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2019

January 2019
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Meet MR's latest project layout p.50

Last look:
Jim Hediger's
pioneering
Ohio Southern p.46

MR celebrates its 85th
year with the N scale
Canadian Canyons
project layout.
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PLUS

20 products that changed the hobby p.60

Moving iron ore up north p.70

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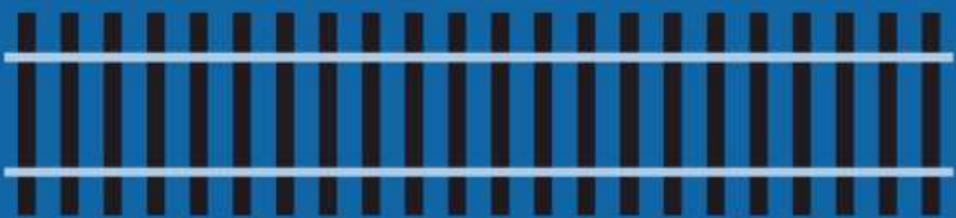


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A quaint place in the country



On the cover: A stack train wends its way through Thompson Canyon in British Columbia on our 2019 N scale project layout. Bill Zuback photo



Next issue

In February, a mother's gift led to a basement-filling empire, a camera car makes layout videos more interesting, we build benchwork for our project layout, and more!

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From inspiration to operation, see every step of how the Model Railroader Video Plus and MR magazine staff built the Canadian Canyons multilevel N scale railroad. In Drew's Tracksides Adventures Episode 29 – Fraser River Foray, you can follow Drew Halverson, Kent Johnson, and Charlie Conway on the railfan trip that inspired the layout. In the Canadian Canyon series, you'll get dozens of extensive step-by-step videos showing you benchwork, wiring, scenery, modeling, and more techniques that staff members used throughout the project.

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Roundhouse: Jim Hediger provides more insights into his influential Ohio Southern in this special Roundhouse interview with MR editor Hal Miller.
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Layout Visit: Master Model Railroader John Tews hosts this tour of his HO scale Timber River Ry., including a look at the layout's realistic operation.
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MRVP Insider: Staff members Cody Grivno and Drew Halverson join renowned modeler Pelle Søbørg for a Wisconsin railfanning trip.
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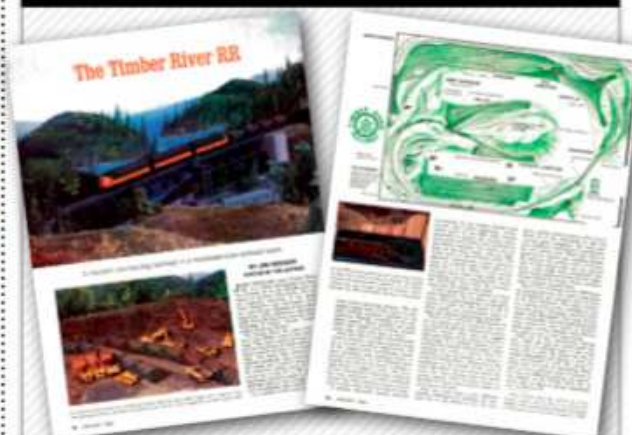
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Layout videos from the special issue

Click on the [Special Issues](#) tab at www.ModelRailroader.com to preview the 10 exceptional HO, N, and O scale layouts featured in *Great Model Railroads 2019*. You'll also find layout video tours, bonus how-to articles, track plans, and more!

BONUS ARTICLES



The Timber River Ry.

In this issue, we revisit John Tews' HO scale Timber River Ry. The layout has been operating for more than 50 years. Check out the first article on John's layout as well as the track plan that appeared in the January 1985 issue.



More tractor-trailer tips

On page 65, [Mont Switzer](#) shows how to detail a 1950s Fruehauf trailer, but what about that single axle GMC semi tractor in the story's opening photo? Mont also wrote about building and detailing that very same truck in a previous issue of MR.



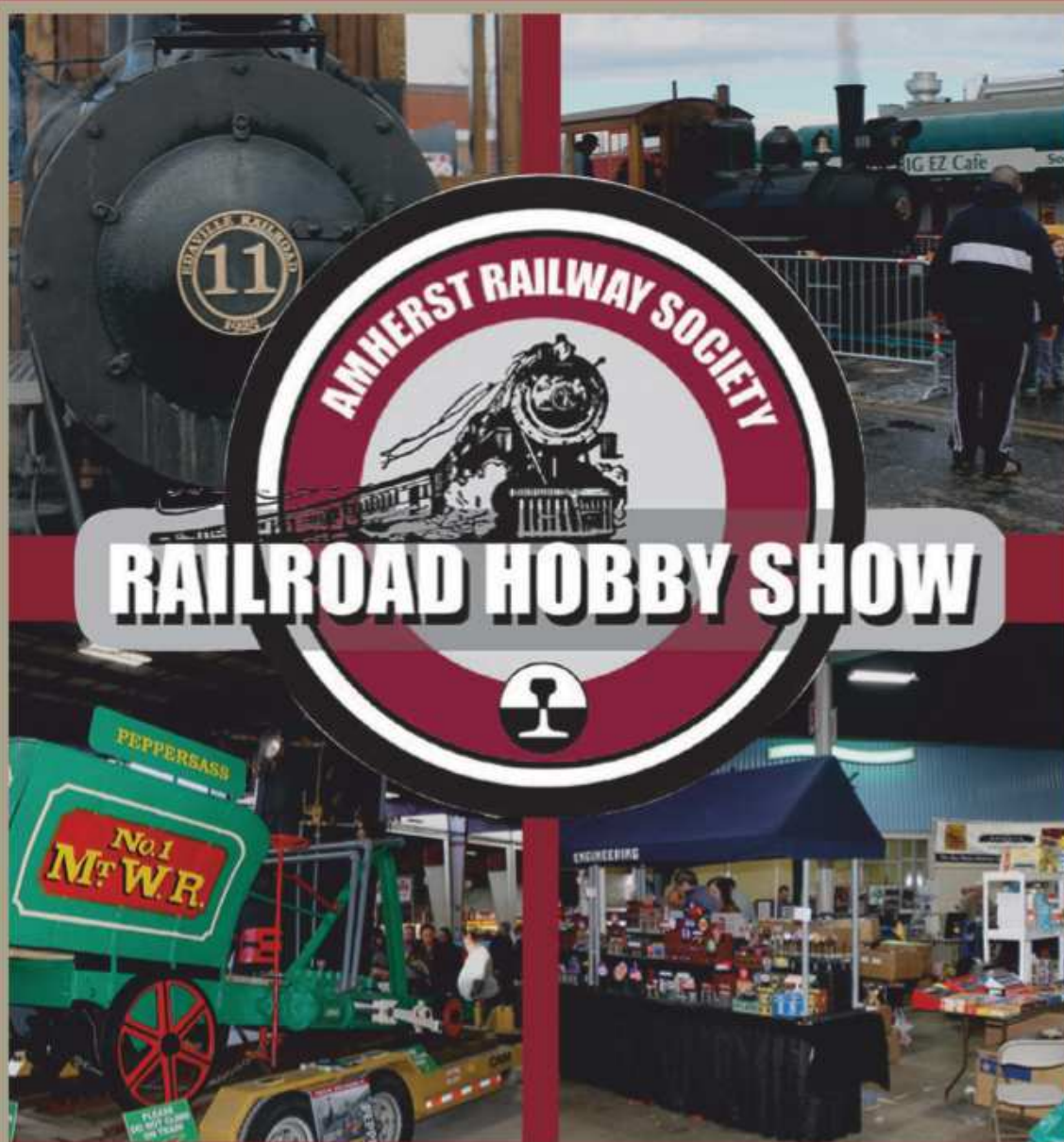
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Get this stunning trackside photo

The [Canadian Canyons project](#) railroad celebrates the stunning scenery of the Thompson and Fraser river canyons in British Columbia. This month you can download the photo above, sized appropriately to use as a computer wallpaper. Get inspired every time you turn on your screen!



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Model Railroader January 2019

We've come a long way in 85 years

As I scroll through my Facebook feed and the blogs I follow of railroads and layout designs, I think how far model railroading has come in the last 85 years.

The amount of information about the hobby at one's fingertips today would be mind-boggling to the 1934 version of Al Kalmbach, who probably had to hustle to fill the 12 pages of the first issue.

Certainly, the scope and number of model railroading products available today would also be incredible to him, as would their prototype fidelity and level of control for the operator.

I think he would get a laugh, though, out of how much hasn't changed.

This whole venture started when Al Kalmbach and his buddies built a fairly simple layout in his attic out of whatever they could get on the cheap or scrounge.

The friends built model railroads, too. It wasn't long before they and others who had taken up the hobby wanted them to run like the real thing, with signals, better controls, communications, and "interchange" of cars between layouts.

All of these are still components of this pastime and would be very recognizable to Al Kalmbach today. As would sharing the hobby.

From the start, really out of necessity, model railroading became a social thing. While some ready-made parts were available from folks like Wm. K Walthers, much of what you needed in 1934 had to be built.

If you couldn't do it yourself, you had to call on your friends, neighbors, and your "I know a guy" guy who were machinists and electricians and actual railroaders to get

the bits and pieces and knowledge to build and operate your layout.

Maybe one or two of them would be interested in what you were doing and get hooked on the hobby. It was viral, long before YouTube.

Then came *The Model Railroader*. It helped link all the people who were engaged in the hobby, and still does. Thanks to all of you, the magazine that started on a letterpress in between church bulletins and sale circulars is going strong after 85 years.

That said, we're still making changes. We've moved our subscription and customer service to a new company.

You may have experienced some technical issues online, which we hope were minimal. We sincerely apologize for any inconvenience.

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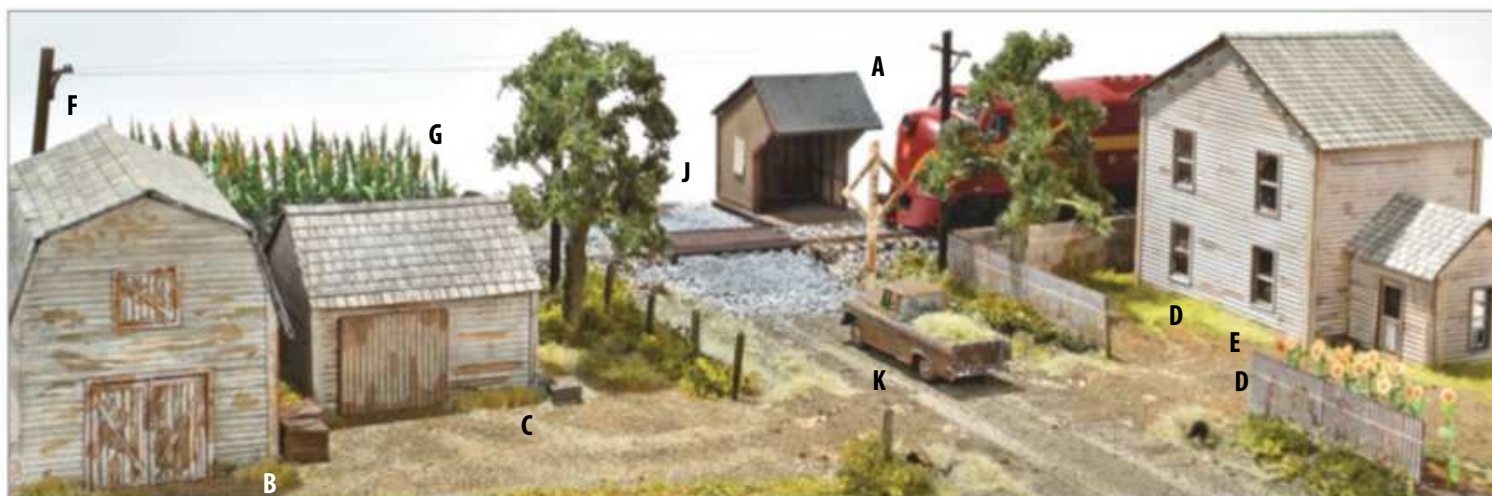
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N scale



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numbers per scheme; an undecorated model is also available. The model has golden-white light-emitting-diode headlights and Accumate couplers. Direct-current models with a factory-installed speaker are priced at **\$139.95**. Versions with an ESU LokSound sound decoder retail for **\$249.95**. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com

HO scale locomotives

- **Electro-Motive Division SD39 diesel locomotive.** BNSF Ry. (Heritage I scheme with “BNSF” on long hood in two road numbers and “GN” on hood in one number; blue-and-yellow warbonnet in three numbers), Illinois Terminal (three numbers), Norfolk & Western (Illinois Terminal patchout, four numbers), Soo Line (red-and-white scheme in two numbers, with “Lake States” lettering on nose in one number), Southern Pacific (factory weathered with “SP” on nose and as-delivered scheme with road numbers on nose, three numbers each). Railroad-specific details, factory-painted and installed wire grab irons, and see-through dynamic brake and radiator fans. Direct-current model with 21-pin plug for Digital Command Control decoder, \$149.98; with dual-mode SoundTraxx Econami decoder, \$219.98. June 2019. Ready-to-Roll. Athearn Trains, 800-338-4639, www.athearn.com

HO scale freight cars

- **Assorted freight cars.** Chicago, Burlington & Quincy 50-foot plug-door boxcar (“Way of the Zephyrs” slogan),

\$17.98. Maine Central United States Railroad Administration two-bay hopper, single car, \$16.98; three-pack, \$49.98. Louisville & Nashville Pullman-Standard 4,750-cubic-foot-capacity three-bay covered hopper (Family Lines System lettering and herald), \$19.98. Nashville, Chattanooga & St. Louis 36-foot Fowler boxcar, \$17.98. Philadelphia & Reading

36-foot double-sheathed boxcar with wood ends and straight underframe, \$17.98. Soo Line 40-foot stockcar, \$17.98. Southern Pacific Association of American Railroads 40-foot boxcar (“Overnight” scheme), single car, \$17.98; three-pack, \$52.98. Western Pacific 50-foot plug-door boxcar, \$17.98. Injection-molded plastic kits with plastic wheelsets and Accumate

N scale



Assorted freight cars. The latest assortment of Micro-Trains Line Co. freight cars includes a Northern Refrigerator Car Co. 40-foot double-sheathed refrigerator car (two paint schemes), **\$27.60** each; Union Pacific 39-foot single-dome tank car, **\$26.90**; and Conrail 33-foot twin-bay hopper with removable coal load, **\$26.90**. The N scale models have plastic wheelsets and Magne-Matic couplers. Micro-Trains Line Co., 541-535-1755, www.micro-trains.com



couplers. Accurail, 630-365-1173, www.accurail.com

- **North American Car Corp. 50-foot boxcar.** Canadian Pacific (red with CPAA reporting marks only); Chicago & North Western (yellow); Dakota, Minnesota & Eastern (mineral red with reporting marks only); Johnson Wax (red, white, and blue); Pearl Brewing Co. (Country Club logo); and Quaker Oats (orange with reporting marks only). Three road numbers per scheme. Metal grab irons, etched-metal crossover platforms, and body-mounted McHenry scale couplers. \$34.98. July 2019. Athearn Trains, 800-338-4639, www.athearn.com



- **General American/Evans Products 50-foot plug-door boxcar.** Great Northern/Western Fruit Express, American Refrigerator Transit Co. (Missouri Pacific and Monon heralds), Fruit Growers Express (Monon and Norfolk & Western reporting marks), Georgia Pacific, and Southern Pacific. Three road numbers per scheme; also available undecorated. Separately applied ladders, grab irons, and latch bars; late improved Dreadnaught ends; and Accumate couplers. \$32.95 (undecorated, \$26.95). Master Line. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com

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- **General American 4,180-cubic-foot-capacity Airslide covered hoppers.** New paint schemes: BNSF Ry. (Cascade Green or Mineral Red buffer car and 2005+ repaint, one number each), Missouri-Kansas-Texas (original red 1966 with BKTY reporting marks, four numbers), and A.E. Staley Manufacturing Co. (1967 with NAHX marks, two road numbers). See-through metal running boards, CNC-machined 36" metal wheelsets, and Kadee scale couplers. \$44.95. Tangent Scale Models, 828-279-6106, www.tangentscalemodels.com



- **Pullman-Standard 40-foot PS-1 boxcar.** New paint schemes: Rutland (yellow and green); Chicago Great Western ("Lucky Strike" herald with "DF" lettering); Milwaukee Road ("Route of the Hiawathas" lettering); Minneapolis, Northfield & Southern (blue); New York Central (Jade Green); and New York, New Haven & Hartford (brown with large "NH" herald). Three road numbers per scheme. See-through plastic Apex running boards, 33" turned-metal wheelsets, and Proto-Max metal couplers. \$27.98 (Rutland, \$29.98). Walther's Mainline. Wm. K. Walther's Inc., 414-527-0770, www.walthers.com

HO scale passenger cars



- **Wabash Blue Bird passenger cars.** Baggage car no. 650; dining car no. 51; dome coach nos. 200, 201, and 202; and dome observation no. 1601. Detailed interiors, separately applied grab irons, and illuminated drumhead on dome observation car. \$74.99 each (dome cars, \$79.99). Broadway Limited Imports, 386-673-8900, www.broadway-limited.com

Conducted by Cody Grivno



- **70-foot heavyweight Railway Post Office-baggage car.** Pre-production sample shown. Round roof: Denver & Rio Grande Western (orange, silver, and black scheme); Illinois Central (orange-and-brown scheme); Southern Pacific (two-tone gray scheme); and Union

Club offerings



- **Cook Orchards 40-foot steel refrigerator car.** Accurail HO scale kit custom-decorated for the Fox Valley Division of the National Model Railroad Association. Based on original design by the late Don Cook, Master Model Railroader. Injection-molded plastic kit with plastic wheels, separately applied brake details, and Accumate couplers. \$23 plus \$7.50 shipping for one car (\$14 for two to six cars). Fox Valley Division Car Project, c/o C. Rita, 331 Florence Ave., Evanston, IL 60202; www.foxvalleydivision.org



- **Checker Cab Manufacturing Corp. boxcars.** Accurail 40-foot double-sheathed, 40-foot double-door steel, and 50-foot double-door steel boxcars produced for the Illini Chapter of the Professional Car Society. Kits include plastic wheelsets and Accumate couplers. \$21.98 each. Shipping is \$7.20 for one car or \$8.50 for two or more cars to United States addresses, \$15.50 for any number of cars to Canada, and \$23 for any number of cars to other countries. Illini Chapter PCS, 918 W. Colfax St., Palatine, IL 60067

N scale



Electro-Motive Division SD9 diesel locomotive. Bachmann offers this six-axle road unit lettered for Duluth, Missabe & Iron Range (as-delivered scheme); Denver & Rio Grande Western (small "Flying Grande" lettering); Norfolk & Western (blue with "hamburger" herald); Pennsylvania RR (Dark Green Locomotive Enamel); and Southern Pacific ("black widow" scheme). The N scale model (\$249) has a die-cast metal frame, dual-mode SoundTraxx Econami sound decoder, and E-Z Mate Mark II couplers. Bachmann, 215-533-1600, www.bachmanntrains.com

Pacific (Armour Yellow and Harbor Mist Gray). Clerestory roof: Atchison, Topeka & Santa Fe (Pullman Green); Great Northern (*Empire Builder* paint scheme); Milwaukee Road (orange-and-maroon scheme); New York Central (two-tone gray scheme); and Soo Line (maroon). Separate catcher arms – operate facing either direction, 30-foot postal apartment, turned-metal wheelsets, underbody details, and trucks with built-in electrical contacts. \$84.98. Walther's Proto. Wm. K. Walther's Inc., 414-527-0770, www.walther's.com

H0 scale details and accessories

- **53-foot utility reefer trailer.** Conley, England, KLLM Transport Service, Navajo Intermodal, and Western Distributing. Three trailer numbers per scheme; also available painted white and silver but unlettered. Injection-molded plastic with painted mudflaps. \$29.98. July 2019. Athearn Trains, 800-338-4639, www.athearn.com
- **Assorted details.** Etched-brass strap hinges, \$9.95. 55-gallon oil drums, \$7.75 (decals for oil drums, \$2.25). Cast-metal

trash cans, \$9.95. Etched-brass "T" hinges, \$9.95. Showcase Miniatures, 334-750-3276, www.showcaseminatures.net

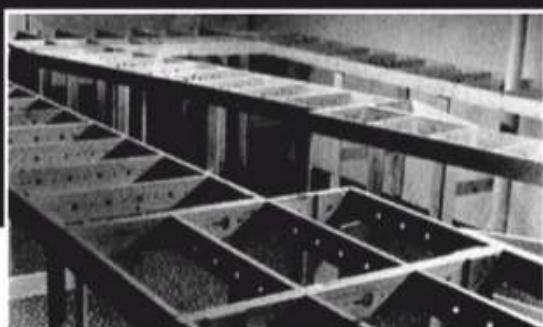
- **Figure sets.** Holiday shoppers (six figures in winter clothes), \$14.98. Motorcyclists (two bikes and three riders), \$17.98. Photographers (six-pack), \$12.98. Row boat and two passengers, \$14.98. Zombies (six-pack), \$14.98. SceneMaster line. Wm. K. Walther's Inc., 414-527-0770, www.walther's.com

N scale locomotives



- **Electro-Motive Division F40PH diesel locomotive.** New paint scheme: Metra (blue-and-red scheme in one number, modern paint scheme in two numbers). Retooled bodies with rooftop RV-style air conditioners; ditch lights, directional headlights and taillights for push-pull service; and all-wheel electrical pickup. Direct-current models compatible with Train Control Systems K5D7 Digital Command Control (DCC) decoder. Direct-current models, \$120-\$130; with factory-installed DCC, \$190-\$200; with ESU LokSound DCC sound decoder, \$300-\$310. Kato USA Inc., 847-781-9500, www.katousa.com

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Showcase

1 Large scale General Electric Dash 8-40CW. MTH offers this 1:32 proportion model lettered for CSX in three paint schemes. The model sells for **\$749.95**. MTH Electric Trains, www.mthtrains.com

2 Historic North American Locomotives. This 232-page book by Ken Boyd features

photos of a variety of historic and modern-era locomotives. The book is offered in hardcover (**\$44.99**) and softcover (**\$29.99**) formats. Kalmbach Hobby Store, KalmbachHobbyStore.com

3 Pullman-Bradley coach. This car is the latest addition to the Atlas O Trainman line. The O scale coach (**\$139.95**) is

decorated for New York, New Haven & Hartford in four numbers. Atlas O, www.atlasrr.com

4 Electro-Motive Division SD60M diesel locomotive. Burlington Northern is among the five road names offered on this Mainline series model. Direct-current models are priced at **\$129.98**.

Versions with a dual-mode ESU sound decoder are **\$199.98**. Wm. K. Walther's Inc., www.walthers.com

5 Rustic water tower. Woodland Scenics has released this factory-weathered structure. The model (**\$114.99**) has a light-emitting diode aircraft warning beacon that's compatible with the Just Plug Lighting System. Woodland Scenics, www.woodlandscenics.com

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Fruit Growers Express 50-foot plate B insulated boxcar. Moloco has added another highly detailed boxcar to its product line. The HO scale insulated boxcar is lettered for Fruit Growers Express, Boston & Maine, Baltimore & Ohio, Southern Ry., Louisville & Nashville, and Penn Central in one to four road numbers per scheme. The model is priced at **\$56** and has riveted car sides with FGE-style ladders. Moloco, www.molocotrains.com

N scale freight cars

- **North American Car Corp. 50-foot boxcar.** Canadian Pacific (red with CPAA reporting marks only); Chicago & North Western (yellow); Dakota,

Minnesota & Eastern (mineral red with reporting marks only); Johnson Wax (red, white, and blue); Pearl Brewing Co. (Country Club logo); and Quaker Oats (orange with reporting marks only). Three road numbers per scheme.

Etched-metal stirrup steps, 70-ton trucks with 33" metal wheels, and body-mounted McHenry scale couplers. \$23.98. July 2019. AthearnN. Athearn Trains, 800-338-4639, www.athearn.com



- **60-foot flatcar.** Atchison, Topeka & Santa Fe; BNSF Ry. (Northern Pacific patchout); Conrail; St. Louis Southwestern (Cotton Belt); Trailer Train (MTTX reporting marks); and Western Pacific. Four road numbers per scheme; also available undecorated. Die-cast metal frame, BLMA American Steel Foundries 70-ton Ride Control trucks with 33" metal wheels, and body-mounted couplers. \$29.95 (undecorated, \$24.95). Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com

N scale structures

- **Job site.** Scene includes laser-cut modular office, two 48-foot intermodal

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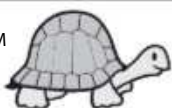
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• **Val-U Fuels and Oils.** Laser-cut wood kit with peel-and-stick backing on windows and doors; pivoting windows; and cast-metal oil drums, meter base, and roof vents. Measures 2 $\frac{3}{4}$ " x 3 $\frac{1}{4}$ ". \$59.95. Showcase Miniatures, 334-750-3276, www.showcaseminatures.net



• **F. Wyneken Drayage.** Laser-cut wood craftsman kit with stripwood trim

and bracing, peel-and-stick shingles, more than 40 detail items, signs, instructions, and templates. Kit features main building (6 $\frac{1}{2}$ " x 3"), main dock (3 $\frac{3}{4}$ " x 1 $\frac{5}{8}$ "), separate dock (6" x 1 $\frac{1}{4}$ "), and outbuilding (2 $\frac{1}{2}$ " x 1 $\frac{5}{8}$ "). Limited-run kit. \$89. The TrainMaster LLC, www.thetrainmaster.com

Z scale locomotives



• **Electro-Motive Division SD75I diesel locomotive.** BNSF Ry. (8200-series red-and-silver warbonnet scheme in three road numbers). Original shell with new chassis and trucks; American Z Line's standard printed-circuit board; separately applied air horn; upgraded, directional light-emitting-diode headlights; and AutoLatch couplers. Limited run. American Z Line, 614-764-1703, www.americanzline.com

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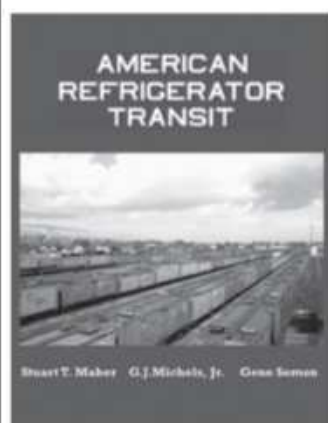
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- **1937 Association of American Railroads 40-foot boxcar.** New road name: Canadian Pacific. Seven road numbers (single car, two-pack, and four-pack). Murphy raised-panel roof, metal wheels, prototype-specific doors, AutoLatch couplers, and 4-5 Dreadnaught ends. American Z Line, 614-764-1703, www.americanzline.com
- **40-foot single-sheathed boxcar.** New paint scheme: Denver & Rio Grande Western. Eleven road numbers (single car, two-pack, and two four-packs). Etched-metal running boards and AutoLatch couplers. American Z Line, 614-764-1703, www.americanzline.com
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Southern Pacific 4-6-2 Pacific no. 650 is resplendent in *Daylight* livery as it stands ready to pull the crack passenger liner *Sunbeam* between Houston and Dallas. Like many SP steam locomotives, no. 650 is fed by a cylindrical Vanderbilt tender, seen behind the cab. Southern Pacific photo

Which railroads ran Vanderbilt tenders?

Q I would like to ask what were the advantages of the Vanderbilt tender over the conventional rectangular tender, and what American railroads used them in the steam era? Thanks.

Pete Scherer, Media, Pa.

A Vanderbilt tenders, with their characteristic cylindrical water tanks, are often associated with Southern Pacific steam locomotives, like that gorgeous streamlined 4-6-2 Pacific pictured above. But other railroads used them, too. The late *Model Railroader* executive editor Andy Sperandio answered your questions close to 10 years ago:

"This was largely up to the preference of the officials of the individual railroads as they ordered locomotives. Historically the one-time Harriman-owned roads, the Southern Pacific and Union Pacific, favored Vanderbilt tenders through the 1920s, although their tender designs diverged after the common ownership ended. In the East, the Baltimore & Ohio and Chesapeake & Ohio, which in the age of steam were unrelated, were both big users of Vanderbilt tenders.

"The Vanderbilt design was patented in 1901 by Cornelius Vanderbilt, grandson of the old 'Commodore' Vanderbilt of New York Central fame. (However, the NYC never owned a Vanderbilt tender!) Vanderbilt took advantage of the fact that a cylinder is the most structurally efficient way to enclose a given volume, and a tender with a cylindrical water tank could therefore be lighter than a rectangular tender of equal capacity.

"However, when tenders grew in size along with the largest locomotives, clearance restrictions made rectangular, or at least flat-sided, shapes the better choice for tenders carrying 20,000 gallons or more in a reasonable length. Length was an issue because it was most convenient to turn steam locomotives on turntables, which was also how they got in and out of roundhouse stalls."

Q I have a folded dogbone style of layout, which I run using Digital Command Control. I have a Walthers DCC-friendly double crossover and would like to install it in the middle of the dogbone so I can reverse a complete train and run it in the opposite direction. I'm thinking of

using an auto-reverser on one half of the dogbone or the other. Do I need one on both halves of the dogbone? I've asked some experts at my local hobby store, but they keep talking about "frog juicers," and I don't think those apply in my situation, since my frogs are insulated and unpowered.

I think what I need is an auto-reverser, but do I need one or two?

Zoltan Tako, via e-mail

A Ignore those self-proclaimed experts, because you're right; what you're looking for is called an auto reverser. These DCC-aware circuits usually include an automatic circuit breaker for additional protection. Not every power district on your layout needs a reverser, only those that could experience a short circuit when a train crosses from one district to another. Since a double crossover on a dogbone essentially creates two reversing loops, you need a minimum of three power districts, one for the crossover and one for each loop. Both loops should be hooked up to an auto-reverser. It will handle changing the polarity of the DCC power regardless of which direction the train is entering or exiting from. Note that some auto-reversers have multiple outputs, letting them handle reversing and circuit-breaking duties for more than one power district; using one of these will keep your costs down.

Q I'm trying to remember the name of the company that made model railroad structure kits that I built in the 1960s. Their kits came in yellow boxes. The structures were made of printed cardstock with wood and die-cast metal parts. They were inexpensive but sometimes difficult to build. I had several on my first model railroad, but when my family moved, I had to dismantle it. I think the last one I built was called the Triangle Cafe. Maybe someone on your staff has a better memory than me. Thank you.

*William Disbrow,
Broadview Heights, Ohio*

A A number of craftsman structure kit manufacturers packaged their wares in yellow boxes, including Ambroid, Fine Scale Miniatures, E. Suydam & Co., and more recently, Laser-Art. The Triangle Cafe was offered by Alpine Division Scale Models, which, as a successor to Suydam, also used yellow boxes. So that may be who you're thinking of. They're still around at www.alpinemodels.com, but don't seem to offer that particular kit any more. Good luck reconstructing your old layout.

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

Q I have a number of passenger cars that are in need of upgraded lighting. I'd like to convert them to light-emitting-diode (LED) lighting due to its low current draw. Since I run Digital Command Control, my rails are powered by constant alternating current, so I think I need a diode bridge rectifier circuit for each car, with a resistor to drop the voltage for the LEDs. I'd also like to incorporate a "stay alive" capacitor, as well, so the lights don't flicker over turnouts. I think I recall a design for that in the former Symposium on Electronics many years ago. Can you help me find that article? Or is there a commercial product that does this?

Steve Stallings, Cerritos, Calif.

A Though it's possible to wire car lighting to run off of DCC rail power the way you say, there's one obvious drawback: Since track power is always on, those lighting circuits will always be on as long as they're on the rails, drawing current your locomotives may need. You could add a power switch to the circuit,

perhaps a magnetic reed switch so you don't have to pick up the car to turn the lighting on and off.

But there's a simpler solution: a lighting decoder, like the Light-It by NCE (see our review in the May 2018 MR). These decoders don't have motor control or sound circuitry, so they're compact and inexpensive. They also have built-in resistors, simplifying wiring. Power your LEDs with a lighting decoder and you can turn your car lights on and off with a DCC throttle, dim them, or even add a lighting effect like a gas-lamp flicker. See our DCC Corner article in the November 2013 issue for an example of how to equip your cars with DCC-controlled lighting and a stay-alive capacitor.

Q I'm building a layout with some steep inclines, and before I spend big bucks on locomotives, I'd like to know which ones offer the most pulling power. Are both steam and diesel rated the same way for power? How would I compare the locomotives manufactured by different companies?

Hopefully there's an easy way to determine this without having to Google every engine on the market.

Tom Jordan, Seattle

A We include information on pulling power in every locomotive review we publish. If you're a subscriber to the magazine, you should have access to our online Product Review Database, found at www.ModelRailroader.com. Go there and search for the model you're looking at, and if we've reviewed it, the review will tell you the pulling capacity of the engine, both in ounces of pull and theoretical train length. If the particular model you're interested in isn't reviewed, other reviews of the same manufacturer's locomotives will give you an idea, since many locomotives share drive train components with others from the same manufacturer.

Q How do I make realistic-looking banding for a flatcar lumber load? I've tried cutting electrical tape into long strips with a sharp knife, but each time



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the strip comes out a slightly different width than the last one.

Jean Guy Villeneuve, Montreal

A Try chart tape. This is self-adhesive plastic tape that is available in various colors and widths. For HO scale banding, I suggest $\frac{1}{64}$ " glossy black tape (that might seem thin, but it's about $1\frac{3}{8}$ " in HO, which is close to the prototypical width). You can find it in art or drafting-supply stores, or order it online.

Q A while ago *Model Railroader* used to include, in the February issue, an index of the previous year's issues. Where can I find copies of the index to previous years?

Joe Kazmierczak, no address given

A Online. Go to www.ModelRailroader.com and hover your mouse over "The Magazine" in the black menu bar at the top. Then, select "Annual Index" from the drop-down menu. There you'll find indexes from years back in printable PDF form. 

READER TIP

Clean enough to eat off of

I've found a way to clean brass locomotive shells in preparation for paint that doesn't damage fine details: effervescent denture-cleaning tablets.

First, separate the body shell from the chassis, including the walkway and handrails. Next, fill a clear glass vase that is taller than the body shell is long with warm tap water. Gently lower the brass body shell and walkway into the vase, standing up.

Add denture-cleaning tablets one at a time (any brand will do) and check the progress of the cleaning when the fizzing stops and the water changes color. (The brand I use changes from blue to white when finished). You may have to add more tablets if one isn't enough.

When finished, rinse the brass pieces with distilled water and allow



Charles Carter finds that immersing brass locomotive shells in warm water with effervescent denture-cleaning tablets is a great way to prep them for painting. Charles Carter photo

them to air-dry. Prime with your favorite primer, then paint. I'd avoid baking unless you want to re-solder the fine details. – Charles D. Carter, Akron, N.Y.

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The tale of the whale in N scale

I thought about calling this column “What on earth were they thinking,” but that wouldn’t have made a good title because someone looking at the table of contents would have had no idea what the article was about.

The “they” in my unused title was Atlas, which had the N scale whale-belly tank car shown in the photo manufactured for them by Roco in Austria. I’d ask the folks at Atlas what they were thinking, but I doubt if anyone who was involved in product development in the late 1960s is still there. It seems impossible, but this model is almost 50 years old.

The car hit the dealer shelves in 1970. The suggested retail price was \$4, which only seemed fair considering you got twice as long a body and twice as many wheels as the typical cars that usually went for about two bucks. Besides the model shown here, Atlas made one painted for Texaco, and another for Wanda Petroleum.

First off, at 97 feet long, the prototype was the longest freight car ever built. For the foreseeable future, it will

remain so – in the 1970s the Federal Railroad Administration ruled freight cars could be no longer than 89 feet. (As a consequence, today flatcars and auto racks are that long and no longer.)

The whale-belly car had a capacity of just over 60,000 gallons. (The biggest tank cars we see in service nowadays hold about half that amount.) It was built by General American in 1965 and the production run was short – GATX 96500 was the only one General American ever built. It was designed to carry either anhydrous ammonia or liquid petroleum gas.

If you’d like to see the prototype, it’s beached at the Museum of Transportation in Kirkwood, Mo., just outside St. Louis. A similar car, UTLX 83699, was built by Union Tank Car in 1963, but it carried 10,000 fewer gallons.

What sort of modeler would buy such a thing? I don’t really know, but somehow I ended up with two of them, and I doubt someone slipped into my house and planted them there.

I don’t recall ever trying to run these cars, and I doubt

they could’ve dealt with the 9¾”-radius curves on the 3 x 5-foot layout I had then. Just getting all 16 of those wheels on the rails at the same time would’ve been quite a challenge. Definitely you’d want to use the N-scaler’s best friend, a rerailer.

The way we were. Today, I believe a manufacturer would be quite hesitant to introduce such colossal models, even though today there are probably more large N scale layouts with broader curves that could accommodate them. And of course, in today’s railroading, longer cars and locomotives have become commonplace. My layout has 18” minimum-radius curves and the big equipment would be happier if they were larger.

Fifty years ago model railroaders, regardless of scale, didn’t think prototype nearly as much as we do today.

Today many manufacturers, including most of our N scale makers, bill their offerings as models of specific cars built by specific builders. They tell us when the cars were built, the railroads that bought them, and offer them in paint schemes that were actually out there on the rails.

Half a century ago this wasn’t the

In 1970 Atlas offered this N scale model of a unique prototype tank car built by GATX in 1965. No railroad bought any, so if you own one you own the whole fleet. They go for about 40 bucks on eBay. Bill Zuback photos

case – and it’s not entirely the case today – but in 1970 a manufacturer tended to offer, let’s say, 40-foot boxcars in single-door and double-door versions, the same for 50-foot boxcars, and they’d paint them with roadnames they knew would sell.

As the saying goes, you could slap a Santa Fe herald on anything and it would fly off the shelf. The models would probably actually have a prototype because the makers needed some kind of drawings to work from, but that fact wouldn’t be considered important enough to point out.

Another important point is that in those early days, we fledgling N-scalers were starved for product and would buy just about anything as soon as it came out.

Baffled as someone like me might be by the appearance of models that seem impractical and unmarketable, these cars were certainly distinctive and interesting, and for all I know, Atlas sold a jillion of them. I hope they did. 



WHAT SORT OF MODELER WOULD BUY SUCH A THING? I DON’T REALLY KNOW, BUT SOMEHOW I ENDED UP WITH TWO OF THEM. – JIM



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Cody Grivno explains how he built S.S. Ltd.'s HO scale "Birthplace of *Model Railroader*" kit, which features resin walls, etched-brass windows, white-metal details, and wood channel gutters, among other items.

How to build a multi-media kit

As we celebrate our 85th anniversary, it seemed like an appropriate time to visit an old friend, S.S. Ltd.'s HO scale "Birthplace of *Model Railroader*" structure kit. Longtime readers of the magazine know this isn't a new model. In fact, the kit dates back to another milestone in our magazine's past, our 50th anniversary in 1984. The kit was originally designed and produced by Bob Lunde of Magnuson Models Inc.

The structure is based on the first MR offices at 545 S. 84th St. in the Milwaukee suburb of West Allis. The building was torn down several years ago. Today the site is home to a car wash.

Assembling a multi-media kit may sound daunting, but don't be scared off. If you've built a few models and can follow instructions, you can complete this kit.

Thanks to S.S. Ltd., the "Birthplace of *Model Railroader*" kit lives on. An 85th anniversary limited edition (100 kits) version can be purchased online at the Kalmbach Hobby Store website, www.KalmbachHobbyStore.com.

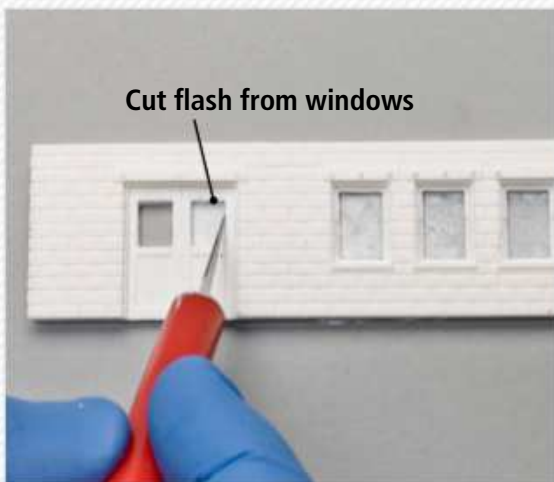
STEP 1 PARTS AND PREPARATION

When you open the box of the S.S. Ltd. kit, this is what you'll find inside. I always like to make sure a kit's contents are complete by checking it against the parts list. I also inspect the parts to make sure they're in good shape. Everything in this kit was fine. Most manufacturers will replace missing and defective parts in the unlikely event this occurs.

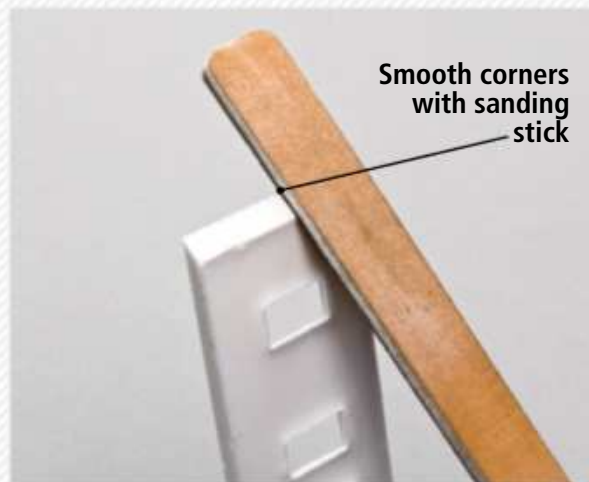
I started work on the kit by cleaning the resin castings. First, I used a hobby knife with a sharp no. 11 blade to remove the flash in the



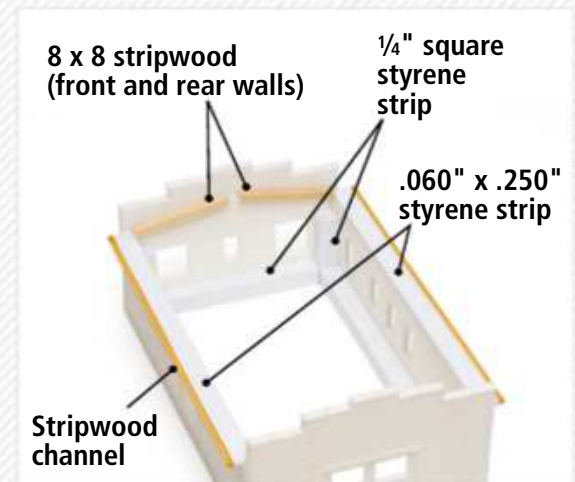
STEP 1 PARTS AND PREPARATION (CONT'D)



Cut flash from windows



Smooth corners with sanding stick



window openings, as shown in the photo at left. Work with resin in a well-ventilated area and wear proper personal protective equipment (I wear goggles, nitrile gloves, and a respirator).

Next, I used sanding sticks (middle photo) and a mill file to smooth the beveled corners, top, and bottom of each wall casting. Check your work often during this step. It's easier to remove more material than trying to

add it back if you file off too much. I've learned this lesson the hard way.

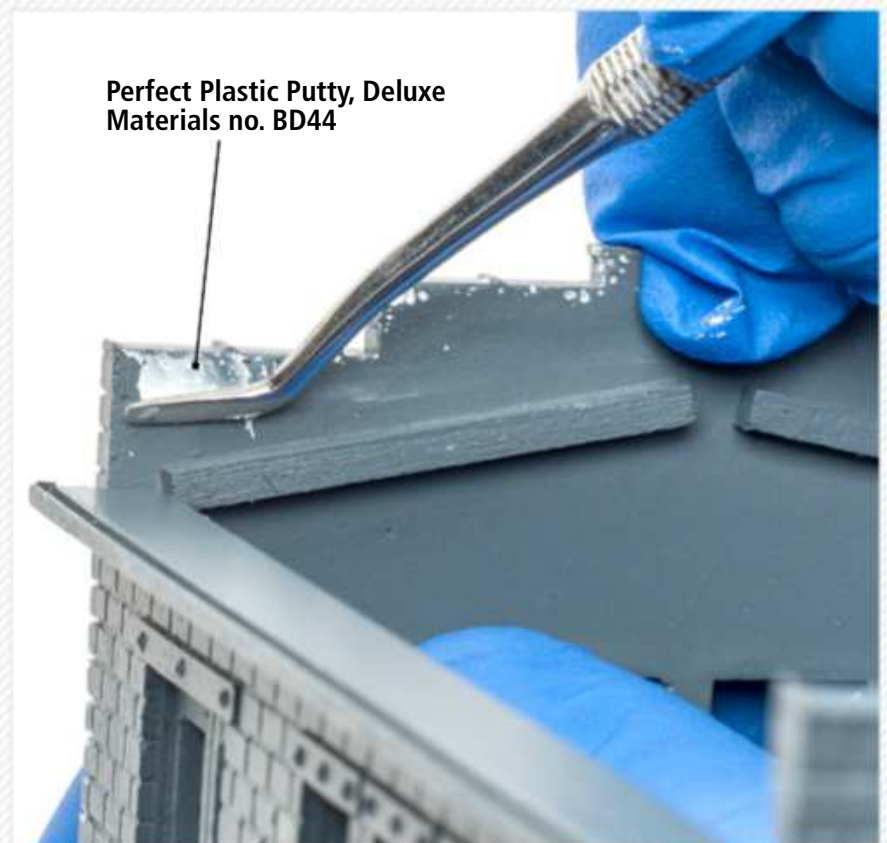
Before assembling the walls, I scrubbed the resin castings with a toothbrush in warm water with dish soap added to remove mold release and other residue from the manufacturing process. I deviated from the instructions and glued the walls with medium viscosity cyanoacrylate adhesive (CA). The manufacturer recommends using 5-minute epoxy.

I reinforced the corners and bottom edges with 1/4" square styrene strip. This is an optional step, but one that makes the building sturdier. I used .060" x .250" styrene strip for the soffits (the kit includes stripwood for this, but the instructions also indicate styrene can be used). The 8 x 8 stripwood supports the roof on the front and back walls. The stripwood channel material is used for the gutters.

STEP 2 PRIMING AND PUTTY



Flat Gray Primer, Rust-Oleum Painter's Touch 2X no. 249088



Perfect Plastic Putty, Deluxe Materials no. BD44

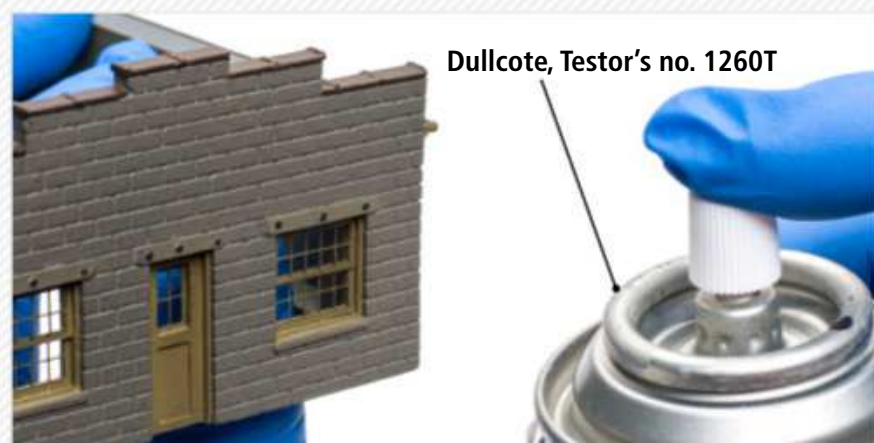
I sprayed the building with Rust-Oleum Painter's Touch 2X Flat Gray Primer (no. 249088), as shown at left. Do all painting in a well-ventilated area and, as before, wear protective gear. The primer provides an even

surface for the final colors. The primer also made it easier to see any gaps in the corner joints and air bubbles in the resin walls.

Once the primer had dried, I inspected the wall castings and

found some air bubbles. I filled the voids with Deluxe Materials Perfect Plastic Putty (no. BD44). I like this putty, shown at right, because it can be cleaned up with water, it sands easily, and it takes paint well.

STEP 3 PAINTING AND WEATHERING



We only have a black-and-white photo of 545 W. 84th St., so I had to make best guesses with colors. I knew the building was of cinder block construction, so I airbrushed the walls Model Master Concrete (no. 4876).

I brushed the coping Vallejo Model Color Leather Brown (no. 70.871). Then I used Model Master Aged

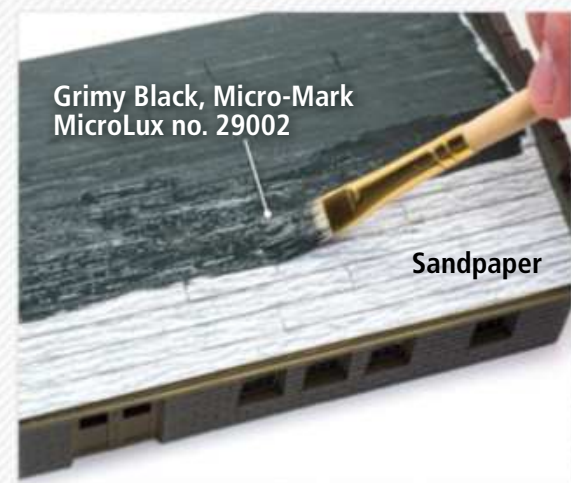
Concrete to paint the lintels and sashes. I applied Model Master Grimy Black (no. 4887) to the nut-bolt-washer castings with a toothpick.

I airbrushed the doors, soffits, gutters, etched-brass window sashes, and window frames Model Master Depot Buff (no. 4878). I cut the brass window sashes from the fret with

etched-metal shears. Then I attached them to the resin walls with CA.

I applied a wash of Model Master no. 4888 Engine Black to the building. This gave the building a sooty look appropriate for industrial Milwaukee in the 1930s. Then I sprayed the model with Testor's Dullcote (no. 1260T) to give it a flat finish.

STEP 4 WINDOW GLAZING AND ROOF



I cut the clear acetate used for window glazing to the appropriate size and attached it to the back of the etched-brass window sashes with Woodland Scenics Scenic Accents glue (no. A198). This material starts out white but dries clear and tacky.

Next, I trimmed the cardboard roof to size using the supplied cutting template. Then I marked the centerline of the roof and scored a fold line with a sharp no. 11 blade.

I cut the sandpaper into $\frac{5}{16}$ " strips to simulate tar paper. I secured the

sandpaper to the cardboard with full-strength white glue.

Once the glue had dried, I brush-painted the roof Micro-Mark MicroLux Grimy Black (no. 29002). It took two coats of paint to completely cover the light gray sandpaper.

STEP

WEATHERING AND FINAL DETAILS



To give the roof an aged look, I dry-brushed it with Model Master Reefer Gray (no. 4886). Drybrushing is putting paint on a brush, removing all but a trace amount, and touching the brush to the model. Keep the brush parallel to the front and rear walls.

I spray-painted the chimney casting Rust-Oleum Painter's Touch 2X Flat Red Primer and weathered it with various washes. I attached the casting with full-strength white glue.

To simulate sealant around the base of the chimney and where the roof meets the wall, I used a brush to apply Model Master Engine Black. Once the paint dried, I sprayed the roof with Dullcote.

I attached the paper sign to a piece of .015" plain styrene sheet with 3M Super 77 spray adhesive. After trimming the sign from the styrene, I painted the edges Conrail Blue to match the front. I attached the sign

with white glue, which provides more working time than CA and is easier to clean up.

Overall, I was happy with how "The birthplace of *Model Railroader*" kit turned out. However, I think the S.S. Ltd. HO scale building looks a whole lot better without a big pile of snow in front. (See the photo).

If you're looking to expand your modeling skills, try assembling a multi-media kit. **MR**



Visitors pack the viewing area of the Big Bend Railroad Club's layout room during a recent holiday open house. This view from the operator's balcony shows most of the club's O scale layout.

80 years at Webster Groves

How a handshake launched a Missouri train club and saved a piece of history

By **Kenneth Rimmel** • Photos by the author unless noted



The St. Louis & San Francisco Ry. (Frisco) called the station Webster Groves, but the local community called it Shady Side, after a nearby neighborhood. Today, the railroad depot at 8833 Big Bend Boulevard in St. Louis County, Mo., is the last depot remaining out of the five that once stood along the Frisco within the city of Webster Groves. It's also one of only two remaining depots out of about two dozen on this rail line in St. Louis County.

But this isn't just a story about a railroad depot. It's the story of a unique model



The club is headquartered in the former Frisco depot in Webster Groves, Mo. The depot was built in 1911, and was nearly demolished in 1994 because then-owner Burlington Northern didn't know it was occupied by the club.

railroad club that began 80 years ago, and through some unlikely occurrences, ended up owning its only home and becoming the caretaker of a piece of local history.

It started with a handshake

The Big Bend Railroad Club began in March 1938 at Webster Groves High School. Ten high school students founded what they at first called the Model Railroad Club of Webster Groves. They recruited an adult, Roland B. Nicholson, to help them build a layout when the time came and to teach them about model railroading.

The high school couldn't offer the club a permanent home. The club also couldn't build a layout in a member's home because many families in the area were still struggling in the wake of the Great Depression. Many people had been forced to move to a smaller home or were finding it difficult to get or keep a job.

One of those family members was able to help the club take its first step toward a permanent home, though. A meeting was arranged between club president Donald Q. Miller and the chief operating officer of the

Frisco. At that meeting, it was settled with a handshake that the club could use an unused waiting room in the railroad's Webster Groves depot. Within about a month, club members were given keys and began building the layout.

Changes

The students had chosen a name for their new club and named the club's model railroad the Little Frisco. But both of these names would eventually be changed.

Sometime between 1942 and late 1944, the club was renamed from Model Railroad Club of Webster Groves to Big Bend Railroad Club. This was done to identify with the street the depot is on. Likewise, prior to 1945, the name of the club's layout was changed to the Springfield & Ozark Ry. The layout was modeled after the former Springfield & Southern Ry., which ran south from Springfield, Mo., to Chadwick, Mo., and was purchased by the Frisco in 1885. When the club was formed, all the track south of Ozark was already abandoned, and the branch

served only a few local industries. Several locations on the layout were named after actual places on the line between Springfield and Ozark.

Besides changing names, the members changed, too. Within the club's first four years, every one of the 10 founding members was replaced by older, established model railroaders. The main reason for this was the original high-schoolers leaving town after graduation to find work or join the military.



Growing pains

The size of the room the club was given measures about 20 x 40 feet. This would be space enough for an HO scale layout to be proud of, but O scale was king in the 1930s. As the club neared its 10th anniversary, it was feeling increasing growing pains and began looking for a more spacious home.

When the club discussed its plans with its host, the Frisco realized that no formal agreement existed between it and the club. The railroad demanded the club sign a formal lease for its use of the waiting room. In order to make this lease legal and



protect its members from liability, the club incorporated as a nonprofit in 1950.

With the club still looking for more space, the railroad came up with a plan around 1960. The railroad would enclose the west porch of the building, giving the club an additional 460 square feet. In a few years, the new, expanded model railroad began limited operations. It was complete by the time of the 1970 National Model Railroad Association National Convention, which the club hosted.

A near derailment

One of the terms of the club's lease of the depot was that should the railroad ever

no longer need the building, the club would be given 30 days to vacate the premises before the building would be demolished.

In the early 1960s the railroad removed its stationmaster because the number of passengers using the depot was nearly non-existent. It constructed an open-sided passenger shelter on the other side of the tracks for the few passengers who still stopped there. Not long after that, a track maintenance crew was stationed in the baggage room side of the depot, and they used that area to store their equipment.

Everything continued to run smoothly until 1992, when without any notice to the club, the maintenance crew removed its equipment

and vacated the building. For about a year club members tried to contact the railroad, which was then part of Burlington Northern, to find out the railroad's plans for the depot and to make an offer to lease or purchase the entire building. Not receiving any replies concerned club members, but not as much as it should have.

One Saturday in early 1994, two club members were working on the layout when they saw someone walking around the outside of the building. Thinking it was a railfan curious about the club, one of them went outside to talk to him. The stranger was startled to see anyone come out of the building; he had been told it was empty. The railroad had hired his company to demolish the

This photo was taken in the latter half of the 1940s from the two-position operator balcony. It shows what the original layout looked like before work began on the scenery. Club archive photo

building, and he was there to find out what equipment he needed to do the job.

The man agreed to hold off completing his assignment to give the club time to make contact with the railroad. In the end, the club was able to purchase the building and secure a long-term lease for the land it sits on. A few years ago, the railroad executive who helped negotiate the contract visited the club and assured members that the railroad is happy to see the club using the depot, and that members should never have to worry about the future.

Today and tomorrow

During our long history in the depot, our club has been featured in many magazines and newspapers, including a photo essay in the September 1972 issue of *Model Railroader*. We've appeared on local television five times since 1985 and interviewed once on radio. In 2010, we added a Facebook page to our internet family, and today we have more than 500 followers from 16 countries. It surprised us to learn of our international reach.

Since purchasing the building, the club has received a 501(c)(3) classification from the Internal Revenue Service. We did this to make our club look more appealing to those who may want to donate more than a dollar or two to help us maintain our depot. Dues and donations we receive during our monthly open house make up most of our income, but this often falls short by the end of the year.

It's our plan to complete the needed work on both the building and layout, grow our membership, and make the building more accessible to our visitors.

The layout

The layout measures approximately 16 x 68 feet and has about 850 feet of main line, counting the passing sidings. It's a point-to-point design with reversing loops at each end, and is still operated on direct current using Variac transformers.

All the track used on the original layout, and most of that on the newer portion, is code 170 steel rail, hand spiked on individually cut and stained ties. Nothing compares to the quality and reliability of handlaid turnouts. The rebuilding of the Ozark and Springfield yards six years ago was done with code 148 flextrack and manufactured turnouts.



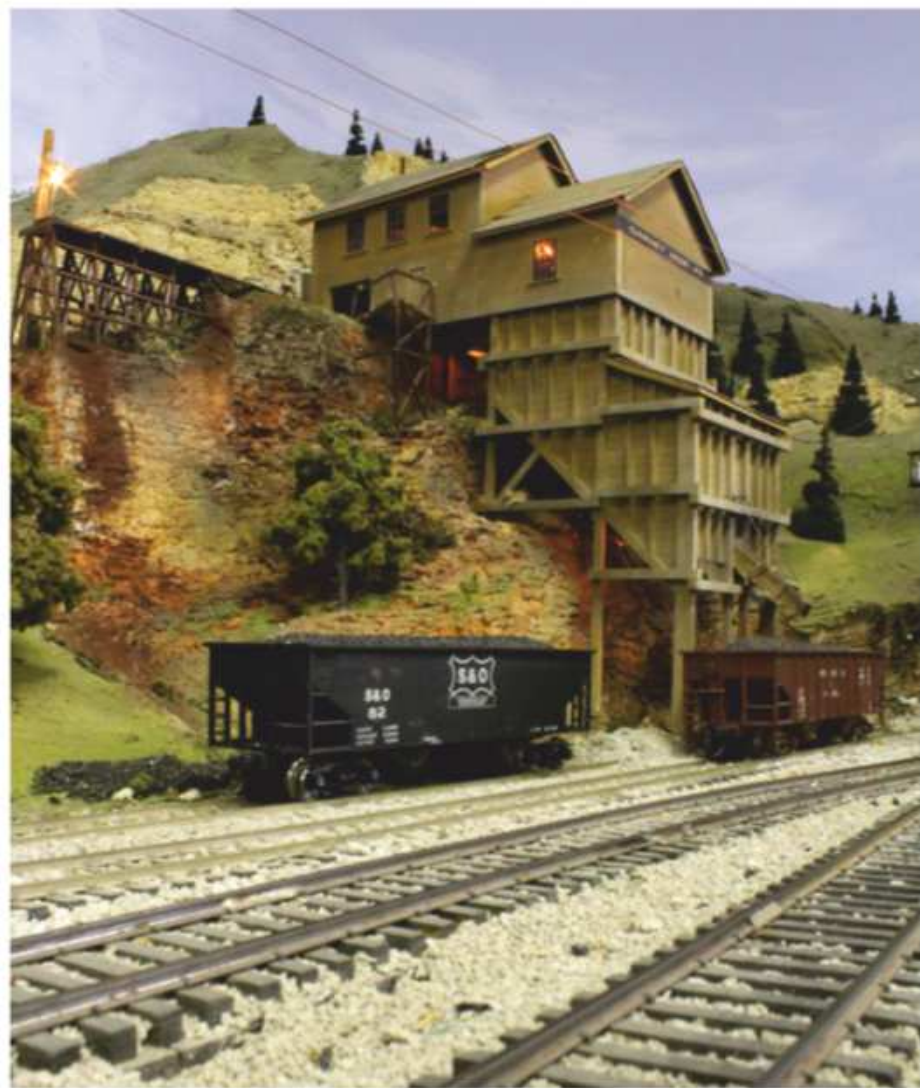
Club member Jerry Affeldt, left, checks how well his two 2-8-0 Consolidations run double-headed. The elevated operator's balcony in the back has four positions for mainline engineers and a dispatcher panel.

The steepest grade on the mainline is 3.4 percent, so we occasionally run helpers on some trains. Because the layout was designed in the early 1960s, before hi-cube cars came out, we have a problem if we try to run some newer rolling stock. The maximum height allowed on the layout is 4½" above the railhead, which is 1" lower than the National Model Railroad Association standard.

We still operate for the public on the first Tuesday of every month beginning at 7 p.m., and for a good number of years, we've been running an extra Tuesday and Saturday in December.

In memoriam

Shortly before I began writing this article, I received some sad news. Last February, we learned of the passing of Donald Miller, our club's first president and a good friend of mine. Donald was instrumental in securing permission from the Frisco for our club to move into the depot. He was a 17-year-old



Though the Springfield & Ozark was designed and built during the days of spaghetti-bowl track planning, the layout has a number of industries for prototypical operations. Garnet Mine No. 2 is one of two mines on the layout.

high school student nearing graduation from Webster Groves High School when he met with Chester Kratky, the Frisco's chief operating officer, and left with a simple handshake agreement.

Because of Don's actions, our club has been around for 80 years, our depot has been in continuous use since it

opened 108 years ago, and both have a chance to last many more decades. **MR**

Retired from the telephone industry, Ken Rimmel got into trains when he got a Lionel set for Christmas in 1954. He's a member of close to a dozen railroad-related museums, historical societies, and clubs.

At Daneburg on Pelle Søeborg's former HO scale layout, a spur leaves the main line paralleled by an access road. This scene captures the subtle contours and colors of a typical Midwestern landscape.



MIDWESTERN SCENERY BASICS



Layering textures and blending colors make the HO Union Pacific Daneburg Sub look like a real place

By Pelle Søbørg
Photos by the author

For me, modeling scenery is the most rewarding phase of building a model railroad. It's especially rewarding when people recognize a scene on my layout as a place that they've been, even though the modeled scene is completely fictional. Featured in the May 2017 issue, my HO scale Union Pacific Daneburg Subdivision may not be a model of a specific prototype location, but I've done my best to make sure the layout scenery captures the flavor of a Midwestern landscape.

I made research trips to western Iowa and eastern Nebraska. This layout's green scenery is quite different than the Southern California desert setting of my previous model railroad.

One common challenge with both settings was re-creating the feeling of wide-open spaces within the confines of a relatively compact layout space.

1. Tracks painted and weathered
2. Highway made of 1/4" medium-density fiberboard
3. Highway covered with Woodland Scenics Smooth It plaster
4. Road shoulders made of spackling compound
5. Scenery base painted
6. Highway surface painted and weathered
7. Dirt layer applied
8. Track ballast applied
9. Grass and weeds planted



The photo above shows the sequence that Pelle follows when adding layout scenery.

To accomplish this, I made the scenes as deep as practical, 32" on my layout. I also resisted the temptation to fill every inch of space with track, and instead let the scenery dominate.

Basic steps to great scenery

The basic steps I follow when installing scenery are outlined in the photo above. Scenery work starts after track and any paved roads have been modeled. I wrote articles about those subjects in the April 2016 and August 2015 issues, respectively.

On a layout modeling a flat Midwestern landscape, small height variations make a big difference. Carefully modeling landscape features such as road shoulders and ditches keeps the landscape from looking like track running over a tabletop.

Most of the ground cover began with an application of Monster Model Works Diorama Dirt. [Monster Model Works is now out of business. Sifted dirt or fine earth-colored ballast would be an appropriate substitute. – Ed.] For some farm fields I wanted a darker color, so I used sifted dirt from my backyard.

Modelers in the past were limited to green ground foam and dyed sawdust. Today, model railroaders have access to a

seemingly endless variety of realistic colors and textures of scenery products. All that's needed is some patience and attention to detail to use these products effectively.

The real key to realistic scenery comes down to color choices. First, avoid using bright colors. I don't even use any "summer green" flocking for my summer ground cover. Instead, I find a mixture of more subdued tones, including beiges and yellows, looks a lot more realistic.

Another crucial color choice for me involved the track ballast. I couldn't find commercially available model railroad ballast that looked like what I saw during my research trips, so I made my own ballast blends.

The following techniques will work with any modeling scale. Now follow along as I show you how I modeled a summer Midwestern scene on the Daneburg Sub.

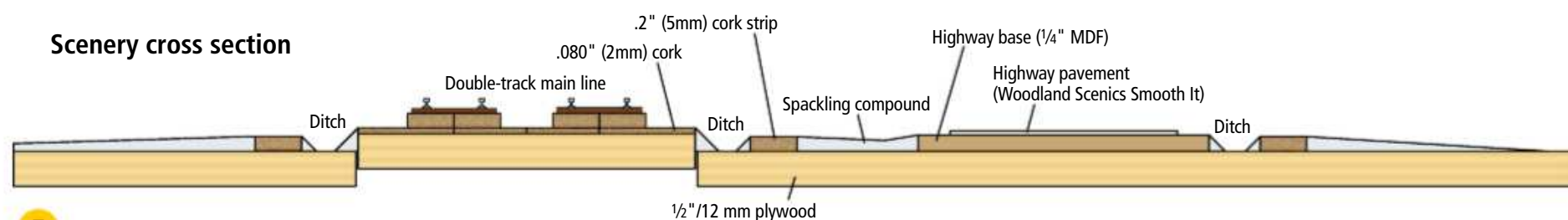


Illustration by Pelle Søbørg



At first glance there may appear to be no height variations in a typical Midwestern scene. However, there's no such thing as a truly "flat" terrain. There's always some height variation, as shown in the illustration in A.

I find it easy to model these slight height differences using lightweight spackling compound as a scenery base. I thin the spackling with a little water until it gets the consistency of whipped

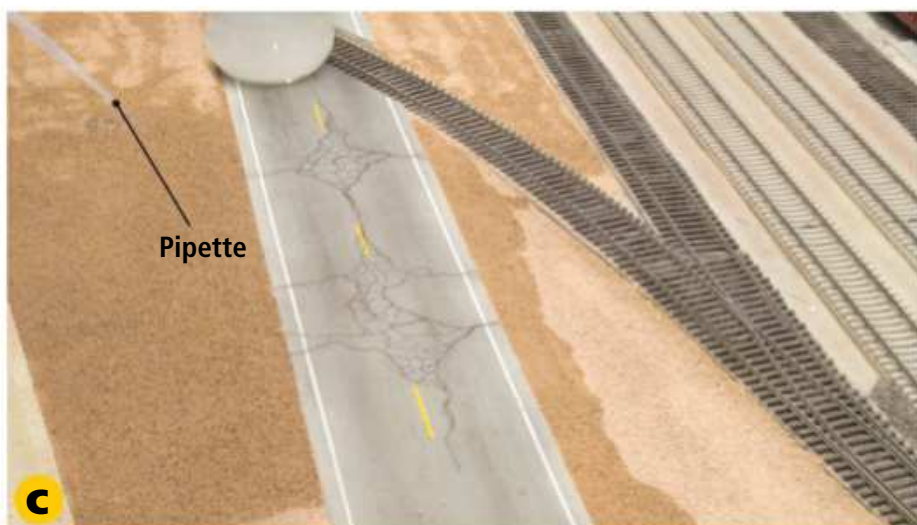
cream. This makes the material easier to distribute evenly.

Photo B shows how I use the thinned spackling to add sloped shoulders to the highway. I used a piece of styrene as a spatula to smooth the material. Dipping the styrene in water first helped prevent the spackling from sticking to its surface.

For the ditches, I glued down cork strips to act as guides, as shown in C.

The cork helped me apply an even layer of spackling compound while keeping the ditch's shape.

After the scenery base hardened, I sanded its surface to knock down any high spots. Then I painted the scenery base with a coat of earth-colored latex house paint, shown in D. This step is important to keep any unpainted white surface from peeking through the finished scenery.



Working in an area no larger than 15 x 15 inches, I began adding the first layer of ground cover to the scene. In this case I added Diorama Dirt from Monster Model Works. I began by brushing the painted scenery base with thinned white glue (1 part glue, 2 parts water) as shown in **A**.

Next I sprinkled the area with Diorama Dirt until it was completely

covered **B**. My homemade dirt applicator consists of a jar with a lid that has a lot of small holes drilled into it. I have several lids, each with different sized holes so I can easily adjust how fine or coarse the dirt's texture will be.

Once the area was covered, I used a pipette to drizzle the dirt with wet water (water mixed with a few drops of isopropyl alcohol) **C**. Be sure to hold the

pipette close to the surface to avoid washing the dirt away.

Next I used another pipette and drizzled diluted white glue over the same area **D**. The wet water ensures that the glue penetrates the entire dirt layer. Then I moved on to the next area. Once I had the scene's ground cover in place, I let it dry for a couple days before moving on to the next step.



On one of my Nebraska trips, I took photo **A** somewhere between Clarks and Silver. The track ballast isn't a uniform shade of gray, but is instead made of several different rock colors. I wanted to model this multi-colored ballast, but I couldn't find any commercial products that looked like the real thing.

After some experimenting, I came up with my own mainline ballast blend,



- 1.** Arizona Rock & Mineral 130-2 Northern Pacific Gray Granite
- 2.** Arizona Rock & Mineral 138-2 CSX, Southern Pacific, Wabash Ballast
- 3.** ASOA 1411 Diabasschotter
- 4.** ASOA 1710 Gneisschotter

using the products shown in **B**. Along with two colors from Arizona Rock & Mineral, I used two other colors from ASOA, a German model railroad manufacturer. A ballasted mainline section of



my HO scale railroad is shown in photo **C**.

For siding and secondary track I blended equal amounts of Arizona Rock & Mineral no. 130-2 Northern Pacific Gray Granite, no. 2012 B&O Salem Yard Ballast, and ASOA no 1710 Gneisschotter. An example of this ballast is shown in the lead photo on page 36.

INSTALLING BALLAST



First, it's important to apply the ballast as evenly as possible. I used a small plastic scoop to carefully pour the ballast along the roadbed shoulders and between the rails **A**.

Using a wide, soft brush, I smoothed out the ballast, wiping any stray granules off the tops of the ties **B**. I also

used the brush handle to tap the railhead and knock away any ballast that was stuck in the web of the rail.

I affixed the ballast to the roadbed using the same technique that I used to glue the Diorama Dirt to the scenery base. Using a pipette I drizzle wet water **C** over a section of ballast

followed by an application of diluted white glue **D**.

The ballast should be soaked completely with glue. I also made sure to put a drop between each tie. If the glue is applied too sparsely, the result will be a fragile shell of hard ballast over loose material.

GRASS AND WEEDS



Once the ground cover and ballast is in place, it's time to add the grass and other vegetation to the scene. Even though I model summer, I don't exclusively use green scenery products. Summer grass is a mixture of greens, yellows, and browns.

For this scene I wanted to model a service road running along the spur.

This rustic road will be little more than a single lane with bare dirt tire tracks snaking through the grass. I defined the road using a stiff brush to create tire marks as shown in photo **A**.

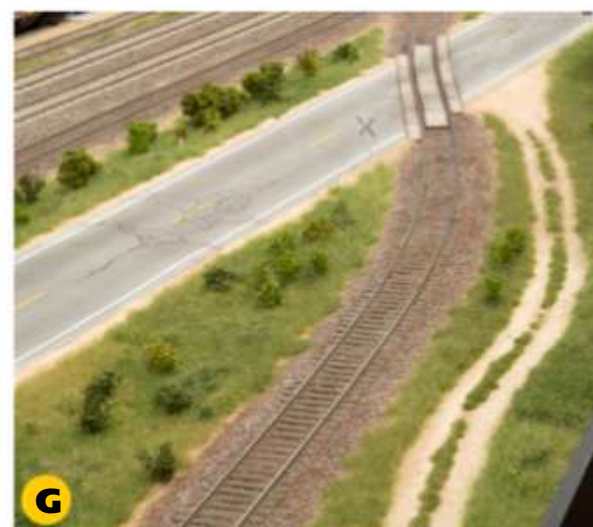
Next I used a wider brush to apply white glue to the area between the road and the fascia **B**. I added a little water to the glue to make it easier to

apply. I was careful not to dilute it as much as I would for ground cover or ballast. If the glue is too thin, it will be absorbed into the ground cover before I can apply the scenery material.

The first scenery materials I apply are weed tufts, which are small clumps of static grass with leaves. I simply peel them off their backing and place them



1. Early Fall 2. Late Fall 3. Beige 4. Golden Beige



into the wet glue. I use weed tufts from MiniNatur in both spring and summer green colors.

With the tufts in place, I used a battery-powered static grass applicator to sprinkle grass flocking over the glue-covered area **C**. My applicator was made by my friend and fellow *Model Railroader* author, Kim Nipkow. [Static grass applicators are also commercially available from GrassTech USA, Peco, and Noch, among others – *Ed.*] To function properly, its grounding needle must be stuck in the wet layout surface. Then I filled the tool's sieve with flock, turned it on, and shook it over the wet

glue. The statically charged flock then stands on end in the glue, simulating individual blades of grass.

I made a few passes over the area next to the road. Each time I filled the sieve with a different color and length of MiniNatur grass flocking. Of the four colors I used **D**, only one is green. For a more realistic texture, I also used three different lengths, 2mm, 4.5mm, and 6.5mm.

When the area was completely covered, I let it dry for 24 hours. Then I vacuumed all the loose flocking from the dirt road. Next I applied white glue to the area between the track and the

road. I also added some blobs of glue between the two tire tracks **E**. Then I followed the same process as before to add the static grass flocking. Once the road was finished, I moved on to the rest of the scene.

For the finishing touch, I added some taller weeds using pieces of MiniNatur Birch and Beech foliage. Using tweezers, I dabbed each clump of foliage in white glue, then pressed it into place in the grass **F**.

A bird's-eye view of the finished scene is shown in **G**. From normal viewing distances, the scenery looks real as nature itself. 

Materials list

Arizona Rock & Mineral
(www.rrscenery.com)
130-2 Northern Pacific gray granite ballast
138-2 CSX, Southern Pacific, Wabash ballast
2012 B&O Salem Yard ballast

ASOA (www.asoa.de)
1411 Diabasschotter
1710 Gneisschotter

MiniNatur
(www.mininatur.de)
Grass Flocking
002-23 Early Fall 2mm
002-24 Late Fall 2mm
004-23 Early Fall 4.5mm
004-24 Late Fall 4.5mm
004-27 Beige 4.5mm
006-33 Early Fall 6.5mm
006-34 Late Fall 6.5mm
006-35 Gold Beige 6.5mm
006-37 Beige 6.5mm

Weed tufts
725-21 Spring
725-22 Summer

Foliage
910-21 Birch Spring
910-22 Birch Summer
920-21 Beech Spring
920-22 Beech Summer

Miscellaneous
Dirt ground cover

Earth-colored latex paint
Lightweight spackling compound
White glue



85

and still alive

A look at Al Kalmbach's trains that helped build *The Model Railroader*

By Hal Miller • Photos by Bill Zuback

Readers of *Model Railroader* have been introduced to thousands of layouts in the magazine's 85 years. One of the first to debut – and to meet its demise – was founder Al Kalmbach's O scale Great Gulch, Yahoo Valley & Northern.

Subscribers got to know the railroad and its equipment almost reluctantly. The first how-to articles on building track and rolling stock appeared here and there in 1934, possibly written by necessity to fill last-minute holes in the layout of what was then *The Model Railroader*. Readers didn't really learn

about the whole railroad until after it was "abandoned" in 1936.

The name of the railroad was taken from the "geographic" features of Al's attic. The Great Gulch was the hole in the floor where the stairs to the room came up. The other side of the room was dubbed Yahoo Valley.

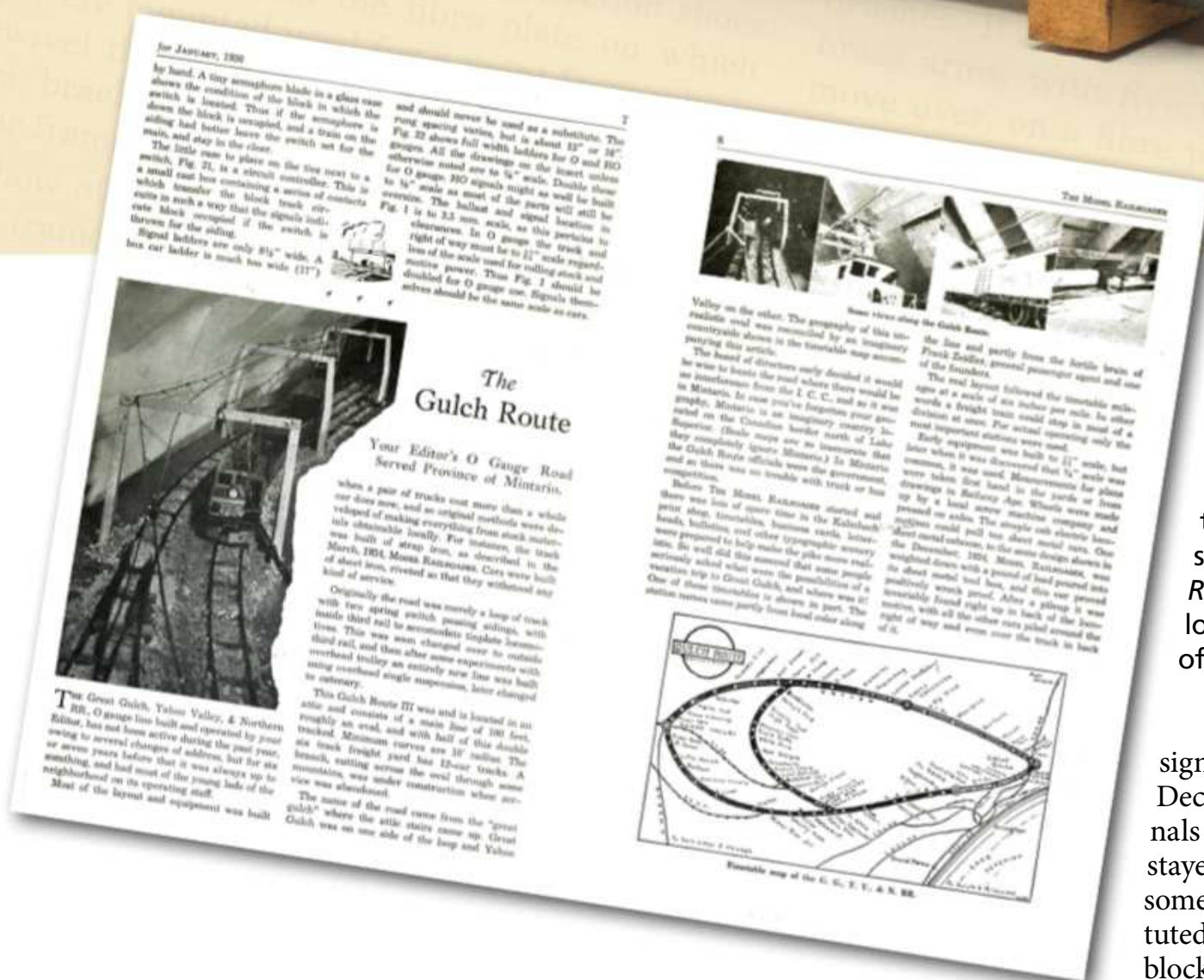
As originally built, the layout was a large oval with a couple of spring-switch passing sidings. The track itself was inexpensive strap steel slid into wood ties and bolted together with joint bars, just like its full-size counterpart. Papier-mâché ballast helped mask the height of the ties and rail.

Over time, the track was replaced with scale rail and the railroad grew to 100 feet of main line, still basically an oval, half of which was double-tracked. The minimum radius on the line was 10

inches, and the six tracks in the freight yard could hold 12-car trains.

The line was set in the imaginary country of Mintario, an apparently mineral-rich state on the Canadian border north of Lake Superior where mining was the main business. "In Mintario, the railroad officials were also the government, and so there was no trouble with truck and bus competition," Kalmbach wrote in the December 1936 issue. He added the railroad had been under construction for "six or seven years," predating the start of MR.

The Great Depression had the real world in its grip for much of the fictional line's life. That, coupled with model railroading being in its formative years, meant there were relatively few ready-made parts. Both factors endowed the railroad with a homespun charm.



Though primitive compared to today's models – and even some of their 1930s contemporaries – the rolling stock on Al Kalmbach's Great Gulch, Yahoo Valley & Northern was built to run and last. The railroad, which appeared in the December 1936 issue (left), was started a few years before *Model Railroader's* 1934 debut. The locomotive and cars sit on a section of the original strap-steel track.

signaling system as described in the December 1934 issue. "The block signals were of various types and never stayed on the job very long because something new was always being substituted," Al wrote. "At times there were no block signals, and then again most of the main would be signalled."

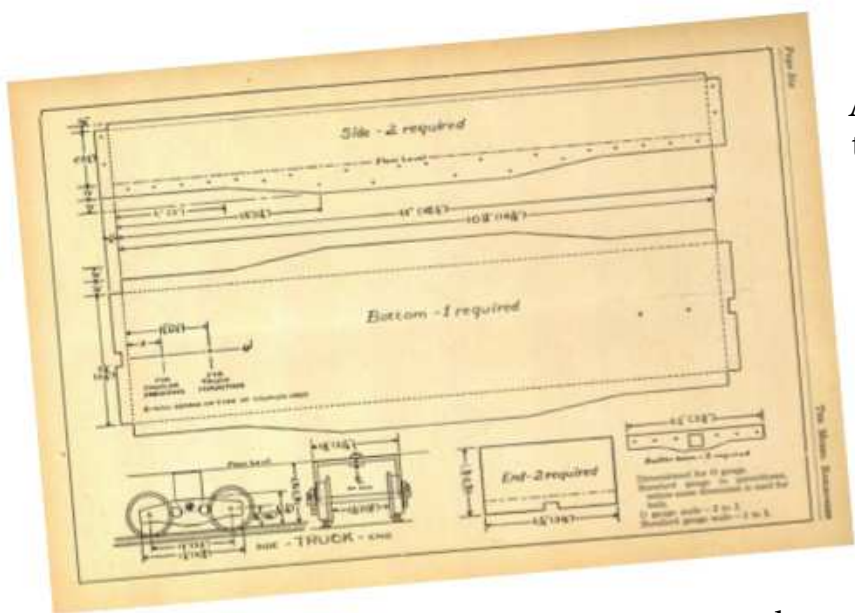
There were also experiments with remote control using "a spark coil disturbance impressed on the trolley wire and picked up by an aerial on the roof of a control car." Multiple-unit trains were also tested. Locomotives were fitted with sockets at each end so two could be

Kalmbach's layout, like others of the time, were more than places to merely run trains. They were the incubators in which the hobby was developing.

In its first incarnation, the Gulch Route had an inside third rail, allowing it to make use of the tinsplate locomotives available at the time. Eventually the

non-prototypical center rail gave way to outside third rail, "and then after some experiments with overhead trolley an entirely new line was built using overhead single-suspension, later changed to catenary," Kalmbach wrote.

The GGYV&N even had a rudimentary but (mostly) effective lighted



A telephone system connected the yard with the main control board, but, Al wrote, "The phone line was never used, because one could hear the other end better without benefit of the phone."

There were also somewhat informal operating sessions. "On Saturday afternoons, the road was operated by a dispatcher, several station agents, and

a yardmaster. There was no attempt to run by timetable, and all trains were extras," Al wrote. "A big blackboard at Great Gulch served as the train board, but some wag was always putting 'missing' after the train times."

operated "using one reversing switch and one trolley."

Communications were another facet of model railroading the Gulch Route explored, with less-than-stellar results.

There was also "interchange" with other railroads. Al's friend and fellow Milwaukeean Harry Bondurant operated The Bay Line – the Milwaukee, West Shore & Green Bay RR – which "connected" at Yahoo Valley. Future MR editor Linn Westcott's Lake Shore Short Line swapped cars at Great Gulch.

Bondurant saved some of the equipment from the Gulch Route and operated it on his Bay Line. Over time, some of it was repaired, remotored, and in some cases modernized with decals, new trucks, and couplers.

What remains of the GGYV&N eventually made its way back to MR and resides in our offices today. Here's a look at what survives from this seminal, and of course, fun model railroad.

Equipment of the Gulch Route

Freight motor no. 511 looks like a common maid-of-all-work electric locomotive of the era. The frame and body are riveted sheet iron.

Inside is a direct-current motor that drives one of the trucks via a worm gear. A chain transmits power from the geared axle to the other.

The maker of the functional trolley pole and pantograph is unknown. The latter fastens to the roof with clothing snaps so it could detach with minimal damage if it got snagged. Additionally, the pantograph can be moved between similarly equipped units like no. 3.

Power could also be picked up through truck-mounted outside-rail shoes or a center-rail slider underneath.



Freight motor no. 196 appears to have started life as a Lionel 153 locomotive. It was the toy train manufacturer's interpretation of one of the New York Central's S-1 electrics that hauled passenger trains in and out of New York's Grand Central Station.

The original Lionel mechanism was used to power no. 196. The assembly was mated to the body of no. 511 in a May 1934 article.

The plans showed Kalmbach's conversion had unpowered lead and trailing trucks. It's unknown if no. 196 ever actually had them. The unit also once had snaps for a pantograph.

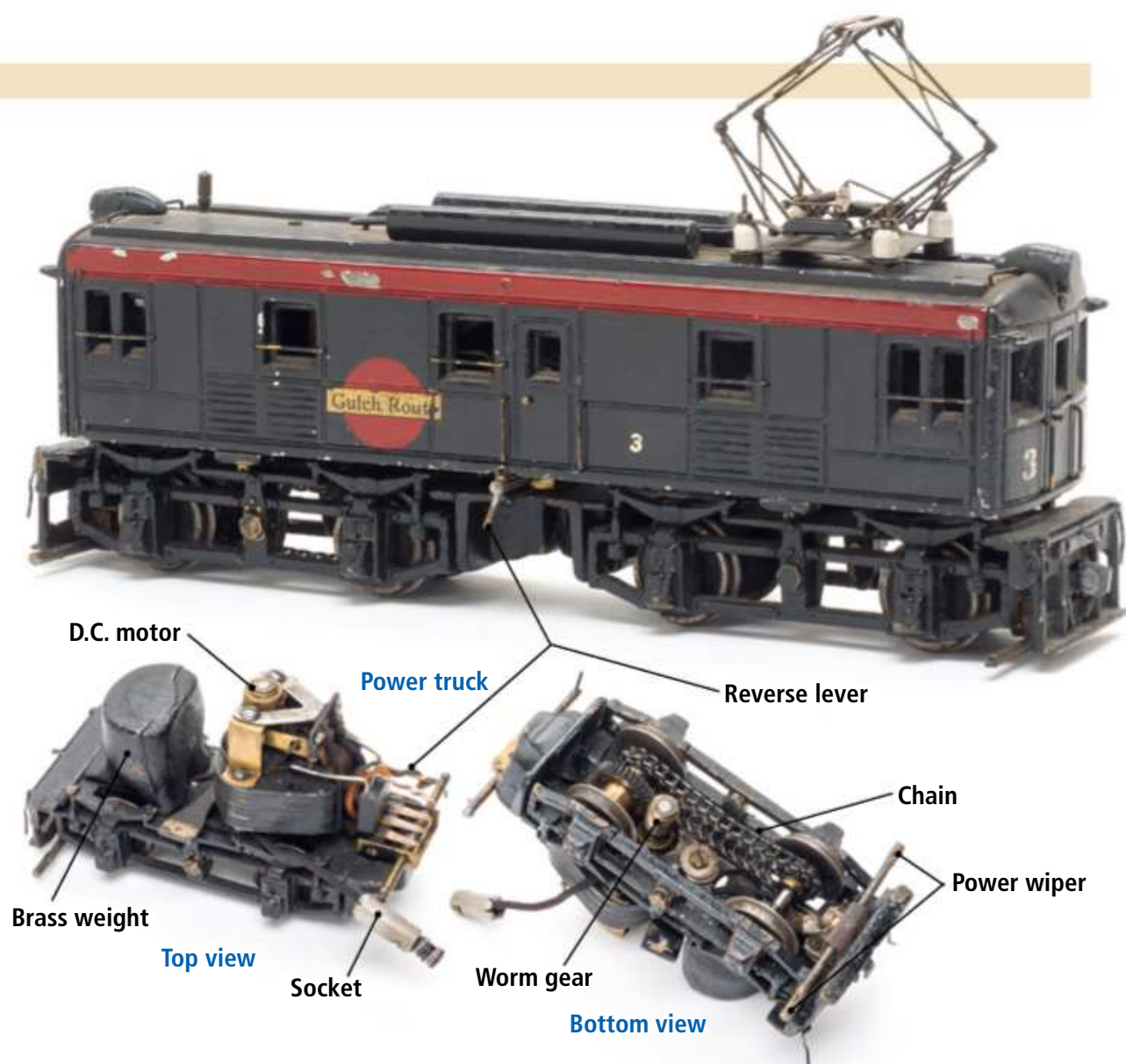
Freight motor no. 3 is the heavyweight champion of the bunch. The body is a commercial cast-metal product of unknown origin.

In addition to the weight on the power truck, there's also a steel block stuck to the body inside, giving no. 3 heft and tremendous tractive effort.

The drive is similar to what's in no. 511. The socket enabled a connection to the rear truck for power pickup, or to another locomotive for double-heading. Outside-rail power could be picked up by the wipers behind the pilots.

Perhaps the most clever feature is the reversing mechanism. When rotated, it makes contact with keyed brass strips that make the motor rotate the opposite way.

No. 3 has snaps for the lone surviving pantograph assembly. The Gulch Route herald is lettered with printers ink, which Al Kalmbach had ready access to. The red stripe on the top of the carbody is common machinery paint, and the air tanks are dowels.



Gondola no. 48048 is one of two of this type that survive; the other is black and unnumbered. Plans for these cut-fold-and-rivet cars (top left, p. 44) were in the March 1934 issue.

According to that article, there were six of these very durable cars on the GGYV&N. "Weak points have been found by such tests as dropping car bodies from a third-story window, and on-side collisions at high speed," Al Kalmbach wrote.

Caboose no. 003 carried the markers for trains on the Gulch Route, probably literally, as it has flag holders.

This was actually a Harry Bondurant design, "built to 1/4" scale by the Wauwatosa (Wis.) shops of the Bay Line," and written up by Al Kalmbach in the December 1934 issue.

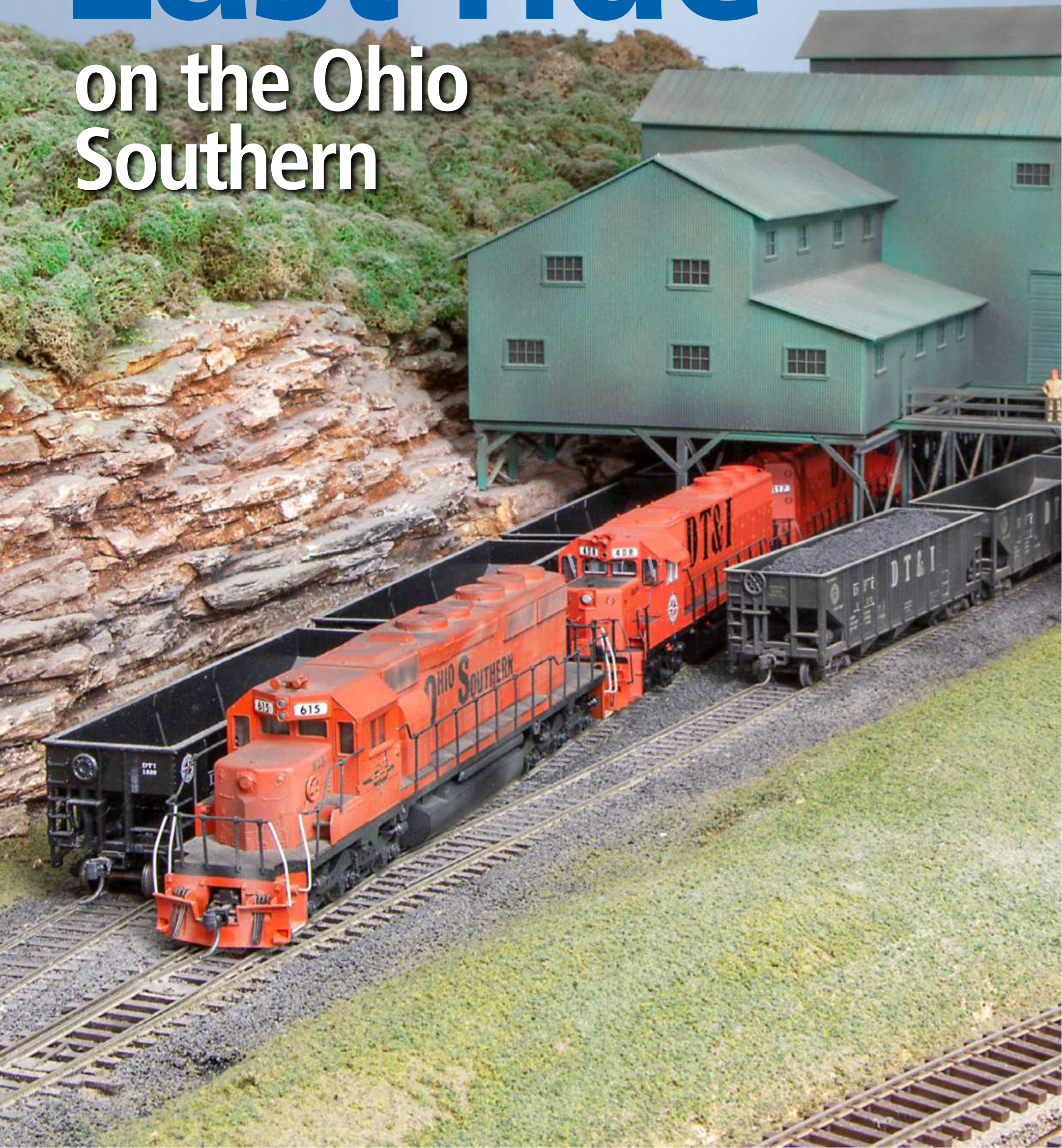
The caboose was made out of varying thicknesses of galvanized iron riveted together. The article states the caboose should have working doors; they are missing from this model. The windows are celluloid and the trucks are made of the same strap steel used to make the original Gulch Route rails. **MR**



RAILROADREVISITED

Last ride

on the Ohio Southern



The A.M. Coal Shifter switches loads at the Green Parrot Mine in Waverly on Jim Hediger's HO scale Ohio Southern. The pioneering double-deck layout was dismantled in 2018 after 38 years of operation.

A final visit to Jim Hediger's pioneering HO scale double-deck model railroad

By Jim Hediger • Photos by Bill Zuback

Jim Hediger's 22 x 28-foot double-deck Ohio Southern blazed the trail as one of the first multi-deck model railroads. The free-lanced HO scale layout, inspired by the Detroit, Toledo & Ironton, was set in southern Ohio during the early 1970s.

Though most people are familiar with my HO scale Ohio Southern (OS) as presented here, I built my first iteration of the OS on a 5 x 9-foot table when I was in junior high school.

There was a real Ohio Southern, a subsidiary of the Detroit, Toledo & Ironton (DT&I) in the early 1900s. My parents were also employed by the DT&I, further fueling my interest in the railroad.

The direct-current layout featured a loop of track with two reverse loops, a four-track yard, and a locomotive service track. The layout was powered by a 12V DC power pack.

The initial locomotive fleet consisted of an Athearn Electro-Motive Division (EMD) F7A lettered for the Pennsylvania RR; a Revell EMD SW7 in Detroit, Toledo & Ironton orange; and a Tyco 0-6-0T.

At the time I lived in Dearborn, Mich., behind Star Hobbies. The hobby shop was owned by Emery Gulash, a noted photographer whose work has appeared in many books and magazines on full-size railroading. I worked at the shop while I attended Wayne State University, where I earned my teaching degree.

During my years at Star Hobbies I expanded the original layout by cutting the table in half, spreading the ends, and adding a 5 x 9-foot section on open-grid benchwork in the center. This allowed me

to double the yard's length and add two passing sidings. I also added an Atlas turntable and expanded the engine terminal and shop.

Making the connections

As my teaching career continued in the Detroit area, I earned a masters in industrial education. During this time I became interested in steel mills and big industry.

In 1972, I was looking through an issue of *Model Railroader* and noticed the magazine was largely written by editor Linn Westcott with help from a few others at Kalmbach Publishing Co.

I picked up that things were going on behind the scenes to get the magazine out.

I wrote to Linn in the middle of May 1972 to inquire if he needed help. About three days later I got a telephone call wanting to know how fast I could get to Milwaukee to visit the Kalmbach offices.

By the time the visit was over, I had been offered a job. Russ Larson, Linn's successor, had just started with the magazine, and longtime staff member Gordy Odegard was working on the technical projects. Linn needed another editor to keep up with the day-to-day magazine work.

This happened right at the end of the school year. I completed my teaching contract with the Dearborn School District before I moved to the Milwaukee area in the summer of 1972.



▶ Jim has more great stories to share in "History according to Hediger." Check out the video series at MRVideoPlus.com



As MR's senior editor, Jim pioneered many of the methods now common on double-deck layouts. In this view, Jim stands next to Waverly (upper deck) and Greenfield (lower deck). Jackson Iron & Steel can be seen in the background.

The pioneering layout

Linn, who encouraged staff members to be active in the hobby, suggested I try a concept that John Armstrong wrote about in the September 1972 MR. In that issue, John presented the double-deck design. At that time a double-deck layout was only a concept. As far as we knew, nobody had built a layout in this fashion.

Based on Linn's encouragement, I began drafting a track plan using the double-deck concept. When John was in Milwaukee for a visit, Linn invited me to join them for lunch – and told me to bring my track plan. Lunch lasted three-and-a-half hours, and I got a lot of good feedback from Linn and John.

I started work on the layout on Sept. 26, 1979. As I worked on the model railroad, I ran into a few problems here and there. The biggest question I had was how to support the upper deck in

the middle of the layout where it was freestanding.

A friend was helping me work on the layout, and we'd tried about a dozen different leg combinations, none very stable. I didn't want vertical bracing on the outer edge, as I felt the layout would look like a big diorama.

During one particularly frustrating work session in the late fall, my wife, Judy, came downstairs. She said it was starting to snow and asked if I could put the picnic table away. I wasn't in the mood to be interrupted, but we grudgingly put the table away.

As we moved the table into the garage, we flipped it over and noticed the X bracing on the legs. It was like a big flashbulb went off when I saw that X pattern. It proved to be exactly what I needed to build the long peninsula.

As things worked out, the intersection of the X was just above the level of the lower deck where I needed the most



The Ohio Southern featured an interchange with another well-known freelanced railroad, W. Allen McClelland's Virginian & Ohio. Just south of Allenford Junction, an Ohio Southern freight passes under the V&O main line.

space for track and industries. Then it spread out again to support the upper deck.

After I got the layout up and running, Linn brought John to my house to see his concept in use. John was studying the layout as Linn was giving him a tour. Linn and I nearly fell over when John said, "I always wondered if it would work!"

Big industries, big trains

Much like the prototype that inspired it, the OS served plenty of big industries. I was longtime friends with noted steel modeler Dean Freytag, so it shouldn't come as a surprise that the OS featured a large steel mill. I used Walther's kits and scratchbuilt structures to finish the Huron



Steel complex, located at Sharon on the upper deck.

The coil-steel warehouse featured a pair of tracks entering each end of the structure. The tracks held six coil cars on each side for a total of 24 cars. Local freights switched the mill to pick up loads and deliver empty cars for loading.

Another steel industry on the upper deck was Jackson Iron & Steel (see top photo, opposite). Several low-relief buildings located against the backdrop behind the Jackson Yard comprised the industry.

The OS featured loads-in, empties-out industries. At Cove on the upper deck was the Huron Steel coke plant. Tracks passed through the complex, under the scenery, and re-emerged at Huron Mine No. 3 in Summit.

Other major industries on the lower deck included Campbell's Soup (above) and Sunoco Oil Co. in Washington Court House, a brick plant in Jeffersonville, and the Ohio Edison power plant in Edison.

Serving all of those big industries required a sizable

locomotive fleet. After more than 40 years, I had models that matched every class of DT&I locomotive and caboose. I airbrushed the models and decaled them following prototype photos.

As newer, better-detailed locomotives and freight cars came on the market, I began replacing my custom-painted models. Athearn EMD GP7s, GP38-2s, GP40-2s and SD38s; Atlas Model Railroad Co. GP38s and GP40s; and colorful rolling stock with finer details from several manufacturers brought the equipment on the OS up to today's standards.

Rolling through Ohio

I ran trains with Power Systems Inc. (now out of production) direct-current walkaround cabs. However, as I upgraded my locomotive fleet I purchased locomotives with dual-mode decoders that would make it easier to upgrade to Digital Command Control, though I never did so.

The dispatcher's desk was located next to the helix. Levers below controlled the

direct-current block power. Above that was a steel panel with a track diagram on it. This allowed magnets to be placed to show train locations. A set of meters on the left side of the desk made it easy to troubleshoot any electrical issues.

Staging yards were also controlled by the dispatcher. Allenford Junction, the upper staging yard, was the interchange point with the Virginian & Ohio. The lower level staging yard represented Cincinnati and prototype connections with the Chessie System, Conrail, Louisville & Nashville, and Southern Ry. Above the dispatcher's desk was the railroad's Coalton Branch staging yard.

The final send off

The Ohio Southern had a terrific 38-year run. A city sewer installation project in 1990 required me to tear out nearly 80 percent of the model railroad, but it gave me the chance to modify the track plan and correct some access issues. I was able to rebuild the layout more

A pair of Detroit, Toledo & Ironton GP7s leads an empty solid coal train past the Campbell's Soup plant. The blue warehouse could hold eight boxcars per track.

efficiently the second time around, as I knew what to do.

Though the OS lived on following the sewer project, on July 28, 2018, the curtain came down on my HO scale layout. It took two-and-a-half days to tear the layout down. The OS rode into the history books in a 30-yard Dumpster.

But I'm not done modeling. I plan on building a small switching layout. And you can bet orange-and-black diesels will be leading the trains. **MR**

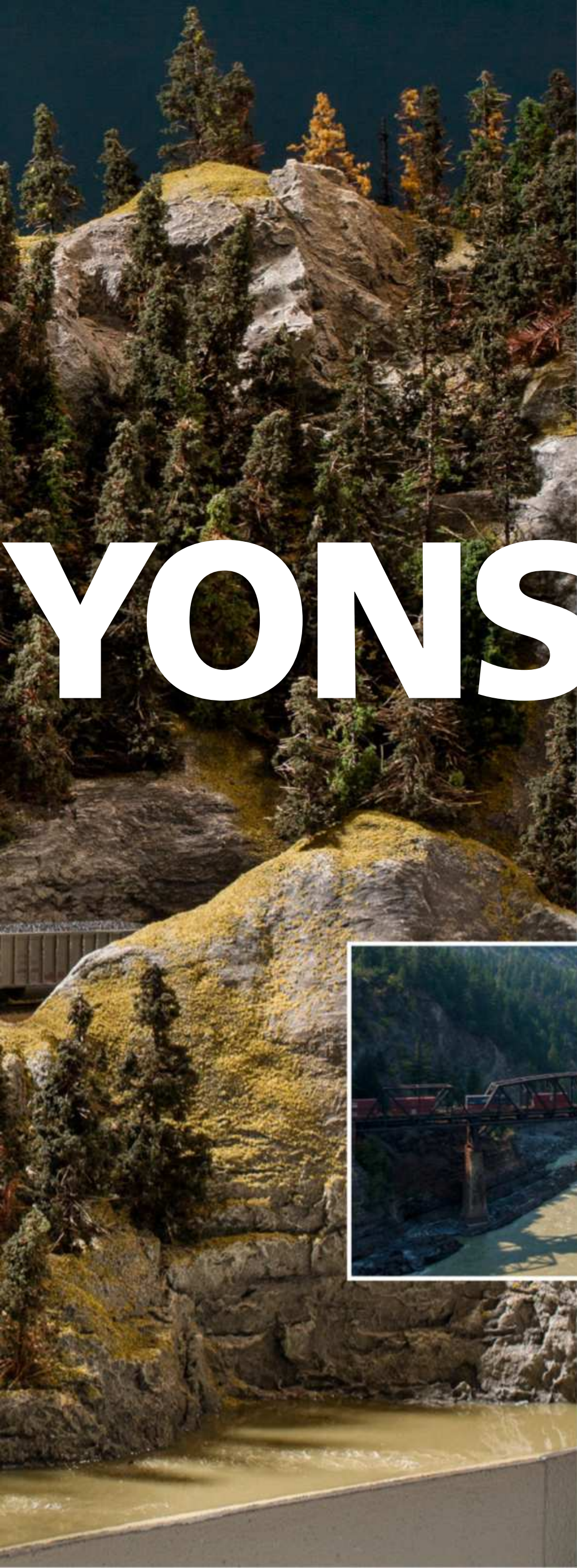
Meet Jim Hediger

This man needs no introduction to *Model Railroader* readers. Jim Hediger was a member of the MR staff for 43 years. During that time, he penned more than 750 articles, product reviews, and columns for the magazine.

Build the N scale

CANADIAN CAN





Part one: Rugged scenery, automated staging, and a hidden helix highlight this 5'-7" x 8'-0" project railroad

By David Popp

Photos by Bill Zuback and Drew Halverson

Massive motive power; two-mile-long unit trains of containers, grain, potash, or coal; and rocky, rugged, tree-covered river canyons – British Columbia, Canada, offers some of the most spectacular and exciting modern railroading on the planet. That's why it's also the subject for our N scale Canadian Canyons project railroad.

After looking at the realistic photo on this page, you may be surprised to learn that it's just one of several big scenes we've packed into our 5½ x 8-foot model railroad. With its high scenery-to-train ratio, N scale is a great way to capture the size and scope of mountain railroading.

Our layout depicts the main lines of the Canadian National and Canadian

Pacific as they hug the banks and walls of the Fraser and Thompson river canyons. It features an eye-level design so that the tops of the hills that divide the layout's distinct scenes tower over the heads of most viewers. You don't feel like you're looking at a model railroad. Instead you're in the canyons with the trains.

Inspiration for this layout came from a railfan trip to British Columbia taken by Kent Johnson, Drew Halverson, and Charlie Conway in summer 2015 for *Drew's Trackside Adventures* (DTA), a series on Model Railroader Video Plus. The trio photographed and filmed their trek chasing trains from Hope to Kamloops and back again. They documented the action from land, water, and air, using a battery of cameras and transportation, including



Left: ① With a storm brewing in the distance, a Canadian National coal train makes its own thunder as it pounds the rails over the Fraser River at Cisco, British Columbia. It's one of the big vistas on our 5'-7" x 8'-0" Canadian Canyons layout.

Inset: Double-stack trains dominate the bridges at Cisco. David designed the layout to reproduce shots like this from Drew, Kent, and Charlie's railfan trip.

The Canadian Canyons

January: Introduction to the layout and the track plan

February: Multilevel benchwork

March: Mountain scenery

April: Digital Command Control and wiring

May: Structures along the line



a pontoon boat and Charlie's Cessna 170, Bessie, decked out with Federal Aviation Administration-approved GoPro camera mounts.

Once I'd seen some of the footage Drew and Kent brought back with them, I quickly hatched a plan that would tie their three-part video trip into a project railroad we could build for *Model Railroader* magazine and MRVP. Soon after the videos

were edited, I took stills from the footage, as well as many of Drew's photos, and started planning the layout.

I'm fairly certain that MR hasn't built a project railroad of a prototype subject this well photo-documented since former associate editor Gordon Odegard built the N scale Clinchfield in 1978.

When taken as a whole, building the multi-decked railroad may seem complex

or even daunting. However, once you break the components down to their base tasks, it isn't that difficult. The pieces are built one at a time. The techniques used at all steps of the process can be performed by the average modeler. The materials are commercially available, including plug-and-play electronic components.

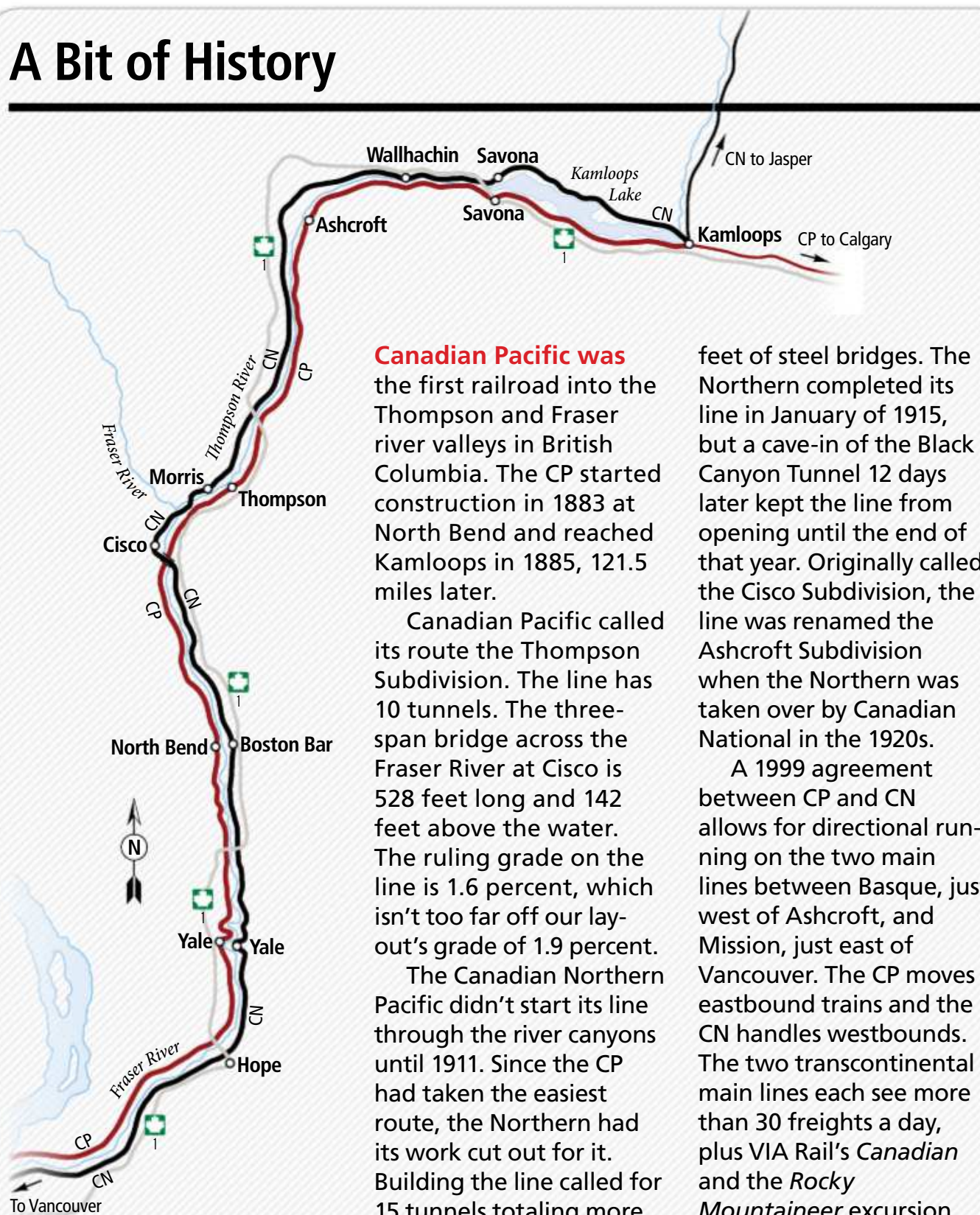
Because of the scope of our Canadian Canyons

Above: ② A Canadian Pacific stack train plows its way through the tunnels at Yale. Up the hill is Trans-Canada Highway 1, which parallels most of the rail route through the Fraser and Thompson river canyons.

Right: This photo shows the same scene at Yale, captured by Drew while flying in Charlie Conway's airplane, Bessie. A CN manifest freight works its way up the murky Fraser River.



A Bit of History



Canadian Pacific was the first railroad into the Thompson and Fraser river valleys in British Columbia. The CP started construction in 1883 at North Bend and reached Kamloops in 1885, 121.5 miles later.

Canadian Pacific called its route the Thompson Subdivision. The line has 10 tunnels. The three-span bridge across the Fraser River at Cisco is 528 feet long and 142 feet above the water. The ruling grade on the line is 1.6 percent, which isn't too far off our layout's grade of 1.9 percent.

The Canadian Northern Pacific didn't start its line through the river canyons until 1911. Since the CP had taken the easiest route, the Northern had its work cut out for it. Building the line called for 15 tunnels totaling more than 2 miles of underground track and 10,000

feet of steel bridges. The Northern completed its line in January of 1915, but a cave-in of the Black Canyon Tunnel 12 days later kept the line from opening until the end of that year. Originally called the Cisco Subdivision, the line was renamed the Ashcroft Subdivision when the Northern was taken over by Canadian National in the 1920s.

A 1999 agreement between CP and CN allows for directional running on the two main lines between Basque, just west of Ashcroft, and Mission, just east of Vancouver. The CP moves eastbound trains and the CN handles westbounds. The two transcontinental main lines each see more than 30 freights a day, plus VIA Rail's *Canadian* and the *Rocky Mountaineer* excursion train. It's one busy stretch of railroad. – David Popp



WATCH THIS ON



Free Video!

Watch an episode of *Canadian Canyons* and *Drew's Trackage Adventures* for FREE at MRVideoPlus.com



Above: Drew's photo of a CP stack train at Morris on the Thompson River illustrates the rugged, arid scenery in this part of the canyons.

Right: ③ A CN stack train with a GE demonstrator in the mix has been given the all-clear to leave the siding at Savona. The Cessna in the background is an Osborne Models 172 kit standing in for Bessie, Charlie's Cessna 170. Kent worked to capture the colors and textures of the rocks when modeling the Thompson side of the line.



layout, there are far more projects to share than we'll be able to fit into the pages of this article series. Fortunately, during its construction, we've produced more than 50 videos, covering everything from building the helix to installing block detection and a signal system.

You can watch the first two episodes for free at MRVideoPlus.com. And for less than the price of a cup of designer coffee each month, you can subscribe to MRVP and watch the rest of the series, as well as hundreds more videos at your leisure.

A different goal

When I design a new model railroad, I typically dig into the operating plan first. I like to have an idea as to how the railroad, either real or imagined, will use the line and serve its industries before I start drawing plans.

Our Canadian Canyons project, however, had a completely different goal: Capturing a personal experience. The focus for this layout was to present the Canadian National and Canadian Pacific as they appeared to Drew, Kent, and Charlie on their visit to British Columbia in

2015. Since I'm always up for trying something new, I designed the Canadian Canyons layout as seen from the railfan's perspective and not how the railroad might actually use it. To start, I watched the DTA episodes 29, 30, and 31 several times. These three episodes cover the British Columbia trip. I also traced the route on Google Earth's satellite image, and Kent gave me a few railroad maps to help figure out how everything pieced together.

With Drew and Kent's help, I then selected key locations in the Fraser and Thompson river canyons to include in the plan. I picked them based upon their scenic quality and importance to the team's memories of the trip. This layout would be Canada as they saw it.

A railfan's perspective

For Canadian Canyons, I had to change my usual approach to layout design. To make an authentic experience for the viewer, someone who has either been to British Columbia to photograph trains or has seen the videos, I would need to arrange the layout's finished scenes so that they looked right, even if they weren't correctly oriented.

My first challenge was that the CN's and CP's main lines run on opposite sides of the two rivers. And if fitting two 120-plus mile railroads into an 8-foot layout wasn't enough fun, they also swap sides along the Fraser River.

I knew from the outset that I couldn't possibly get both lines into the layout. Fortunately, in Drew's photos and Kent's videos, the viewer hardly ever saw both lines at once. After all, I was working from a railfan's perspective.

My solution was to place the viewers as though they were always standing in the middle of one of the rivers looking at a single bank. This let me to represent both main lines with one. Also, simply due to the photo locations of the selected scenes, most

of the layout ends up modeling pieces of the CP main line. The notable exception is CN's Cape Horn slide sheds.

The camera's priority

The second challenge involved fitting scenes together logically. The crew had photographed and filmed the two railroads from all possible angles, including from a boat and a plane. Depending upon the position



Charlie says: "I was floored by the density of operations along both lines – from the air there was always at least one train in view."



of the camera's view, the orientation of scenes in the layout didn't always fit conveniently with the prototype's running direction.

For example, to get the photogenic side of the CP's Cisco Bridge to face the viewer, I had to place it in the layout backwards. The tunnel and slide-shed entrance to the bridge are on the east end on the model, when in real life, that should be the west end of the bridge. The finished scene

is highly recognizable, and when viewed by itself, it looks as it should, even if trains entering the bridge from the tunnel on our layout are heading towards Vancouver instead of Kamloops.

I faced a similar difficulty with the Yale tunnels and the dramatic view of Trans-Canada Highway 1, as seen by Drew from Charlie's plane. This time, the CP's main line was on the west bank of the Fraser River, and the photos

I had are taken from over the river flying south. To get the iconic tunnels and highway into the layout, I swapped north and south. Again, when viewed alone, nothing seems to be amiss, it's just that to CP crews running trains on the layout, Vancouver isn't the direction they thought it was.

If it sounds like I'm apologizing for the layout in some way, I'm not. As I said, this is a different way to design a model railroad, and while the

layout is somewhat jumbled from a prototype perspective, from a railfan's point of view it works well. Viewers observe the trains one scene at a time. The scene looks right to them because it contains well-known features seen from recognizable points of view. In short, it all looks correct.

One other thing that really helps this layout's design is that, as explained in "A Bit of History" on page 53, the CN and CP use much of the two

lines through the canyons as a double-tracked main. There are always trains from both railroads on either track, so the sight of a CN coal train racing across CP's bridge at Cisco or a CP stack train rolling through the CN's Cape Horn slide sheds isn't out of place at all. It's even expected.

It starts in staging

All trains on the layout begin in staging, marked as elevation zero on the track plan's lower deck. The four-track double-ended staging yard represents all points east and west on the CN and CP. Turnouts in the staging yard are controlled by slow-motion switch motors connected to Digitrax stationary decoders. Operators can align tracks using their Digital Command Control (DCC) throttle or by using push buttons on the panel. The push buttons light when pressed, indicating which route is selected.

Model Railroader Video Plus associate editor Ben Lake also installed block detection on all tracks on the railroad. The staging panel has a series of light-emitting diodes (LEDs) to provide quick indication as to occupied yard tracks, as well as the upper and lower blocks on both tracks in the helix. Almost all of the cars on the layout have one Fox Valley Models

resistor wheelset, so even single standing cars are detected in a block.

Westbound trains leave the yard for Kamloops by heading into the outer loop of the helix, climbing a 1.9 percent grade up five turns. A road locomotive can easily haul a 20-car train up either helix track without slipping.

The Thompson Tour

Westbound trains exit the helix at Kamloops Lake, a big wide part on the Thompson River. This area also features impressive cut-stone retaining walls along CP's right-of-way as well as the Cherry Creek Tunnels.

Kent, Drew, and Charlie rented a pontoon boat to chase trains along the lake, so associate editor Eric White found an N scale 3-D-printed boat kit on Shapeways. He built it and included three seafaring railfans relaxing on the waves between trains.

Passing through the Cherry Creek Tunnels, trains next enter Savona at the western end of Kamloops Lake. The line passes one of the layout's two rail-served industries, the Savona Specialty Plywood factory. The industry regularly loads boxcars with finished plywood and also ships cars of sawdust.

Savona also marks the east end of the layout's only



David built this 1" = 1'-0" model of the layout to prove the concept would work before beginning construction.

A model of a layout

I've built 1:24 scale models for many of my layout projects as proof-of-concept items. These were mostly limited detail models, but for Canadian Canyons, I needed more detail.

For starters, I had designed a compact layout with two decks, a helix, a semi-hidden staging yard, and a lot of crazy ideas for separating scenes with skinny foam mountains. And my original concept required the upper deck to be removable!

I built the Canadian Canyons model to the same scale I'd drawn the layout, 1" = 1'-0". I used scale lumber to represent the

dimensional lumber framing members. I used the cardboard from a notepad to represent the $\frac{3}{16}$ " tempered hardboard to be used in the helix and thicker stuff for the subroadbed. I hand-carved the mountains from foam insulation.

The model worked well, and brought to light two significant problem areas that I unfortunately didn't heed until construction proved I should have: giving up the removable upper deck and making the layout 8 feet long instead of 7. Still, making the miniature layout was well worth the effort, and good practice for the real thing. – David Popp





Above: The Koppers tie plant at Ashcroft is one of the busier industries on CP's Thompson Subdivision. Drew caught it and a CP grain train in this shot.

Left: 4 There isn't much room for the railroad and the Koppers Ashcroft tie plant between the canyon wall and the Thompson River. Steven Otte scratchbuilt the plant working from photos taken during Drew and Kent's trip.

passing siding. Both tracks curve under a concrete overpass, providing road access to the plywood plant. The siding continues around the curve to Ashcroft. Here, sandwiched between the tracks and the Thompson River, is the layout's other industry, Koppers Ashcroft Inc. This tie treatment plant receives carloads of bare

wood ties and tank cars of chemicals and ships finished ties in gondolas.

The real plant is huge and has multiple spur tracks. Associate editor Steven Otte scratchbuilt the model, and I'm pretty sure he's happy that I didn't leave him any more space. It took him a long time to make all the scale stacks of ties one board at a time!

After the tie plant, the distinctive blue

waters of the Thompson River make another appearance along the edge of the layout.

I modeled the water for this section using Woodland Scenics Deep Water Clear resin product, tinting it with the firm's Turquoise dye.

This region of British Columbia is marked by its bare, rocky hillsides, and it's prone to frequent rockslides. Kent built the scenery on this part of the layout, and his expertise shows. He'd

modeled the region once before on his former three-rail O gauge layout, so he had some good practice capturing the desolate look of the hills.

Continuing west through another tunnel, the last modeled Thompson River scene is the Cape Horn slide sheds. These are massive structures used to direct falling rocks over the right-of-way and down the bank into the river.

Fraser foray

Unlike the clear blue Thompson, the Fraser tends to be an opaque putty gray color. To model the muddy water at Cisco, I used Woodland Scenics Deep Water Murky resin tinted with the firm's Yellow Silt dye.

Eric scratchbuilt the CP's Cisco bridge, modeling a



Kent says: "Mountains, rivers, lakes, forests, and a desert to boot – the Fraser and Thompson river canyons was love at first sight!"



Above: 5 The only way you're going to watch trains at the Cherry Creek Tunnels is from a boat. Eric White painted the 3-D-printed model to represent the pontoon boat rented by Drew, Charlie, and Kent.

reduced version of it from a variety of strip styrene and available kit parts. Because of space constraints, he could only model two of the spans.

Because the bridge crosses the river at Cisco, I needed a way to make the river disappear around the bend. The river curls into the lobe at the end of the layout. Because of the rock walls, bridge, and trees, it's hard to tell that the canyon doesn't continue beyond what the viewer sees.

The final scene on the modeled portion of the layout is the Yale Tunnels. These tunnels aren't part of Canadian Pacific's Thompson

Right: Drew caught this CP train in action from the boat on Kamloops Lake. The stone retaining walls are one of the recognizable features of the Cherry Creek Tunnels, and had to be included on the N scale layout.

Subdivision, as they're west of the division point at North Bar. Instead, they're part of CP's Cascade Subdivision. However, they appear prominently in the DTA videos, and it's the one time we can clearly see Trans-Canadian Highway 1, so I chose to include the scene.

Since Yale wraps around the helix and covers its top, this is also the tallest scenic point on the layout. Track level at Yale is 10½" above staging, Highway 1 is at 16", and the peak at Yale is 28" above staging. It seems even taller yet because of the dense tree cover.



Up and running

It took us about a year and a half to build the Canadian Canyons. And while that is long for a typical MR project railroad, keep in mind we had to film and photograph every step of the way.

The finished layout fulfills its mission as a railfan railroad nicely, though it doesn't leave much for the operator to do. With that in mind, I've kicked around ideas for adding a 3 x 6-foot section

between Savona and the helix. Doing so would expand the railroad's overall footprint to 8'-0" x 11'-7". It would be plenty of room to add a small section of CP's yard at Kamloops, as well as a few of the larger industries there.

Whether you build the layout shown here, or expand it, Canadian Canyons has a lot to offer. And as you watch the trains snake their way through the river valleys, it's a lot like being in British Columbia yourself! 



20 innovations that changed the hobby

Many model railroading products we take for granted were revolutionary for their day

By **Steven Otte** • Photos by *Model Railroader* staff unless noted

The hobby of model railroading looked very different when Al Kalmbach launched *The Model Railroader* 85 years ago. Train sets were more toys than scale models, cars were made out of wood and cardboard, and practically everything had to be scratchbuilt or at least assembled. Different manufacturers' trains ran on different electrical currents, there were several competing coupler systems, and shredded asbestos was

considered a great choice for ground cover. (We no longer recommend that.)

To borrow a line, we've come a long way, baby. Our model railroads are more realistic than ever, both in how they look and how they run. A lot of that is thanks to the National Model Railroad Association, whose Standards and Recommended Practices made it possible for products from any manufacturer to work with those of any other. But equal credit goes to the manufacturers

who saw the chance to revolutionize the hobby and took it. Here's a look back at some of the innovations that turned model railroading into what it is today, presented in order of their introduction.

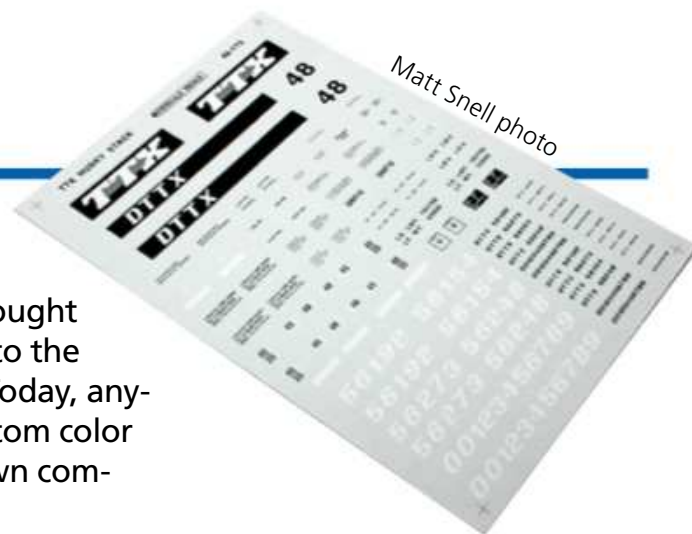
Any such list will be more subjective than exhaustive. You may feel that something we left out really belongs on this list. If that's the case, let us know by writing in to one of the addresses on page 10. We might publish your opinion in an upcoming *Railway Post Office*.

1. Water-slide decals

Decals predate steam railroads by about half a century. The technique was developed in France in the 1750s as a way to use tissue paper to transfer engraved designs to ceramics. But pre-printed water-slide decals

were in use in the hobby in the 1920s. Lionel was using water-slide decals to letter its products in 1937, and cars lettered with “decalcomania” (an early term) were advertised in the earliest editions of MR. As time went

on, businesses offering custom-printed decals brought realistic graphics to the casual hobbyist. Today, anyone can print custom color decals on their own computer printer.



2. NMRA standards gauge

The revolutionary thing about this product isn't the product itself, but rather what it represents: National Model Railroad Association Standards and Recommended Practices. When the NMRA was founded, there was no standardization between manufacturers.

One company's wheelsets wouldn't necessarily fit on another company's trucks. Each maker's locomotives had their own power requirements (some ran on direct current while others used alternating current). When Al Kalmbach, hobby retailer William Walthers,

Milwaukee mayor Frank Zeidler, and others gathered at that first NMRA national convention in Milwaukee in 1935, settling on standards for the different scales was Job 1. The hobby we know today wouldn't exist without the work of the NMRA.

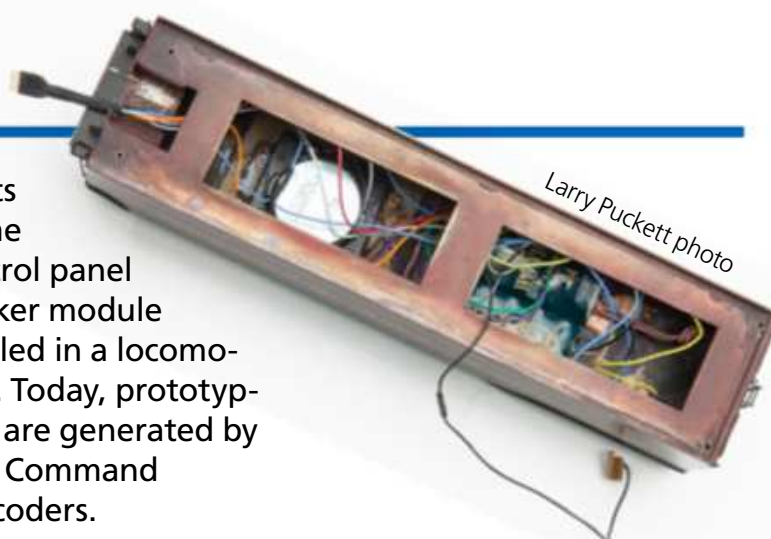


3. Onboard sound

Modelers have been trying to put realistic railroad sounds in their models nearly as long as the hobby's been around. Lionel started equipping its three-rail O gauge locomotives with air-driven whistles in their tenders in 1935. *Model Railroader*

published an article on how to pipe a more realistic sound signal to a speaker in a locomotive tender in May 1959. But that was a homebrew solution. This system was “perfected,” in the words of a July 1972 MR product review, by Pacific

Fast Mail. Its system came with a control panel and a speaker module to be installed in a locomotive tender. Today, prototypical sounds are generated by tiny Digital Command Control decoders.



4. Hobby paints

Being able to purchase hobby paint in authentic railroad colors is taken for granted these days. But that wasn't always the case. Al Kalmbach used to color his scratchbuilt cars with thinned-down printer's ink. The Testor Corp. first advertised its new line of hobby paints (in 14 colors) in the

October 1946 MR; Floquil's Hobbycraft paints were announced in February 1947. What distinguished hobby paint from regular paint was its thinner consistency and finely ground pigments, which enabled it to cover evenly without obscuring molded-in textures. Even when hobby paint became

readily available, it didn't come in a wide variety of prototypical colors. Formulas for mixing the basic colors into accurate railroad colors were passed around between hobbyists like treasured family recipes. Today, practically any desired railroad color is available pre-mixed at the hobby store.



5. The airbrush

The airbrush was first developed in the late 1800s. It didn't catch on quickly with the hobby market, though. *Model Railroader* didn't run its first article describing the use of an

airbrush until March 1959. But the development of better hobby paints, with a consistency thin enough to work in an airbrush and still cover effectively, made it more useful, and it caught on

quickly. No camel-hair brush, however fine, could achieve the smooth, even paint coverage of an airbrush.



6. Weathering chalks and powders

Weathering, turning a pristine model into one that looks like it's been working hard out in the sun, rain, and sleet for years, is an art form. So it's appropriate that one of the most useful weathering products came, like the

airbrush, from the art world. Artist's pastels, chalk-like drawing sticks that come in a rainbow of colors, could be shaved into a powder that modelers applied with a soft brush. The effect is softer and easier to build up in

subtle layers than paint. Now, hobby manufacturers offer finely ground pigments in colors like rust, dirt, mud, grime, and soot, mixed with dry adhesives that make them stick even better to our models.



7. Flextrack

Though many of us associate the early days of model railroading with tubular sectional track, flexible track is older than you might think. It wasn't the flextrack of today, with realistically textured plastic ties and molded tie-plate-and-spike detail,

but rather extruded steel or brass rail stapled to fiber ties. In a full-page display ad in the June 1938 *Model Railroader*, Mantua touted its HO scale Ready-Laid Track as being able to curve to radii as small as 20". Atlas offered a similar product. It

wasn't foolproof; Linn Westcott complained in a 1945 article that the clips on his Mantua track were so tight that he couldn't bend it. Still, it was a great leap forward from the rigidity of sectional track. Flexible track freed modelers to build the

trackwork they wanted without the work of hand-laying.



8. X2f couplers

Though it's maligned these days, the X2f coupler, also known as the "horn-hook" or "NMRA coupler," was a great leap forward for its time. Before its development by an NMRA committee in 1955, a number of incompatible systems, including LaNal, Mantua, and Varney,

competed for market share. The X2f had its own problems – it looked nothing like the prototype, it took a lot of force to connect, it wouldn't couple on curves, it tended to cause derailments when backing, and the ramp-based uncoupling system was clunky. But it was

cheap to make, so some manufacturers adopted it as a standard even before the NMRA did. The price helped the X2f hold its own even as the Kadee magnetic knuckle coupler was introduced almost concurrently. And just having a universal design was a vast improvement.



9. Kadee couplers

If it seems like magnetic knuckle couplers have been a part of model railroading forever, you're not far off. Twin brothers Keith and Dale Edwards (the K and D of "Kadee") introduced an HO scale mechanical knuckle coupler in 1947 – eight years

before the X2f – and the Magne-Matic, still known and sold today as the "no. 5," in 1956. Not only did Kadee's version couple easier than horn-hooks, it featured "delayed uncoupling," which allowed a car to be pushed with the couplers unhooked,

dropping it along a siding where needed. No longer was uncoupling limited to the location of ramps. And though the early versions were oversize for the scale, they looked more like the real thing, too. Now that Kadee's patents have



expired, other manufacturers are offering their own magnetic knuckle couplers, most of which work together – a new de facto standard.

10. Styrene

"From the comments I have heard and read, the word 'plastic' is in the same category as profanity among model rails. This is plumb foolishness; you don't know what you're missing," modeler Alan B. Armitage wrote in the August 1959 *Model*

Railroader. Armitage would further press this view in a two-part article later that year, "The case for styrene." Even then, he saw the advantages styrene offers: "It cuts easily with an ordinary knife, scribes beautifully, has no grain, can be

drilled and tapped ... and will take rivet impressions as well as any metal." He also touted the material's versatility, strength, and ease of gluing and painting. Who am I to argue with a man MR called "one of the hobby's finest model builders?"



11. "Shake-the-box" car kits

Say "Ambroid" to any long-time model railroader and brace yourself for a rant about how modelers these days don't know how good they have it. Like early structure kits, early car kits used to consist of an instruction

sheet, a box of sticks, and printed-cardstock sides. Then styrene injection molding was developed. This revolutionary process, which could turn out model parts quickly, cheaply, and repeatedly from a single set of

tooling, turned model rail cars from a craftsman's work to a commodity. Before long, Athearn, Varney, Globe, Walthers, Model Die Casting (Roundhouse), and others were producing car kits with plastic sides and ends or



even one-piece plastic bodies. Some were so simple to assemble that all you had to do was "shake the box."

12. Cyanoacrylate adhesive

Most people remember first hearing about cyanoacrylate adhesive (or CA for short) from those memorable "Krazy Glue" commercials in the 1980s. (The brand first appeared in stores in 1973.) But the all-purpose, quick-setting adhesive was

first marketed by Eastman Kodak in 1958. Before that, modelers looking to bond dissimilar materials, like plastic to metal or metal to wood, had to rely on two-part epoxy, a comparatively messy, slow-setting, and wasteful alternative.

Cyanoacrylate adhesive not only made the assembly of mixed-media structure and rolling stock kits a lot easier, it probably also prompted the sale of a lot of acetone-based nail polish remover to sticky-fingered model railroaders everywhere.

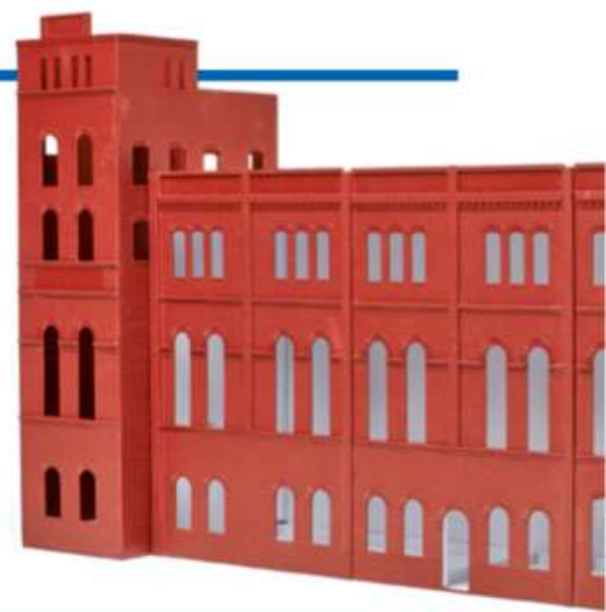


13. Injection-molded plastic structures

Structure-building craftsmen used to scoff at modelers who built plastic structure kits. But injection molding made plastic come into its own. Finally modelers had an easy way to realistically represent brick, tile, shingles, and concrete block, as well as finely molded

castings for windows, doors, and detail parts. Bachmann Bros. advertised its line of HO scale Plasticville structure kits as far back as 1952. Atlas, which had started out offering modeling tools, launched its line of structures with a styrene through girder bridge kit. Revell followed

with an enginehouse that soon became a favorite of kitbashers and is still sold today. Soon, other manufacturers and importers like Con-Cor, Heljan, AHM, Walthers, and Vollmer joined them. Though the purists scoffed, styrene structure kits were here to stay.

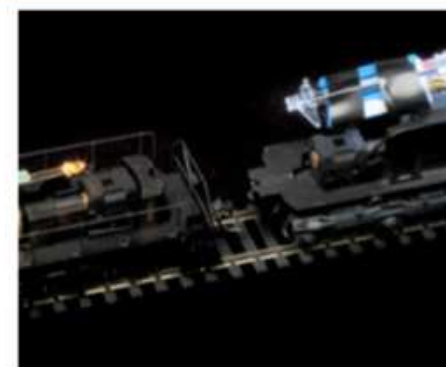


14. Light-emitting diodes

You won't find too many modelers using the phrases "grain of wheat" or "grain of rice" these days, unless they're talking about breakfast. Those are the sizes of miniature incandescent lightbulbs that used to be used as model locomotive

headlights, structure illumination, and trackside signals. But that would change with the introduction of commercial light-emitting diodes (LEDs) in 1962. We published our first project using LEDs in February 1971, a flashing grade-crossing signal. Since

then, LEDs have been introduced in a variety of colors and smaller and smaller sizes. Today's surface-mount LEDs are so small that Z scale engines can have working markers and ditch lights. Best of all, they last a lot longer than incandescent bulbs.



Wayne McNab photo

15. Ground foam and static grass

Most of us remember the terrain under our first train set as being the living-room rug. When we graduated to our first real train table, it might have been painted green, or if we were lucky, covered with green-flocked grass paper. Modelers in the

early days of the hobby did wonders with plaster, sifted dirt, dyed sawdust, lichen, and even shredded asbestos. A product review in the July 1968 *Model Railroader* marveled at how realistic and versatile ground foam was at modeling grass, shrubbery,

and tree foliage. A similar breakthrough came when static grass – short synthetic fibers – entered the market in the early 1970s. Electrostatic applicators would come along later. Both were vast improvements over dyed asbestos.

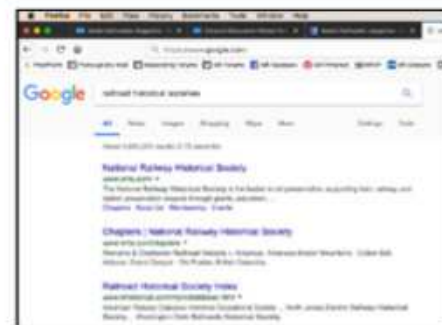


16. The internet

This one isn't actually a product, nor is it model railroad-specific, but there's no denying the impact it's had on how we build our layouts. Before Tim Berners-Lee invented the World Wide Web in 1989, researching a

prototype railroad involved going to the library and hoping it had the book you wanted. Buying your own copy of an out-of-print book involved attending swap meet after swap meet, traveling to distant book shops,

or even hiring a rare book agent. Railroad historical societies were great sources of information, but often too distant to be convenient. Now, thousands of pages of information, photos, and maps are available instantly.



17. Laser-cut structure kits

Wood structure kits have been around a long time, but they used to be of the "craftsman" variety, requiring the builder to do a lot of measuring and cutting before the glue even came out. A common term for such kits was "box of sticks."

In the late 1980s, firms like New England Structures, Micro-Scale Models, and Fine Scale Miniatures began offering laser-cut wood kits. We reviewed FSM's first such kit in our December 1989 issue. Though similar wood kits featuring die-cut siding

were offered earlier, computer-driven laser cutting reduced the cost of producing these kits, putting the realism of wood structures within the reach of more modelers.



18. Digital Command Control

There were model railroad command-control systems before the NMRA issued Standards 9.1 and 9.2 in 1993. The system that would become Digital Command Control was a licensed extension of one developed by Lenz of Germany under

contract to European model makers Arnold and Märklin. Competing systems still exist today. But it was the NMRA standard that guaranteed decoder-equipped locomotives made by any manufacturer would work on a layout powered by any other

manufacturer's DCC base station. Digital Command Control brought a variety of advantages over direct current, not the least of which was the ability to control multiple model locomotives independently on the same section of track.



19. 3-D printing

Just as laser-cutting had done with wood kits two decades earlier, the advent of inexpensive commercial 3-D printing services democratized the production of detailed metal and plastic parts. Now, producing the exact detail part, vehicle,

locomotive shell, or structure you want is within reach of any modeler who has access to the internet and the patience to learn to use the software. And for those who don't, entrepreneurs are offering custom design and production services.

Prototypes too rare or obscure to make mass production viable, like the cement mixer body pictured at right that Ben Lake of Model Railroader Video Plus made for our Beer Line expansion, can be made in small runs or individually.

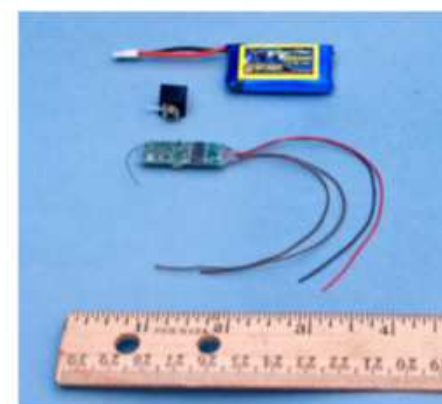


20. "Dead rail"

A relatively new development whose impact on the hobby has not yet been fully realized is radio-control and battery technology. These developments are commonly known under the catch-all term of "dead rail," since they allow model locomotives to travel, just like

the prototypes, on non-electrified rails. The concept of dead rail isn't itself an innovation; wind-up clock-work trains predate electric ones, after all. And both battery power and radio control have been tried before. But it's only in the past few years that both high-density

rechargeable batteries and control circuits have been miniaturized to the point where both could be installed in a standard-sized HO scale locomotive. We can imagine a future where today's standards like power packs and layout wiring are things of the past. **MR**





A good model of a vintage semi-tractor like Mont Switzer's McLean Trucking Co. GMC Cannonball deserves an equally authentic-looking trailer to pull. In this article Mont explains how he detailed, painted, and decaled the trailer seen above.

Decorate and detail a 1950s tandem van

This resin kit of a 35-foot Fruehauf trailer fits the transition era perfectly

By Mont Switzer • Photos by the author

When Mike and Jerry, lead characters of the late-1950s TV show *Cannonball*, hit the road behind the wheel of their sleeper-equipped GMC tractor, what might they have been pulling? If they had worked for McLean Trucking Co., dispatch might have assigned them trailer 8006, a 35-foot, corrugated-side tandem axle van built by the Fruehauf Trailer Corp. of Detroit.

Always looking to increase the load carried per trip, McLean typically operated the most modern and up-to-date equipment seen on the highways in the late 1950s. The drop-floor design of this

trailer allowed for a few more cubic feet of capacity and was typical of trailers built for long-haul carriers prior to 1957.

The HO scale Sheepscot model of this trailer, which complements the Sylvan GMC Cannonball tractor model perfectly, is a cast-resin kit patterned after a refrigerated trailer operated by the Maine Central RR (MEC). Although MEC only had two of these Fruehauf trailers, they were of a common design seen in many photos of mid-1950s trucks. They had many owners, including Brada-Miller Freight System, Pacific Intermountain Express, Spector Motor Service, Yellow Transit, and many more.

The Sheepscot trailer body casting is nicely done, with corrugated sides and a smooth nose. It's equipped with swing doors on the rear; the hinges are cast on, but all other rear end details are up to the modeler. Three holes in the bottom of the body reduce the model's weight so it's not too heavy for use as a load in trailer-on-flatcar (TOFC) service.

This is an enjoyable project that yields a nice model, so let's get started.

Mont Switzer is a frequent contributor who built and decorated the semi-tractor seen in the opening photo of this article in our July 2018 issue. He lives in Indiana.

Step 1 Preparing the body

First, check over the resin trailer body casting and remove any molding flash. If you find any casting irregularities, sand them smooth starting with 240-grit wet/dry sandpaper, progressing to 400 grit and finally 600 grit. Then wash the body in warm water with a couple drops of dish detergent to remove all sanding residue and any remaining mold release compound. I use a toothbrush for this task.

When the trailer body is dry, press dimples into the resin casting with a sharp awl to start drilling points for the clearance light locations, as follows:

- two on the top front (amber);
- three on top of each side (front two amber, rear red);
- one at the bottom rear of each side (red);

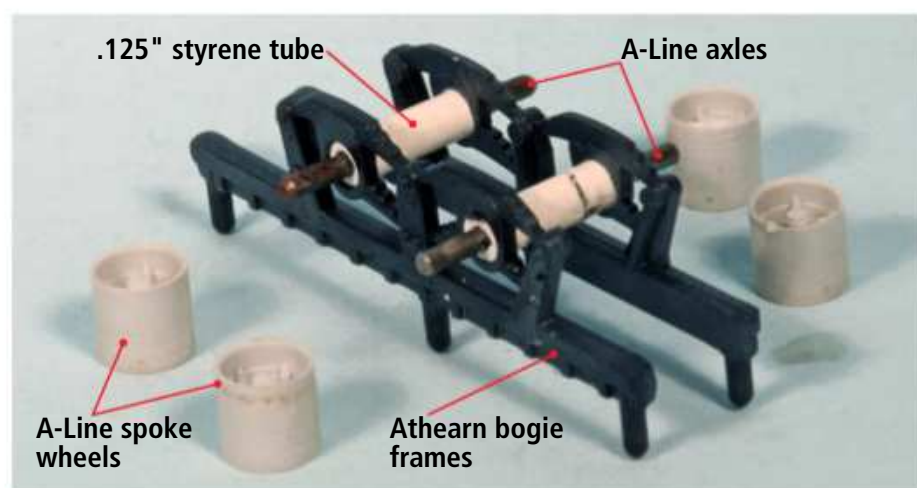
- and five on the top rear (red).

The lights will be installed in a later step. For now, drill each of the dimples with a no. 75 drill to at least .130" deep.

My treatment of the top front corner clearance lights may not be correct for all owners of these trailers. Some photos show large lozenge-shaped clearance lights installed on the upper front corners. Each was positioned so that they were visible from the front and the sides.

Before we can start detailing the underbody, we need to deal with the three voids in the bottom. The Sheepscoot detail kit comes with resin plugs for this task. If you lack those, cut styrene sheet plugs to fit and glue them in with cyanoacrylate adhesive (CA).

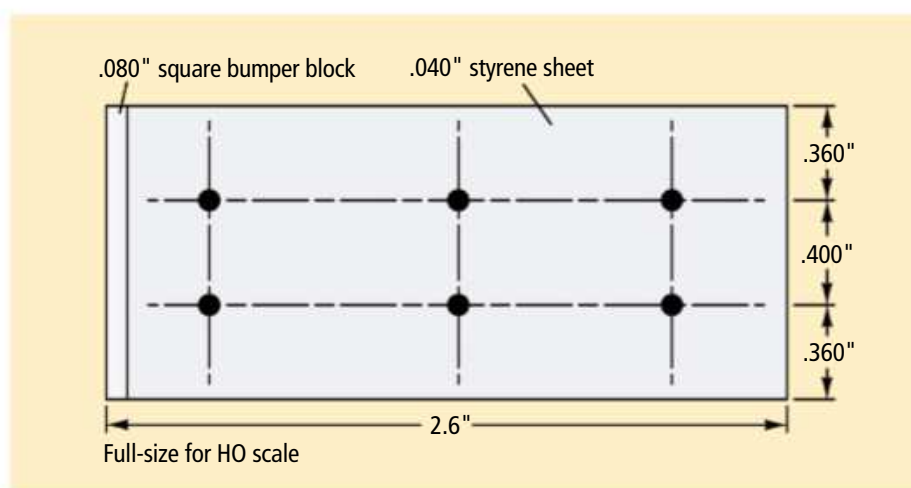
Step 2 Building the bogies



Axle tubes cut from .125" styrene tube are the key to adapting A-Line's wheels and axles to Athearn's bogie frames.

Trailers of this era were supported by two-axle leaf-spring bogies. Athearn's styrene bogie, intended for its 40-foot refrigerated trailer, is appropriate for the Sheepscoot trailer. When modified, it fits the A-Line axles, five-spoke wheels, and tires.

Begin by cutting two Evergreen Scale Models styrene rods .425" long. Then drill these short rods out with a no. 52 bit so they'll accept the A-Line .060" diameter axles. Cement the Evergreen drilled tube stock pieces in the large axle holes of the Athearn bogie frames. Test-fit the axles and five-spoke wheels to the bogie. Make sure the axles with wheels and



tires are no wider than 8 scale feet wide, which was the standard in the 1950s.

The bogie is now ready to position on the underside of the trailer body. The diagram above shows the dimensions and hole positions so you can make a drilling jig. The mounting lugs on the bogie fit no. 50 holes.

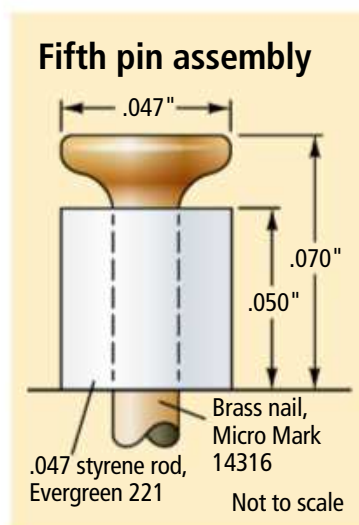
When you test-fit the bogie, you may notice that the trailer stands taller than its correct scale 12'-4" overall height. I fixed this by cutting troughs .090" deep between the bogie mounting holes to accept the bogie side frames.

McLean used a gray primer on its underbody parts during the 1950s. Slide the tires off and paint the bogie and wheels primer gray. Don't glue it in place yet.

Step 3 Fifth pin

In trucking terminology, the tractor portion of the articulated hitch is known as the fifth wheel. The matching part on the underside of the front of a semi-trailer is known as the upper coupler. A pin, called the fifth pin, extends down from the center of the upper coupler to mate with a notch in the fifth wheel.

It's easy to make a realistic looking model of this important part that works with our model semi tractors. First, if necessary, build up the



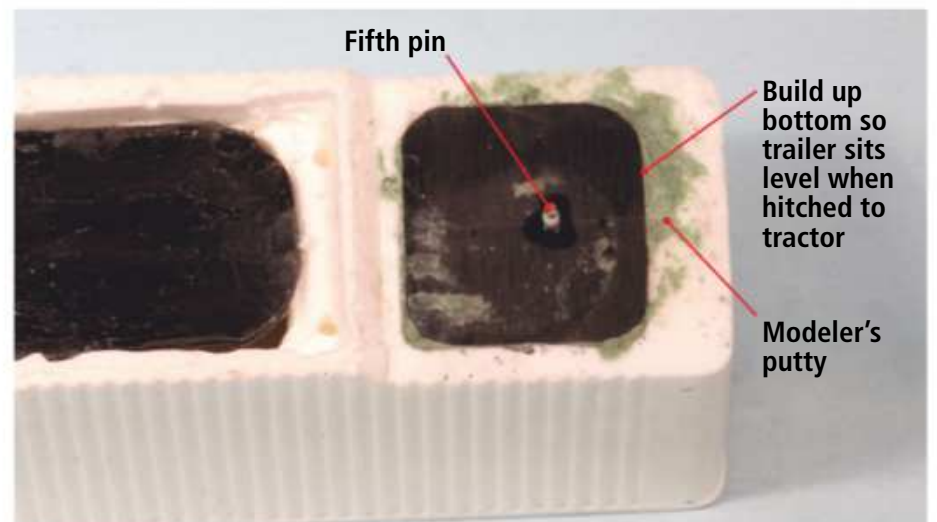
bottom of the trailer with sheet styrene until the bottom of the trailer sits level when mated with the tractor's fifth wheel.

Fabricate a fifth pin from a Micro-Mark no. 14316 brass nail, which has a shaft .026" in diameter. Chuck the brass nail into a drill and turn the head against a mill file until it's .047" in diameter. File the top of the head flat. Then take a piece of Evergreen Scale Models .047" ($\frac{3}{64}$ ") styrene rod stock, drill out the center with

Step 3 Fifth pin (cont'd.)

a no. 75 bit, cut it to a length of .050", and slip it on the nail shaft. Push the rod down the nail until there's just a thin groove between the nail head and the styrene; the assembly should be .070" in length. This assembly is shown in the diagram on the previous page.

Locate the fifth pin on the centerline of the underbody, exactly 4 scale feet back from the nose of the trailer. Drill a no. 71 hole at this location to accept the pin. Snip off all but about .100" of the exposed nail and glue it into the hole. The resulting pin should mate with most HO scale semi-tractor fifth wheels.



The upper coupler is the part of the trailer that connects to the fifth wheel on the semi-tractor.

Step 4 Landing gear

Landing gear is what holds the front of a semi-trailer up when it's not mounted to a semi-tractor. I used the one-piece styrene landing gear molding by Mini Metals. Similar detail parts are available from other manufacturers, including A-Line, Trainworx, Herpa, and Lonestar Models. But since some model trailers come with two sets of landing gear, one raised and one lowered, I had spares.

Draw a line across the bottom of the trailer, 1.315" from the front. Mill or carve out a trough .090" deep to accept the landing gear. Then lay the landing gear on the line and mark where the mounting pins intersect it. Drill no. 50 mounting holes in the proper locations. Trim the landing gear crossbar on both sides so it's .770" wide. The landing gear should then drop into the holes.

If you're using the landing gear that's molded in the lowered position, so the trailer can stand alone, test-fit it to make sure the trailer sits level at a scale 12'-4" high before gluing it in place with CA. If you're modeling the landing gear in the raised position, so it can be towed behind a semi-tractor or placed on a flatcar, make sure the landing gear wheels clear the ground when the trailer is level.

The Mini Metals landing gear is a nicely executed styrene molding, but it needs some additional details. Using .047" styrene rod stock, make two supports to extend diagonally from the bottom of each of the landing gear tubes back to the trailer underbody. Secure the braces with CA.

The landing gear also has a rod that runs between the dolly leg tubes connecting the gears on both so that they raise and lower simultaneously. Drill no. 74 holes in the tops



Trailer landing gear comes in two heights: retracted, for towing; and lowered, for standing alone.

of the dolly legs to accept .015" wire bent to represent this detail. Insert the rod in the holes and secure it with CA at both legs. When the glue is cured, bend the crank down and out of the way and trim off the other end of the rod. This detail wasn't standardized between manufacturers, so the crank can be located on either side.

Step 5 Nose box

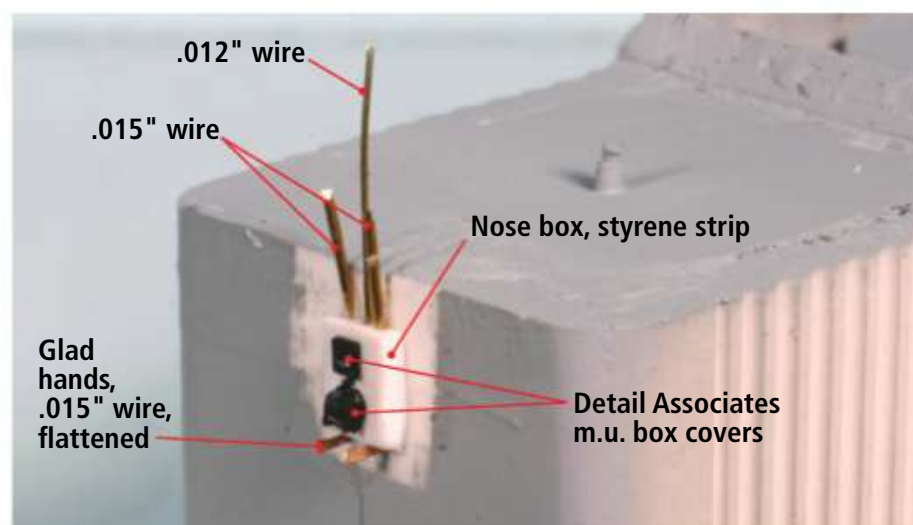
Almost every trailer has a nose box, or light box, where the air and electrical lines from the tractor connect. The air hose connections are similar to the glad hands used to connect a train's air lines. The electrical connection is typically a seven-prong plug unique to the trucking industry.

Cut a piece of .040" x .188" styrene strip .165" long. Then drill three no. 75 holes in the narrow (.165") end; this will be the bottom of the box. Cement a piece of .012" wire in the center hole and .015" wire in outer two. These represent the air and electrical lines. Trim them to .100" long. Then cement

two square m.u. box covers (Detail Associates no. 1507) one above the other on the face of the nose box. These model covered electrical plug receptacles.

You can model the air hose glad hands two ways. The easiest is to use m.u. hose ends (Detail Associates no. 1508), which are about the same size as the glad hands used to connect truck air lines. The second way is to stamp the ends of short pieces of .015" phosphor-bronze wire with a nail punch on an anvil to give them the rough shape of truck glad hands. Either way, drill no. 75 holes on the top of the nose box and glue in your air lines.

Cement the box to the bottom center of the trailer nose, about .100" above the bottom.



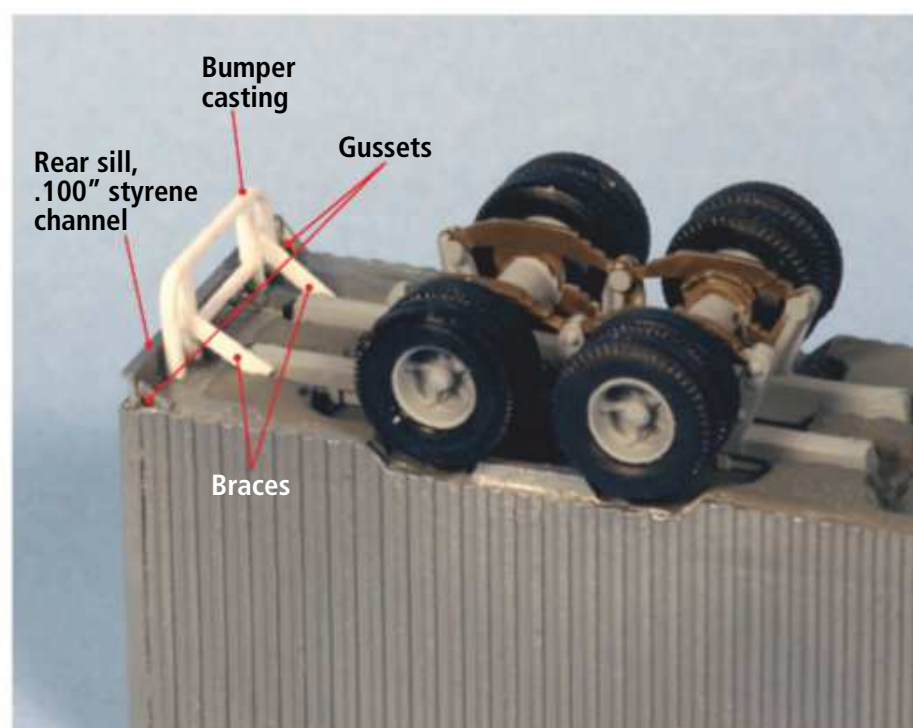
The nose box handles electrical and air brake hose connections to the semi-tractor.

Step 6 Rear details

Glue a section of .100" styrene C-channel under the rear of the trailer, with the flanges facing the rear. Trim the channel even with the sides of the trailer, then add triangular styrene gussets on the ends to strengthen this detail. Drill a no. 75 hole in the two outermost gussets to accept clearance lights.

Long door-latching rods hold the doors closed and add a certain amount of structural strength. Model these rods by cutting two pieces of .015" phosphor bronze wire the full length of the doors so that they extend from the lower channel to the top lip above the doors. Solder .015" wire handles onto them approximately 1 scale foot above the bottom of each rod. Install the door rods using Precision Scale Co. lift rings so the vertical rods appear to be holding the doors shut and your HO scale drivers can reach the latch handles.

Now it's time to add the bumper, also called "under ride protection" or an "ICC bar," referring to the regulatory agency that required this feature. I used a cast-resin bumper appropriate for this trailer made by Chad Boas. Glue the bumper to the back of the horizontal channel with CA and then strengthen it with two braces made from styrene strip.



Details like the rear sill and bumper make the back of the trailer look realistic.

Step 7 Paint and lights

With most of the details in place, it's time to paint the trailer body. I applied Model Master Stainless Steel Metalizer Lacquer (Testor's no. 1402) to the sides, ends, and roof with an airbrush, then followed the polishing instructions. The result is a pleasing natural finish similar to aluminum or stainless steel.

Now the clearance lights can be installed. I used silver, red, and orange Sharpie permanent markers to make this task easier and quicker. Insert a Micro-Mark no. 14315 brass nail half-way into each of the pre-drilled holes. Coat each of the nail heads with the silver marker and set the model aside to dry. Then touch each of the nail heads



The clearance lights are the heads of small brass nails, painted red.

with an orange or red marker as appropriate to model the lenses. When the nail heads are dry, push them all the way into the pre-drilled holes.

Since the taillights have larger lenses, I use Chartpak no. 853 self-adhesive red dots. Mine came from the office supply store along with smaller ones that come in handy at times for clearance lights. I don't trust the adhesive on the dots to last, so I dip each one in CA prior to placing them on the rear of the trailer in the channel section below the doors. There should be four red taillights, two per side.

With the painting complete, glue the bogie in place with CA.

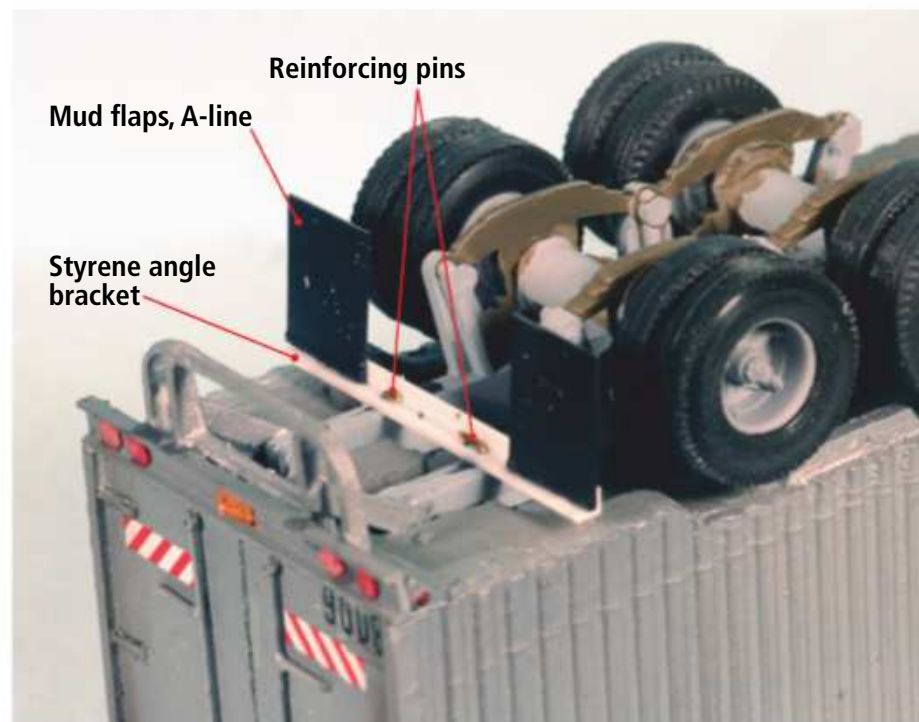
Step 8 Mud flaps

Mud flaps hang behind the bogie to deflect rocks and debris that might be kicked up by the wheels. The flaps back then were made from heavy rubber and attached to the underbody with bolts. Our mud flaps will hang from a bracket made from a piece of .060" styrene angle approximately 7.75 scale feet long. Cut it to length and paint it to match the body.

Cement two A-Line black vinyl mud flaps into the ends of the angle. The A-Line mud flaps have mounting bolt detail, so make sure this part of the flaps faces the rear. Test-fit the mud flap assembly to the model to see how low the flaps hang. Shorten the flaps with a single-edged razor blade until they'll ride about 1 scale foot above the road surface.

Cement the assembly to the body behind the trailer bogie.

To reinforce this assembly, drill two no. 75 holes through the angle pieces and into the bogie or trailer underbody. Then make two pins from .015" wire and make 90-degree bends on one end of each. Glue the pins into the holes so the bent ends lie against the bracket, as seen in the photo. Paint them to blend into the bracket.



Attach the mud flaps to their bracket, but trim them to length before attaching to the trailer.

Step 9 Decals and weathering

Lettering the trailer for the McLean Trucking Co. goes quickly, thanks to Microscale decal set no. 87-386. The lettering is for a newer trailer than our prototype, but it's correctly sized and easy to backdate.

The large red diamond-shaped heralds on the trailer sides were painted on sheet metal placards riveted to the vertical side posts. Cut two squares of .005" styrene sheet slightly larger than the decal and paint them silver. When the paint is dry, apply the large herald decals to the placards, allow them to dry, and protect them with a spray of Testor's Dullcote. Use a single-edged razor blade to trim the styrene sheet to the size of the red diamond logo, then touch up the cut edges with a silver Sharpie marker. Use CA to affix the placards to the trailer sides, referring to prototype photos as a location guide.

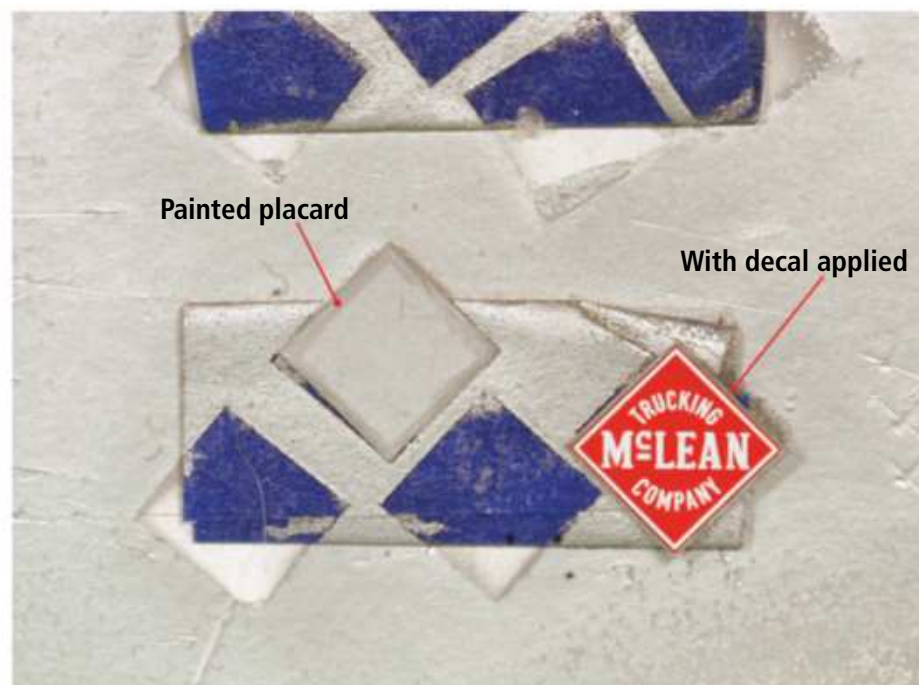
I used a black Microscale Condensed Railroad Gothic alphabet decal set to add the trailer's unit numbers in four locations: at the top right of the nose; on the bottom of the left-hand rear door; and the bottom front of both sides, ahead of the corrugations.

Locate the Microscale license plate between the taillights in the rear sill.

I made a mistake and applied the "McLean" name decal directly to the trailer's nose. I forgot this lettering should be on a 2 x 6-foot white background. Use a sheet of white decal trim film for this.

Once you're satisfied with the decal placement, seal everything with a spray of Testor's Dullcote. This leaves the trailer model with a flat finish, ready for application of weathering powders.

Trailers of this era showed how dirty the diesel engine exhaust was back then. Even though my McLean GMC Cannonball tractor doesn't have an

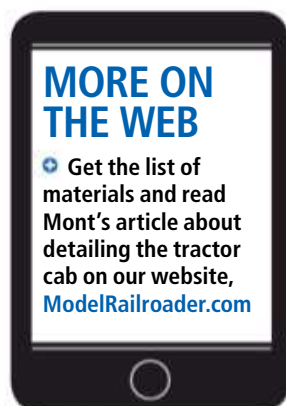


Cut styrene placards for the trailer side decals and paint them, then trim after applying the decals.

exhaust stack, the right top corner of the trailer should get a black exhaust treatment anyway, since it's likely tractors with exhaust stacks have handled it in the past. Apply the black powder to the area with a soft brush.

The mild steel parts (landing gear, tandem bogie, wheels, door hinges) on the trailer began to rust quickly after the trailers were put into service. Apply a light coating of rust colors to these details. The dolly wheels were almost all rust. The extended portion of the dolly legs are usually black with grease and grime. This detail is best brought out with a black Sharpie marker or black paint.

Well, there you have it – a nicely detailed model of a semi-trailer common to the nation's highways during the later 1950s and early 1960s. As the truckers used to say, "Keep her between the fence posts with the shiny side up." 

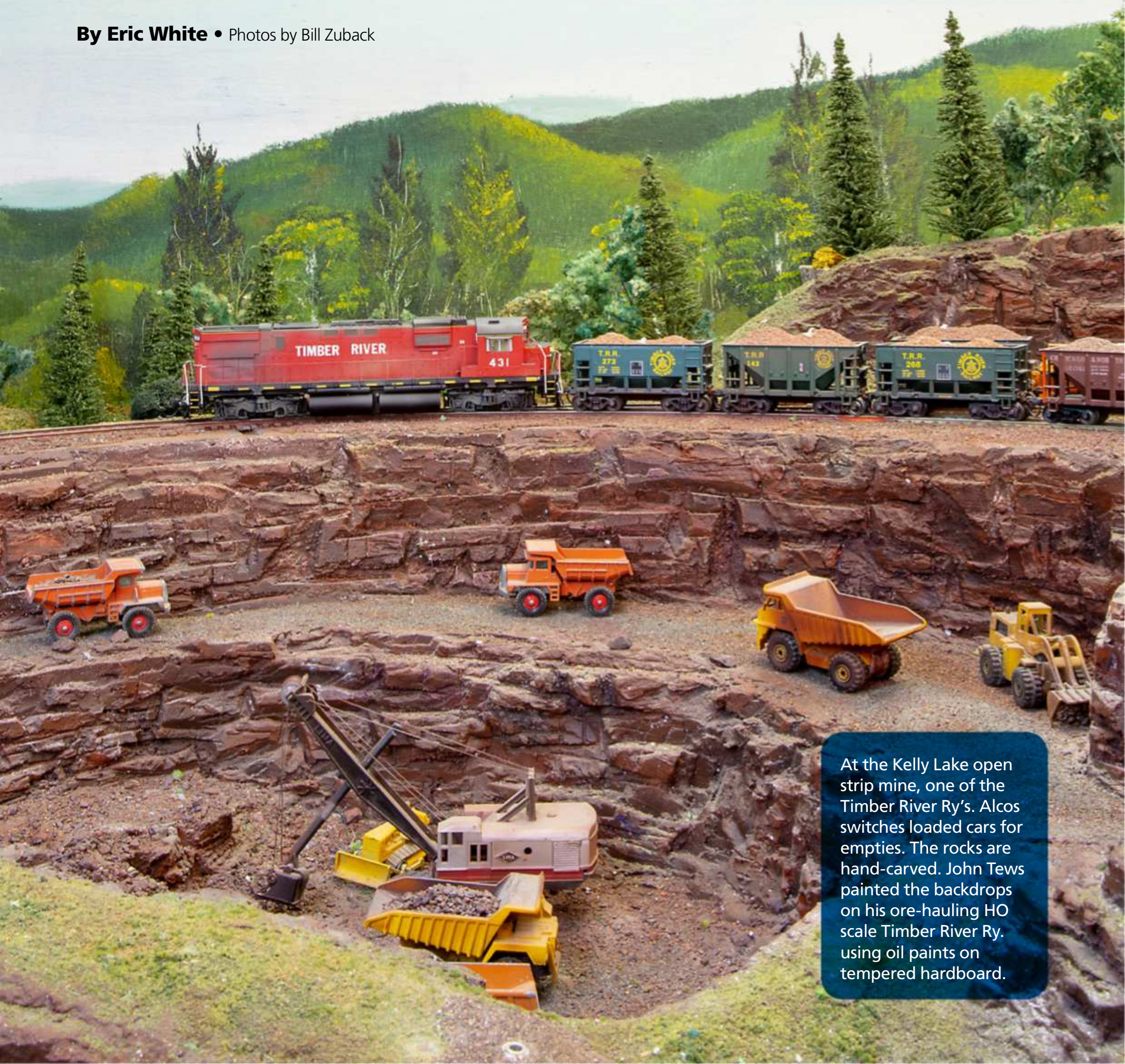


RAILROADREVISITED

Back to the Timber River Ry.

This freelanced ore-hauler has been in operation for more than 50 years

By **Eric White** • Photos by Bill Zuback



At the Kelly Lake open strip mine, one of the Timber River Ry's. Alcos switches loaded cars for empties. The rocks are hand-carved. John Tews painted the backdrops on his ore-hauling HO scale Timber River Ry. using oil paints on tempered hardboard.

As *Model Railroader* looks back at layouts featured in the mid-'80s for its 85th anniversary, one that stands out is John Tews' Timber River Ry. We first published the TRR in January 1985 as part of the National Model Railroad Association's 50th anniversary celebration in Milwaukee.

The Timber River Ry. features iron ore railroading on a layout that has hosted more than 300 operating sessions since the late 1960s. Operators have included retired MR senior editor Jim Hediger and former publisher and executive editor Terry Thompson. That's not the only connection to Kalmbach Media. John's grandfather was Al Kalmbach's first commercial landlord; he owned the print shop where the first issues of MR were printed. [Cody Grivno builds a model of it in this month's Step by Step. – Ed.]

A changing railroad

We last visited the TRR in November 1992. Between 1985 and 1992, John made significant additions to the layout, including a much larger main yard, Allouez, serving an expanded and relocated ore dock. He also lengthened the main line with two new lobes on the benchwork, reaching into his workshop and an unused recreation room in his basement.

Since we visited in 1992, John added another ore dock with an automated unloading facility and increased his staging capacity to improve operations. He also added a Centralized Traffic Control (CTC) board that controls signaling on the layout.

Train operators now use one of eight telephone stations around the layout to communicate with the dispatcher at the CTC panel. The staging yards are computer-controlled under the guidance of the dispatcher.



The focus of operations on the Timber River Ry. is the two ore docks. The *Leon Fraser*, at the Allouez Yard dock, is a Sylvan Models kit John purchased already assembled. Both the ore boat and tug are movable to create different looks for photos.

Moving ore

Operation is what the Timber River Ry. is all about. John was an early adopter of command control, installing a CTC 80 system between 1986 and 1988. That system stayed in place for about 20 years until it was replaced by Digital Command Control in 2006.

Since the first operating session June 22, 1968, John had hosted 331 sessions as of the summer break in 2018. Once everyone came back from vacation, operations picked up again in the fall. John usually has 10 to 12 operators for a session.

Most of that operation centers on moving ore from the Mesabi Range in Minnesota to the ore docks on Lake Superior in Minnesota and Wisconsin.

Allouez Yard and its dock are the center of Great Lakes operation on the Timber River, but it became clear that one ore dock couldn't handle all of the business. A visit to the BNSF and Union Pacific Superior Midwest Energy Terminal in Superior, Wis.,

inspired John to add ore pellet trains to his railroad. The extra traffic was clogging Allouez Yard and stifling operation. The solution was to add another unloading site.

The BNSF/UP Superior facility uses an automated unloading system, and John wanted to replicate that on his railroad. John's facility is called DMET, for Duluth Mineral & Energy Terminal.

The unloader uses electromagnets to pick up the loads from the cars, then drop them on a chute that fills a container below the layout. John's cars are loaded with cast resin loads that have colored steel track nails glued to them. The colors signify the grade of ore in the car.

Building the unloader was a three-year project. With the unloader finished, John spent the next six months building a car mover.

Now, when an operator brings his train into the yard, he aligns the first car with a mark on the layout, then cuts

off the road power. Pushing a button moves a lever down between two cars in the train, and moves it ahead the correct distance to unload the cars.

John was a project engineer for local electric utility Wisconsin Electric, now known as WE Energies. One of his projects was overseeing the construction of coal gondolas for unit trains.

This inspired John to add unit coal trains to his layout. Conveniently, the spacing between ore cars and coal gondolas worked out that two ore cars take about the same space as one coal gondola. Coal trains can be unloaded at the same unloader as ore trains by simply pressing the button corresponding to the type of car being unloaded.

Keeping track

John has also harnessed his interest in layout electronics in his signal system. He uses a three-color system that's tied into the CTC board





The engine terminal functions 24 hours a day, so it's lit with floodlights and interior lighting. The turntable, which is a recent upgrade, serves 24 tracks. A diesel shop in the background handles repairs. The Timber River buys its locomotives used.

through both optical and current detectors. The optical detectors, which respond to changes in light level as trains pass over them, serve as backups to the current detectors. Not all of John's rolling stock has the resistor wheelsets needed to reliably trigger the current detectors.

The system runs on software John wrote himself – all 178 pages of it. Most of the signals are standard three-color heads with green, yellow, and red lights, but some of the signals are semaphores, which were still in use in John's mid-1970s time frame.

Optical detectors also keep track of ore trains, counting the cars that will be loaded into the ore boats at Allouez and unloaded at the DMET facility in Duluth. John has kept track of the business over the years on the Timber River,

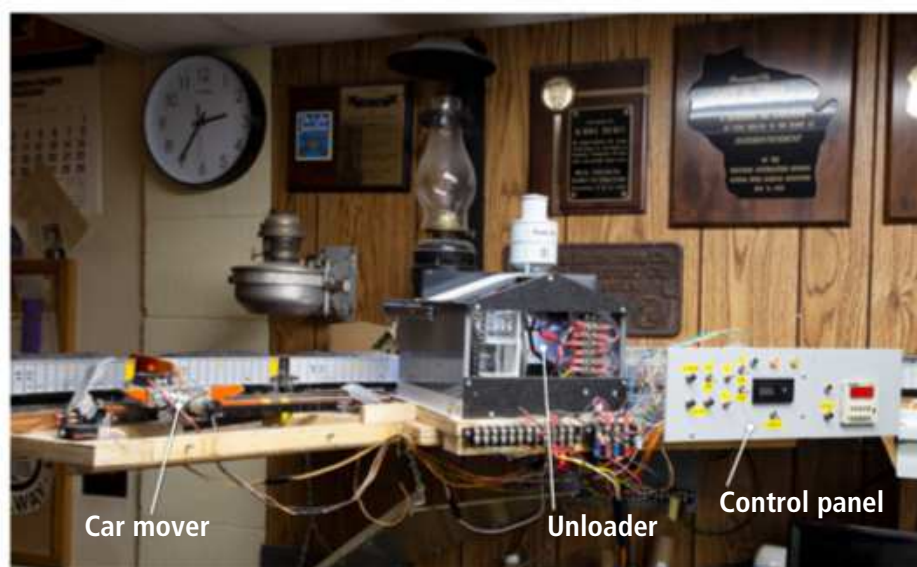
and sends reports to operators after an operating session.

Upgrading the modeling

But not all of the changes were for operating reasons. John's original ore dock at Allouez was modeled using pen-and-ink drawings John made copies of and colored. When Wm. K. Walther's Inc. released its ore dock model, John saw his opportunity to upgrade his structure.

Using several of the Walther's kits, John rebuilt the ore chutes that are used to load the boats. John used Evergreen plastic strips and shapes to replicate the steel support structure.

The ore dock is 9 feet long and has four tracks. Two tracks serve the side facing the aisle, and the other two serve the side facing the



The car unloader in Duluth can handle 24-foot ore cars and 50-foot coal gondolas. The control panel to the right selects the type of car to be unloaded. The car mover, left, has its red advancing arm placed between two coal gondolas.

backdrop. Each track can hold 30 Minnesota-style ore cars. The 60 chutes are aligned with the ore pockets in the dock and are spaced at 12-foot centers.

Those chutes can be raised and lowered to simulate loading an ore boat, the laker *Leon Fraser*, a Sylvan Models kit John purchased from a friend. The ore boat, and its

attendant tugboat, are waterline models placed on a surface made from 10 coats of urethane varnish over a painted base that replicates the murky water around an ore dock.

To protect his models during operating sessions, John made a custom Lexan guard that fits into slots on the front of the layout. It's not enough



A loaded Duluth, Missabe & Iron Range ore train passes the engine service facility at Virginia. The train is coming out of Mountain Iron's three-track staging yard, headed to Allouez Yard.

to support the weight of an operator, but it gives him a clue that he's as close as he can get without causing damage.

John has also updated his engine terminal with a new Walthers turntable and roundhouse, installed over the past five years. Being in Walthers' backyard means John is aware of what's coming that might enhance the appearance of his layout as well as the operation.

Another recent project was the addition of a new two-track Walthers through truss bridge. John realized he could simplify continuous

operations for display purposes by connecting what had been essentially a stretch of scenic trackwork with an adjacent main line.

All he needed was a few inches from the aisle to make the connection. In addition to the continuous running option, it allowed John to bypass a steep grade into one of the many staging yards he's added under the layout over the years.

This improvement was the result of John contemplating the layout, then grabbing a 6-foot level to confirm the two tracks were within about

1/4" of elevation. Even when a layout is 50 years old, there are still projects and improvements to be made.

Operation continues

With more than 50 years in operation, the Timber River Ry. has outlasted many prototype railroads. John expects that to continue as crew calls go out each fall, winter, and spring.

New projects keep presenting themselves, keeping this hobby fresh for John as the layout rolls into its sixth decade of service. 

The bay-window caboose brings up the rear of a loaded train headed to Allouez Yard. The train on State Line siding, led by a pair of General Electric ex-British Columbia Ry. C30-7s, has empties for the mines.



Meet John Tews

John has lived in the suburban Milwaukee town of Sussex since the mid-1960s in a house he designed with space for the railroad and his shop.

He and his wife, Nancy, have three sons, two of whom are also model railroaders.

John was a project manager for Wisconsin Electric, retiring in 2006. He's also building an O scale On30 and 3-rail layout at his vacation home. He still runs the Lionel Santa Fe F3 and Pennsylvania steam turbine he had as a child.

New sound decoder fits tight installations



General Electric 44-ton switcher no. 1952 prepares to couple to cars at the freight depot on Larry Puckett's Piedmont Southern layout. This month, Larry dives into the installation of the newly released Zimo MX660 sound decoder.

Recently, I got an email from Bryan Vianco at Streamlined Backshop (www.sbs4dcc.com) letting me know about a new sound decoder, the Zimo MX660.

Bryan was excited about this new decoder because he had provided the specifications to Zimo with a circuit layout designed for installations in N scale diesels. The big difference from a lot of other decoders is this one has all the components on one side and lots of solder pads



A LITTLE CYANOACRYLATE ADHESIVE (CA) APPLIED TO THE ENCLOSURE SECURES THE SPEAKER, AND I ALWAYS APPLY AN ADDITIONAL LINE OF CEMENT AROUND THE OUTSIDE AS WELL TO MAKE SURE I GET AN AIRTIGHT SEAL.
— LARRY

for making wiring connections around the edges.

There are so many neat features on this decoder that I can't begin to list them all, so for a complete roundup, head to the Streamlined Backshop website and look for the Zimo MX660 under Tips, Tutorials, and Tricks.

At only 2.5 x 9.6 x 42.3mm **1**, this decoder will fit into a lot of tight spots. It can be used with motors drawing up to .8 amps, has a 1 watt audio amp, and six function outputs. Conveniently, it has a 47µF energy storage capacitor built in, and connections for a larger stay-alive circuit.

I was interested in the MX660 because of the potential for fitting it into some small HO scale switchers in addition to the intended N scale applications. I have a Bachmann HO scale General Electric 44-ton switcher that seemed to be a good subject.

There have been several releases of this diesel, and mine came DCC-ready. After removing the shell, I disconnected the wires and removed

the old circuit board. This left a plastic platform over the motor where I could install the decoder.

I cut a couple pieces of double-sided foam tape to fit the platform, then seated the decoder on top – a perfect fit. It helps to have a copy of the circuit diagram **2** when orienting the decoder so the correct end faces forward.

Next, I soldered the power pickup wires from the trucks to the left and right solder pads at each end of the decoder. I tested the wires with a volt-ohm meter to make sure I didn't reverse these connections. Finally, I soldered the motor leads to the respective pads on the decoder. Note that there are no polarity indications on either the decoder or the motor, so if it runs backward, you'll have to swap the wires.

For the speakers, I used 8 x 12mm sugar cube speakers from Streamlined Backshop, which required soldering wires to the metal contacts on the speaker.

A little cyanoacrylate adhesive (CA) applied to the enclosure secures the speaker, and I always apply an additional line of cement around the outside as well to make sure I get an airtight seal. I used a pair of these speakers because they are so small and

also as a test to see how well they would perform together.

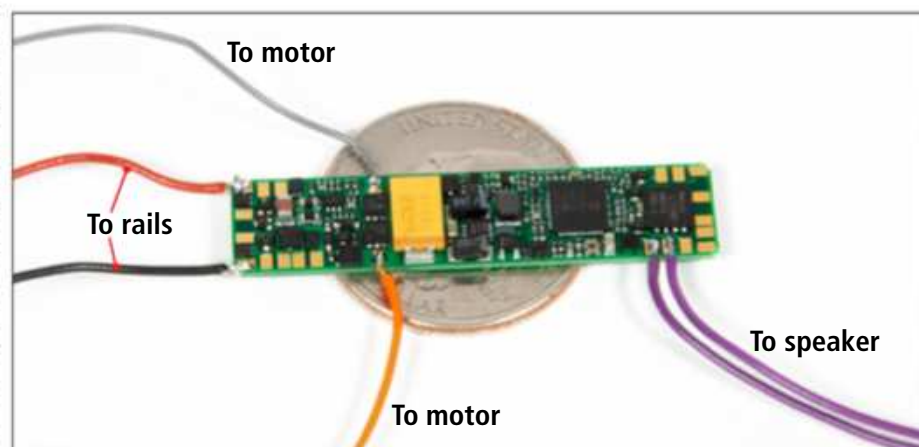
I placed the speakers over the trucks. Because the truck worm gear extends a little above the top of the gear tower, I cemented a 15 x 15mm square of styrene to the bottom of the speaker enclosure and eased it into place.

The four screws on top of the truck tower served as spacers, keeping the gear from rubbing against the styrene. I wired the speakers in series. Having no way to check speaker polarity, I just took a guess to wire them in phase. Given the results, I must have guessed right.

With the speakers in place, I soldered the wires to their solder pads on the decoder. For more on selecting and wiring speakers, see my May 2016 DCC Corner column.

Since the decoder is designed to work with light-emitting diodes (LEDs), I dug out a pair of Richmond Controls (www.richmondcontrols.com) 3mm sunny-white LEDs, clipped the leads short, attached a couple wires, and installed a length of heat-shrink tubing, leaving only the tops of the bulbs exposed.

Keeping the polarity of the LEDs in mind, I soldered the wires to the front and rear headlight pads **3**. Remember, the flat spot cast into the side



1 Compact package. The Zimo MX660 sound decoder is small at 2.5 x 9.6 x 42.3mm, so it will fit in a lot of tight spots, yet it's rated to supply .8 amps for the motor.

of the LED lens indicates the negative contact.

Having all those extra positive voltage solder pads really makes connecting the LEDs easier, which is exactly why Bryan specified them. With that job completed, I inserted the LEDs into their mounting holes and moved on to the stay-alive capacitor pack.

Having the decoder and speakers installed over the motor and trucks left me space in the cab for a stay-alive. I consider these essential in small locomotives. I selected a TCS KA4 Keep Alive. At 10 x 13 x 13mm, it fit in the cab roof with room to spare on the sides.

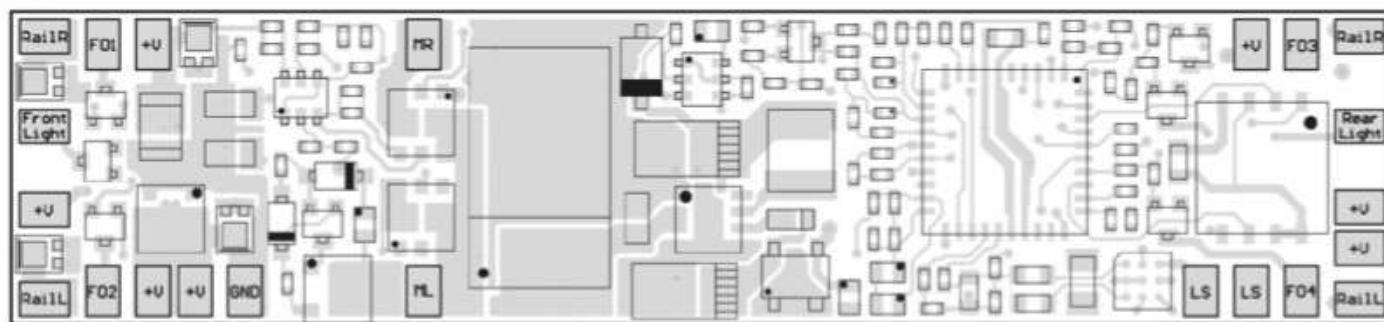
I soldered the black/white wire to the GND pad and the blue wire to the adjacent V+ pad, and used double-sided tape to attach the KA4 to the roof of the cab. To make it easier to program the decoder and remove the shell for maintenance, I spliced a 2-pin TCS connector (no. 1301 or no. 1473) into the KA4 wires, and held off connecting it while programming.

Zimo sound decoders use loadable sound projects, requiring a special interface similar to the way LokSound and Digitrax projects are installed. The difference is that Zimo offers its own free projects along with some developed by private individuals, which will cost you extra.

I found an acceptable sound project, developed by Heinz Dappen, based on Denver & Rio Grande Western no. 50, a Davenport switcher with the same Caterpillar D17000 diesel engine that was standard equipment on GE 44-ton switchers. The project has a multi-chime horn that was closer to the Nathan M3 on my model.

Make sure to visit the Zimo webpage (www.zimo.at/

← Forward



2 Circuit board layout. Bryan Vianco, owner of Streamlined Backshop, designed the MX660 decoder layout with lots of solder pads, including a positive voltage pad adjacent to each function connection, as shown in this diagram.

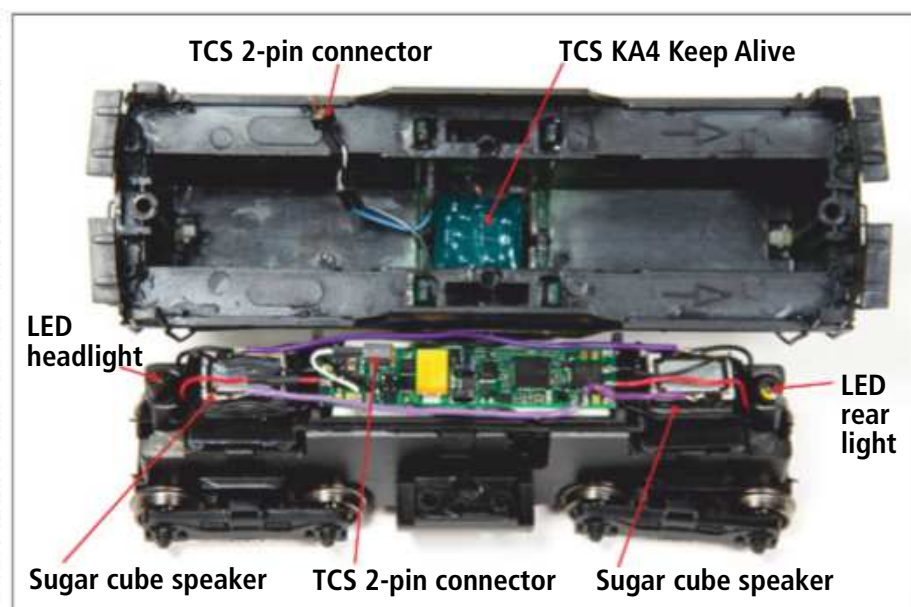
web2010/sound/tableindex_EN.htm) to select a sound project in advance and ask the Zimo dealer to install it for you.

With the decoder installed, I took the model to a Sprog 3 programming track and used DecoderPro to program the various Configuration Variables (CVs). DecoderPro is part of the Java Model Railroad Interface (JMRI) software, available free at jmri.sourceforge.net. There are a lot of options when it comes to programming Zimo decoders **4**, but I really didn't need many of them, since this was a custom sound project with most CVs preset.

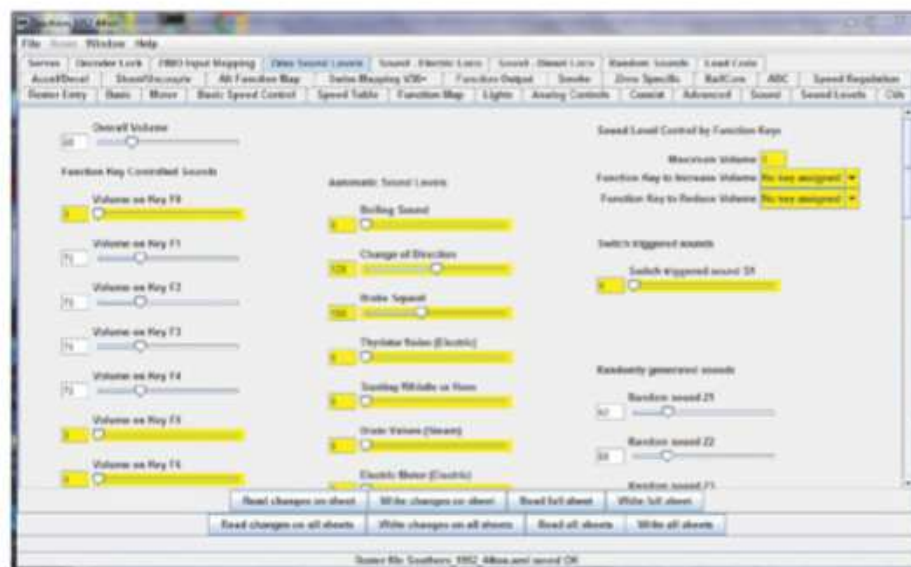
I changed the address and other basic options, then moved on to the Zimo sound levels. I made some adjustments to the sound levels for the bell and horn sounds on Functions 1 through 4, and the diesel engine startup and idle on F8. After exploring the decoder manual, I found that CV376 can be used to adjust the volume of the diesel engine drive sound.

After running the locomotive, I remapped the horn sounds. As provided, the sound project has the crossing horn sequence on F2, the long horn on F3, and the short horn on F4. I wanted a playable horn on F2 and the crossing sequence on F3.

You can't directly remap the sounds using the DecoderPro function mapping pane; instead, a "300" procedure is required. This is described in the Zimo decoder



3 Neat installation. Installing the Zimo MX660 in the Bachmann GE 44-tonner was much easier with all those well-spaced solder pads distributed around the edge of the circuit board.



4 Setting sound levels. DecoderPro makes programming the MX660 fairly straightforward. Although there are numerous panes available, Larry got by with just the BASIC and ZIMO SOUND LEVELS panes.

manual, and requires entering a special programming mode to assign the sounds to the desired function buttons. I followed the steps outlined and it went like clockwork.

The completed installation adds some interesting sounds to a small locomotive that has

been relegated to a shelf for far too long. It will now draw some high-visibility yard assignments on the Piedmont Southern, where its unique diesel rumblings will be appreciated. To hear the completed model and see it at work, visit my website at www.dccguy.com. 



Bachmann HO scale ACS-64 electric

Amtrak's ACS-64 Cities Sprinter has been rushing passengers up and down the Northeast Corridor for nearly five years, including a stretch not far from the Bachmann Industries headquarters in Philadelphia. Now you can add it to your layout with Bachmann's latest sound-equipped HO scale release.

The prototype. The Amtrak Cities Sprinter (ACS) 6,400kW (the -64 in the name) is a high-speed electric locomotive designed to accelerate 18-car Amfleet trains to 125 mph in about 8 minutes. The locomotives were built in Sacramento, Calif., by Siemens and are based on the EuroSprinter locomotives used overseas.

Modifications for Amtrak use include "Tier I" crash compliance to better

protect locomotive crews at high operating speeds. The locomotives also accept three different operating voltages, ranging from 12,000V to 25,000V and either 25 or 60hz, the legacy of the four builders of the Northeast Corridor infrastructure the Pennsylvania RR; the New York, New Haven & Hartford; New York Connecting RR; and Amtrak.

But these locomotives don't just draw power from the overhead wire; they also put it back with regenerative braking. Up to 5 megawatts can be sent back into the catenary during braking, eliminating the need for resistor grids and cooling fans, and saving Amtrak more than \$300 million in electricity charges over the first 20 years of ACS-64 operation.

The 70-locomotive order was built to meet a 51 percent U.S.-made standard.

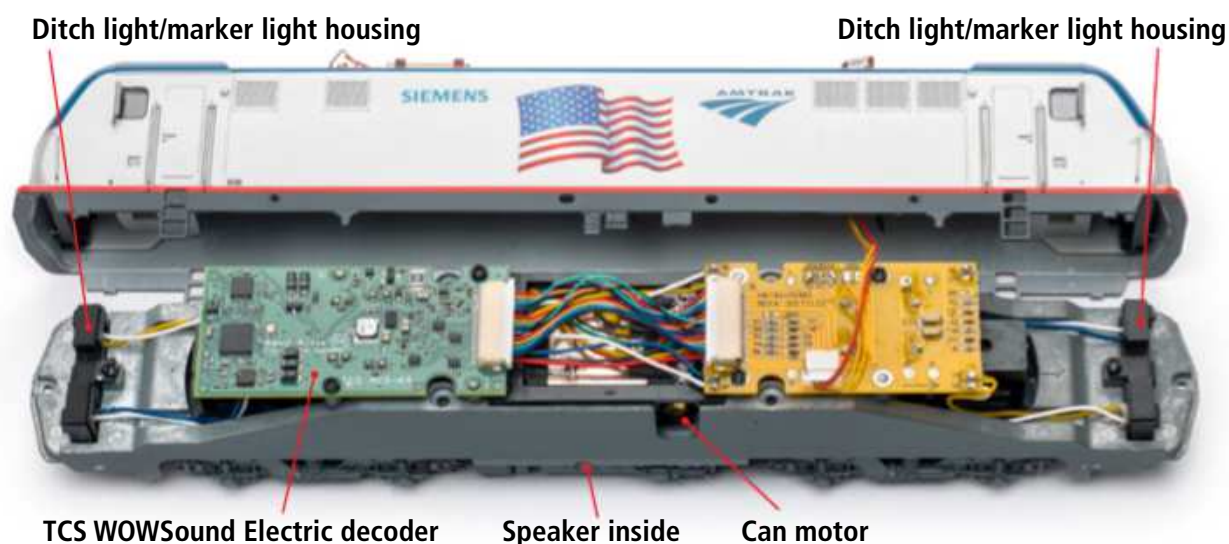
Besides locomotive fabrication in California, Siemens made major components of the traction system at plants in Georgia, Ohio, and Mississippi. New York Air Brake and toilet and ventilation vendors are other U.S. manufacturers involved in the project.

Revenue service began in February 2014, and final delivery of the 70-unit order occurred in August 2016. In addition to the 70 Amtrak units, Siemens also built 15 units for the Southeastern Pennsylvania Transportation Authority (SEPTA) for suburban Philadelphia service. The first SEPTA unit was delivered in December 2017 and entered service in July 2018.

For Amtrak, the 6,700 hp ACS-64s replaced the venerable AEM-7s, which entered service in 1979, and the less-well-regarded HHP-8s, launched in 2000. SEPTA is replacing its aging AEM-7/ALP-44 fleet as the ACS-64s are delivered.

The model. Bachmann's ACS-64 has an injection-molded plastic body mounted to a die-cast metal frame. A flywheel-equipped can motor in the center of the frame powers all eight wheels, which also all pick up current. A switch on the bottom of the locomotive allows the metal pantographs to collect electricity.

Grab irons and handrails are separately applied bright metal parts, and other separate details include the large windshield wipers and flush mounted glazing on all the windows and light



The Bachmann Amtrak ACS-64 features a die-cast metal frame and injection-molded plastic body. The speaker for the Train Control Systems WOWSound Electric dual-mode decoder is mounted in the main transformer cabinet below the frame.

covers. Underbody details feature more separate parts, including bits of piping and sensors for safety equipment.

The control desk in the cab is clearly visible, and two seats await crew figures. The turned-metal wheelsets have the distinctive brake detailing on their faces, and the pilots are adorned with m.u. hoses and receptacle covers picked out in red, blue, or black colors as appropriate.

Our sample was painted to represent class unit no. 600 in its demonstrator scheme with large American flags on the sides. The unit has since been repainted with the Amtrak logo and large unit numbers on its sides.

All of the painting is smoothly applied, with sharp separations between the silver flanks and roof and blue and black panels around the windshield. Lettering and striping are crisp and applied in register.

The pantographs lock down securely, yet are easy to release and seem sturdy enough to stand up to operation without looking out of scale. Other roof detailing includes insulators and bus wires, along with a pair of five-chime horns. The air conditioners and other piping and roof vents are molded on. A bit of weathering would really make the detail there pop.

Overall dimensions were within a few scale inches of measurements printed on the Siemens ACS-64 page I found online.

TCS WOWSound. Packed with new technology, Bachmann's ACS-64 model debuts Train Control Systems' (TCS) WOWSound Electric dual-mode decoder. There's no straight direct-current (DC) version offered.

The WOWSound decoder requires filtered DC power to operate correctly in analog mode. Out of the box, our review sample ran flawlessly with a Bachmann no. 44211 power pack.

Using older rheostat or "pulse" power packs with the WOWSound decoder can result in unreliable operation. If the locomotive runs erratically in DC, the simple solution is to add a DC filter. I wired a TCS AF1 Analog Filter (\$23.95 at www.tcsdcc.com) to our test track and the ACS-64 ran smoothly with our workshop's MRC Tech 4 power pack.

Start-up sounds commenced at 7V, and the locomotive began to move at 8V at 10 scale mph. At 12V, our maximum testing voltage, the locomotive reached 60 scale mph. But the power pack had

PERFORMANCE CHARTS	
DRAWBAR PULL	3.2 ounces 15 N scale passenger cars
SCALE SPEED (DC)	
VOLTS	SCALE MPH
8	10
9	24
10	44
11	55
12	60
SCALE SPEED (DCC)	
SPEED STEP	SCALE MPH
1	1.7
7	27
14	56
21	87
28	111

more to give, and at its maximum, 15.5V, the locomotive raced along at 144 scale mph.

But the TCS WOWSound decoder really shines on Digital Command Control (DCC). At speed step 1, the locomotive crawled along at 1.7 scale mph, perfect for gently coupling to a passenger train. At speed step 28, it reached 111 scale mph, plenty fast enough for most layouts.

But what about the sound, you say? After a start-up sequence that includes the sound of electricity arcing from the catenary to the pantograph, compressor sounds pump up the air and blower fans hum. Increasing the speed setting starts the traction motors whining.

Pressing function button 4 generates the high-speed flyby "Whoosh" of an Amtrak Northeast Regional train roaring past. A playable horn sound at F2 made sounding grade-crossings fun. And at F8, double clicks allow access to lighting functions and functions above F9 without having to remap favorites down lower. I especially liked that I could illuminate the ditch lights and marker lights with separate key commands, and that the ditch lights flash when the horn is sounded.

Four clicks on F8 allows the user to enter Audio Assist, TCS's menu-driven configuration tool. I used Audio Assist to remap the headlight controls so I could turn the headlights on and off depending which way the locomotive was going.

The factory-programmed lighting had both lights on at all times, with the light in the direction of travel bright, and in the opposite direction dim. I wanted the light off in the opposite direction of travel, so I remapped the rear light to F4 in place

Facts & features

Price: \$359

Manufacturer

Bachmann Industries Inc.

1400 E. Erie Ave.

Philadelphia, PA 19124

www.bachmanntrains.com

Era: Feb. 2, 2014 to present

Roadnames: Amtrak demonstrator, Amtrak (two road numbers), Amtrak Salutes our Veterans, Southeastern Pennsylvania Transportation Authority (one road number)

Features

- All-wheel-drive and electrical pickup
- Bachmann E-Z Mate plastic knuckle couplers at correct height
- Die-cast metal frame
- Directional, dimmable headlight
- Dual-mode TCS WOWSound decoder
- Flywheel-equipped can motor
- Metal grab irons and handrails
- Operating ditch lights
- Operating marker lights
- Minimum radius: 22" or greater
- Switch for rail or pantograph power
- Weight: 1 pound, 9 ounces

of the whoosh sound effect. This allowed me to control the lights independently.

In addition to sound and lighting options, I found the switching/mainline momentum toggle at F16 to be useful for varying the amount of momentum based on whether the locomotive was moving by itself or pulling a train. The WOWSound Electric decoder also supports TCS's brake function.

Although we have no catenary strung, I took the ACS-64 to our staff layout, the Milwaukee, Racine & Troy, for further testing. The locomotive easily tracked around curves and negotiated no. 6 turnouts and crossovers. Our draw-bar test meter showed the ACS-64 is capable of exerting 3.2 ounces of force, equivalent to 15 free-rolling passenger cars on straight and level track.

If you're a fan of modern passenger power, this well-detailed and smooth-operating high-speed locomotives might be just the ticket. Adding in the prototype sound and lighting features of TCS's WOWSound Electric decoder makes a great model even better.

— Eric White, associate editor



Atlas N scale Alco C-628 diesel

Big Alcos are back in N scale from Atlas Model Railroad Co. We reviewed a direct-current (DC) version from an earlier production run in the August 2004 *Model Railroader*. The latest run is available with a factory-installed ESU LokSound decoder that operates on Digital Command Control (DCC) as well as DC layouts. A sound-ready DC version that includes a factory-installed speaker is also available.

The prototype. In the early 1960s, Alco redesigned its road diesel-electric locomotive line to better compete with rivals, General Motors Electro-Motive Division and General Electric. One of the first locomotives launched as part of Alco's new Century series was the six-axle C-628. Not quite the success story Alco hoped for, the firm built only 186 C-628 diesels between 1963 and 1968.

The Alco C-628 featured a 2,750 hp 16-cylinder 251C diesel engine. Although the C-628s were primarily

freight haulers, 10 of the locomotives built for the National Railways of Mexico received steam heat generators for passenger service.

The Delaware & Hudson purchased its 18 C-628s in 1964 and 1965. The locomotives proved capable fast freight haulers and served system-wide on the D&H for nearly 15 years. In the late 1970s, the D&H began selling its C-628 fleet to locomotive lessors. Some of the former D&H Alcos survived through the 1980s working in Mexico.

The model. Using much of the same tooling as the 2004 release, the Atlas model matches prototype drawings in the *Model Railroader Cyclopedica: Vol. 2, Diesel Locomotives* (Kalmbach Books, out of print).

The plastic body shell features well-defined molded detail including correctly placed grills, engine-access doors, m.u. hoses, and non-working class lights above the number boxes.

The walkways along the hood and front and rear pilot platforms feature a molded safety-tread pattern.

The separately applied handrail and stanchion assemblies are made of flexible engineering plastic to resist breaking. The front and side cab windows all feature clear plastic glazing.

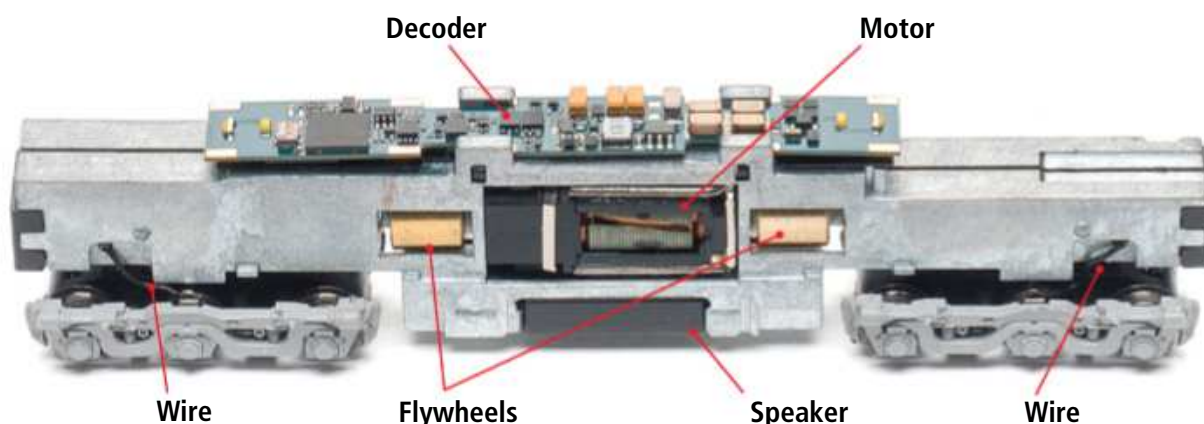
The Atlas model accurately captures D&H's handsome lightning-stripe livery. Paint coverage is smooth, and there's sharp color separation between the stripes. All lettering and heralds are correctly placed per prototype photos.

The mechanism. The press-fit body shell has two locking tabs at each end. To disengage the tabs, I gently pressed inward on the side sills. I then carefully slid the body shell off the chassis.

The dual-flywheel-equipped motor is in the center of the split die-cast metal frame. Drive shafts connect the motor to truck-mounted gearboxes.

All 12 wheels pick up track power. Wires connect the trucks to the frame to reliably transmit track power to the decoder mounted atop the chassis. All lighting is supplied by surface mounted light-emitting diodes (LEDs) on the decoder board. The $\frac{3}{16}$ " x $\frac{3}{8}$ " x $\frac{11}{16}$ " plastic speaker enclosure is concealed under the press-fit fuel tank on the bottom of the chassis.

The locomotive easily negotiated the 11" radius curves and no. 6 turnouts on our N Scale Salt Lake Route layout with a freight train in tow. The model's 1.5 ounce drawbar pull is equivalent to



The decoder receives track power through the split die-cast metal frame. Wires ensure a reliable connection between the frame and truck-mounted pickups.

PERFORMANCE CHARTS	
DRAWBAR PULL	1.5 ounces 36 N scale freight cars
SCALE SPEED (DC)	
VOLTS	SCALE MPH
7.5 (start)	2.5
8	10
9	26
10	50
12	80
SCALE SPEED (DCC)	
SPEED STEP	SCALE MPH
1	2
7	25
14	64
21	93
28	100

36 N scale freight cars on straight and level track.

DC performance. I tested the model on our DC test track using an MRC Tech 4 power pack. After I set the throttle to 6V, I saw the headlight turn on and heard the 251 diesel engine start rumbling.

When I advanced the throttle to 7.5V, the Alco started rolling at 2.5 scale mph and accelerated smoothly to a top speed of 80 scale mph, which matches one of the gearings available on the prototype.

The locomotive has some built-in momentum in DC mode. Like a real diesel-electric locomotive, the diesel engine rpm increased a couple notches before the locomotive started moving. The headlight operated according to the direction of travel. Activating any other user-triggered effects on a DC layout requires an analog sound controller, such as an MRC Tech 6.

DCC performance. As you can see in the charts above, the Alco also accelerated smoothly on our DCC test track. The model's 100 scale mph top speed was higher than the prototype. However, it's easy to lower the top speed, set up speed tables, or adjust any other aspect of the model's performance using configuration variables (CVs).

A programming guide for ESU LokSound decoders can be downloaded for free at www.esu.eu/en. The website also has links for free LokProgrammer software that can be used with or without a LokProgrammer computer interface (sold separately).

In addition to the bell and horn, user-triggered features include the compressor, sanding valve, air release valves, and a realistic dynamic brake effect. Pressing F9 engaged the HEAVY LOAD effect with

Facts & features

Price: \$239.95 (DCC sound), \$129.95 (DC, no sound)

Manufacturer

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

Era: 1965 to late 1970s (as decorated)

Road names: Delaware & Hudson, National Railways of Mexico (N de M), Southern Pacific (Alco demonstrator patchout). Undecorated versions available in Phase 1, 2A, and 2B variations.

Features

- All-wheel drive and electrical pickup
- Accumate couplers, at correct height
- Atlas Scale Speed motor with dual brass flywheels
- Blackened metal wheels, in gauge
- DC version is DCC sound ready with factory-installed speaker
- Dual-mode ESU LokSound decoder (DCC sound version)
- Weight: 3 ounces

DRIVE/HOLD. With this effect enabled, the locomotive speed stayed constant while I used the throttle to notch the prime mover up or down.

Using the LokProgrammer, I also enabled another Full Throttle feature called COAST mode. When I trigger this effect, the engine sounds drop to an idle. I could then use the throttle to adjust the speed without notching the engine. This effect is useful for simulating a locomotive drifting downgrade.

The volumes of each individual sound effect as well as the overall volume can be adjusted via CVs. The volume level is impressive, considering the speaker's small size. All the functions can also be remapped to any desired throttle key.

On our Alco, I lowered the level of the diesel engine sound and set the horn volume to maximum level. I also set up the headlights for manual, non-directional control by mapping the front headlight to F0 and the rear light to F5.

With the top-notch ESU LokSound decoder and accurate details, this Atlas C-628 makes it easy to add the sights and sounds of a six-axle Alco diesel to an N scale roster. – *Dana Kawala, senior editor*

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MRC Synchro Sound²



To get truly big sound out of your Digital Command Control-equipped locomotive, you need a big speaker. Unfortunately, that's just not possible in smaller scales. Model Rectifier Corp. has addressed this problem with the Synchro Sound², a standalone speaker equipped with a DCC sound decoder. The Synchro Sound² is meant to be consisted with a diesel locomotive that has a motor-only DCC decoder.

When you first take the Synchro Sound² out of the box, you might wonder at first if something is missing. It's just a plastic speaker enclosure with a single wire coming out the back, like you might hook up to your desktop computer. But that's because everything is inside the enclosure. Just attach the wires to your DCC layout's track bus, and you're ready to go.

Synching it up. Assigning the speaker to a locomotive involves programming the speaker's decoder address to that of the locomotive. The speaker can be programmed on a programming track

or on the main. If you're changing the decoder's address on the main, remember to remove the previously synch'd locomotive, or you'll inadvertently change its address, too.

The device supports the sounds of a single locomotive at a time. However, the speaker's decoder can be advanced consisted, so you can operate it with a multiple-unit lashup.

I hooked up the Synchro Sound² to our workshop test track, which is powered by an NCE Power Cab. Out of the box, the decoder responds to DCC address 3, just like a new locomotive decoder. Since it's a standalone device, I could test its sound functions before consisting it with a locomotive.

The first thing one notices is that the sound emanating from its 1½ x 3-inch speaker is much deeper and richer than you'd expect from an onboard sound decoder. It was much louder, too.

One feature curiously missing from the Synchro Sound² is a volume knob. The volume of each sound effect can be controlled via its assigned configuration variable (CV), but there are a lot of sound effects, and only three – diesel engine, bell, and horn – are controllable via function keys. There isn't even a master volume CV on the decoder, so changing the overall volume entails a lot of programming.

The decoder comes programmed with four sound collections– three generations of Electro-Motive Division diesel engines, plus one Alco. Four may not sound like a lot, but they cover a wide range of popular diesels. The diesel sounds can be changed on the fly with function key F12 on a DCC throttle, so customizing the sound for a different engine is a breeze. There are also eight types of bell sounds and 34 different horns, also selectable by function key. There's no list of which horn is which, though, so you'll have to play it by ear when selecting which is appropriate for your particular locomotive.

Next, I programmed the decoder's address to that of an EMD GP38 from our Wisconsin & Southern layout, and placed the GP38 on the track. The Synchro Sound² responded just as an onboard sound decoder would as I ran the locomotive, notching the engine sounds up and down with the throttle, playing a brake squeal as I quickly cut

Facts & features

Price: \$49.98

Manufacturer

Model Rectifier Corp.
80 Newfield Ave.
Edison, NJ 08837
www.modelrectifier.com

Features

- 1m (40") hookup wire
- 1.5" x 3" speaker
- Four diesel engine sounds: Alco 244 (DL-500A and MLW DL-500; FA/FB-1 and FA/FB-2; FCA-3; PA/PB-1 and PA/PB-2; RS-2 and 10; RSC-2, 3, and 24; RSD-4, 5, and 7); Electro-Motive Division 567 (E9, F9, GP9, SD9, SW600, SW900, SW1200); EMD 645 (GP38, GP39, GP40, SD40, SD45, SW1000); and EMD 710 (GP60, SD60, SD70, SD75, SD80 series).
- Individually adjustable sound effect volumes
- Multiple selectable horn (34) and bell (8) sound effects
- Plastic enclosure
- Startup and shutdown sequences
- Supports advanced consisting
- Supports manual engine notching

the speed, and playing other sounds as I triggered them with function keys. (The Synchro Sound² also supports manual engine notching, for those who prefer it.)

I then added another GP38 to the test track and tested advanced consisting. By programming a two-digit consist address into Configuration Variable 19 on the decoders of both locomotives as well as the Synchro Sound², I was able to run both locomotives in synch with the sounds from the speaker.

Big sound for any diesel. The Synchro Sound² seems best suited for layouts where the speaker can be installed near a fixed operator location. It could be disconcerting to walk away from the source of the sound while following one's locomotive around a larger layout.

The MRC Synchro Sound² is a great solution for modelers who want to add sound to a DCC layout without the expense of equipping a large locomotive fleet with sound decoders. It also seems like the perfect answer for locomotives that don't have room for speakers.

– Steven Otte, associate editor

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Scene and photography by Ken J. Johnson
First test model shown



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QUICKLOOK



Atlas Master Line HO scale Pullman 10-1-1 sleeper

Price: \$64.95 (undecorated, \$54.95)

Manufacturer

Atlas Model RR Co.
378 Florence Ave.
Hillside, NJ 07205
www.atlasrr.com

Era: 1930 to 1950s

Road names: Pullman; Chicago, Burlington & Quincy; Chicago & North Western; Norfolk & Western; Northern Pacific; Pennsylvania RR; Southern Pacific; and Union Pacific. Also available undecorated.

Comments: A highly detailed model of a common heavyweight sleeper car has been issued as part of Atlas' high-end Master Line. The 10-section, 1-drawing room, 1-compartment car, which features wire grab irons, pivoting diaphragms, and user-installed optional details, is based on former Branchline Trains tooling.

Our sample car is lettered as *Blue Bird Lake*, a Pullman-owned car built to Pullman car plan 3973A in mid-1930. These cars would have served their railroads through the end of the steam era, until being relegated to branchline and work train service. The model's dimensions and details match photos and drawings of prototype sleepers published in the May/June 1981 *Mainline Modeler*.

The roof on the model differs from the photos and drawings, but that's because the model depicts a car with Pullman mechanical air conditioning.

The car's sides, ends, floor, and roof are separate snap-together styrene castings. Their fit is impeccable; I couldn't get a fingernail into the seam between the sides and roof. I removed the sides by carefully working a chisel-bladed hobby knife between the bottom of the sides and the underframe.

The interior is minimally detailed, with tan plastic walls and seats molded into the black plastic underframe casting.

The model is smoothly and evenly painted Pullman Green, with a black roof and underframe. The yellow lettering is straight, crisp, and opaque, and matches the prototype.

All wheelsets were in gauge, and the plastic Accumate knuckle couplers were body-mounted at the right height.

The car comes with a small pouch of user-applied plastic end details for users whose prototypes had them.

The car handled the 18" curves and no. 4 turnouts of our Beer Line layout, but on sharp curves the ends can snag lineside details like switch stands.

Atlas has put out a fine-looking model that would proudly serve a long-distance passenger train on any steam-era HO scale railroad. – *Steven Otte, associate editor*

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QUICKLOOK

Menards HO Wally's Service Station

Price: \$59.99

Manufacturer

Menards

5106 Menard Dr.

Eau Claire, WI 54703

www.menards.com/trains

Era: 1955 to 1960s (as decorated)

Comments: Menards has added Wally's Service Station to its rapidly growing line of HO scale structures. The factory-assembled model features more than 20 light-emitting diodes (LEDs); a weathered base; and an assortment of figures, details, and advertising signs. The footprint of the station with base is 8 1/4" x 5 1/4" x 4 1/8".

Wally's Service Station is based on the "drum" design developed by architect Frederick G. Frost Jr. According to various books on gas station history, the drum shape of the sales area was inspired by the shape of an oil can. This

style of gas station was built between the 1930s and 1950s.

The Menards structure is neatly painted and uses peel-and-stick graphics. A 55-gallon drum, figures, trash cans, a hand cart, and tires are located along the exterior. A Pepsi machine, complete with the beverage company's logo used throughout the 1940s, is located between the shop door and the sales area. The gas pumps (three per island) each have illuminated globes. Both islands feature oil can displays as well. The back of the window glazing is covered with black paper, as the building lacks an interior.

The star of the show is the rotating Shell sign on the roof. The logo on the sign was used by the oil company from



1955 to the early 1960s, making this structure great for a mid-century layout. A separate 4.5V power source is required to operate the sign and LEDs. There are two jacks for connecting the power source, one on the back of the building and another underneath.

Drum-style gas stations live on today. I found examples online of one converted to a law office and another now used as a bagel shop. With its distinct lines, colorful graphics, and rotating sign, Menards Wally's Service Station is sure to be an attention getter on your HO scale layout. – Cody Grivno, Group Technical Editor

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Boy Scouts, auto execs, and presidents

"Make a hole and make a tree. The rabbit runs out of the hole, around the tree, and back into his hole." The kindly, graying Scoutmaster patiently instructed a knot of thumb-tied, daydreaming summer campers from Troop 14 in the art of the bowline inside a log lodge atop the Kittatinny Ridge. "Years ago, we hiked to camp after the train dropped us off."

One scout sat up, suddenly alert. Train? What train?

I rode to camp in Dad's Pontiac. On the way, I caught glimpses of rusty rails folding through the hills, occasionally punctuated by cross-bucks. Years later, I learned that wartime gas rationing prompted Scout camp special trains like the one the Scoutmaster remembered.

Last fall, a Scout train sat me bolt upright again. Jim Singer, speaking at a prototype modeler's meet, stunned me with documentation of an Erie consist under Colorado's towering Pikes Peak. A prolific researcher, Jim assembled a trove of information on special passenger moves on the Chicago, Burlington & Quincy; Illinois Central; Chicago & North Western; and Milwaukee Road.

Erie's equipment reached Colorado Springs when the city hosted the Boy Scouts' fifth National Jamboree in 1960. Many Scouts came by train on the Atchison, Topeka & Santa Fe; Denver & Rio Grande Western; Chicago, Rock Island & Pacific; and Colorado & Southern. The Burlington handled 32 Scout movements, including trains from Baltimore & Ohio; Great Northern; New York, New Haven & Hartford; Norfolk & Western; and the Pennsylvania. A Jamboree scenario could justify a wide



One of C&O's all-sleeper General Motors executive specials, with Armour Yellow Pullman equipment trailing a B&O E8, rolls through Tuckahoe, W.Va., on May 25, 1969. T. W. Dizon Jr. photo, Chesapeake & Ohio Historical Society collection

variety of passenger equipment appearing on almost any layout.

For many years, Chesapeake & Ohio hosted trains bringing General Motors executives to meetings at the renowned Greenbrier Hotel in White Sulphur Springs, W.Va. Photos of the special trains show a rainbow of cars, including Tuscan Red from the Pennsylvania RR, others in Southern Pacific gray, and Pullman sleepers in Armour Yellow. The Chessie probably contracted with the western roads for their equipment. Few roads had enough extra capacity in their own passenger car rosters to handle the demands of such special moves, especially for diners and sleepers.

Southern Pacific equipment got around in the late 1960s, appearing on Erie Lackawanna's *Cleveland Press* weekend specials. The train ran overnight from the newspaper's home city to New York, arriving in Hoboken, N.J., on Saturday morning. Patrons enjoyed a full weekend of shopping, Broadway shows, and sightseeing before departing on another overnight run Sunday evening.

Events like this still occur today. Just this year, Norfolk Southern hosted a complete Union Pacific office car special that sent Armour Yellow around Horseshoe Curve on its way to Manhattan.

Here's one for the books. Franklin D. Roosevelt's relationship with Lucy Rutherford is today widely acknowledged, though it wasn't at the time. In September 1944, the president's train detoured from its normal routing to Hyde Park, N.Y., and stopped in Allamuchy, N.J., near Tranquility Farms, the Rutherford estate. A correspondent sent word of the train to the local paper. The Office of Censorship denied him permission to print the story, citing national security. Allen Painter, the newspaper's editor, revealed these details many years later. Historian Doris Kearns Goodwin documented the visit in her book *No Ordinary Time*.

I don't know the train's actual route. However, much earlier than this, the Lehigh & Hudson River, the Pennsy, the and the New Haven ran the *Federal Express* between Boston and Washington. Its route used New Haven's Poughkeepsie Bridge across the Hudson River, near Hyde Park. The L&HR ran through Allamuchy, and it's one of the roads on my layout.

There's plenty to inspire almost any occasion for a special train. Run it with home road or visiting equipment, or a mix of both. For my part, I'm quietly assembling a *Federal Express* of a New

Haven DL-109 and coach-lounge, a diner, and another coach from PRR or perhaps B&O. The *Ferdinand Magellan*, the presidential car, will move elsewhere as a decoy. Will a president visit Allamuchy? I can't say. It's not wise to reveal too much information about the chief executive's movements. **MR**



A JAMBOREE SCENARIO COULD JUSTIFY A WIDE VARIETY OF PASSENGER EQUIPMENT APPEARING ON ALMOST ANY LAYOUT.
— JERRY

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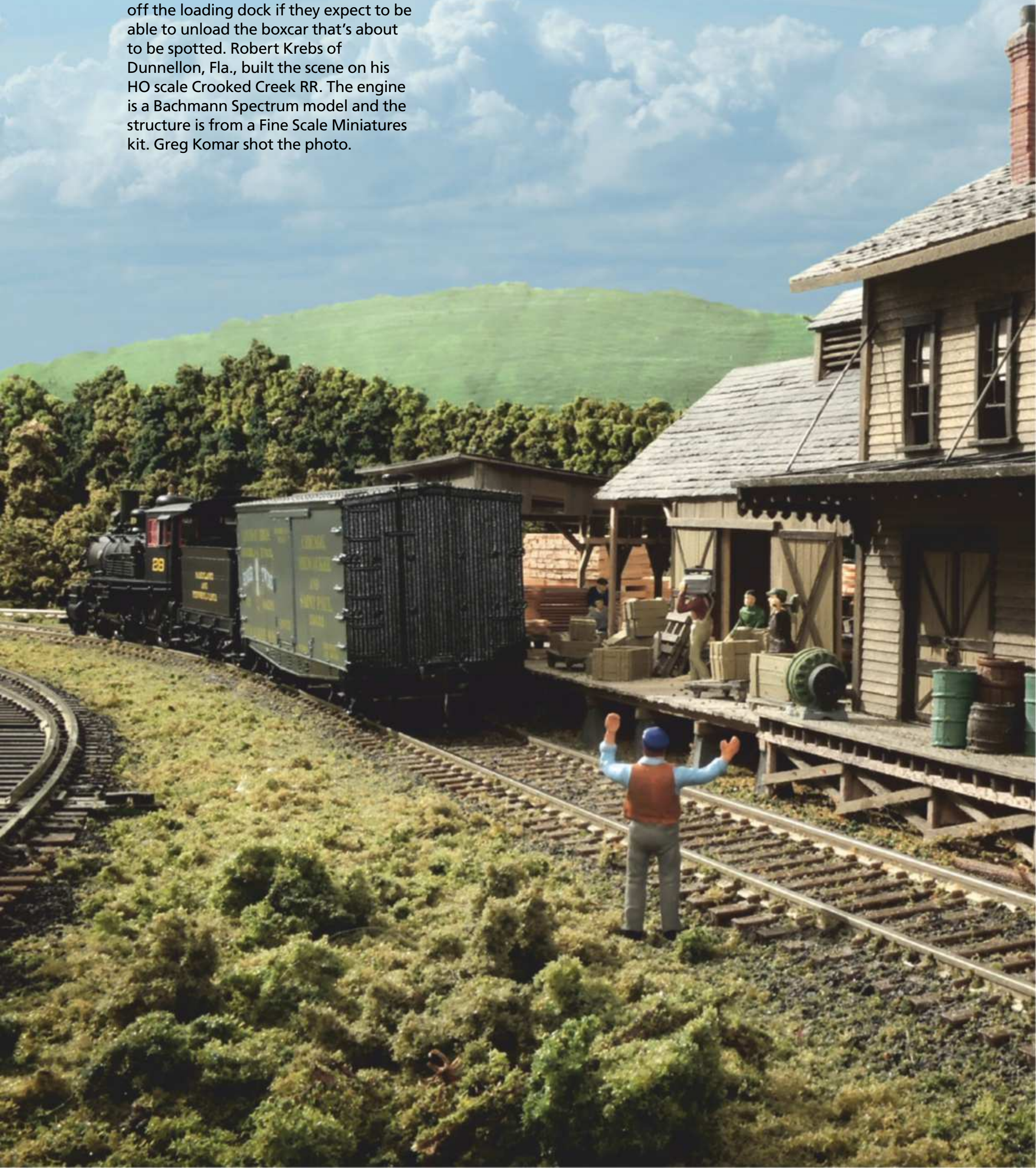


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See official sweepstakes rules on page 96.

The workers at Mangus Novelty Wood Products Co. had better start clearing off the loading dock if they expect to be able to unload the boxcar that's about to be spotted. Robert Krebs of Dunnellon, Fla., built the scene on his HO scale Crooked Creek RR. The engine is a Bachmann Spectrum model and the structure is from a Fine Scale Miniatures kit. Greg Komar shot the photo.







The maintenance-of-way crew dumps a gondola full of dirt cleaned out of ditches onto an earth fill near the MAC Mine loader. Pat Ryan of Hubbard, Ohio, staged and photographed the scene on his HO scale Norfolk & Western layout. The side-dump car is a Lionel model. The crane is from Tru-Scale (now Walthers), and the boom car is from a Bachmann kit. The locomotive is from NorthWest Short Line.

Send us your photos

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



The local, pulling a boxcar load of cardboard boxes bound for the Sunkist packing plant, passes the Hanford, Calif., city water tower, now bristling with communications antennas that have been added over the years. Rick Sutton of Atascadero, Calif., modified the Walthers water tower to match one that still stands along the prototype San Joaquin RR. Rick also shot the photo.

The moon has risen as the crew of Buffalo Creek & Gauley no. 14 share some final words before climbing into the cab. Brooks Stover photographed the last trains to leave Widen, W.Va., before his S scale model railroad was dismantled. Brooks built the Alco's body shell and put it on an American Models chassis. The 2-8-0 is by S-Helper Service (now MTH).





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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

FL, BROOKSVILLE: Regal Railways presents Toy Trains & Hobby Show. Hernando Fairgrounds, 6436 Broad St. Saturday, January 5, 2019. 9:00am-2:00pm. Adults \$5.00. Vendors and operating layouts. Serving lunch items. Contact: Joe at 727-244-1341 or visit: www.regalrailways.com for more information.

FL, DELAND: 66th FLORIDA RAILFAIR. Volusia County Fairgrounds, (Tommy Lawrence Arena). Saturday, January 12, 9:00am-4:00pm and Sunday, January 13, 10:00am-3:30pm. Adults: \$9.00 good for both days, under 12 free. Over 300 tables. Large operating layouts. Miller, 3106 N. Rochester St., Arlington, VA 22213. 703-536-2954. Email: rrshows@aol.com.

FL, ENGLEWOOD: Regal Railways presents Toy Train Collectible & Hobby Show. Elks Lodge, 401 N. Indiana Ave. Saturday, January 19, 2019, 9:00am-2:00pm. Adults \$5.00. Vendors and operating layout. Contact Joe @ 727-244-1341 or visit www.regalrailways.com for more information.

GA, ATLANTA: O Scale South, Cross Of Life Lutheran Church, 1000 Hembree Road, Roswell, GA. Saturday, January 19, 2019, 9:00am-4:00pm. Admission \$5.00, \$25.00 per 8-ft tables (Includes Admission), Spouses and Children Free. Swap-meet, Modular Layout, Vendors, plus Layout-Tours. Information: www.oscalesouth.com, contact Dan Mason, daniel@southernoscalers.com 770-337-5139

GA, ATLANTA: 56th ATLANTA MODEL TRAIN & RAILROADIANA SHOW. Infinite Energy Center, 6400 Sugarloaf Parkway, Duluth, GA 30097. Saturday, January 19, 2019. 9:00am-4:00pm. Adults: \$9.00 under 12 free. Operating layouts. Miller, 3106 N. Rochester St., Arlington, VA 22213. 703-536-2954. Email: rrshows@aol.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, SPRINGFIELD: Springfield Railroad Society Annual Train Fair. Orr Building on the State Fairgrounds. Sunday, March 24, 2019, 10:00am-4:00pm. Early Bird shopping starts at 9:00am. Free parking. Largest show in downstate Illinois! For info call Ray at 217-544-4295 or visit www.springfieldtrainfair.com

IN, MIDDLEBURY: Essenhaus Train Show. On the Das Dutchman Essenhaus campus, 240 US 20. Saturday, February 16, 2019, 9:00am-2:30pm. Admission \$3.00/person or \$6.00/family. (Children under 7 FREE w/adult). All gauge, operating layouts, repairs, parts dealers, selling and trading. Display tables \$20.00 each. Essenhaus.com or call 800-455-9471 (x443).

IN, NOBLESVILLE: Central Indiana Division/NMRA Train Show. Hamilton County 4H Fairgrounds, 2003 Pleasant Street, Noblesville, IN. Sunday January 27, 2019, 10:00am-3:00pm. Admission \$3.00, Family \$5.00. Dealers, Portable Train Layouts, Clinics, Door prizes. Dealer tables \$12.00. Contact, Jim Shellhaas at 317-750-4834 or jshellha@butler.edu.

KS, LAWRENCE: Lawrence Model Railroad Club 18th Annual Train Show and Swap Meet. Crown Toyota Kingdom, 3400 S. Iowa St. February 9-10, 2019, Saturday 9:00am-5:00pm; Sunday 9:00am-3:00pm. Admission: \$6.00 donation, 12 & under free. Contact: Jim Turner, 785-842-5174, www.lawrencemodelrailroadclub.org.

MA, HUDSON: NEW ENGLAND TRAIN COLLECTORS ASSOCIATION Show. December 16, 2018, 9:00am-1:00pm. Hudson -Concord Elks Lodge, 99 Park St. Dealers, operating train layout. Admission \$5.00, spouse & children free. Information: 603-791-0080, email: nerr@comcast.net.

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.dmmrc.org or visit us on FACEBOOK@DMMRC for times and dates.

MN, WOODBURY: Newport Model RR Club Flea Market & Train Show. Woodbury High School, 2665 Woodlane Drive, Zip: 55125. January 19, 2019, 9:00am-2:00pm. Admission \$5.00. April 27, 2019 is the next show. Club Address: Newport Train Club, PO Box 0061, St. Paul Park, MN 55071. Contact: Ed, 651-233-3310 or Mark, 651-207-7747

NC, NEW BERN: 24th Annual Train Show, New Bern Riverfront Convention Center, 203 South Front Street . March 2-3, 2019 Saturday 10:00am-5:00pm; Sunday 10:00am-4:00pm. Admission \$7.00, under 12 free w/adult. Operating layouts, 90 vendor tables, food concession, door prizes. Carolina Coastal Railroaders, George Shalhoub, 252-626-3476

NY, LINDENHURST: Northern Spur Train/Diecast Vehicles/Toy Meet. Firemen's Memorial Park, 555 Heiling Blvd. (north of Hartford St.) January 6, 2019, February 17, 2019, March 24, 2019, September 22, 2019, November 3, 2019, 8:30am-1:00pm. \$5.00 adults, under 16 free w/ adult. Handicap accessible. Contact: Carmelo Sancetta. 631-666-6855.

NY, WEST SENECA: TCA Upstate NY Chapter Train Show. Ismailia Shrine Center, 1600 Southwestern Blvd., Zip Code: 14224. Sunday, January 13, 2019, TCA Members: 9:00am. General Public: 9:30am-2:30pm. Admission: Adults \$5.00, under 17 free with paid adult. Contact: Chuck 716-390-8216, E-mail: usnyc2015@gmail.com or www.upstate-ny-tca.com

OH, PARMA: Cuyahoga Valley 'S' Gauge Association, UAW Hall, 5615 Chevrolet Blvd., Parma, Ohio 44130. January 5, 2019, 10:00am-3:00pm. Admission is \$6.00 each, children under 12 free with an adult. This is an ALL GAUGE SHOW. 440-833-4366. www.cvs-ga.com.

SC, EASLEY: CRMHA MODEL TRAIN EXPO - \$7.00 Adults, Children FREE. Friday February 8th 1:00pm-7:00pm. Saturday, February 9th, 10:00am-4:00pm. Rock Springs Church - Impact Center, 207 Rock Springs Road, Easley, SC 29642. www.CRMHA.org 513-325-8850 or trainshow@crmha.org

SC, LAKE CITY: Ragsdale Building, 245 S. Church Street. Saturday, January 12, 2019, 9:00am-3:00pm. Admission \$5.00, under 5 FREE. Over 200 vendor tables. Lots of G, O, HO, S, N gauge. Contact Todd at 843-307-8674, sctradeshows.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.sandfifer@sbcglobal.net.

TX, PLANO: Dallas Area Winter Train Show. Plano Center, 2000 E. Spring Creek Parkway. January 19-20, 2019, Saturday 10:00am-5:00pm; Sunday 10:00am-4:00pm. Adults \$10.00, 12 and under free w/adult. All scales & Tin Plate. Dealer tables, How-To Clinics. Information: Chris Atkins, chris@railroadmodeler.com 469-438-0741. Visit www.dfwtrainsshow.com

WA, VANCOUVER: SP&SRHS Railroad Swap Meet. Warehouse23, 100 Columbia St. Saturday, February 16, 2019 from 9:30am-2:30pm. Adults \$6.00, 12 and under-Free. All scales of railroad items for sale. Local clubs and societies, Collectibles. Vendor tables \$30.00. Info: Jim Leonard 503-729-2773 or jpl2004@comcast.net.

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, STEVENS POINT: CWMR 22nd Annual Model Railroad Show. Holiday Inn Convention Center Hotel, 1001 Amber Avenue. February 2-3, 2019. Saturday 9:00am-5:00pm; Sunday 10:00am-3:00pm. Adults \$4.00, \$2.00 kids 12-17. Many layouts, swap/sales tables, vendors. Contact Jim Miller 715-340-0265; email jimb67@gmail.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.kv railroad.org. Joe: 304-539-6721 or jhorter@gmail.com

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Model Railroader 85th Anniversary Sweepstakes — OFFICIAL RULES

**NO PURCHASE NECESSARY TO ENTER OR CLAIM PRIZE. A PURCHASE WILL NOT INCREASE YOUR CHANCE OF WINNING.
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1. Eligibility. The *Model Railroader* 85th Anniversary Sweepstakes (the "Sweepstakes") is open to residents of the United States and Canada (except Quebec and Rhode Island) only, who are age 18 years or older and have reached the age of majority in their state/province of residency at the time of entry. Employees (and their dependents and immediate household members) of Kalmbach Media Co., ("Sponsor"), and of Woodland Scenics, Bachmann, Walther's, Micro-Mark, their advertising and promotional agencies, and sponsoring companies are not eligible to participate. Void in Quebec and Rhode Island where prohibited by law. Sweepstakes is subject to all applicable federal, state, and local laws.

2. Sweepstakes Period. The Sweepstakes begins on November 24, 2018 at 12:00:00 a.m. Central Time, and all entries must be transmitted online no later than January 25, 2019 at 11:59:59 p.m. Central Time.

3. How to Enter. To enter, complete the Sweepstakes Official Entry Form online at ModelRailroader.com/Sweepstakes with your name, address, city, state or province, and ZIP or postal code, and then click on the SUBMIT MY ENTRY button. You may submit only one entry through the Sweepstakes Online Entry Form during the Sweepstakes Period. However, when you submit your entry online, you will receive a link that you can share on Facebook, Twitter, or by email; you will automatically receive one additional entry for each person who enters the Sweepstakes using that link. The online entry form must be filled out completely to be eligible. This Sweepstakes is in no way sponsored, endorsed, administered by, or associated with Facebook or Twitter. Entries from any person submitting more than the stated number will be disqualified.

4. Prizes/Approximate Retail Value ("ARV") in U.S. Dollars. One (1) Grand Prize consisting of one (1) \$1,000 Gift Certificate on behalf of Woodland Scenics. ARV of Grand Prize: \$1,000.00. One (1) First Prize consisting of one (1) \$750 worth of product on behalf of Bachmann. ARV of First Prize: \$750.00. One (1) Second Prize consisting of one (1) \$500 Gift Certificate on behalf of Walther's. ARV of Second Prize: \$500.00. Four (4) Third Prizes consisting of One (1) \$100 Gift Certificate from Micro-Mark. ARV of Third Prize: \$400.00. Five (5) Fourth Prizes consisting of a one-year subscription to *Model Railroader* magazine. ARV of Fourth Prize: \$214.75. TOTAL ARV of all prizes is \$2,864.75.

5. Drawing/Odds/Notification. A random drawing for the Grand Prize, First Prize, Second Prize, Third Prize, and Fourth Prize will be held on or around January 31, 2019. Odds of winning depend on the number of entries received. Limit one prize per person. The average total circulation for *Model Railroader* magazine is 106,192. Winners will be notified by email on or before January 31, 2019.

6. Prize Restrictions. No cash equivalent or prize substitution permitted. All prizes subject to the guarantees/warranties of the manufacturer. Any applicable federal, state, and/or local taxes are the responsibility of the winner. For prizes of \$600 or more in value, winner's Taxpayer I.D. will be required to issue a Form 1099-MISC showing prize ARV as income.

7. Validation and Acceptance. Winner(s) in the *Model Railroader* 85th Anniversary Sweepstakes will be selected in a random drawing. The potential winner(s) may be required to sign and return an Affidavit of Eligibility, publicity release, and Release of Liability within fourteen (14) days of notification. If a potential winner cannot be contacted within a reasonable time period, if the potential winner is ineligible, if any notification is undeliverable, or if the potential winner otherwise fails to fully comply with these Official Rules, he/she will forfeit that Prize, and if time permits, an alternate winner will be randomly drawn from among all remaining Sweepstakes entries. Canadian prizewinners subject to skill test requirement.

8. Winners List. For a list of winners, see the *Model Railroader* website (ModelRailroader.com) after February 2, 2019, or send a stamped, self-addressed envelope to: *Model Railroader* 85th Anniversary Sweepstakes Winners List, P.O. Box 1612, Waukesha, WI 53187-1612. (Residents of FL, VT, and WA may send a self-addressed envelope without the stamp.) Requests for Winners List must be received by February 2, 2019.

9. Limitations of Liability. Sponsor and Woodland Scenics, Bachmann, Walther's, and Micro-Mark are not responsible for and shall not be liable for: (i) telephone, electronic, hardware or software program, network, Internet, or computer malfunctions, failures, or difficulties of any kind; (ii) failed, incomplete, garbled, or delayed computer transmissions; (iii) any condition caused by events beyond the control of Sponsor that may cause the Sweepstakes to be disrupted or corrupted; (iv) any injuries, losses, or damages of any

kind arising in connection with or as a result of the prize, or acceptance, possession, or use/misuse of the prize, or from participation in the Sweepstakes; (v) any printing or typographical errors in any materials associated with the Sweepstakes; (vi) any change in participant's telephone number, mailing address or email address. Sponsor reserves the right, in its sole discretion, to suspend or cancel the Sweepstakes at any time if a computer virus, bug tampering, unauthorized intervention, or other technical problem of any sort corrupts the administration, security, or proper play of the Sweepstakes. Sponsor also reserves the right to disqualify, in its sole discretion, any person tampering with the entry process, the operation of the website, or who is otherwise in violation of the rules. By participating in the Sweepstakes, each participant agrees to release and hold Sponsor, Woodland Scenics, Bachmann, Walther's, Micro-Mark, their employees, officers, and directors, their advertising and promotional agencies, and sponsoring companies harmless from any and all losses, damages, rights, claims and actions of any kind in connection with the Sweepstakes or resulting from acceptance, possession, or use/misuse of any prize, including without limitation, personal injury, death, and property damage, and claims based on publicity rights, defamation, or invasion of privacy.

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1. Paid or requested mail subscriptions	80,892	79,288
2. Paid in-county subscriptions stated on Form 3541	0	0
3. Sales through dealers and carriers, street vendors, counter sales, et al.	13,532	12,425
4. Other classes mailed through the USPS	0	0
c. Total paid and/or requested circulation (sum of 15b1-15b4)	94,424	91,713
d1-3. Free distribution by mail (samples, complimentary, or other free)	423	416
d4. Free or nominal rate distribution outside the mail	0	0
e. Total free distribution (sum of 15d1-15d4)	423	416
f. Total distribution (sum of 15c and 15e)	94,846	92,129
g. Copies not distributed	36,437	35,527
h. Total (sum of 15f and 15g)	131,283	127,656
i. Percent paid and/or requested circulation:	99.55%	99.55%
16. Paid Electronic Copies		
a. Paid electronic copies	9,885	3,798
b. Total paid print copies + paid electronic copies (sum of 15c and 16a)	104,309	95,511
c. Total print distribution + paid electronic copies (sum of 15f and 16a)	104,732	95,927
d. Percent paid (both print and electronic copies; 16b divided by 16c times 100)	99.59%	99.57%
17. This statement of ownership will be printed in the January 2019 issue of this publication.		
18. I certify that the information above is true and complete.		
Nicole McGuire, Vice President, Consumer Marketing.		
Date: September 28, 2018		

A quaint place in the country

The sign says “Joslin.” It’s a good thing it’s there, as there’s not much else to identify this place in the back-country of New Hampshire. Indeed, you could call a great deal of the entire Granite State “rural” without offending anyone. They’re rather proud of their home’s quaintness and isolation, in fact. These are the good folks who proclaim “Live Free or Die” on their license plates.

So when you describe the Boston & Maine’s wood depot in Joslin as marking a wide spot in the road, you’re not saying anything exceptional. You’re simply describing what makes the state so appealing to so many.

Among the many is Jim Dufour, who models part of the B&M’s line that ran from Bellows Falls, Vt., through Keene, N.H., on its way to the B&M main line in Massachusetts. I know the Keene of today rather well: My youngest son, John, all 6’-7” of him, was a star basketball player at Keene State. His wife, Sara, graduated from there too; she ran track. Grandson Jordan, their eldest and our extended family’s only other model railroader, plays football at the University of Rhode Island.

So, yes, this transplanted Midwesterner has bona fide connections to the New England that the Boston & Maine overlaid with a network of main and branch lines. As Philip R. Hastings’ myriad images attest, it’s about as modelable a state as there is.

Model railroading used to be about intensity. We packed every inch with structures and track. We ran trains on streetcar schedules. But gradually we’ve come to realize that more isn’t necessarily



The wood-frame Boston & Maine depot that once marked a spot called Joslin in the timetable isn’t very remarkable, which makes it a good modeling candidate. Jim Dufour photo

– or even usually – better. Giving each model some breathing room is now seen as a worthy goal, one that runs hand in hand with realism.

The previous assumption was that action equaled fun. If trains weren’t always on the move, we grew bored. And so it remains in some quarters today. But others, like Jim, are showing us that a static scene like this view of Joslin can be as rewarding to model and view as one that features almost perpetual motion. The payoff comes in the form of re-creating a scene that once was, that we missed by virtue of age or location – one that we can now see in 3-D once again thanks to thoughtful and diligent modeling.

This is a clear case of the journey being as rewarding as the destination. If Jim knew nothing about the real Joslin back in the 1950s and was simply modeling an eye-catching depot, he’d lack a yardstick to measure his success beyond the four walls of the structure. But as he did his due diligence and came to know Joslin like someone who grew up there,

he came to appreciate the little things.

And he came across questions to answer. For example, how did petroleum products like gasoline get from that tank car on the siding across the tracks to the storage tanks? Turns out, Jim discovered, there was a pipe laid under the tracks. Mystery solved.

There wasn’t a lot more to learn about Joslin, at least as far as the railroad was concerned. Other than the spur for the tank car, there was a team track that went beyond the back of the depot to serve a small cluster of industries. Here an occasional car with a load for a local concern, maybe a lumberyard or feed mill, could be spotted for unloading. There’s also a passing track here for the occasional meet, orchestrated by a distant dispatcher using timetable-and-train-order rules. “OS Joslin,” the agent-operator

would report. “Show No. 5503 by at 11:32,” he’d tell the DS.

A photo backdrop greatly extends the narrow 3-D scenery, proving once again that we used to waste acres of model scenery materials to create scenic depth that a photo does ever so much more convincingly. The viewer isn’t prompted to remark, “Oh, that scene is only 15 inches deep.” It could be a hundred yards to the woods.

Note that the fascia is painted an unobtrusive green, which blends in with the local flora. The last thing we want is to call attention to the picture frame. Ironically, having no frame at all does that very thing.



“Model the ordinary” – the white houses, the lonely rural depot, the wide-open spaces – is the new mantra. And Jim is doing an exceptional job of doing just that. **MR**



Rediscover The Silver Streak Zephyr

To call the “Silver Streak Zephyr” famous before its time would be to do the all-corrugated, slick stainless steel train a disservice. Named after a movie of the same name which featured the CB&Q’s distinctive corrugated equipment, the “Silver Streak Zephyr” and its specially built EMD E5A unit “Silver Bullet” was a short distance luxury train that operated between Lincoln, Nebraska and Kansas City with stops in Omaha and St. Joseph.

Pulled by the unique E5 locomotive, the Silver Streak Zephyr makes its return in November of 2018, available now as an Analog set as well as with ready-to-run DCC and DCC + Sound. Sound units are built as special-order items, so contact your local hobby shop to reserve one today! Also available are individual E5 locomotives, both in their original black-and-silver paint as well as the later “red band” paint!



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