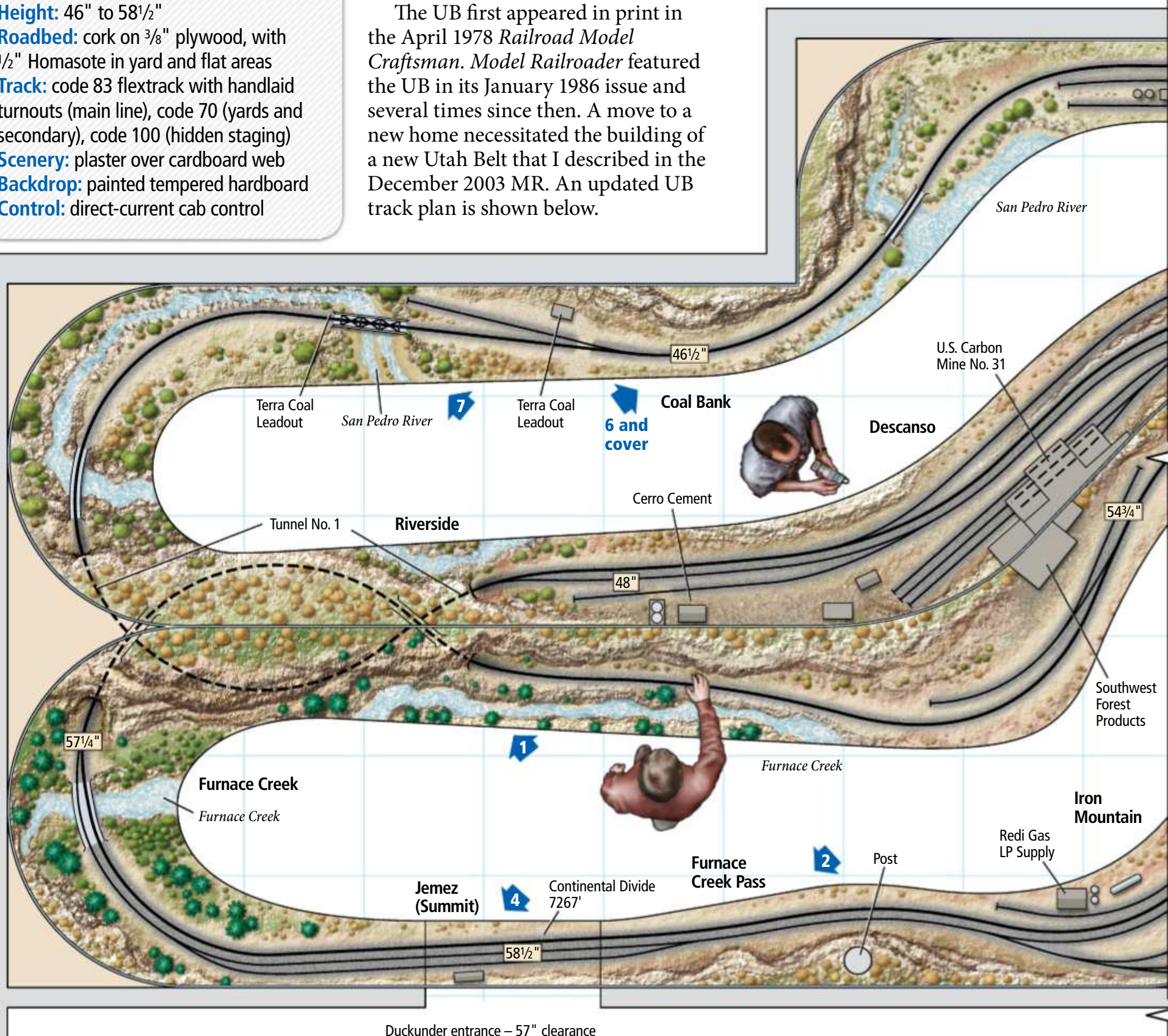
The above description of modern-era mountain railroading is a fantasy, but it's also the source of my model railroading obsession. I want to create my own world, where everything is just right, that I can escape to whenever I please. For more than 40 years I've worked to realize this goal with my 22'-8" x 39'-6" HO scale railroad, the proto-freelanced Utah Belt (UB).

The UB first appeared in print in the April 1978 *Railroad Model Craftsman*. *Model Railroader* featured the UB in its January 1986 issue and several times since then. A move to a new home necessitated the building of a new Utah Belt that I described in the December 2003 MR. An updated UB track plan is shown below.

Keeping current

From the beginning, the main criteria I established for the Utah Belt was that it would continually be updated to reflect prototype practices of the day. If the real world of railroading changed, so would the Utah Belt.

It isn't unusual that many model railroaders keep their layouts set in a specific time period. Many modelers limit themselves to a particular year as a cutoff point, and some have even set their limits to a specific date.



The Utah Belt

HO scale (1:87.1)

Room size: 22'-8" x 39'-6"

Scale of plan: 3/8" = 1'-0", 24" grid

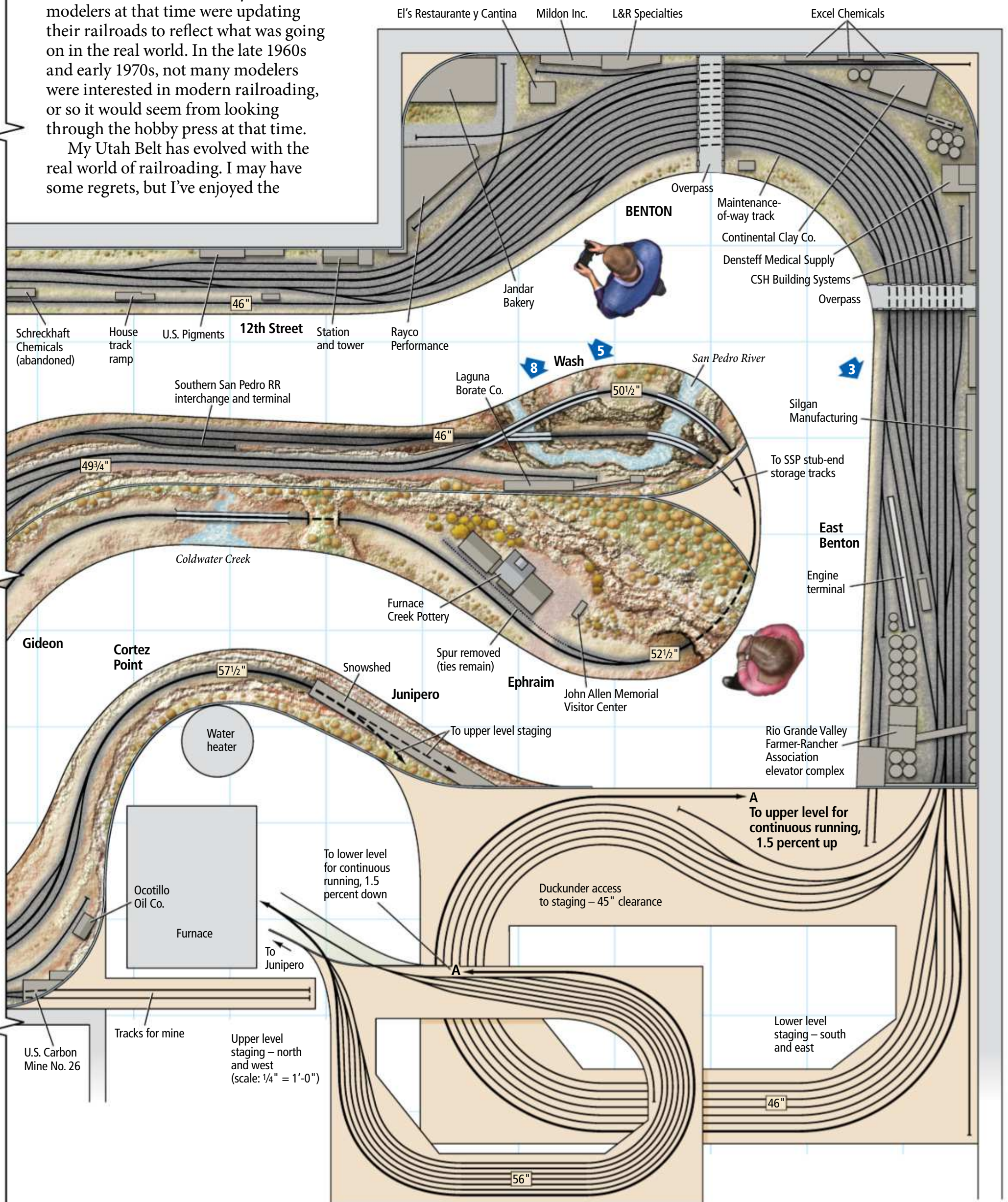
Numbered arrows indicate photo locations

Illustration by Rick Johnson

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

Since change is the only constant, I wanted to include change as a factor in creating a sense of realism to the Utah Belt. I don't know how many other modelers at that time were updating their railroads to reflect what was going on in the real world. In the late 1960s and early 1970s, not many modelers were interested in modern railroading, or so it would seem from looking through the hobby press at that time.

My Utah Belt has evolved with the real world of railroading. I may have some regrets, but I've enjoyed the





② Another ES44AC brings up the rear of the eastbound coal train shown on page 46. As on the real railroads, distributed power is used more often on the Utah Belt than manned helpers.

challenge of keeping abreast of what is a very dynamic industry. The result of this approach is a continual parade of new projects, even though my current layout has been finished for several years.

Updating equipment

I began building the original Utah Belt in 1973. The most obvious area of change has been in motive power. The roster then consisted of General Motors

Electro-Motive Division (EMD) F7, GP9, SD9, SD35, SD40, and SD45 locomotives. Models of SD9s, SD35s, and SD40s, which were the predominant six-axle road power then, weren't commercially available except as brass models. Kitbashing motive power proved to be the norm if a modeler was trying to stay modern.

Back then, when a prototype locomotive was introduced, there was a several-year lag before a hobby

manufacturer made a model of it. With today's computer-assisted design techniques, a new scale model is produced not long after its prototype comes to market. These days kitbashing a locomotive usually seems like a waste of time for me.

For years the UB was EMD-only, but as General Electric (GE) gained dominance in locomotive manufacturing, the UB followed the industry. Like other roads, the UB purchased GE AC4400s in the 1990s. Today, EMD (after 2005 Electro-Motive Diesel) SD70ACEs and GE ES44ACs rule the UB main.

The railroad's older SD40-2s are still used for mine hauls and in helper

MORE ON THE WEB

The photo on page 46 is this month's featured computer desktop wallpaper. Get the image at ModelRailroader.com.



service. However, the advent of distributed power (DP) has greatly reduced the use of manned helpers. In a DP consist, multiple units can be placed anywhere in the train and are controlled remotely from the lead locomotive, eliminating the need for separate helper crews.

Electro-Motive GP38-2s and MP15DCs and MP15ACs are the only four-axle power remaining on the railroad. These engines are now used for locals and yard switching.

As I described in "Signs of the times on the Utah Belt" in the November 2011 issue of *Model Railroader*, the UB had purchased a National Railway Equipment (NRE) 3GS-21B GenSet



3 An Electro-Motive MP15AC and GP38-2 are paired together to work the large elevator complex at East Benton, N.M. The job was briefly handled by a National Railway Equipment GenSet switcher, until the UB replaced it with conventional four-axle power.



4 A few SD40-2s are still on the UB roster for mine runs and helper service. On the house track at Jemez, the crew of the Iron Mountain Turn has run around its shoving platform, one of three former cabooses left on the UB.

switcher. The railroad tried out the NRE GenSet on the industrial trackage at Benton, N.M., but the switcher was found to be unsatisfactory. The GenSet was an orphan mechanically, with locomotive shop crews unfamiliar with its complexities. The switcher was sold and conventional four-axle power has returned to Benton.

With Environmental Protection Agency (EPA) Tier 4 emission requirements now in effect, more purchases from Electro-Motive Diesel and General Electric will undoubtedly be coming.

Like Norfolk Southern, the UB has been rebuilding older power to hold off purchasing new Tier-compliant power. Several EMD SD70MACs have been purchased off the used locomotive market and rebuilt. These are numbered in the UB's 4100 series.

Probably one of the most onerous outcomes of committing to change with the prototype has been modeling the demise of the caboose. I think there is just something wrong about a freight train without a caboose! A flashing black box just doesn't cut it. I understand the

5 A pair of GP38-2s switches out covered hoppers at Laguna Borate. Company names change over the years, and this industry was once called Martex Colemanite. Some recently added dead trees in the scenery also help convey the passage of time.

safety and operational concerns. I have experienced firsthand the effects of the slack running in on a 100-car freight on the unaware occupants of a caboose. Still, retiring the caboose fleet was a sad consequence of staying up-to-date. The UB still maintains three bay-window hacks (“shoving platforms”) for use on locals and in work train service.

Expanding industries

In a rather unprototypical fashion, the Utah Belt’s online business has increased. A local chemical company, Excel, has expanded its operations in Benton. By building a siding that extends through the backdrop, a large number of associated cars can be gobbled up during an operating session.

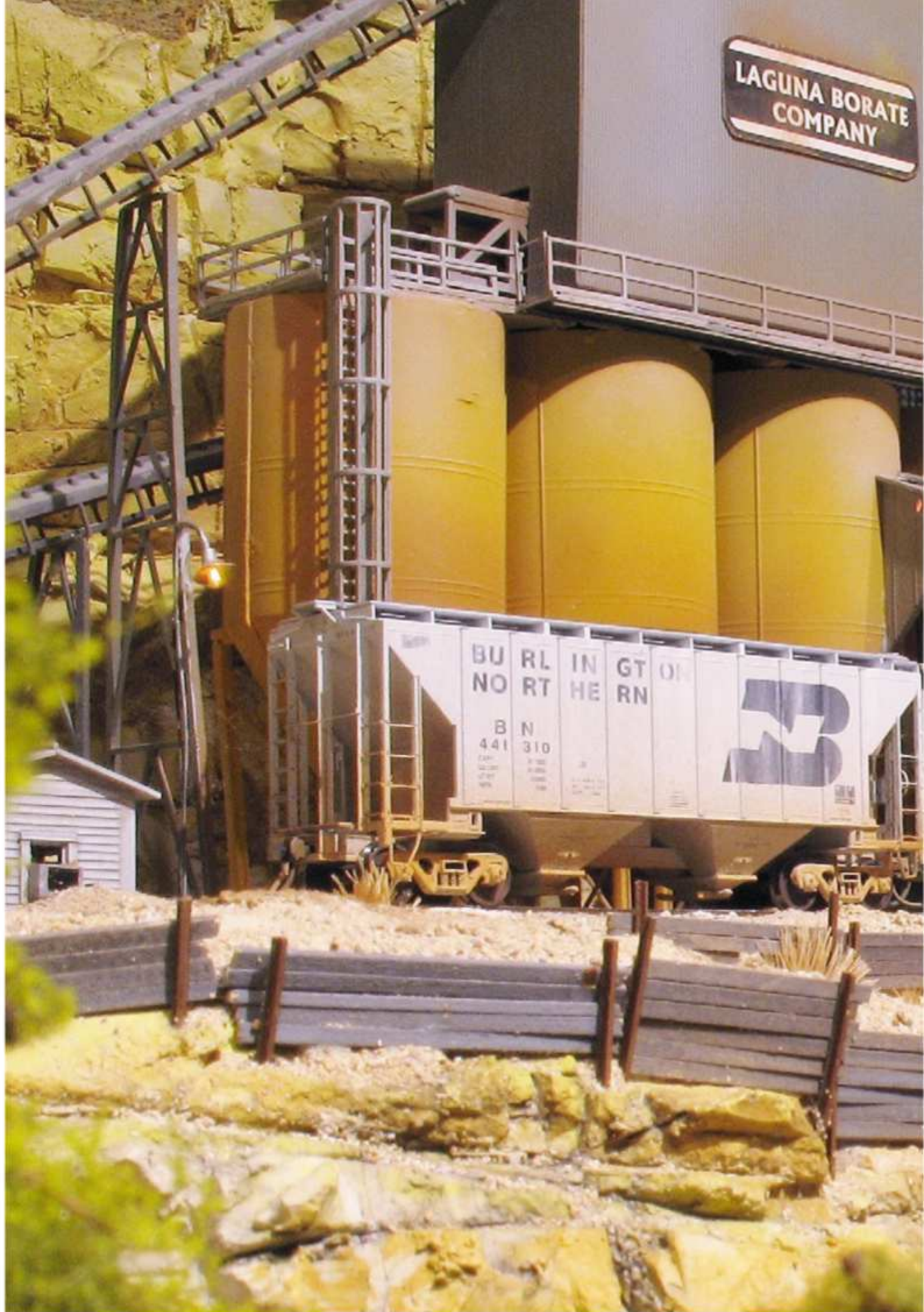
A liquefied petroleum gas (LPG) distributor has built a new online facility at Iron Mountain, and Cerro Cement has a new plant at Riverside. The gigantic Rio Grande Farmer-Rancher Co-op elevator complex at Benton has added more silos. At this time, only the Schreckhaft Chemical Co. in Benton is shutting down due to more strict EPA standards.

The size and number of industries at Benton is a stretch of reality for the area being modeled. The large size of two of the industries was due to the necessity of hiding the electrical service box and the main water shut-off. When we had this house built, I could have had the box and the shut-off moved along with the water heater. Unfortunately, I was unaware of this option at the time. It would have made a huge difference in the track plan.

As to the number of rail-served industries, I have no excuse. Benton is supposed to be a suburb of Albuquerque, so the number located there isn’t too unrealistic. In a truly modern representation, there would be a large intermodal facility nearby with the businesses receiving containers by truck, if they were still in business at all. Abandoned buildings with weedy, rusty sidings might be a more realistic representation.

No more graffiti

In another un-prototypical move, the UB has removed all graffiti from rolling



stock. A truly modern up-to-date representation of railroading in the United States would have 90 percent of the rolling stock covered with it. At one time probably 30 percent of the rolling stock on the layout was tagged.

One day while sitting at a railroad crossing watching a prototype freight pass by, I was struck by how ugly the train was. Virtually every car was covered with graffiti. What I had always detested on buildings and structures was being paraded before me.

I decided that graffiti didn’t have to exist on my layout. I spent the next several months removing the graffiti from my HO cars or repainting them as

necessary. Graffiti is vandalism pure and simple, and I’ll not glorify it on the UB.

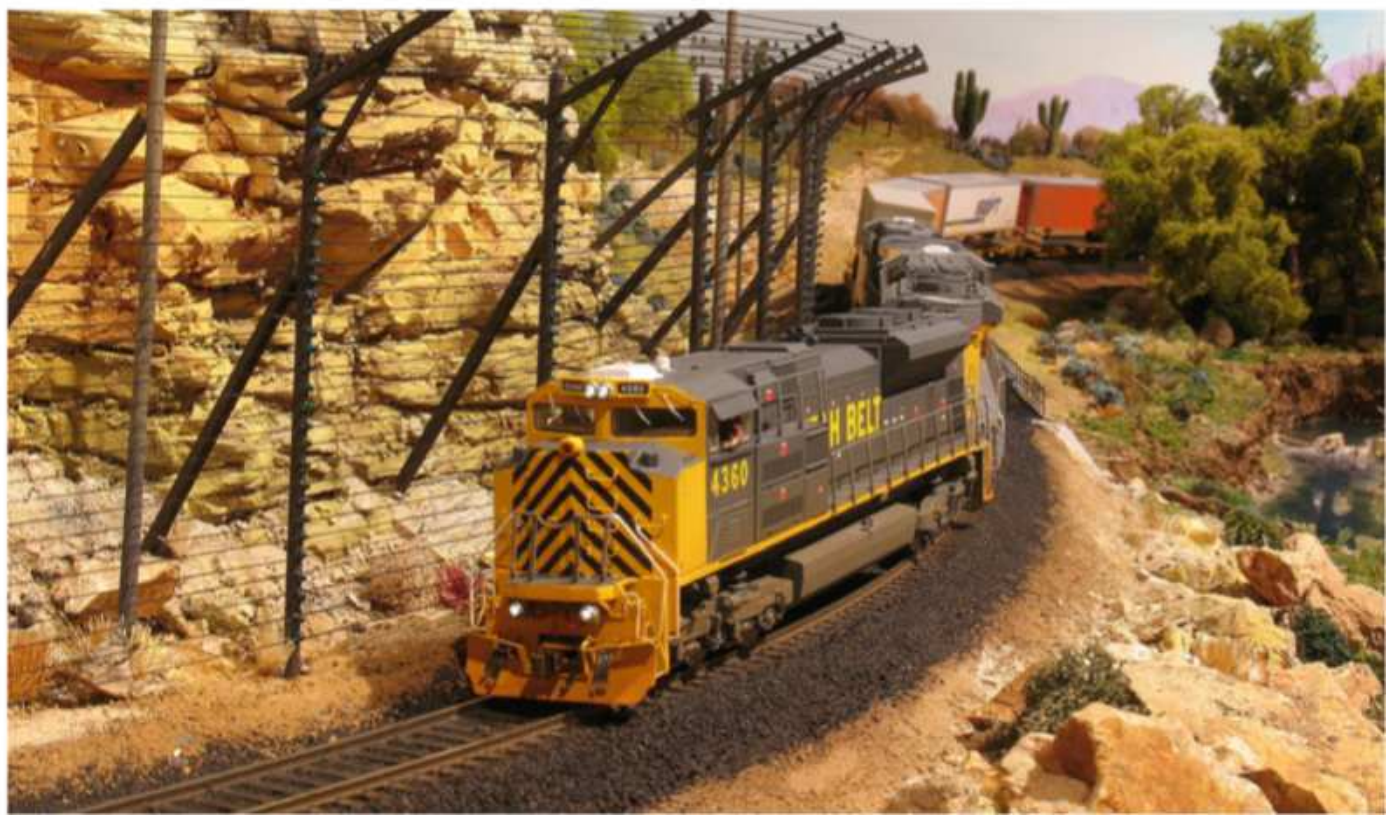
Safety First!

The physical plant of the line has been updated. The engine servicing terminal at East Benton has been expanded and improved to meet Occupational Safety and Health Administration (OSHA) standards. The bridge and building (B&B) department has been busy sand-blasting and repainting bridges as time permits. The B&B crews use a non-toxic aluminum acrylic paint, so the long-standard black is fast disappearing from the UB.



The railroad has finally addressed a long-standing safety issue. Slide-detection and protection has finally been installed at three key locations along the main: Cortez Point, the East portal of Tunnel no. 4 in Furnace Creek Canyon, and along the San Pedro at the area known as El Portal. I put off modeling detection fences for two reasons: The fences are a pain to make, and I had young grandchildren.

⑥ Rock-slide detection fences have been installed on the UB. They keep the line safe and open for trains such as this westbound intermodal passing the rock formation known as El Portal.





7 Compare this photo (top) of an eastbound coal train crossing the San Pedro River to a photo taken of the same location 16 years ago (bottom). The bridge has been repainted silver and the cottonwood trees have grown noticeably.

My grandkids are now old enough to appreciate how fragile the fences are. The biggest difficulty in modeling the detection fences are keeping the wires straight and evenly spaced. I overcame both problems by stringing the wires first and then adding the insulators.

I modeled the insulators with nonpareils, which are small, white, round confections commonly used to decorate cookies and candy. Using the tip of a toothpick I put a small dot of white glue where the wire and the post met. Then I moistened the other end of the

toothpick to pick up a nonpareil and place it on the glue. When they dried, I painted all the insulators a metallic green color.

Since these fences should have been in place from the earliest times of the railroad, I used wood for their construction. To be completely modern, they probably would have been replaced with some form of metal framework by now. However, since these installations are usually the work of each railroad's signal department, specifications vary from road to road.

Growing trees

I did one final thing to help provide the illusion of the passage of time. Looking at various photos of prototype railroads in "then and now" arrangements, something subtle stood out besides the obvious changes in buildings, rolling stock, and motive power. It was the foliage! In many cases trees had grown dramatically while others had died.

Over the years on my layout, the cottonwoods along the San Pedro had become dingy. To restore their color, I removed the trees from the layout. Then I removed the Woodland Scenics




foliage netting from each tree's sage brush armature. I stretched out the netting to give it a transparent appearance.

After spraying the netting with unscented hair spray, I applied light green Scenic Express Flock & Turf Scenic Texture material by working it through a sieve. This added a fresh green accent to the older material.

Then I added more sage branches to the original armatures and applied the renewed foliage netting. Now, the cottonwoods along the San Pedro are noticeably larger, hopefully adding to the feeling of the passing years. Also, I've installed a random dead tree here and there to the scenery.

A bright future

Whether updating scenery, industries, or locomotives, it's been fun keeping the Utah Belt current. At times it's been difficult to eliminate things that I enjoy but have become outdated. However, the changes have kept me challenged and interested in the hobby. I look forward to seeing what the future brings to the Utah Belt. 

Eric Brooman's most recent articles on his HO scale Utah Belt appeared in the December 2011 Model Railroader and Great Model Railroads 2006. He lives in St. Peters, Mo.

8 The Southern San Pedro still interchanges with the UB at Descanso. However, the short line had to give up its Alco RS-3 for an EMD SW1000.



 The Model Railroader Video Plus crew visited Eric Brooman's Utah Belt. Check out the exclusive video at MRVideoPlus.com.

Kitbashing an HO scale 2-8-2 steam engine



Cascade Lumber Co. engine 11 brings an abbreviated *Mount Rainier Park Special* into Fredrickson, Wash. Robert Boyd kitbashed the HO scale locomotive, starting with a Russian Decapod 2-10-0 model by Bachmann.

Swapping out a drive axle for a trailing truck is just the start of this conversion

By Robert A. Boyd • Photos by Chip Van Gelder

Say there's a locomotive you need for your roster, but nobody makes one. One answer is to build it yourself, starting with another model that looks fairly close. That's what I did when I needed a Cascade Lumber Co. 2-8-2 Mikado for my HO scale layout.

The Tacoma Eastern (TE) is a short line that, despite its name, runs south, not east, from Tacoma, Wash. It splits at Fredrickson, just south of Tacoma, with the main line running southwest to link up with the trunk line into Portland, Ore., at Chehalis, Wash. A major branch continues south, running far into the hills to tap the forest and mining properties around Mount Rainier through a

network of branches and privately owned short lines.

The Milwaukee Road held an interest in the Tacoma Eastern even before the former's Puget Sound Extension was completed. It became a subsidiary of the Milwaukee Road after that railroad finished its transcontinental link in 1909.

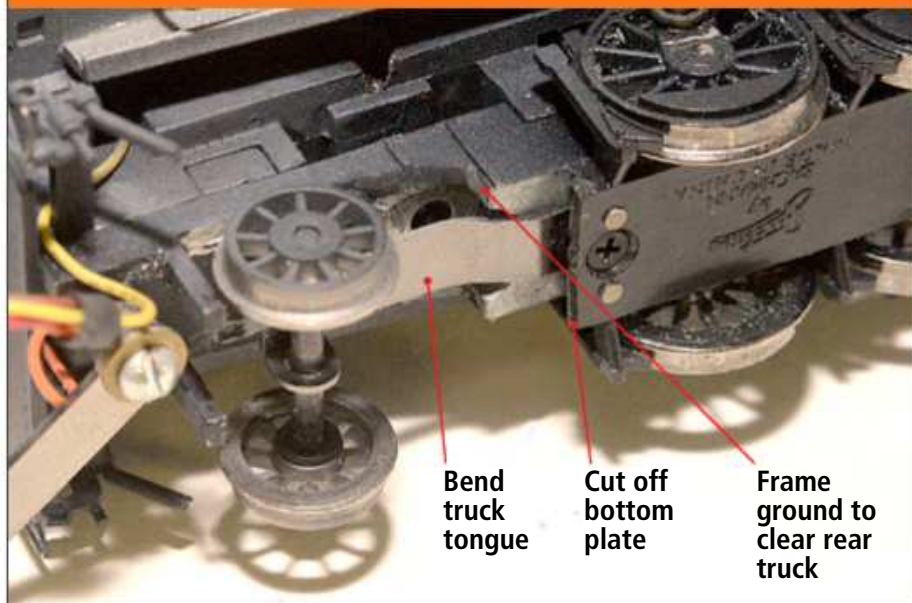
The lean years of the Depression, followed by increased demand for raw materials in the pre-World War II period, put a terrible strain on available equipment. The rearmament binge of 1940 stressed the backwoods railroads to their limit, impacting the traffic that was becoming critical to the war effort. The government intervened in late 1941, forcing all the short lines in the area to pool

their equipment, which was dispatched out of Fredrickson, Wash. Though this wasn't a perfect solution, it kept the rail traffic fluid under the wartime crush.

The Cascade Lumber Co. was a major contributor to this equipment pool, with locomotives such as this light branch line 2-8-2. Follow along to see how I kitbashed an HO scale model from a Bachmann Russian Decapod.

Bob Boyd has been a model railroader for longer than he cares to think about. His main modeling interests are passenger service, heavy electrification, and maintenance-of-way equipment, in many scales. When he isn't playing with his trains, he writes science fiction novels.

Step 1 The chassis and rear truck



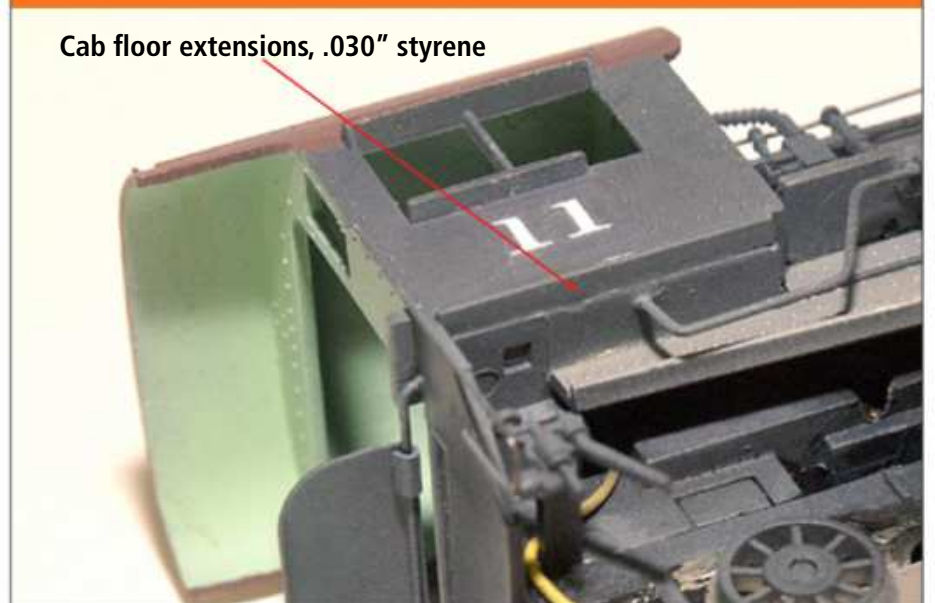
After disassembling the model, I removed the rear wheelset, then carefully cut the side rods just behind the next set of drivers with a rotary tool. I removed the brass pickup wipers that corresponded to the removed rear wheelset.

I then cut the bottom plate just beyond a conveniently placed mounting screw. Using the rotary tool again, I ground away the end of the frame casting to a contour similar to a prototype frame to provide clearance for the rear truck.

I had a pilot truck from another Bachmann decapod, and its tongue fit neatly under the bottom plate. (An alternative source for these spoked pilot wheels would be NorthWest Short Line, www.nwsl.com.) I had to bend the tongue to get the proper wheelset mounting position, which also gives the rear wheelset a slight spring loading. The mounting screw locked it down so the truck is rigid, but there's adequate horizontal play in the wheelset. The photo above shows both the ground-away frame contour and the critical rear frame screw that holds the trailing truck's tongue.

Step 2 The cab

Cab floor extensions, .030" styrene



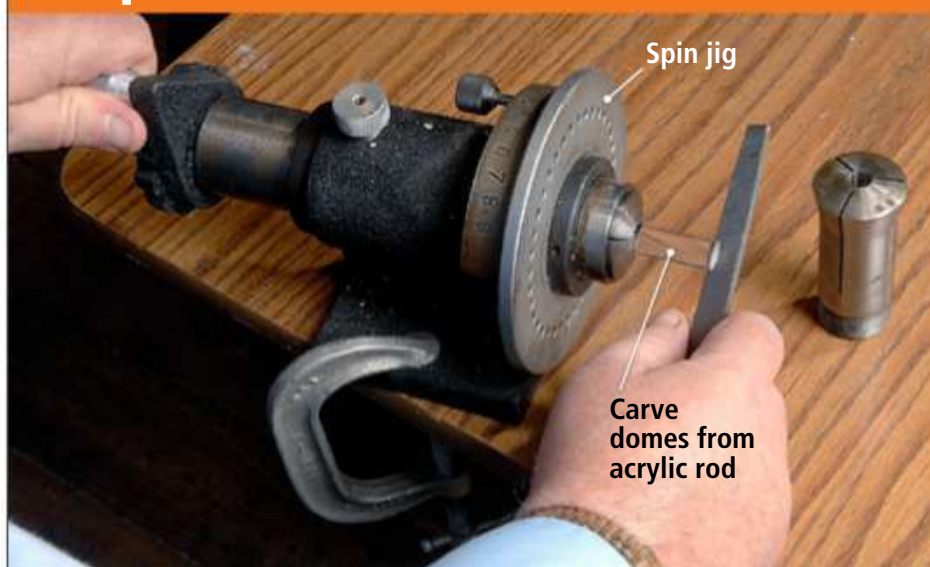
The cab remained unchanged except for raising it about 8 scale inches (.090") to give it a more "American" look. The edges of the cab deck showed after this was done, so I added some .030" styrene extensions to bring the edges out to be even with the cab sides. The curved area of the cab face where it met the boiler was likewise filled in, using .040" styrene sheet.

For more locomotive projects

Read more about how to customize your steam engines in *Detailing and Upgrading Steam Locomotives*, published by Kalmbach Books. To purchase a copy online, visit our website, www.KalmbachHobbyStore.com.

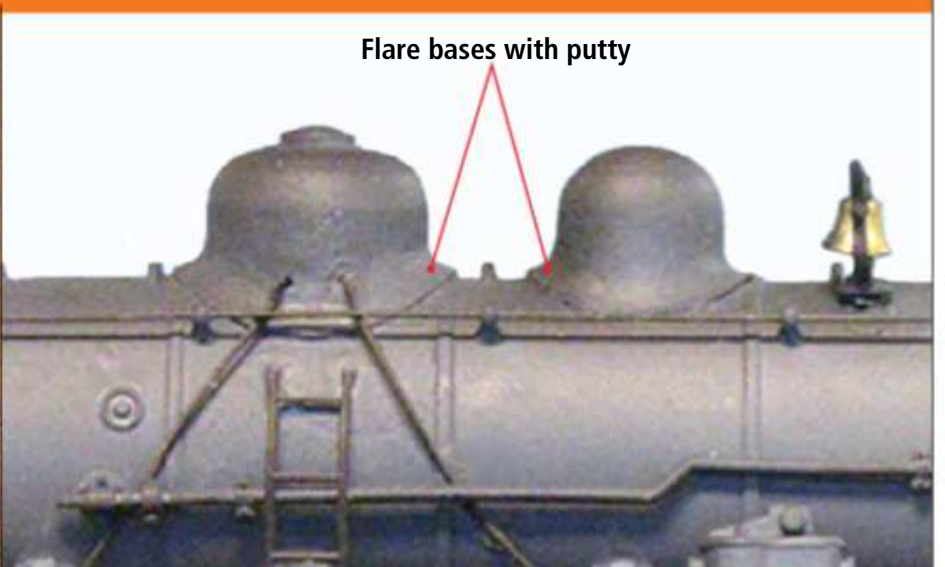


Step 3 The boiler



The existing domes didn't match the prototype I was modeling, so I replaced them. On my model, they weren't glued in very securely; a sharp rap with a light hammer caused them to pop neatly out.

The two replacement domes were formed of $\frac{1}{2}$ " and $\frac{3}{8}$ " acrylic rods, which I rounded off in a spin jig, as shown above. After the domes were mounted, I cut two donuts of .020" styrene, with the inner diameters to fit loosely over the domes and the outer diameters broad enough to cover the rough boiler openings where the domes were mounted. I slipped these over the domes and glued them down to the curved boiler to become the base of the flared dome flanges.



The flared dome bases were sculpted using Milliput hobby putty, a product from England that can be obtained through Micro-Mark (www.micromark.com). This is a two-part epoxy with the fine consistency of caulking. It's water-based, so it can be smoothed into shape with a wet finger.

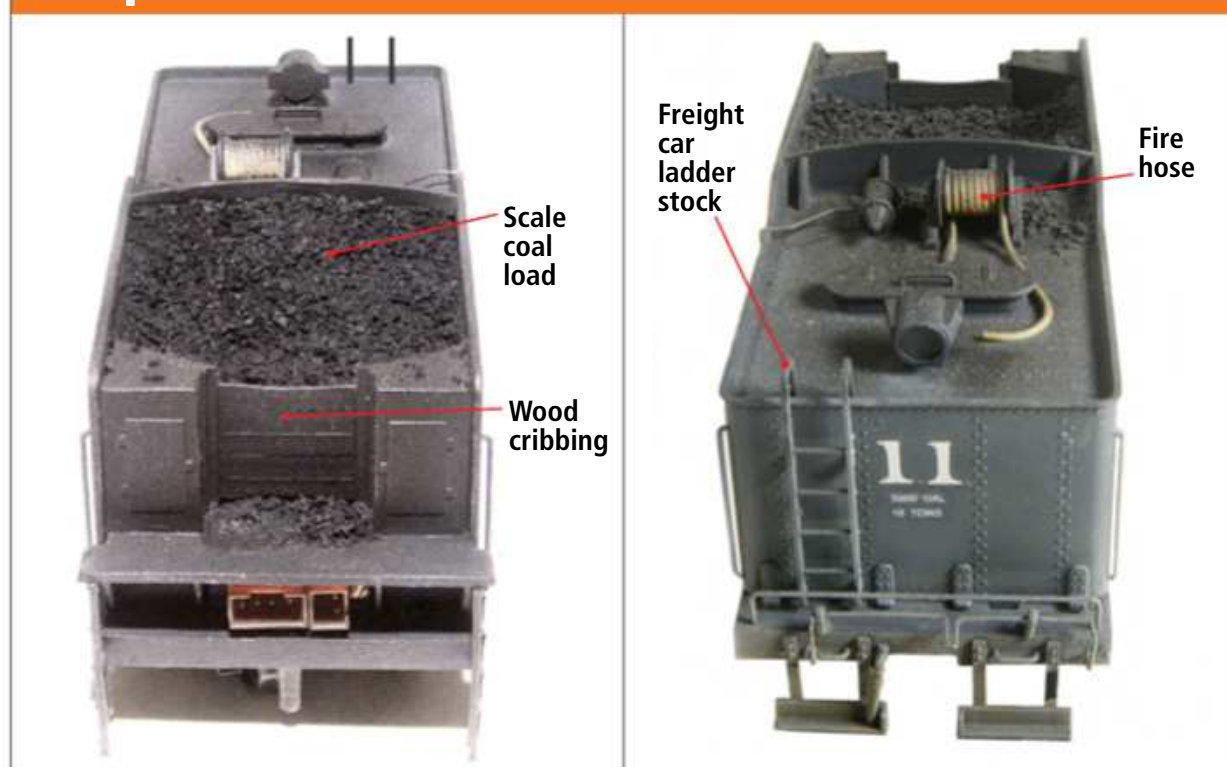
The model had a device mounted on the boiler right behind the steam dome. Since there wasn't one on my prototype, I cut it off, filed it flush, and mounted the bell there to cover the cast-in scar, as seen above.

Step 4 The stack



Backwoods railroads took precautions to keep their locomotives from accidentally igniting the underbrush. I fitted a large cylindrical spark arrestor typical of these locomotives onto the stack. I cut two circles of .020" plastic 1/2" in diameter and glued .010" x .040" styrene strips around their edges to form retaining rings. I cut a strip of fine screen 1/4" wide, formed it in a circle, and glued it inside these rings with cyanoacrylate adhesive (CA), as shown above. A similar piece of screen was glued across the top of the stack.

Step 5 The tender



I wanted to improve the detailing on the tender, so I started by cutting away the bunker doors and adding some wood cribbing. Note at above left how the top crib was worn down by scraping it with a hobby knife blade. I used thin CA to bond a partial coal load in place. Tenders don't stay full for long, so a partial load is more prototypical. Note the spillage on the rear deck in the above right photo.

The access ladders were damaged in handling, so I substituted standard freight car ladder stock from Tichy Train Group.

Fire is an ever-present threat in the Pacific Northwest backwoods, so I added a fire hose made of thin solder stored on a homemade hose reel. An air driven pump, a scrap box find, was mounted on the tender deck to draw from the bunker supply, with an air line made of .010" wire running down the side to tap the train brake system. A fire ax lies almost buried under the tender coal spill.

I kept the archbar tender trucks that came with the model and equipped the locomotive with Kadee couplers.

Step 6 Painting and lettering



The cab interior was painted a custom-mixed institutional pale green, including the cab rear facing the tender. The cab roof was painted Mineral Red.

The smokebox and firebox were painted *Lark* Dark Gray and given a dusting of Steel to simulate the metallic effect of the graphite coating.

The rest of the locomotive and tender were painted a custom mixed Grimy Black, which shows up better than pure black under indoor lighting.

The lettering was produced as dry transfers on my ALPS printer, a dye-sublimation printer (now out of production) that can print white lettering. Options would be to put together individual letters from a lettering decal sheet or have custom decals made.


Step 7 Weathering



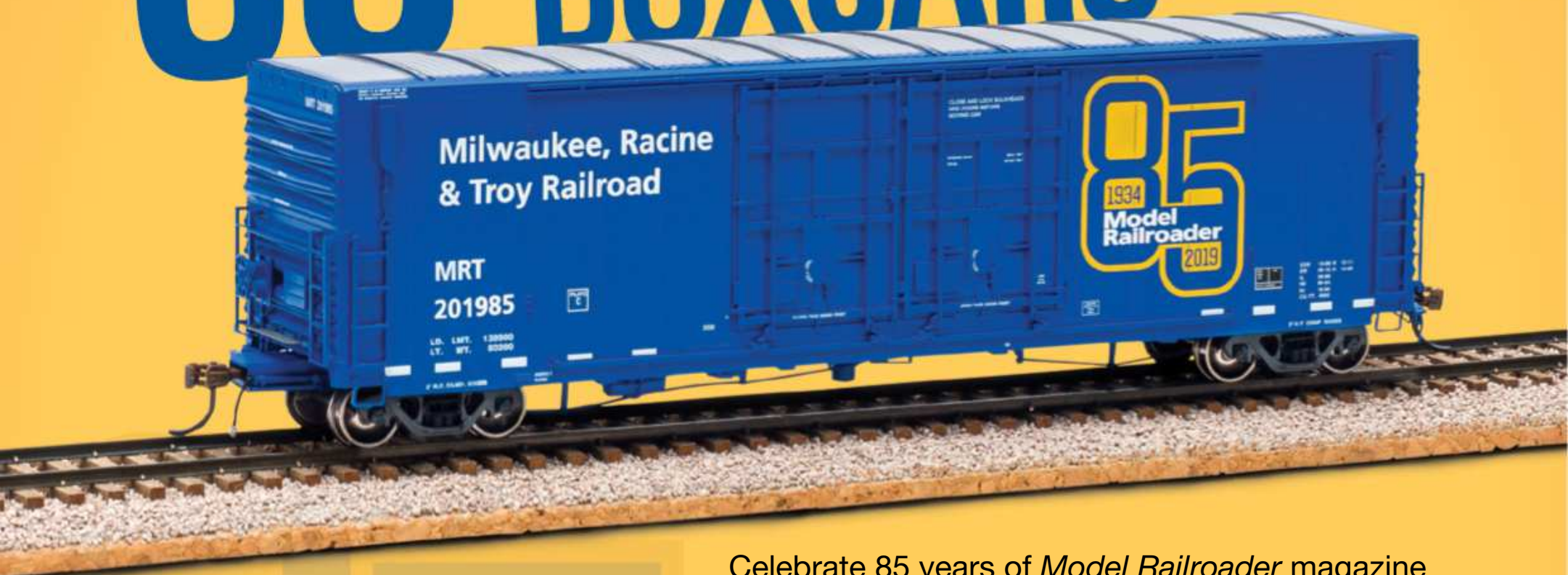
I started by giving the entire locomotive a thin spray wash of dark blue to simulate the bluing effect boiler enamel develops due to exposure to the elements.

I then stippled a mix of browns and grays on the top of the smokebox to simulate the mud and gunk that accumulates there.

After that, I lightly dusted the top of the locomotive with Steam Power Black to simulate soot. The airbrush should be held at a 45 degree angle and run front to rear to impact the forward edges of the boiler-top fittings. Additional soot was added to the stack and the tender deck.

Finally, I lightly airbrushed Dirt and Mud along the lower part of the running gear and around the pilot. A final coat of clear flat, and the job was done. 

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SCRATCHBUILD

a small-town station



Using prototype photos and drawings, Tom Houle scratchbuilt Soo Line's Dallas, Wis., depot for his O scale model railroad. Tom's modeling tips can be adapted for scratchbuilding projects in any scale.

This O scale structure matches its full-size counterpart thanks to careful research and skilled modeling

By Tom Houle • Photos by the author

I MODEL A "COULD-HAVE-BEEN" SOO LINE BRANCH SET IN SOUTHEASTERN WISCONSIN DURING THE MID-1950S

that connects with the Chicago & North Western. One of the structures I wanted to add to my O scale model railroad was a small-town station. No Soo Line structures were available commercially in 1:48. However, by doing prototype research and

using a lot of styrene and stripwood, I was able to make a station typical of those along the Soo Line throughout the Upper Midwest.

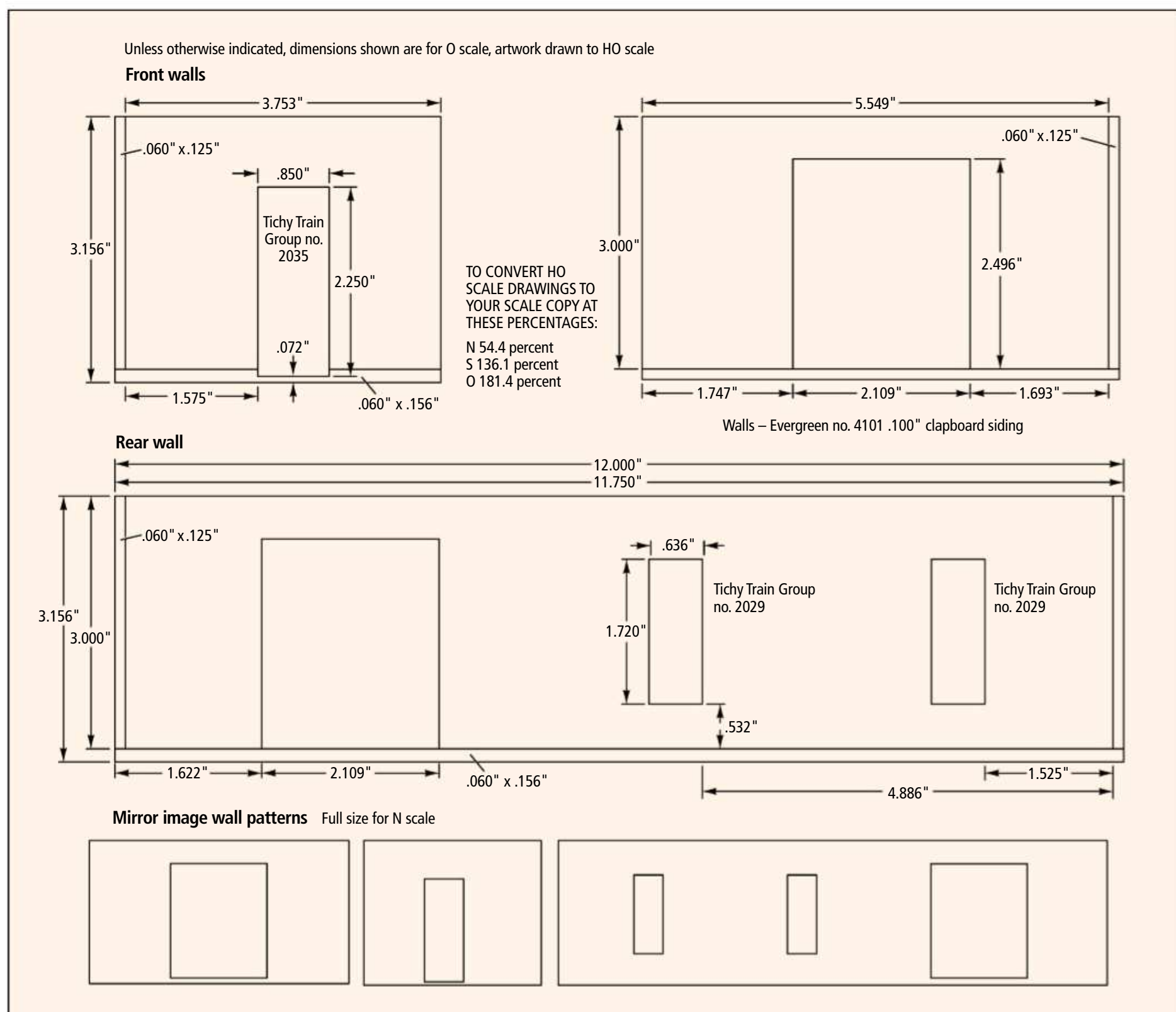
Scaling up

The Soo Line Historical & Technical Society, its Yahoo group, and society members provided a great deal of help as I researched the depot. Prototype photos as well as elevation and construction detail drawings proved invaluable.

Next, I drew pencil outlines for the four walls, roof halves, bay window, interior floor, and interior walls in pencil. I dimensioned the window and door openings for Grandt Line (now San Juan Model Co.) and Tichy Train Group plastic castings.

I scanned and e-mailed my pencil outlines to Jeff Smith in Yuma, Ariz. Jeff does custom computer-aided drafting (CAD) work.

Jeff converted the drawings to Delta CAD files. His dimensionally accurate



1 Wall plans. Tom had Jeff Smith convert his pencil drawings into computer-aided drafting files. After printing the drawings, Tom cut them out and attached them to the back of the Evergreen clapboard siding. Jeff Smith illustrations

drawings enabled me to print the patterns and use them as cutting guides.

Wall construction

I started work on the station with the front and rear walls **1**. The roughly 3" x 11³/₄" wall dimensions enabled me to cut the front and rear walls from a single 6" x 12" sheet of Evergreen no. 4101 clapboard siding.

I attached Jeff's drawings to the back of the .040" clapboard siding with rubber cement. I used mirror images of the patterns because the window and door locations aren't symmetrical. Working from the back proved much easier than trying

to lay out the doors and windows on the clapboard siding.

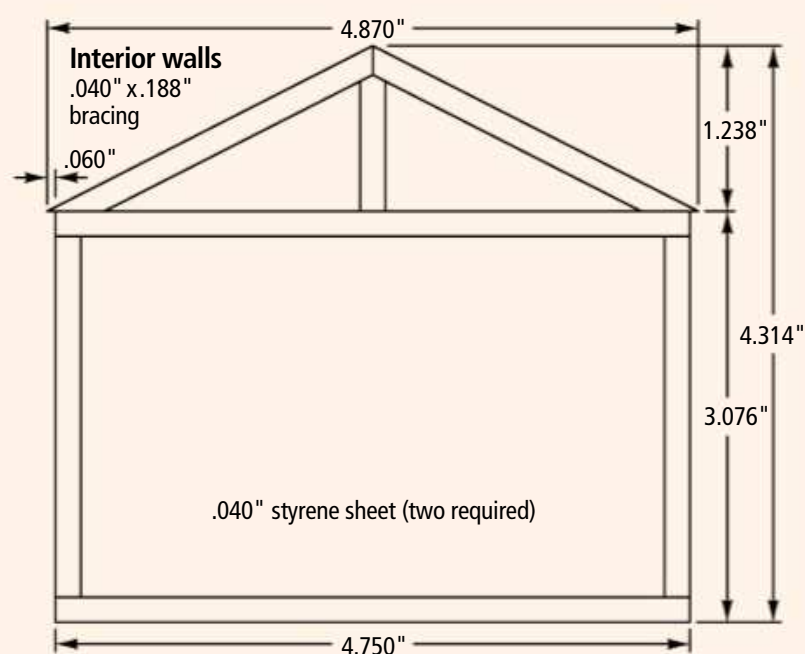
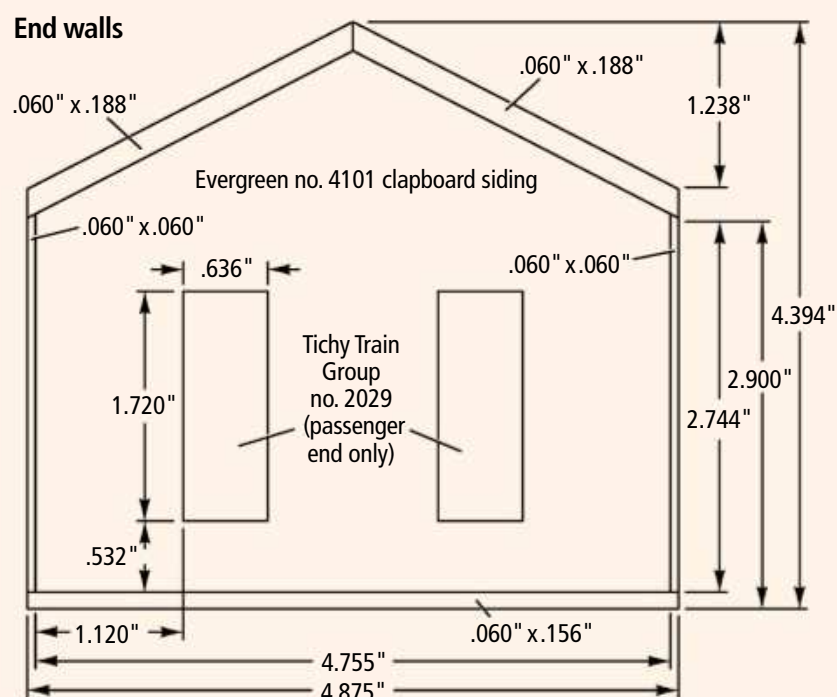
I cut the styrene with a sharp no. 11 blade (for materials less than .040" thick) or a utility knife (.040" and thicker), using a steel straightedge as a guide. I scored the styrene and snapped it along the cut. Then I used a flat file and sanding block to square up the cut edges.

Next, following the pattern outlines, I cut the openings for the freight and service doors and the windows. I added .060" x .156" styrene strip to the bottom edges of the walls to simulate water boards. I then glued .060" x .125" styrene strip corner trim boards to the ends of the rear wall and two front walls **1**.

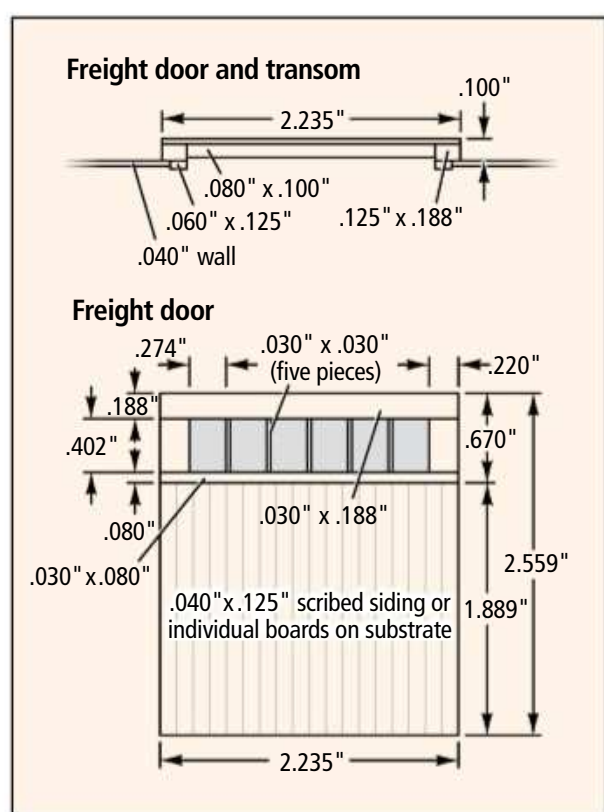
The water boards and corner trim boards are flush with the back of the clapboard siding.

I braced the insides of the front and rear walls with .040" x .188" styrene strip. To accommodate the bottom edge of the service door opening on the front wall, I cut and filed a .072" x .850" notch into the water board.

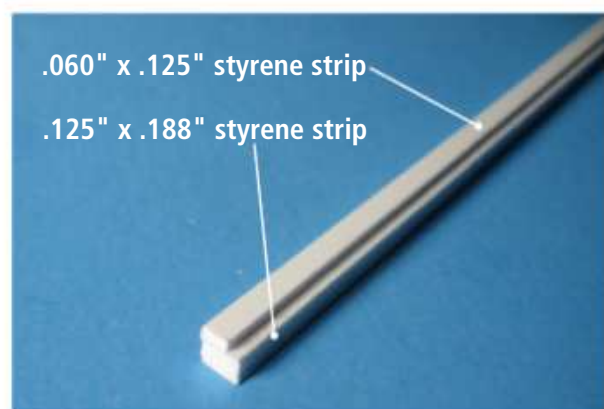
Next, I turned my attention to the end walls, **2** on the next page. As before, I printed out Jeff's drawings and attached them to the back of the clapboard siding. To ensure the siding on the ends would align with that on the front and rear walls, I carefully glued the paper pattern to the bottom edge of the



② End walls. The wall on the passenger end (left) has two windows; the freight house end doesn't have any. The interior walls (right) provide additional reinforcement and separate the waiting and freight rooms from the operator's office.



③ Freight door and transom. Unable to find commercial castings, Tom scratchbuilt the freight doors board by board from styrene. He also used .030 inch x .030 inch styrene strip to build the six-window transom.



④ Door frame. Tom made trim for the freight door openings by laminating .060 inch x .125 inch and .125 inch x .188 inch styrene strip. He made two 8 inch long strips and trimmed them to size.

styrene. The freight end wall doesn't have window openings and the waiting room end windows are symmetrically positioned, so there's no need to do a mirror image of the cutting pattern.

To accommodate the thickness of the .060 inch front and rear wall trim boards, I extended the .060 inch x .188 inch top trim board ends $\frac{3}{32}$ inch beyond the vertical .060 inch x .060 inch corner trim boards. I trimmed these extensions flush with the front and rear wall trim after the four walls were assembled.

I finished the wall portion of the project with the two interior walls **②**. These walls separate the waiting room and the freight room from the operator's office. The walls also provide front-to-rear wall bracing. I didn't add doors or a ticket window grill in the waiting room wall.

Freight doors

I found it easier to build the freight doors before the walls were assembled. The overall width of the freight doors is 8'-3", which includes the vertical trim boards. I searched the internet for comparable off-the-shelf doors, but none were available. Since I was committed to replicating the prototype as faithfully as possible, I scratchbuilt the doors.

You can see the basic dimensions for the freight door in **③**. I began construction with the three-sided doorframe and exterior trim boards. I laminated .060 inch x .125 inch styrene strip to a piece of .125 inch x .188 inch strip **④**. I made two 8 inch long laminated strips, one for each freight door.

I cut and fit the transverse top frame strips first, then added the two vertical

frame strips. I glued the parts from the inside, which kept the framing crisp and clean. Note the .125 inch wide faces become the scale 6 inch exterior trim around the freight doors.

To accommodate the depth of the door frames, I added .080 inch x .100 inch filler strips to the bottom of the freight door openings, **⑤** on the next page. I glued these strips flush to the inside top edge of the .156 inch water boards below the doors.

You can see the addition of the lower transom frame in **⑥**. The bottom edge of the frame should be 1.849 inch above the bottom of the door.

The freight doors can be made with .040 inch x .125 inch scribed styrene siding or laminating individual scale 6 inch-wide styrene strip to plain .040 inch styrene sheet. I chose the latter. I ran 150-grit sandpaper over the styrene, keeping it parallel to the edges, to add woodgrain detail. I glued the finished doors to the inside faces of the doorframes. The bottom edge rests on the .080 inch x .100 inch filler strip.

I built the six-light transom window directly over Jeff's drawing. Before gluing the finished windows and doors in place, I positioned them and checked their fit to the transom frame and the tops of the doors.

The freight doors required some patience, but they look great when completed **⑦**.

I braced the inside faces of all the walls with .040 inch x .188 inch styrene strip. Note the

MORE ON THE WEB

Registered users of our website can download copies of Jeff Smith's depot cutting guides. Visit ModelRailroader.com.

Materials list

Evergreen styrene

131 .030" x .030" strip
134 .030" x .080" strip
142 .040" x .040" strip
143 .040" x .060" strip
146 .040" x .125" strip
153 .060" x .060" strip
156 .060" x .125" strip
157 .060" x .156" strip
158 .060" x .188" strip
165 .080" x .100" strip
168 .080" x .188" strip
187 .125" x .156" strip
188 .125" x .188" strip
361 .060" x .375" strip
393 .125" x .500" strip
4101 .040" thick x .100" clapboard siding
4125 .040" x .125" scribed siding
9040 .040" sheet
9080 .080" sheet

Floquil paint

F110074 Boxcar Red
130013 Grimy Black

Midwest Products

6405 $\frac{3}{16}$ " sheet balsa
6055 $\frac{3}{16}$ " x $\frac{3}{16}$ " balsa

Northeastern Scale Models

116STR316 $\frac{1}{16}$ " x $\frac{3}{16}$ " basswood strip
18SCR116 $\frac{1}{16}$ " thick $\frac{1}{8}$ " scribed basswood siding

Polly Scale paint

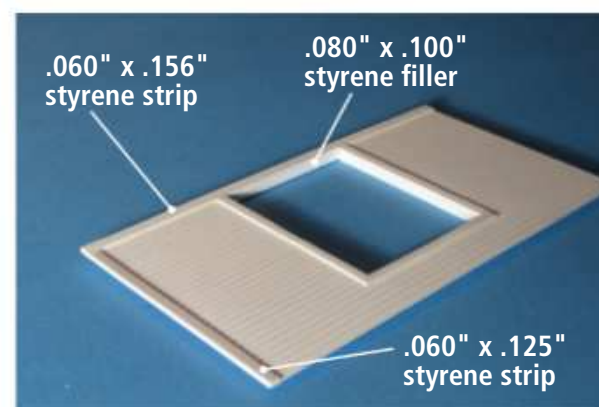
414255 D&RGW Building Cream

Grandt Line

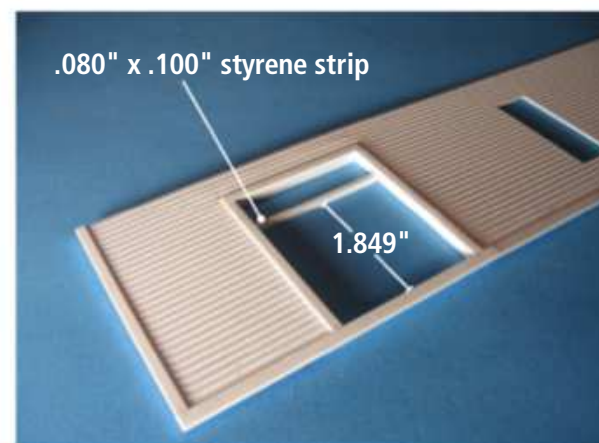
3767 double-hung window

Tichy Train Group

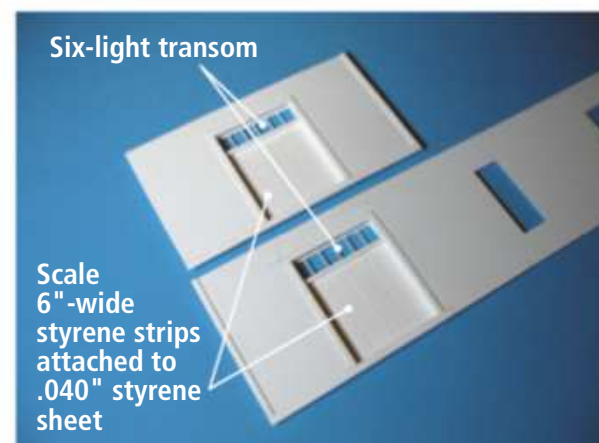
2029 double-hung window
2035 exterior service door with transom
2039 interior door (optional)



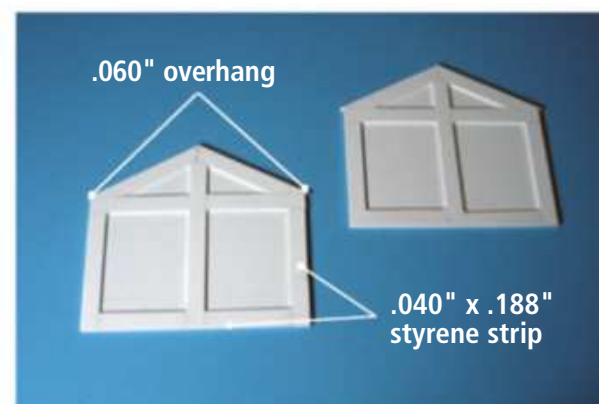
5 Filling in. The trim on the sides of the freight door was deeper than the trim on the bottom. Tom added a piece of .080" x .100" to the back of the .060" x .156" strip.



6 Adding the transom. A piece of .080" x .100" styrene serves as the frame. Tom modeled the door and windows as separate pieces.



7 The payoff. Tom applied the glue for the doors and windows from the inside, yielding a clean look on the model's exterior. He used 150-grit sandpaper to add woodgrain detail to the vertical styrene strip on the doors.



8 Extra strength. Tom braced all interior walls with .040" x .188" styrene strip. The two interior walls have .060" overhangs at the top.

.060" roof overhangs at the tops of the two interior walls **8**.

Operator's bay

I built the bay assembly as a separate item, **9** on the next page. First, I cut the upper and lower clapboard parts. Then I used straight pins to attach the styrene to the drawings. Due to the difference in window height between the Tichy Train Group windows in front and the Grandt Line [now San Juan Model Co. – Ed.] windows on the sides, the height of the upper clapboard siding on the front is a tad less than the sides. I carefully flowed liquid cement into all the joints with a soft brush.

The side windows are Grandt Line no. 3767 double-hung windows. To make them more accurate, I added .030" x .030" muntins centered vertically in the upper and lower sashes. The front windows are Tichy Train Group no. 2029 windows. I trimmed the peaked tops **10**.

I didn't attach the windows to the bay until the windows had been airbrushed and the glazing added.

I assembled the three sides of the bay, ensuring the sides were at 90 degrees to the front wall. I used .060" styrene sheet to add an agent's desktop to the interior of the bay, a floor, and bracing at the top.

I then set the assembled bay aside. I attached it to the front of the depot

after the bay had been painted and I'd installed the window glazing.

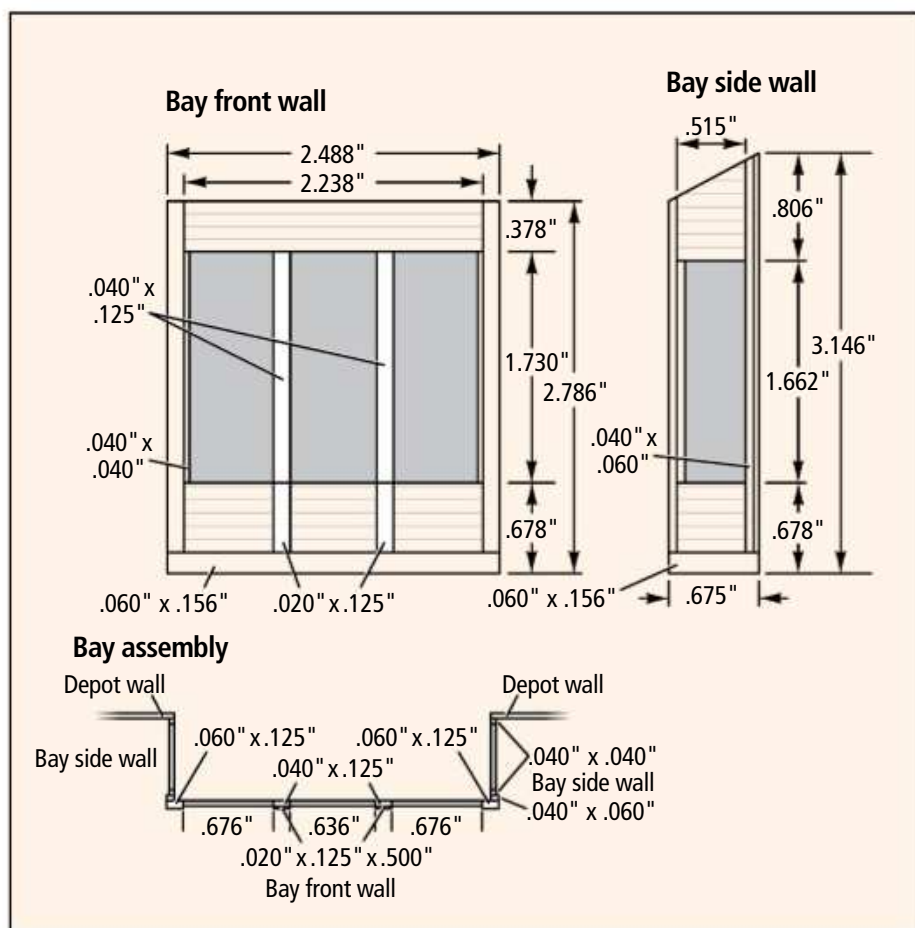
Raising the walls

Next, I worked on the station's floor, which I cut from .080" styrene sheet. To stiffen the end walls, I added 2" x 2" triangular braces cut from .060" sheet **11**. Then I attached the end walls, using a square to ensure the walls were at a 90-degree angle to the floor.

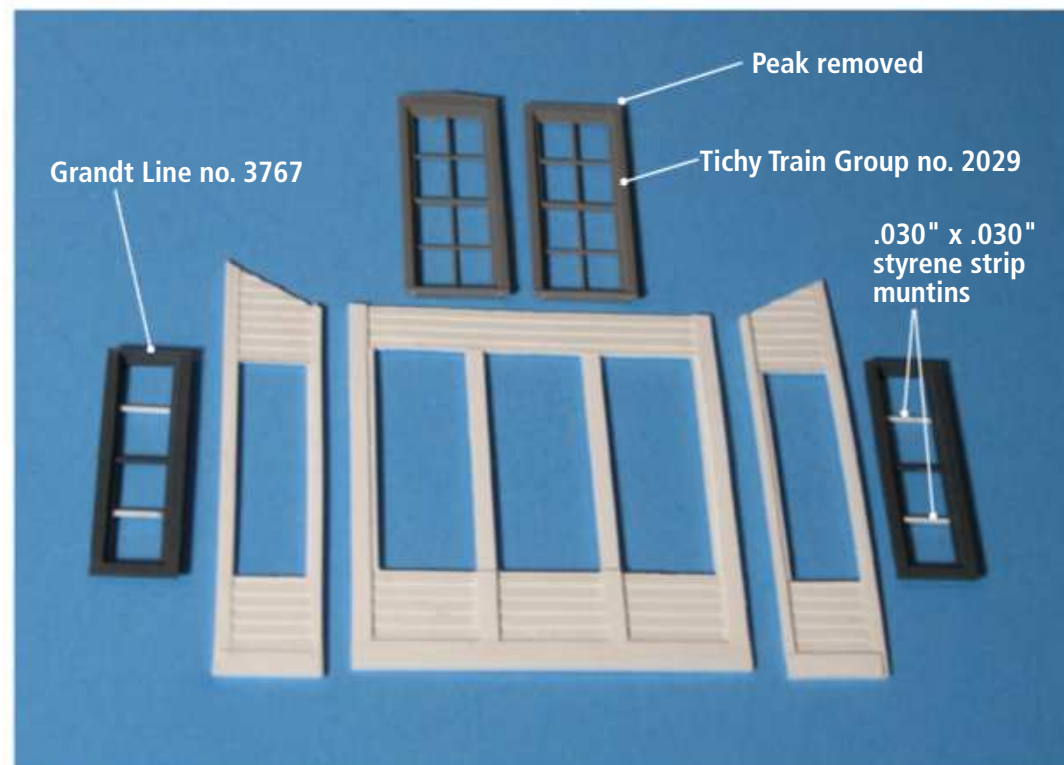
I added the back wall next. I notched the top ends of the wall to clear the .060" x .188" end wall trim board extensions. After dry fitting the rear wall to ensure the corner trim boards correctly overlapped, I taped it in place and glued it from the inside to the floor and end walls. I waited a day before I added the two front walls.

I then dry fit the assembled bay into its opening and added the two interior walls. On the prototype the walls separated the agent's office from the waiting and freight rooms. On the model they also stiffen the front and rear walls.

I turned the depot upside down and attached .125" x .500" styrene strips to the underside of the floor. I recessed these strips $\frac{1}{32}$ " from the siding. The strips represent the foundation and place the front freight door at the correct height above the wood-planked platform.



9 Operator's bay. Tom again used Jeff's drawings to model the operator's bay. He sized the window openings to fit Grandt Line and Tichy Train Group window castings.



10 Plan to reality. This photo shows the pieces that make up the operator's bay. Tom modified the Grandt Line and Tichy Train Group window castings to match the prototype.

Roof construction

I built the roof from .080" styrene sheet using the dimension in 12. I edge-glued additional material to two 6" x 12" sheets to get the required length. I could have used 12" x 24" sheet, but I didn't have any on hand.

I beveled the top edges where the roof halves meet and laid out the interior triangular bracing locations. The interior braces at the roof ends orient the roof overhangs, and should fit snugly between the end walls. I centered the middle brace lengthwise on the roof.

I made the chimney from 1/2" x 1/2" hard balsa and skinned it with Holgate & Reynolds brick sheet. Check the fit of the

base of the chimney to ensure it matches the roof slope. I painted the bricks Tuscan Red and the capstone with Delta Ceramcoat Mudstone. I also used the Mudstone to help the mortar lines in the brick stand out. I used a piece of 3/16" brass tube, painted black, for the flue.

The chimney is located to align with the interior wall that separates the passenger waiting room from the operator's office. There was a stove in the office that stood against the waiting room wall. I beveled the top edges of the front, bay, and rear walls to match the angle of the roof slope. Then I marked the location of the bay on the front roof panel and added a .472" x 3.084" extension cut from .080" styrene sheet.

Eave supports

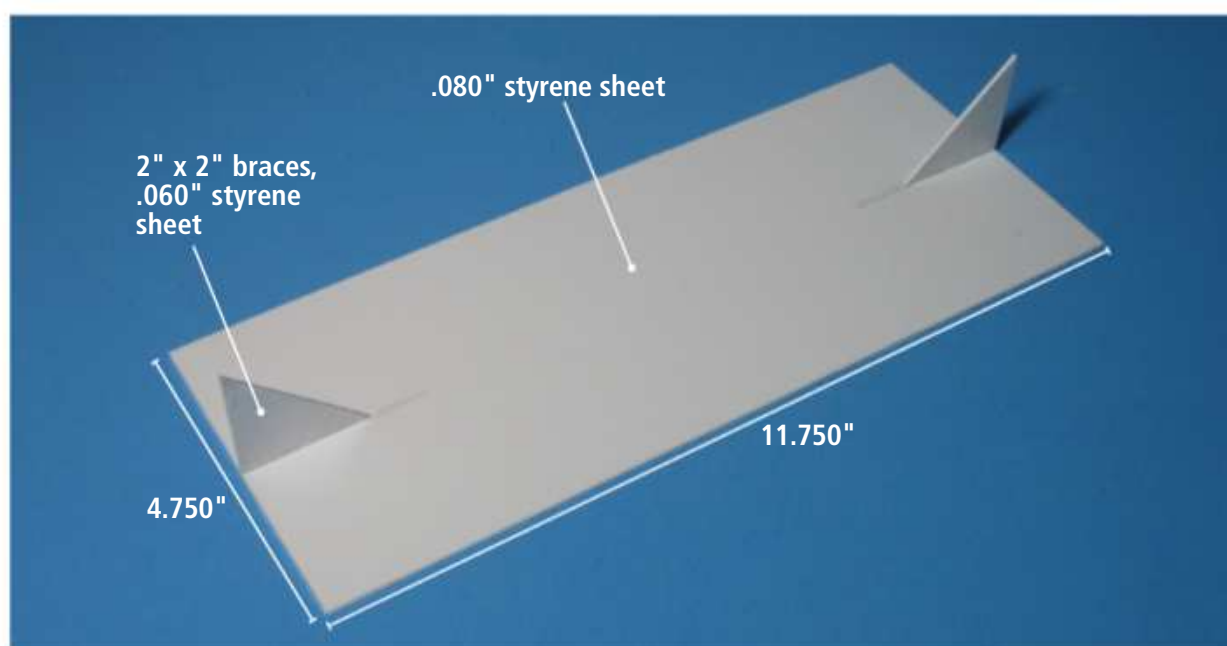
The eave supports 13 are a unique scrolled design. After much head scratching, and considering converting the drawings to 3-D and printing resin parts, I finally decided to reduce the supports to their basic outlines and made them myself.

I found the easiest way to ensure a consistent profile was to laminate styrene strip for each of the two supports. The bay eave support strip consists of two .080" x .155" strips laminated into a .080" x .310" cross-section. The front, rear, and end wall support strip consists of five .080" x .708" strips laminated face-to-face into a .417" x .708" cross-section.

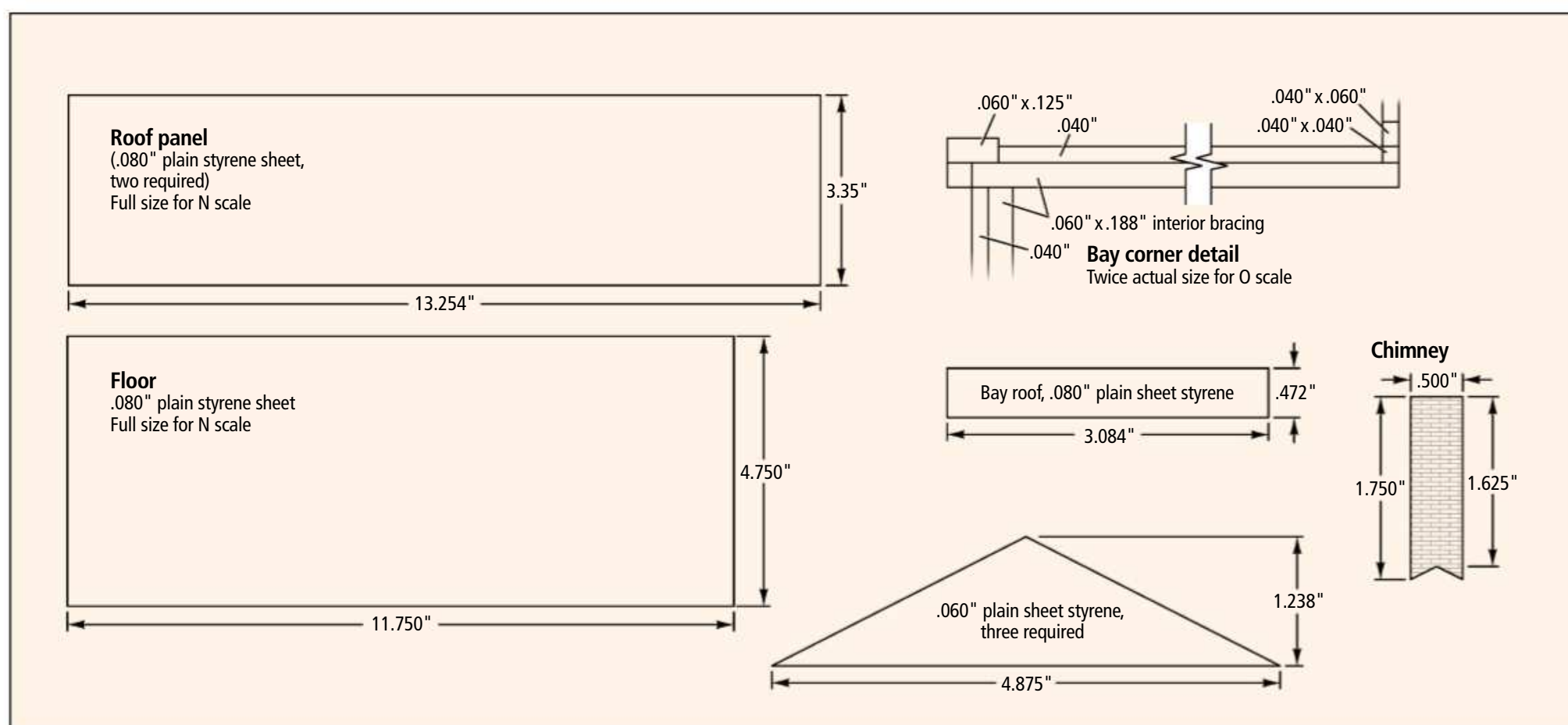
I carved, filed, and sanded the laminated strips to match the two bay support profiles. I used a utility knife, no. 11 blade, a couple of rat-tail files, and sandpaper to shape the reverse curve contours. Then I used a pin vise and a 1/16" bit to drill a hole through the larger eave support strip. Doing the shaping and drilling before cutting the individual supports ensures the 1/16" diameter hole locations and outlines are consistent.

Before I cut the larger eave supports, I trimmed the angled portion of the front and rear wall supports so that these supports would fit snugly under the roof overhangs.

To facilitate sawing the individual eave supports from their strip, I glued basswood strips to a scrap piece of



11 Floor it. Tom made the station floor from .080" plain styrene sheet. He cut the 2" x 2" triangular braces, used to support the end walls, from .060" styrene sheet.



12 Roof, floor, and more. Jeff's illustrations provide the dimensions for the roof and floor. In addition, they show how to brace the corner for the operator's bay, the dimensions of the bay roof, and the triangle-shaped roof braces.

lumber. The basswood held the styrene strips in place when I cut them with a razor saw **14**.

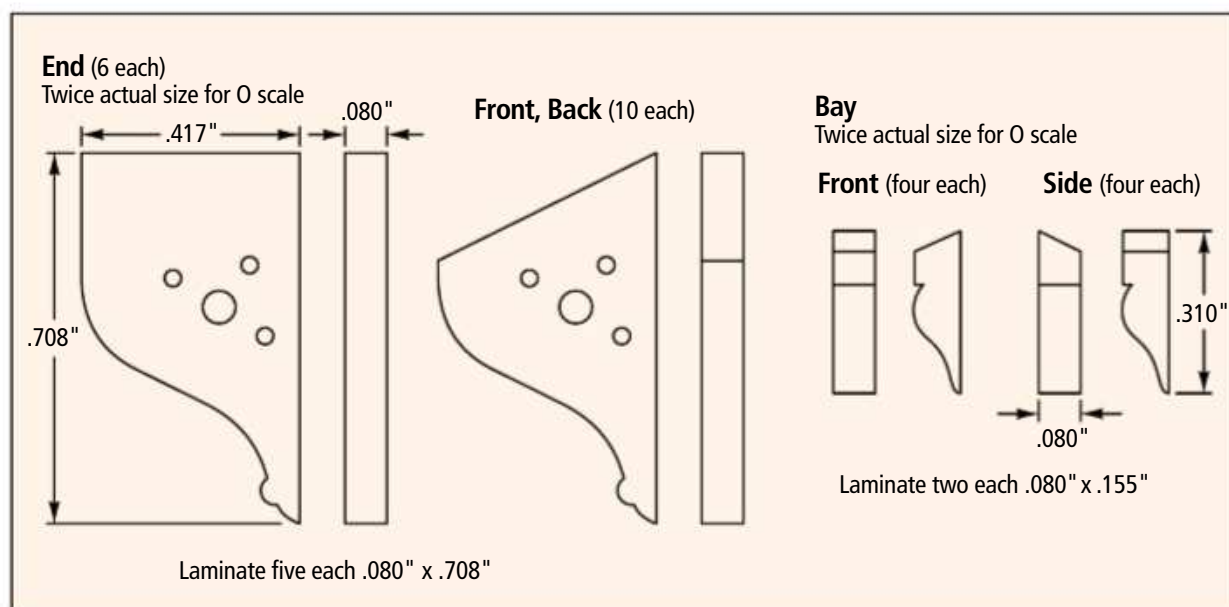
A bit of sanding on the eave support faces and their edges finished up the supports. I waited to install the eave supports after the roof was finished and attached to the depot.

Painting and assembly

I wanted the depot to be in Soo Line's 1950s color scheme. Before priming and painting, I washed the model in warm water with dish soap added to remove impurities. After rinsing the model, I let it air dry.

I primed the model with Floquil gray primer in a spray can [Floquil and Polly Scale products have been discontinued by The Testor Corp. Tamiya and other hobby paint manufacturers offer gray primer in aerosol cans. – Ed.] I let the structure sit for a few days before I turned the station over to my friend, Jerry Roy, for painting. He sprayed the station Polly Scale Denver & Rio Grande Western Building Cream (no. 414255) and Floquil Boxcar Red (no. F110074), giving the station a slightly faded look. [Model Master no. 4722 Radome Tan is a reasonable match for Building Cream. Tamiya XF-64 Red Brown is a close match to Boxcar Red. – Ed.]

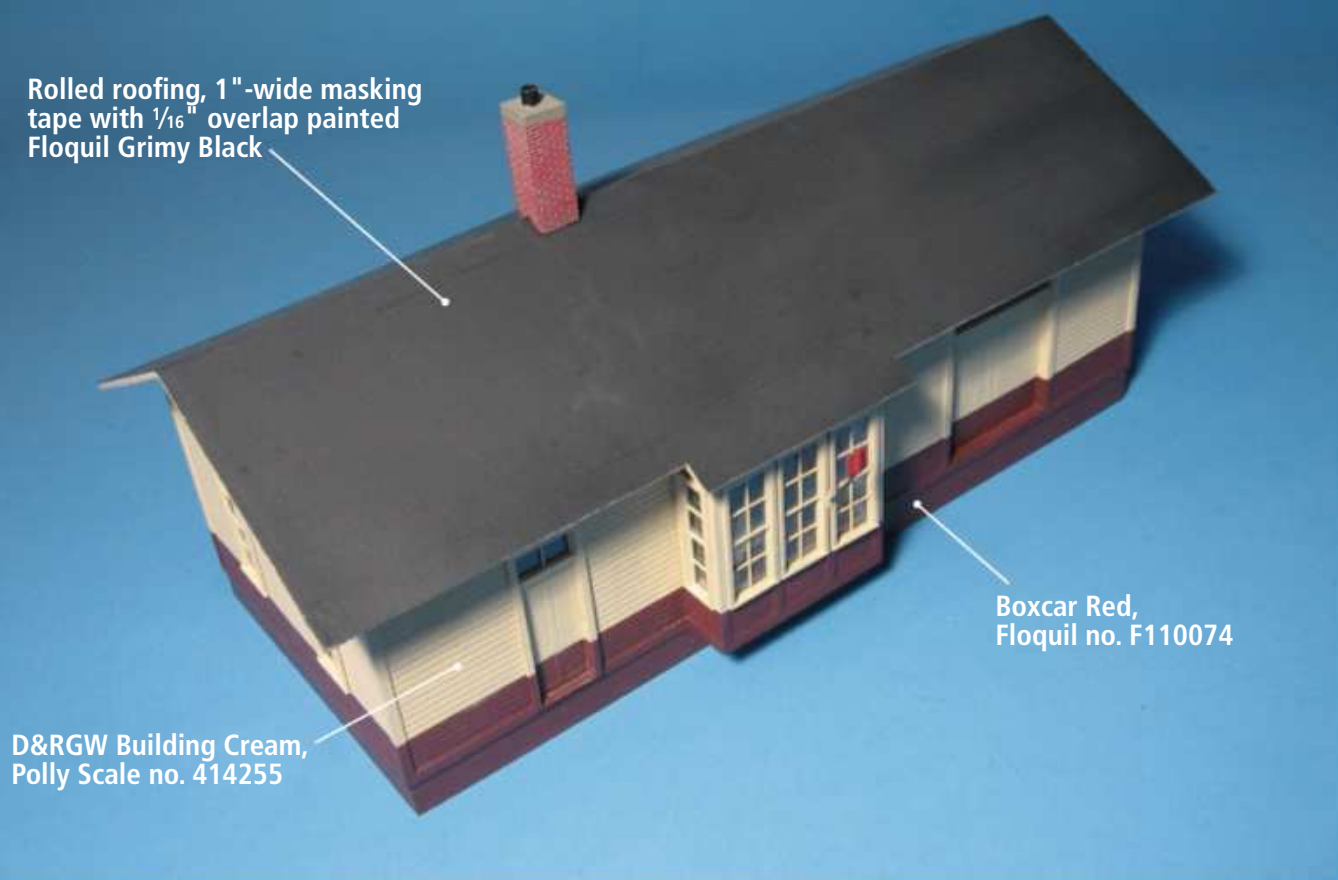
Once the paint dried, I used 1" wide masking tape to simulate rolled roofing. I overlapped the tape seams $\frac{1}{16}$ ". Before



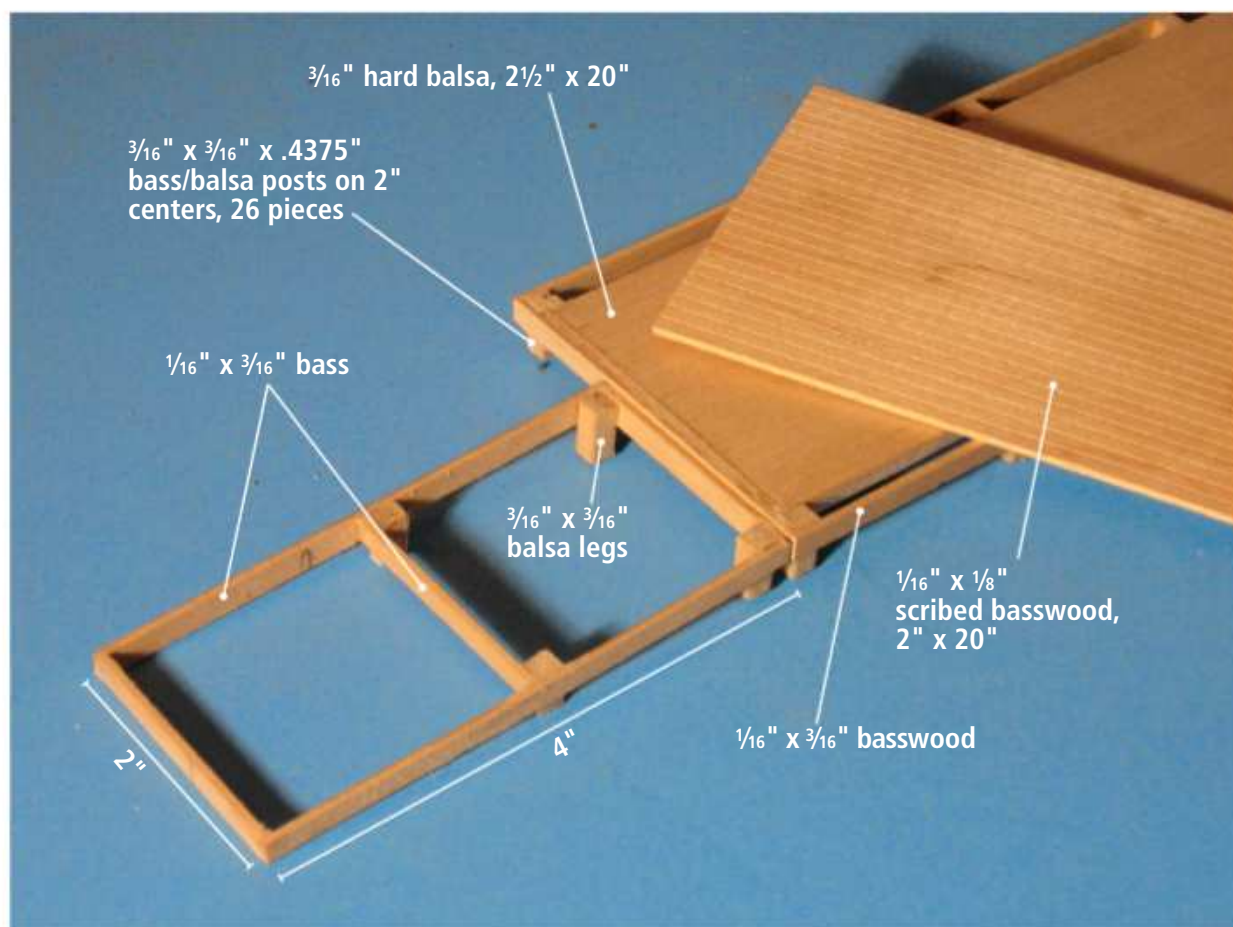
13 Eave supports. Many Soo Line depots had distinctive eave support brackets. Tom originally thought about 3-D printing the parts, but later decided to scratchbuild them using laminated styrene.



14 Cutting jig. Since Tom had to make several eave supports, he made this cutting jig from scrap lumber and basswood strips. He drilled the $\frac{1}{16}$ " hole in the center of the large eave supports before cutting the individual pieces.



15 That 1950s look. Tom had his friend and fellow O scale modeler Jerry Roy paint his depot. Tom made the rolled roofing, painted Grimy Black, with masking tape.



17 Switching gears. Until this point, Tom used styrene strip and sheet for the bulk of the depot project. He made the station platform from wood sheet and strip.

attaching the roof, Jerry sprayed it with Floquil Grimy Black **15** [Tamiya Rubber Black (XF-85 in a bottle or TS-82 in a spray can) is a great substitute for Grimy Black. – Ed.] Once the roof was in place, I installed the eave supports.

I made the DALLAS station signs using Wide Latin font (10 point) on my home computer. I printed the signs, cut them out, and attached them to .020" styrene. I secured the boards to the station with Aleene's Tacky Glue. Then I made and installed the Soo Line-style train-order signal **16**.

Depot platform

The station platform dimensions are shown in **17**. I started by cutting a deck core from $\frac{3}{16}$ "-thick hard balsa. Then, using a North West Short Line Chopper, I cut 26 balsa legs, $\frac{3}{16}$ " x $\frac{3}{16}$ " x .438" long.

I built the ramp and platform on Jeff's drawings, with clear plastic protecting the paper. I attached the legs with Elmer's white glue and pinned them in place.

When the glue had dried, I added $\frac{1}{16}$ " x $\frac{3}{16}$ " basswood strips around the



16 Train-order signal. Though small, the signal attached to the operator's bay adds a realistic touch to the station. Tom made the train-order signal using brass wire and styrene.


perimeter of the platform and attached the ramp legs.

Next, I removed the platform and ramp from the plan and attached the $\frac{1}{16}$ "-thick $\frac{1}{8}$ " scribed basswood decking. I placed clothespins every inch or two to ensure the basswood decking lay flat on the balsa core.

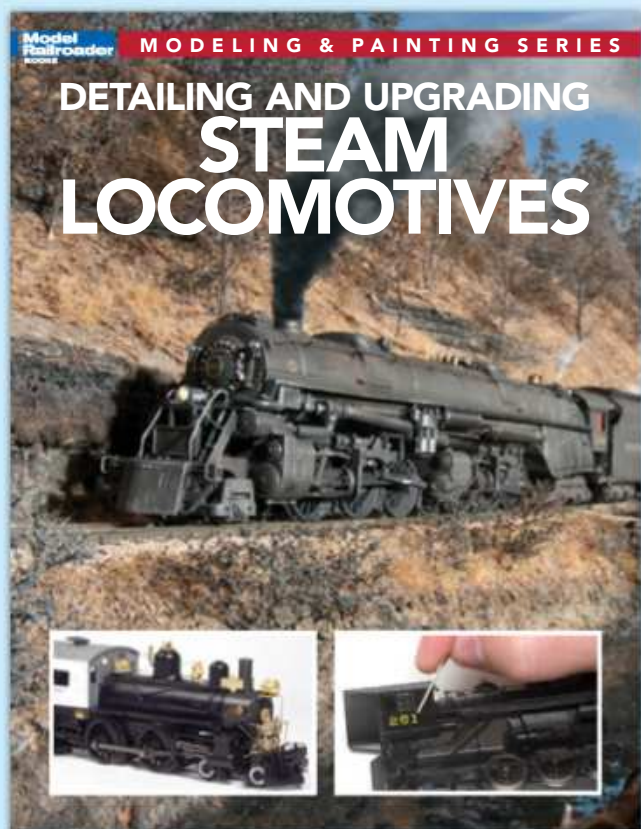
I added a ramp at the base of the freight door to handle the difference in height between the freight door sill and the deck.

I stained the platform and ramp with A.I.M. Products (now Monroe Models, www.monroemodels.us) Quick Age stain. It took four to five applications of the stain to achieve the effect I wanted.

Note the left hand end of the ramp doesn't reach the layout surface. The Soo Line built a dirt ramp up to the edge of the deck. The finished platform can be glued to the depot foundation or you can leave it loose like I did.

If you haven't tried your hand at scratchbuilding a structure from photos and prototype drawings, I hope this article has encouraged you to give it a try. My Dallas, Wis., depot is now on site serving passengers and handling less-than-carload freight deliveries. 

Noted scratchbuilder Thomas J. (Tom) Houle of Mequon, Wis., passed away in October 2014. His article on scratchbuilding a Copper Range caboose from styrene appeared in the May 2014 issue of Model Railroader magazine.



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The advantages of advanced consisting



Larry Puckett used advanced consisting for this A-B-A set of F-units coasting down the ladder into Charlottesville Yard on his Piedmont Southern HO scale layout. This month, Larry goes over some of the advantages and challenges of advanced consisting.

I'm continually surprised at how few people I talk to at operating sessions and train shows are aware of advanced consisting, especially since it offers so many advantages over basic and command-station-assisted, or universal, consisting. I compared these various consisting methods back in my July 2016 DCC Corner column, and this month I want to focus on advanced consisting.

But first, let's look back at the different consisting methods and their weaknesses and strengths. Basic consisting involves assigning the same address to all the locomotives in a consist. They all will respond to that address simultaneously. However, they also will all respond to all function commands.

Consequently, the horns and bells will sound in all the locomotives in a consist. In addition, all the locomotives in a consist must either be placed facing the same direction or special measures must be taken to allow some to

move backward. However, you can easily move a basic consist from one layout to another without having to remake the consist.

Command-station-assisted consisting is probably the most commonly used method, since it's easiest and usually built into the command station software. With this method, locomotives are added to a consist using a programming throttle and can face any direction.

The address of all the locomotives in the consist and their orientations are stored in command station memory.



**WHEN MAKING UP
ADVANCED CONSISTS,
I BEGIN BY SPEED
MATCHING ALL THE
LOCOMOTIVES.
— LARRY**

When a function command is sent to the consist, only the lead locomotive will respond. However, individual functions can be triggered, since the locomotives will still respond to their primary address.

Advanced consisting offers many advantages over these other methods. With this method, the same consist address is entered into Configuration Value (CV) 19 in each locomotive's decoder.

This means that the consist is independent of the command station and can be moved to another layout and operated without any reprogramming. In that respect, it's similar to basic consisting. Also, because each locomotive decoder is responding to the same address, there are no delays. And since the consist address is stored in the decoder, resetting the command station memory won't wipe out the consist.

With advanced consisting you can control how functions respond to commands when in a consist with CVs 21 and

22. You can turn off lights and sounds in all the trailing units and only allow the lead engine to respond, for example.

Some decoders now offer other advanced consisting functionality. For example, SoundTraxx Econami and Tsunami2 decoders allow you to control how functions F0 through F28 respond and to customize automation of these functions.

The one big downside to advanced consisting is that you're limited to two-digit addresses, actually 1-127 (two-digit when converted to hexadecimal in the decoder). This seems to be a throwback to the early days of Digital Command Control (DCC), when all decoder addresses were limited to two digits.

From a practical sense this really isn't a limitation, since I doubt many folks will operate more than 127 consists. However, for those who have become accustomed to their throttle address being the same as the lead locomotive number, this can take a little getting used to.

You could use the last two or three digits of the lead locomotive number for the consist, but eventually you'll run into conflicts, so be ready with a work-around. To avoid this, NCE recommends beginning at 127 and working backward without regard to the locomotive numbers.

No matter the method, setting up consists can require some advance planning and programming. With advanced consists in particular, you need to decide how you want the functions on individual locomotives to respond when in a consist, and set CVs 21 and 22 accordingly.

Of course this may all change if you decide to switch a mid-consist locomotive to a lead position. Once a consist is

set up, there are disadvantages to altering it in the future.

Another factor with all types of consisting that needs to be dealt with is ensuring that the locomotives to be consisted all operate at about the same speeds. Speed matching is the process of programming the decoders in the locomotives so that their speeds are the same throughout the throttle range. Failure to do this may result in locomotives fighting each other.

In the September 2016 column, I covered speed matching and discussed methods for tweaking locomotive performance. I've posted a video on my website (www.dccguy.com) showing how I speed match locomotives.

Other complications can arise due to differences in how some functions work. For example, SoundTraxx F11 braking isn't directly compatible with other types such as TCS WOWSound prototype mode, which by default uses F7 for braking. These two braking methods also differ in how they operate, with SoundTraxx F11 being an on/off function and WOWSound using F7 to turn brakes on incrementally and F6 to release them.

Back-electromotive-force (back-EMF) settings may also differ among decoder brands, making them difficult to mix. Some other brand-specific features may not mix well, either. Consequently, you may decide to use the same brand decoders in locomotives in consists instead of mixing them, but this is also true of any form of consisting.

Conflicts may occur if one or more of the consisted locomotives is still in memory as a single or command-station-assisted locomotive. For example, the lights in my F units shown above flashed when in advanced consists,

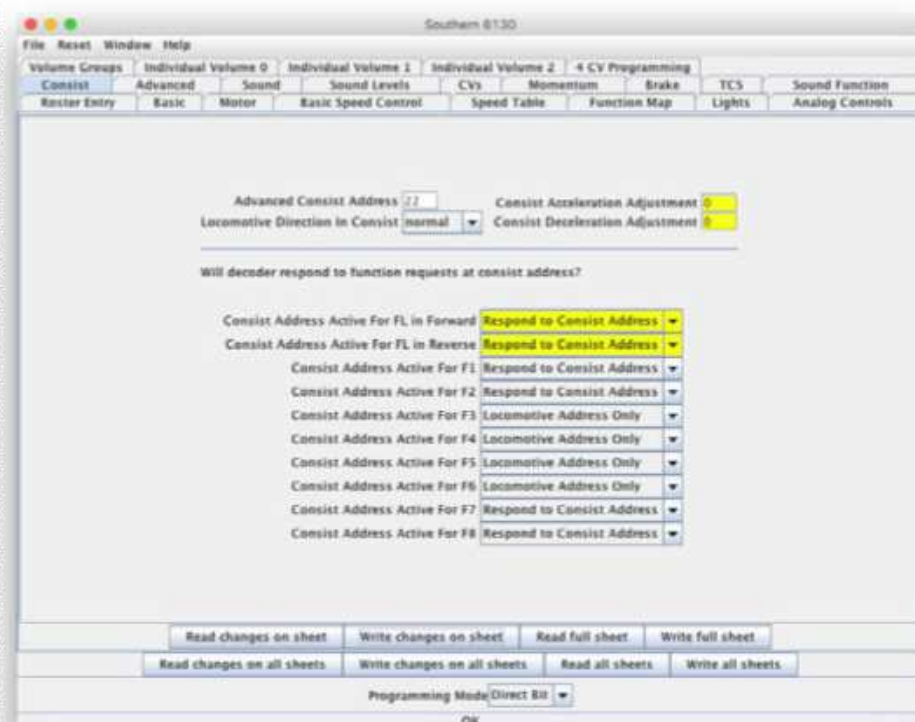
but didn't when I broke up the consist or operated them in command-station-assisted consists. Simply clearing the locomotive roster in the command station eliminated this issue.

Some command stations will automatically use advanced consisting when creating consists. For example, NCE systems will automatically write the consist number you enter into CV19 in all the locomotives in the consist. In addition, they'll keep track of which locomotive is in front and which is on the rear, and automatically make corrections if the direction of travel is reversed.

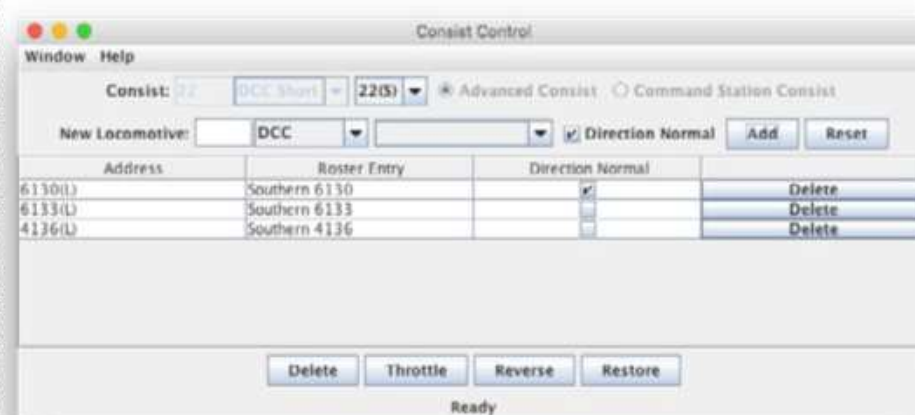
This comes in handy for situations where the lead engine becomes the rear engine and vice versa, such as when a train reaches the end of a branch line and does a runaround to return in the opposite direction.

When making up advanced consists, I begin by speed matching all the locomotives. I then use Java Model Railroad Interface's (JMRI) DecoderPro to set up the address and function assignments for each locomotive ①, which is a lot simpler than calculating the values for these CVs by hand. [Java Model Railroad Interface is available online at jmri.sourceforge.net. – Ed.] But if you don't want to mess with DecoderPro, Digitrax offers a free app, the Digitrax Toolbox, for cell phones and tablets that will calculate these and other CVs that you can program into any decoder.

Once the function assignments are made and the consist address added to CV19, the consist is completed. It's important to remember that the locomotive only becomes part of a consist if the consist address is stored in CV19. If a value of "0" is in CV19, the locomotive won't respond to



① **Locomotive options.** Southern no. 6130 has been assigned to consist 22 with its normal forward direction of travel. In the consist it will only respond to functions F0, for lighting; F1; F2; F7; and F8. The advanced consist pane in Java Model Railroad Interface's DecoderPro allows Larry to assign a consist address, specify the normal direction of travel, add additional consist momentum settings, and set whether a function will respond to the consist address or its primary address.




② **Building a consist.** The DecoderPro consisting tool allows Larry to create consists and add or delete locomotives from it. Note that it doesn't allow him to edit the way each locomotive responds to function commands when in a consist like with the advanced consist pane. In this case locomotive 6130 has been assigned the lead position in its normal direction of travel, while locomotives 6133 and 4136 have been added running in the reverse direction.

consist commands, only to its primary address.

That way you can operate the locomotive as a single unit as you normally would, then program a consist address to CV19, thereby adding it to a consist. By changing CV19 back to "0" the locomotive is dropped from the consist.

The function assignments made in CVs 21 and 22

remain stored in the decoder, but aren't acted on. If you have several locomotives with function assignments already made but no consist address added, they can later be made into a consist using the DecoderPro consist tool for this purpose ②. Given all the advantages of the method, I hope you will give advanced consisting a try. 



Walther'sMainline HO scale EMD F7 diesels

New tooling and realistic sound highlight these HO scale General Motors Electro-Motive Division F7 locomotives from Walther's. Part of the value-priced Walther'sMainline series, the models feature accurately detailed body shells and are available with optional dual-mode sound decoders that operate on Digital Command Control (DCC) and direct-current (DC) layouts.

I reviewed a SoundTraxx decoder-equipped version from the first production run. According to the Walther's website, the second production run will have ESU Sound decoders. See the "Facts & features" box on the next page.

The prototype. With 2,316 A units and 1,483 B units built between 1948 and 1952, the F7 was the most numerous of EMD's F unit diesel-electric locomotives. Although the F7 had the same 1,500 hp rating of an EMD F3, the F7's improved

traction motors boosted its tonnage rating by 30 percent over its predecessor.

The Chicago, Burlington & Quincy received its first F7s in 1950. These were single F7A units numbered 163-166. That same year EMD delivered three F7 A-B-A sets to the road, numbered 167 to 169. Each unit in these sets carried the same road number followed by a letter. For example, locomotive no. 167 consisted of 167A, 167B, and 167C.

The F units toiled away for nearly two decades, hauling freight on the Q. Starting in 1969, the road traded in its F7s to EMD toward the purchase of new SD45s. In 1970, the Burlington, along with the Northern Pacific; Great Northern; and Spokane, Portland & Seattle, merged into the Burlington Northern RR. The only CB&Q F7s to make it into the BN were nos. 168A and 168C, but these units were also traded in just five months after the merger.

The model. Our review samples model Burlington Route nos. 167-A and 167-B. Walther's also sells 167-C as an individual F7A.

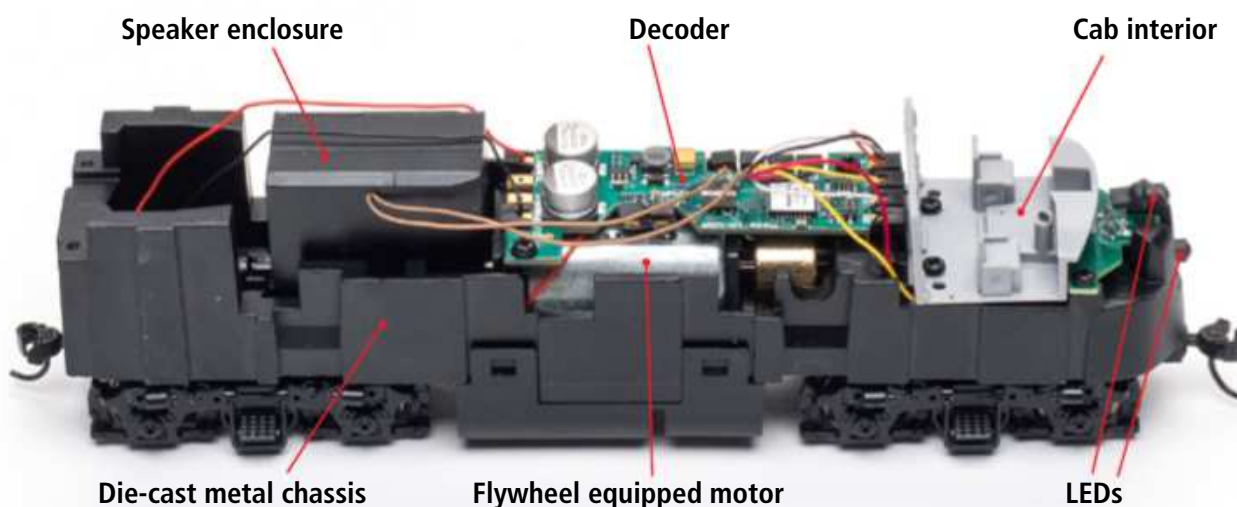
The Walther'sMainline locomotives match the dimensions of prototype drawings in *F Units: The Diesels That Did It*, by Jeff Wilson (Kalmbach Publishing Co., 2000). Correct for its Burlington prototype, the HO diesels depict so-called Phase I F7. Used by railfans, the term "phase" refers to external changes that occurred during a locomotive's production run. Spotting features of a Phase I EMD F7 include horizontal-slit Farr air-intake grills, horizontal louvers along the sides of the body (A unit), a square rear-door window, and a 36" diameter dynamic brake fan.

The HO F7's plastic body shell has well-defined door and rivet seams and rooftop fan grills. Inside the cab is a one-piece interior with two seats. Crew figures aren't included.

Like other Walther'sMainline locomotives, the F7 is more modestly detailed than a roadname-specific Walther'sProto model. Separate detail parts on the Walther'sMainline F7 include factory-installed handrails along the cab and side doors and two single-chime air horns on the roof. The Blomberg truck sides include separate brake cylinders.

The model is smoothly painted in the Burlington's light gray freight livery. There's sharp color separation between the red and black stripes.

All lettering is clearly printed and matches prototype photos, including the



Removing the A unit's shell reveals the locomotive's mechanism and electronics. A vertically mounted speaker is inside the enclosure to the rear of the decoder.



scale 1" 167-A on the F7A and 167-B on the B unit. Printed EMD builder's plates are also correctly positioned next to the cab steps. The painted windshield wipers on the clear cab window glazing of the F7A are so well done that I almost mistook the wipers for separate parts.

Mechanism. The plastic body shell is press-fit and easy to remove by carefully spreading its sides to disengage the locking tabs. The flywheel-equipped can motor rests in the center of a die-cast metal chassis. Driveshafts transfer power to the truck-mounted gearboxes.

The SoundTraxx decoder is mounted above the motor with a fully enclosed, vertically mounted round speaker behind it. On the A unit, the headlight and signal light are illuminated by two light-emitting diodes (LEDs).

Performance. The model's 3.2 ounce tractive effort is equivalent to 45 HO scale freight cars on straight and level track. The single unit also had enough pulling power to haul 12 HO freight cars up a 3 percent grade without slipping or stalling.

As you can see in the performance charts above, the locomotive accelerated smoothly during both DC and DCC speed tests. The top speeds are within a few scale mph of gear ratios available on the prototype.

The helical gears used in the Walther's mechanism provide exceptionally smooth low speed performance without any noticeable gear noise to get in the way of the sound system. In DCC, the decoder can be set for 128 speed steps for finer control.

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PERFORMANCE CHARTS (SINGLE UNIT)

DRAWBAR PULL	3.2 ounces
	45 HO scale freight cars
SCALE SPEED (DC)	
VOLTS	SCALE MPH
6 (start)	11
7	23
9	52
12	85
SCALE SPEED (DCC)	
SPEED STEP	SCALE MPH
1	3
7	27
14	55
28	78

DCC sound. The SoundTraxx decoder in the F7 features the same realistic sound reproduction of the firm's Tsunami or Econami decoders. User-triggered effects include long and short horn blasts, the bell, headlight, and Gyalight. The latter is correctly located above the door-mounted headlight.

The decoder doesn't include coupler crash, dynamic brake fan, or button-controlled braking effects. It also doesn't support as many configuration variables (CVs) as the Tsunami or Econami decoders, but most of my favorite features were still there.

In addition to master volume control, I could adjust the levels of the horn, bell, and diesel engine. Both the EMD 567 diesel and the single chime air horn sounded like prototype recordings I've heard.

I was able to add acceleration and deceleration momentum. I also easily advance-consisted the A and B unit together. The units were speed matched out of the box.

To further fine tune performance, the decoder supports custom or 16 preset speed tables.

The decoder also supports function mapping and manual notching. By changing CVs 38 and 41 to a value of 64, I programmed this feature on buttons F4 and F7. Then I could change the engine RPM sound independently of the locomotive speed.

Out of the box the headlight shone constantly. To follow Rule 17 a headlight needs to be dimmable. I easily programmed this feature by changing CV 49 to 129 and CV43 to 16. After those values were programmed, I could dim the headlight by pressing F9. More programming tips can be found in the SoundTraxx Tsunami manual, under "Manuals for discontinued products,"

Conducted by Dana Kawala

Facts & features

Price: DCC sound: A-B set, \$369.98;

A unit, \$199.98.

DC, no sound: A-B set, \$249.98;

A unit, \$129.98

Manufacturer

Wm. K. Walther's Inc.

5601 W. Florist Ave.

Milwaukee, WI 53218

www.walthers.com

Era: 1950 to 1969 (as decorated)

Road names: Chicago, Burlington & Quincy; Alaska RR; Atchison, Topeka & Santa Fe; Canadian National; Milwaukee Road; Northern Pacific; Pennsylvania RR; Southern Ry.; Southern Pacific; VIA Rail; and Wabash.

DCC versions with SoundTraxx decoders: ATSF, Burlington, CN, PRR, Southern, SP.

DCC versions with ESU Sound decoders: ARR, Milwaukee, NP, VIA, Wabash.

Features

- All-wheel drive and electrical pickup
- Die-cast metal chassis
- Dual-mode sound decoder (DCC version)
- Five-pole skew-wound motor with dual brass flywheels
- Light-emitting diode (LED) headlight and Mars light, as appropriate
- Nine-pin DCC socket (DC version)
- Proto-Max metal knuckle couplers, at correct height
- RP-25 contour metal wheels, in gauge
- Weight: 1 pound, .4 ounce (A unit); 1 pound, 1.5 ounces (B unit)

at www.SoundTraxx.com. The site also includes supported CV lists for Walther's Mainline locomotives under Manuals/Documents for Factory-Installed Decoders.

DC sound. Sounds and lights are automatic when the locomotive is run with a DC power pack. The engine sounds ramped up or down according to the throttle setting. At speeds under 25 scale mph, a bell sounded. Using an MRC Tech 6 provides access to more functions and some DC programming options.

Whether out of the box or as the starting point for a superdetailing project, the Walther's Mainline F7 makes it easy to add an iconic transition-era diesel to an HO scale roster. – Dana Kawala, senior editor



Con-Cor HO scale MP54 coach and trailer

Here comes the happy couple! Con-Cor has added to its line of Pennsylvania RR MP54 commuter cars with models of the semi-permanently coupled married pairs, or bride-and-grooms. We published tests of the first release in the November 2012 *Model Railroader*. These new cars have modified roofs with a headlight at just one end, and our samples came with Con-Cor's factory-installed Digitrax sound decoder in the powered car.

The Pennsylvania RR was known for its electrified lines in the Northeast. The focus of the project was efficiently moving commuters in and out of Philadelphia, and then New York City. To do this, the Pennsy built hundreds of MP54 multiple-unit cars between 1915 and 1951, with a peak of 481 in service in early 1953.

As the railroad became familiar with the operating characteristics of the fleet, efficiency experts in the 1930s recommended building more powerful cars designed to pull unpowered trailers. These cars shared motor parts with the then-new GG1 electrics. There were 38 coaches built in three batches in 1932, '34,

and '37. The PRR also had eight baggage-coach combinations. All 43 of the trailers were coaches. Since there were 48 power cars and 43 trailers, this meant that on occasion, a power car would run by itself. There's also evidence that power cars were coupled together at their blind (no headlight) ends.

A 1973 equipment roster from the Southeastern Pennsylvania Transportation Authority (SEPTA), which ran commuter trains under contract with the existing Philadelphia-area railroads, indicates 28 pairs were still available for use from Penn Central.

All of the superlatives heaped on these models in the 2012 review are still true today. The paint is smoothly applied with sharp, clear lettering. Metal details include the grab irons and handrails, including the curved railings on the bottoms of the vestibule trap doors that impressed us before.

The only detail discrepancies I could find was with modifications made to the "blind" ends of the cars. The etched-metal pilots are attached to the trucks on

both ends of the models. Photos in *Pennsy Power II* by Alvin F. Stauffer (Stauffer Litho Plate Co., 1968) show the blind ends of the car didn't have them. A photo in *The Keystone: Vol. 43, No. 4* shows the blind end windows of trailer no. 39 plated over, but it's unclear if this photo, taken at the Wilmington Shops in 1965, is of an in-service car or one undergoing modification.

Other equipment, such as the handrails below the round windows, the whistle above the left window, the windshield wipers, and the marker lights in the upper corners, were also missing from car 39's end.

A small panel is cemented into the headlight opening on the roof of the non-powered end of the power car, opposite the pantograph. The prototype didn't have headlights above the drawbar connections. A similar solution is used on the roof of the trailer. MP54s had a single power truck on the pantograph end of the car.

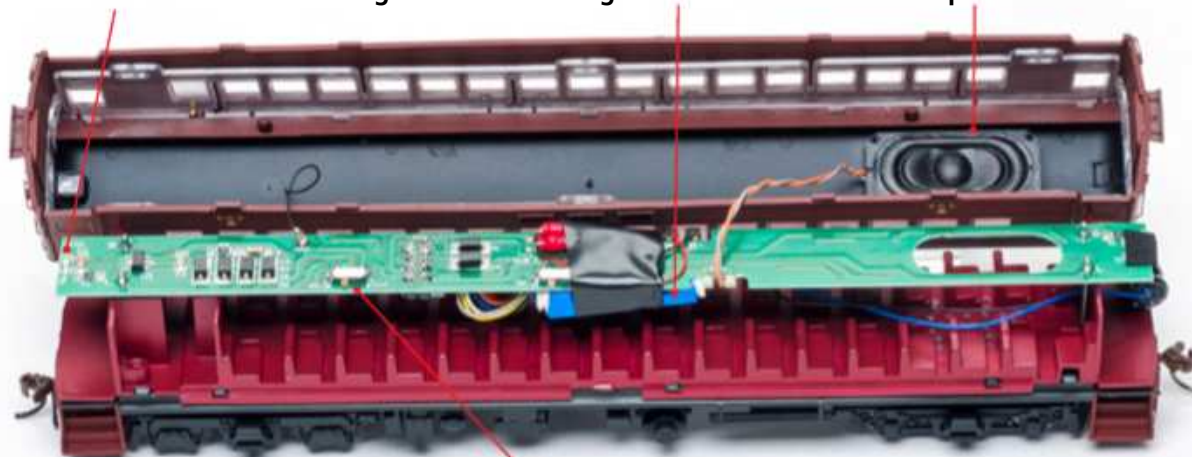
All the sources I checked showed the trailers were originally numbered 1-43. The first seven were then renumbered 44-50 in 1957 to avoid confusion with a group recently acquired ex-Great Northern boxcars, which were given those numbers. Our sample trailer car was numbered 222, but I could find no evidence any multiple-unit MP54s wore this number. A 1957 roster showed power car 494, our sample, was connected to trailer 37.

Inside the car, whether powered or trailer, you'll find wide-open seating from end to end. All other features remain the same as in Steven Otte's 2012 review. The big difference this time was the Digitrax sound decoder taped to the bottom of the printed-circuit (PC) board at ceiling level

Surface-mounted LED headlight

Digitrax decoder

Speaker



Pantograph switch

Con-Cor's Pennsylvania RR MP54 has a wide-open passenger compartment, facilitated by its ceiling-mounted printed-circuit board and subfloor drivetrain.

PERFORMANCE CHARTS	
DRAWBAR PULL	2.88 ounces 13 HO scale passenger cars
SCALE SPEED (DC)	
VOLTS	SCALE MPH
7.5 (start)	20
8	29
9	33
10	70
11	102
12	129
SCALE SPEED (DCC)	
SPEED STEP	SCALE MPH
1	0
2 (start)	4.3
7	50
14	91
21	93
28	97

and an oval speaker secured to the bottom of the roof above a cutout in the PC board. The decoders are sold as options to the base car. Con-Cor's website (www.con-cor.com) has instructions to take advantage of free installation.

A few wires, leading to the track power and a capacitor for the sound system mounted in the vestibule, are visible inside the car. They're not too noticeable from most viewing angles.

Plastic knuckle couplers are frame-mounted in draft-gear boxes at the correct height. I did have to adjust one low trip pin. Wheels on the powered car were in gauge, but three of the four wheelsets on the trailer were slightly tight. A gentle twist got them back into gauge.

To test the Digital Command Control and sound of the cars, I took them to the test track. Compressor sounds and traction motor blowers kicked on when I placed the car on powered track.

The whistle replicates the Wabco Trombone whistle used on these cars. Other sounds available from the function buttons on our DCC throttle include passing crossing bells on F1; a continuous, latching horn sound on F2; track squeals on F3; and a grade-crossing sequence at F4. A three-step volume control, high-low-off, is accessed through F5.

The car started moving in speed step two at 4.3 scale mph. Top speed was 97 scale mph in speed step 28. The prototype was designed to reach 65 mph maximum, but they rarely traveled that fast. The model's top speed can be lowered by adjusting the decoder's top voltage (configuration variable 5). Once underway, motor whine and the clickety-clack of wheels on jointed rail played.

Facts & features

Price: \$399.98 (DC); available with factory-installed DCC sound (add \$84.98) or DCC, motor-only (add \$42.98) decoders

Manufacturer

Con-Cor International Ltd.
8101 E. Research Court
Tucson, AZ 85710

www.con-cor.com

Era: 1932 to 1968, as decorated

Road numbers: 494-222, 459-467, 463-317, 483-6, 4272-496, 4274-397

Features

- 8-pin socket for DCC decoder on DC models
- All-wheel drive and power pickup
- Detailed interior
- Detailed underbody
- Digitrax sound or motor-only decoders (factory-installed DCC versions)
- Interior lighting
- Operating headlights
- Plastic knuckle couplers mounted at correct height
- RP-25 metal wheelsets, in gauge
- Selectable working pantograph or 2-rail power pickup
- Weight: 9 ounces

With that traction tire on each truck, our powered car registered 2.88 ounces of drawbar pull, equivalent to 13 HO scale passenger cars. Our sample had no trouble pushing or pulling its trailer up and over the 3 percent grade on our Milwaukee, Racine & Troy staff layout. Also, the pair operated flawlessly through yard ladders whether pushing or pulling.

Direct-current (DC) operation was less satisfying. The powered car's sounds started and the car began moving at 20 scale mph at 7.5V. Top speed was 129 scale mph at 12V. The only sounds were the track noise and random compressor sounds, which are automatic.

Pennsylvania RR's MP54s lived long lives. There were still 59 in operation in 1977, and some reportedly toiled into the early 1980s carrying passengers to and from the urban areas of the Northeast.

If your modeling takes place under PRR catenary, this variation of the owl-eyed commuter cars would make an interesting addition to your layout. — *Eric White, associate editor*

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Digikeijs DR5000 Digicentral DCC command station

One of the challenges when choosing a Digital Command Control system is committing to a specific brand's products. Usually if you have a brand X command station you can only use that brand's throttles or accessories. Digikeijs takes a different approach with its DR5000 Digicentral command station by including command bus connectors that work with throttles and other components from many different manufacturers. The device also has built-in LAN and WiFi interfaces for computer and smart-device app control.

Set up. The DR5000 measures about 3½ x 6 inches and has screw holes to mount to layout benchwork. The basic set from U.S. distributor Iron Planet Hobbies also included a power supply with adjustable voltage output (15 to 24V). Since I was testing HO and N equipment, I left the setting at 15V.

Setting up the DR5000 is easy but requires a Microsoft Windows PC. There are no manual controls on the device itself. Also note that the free software that controls the device isn't available for Apple Macintosh or Linux computers.

After I downloaded the software from www.digikeijs.com into a laptop running Windows 7, I connected the supplied USB/mini USB cable between the laptop and the DR5000. When I opened the software, a digital version of the command station appeared on the screen. To

turn on track power or to adjust settings on any of the connections I simply moved the on-screen cursor over the connector or button and clicked. The DR5000 has several light-emitting diodes (LEDs) that let me know the status of each connection.

A free downloadable user manual is available at the Digikeijs website, but I found it rather sparse. Instructional videos on the Iron Planet Hobbies website and those posted by other users on YouTube (especially rudysmodelrailway) proved much more helpful.

Running trains. Clicking the CONTROL section of the DR5000 brings up a virtual throttle on the computer screen (see the photo above) that was intuitive and easy to use. However, the command station really shines when multiple throttles using different buses or connections are operated simultaneously.

The LocoNet T and XN + FB (XpressNet) connectors let me use Digitrax and Lenz throttles, respectively, to run trains. Other manufacturers' components that support these protocols can also be used. For example, a CVP EasyDCC wireless receiver can be plugged into the XpressNet port to use CVP wireless throttles.

The new Iowa Scaled Engineering ProtoThrottle (see my review in the July 2018 *Model Railroader*) can be used with the DR5000. The device can also be used

Facts & features

Price: \$199

Manufacturer

Digikeijs B.V.

Rietmeent 230 / 231

1357CW Almere

Netherlands

www.digikeijs.com

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5355 West Harrison Street

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www.ironplanethobbies.com

Features

- USB 2.0 and LAN computer interface
- S88N, LocoNet B & T, XpressNet, FB, PB & RS Bus Connections
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- Built-in WiFi/WLAN router
- IR receiver compatible with Uhlenbrock IRIS and PIKO DigiFern (or other RC5/36 KHz remote controls)
- 3A output
- 15V-24V adjustable power supply
- Control 128 locomotives simultaneously
- Supports functions F0 to F28
- 14/28/128 speed steps
- Short or long addresses (up to 9999)
- Supports RailCom-equipped decoders

with Roco/Fleischmann Z21 system components, including that firm's Multimaus throttle.

After setting up the WiFi connection, I ran trains using the Roco Z21 and Lenz RtDrive apps on my Android smartphone without having to connect any additional components to the DR5000.

Following another online video, I configured the DR5000 to work with Java Model Railroad Interface software. This let me use JMRI DecoderPro to program decoders and the WiThrottle (on Apple devices) and Engine Driver (on Android devices) apps to run trains.

For those who don't use JMRI, the DR5000 software includes a configuration variable (CV) programming tool. The command station supports both programming on the main and service mode programming. I appreciated that the device includes separate programming track outputs with a built-in programming track booster, which ensured that the system could read CVs from every decoder that I tested.

As Digikeijs adds features, the DR5000's firmware can be updated by the user via the internet. According to the U.S. distributor, one update on the horizon is adding compatibility with NCE products.

Expanding the system. The command station has a built-in optically isolated



RtDrive

Digitrax

Lenz

The DR5000 works with a variety of wireless and wired throttles that use Loconet and XpressNet interfaces. The device also supports several smartphone apps.

(OPTO) 3A booster. Additional 3A boosters (DR5033) are available. Boosters from other firms may also be used, but it's important to remember not to mix the command station's track output with any common-ground wired, non-optically isolated boosters.

Digikeijs sells LocoNet/XpressNet command bus hubs, occupancy detectors, feedback modules, servo

controllers, and stationary decoders. The command station also works with other LocoNet or XpressNet accessories.

Combining several products, including a WiFi module, computer interface, and programming track booster, into one box, the multi-bus DR5000 command station is a powerful and versatile option for operating a DCC layout. – Dana Kawala

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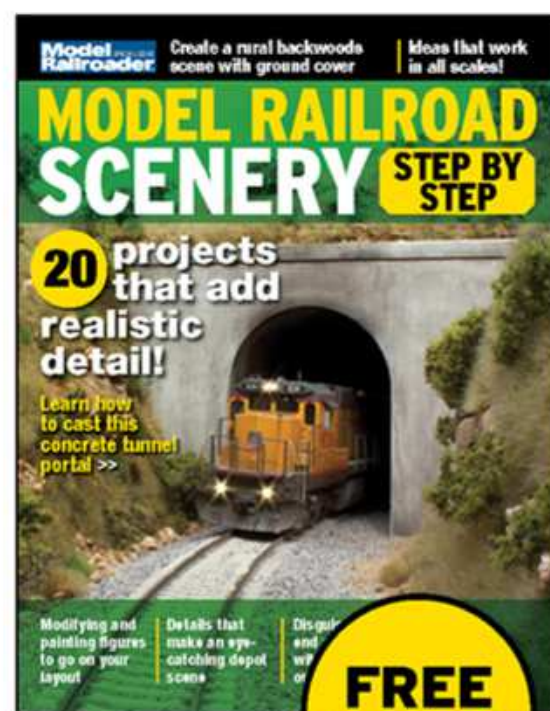
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QUICKLOOK

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Manufacturer

ScaleTrains.com Inc.

7598 Highway 411

Benton, TN 37307

www.scaletrains.com

Era: September 1977 to present

Road names: Columbian Chemicals, Cabot, Sid Richardson Carbon Co., and Witco. Four road numbers per scheme.

Comments: A Thrall Manufacturing Co. 5,750-cubic-foot-capacity three-bay carbon black covered hopper is now offered in N scale by ScaleTrains.com. The model is part of the firm's Rivet Counter line and features prototype-specific details and photo-etched stainless steel running boards.

The ScaleTrains.com model is based on a Thrall design from 1977. Carbon black, a by-product of the petroleum industry, is used in tires, belts, and

gaskets, among other items. Spotting features of the covered hopper include a roof with peaked end panels and raised intermediate panels, 10 exterior posts per side, and round roof hatches (size and quantity varied by owner).

Our sample is decorated as Columbian Carbon no. 820, part of a 39-car order (820 through 858) built by Thrall in September and October 1977. The model is painted in its as-delivered scheme (the car is still in service today, but has been repainted into a simplified scheme). The majority of the lettering is legible under magnification.

I compared the model to prototype drawings in Eric A. Neubauer's *Carbon Black Cars* (Society of Freight Car Historians, 1990). The car matched all of the dimensions spot on.

The model weighs 1.2 ounces, which is .1 ounce too heavy per National Model Railroad Association

Recommended Practice 20.1. The 33" metal wheels are correctly gauged. The injection-molded plastic couplers with metal springs were .020" high on both ends. The couplers also lack trip pins.

The car will negotiate 9¾" radius curves, but the manufacturer recommends running the car on 11" or broader curves. I tested the hopper on our Red Oak project layout. Despite the high couplers, the car ran without incident while being pushed and pulled around the 13" radius curves and over no. 6 turnouts. I found the couplers a bit fiddly. On occasion it took extra coaxing to get the hopper to couple with other brands of couplers.

Though the 1977 version of the Thrall carbon black covered hopper wasn't common (just 178 cars produced for seven owners), it fills a niche for modelers of the late 1970s to today.

— Cody Grivno, group technical editor



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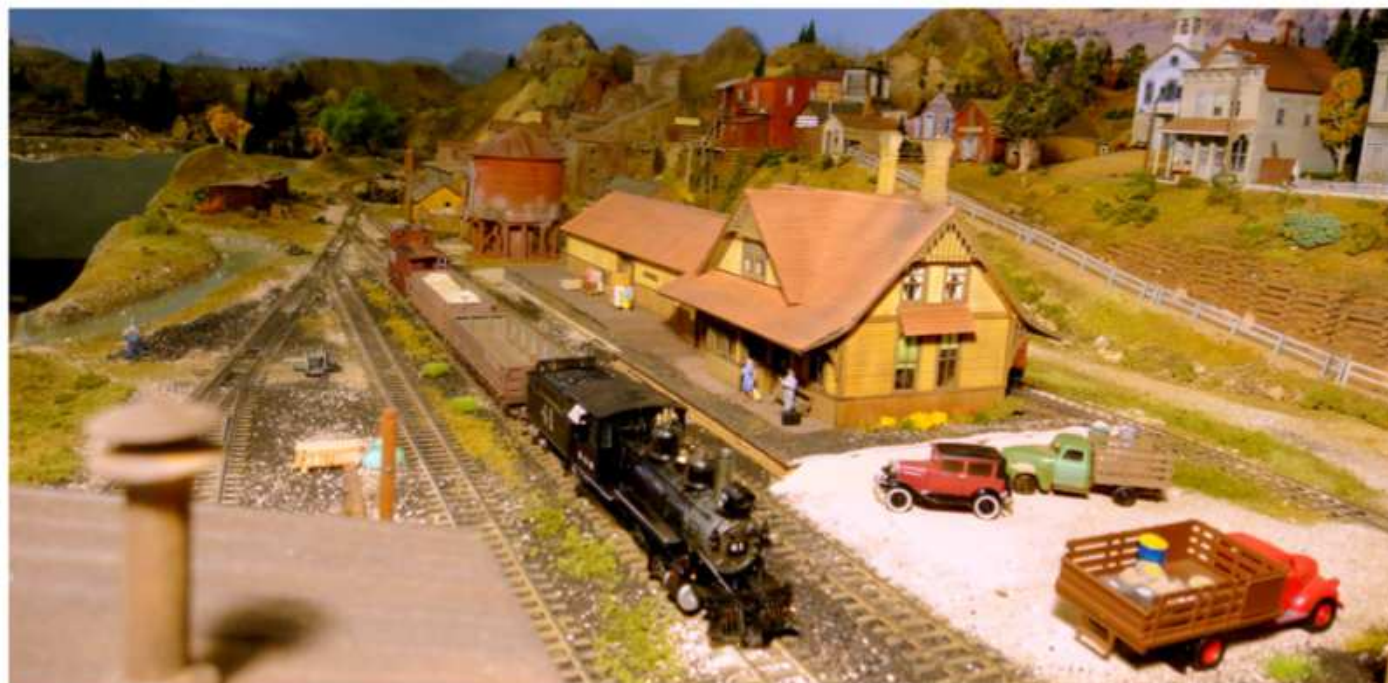
Ahead of schedule

“May a train leave a station ahead of its schedule leaving time?” comes straight from Peter Josserand’s *Rights of Trains* (Simmons-Boardman, 1995). To explore the question, let’s create a hypothetical situation based on the photo at right, shot at Rico on Gregg Condon’s Rio Grande Southern layout. [See *Great Model Railroads 2019*. – Ed.]

The photo shows a two-story depot, a house track behind the depot, and a small yard. Rio Grande Southern engine no. 41 heads a train of two cars and a caboose standing on a siding, clear of the main track. The engine doesn’t carry white flags, meaning it’s a regular train with a schedule.

For this example, we’ll make the freight No. 213, a second-class westbound train scheduled to arrive in Rico at 1:40 p.m. and leave at 3:40 p.m. Usually, No. 213 needs the full two hours to switch Rico. This day, there’s only light work, which the crew wraps up in less than an hour. Can No. 213 go?

Rule 92 prohibits a train from departing any station before its schedule leaving time, a crucial principle of safe timetable-and-train-order operation. (Note: Some rulebooks, including the Condensed Code of Operating Rules and the Consolidated Code from which it originated, specify this in Rule 5. Normally, this column refers to the Condensed Code, but Rule 92 may be the more common version of the two.) Its schedule can’t



Train No. 213 is clear of the main track at Rico on Gregg Condon’s Rio Grande Southern layout, facing an hour’s wait until its schedule departure time. Under Rule 92, even if its crew is finished with its work at Rico, the train can’t depart ahead of schedule. Gregg Condon photo

show No. 213’s actual location, but it does show where the train *can’t* be. Number 213 could be in Rico on time or, if delayed, well east of there. However, Rule 92 means the train can’t be west of Rico before its schedule leaving time, 3:40 p.m. Relying on this, an opposing inferior train may move toward Rico against No. 213.

A train order could intervene, but one such as “No 213 DEPART RICO AT 240 PM” is a flagrant violation of Rule 92. No rulebook with which I’m familiar contains such a form.

The dispatcher can run the train as an extra.

This would require two orders, one annulling No. 213’s schedule: “No 213 DUE TO LEAVE RICO [DATE] IS ANNULLED RICO TO DOLORES,” Dolores being the train’s final destination. The order wipes that day’s No. 213 off the timetable between Rico and Dolores.

All affected trains must receive a copy of this order, both regular trains whose schedules have not completed and extras.

Let’s assume that no eastward trains are running from Dolores to Rico, eliminating the need to protect them against the extra west the dispatcher plans. He then creates Extra 41 West with a second order “ENG 41 RUN EXTRA RICO TO DOLORES.” Extras are unscheduled, so the train isn’t pinned down by a leaving time. It’s free to depart Rico any time.

If any other trains were on the line, the dispatcher could expedite the extra west with “ENG 41 RUN EXTRA LEAVING RICO ON [DATE] AS FOLLOWS WITH RIGHT OVER ALL TRAINS LEAVE RICO 240 PM KING 301 PM MULDOON 328 PM ARRIVE DOLORES 406 PM.” As with the annulment order, all affected trains must receive a copy of this order.


Another choice is a time order to protect eastward extras against the extra west: “ENG 41 RUN EXTRA RICO TO DOLORES AND WAIT AT RICO UNTIL 240 PM KING 301 PM MULDOON 328 PM.” Only

eastward extra trains need receive copies of this order.

These last two orders, in effect, establish a schedule for Extra 41 West. It can’t be west of Rico before 2:40 p.m., west of King before 3:01 p.m., or west of Muldoon before 3:28 p.m., allowing eastward trains freedom to move against this schedule.

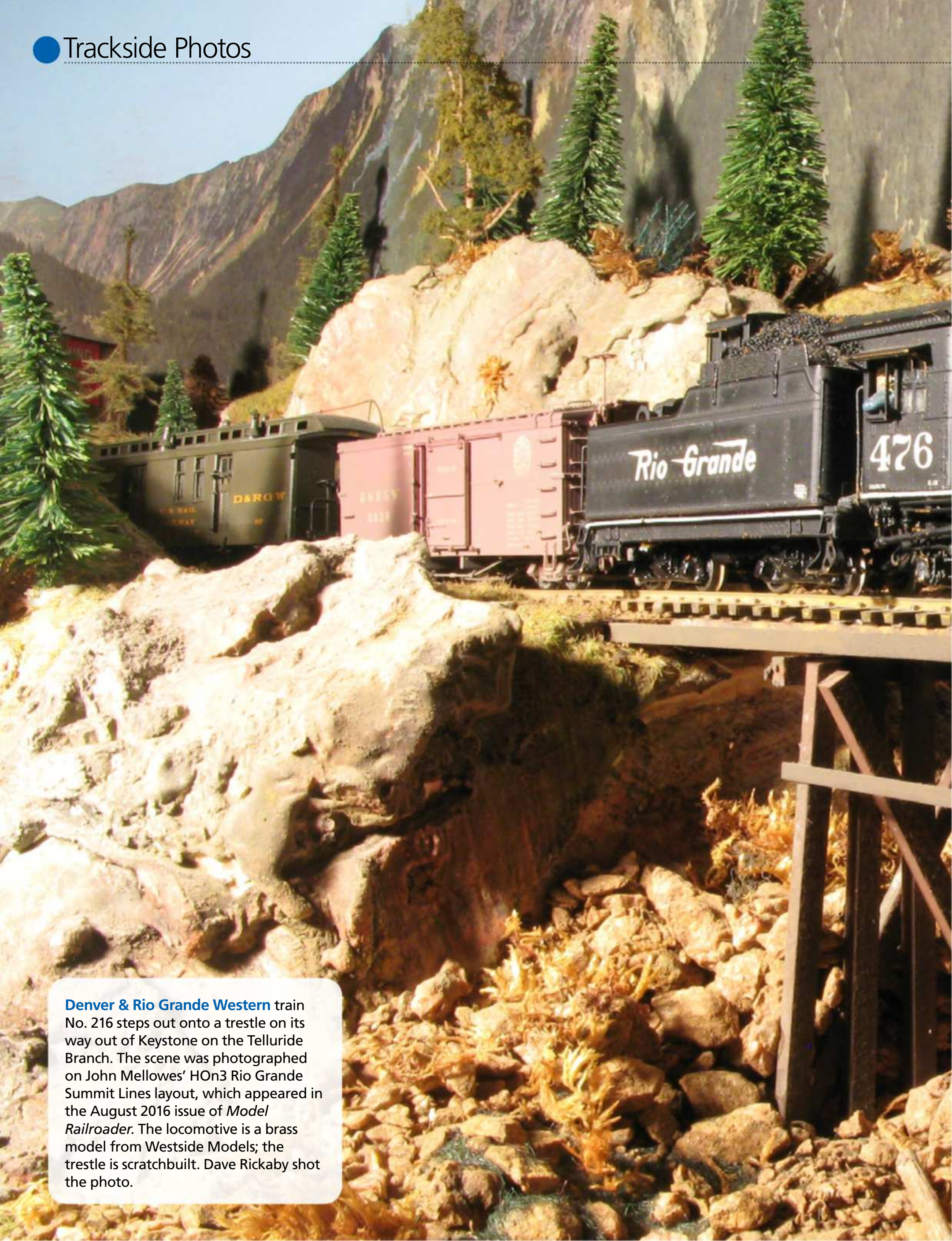
Does your head hurt? So does mine.

Were I the dispatcher, I might have let No. 213 cool its heels for an hour and depart at 3:40 p.m., as scheduled. All affected trains need copies of the orders I described to operate safely. One mistake, overlooking a single opposing train, invites an accident. Even if I handle the orders perfectly, my attention to them might distract me enough to botch another mess on the desk. The crew would appreciate the break.

Josserand barked “No” to answer the opening question. Just as emphatically, he demanded that dispatchers may not order a train to leave ahead of its schedule leaving time. Even so, where there’s a will, there are ways. 



WERE I THE DISPATCHER, I MIGHT HAVE LET NO. 213 COOL ITS HEELS FOR AN HOUR AND DEPART AT 3:40 P.M., AS SCHEDULED.
— JERRY



Denver & Rio Grande Western train No. 216 steps out onto a trestle on its way out of Keystone on the Telluride Branch. The scene was photographed on John Mellowes' HO_n3 Rio Grande Summit Lines layout, which appeared in the August 2016 issue of *Model Railroader*. The locomotive is a brass model from Westside Models; the trestle is scratchbuilt. Dave Rickaby shot the photo.





Chestnut Lake Lumber Co. two-truck Climax no. 3 is hauling logs and water to the sawmill. Gerald Lauchle of State College, Pa., photographed the scene on his HO scale Galetton & Chestnut Lake RR. The locomotive is a United brass model, the log cars are Keystone Locomotive Works models, the water car is from Ye Old Huff-n-Puff, and the caboose is scratchbuilt.

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Conrail SD70MAC no. 4130 blows past, rattling both the windows and the silverware in Ed's Diner. Inspired by *Model Railroader's* T-Trak staff challenge (June 2016), Trond Atle Olsen of Varhaug, Norway, built his own N scale T-Trak module and photographed it under natural light. The locomotive is a Kato model; Ed's Diner, named for one of Trond's friends, is scratchbuilt. Asle Haukland shot the photo.



Neither the sheep nor their shepherd seem all that concerned about the fact that the engineer of Buffalo Valley no. 60 has places to be. Bob Kuchar of Lake Forest, Ill., photographed the scene on his narrow gauge S scale layout, which was based on the track plan of pioneering model railroader John Allen's original Gorre & Daphetid. This is Bob's second Sn3 layout; the first was featured in MR's May 2003 issue.





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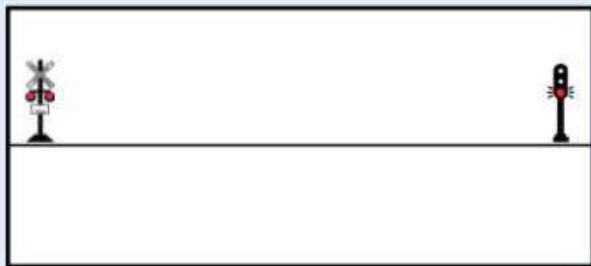
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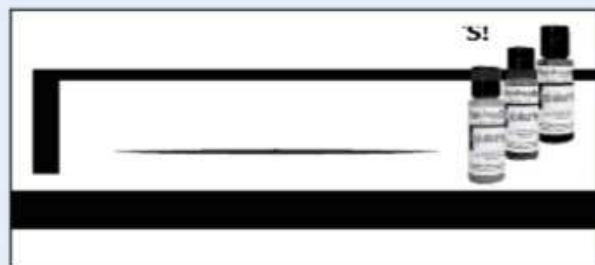
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CLOSING DATES: Jan 2019 closes Oct. 22, Feb. closes Nov. 8, March closes Dec. 17, April closes Jan. 21, May closes Feb. 18, June closes Mar. 25, July closes Apr. 22, Aug. closes May 17, Sept. closes June 21, Oct. closes July 22, Nov. closes Aug. 16, Dec. closes Sept. 23.

Schedule of Events

CA, TURLOCK: San Joaquin Valley Toy Train Operators, Train Show. Stanislaus County Fairgrounds, 900 North Broadway. December 1-2, 2018. Saturday 10:00am-5:00pm and Sunday, 10:00am-3:00pm; Adults \$7.00, under 12 free with-paid-adult. Food court. Free parking. Operating layouts and dealer/vendor tables. Information: Vernon Cowan, 714-686-7165, email: f3santafevern@gmail.com.

CO, LOVELAND: Rocky Mountain Train Show, The Ranch Complex, 5280 Arena Circle, Loveland, CO 80538. November 24-25, 2018. Saturday, 9:00am-5:00pm and Sunday, 9:00am-3:00pm. 200+ sales tables, 50+ vendors, operating layouts, model trains of all scales. - Denver March 2-3, 2019. Visit www.RockyMountainTrainShow.com Phone: 303-364-0274

FL, LARGO: Suncoast Model Railroad Club Train Show/ Open House, December 8, 2018. SHOW- Minnreg Hall, 6340 126th Ave. N., Largo. Saturday 9:00am-3:00pm. Admission: \$7.00, Children \$2.00 and under 11-free. Free parking. Food/snacks. OPEN HOUSE- Clubhouse, 12355 62nd Street N, Unit A. Visit www.suncoastmrrc.com Contact: irvbatten@yahoo.com

FL, PALM BEACH GARDENS: 10th Annual Toy and Train Show. Saint Marks School Gymnasium. 3395 Burns Road, December 8-9, 2018, Saturday, 9:00am-3:00pm and Sunday 11:00am-3:00pm. Adults \$7.00, Family \$12.00, under 12 free. Operating layouts, demonstrations, food, door prizes. Information www.derrickwagnerfoundation.com or Will Wagner, 561-373-9603, wwainc@comcast.net

FL, PINELLAS PARK: Regal Railways Presents a Toy Train, Collectible and Hobby Christmas Show/Sale. Lopez Hall, 7177 58th St. North, Saturday, December 1, 2018. 9:00am-2:00pm. Adults \$5.00. Vendors, videos & operating layout. Serving lunch items. Contact Joe: 727-244-1341 or visit www.regalrailways.com for more information.

FL, TAMPA: TAMPA MODEL TRAIN SHOW. Florida State Fairgrounds (Special Events Center). Saturday, December 15, 9:00am-5:00pm and Sunday, December 16, 10:00am-4:00pm. Adults: \$9.00, good for both days, under 12 free. Large award-winning operating layouts. Miller, 3106 N. Rochester St., Arlington, VA 22213. 703-536-2954.

FL, WINTER PARK: Orlando Society Of Model Railroads, 7208 Aloma Ave. Sunday, December 9, 2018, 10:00am-3:00pm. Large HO scale model railroad Open House. Over 8 scale miles of mainline track with detailed scenery and diverse industries. Free Parking and Admission. Information, e-mail: rmrcr41@gmail.com or www.osmr.webs.com.

GA, SAVANNAH: Coastal Rail Buffs 30th Annual Model RR Train-Show. National Guard Armory, 1248 Eisenhower Drive, Zip: 31406. January 26-27, 2019, Saturday 10:00am-5:00pm, Sunday 10:00am-4:00pm. Adults 2 day \$7.00; Students/Seniors \$5.00, Active Duty Military/under 12 FREE. Dealer tables, operating layouts in O, HO, N. See www.coastalrailbuffs.org

IL, JOLIET: Will County Model Railroad Club Swap Meet & Open House. Stone City VFW. 124 Stone City Drive. Saturday, December 1, 2018, 9:00am-2:00pm. Admission \$4.00 per person, children under 12 free. Dealers Welcome. Contact: Mike at 708-308-9036 or visit: www.wcmrra.org

IN, DANVILLE: Central Indiana Division-NMRA annual Train Show at Hendricks County 4H Fair Grounds, Saturday November 17, 2018. 10:00am-3:00pm. Admission \$3.00 adults, \$5.00 family. Operating Layouts, Vendors, Clinics, Food. Dealer Tables 8' at \$16.00. Info: gtwfan@bluemarble.net or 812-876-6799. CID website <http://cidnmra.org>

IN, INDIANAPOLIS: The Indianapolis Model Railroad Show and Open House. Manual High School Gymnasium, Saturday, December 8, 2018, 10:00am-3:00pm. Admission \$5.00, children 12 & under free. Boy Scouts in uniform free. Free parking. Naptown & White River Model Railroad Club. Contact: Michael Roderick 317-833-3556, E-mail: naptownmrr@gmail.com

IN, MICHIGAN CITY: Duneland Model RR Club Train Show and Swap Meet. IBEW Building, 301 East 8th St. Sunday, November 18, 2018, 9:30am-2:00pm (Chicago time). Adults \$4.00, youths 6-13 \$1.00, 5 and under free. Contact: Dave Novak at trains86@frontier.com or 219-778-1186.

IN, WARSAW: Warsaw Model Train & Toy Show, Kosciusko County Fairgrounds, 1400 E. Smith St. December 8, 2018, 11:00am-3:00pm. Admission \$3.00, 12 and under free. All gauges. Tables \$15.00, free parking, lunch available. Contact: Gabe Fitzsimmons, 574-527-8554 or fitzgl01@gmail.com

MA, MARLBOROUGH: Hub Division NER/NMRA. Royal Plaza Trade Center, 181 Boston Post Road (Rte. 20 West). Saturday December 1, 2018, 10:00am-5:00pm and Sunday December 2, 2018, 10:00am-4:00pm. Admission \$10.00; Children under 12 and Scouts in Uniform FREE. Admission good both days. Information: Mark 508-528-8587; E-mail TE.info@hubdiv.org; www.hubdiv.org

MI, ANN ARBOR: Rails On Wheels' Southeast Michigan Model Railroad Show & Sale, Washtenaw Farm Council Grounds, 5055 Ann Arbor Saline Rd., 48103. Sunday, November 25, 2018, 10:00am-3:00pm. Admission: \$4.00; under 12 free w/adult. Early bird- \$10.00 (8:00am-10:00am). Tables available. railsonwheels.com Contact: Walt Trancygier 734-552-4581 Email: trancywj@gmail.com

MI, EAST LANSING: Lansing Model Railroad Club Show and Sale. Michigan State University Pavilion. Sunday, November 11, 2018, 10:00am-4:00pm. Admission \$6.00, under 12 free. Michigan's largest train show: layouts, demonstrations and 500+ tables. Free parking. Flyer, table forms and map, www.lmrc.org or call Ron St. Laurent 517-256-3588

MI, HOLLY: Detroit Model Railroad Club, 104 North Saginaw St. Holly, Michigan starts its open house season in November for the winter season. Please, visit our web site at www.dmrcc.org or visit us on FACEBOOK@DMMRC for times and dates.

MI, MT. CLEMENS: Gratiot Valley Railroad Club Train Show & Sale. Mt. Clemens High School, 155 Cass Ave. Zip 48043. November 3-4, 2018, 10:30am-4:00pm. Adults \$6.00, Kids under 12 free. Operating layouts, dealers and door prizes. For more information: www.gvrr.org or 586-468-4877.

MO, JOPLIN: Museum Complex Train Show and Swap Meet. In Schifferdecker Park, 7th Street & Schifferdecker between the golf course and pool. Saturday, November 24, 2018, 9:00am-3:00pm. \$3.00 adult, under 12 free. Rick Gardner, 11486 County Lane 214, Oronogo, MO 64855; 417-673-4888 or e-mail rickgardner4449@gmail.com

NY, ALBANY "Great Train Extravaganza" TM. Empire State Convention Center. December 2, 2018, 10:00am-4:00pm. \$7.00 adults, Children free. Operating layouts, most scales including LEGO's for kids/grand-kids, 300+ tables, train sets, parts, accessories, scenery items, books/video/, DVD's, print, memorabilia. Refreshments available www.gtealbany.com 518-668-9892, trains@gtealbany.com

NY, SYRACUSE: Upstate NY Chapter TCA Train Show. American Legion Post 787, 5575 Legionnaire Dr., Cicero, NY 13039. Sunday, December 2, 2018, 9:00am TCA members, 9:30am-2:30pm General Public. Adults \$5.00, under 17 free with paid adult. Contact: Chuck 716-390-8216, E-mail: usnyc2015@gmail.com Web Site: www.upstate-ny-tca.com

OH, COLUMBUS: 64th BUCKEYE MODEL TRAINS & RAILROAD ARTIFACTS SHOW. Ohio Expo Center (Lausche Bldg.). 717 E. 17th Ave. Saturday, December 8, 2018. 9:00am-4:00pm. Adults \$7.00 under 12 free. Operating layouts. 300+ tables. Miller: 3106 N. Rochester St., Arlington, VA 22213. 703-536-2954, www.rshows@aol.com.

OH, DAYTON: 43rd Annual Dayton Train Show, NEW MONTGOMERY COUNTY FAIRGROUNDS, 645 Infirmary Rd. 45417. Sponsored by: Division 3 Mid Central Region NMRA, November 3-4, 2018. Saturday 11:00am-5:00pm and Sunday 11:00am-4:00pm. Admission: \$7.00, active-military \$6.00, under 12 free. Information: Rick Lach, PO Box 341233, Beavercreek, 45434, 937-301-0746.

OH, HIGHLAND HTS: North East Train Society, Highland Heights Community Center, 5827 Highland Road, Highland Hts. OH, 44143. Saturday November 10, 2018, 10:00am-4:00pm. Admission: \$5.00, children under 12 free with adult. 440-357-8890, www.northeasttrainsociety.com.

OH, KIRTLAND: Christmas Train and Toy Show. Lakeland Community College (AFC) Main Gym, 7700 Clocktower Dr. 1-90 and Rt. 306. December 9, 2018, 10:00am-3:30pm. Adults \$6.00 each. Children (6-12) \$3.00, Family \$15.00. 440-256-8141, www.christmastrainshow.com

OH, MASSILLON: CJ Trains Winter Massillon Train and Toy Show. Knights of Columbus Hall, 988 Cherry Road NW, 44647. Sunday, December 9, 2018, 10:00am-3:00pm. \$5.00 admission, 12 and under free. \$25.00/dealer table, 152 - 8' dealer tables. Jon Ulbright, PO Box 446, Wooster, OH 44691, 330-262-7488, cathijon@sssnet.com www.cjtrains.com

PA, BETHLEHEM: Lehigh & Keystone Valley Model Railroad Museum's Holiday Open House. 705 Linden St. Bethlehem, PA 18018. Thanksgiving thru January 6, 2019. Admission: \$7.00 adults, under 12 Free. New this year Mauch Chunk area. See website or Facebook for dates & times. www.lkvmmodelrailroad.com.

PA, HORSHAM: 13th Annual Main Street Hatboro Train Show. Keith Valley Middle School, 227 Meetinghouse Rd. Saturday, December 1, 2018, 9:00am-3:00pm. \$5.00 adults, under 12 free. 145+ vendor tables in cafeteria and gym. Contact Al Zollers, azollers06@verizon.net or Joe Lutz J040440@verizon.net or www.hatborotrainshow.org

PA, KITTANNING: Train Show, Kittanning Township Volunteer Firehall, Rt. 422 East of Kittanning. Sunday, November 25, 2018, 10:00am-4:00pm. Adults \$4.00, children 12 & under FREE. David Campbell, 734 Freeport Rd., Butler, PA 16002, (724) 352-1113

PA, MONACA: Beaver County Model RR Fall Train Show & Sale. Monaca Turners, 1700 Old Brodhead Road. Sunday, November 18, 2018, 10:00am-3:00pm. Adults \$5.00, under 12 free. Sponsored by Beaver County Model RR & Historical Society. Contact: Walt Steiner 724-843-3783 or www.bcmrr.railfan.net or beaverctymrr@gmail.com

SC, CHARLESTON: Charleston Area Model Railroad Club Train Show. Danny Jones Armory Park, 5000 Lackawanna Blvd., North Charleston, SC. November 17-18, 2018. Saturday 9:00am-5:00pm and Sunday 10:00am-4:00pm. Adults \$5.00, Children 12 & under FREE. For table information contact the club at trainshow@chamrc.com or www.chamrc.com

SC, LAKE CITY: Ragsdale Building, 245 S. Church Street. Saturday, January 12, 2019, 9:00am-4:00pm and Sunday January 13, 2019 11:00am-4:00pm. Admission \$5.00, under 10 FREE. Over 200 vendor tables. Lots of G, O, HO, S, N gauge. Contact Todd at 843-307-8674, scradeshow.com

TX, HOUSTON: Greater Houston Train Show, Stafford Centre, Cash/Murphy Rd., Stafford, TX. Saturday, February 16, 2019, 10:00am-4:30pm. Clinics, vendors, layouts, contest. \$6.00 adults, \$1.00 children, \$12.00 family. Free parking. Steve.sandifier@sbcglobal.net.

WA, KENT: Boeing Employees Model Railroad Club Annual Swap Meet, 525 4th Avenue North, Kent Commons. November 10, 2018, 9:30am-4:00pm. \$8.00 admission, under 16 free. Ed Sherry, 550 SW Colewood Lane, Normandy Park, WA 98166; 206-244-3884; swapmeet@bemrrc.com

WI, LA CROSSE: The 28th Annual Great Tri-State Rail Sale. La Crosse Center, 2nd & Pearl Streets. January 26, 2019 9:00am-3:00pm. Admission \$5.00, under 12 free. 300 Tables; All-Scales; Model, Toy & Antique Trains & Memorabilia. Information: 4000 Foundation, PO Box 3411, La Crosse, WI 54602, 608-781-9383.

WI, MILWAUKEE: Trainfest, 9am to 5pm Nov. 10-11, 2018 at Wisconsin State Fair Park. Exhibitors include operating layouts, major manufacturers, modeling clinics, and hobby vendors. Admission information, discount tickets and PRIME ACCESS tickets available at www.trainfest.com Staged by NMRA WISE Division. Contact us at info@trainfest.com

WV, CHARLESTON: Kanawha Valley Model Railroad Show. Arena Events Center, St. Albans, WV. February 23-24, 2019. Saturday, 10:00am-5:00pm, Sunday, 10:00am-3:00pm. Admission, \$5.00, under 12 free. Free parking. Vendor tables \$25.00. Clinics, operating layouts, new and used equipment all scales for sale. www.kvairload.org. Joe: 304-539-6721 or jhorter@gmail.com

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Truly, a hobby for a lifetime

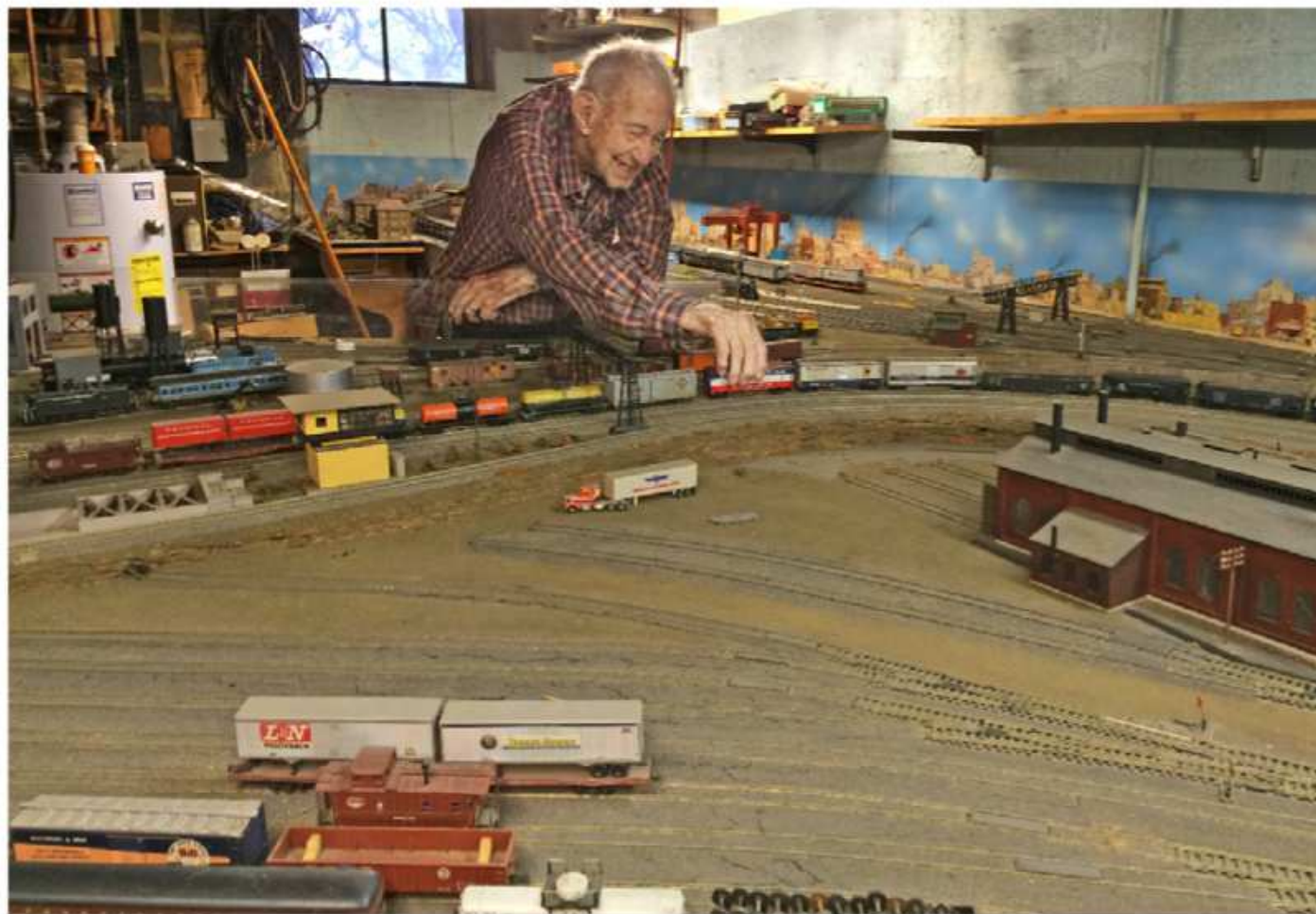
We often speak of scale model railroading as being a lifelong hobby. In my case, it appears to have every opportunity of achieving that goal. I've been "playing with trains" since age 4, when Santa brought me a Lionel set – much of which I still have. I've been reading *Model Railroader* since the August 1954 issue, save for a several-year girls-and-cars hiatus. (What was I thinking?)

But let's examine a better example: 99-year-old Victor D'Albora, who lives in Blauvelt, N.Y., not far from the former West Shore main line (now CSX Transportation). Vic is a good friend of Ken Karlewicz, whose HO Delaware & Hudson railroad is the cover story for *Model Railroad Planning 2019* (on sale January 15).

Ken and Victor met back in 1980 at a small hobby store in Haverstraw, N.Y. A look back at Vic's journey through model railroading provides insights as to the hobby's formative years, the prevailing practices and attitudes, and how they've changed through the decades.

As was once the norm, Vic doesn't do any prototype modeling, and he says he models all eras. He started building his HO scale Genesee Valley & Western RR back in 1953, and he clearly remembers the days of laying track in his basement "until there was no more room for track."

In the years that followed, Vic worked on his layout every night right after supper. His first locomotive was a Bowser Mountain 4-8-2, for which he paid \$53, a princely sum in those days. After the locomotive was finished, he continued building craftsman car kits and cabooses.



At age 99, Victor D'Albora is still enjoying his HO Genesee Valley & Western RR, which he worked on "every night after supper" starting in 1953. Vic is a testament to the adage that model railroading can be a lifelong hobby. Ken Karlewicz photo

His longest train was – and is – 98 cars (almost matching his age!) and rarely has a derailment due to his impeccable trackwork, which shows its heritage as a combination of brass and nickel-silver flextrack, some of it with fiber ties.

Vic has never held or attended an operating session and has used DCC just once, on Ken's 4 x 8-foot "practice" layout. He's never held one of today's highly detailed, ready-to-run freight cars in his hands, and he can't imagine how freight cars and locomotives can command today's prices.

His double-tracked, twice-around main line resembles the Pennsylvania RR, and he's been known to haul double-stacks behind a Hudson. Vic still enjoys reading anything relating to model or prototype railroading and loves to watch rail-related YouTube videos on Ken's iPad.

Vic doesn't visit his railroad in the basement very often these days. But he loves to run the railroad when friends can help him down the stairs.

When Vic was young, his aunt would often take him down the street in Brooklyn to watch subway trains running on the "El." His face still lights up when he sees the railroad he's spent a lifetime creating. He becomes that little boy again who once asked his aunt if he could linger by the elevated railway to watch "just one more train."

Ken reports that Vic "has always been a humble man who was willing to come over to your home, help you

with anything at all relating to your railroad, or take home something you were having difficulty with, build or fix it, and return it to you at no charge."

It should come as no surprise that there are many Vics of various ages in our hobby. We are immeasurably

enriched if one of them happens to live nearby, as was the case with Vic and Ken. But few of them stand quite as tall as a gentleman named Victor D'Albora, who, as he nears the century mark, is living proof that scale model railroading can indeed be labeled as offering a lifetime of enjoyment.

May we all be so blessed. **MR**



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