

SIMPLIFY DCC DECODER INSTALLATION p.54

**Atlas Classic
RS-11 tested** p.58

April 2019
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The quest for realism

Research, big industry shape this layout p.38

**Little layout:
A small slice
of the Big Apple** p.30



PLUS

Wiring for our project layout p.46

How to model hardwood trees p.35

Do you really need to separate your scenes? p.52

Upgrade your utility poles p.28

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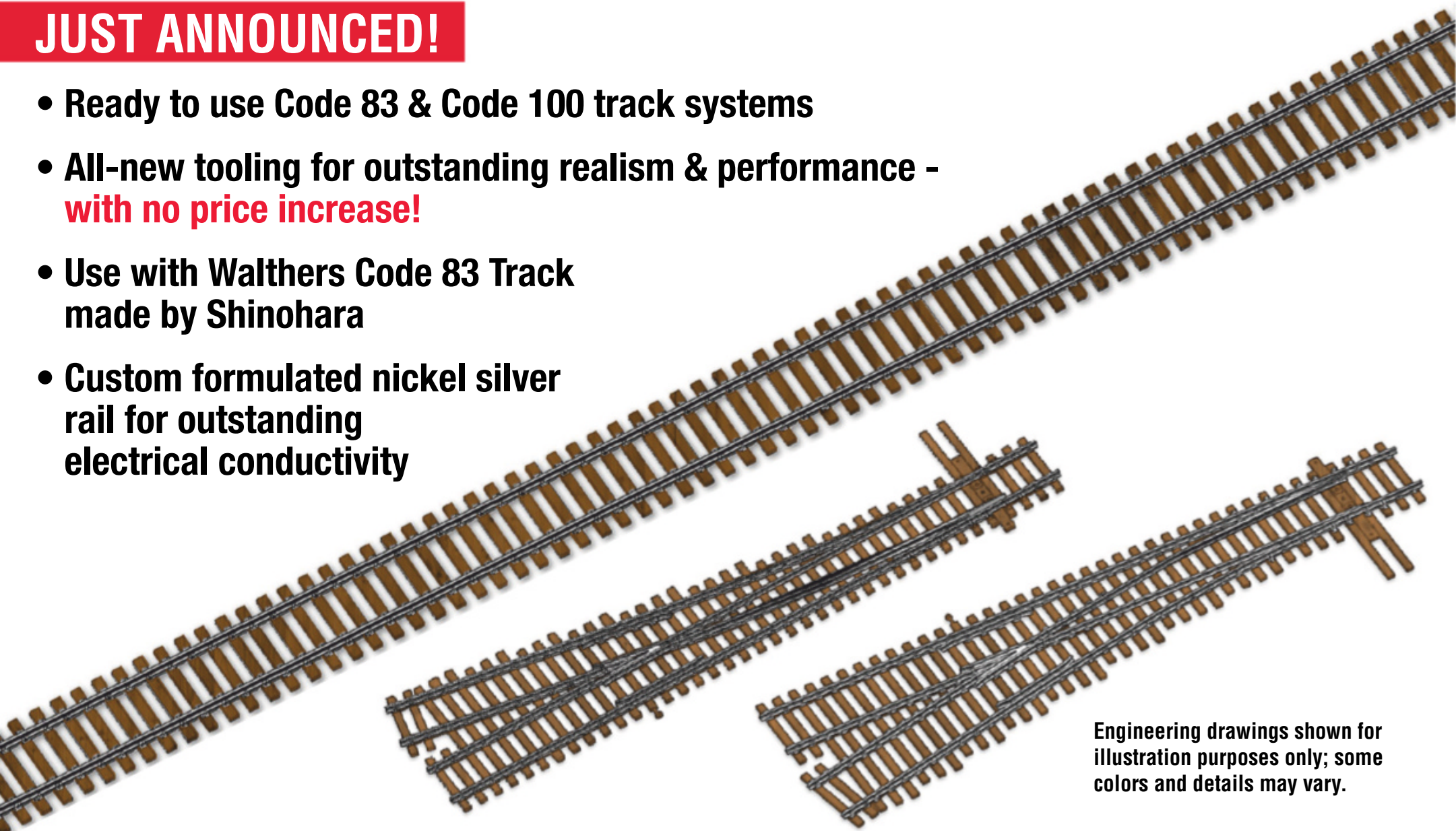
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On the cover: A Baltimore & Ohio EMD GP30 switches the Ashland Chemical plant on Carl Griffin's HO scale layout. Carl Griffin photo



Next issue

In May, we'll visit a layout that pays tribute to George Sellios, construct a modern tilt-slab building, build structures for the Canadian Canyons, and more!

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Sure, the N scale Canadian Canyons features stunning mountain scenery, but the electronics and automation going on behind the scenes are just as impressive. In addition to Digital Command Control, the layout has block detection, custom control panels, and automatic route control.

Associate editor Ben Lake led the DCC and other electronics initiatives with help from producer David Popp. You'll find an overview of the layout's electronics on page 46.

Be sure to check out the entire Canadian Canyons series on Model Railroader Video Plus.

Highlights of the series include:



► **Canadian Canyons:** David Popp describes how to install Tortoise by Circuitron switch motors on the project layout. MRVideoPlus.com/CC12



Installing a stationary decoder: Learn how to connect switch motors to a Digitrax DS64. MRVideoPlus.com/CC14



Build a control panel: Ben Lake makes fascia-mounted panels for push-buttons and LEDs. MRVideoPlus.com/CC15



Block detection: Ben demonstrates how to wire a circuit-based detection system. MRVideoPlus.com/CC16

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Gerry Leone
Contributing editor



TIPS, TRICKS, AND TOOLS

There are more than 1,000 informative and fun-to-watch videos at MRVP.

Contributing editor Gerry Leone combines his time-tested skills and a keen sense of humor in his "Off the Rails" series. Show topics run the gamut of all aspects of the hobby, including train room lighting, layout wiring, modeling tips, and more.

Gerry is also an expert at repurposing common tools and household items to work on model railroading projects.

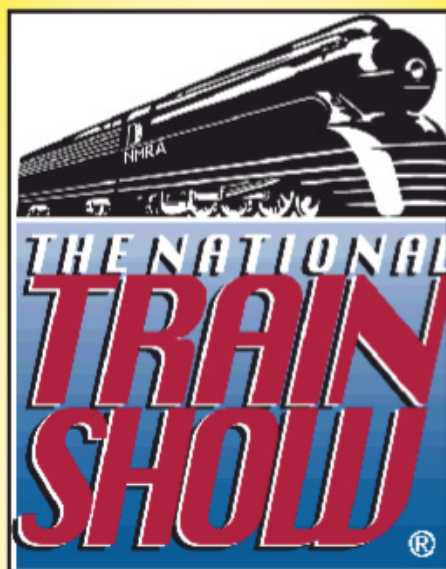
In one of the latest episodes, he describes some beauty shop items that prove especially useful for layout and modeling work.

Check out every episode of Off the Rails and all the great content at MRVP!



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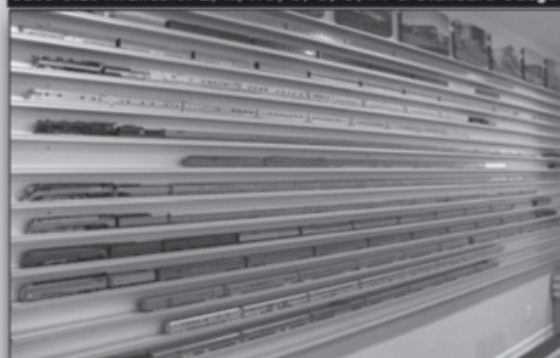
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Scene and photography by Ken Johnson
First test model shown

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Watch and share layout videos

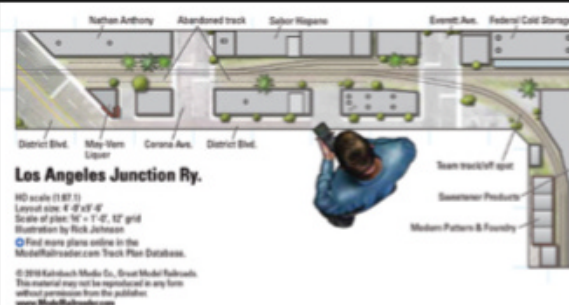
Visit www.ModelRailroader.com to find hundreds of layout videos, many of which are posted by visitors to our website. These videos include several taken at the Colorado Model Railroad Museum, including the tank train video shown above. Do you shoot video of your model railroad? Be sure to post it at the User Videos page.



Trackside photo wallpaper

Each month the editors at *Model Railroader* select an image to use as our featured desktop wallpaper. This month's featured image is Mat Thompson's trackside photo taken along his HO scale Oregon Coast RR. Click on the link to this online extra at www.ModelRailroader.com and download the image sized appropriately for your computer screen.

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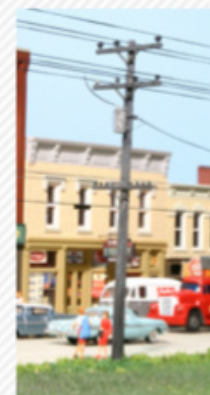


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When you subscribe to *Model Railroader* magazine, you have a wealth of layout ideas at your fingertips. The exclusive online track plan database features plans from *Model Railroader*, *Great Model Railroads*, and other special issues. Find plans by scale, size, and type.

Bonus how-to article

In this month's Step By Step column on page 28, Joe Kurilec describes how he adds climbing irons to HO scale utility poles. As an online bonus, click on the link to Jeff Wilson's article "How to model realistic utility poles and wires" on the MR home page.



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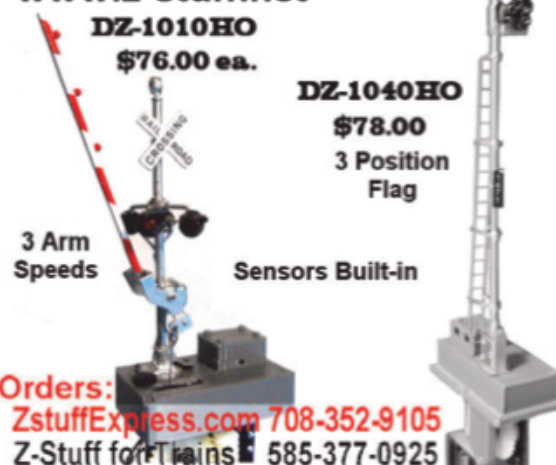
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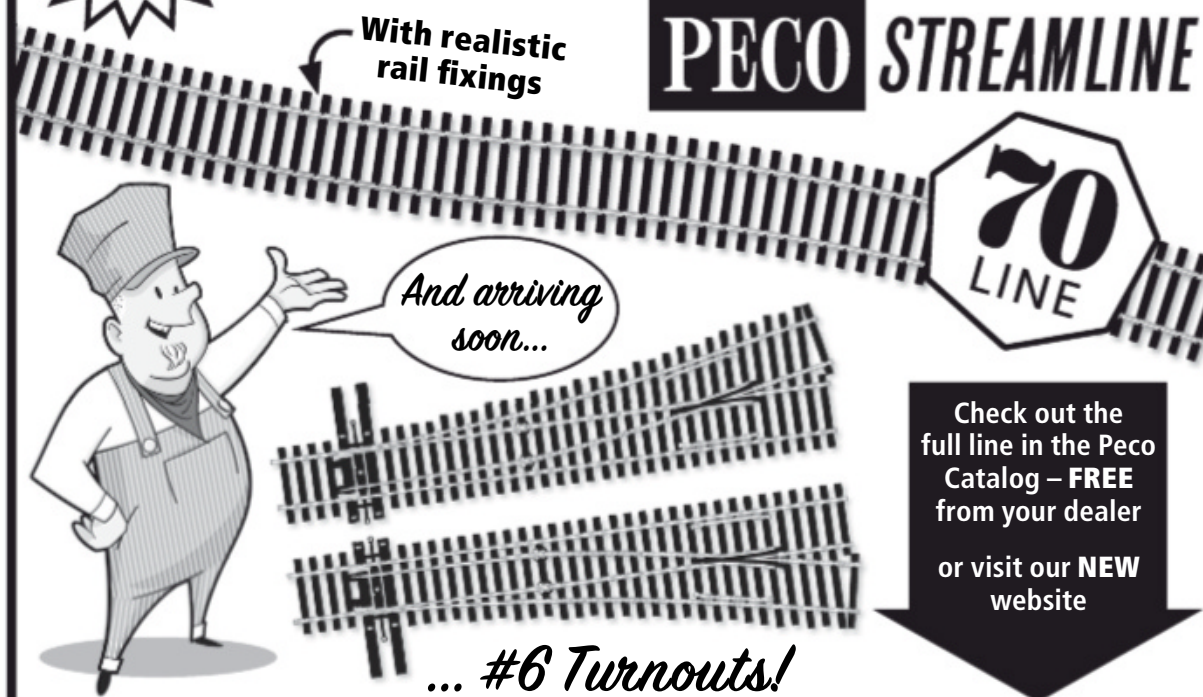
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A box of memories and inspiration

I have a blue photo box sitting on one of the shelves under my layout. I call it my “tickler file.”

An actual tickler file is a set of folders arranged so one can flip through it with their fingers (tickling, but nothing laughs) to quickly locate a desired item. It’s quickly becoming an archaic object, kind of like a Rolodex, which was also a type of tickler file.

My blue box contains prints of everything from

buildings to trackwork to locomotives that I shot in the days of the film camera (also an archaic object). Usually I kept two cameras with me, one loaded with transparency film to shoot actual moving trains, and the other with print film to record things to model. Have you ever tried modeling from a slide?

OK, put your hands down. I know some of you have.

I count the contents of this box as one of my few triumphs

of packrattery. It doesn’t work exactly like a tickler file should, though, which is to say, efficiently.

But it is entertaining.

Now and again I’ll need an idea for a building or a stretch of scenery. For some reason I shot a lot pictures of these things, along with snaps of railcars, depots, and signage.

Others have contributed to my collection. My father and father-in-law, both of whom respectively had and have a secret passion for trains, are represented in the box, as are a number of people I’ve crossed paths with over the years. Its given the contents a lot of diversity. Therein lies my tickler file’s inefficiency and entertainment value.

Looking for a picture that should take minutes to locate turns into an hour of reminiscing and hatching future projects. Remembering the



road trips, the original spirit, and in some cases the people behind the pictures gives me a little push to keep me going on what I’m doing.

Chances are you have a tickler file, too, somewhere. Maybe even on your phone.

Hopefully you always find what you need there, even if it isn’t actually a photograph.



My tickler file. There’s more than just photos in here.

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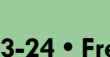
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HO scale



Pennsylvania RR class K4 streamlined 4-6-2 Pacific steam locomotive. Bachmann offers this Spectrum line model in four road numbers. The HO scale K4 (\$469) features a TCS WOWSound dual-mode sound decoder with Audio Assist, a

Keep-Alive capacitor for uninterrupted operation, an all-metal chassis, blackened metal wheels and side rods, separately applied parts, and E-Z Mate Mark II couplers. Bachmann, 215-533-1600, www.bachmanntrains.com

HO scale locomotives

• General Electric Dash 9-44CW.

Atchison, Topeka & Santa Fe (red-and-silver warbonnet, three road numbers); BC Rail (red, white, and blue and solid blue schemes, two numbers each); BNSF Ry. (Heritage II scheme, three numbers); CSX (yellow, blue, and gray scheme, three numbers); Norfolk Southern (red-and-gray scheme, one number); and Union Pacific (as-delivered scheme in three numbers, with wings on nose herald and Future Network logo in one number each). Light-emitting-diode headlights, prototype-specific trucks, and Quick Plug with 8- and 9-pin connectors for Digital Command Control decoder. \$129.98. November 2019. Roundhouse line. Athearn Trains, 800-338-4639, www.athearn.com

• Great Northern class S-2 4-8-4

steam locomotive. With open or vestibule cab in three road numbers each. Also available painted black and green but unlettered in both cab versions.

Locomotive and tender feature brass body with die-cast metal chassis. Factory-installed engineer and fireman figures, synchronized smoke unit, and dual-mode Paragon3 sound decoder featuring Rolling Thunder. \$749.99. Broadway Limited Imports, 386-673-8900, www.broadway-limited.com



• **Electro-Motive Division FP7 and FP9 shell kit without grills.** Includes one-piece plastic FP-type body shell with factory-cored handrail and grab iron holes and parts trees from Athearn and Highliners. Kit contains parts to build a Phase I or II U.S.-style FP7 (Chicago & North Western) and National Railways of Mexico FP9. With additional parts (not included with kit but available from Highliners), shell can be built into any of

the Canadian variants of the FP9. \$76. Highliners, www.highlinersonline.com

• Electro-Motive Diesel SD70ACe diesel locomotive.

Union Pacific (George Bush 41 Presidential Library and Museum). One road number. Plastic body with die-cast metal chassis, two painted crew figures, directional headlights, and RP-25 contour metal wheels. Direct-current model with 8-pin plug for Digital Command Control decoder, \$199.95; with Proto-Sound 3.0, \$299.95. 2019 release. MTH Electric Trains, 410-381-2580, www.mthhotrains.com

• Electro-Motive Diesel SD70ACe diesel locomotive.

Union Pacific (George Bush 41 Presidential Library and Museum). One road number. 2018 paint and lettering scheme with factory-installed and painted grab irons and light-emitting-diode headlights and ditch lights. Direct-current model, \$149.98; with ESU sound decoder, \$209.98. December 2019. Walthers Mainline. Wm. K. Walthers Inc., 414-527-0770, www.walthers.com

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Conducted by Cody Grivno



In Memoriam

Barb A. Pakenham, 1944-2019

Barb A. Pakenham, *Model Railroader's* editorial assistant from 1993 through 2006, died on Jan. 24. She was 74.



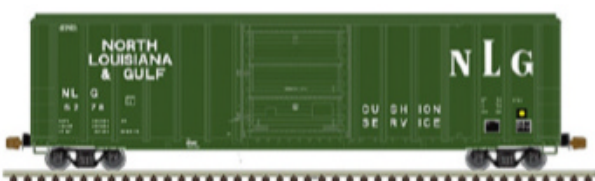
Odds are good that if you called MR during those years, you spoke with Barb. She handled a wide variety of tasks for the magazine, including looking up past articles for readers, handling correspondence, and leading tours for visitors.

Barb also rolled up her sleeves and built some Rix houses and contributed scenery to the Alkali Central, our HO scale project layout featured in the December 1995 and January 1996 issues.

HO scale freight cars



- **Assorted freight cars.** Kansas City Southern Pullman-Standard 4,750-cubic-foot-capacity three-bay covered hopper, \$20.98. Ann Arbor 36-foot double-sheathed boxcar with wood ends and fish-belly underframe, \$18.98. Georgia Ry. 36-foot Fowler boxcar, \$18.98. Pacific Fruit Express 40-foot steel refrigerator car (single car, \$19.98; three-pack, \$58.98). Western Maryland 50-foot double-door riveted-side boxcar (Fast Freight Line herald), \$18.98. Injection-molded plastic kits with plastic wheelsets and Accumate couplers. Accurail, 630-365-1173, www.accurail.com



- **FMC 5,347-cubic-foot-capacity boxcar.** New paint schemes: North Louisiana & Gulf (dark green), CAI Rail (mineral red with Saratoga & North

N scale



General Electric ES44AC diesel locomotive. Kato will be offering this modern road unit lettered for BNSF Ry., Canadian Pacific, and Union Pacific in two new numbers per scheme. The N scale model, scheduled for release in mid-2019, will have a five-pole motor; illuminated headlights, ditch lights, and number boxes; and Kato couplers. Direct-current models will sell for \$120. Models with a pre-installed TCS K1D4 drop-in decoder will be priced at \$170. Kato USA Inc., 847-781-9500, www.katousa.com

Creek reporting marks), CSX (dark blue), East Camden & Highland (orange and white), Kansas City Southern (mineral red with reporting marks only), and Rock Island (blue with "Route Rock" slogan). Three road numbers per scheme; also available undecorated. Wire grab irons, etched-metal parts, and X-panel

roof. \$42.95 (undecorated, \$34.95). Master Line. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com

- **Assorted Pullman-Standard boxcars.** Central of Georgia 40-foot PS-1 and Delaware & Hudson 50-foot PS-1. Both models feature plastic body with positionable doors, scale couplers,

Showcase



1 Gunderson 60-foot double-door boxcar.

Athearn has released this Ready-to-Roll car in six paint schemes, including Canadian Pacific. The HO scale model (\$39.98) has etched-metal crossover platforms and factory-installed and painted wire grab irons. Athearn Trains, www.athearn.com

2 50-foot boxcar. Northern Pacific's colorful "Share in Freedom" paint scheme is offered in two road numbers on this Atlas Trainman car.

The N scale boxcar (\$24.95) has a diagonal-panel roof and 50-ton solid-bearing trucks. Atlas Model Railroad Co., www.atlasrr.com

3 Static King. This static grass applicator (\$99.99) includes divided, large, and small sieves; a hopper divider; a ground wire with alligator clip; a thatch comb; an anchor; and a screw-driver. Woodland Scenics, www.woodlandscenics.com

4 Electro-Motive Division F7A and F7B diesel locomotives. Northern Pacific is one of five paint schemes offered on these Walther's Mainline HO scale models. The models have an injection-molded plastic body, wire grab irons, and Proto-Max couplers. Direct-current models are priced at \$129.98 (A unit) and \$249.98 (A-B

set). Versions with a dual-mode ESU sound decoder are \$199.98 (A unit) and \$369.98. Wm. K. Walther's Inc., www.walthers.com

5 Electro-Motive Division SD40-2. Broadway Limited Imports offers this N scale road unit lettered for Union Pacific and seven other roads. The model (\$249.99) has a dual-mode Paragon3 sound decoder and Rolling Thunder. Broadway Limited Imports, www.broadway-limited.com

and two-piece self-centering trucks. \$39.95 each. Kadee Quality Products Co., 541-826-3883, www.kadee.com



• General Steel Castings 60-foot flatcar. Wabash (1956 original brown, four new road numbers); Atchison, Topeka & Santa Fe (1956 original brown, four new numbers); Northern Pacific (1962 original black, three numbers); Burlington Northern (1989 with crooked lettering, one number); Missouri Pacific (maintenance-of-way post-2005 eagle in three numbers, MOW pre-2005 in four new numbers, and MOW post-2005 in four new numbers); and Norfolk & Western (1971 stacked lettering, two numbers). Prototype-specific details, wire grab irons and uncoupling levers, metal wheelsets, and Kadee scale couplers. \$38.95. Tangent Scale Models, 828-279-6106, www.tangentscalemodels.com

• American Car & Foundry 50-foot exterior-post boxcar. Boston & Maine, Burlington Northern, CSX, National Railways of Mexico, and Railbox (small

and large heralds). Four road numbers per scheme. Injection-molded plastic model with 33" turned-metal wheelsets and Proto-Max metal couplers. \$27.98. August 2019. Walther's Mainline. Wm. K. Walther's Inc., 414-527-0770, www.walthers.com

HO scale passenger cars



• Union Pacific Heritage Fleet cars. Baggage car UPP no. 5769 (American flag scheme with full-color Presidential Seal decal), \$89.98; 48-seat diner UPP no. 302 (Overland), \$84.98; dome diner UPP no. 8008 (City of Portland), \$94.98; and dome lounges UPP no. 9009 (City of San Francisco), UPP no. 9004 (Harriman), and UPP no. 9005 (Walter Dean), \$94.98 each. All models based on 85-foot American Car & Foundry prototypes. Factory-installed grab irons, metal wheels, Proto-Max couplers, and tinted

window glazing as appropriate. October 2019. Walther's Proto. Wm. K. Walther's Inc., 414-527-0770, www.walthers.com

HO scale structures



• Grinding mill. Laser-cut cardboard kit with laser-engraved detail. Includes adhesive. Measures 3.94" x 2.36" x 2.36" (without water supply). \$45.46. Price may vary based on exchange rate. Noch, www.noch.com

• Modern yard office. Injection-molded plastic kit with separate doors and windows, air conditioner, electric box, smokejack, and decorative panels. Measures 3" x 2 3/8" x 1 5/16". \$24.98. Cornerstone Series. Wm. K. Walther's Inc., 414-527-0770, www.walthers.com

Club offerings



- **Illinois Central 50-foot double-door boxcar.** Accurail HO scale kit custom decorated for the South Central Wisconsin Division of the National Model Railroad Association. Two road numbers. Single car, \$30; two-pack, \$58 (Priority Mail shipping included). Checks payable to SCWD Car. Ken Hojnacki, SCWD Car Project, 4213 Brown Lane, Madison, WI 53704-1181

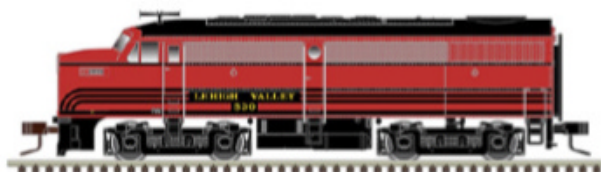
HO scale details and accessories

- **Ford F-850 fire truck.** Boston; Chicago; County Fire Dept. (pink); Detroit; Orchardville, Ill.; San Francisco; Washington, D.C. Also available painted red or white but unlettered. Cab interior with separate steering wheel, clear window glazing, and vinyl tires. \$24.98. November 2019. Athearn Trains, 800-338-4639, www.athearn.com



- **Wrought iron fence kit.** Injection-molded plastic. Includes 10 fence sections, matching gate, and cut stone supports. Includes choice of small, medium, and large nonworking lamps (12 of each style included). Includes enough material to build 25½" of fence. \$11.98. Cornerstone Series. Wm. K. Walther's Inc., 414-527-0770, www.walthers.com

N scale locomotives



- **Alco FA-1 and FB-1 diesel locomotives.** Lehigh Valley; Erie-Lackawanna (black-and-yellow scheme); Gulf, Mobile & Ohio (maroon, red, and silver scheme); Lehigh & New England (black-and-white scheme); New York Central (black-and-gray lightning stripe scheme); and

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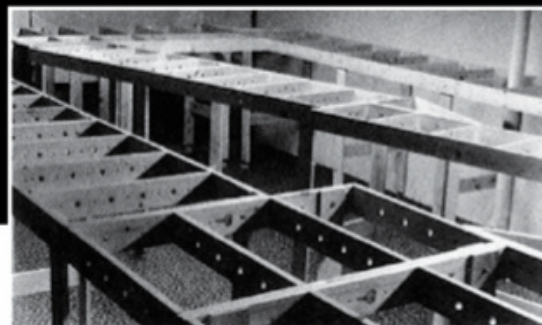
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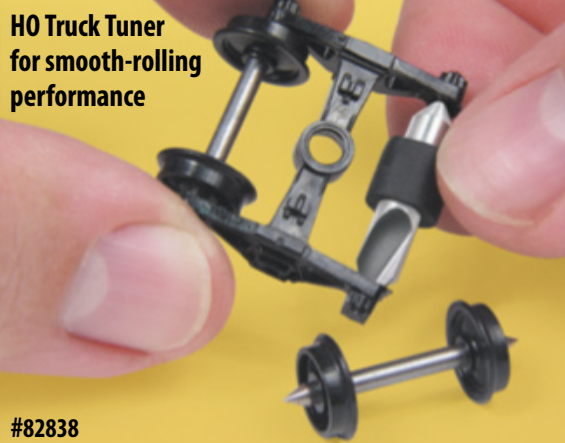
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N scale



45-foot intermodal containers. These Atlas models are decorated for Maersk, Matson, Sea Castle, and Triton. The injection-molded plastic N scale containers are offered in two three-packs per scheme. They have a manufacturer's suggested retail price of **\$36.95**. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com

Pennsylvania RR (Brunswick Green and Dulux Gold). Three road numbers per paint scheme; both body styles also available undecorated. Injection-molded plastic body, die-cast metal chassis, and light-emitting-diode headlight in FA-1. Direct-current model with speaker, \$109.95; with ESU LokSound, \$219.95. Master Line. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com



• **Electro-Motive Division SD70ACe diesel locomotives.** Union Pacific re-issues: George Bush 41 Presidential Library and Museum and "The Spirit of the Union Pacific." One number each. Prototype-specific body style; five-pole motor with dual brass flywheels; and illuminated ditch lights, headlights, and number boxes. Direct-current model, \$138; with pre-installed Train Control Systems Digital Command Control (DCC) motor decoder, \$188; and with ESU LokSound DCC, \$330. July 2019. Kato USA Inc., 847-781-9500, www.katousa.com

• **Electro-Motive Division SW1500 diesel locomotive.** St. Louis-San Francisco (Frisco). Mandarin Orange-and-white scheme. Two road numbers. Direct-current model; accepts Train Control Systems MT 1500 and Digitrax DN-126M2 Digital Command Control motor decoders, sold separately. \$194.95. Micro-Trains Line Co., 541-535-1755, www.micro-trains.com

N scale freight cars

• **65'-6" mill gondola.** Burlington Northern (Cascade Green); Delaware & Hudson (red); Elgin, Joliet & Eastern (black); Northern Pacific (black); Western Maryland (speed lettering); and Western Pacific (black). Three road numbers per scheme. Screw-mounted Bettendorf trucks, die-cast metal body and underframe, and body-mounted McHenry couplers. \$24.98. November 2019. AthearnN. Athearn Trains, 800-338-4639, www.athearn.com



• **Evans 48-foot coil steel car.** Burlington Northern (Cascade Green), BNSF Ry. (mineral red with circle-cross herald); Conrail (brown); Chicago South Shore (brown body with orange hoods); CSX ("SteelPro" slogan on hoods and blue-and-yellow scheme with New York Central reporting marks); Union Pacific (gray with Chicago & North Western marks); and WCTU Ry. (Pittsburgh & Lake Erie patchout). Model based on 1967 prototype. Die-cast metal body, two removable rounded hoods, and trough floor. \$32.95. Second quarter 2019. Master Line. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com

• **Old West rolling stock.** Models based on prototypes from 1849 to 1900, including boxcar, coal car, cupola caboose, Densmore oil tank car, flatcar, flat-top caboose, passenger coach, steerage passenger car, and stockcar. 3-D printed models offered in five price

points: Unpainted, hand-painted and weathered, without trucks and couplers, with Atlas trucks and Rapido couplers, and with Micro-Trains trucks and Magne-Matic couplers. Prices range from \$14.95 to \$49.95 depending on model and features. Old West Scenery, 817-301-8786, www.oldwestscenery.com

• **60-foot center-beam bulkhead flat-car with "opera window" partition.** Union Pacific. Injection-molded plastic model with die-cast metal underframe, plastic wheelsets, and Magne-Matic couplers. Four-pack, \$114.95. Micro-Trains Line Co., 541-535-1755, www.micro-trains.com

N scale passenger equipment

• **12-section, 1-drawing-room heavy-weight sleeper.** New paint schemes: Northern Pacific (two-tone green, \$34.90) and Southern Ry. (Pullman Green with gold lettering, \$29.95). Injection-molded plastic model with interior, clear window glazing, plastic wheelsets, and Magne-Matic couplers. Micro-Trains Line Co., 541-535-1755, www.micro-trains.com

N scale structures



• **La Maison à Gaston.** Laser-cut cardboard kit. Measures 2.16" x 2.16" x 2.36". \$43.20. Exchange rate may cause price to vary. Minifer, www.minifer.fr/en

N scale details and accessories

• **40-foot high-cube corrugated-side intermodal container.** Gateway Management Services, GE Seaco, Maersk, and Zim Integrated Shipping Services Ltd. Injection-molded plastic with prototype-specific doors and magnetic connecting system (three magnets on bottom and metal plate on top). Two-pack, \$29.95. Jacksonville Terminal Co., 904-253-3430, www.jtcmmodeltrains.com



Windmill. Woodland Scenics sells this rural structure in two styles (\$54.99 each). The new windmill features a shiny metal turbine, a tall wood tower, a ladder, a round stock tank, and a hay rack. The old version has a rusty and broken turbine, two oblong stock tanks, a hand pump, and a trough. Woodland Scenics, 573-346-5555, www.woodlandscenics.com

- **53-foot corrugated-side intermodal container.** Canadian Pacific (red with large "CP" on side). Two container numbers. Injection-molded plastic model. \$16.95. Micro-Trains Line Co., 541-535-1755, www.micro-trains.com

O scale freight cars



- **American Car & Foundry 50'-6" boxcar.** New paint schemes: Montana Rail Link (dark blue with Washington Companies herald), BNSF Ry. (mineral red with green door and circle-cross herald), and Railbox (yellow with TTX and Railbox logos). New road numbers: CSX (dark blue) and Pan Am (two-tone blue with Maine Central reporting marks). Re-issue: Norfolk Southern (first responders training car). Two numbers per scheme unless noted; also available undecorated. Die-cast metal trucks with rotating bearing caps, die-cast metal couplers, and diagonal-panel roof. \$59.95 (undecorated, \$57.95). Trainman line. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com

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HO scale



National Steel Car 4,550-cubic-foot-capacity four-bay cylindrical covered hopper.

This Walther's Mainline freight car is offered with round hatch covers lettered for Potash Corp. of Saskatchewan and Canadian National and with trough hatch covers decorated for Canadian Pacific, Chicago & North Western, and Canadian Wheat Board (silver and yellow with CNWX reporting marks and red with billboard "Canada" lettering and CNWX or CPWX marks). The HO model (\$29.98) is offered in four road numbers per scheme and has see-through plastic running boards and Proto-Max metal couplers. Wm. K. Walther's Inc., 414-527-0770, www.walthers.com

Z scale locomotives

- **Electro-Motive Division SD40-2 diesel locomotive.** New paint scheme: Atchison, Topeka & Santa Fe (blue-and-yellow warbonnet). Two road numbers. Direct-current model with Magne-Matic couplers. \$225.95. Micro-Trains Line Co., 541-535-1755, www.micro-trains.com

Z scale freight cars



- **1937 Association of American Railroads 40-foot boxcar.** New paint scheme: Atchison, Topeka & Santa Fe. Seven road numbers (single car, two-pack, and four-pack). Murphy raised-panel roof, prototype-specific doors, metal wheels, AutoLatch couplers, and 4-5 Dreadnaught ends. American Z Line, 614-764-1703, www.americanzline.com
- **Assorted freight cars.** Chicago & North Western 40-foot stockcar (green-and-yellow scheme, two road numbers), \$27.60; Heinz 40-foot double-sheathed refrigerator car (brown-and-yellow scheme with archbar trucks), \$29.95;

Oppenheimer Casing Co. 40-foot double-sheathed refrigerator car (brown-and-green scheme, two road numbers), \$26.95. Models feature plastic wheelsets and Magne-Matic couplers. Micro-Trains Line Co., 541-535-1755, www.micro-trains.com

Weathering supplies



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Scenery



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Electronics/controls



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Decals

- **Assorted decals.** Union Pacific "Spirit of the Union Pacific" SD70AH no. 1943 diesel locomotive, Norfolk Southern assorted freight cars (post-1982 company with black and white heralds), anti-glare panels (dark blue and black), Delaware & Hudson hood diesels (blue-and-yellow scheme), and Union Pacific 1996 Olympic Torch Relay cars. Waterslide decals. N scale, \$6.75; HO scale, \$8.25. Microscale Industries, 714-593-1422, www.microscale.com 



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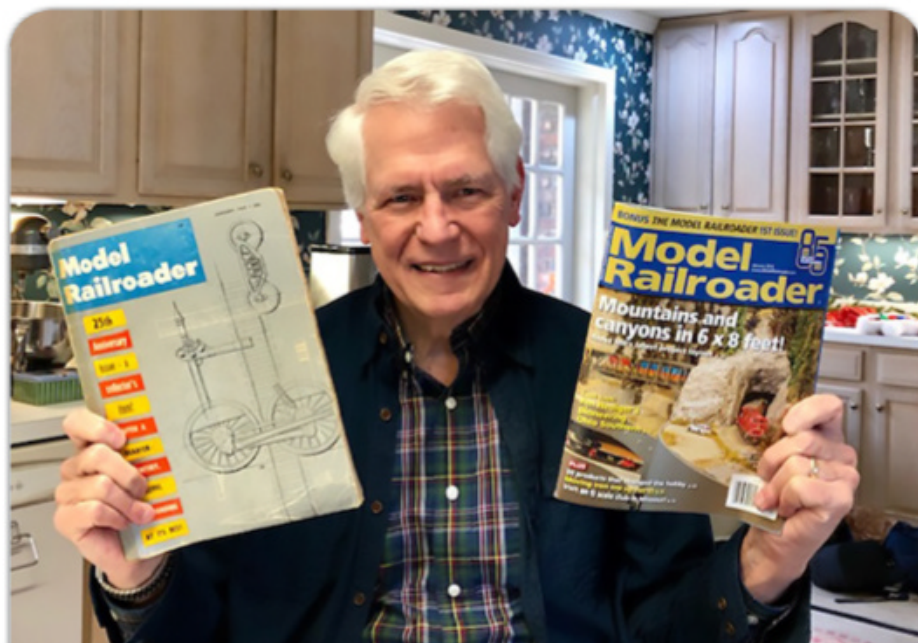


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Reader Tom Tyndall holds his first copy of *Model Railroader*, the January 1959 25th anniversary issue, left, along with the January 2019 85th anniversary issue.

Reading MR for 60 years

My very first issue of *Model Railroader* was the January 1959 25th anniversary issue, which my late dad, Kermit Tyndall, bought for me at Duval Hobby Shop in Jacksonville, Fla., when I was 13. Through most of those 60 years, except for college, I've maintained my subscription to MR and, yes, watched the hobby grow, change, and become even better as we moved from largely building everything yourself and hoping it runs to learning to truly operate a near prototype-looking-and-sounding miniature railroad.

I look forward to the future of the hobby, and I hope you can occasionally run brief biographies on some of the hobby's pioneers. The history of this hobby, to me at least, is wild, woolly, and fascinating.

Yes, at times I miss the reviews of old LaBelle, Ambroid, and Silver Streak kits, but I also enjoy and marvel at the level of detail now possible thanks in part to 3-D printers, specialty parts shops and interest groups.

Thanks again for being durable hobby leaders. Stay on track, and my heartiest best wishes on MR's 85 years.

*Tom Tyndall
Brentwood, Tenn.*

20 innovations

Of course you're going to get arguments about what is and isn't on your list of innovations ["20 innovations that changed the hobby" by Steven Otte, January].

May I suggest adding the X-acto knife and, at minimum, its No. 11 blade? Though I keep a supply of single-edge razor blades on my workbench, I wouldn't be without several X-acto handles fitted with a variety of blades for building projects.

*Harry Meem
Richmond, Va.*

For me, a real step forward in my modeling came years ago, when I received a motor tool as a Christmas gift. Tasks I'd been doing with hand tools became not only much faster, but much more precise than when using needle files, saber saws, etc. Among the many uses are cutting gaps in rails, custom building turnouts, and reaming holes.

*Jim Rule
via email*

I'd say *Model Railroader* certainly has changed the hobby and could be included in this list. You allow readers to visit layouts in different areas without the expense of traveling. You show how to construct layouts, tell what mistakes to avoid, and showcase new products. You also give us the opportunity to dream of – and construct – our own train empires.

*Steve Whines
Brantford, Ont.*

Your roundup provides a satisfying summary of how much model railroading has achieved in 85 years. However, I suggest we drop the term "dead rail" in favor of "power on board," which is much more accurate.

Propulsion systems using batteries in locomotives may still use power on the rails for recharging, programming, block occupancy detection, or other purposes. While the rails may be dead, they are not necessarily so. "Power on board" also encompasses live steam, and is favored by the National Model Railroad Association in its educational programs.

*Christopher J. Palermo
San Carlos, Calif.*

Jim Hediger's Ohio Southern

Jim Hediger offered us a last look at his layout before it was taken down ["Last ride on the Ohio Southern," January]. This brought back memories of a trip to Jim's home in the mid-'90s for an operating session. Four of us drove from Michigan to Wisconsin to railfan and see Jim's layout.

One of the group, Tom Lenzion, had monthly op sessions in Dearborn, Mich., and up to 20 people would come to be on crews for his Dubuque, Platteville & Milwaukee, the pioneering operation layout in the area. Many came and drank from this well of ideas and friendship.

I hope Jim knows that when he comes back to Michigan, he is always welcome to run the Ohio Southern as it lives on in my Michigan Southern Ry.

*Norman A. Logan
Northville, Mich.*

As a long-time reader, I remember reading Jim's articles starting in the 1970s. In the '80s, I made a side trip to the Milwaukee area when visiting the Experimental Aircraft Association fly-in in Oshkosh, Wis. Jim took me on a tour of the MR offices, and I thoroughly enjoyed it. I had no idea how much hard work goes into producing such a fine magazine!

*Ken Bolt
Marietta, Ga.*

Comments, suggestions, and additional information on *Model Railroader* articles and departments are welcome in this column. Every comment will be read, but not all can be printed or answered. Make your statement in 300 words or less, and send it to **Railway Post Office, Model Railroader magazine, P.O. Box 1612, Waukesha, WI 53187**, or e-mail rpo@mrmag.com. Please include your name, city, and state.

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Clinchfield RR no. 800 leads an excursion train through Marion, N.C., in September 1974. The white flags on the cab of the Electro-Motive Division FP7 mark the train as an extra, meaning any superiority the train has over others on the railroad had to be assigned by the dispatcher. Ron Flanary photo

Are excursion trains considered first class?

Q Are excursions still considered first-class trains like standard passenger trains? I run many excursion trains on my layout, and was wondering where they would fall in the roster. Do they have the same status as a passenger train, or are they of a lower or higher priority? Would standard through freights be of a higher class than excursions?

Ethan Bernstein, Ellicott City, Md.

A Excursion trains are generally not regularly scheduled, and therefore run as extras. Extras are inferior to all scheduled trains unless superiority is conferred by the dispatcher in a train order.

A basic extra would be created with a train order reading something like "ENG 227 RUN PSGR EXTRA WENSLEYDALE TO CHESHIRE". This is all that's necessary to create the train, but doesn't assign it superiority over any other train. Therefore, it's the excursion train crew's job to get out of the way of any scheduled train five minutes before its scheduled arrival.

Since the extra created by the previous train order doesn't have a schedule, the crew of no other train could know when and where it could expect to meet it. However, the dispatcher can assign the extra superiority rights vs. other scheduled trains by creating an ad hoc schedule for it in the train order creating the extra. "ENG 227 RUN PSGR EXTRA LEAVING WENSLEYDALE ON [DATE] AS FOLLOWS WITH RIGHT OVER ALL EASTBOUND TRAINS LEAVE WENSLEYDALE 1030 AM CAMEMBERT 1120 AM STILTON 1200 PM SWISS JCT 1225 PM ARRIVE CHESHIRE 1245 PM". All opposing trains would also receive this train order, letting them know when and where they need to get out of the extra's way. This kind of order is necessary if an extra is to be granted superiority over other trains.

Meets can also be specifically arranged by train order: "EXTRA 227 WEST TAKE SIDING MEET NO 6 ENG 1144 AT STILTON" tells the crew of the extra to be in the siding at Stilton five minutes before No. 6's scheduled arrival time at that station. Though this order is directed to the crew of Extra 227 West, the crew of No. 6 receives it also, so if the extra is delayed and No. 6 reaches Stilton first, they know to hold the main there and wait for the extra, rather than proceeding under the expectation the extra would get out of its way.

For more on extras, see Andy Sperandio's column "Extra train questions and answers" in the March 2015 issue.

Sorry for the cheesy examples.

Q Twenty years ago I had an HO layout and had to move to another location. I packed everything up and stored it away. Now I have a good location and want to return to HO railroading. My question is, will 20- to 40-year-old rolling stock be compatible with the new equipment that is now available? What problems could pop up, and how should I address them?

Lowell Prise, Tomah, Wis.

A Yes, you might have some problems with your older equipment – due to both compatibility issues and problems with the equipment itself.

Let's deal with the latter issue first. Locomotives that have been in storage for 20 years might be reluctant to run due to such factors as solidified gear grease, corrosion on electrical pickups and motor windings, deteriorated motor brushes, broken wires, cracked gears, metal seizing, and a host of other possibilities. Open up each locomotive and give it a thorough inspection, checking everything mechanical, cleaning out accumulated dirt and old lubricants, and adding light lubrication to the gears, axles, and bearings. Then clean the wheels thoroughly with alcohol and cotton swabs and put the engine on a powered track to see how it responds.

You may find it still doesn't respond all that well. Older locomotives were often equipped with open-frame motors. In addition to their tendency to get clogged with dust, these motors also draw more current than today's can motors. If you intend to run several of these locomotives in a consist, you might find your power pack struggling to keep up. Corroded windings and armatures will only compound this. Re-motoring your engines is an extreme, but possibly necessary, solution.

Next, check your cars' wheelsets to make sure they're free-rolling. Time-warped truck sideframes and corroded metal axle bearings can result in sticky wheels. Replace any troublesome wheelsets or trucks. Use a screwdriver to adjust the tightness of the truck kingpins. One truck on each car should be tight enough to pivot smoothly side-to-side, but not wobble; the other truck should have some slight play in it, in order to more easily traverse uneven trackwork.

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

Next, get out your National Model Railroad Association (NMRA) standards gauge and check the wheels. You should be not only making sure the wheelsets are in gauge, but also checking the flange depth. Older rolling stock might have what we derisively call “pizza cutter” wheels, due to their deep flanges. They may have helped keep underweight rolling stock on the rails, but they often bump across the spike heads, frogs, and flangeways of the lower-profile code 83 and code 70 track that’s popular today. Replace any wheels that don’t meet NMRA standards with insulated metal wheelsets that do.

Now, on to the couplers. Your cars and engines might still have horn-hook couplers, one-piece plastic items that don’t work with today’s magnetic knuckle couplers. You could stick with horn-hooks if you don’t want to go to the trouble of replacing them all, but trust me, you’ll be much happier with knuckle couplers’ performance. Whether you go with Kadee, McHenry, Accumate, Proto-Max, E-Z Mate, or some other, equip all

your rolling stock with just one brand of magnetic knuckle coupler to ensure smooth operation. Check your new couplers against a height gauge to make sure they’ll all match up correctly.

Finally, compare your cars’ weight to NMRA Recommended Practice (RP) 20.1. Cars that are too light tend to derail more easily; excessively heavy ones are a drag on your locomotives. Use commercially available car weights to bring them up to snuff.

Good luck on reviving your railroad!

Q On a real railroad, would buildings on railroad property have non-railroad advertisements on their walls?

William Sharp, Prairie City, Iowa

A A passenger station definitely would, as waiting travelers present a captive audience attractive to advertisers. In addition to ads for the railroad itself (advertising its crack passenger trains as well as popular vacation destinations served by the railroad), you would see ads for attractions in town (like theaters

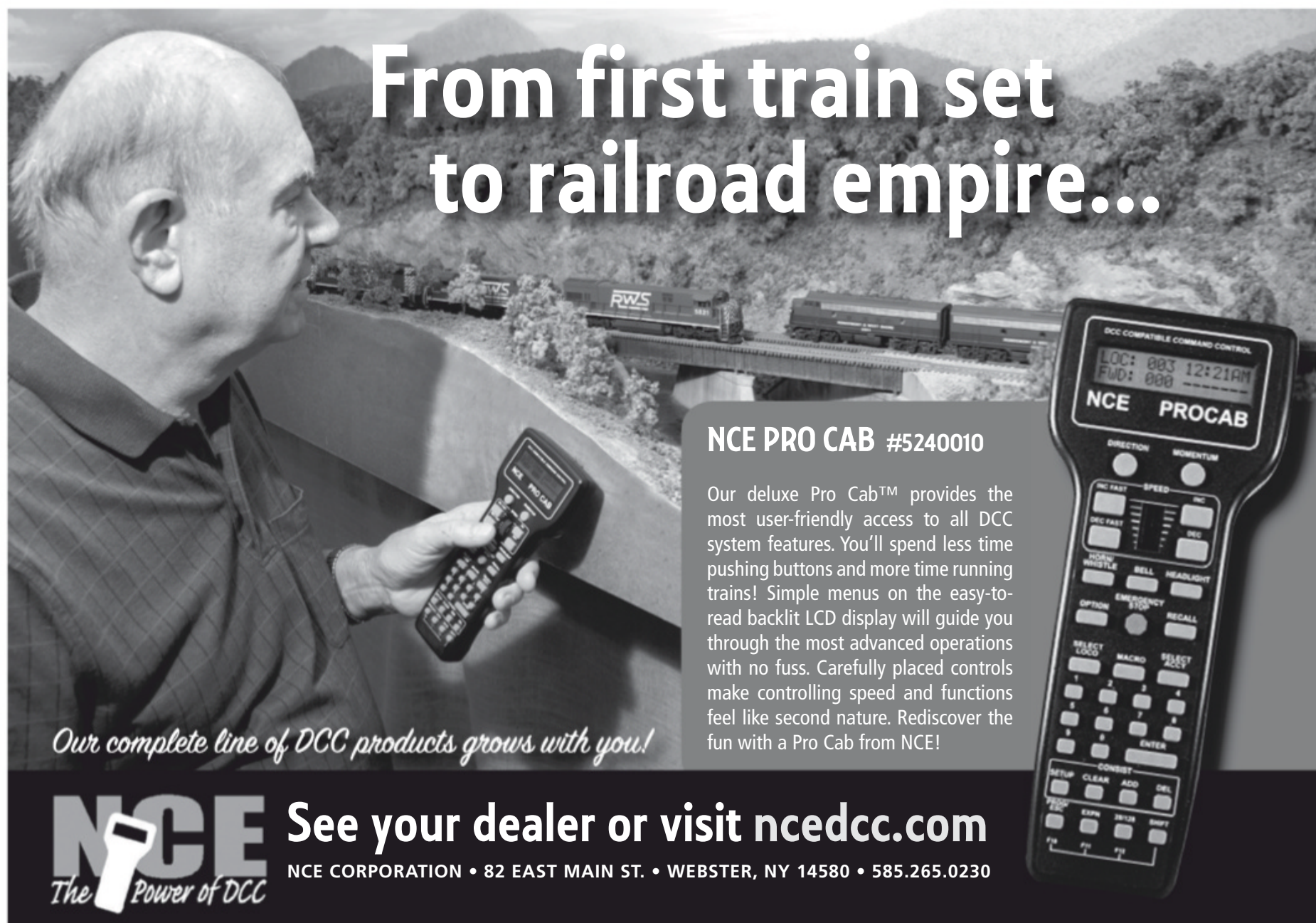
and restaurants) targeted at arriving travelers. Other railroad structures wouldn’t be good places for billboards, as they would primarily be seen only by railroad workers.

Q I’m scratchbuilding an HO scale concrete plant based on a May 1998 *Model Railroader* article. I have one pack of Grandt Line nut-bolt-washer castings (part no. 5066). I can’t locate this item in the latest Walthers catalog. Is there another company that makes an equivalent part?

Welby Lockley, Dallas

A As you might have heard since writing your letter, Grandt Line has merged into another company. San Juan Model Co. (www.sanjuanmodelco.com) says it plans to offer the former Grandt Line products, but as of this writing hasn’t rolled out the new products yet. In the meantime, you can find similar nut-bolt-washer castings from Tichy Train Group in hobby stores and on the Walthers website. Try part no. 8016.

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Ronald Weiss' mystery covered wagon appears to be an Electro-Motive Division F3a. Ronald Weiss photo

Q I have a Santa Fe Warbonnet engine that I haven't been able to identify. It has four exhaust fans on top, a single headlight, three portholes on each side, three larger screens toward the front, and a smaller screen near the rear. The number boards face to the side, unlike those on the F9A model, and it has only one horn. It also has two screens on the

roof, forward of the exhaust fans.
What is it?

Ronald Weiss, Camarillo, Calif.

A That looks like a Phase I Electro-Motive Division F3A, built between mid-1945 and mid-1947. The screened openings on top ahead of the radiator fans indicate the locomotive is equipped with dynamic brakes. It also appears to have a steam generator for passenger service.

Q I noticed from the TV show *I Love Toy Trains* and toy train publications that variations in cars (such as different color, different lettering) seem to get a lot of attention, with some collectors stating that some variations are quite rare and possibly valuable. Is it the same with HO scale trains?

Dean Lynd, Feasterville, Pa.

A Not really, no. The toy train and scale model markets are quite different, as the emphasis in the scale modeling crowd is representing a prototype, rather than collecting and trading. Variations among

cars in HO scale (as well as other modeling scales) simply represent different cars, and rarity has more to do with sales demand than value. A car that was built by the thousands and owned by dozens of prototype railroads is more likely to be offered by a model railroad manufacturer than a car that's unique to a particular railroad, but that doesn't make it more or less valuable. In fact, things scale modelers do to their cars – weathering, changing numbers, adding details – make the models more unique, but ruin their value as collectibles.

Q Do you have to do anything to your breaker box before or after building your layout?

John Kelley, Dillsburg, Pa.

A Unless you're building a large layout, no. Model railroad systems draw little power. If you upgrade room lighting, though, that may draw more current. Look into fluorescents or light-emitting diode bulbs. Consult an electrician and follow local wiring codes. **MR**



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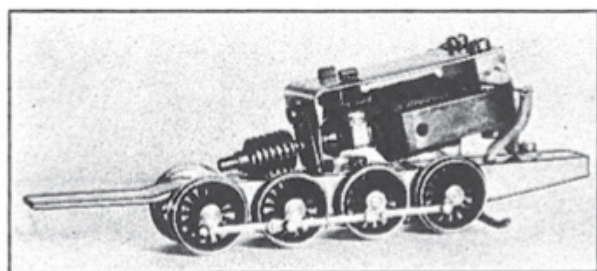
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AC, DC, or DCC?

Train models in the 1920s relied on alternating current (AC) for power, with tinsplate using inside third-rail and scale models operating on outside third-rail with outside pickup shoes. Large O scale layouts at the 1933-34 Chicago Century of Progress Exposition ran with it, and manufacturers closed a blind eye to steam locomotives with protruding outside-third-rail pickup shoes.



Even in HO scale, outside third rail was popular. In 1938, Mantua offered this 2-8-0 Consolidation mechanism in three-rail and two-rail versions. Note the pickup shoe behind the last driver.

In seeking more realistic operation, the National Model Railroad Association (NMRA) wisely established two-rail direct current (DC) in 1935 as the desired standard. However, AC manufacturing continued parallel with DC; some O scale makers, such as Ed Alexander, offered a choice of inside- or outside-third-rail AC, or extra-cost two-rail DC. Varney offered both options in HO scale in 1939; two-rail was \$3 higher. From Mantua in 1938, DC was a dollar more.

A 1930s catalog commentary by Ed Alexander stated AC three-rail was easier to wire, less complex than two-rail DC, and best if signaling was desired. Those in O held back from converting to two-rail DC, restrained by the Great Depression's daunting economics, which inhibited them from insulating locomotives, cars, trucks, and couplers, and rewiring and insulating track. Newcomers to two-rail DC had it easier – except for its wiring complexities.

Simpler three-rail AC had fewer shorts to worry about, and two-rail DC was as much a mystery for some to comprehend as computers were to a later generation. It was still being criticized two decades after it became the industry standard.

Pro-AC arguments persisted in a mid-1950s hobby book chapter about track-laying under the heading About Outside Third Rail:

“It seems to me that, in their laudable zeal for perfection, some good-intentioned folks have overlooked the physical laws and seek to regiment all thinking into one ideology. This is especially true of advocates of two-rail wiring, for no unbiased analysis of third-rail has been published since 1942.” Take that, NMRA! “Third rail has been damned by silence – intentionally damned. ... But two-rail is still complex for the non-technical man.”

Going on: “[T]hese non-technical model rails (that’s what we called ourselves yesteryear) cannot grasp or apply its wiring principles. They are stymied by crossings and crossovers, reversing loops and turning wyes and innumerable other situations.”

These issues needed to be resolved for a generation emerging from AC into a more complex DC era. And they are still complex today, as seen in *Model Railroader* in the February 2018 DCC Corner column explaining the options for wiring reverse loops, turntables, and wyes.

“They grow timid when shorts occur at engine trucks, cylinders, couplers, car trucks and burned-out wheel insulation because they cannot understand what causes them or how to cure them,” the book said. “And railroad signaling has become a lost art in two-rail.”

The book and author? *Frank Ellison on Model Railroads*, Fawcett Publications, 1954. His iconic 30 x 40-foot outside-third-rail Delta Lines was begun when AC was the norm.

That said, his layout was a groundbreaker. Ellison was the first master modeler and a forward thinker who



SIMPLER THREE-RAIL AC HAD FEWER SHORTS TO WORRY ABOUT, AND TWO-RAIL DC WAS AS MUCH A MYSTERY ... AS COMPUTERS TO A LATER GENERATION. – KEITH

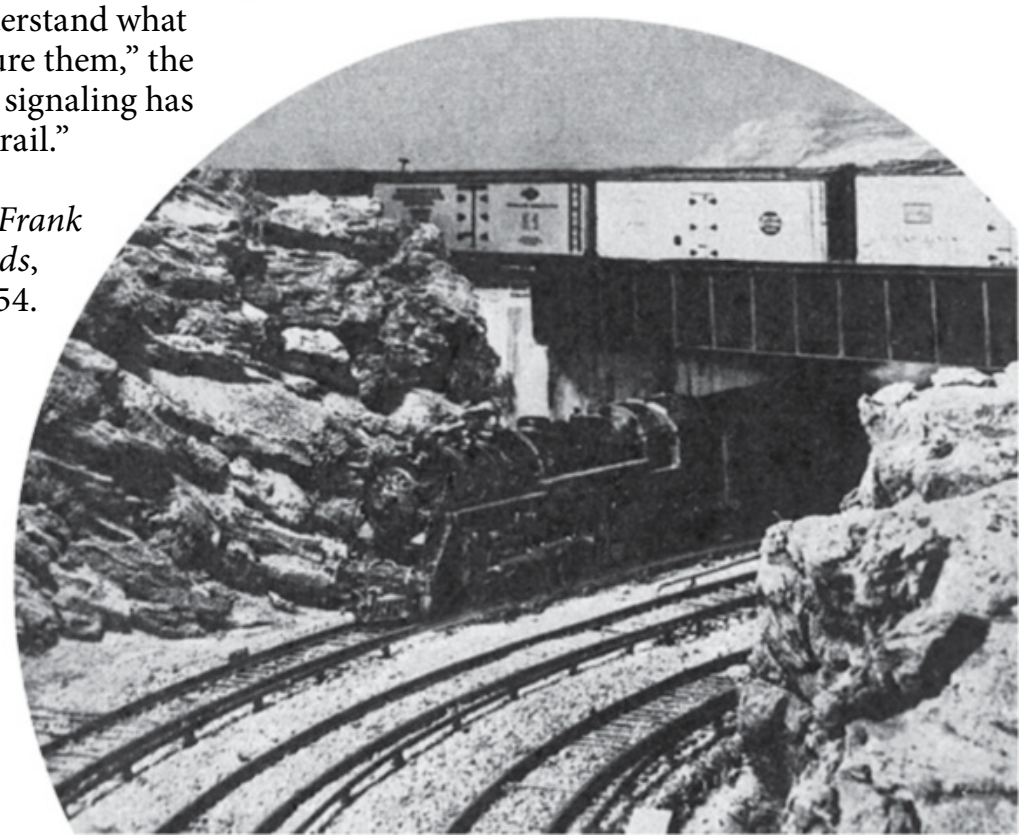
brought forth concepts of prototype train operations to a generation a few steps removed from tinsplate. His concepts of time scheduling, switching industries, and other ideas are taken for granted today. Ellison, who lived from 1887 to 1964, was that far advanced in thinking and planning for others to emulate.

His objection to DC is understandable, influenced by early 20th-century AC standards. 1960s to 1970s O scale catalogs still carried third-rail chairs, devices to hold the rail in place outside the running rails, and other

items supporting those who never converted. Today’s operators have basic DC or more incredibly complex Digital Command Control (DCC).

Each generation has technological advancements to consider. A small Montreal layout club to which I belonged in the 1980s ran 1950s to 1960s-era locomotives powered with series-wound motors. Would that club have welcomed DCC? I doubt it would any more than Ellison would have converted to DC. **MR**

Although the National Model Railroad Association had chosen two-rail direct-current for its electrical standards, modelers, including renowned O scaler Frank Ellison, continued to use outside-third-rail alternating current for their layouts.



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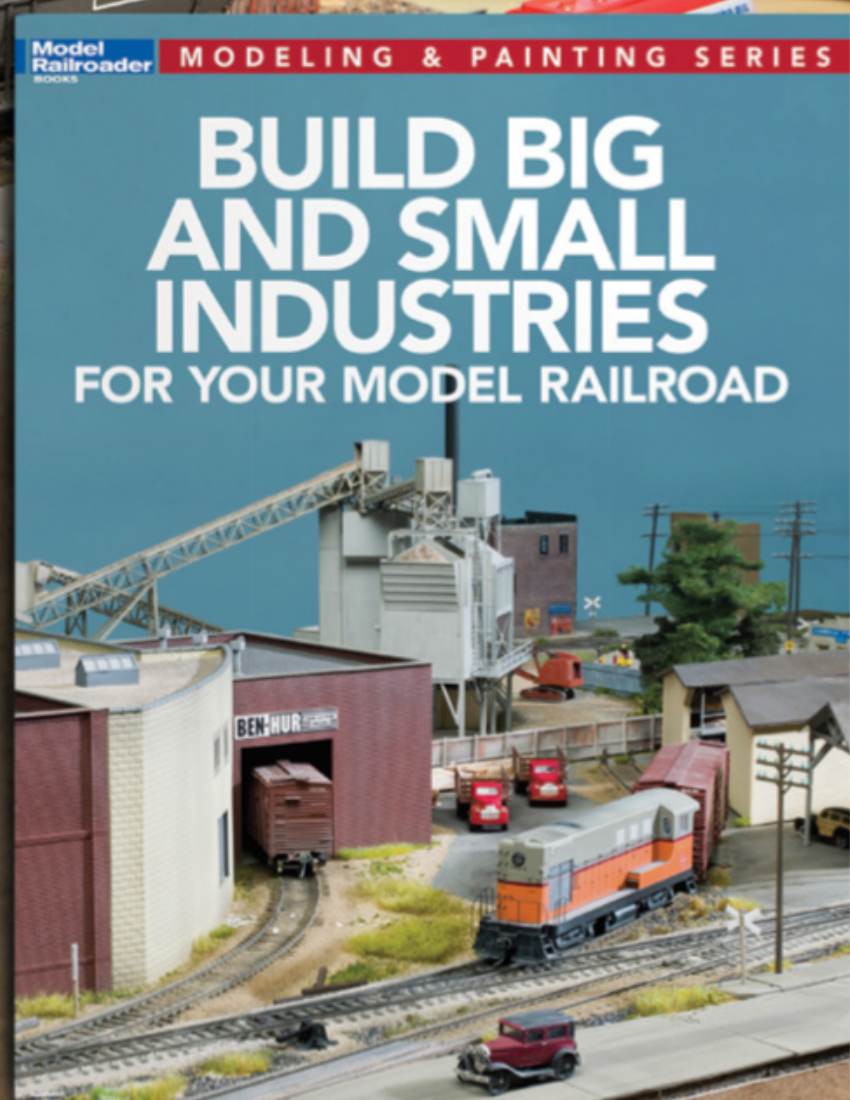
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How to upgrade utility poles

Utility poles are a common feature on model railroads. There have been several articles about detailing poles in the hobby press over the years, including a very good one by *Model Railroader* contributing editor Lou Sassi in his book *Basic Scenery for Model Railroaders, Second Edition* (Kalmbach Books, 2014). I used many of Lou's techniques on my HO scale poles, but felt something was missing: climbing irons.

Before starting the project, I photographed full-size utility poles in my area. I discovered many poles still feature

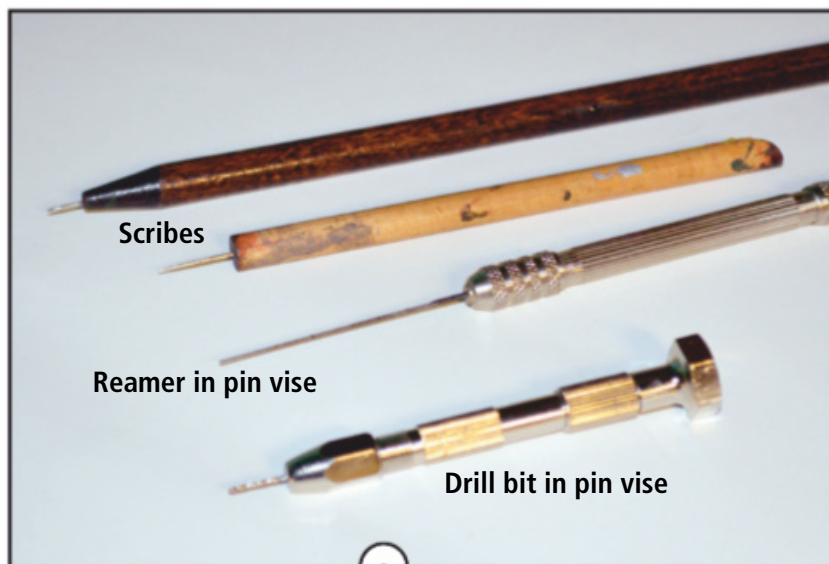
climbing irons. I also noticed some poles with ivy growing on them – a feature easy to add with glue and ground foam.

Though my climbing irons, fashioned from code 70 track spikes, are slightly oversized, my goal was to get visitors to focus on the utility poles, see the transformers, notice the power lines, and then notice the ladder rungs. In my eyes it worked. **MR**

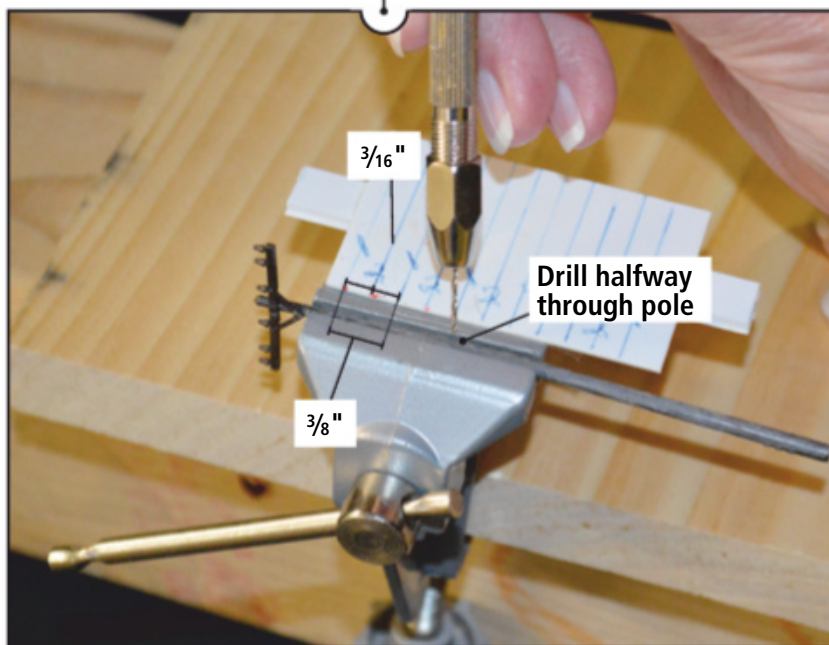
Joe Kurilec lives in Berea, Ohio, with his wife, Barb. He is a life member of the National Model Railroad Association.

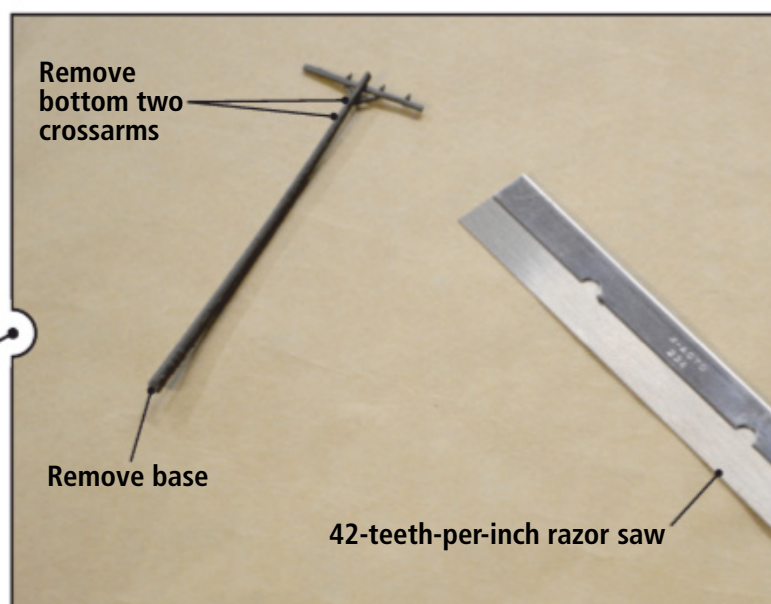
Drilling small holes in a round pole may sound difficult, but it isn't if you have the right tools. I made drill-starter points with scribes. These prevent the drill bit from wandering off course.

I drilled the holes with a bit in a pin vise. A reamer made it easy to slightly enlarge any holes as needed.



I made a drilling template to ensure the rungs were spaced evenly on each side of the pole. First, I drew lines $\frac{3}{8}$ " apart for one side of the pole (indicated with "1"). I then drew lines $\frac{3}{16}$ " between the $\frac{3}{8}$ " marks for the other side (indicated with "2"). I used a scribe to make drill-starter points, then opened the holes with a drill bit in a pin vise.

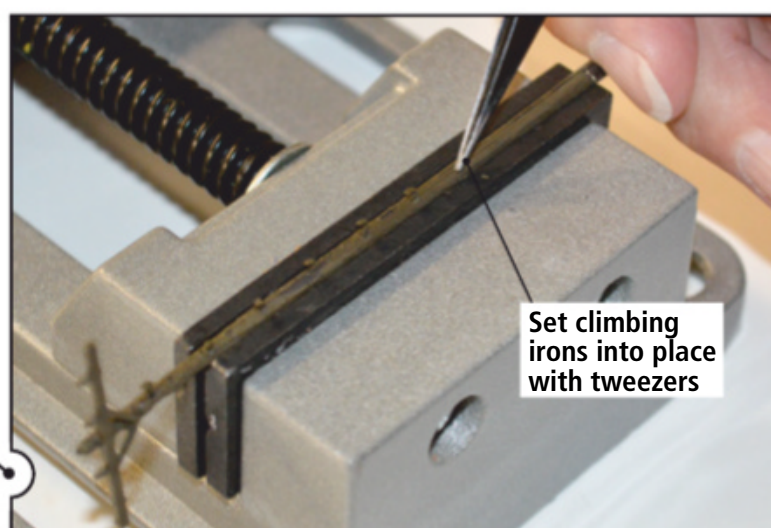




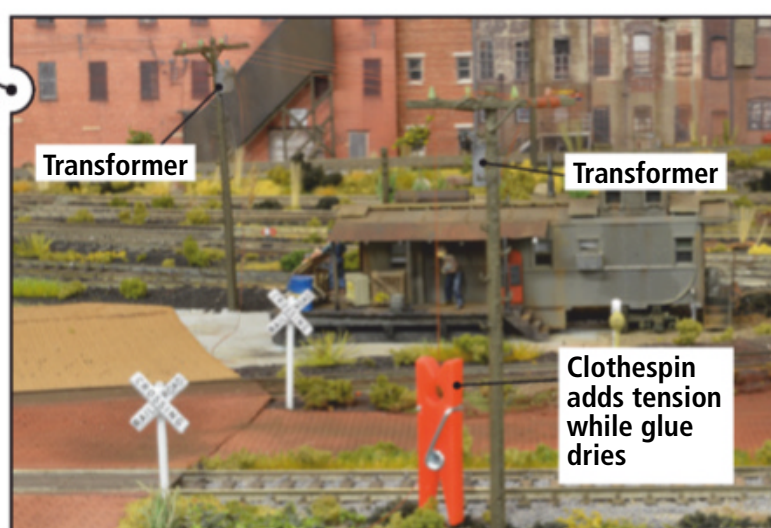
I used Atlas Model Railroad Co. injection-molded plastic telephone poles (no. 0775) as the starting point for this project. After removing the molded base and bottom two crossarms, I dragged a 42-teeth-per-inch razor saw down the pole to add woodgrain detail.



Any brand of code 70 track nails will work for the climbing irons. I held the nail by the head and trimmed the shank with rail cutters.



I test-fit the track nails, er, climbing irons to make sure they stood off the pole at the same distance. If an iron stood out too much, I'd trim a little more off the shank. I secured the climbing irons with cyanoacrylate adhesive.



I painted the poles Railroad Tie Brown and the insulators green. I added Showcase Miniatures transformers (no. 2315) or the supplied Atlas telephone boxes as appropriate.

Then I "wired" the poles with Berkshire Junction EZ Line, an elastic polymer thread. I secured the thread to the insulators with Micro-Mark Detail Tack. 

A small slice of the Big Apple

A British modeler checks a project off his to-do list with this 18 x 96-inch HO scale layout

By Raymond O'Neill • Photos by the author



1 A hot dog vendor serves a small group of hungry customers as an Erie RR Alco S-4 crawls across Rust Street. The scene takes place on Raymond O'Neill's HO scale 59th and Rust layout, which measures 18" x 96".

Since I first became interested in North American railroads in the early 1980s, building a U.S.-themed switching layout has been high on my priority list. One of my friends loaned me a diesel and a couple of boxcars to see if North American prototype modeling was really for me.

The Athearn "blue box" diesel featured all-wheel drive and electrical

pickup, and ran better than the British models I was used to. But it was the Kadee couplers that, most of the time, allowed for hands-free uncoupling. This convinced me to make the switch to American HO scale modeling.

Research and refreshments

After many hours sitting in pubs track planning and scribbling on beer



mats, a well-known pastime here in the United Kingdom, the idea for my 59th and Rust was born.

The layout's setting came about after studying maps of New York, New Jersey, and Long Island. I'd acquired a couple of Long Island Rail Road (LIRR) switchers to add impetus to the project.

The track plan, with some modeler's license thrown in, is based on a part of the LIRR's old Evergreen Branch that closed in the 1930s. The branch ran from Varick Avenue, where it connected with the Bushwick Branch, to Coppers



② New York, New Haven & Hartford Alco RS-1 no. 0664 arrives at the Rust Street Yard with a short local. Four-axle locomotives and short-wheelbase freight cars are the order of the day on this compact switching layout.

Avenue Junction, where it connected with the Bayridge Branch.

My plan assumes that the Evergreen Branch survived until the late 1970s. The area modeled is a small yard between Halsey Street and Decatur Street in Queens. For more information on LIRR, visit www.lirrhhistory.com.

The name 59th and Rust came from prototype maps. Following the LIRR right of way, I found an area called Maspeth, where 59th Street crossed the railroad and was intersected by Rust Street. I thought that 59th and Rust

would be an unusual layout name. I designed the name board, common on British exhibition layouts, to look like a New York street sign.

10 years, plenty of options

I set my layout from 1965 to 1975. Yes, a decade is a wide range to cover. But research revealed there were several railroads in the Queens borough during that time, including the LIRR; New York, New Haven & Hartford (NH); Pennsylvania RR (PRR); and Penn

Central (PC). I later added the New York Central (NYC), which I can run under the PC flag.

I could also move the setting for 59th and Rust across the Hudson River to New Jersey, where there are similar industrial districts. This would give me different railroad options, including the Central RR of New Jersey, Baltimore & Ohio, and Erie, among others.

Being a die-hard Alcophile, my locomotive fleet consists largely of Alco end-cab units and road switchers (S-1, RS-1, RS-3, and RS-11). Occasionally I'll



3 Raymond is a big fan of Alco locomotives, so it should be no surprise to find S-1 no. 415 switching boxcars at Goldberger Doll. The sound-equipped end-cab switcher is an Atlas model.

operate a Baldwin S-12 or Fairbanks-Morse H-10-44. All of the locomotives are equipped with sound decoders.

The rolling stock is a mix of Accurail, Athearn, Life-Like Proto 2000, and Walthers. All of the freight cars are weathered and have Kadee no. 5 or no. 148 couplers.

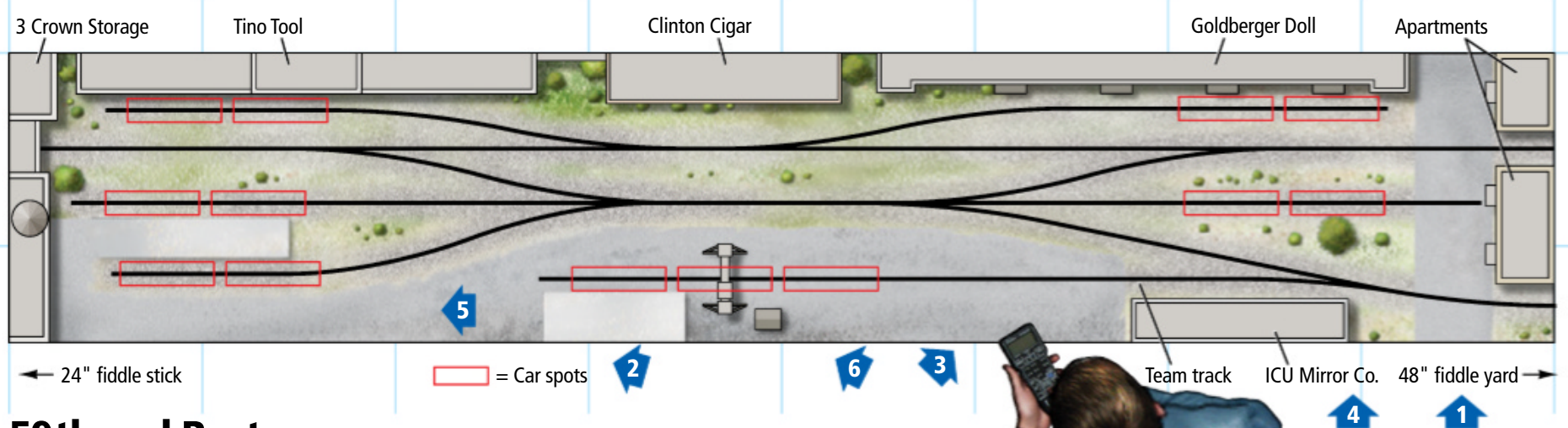
Track, benchwork, and wiring

The Peco code 100 track was left over from a failed attempt at getting back into British prototype modeling. Included in this collection of track was a pair of three-way switches.

I had no idea how popular 59th and Rust would become on the U.K. exhibition circuit. If I were to start again, I would probably use Peco code 70 or 83 track. However, the painted and weathered code 100 rail looks OK.



4 The throaty rumble of the 539 diesel engine under the hood of New Haven RS-1 no. 0664 has stirred the guard dog at ICU Mirror Co. However, it appears the dog is more concerned with what he sees in the mirror than the road switcher.



59th and Rust

HO scale (1:87.1)
Layout size: 18" x 96"
Scale of plan: 7/8" = 1'-0", 12" grid
Numbered arrows indicate photo locations
Illustration by Rick Johnson

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

The model railroad features three 18 x 48-inch sections, two scenicked and the third an off-stage fiddle yard. To the left of the layout is a 4 x 24-inch fiddle stick (switching lead) that gives me a little extra room while working the industries. I designed the layout to fit in the back of my station wagon.

The benchwork for each section consists of 1/2" x 3" lumber with a 1/4" plywood top. The two scenicked sections have an 1/8" plywood back, sides, and top with under-cabinet lighting.

The wiring is quite basic. Feeders attached to the rails are soldered to the two-wire bus. All of the Peco Electrofrog turnouts have Tam Valley Depot Hex Frog Juicers. I run trains with a Lenz 100 Digital Command Control system.

Structures with a side of makeup

I've used commercial structures for many years. But I wanted the buildings on this layout to be different than those found on other model railroads, so I tried my hand at scratchbuilding.

After hours of thinking of ideas and scribbling on paper, I came up with a few designs. The low-relief buildings are made of card and brick paper fixed to a 6mm square stripwood frame with three-dimensional details added.

I wanted the buildings to reinforce the layout's gritty, industrial setting. One of my main problems was getting weathering materials to stick to brick paper. Powders were OK, but they didn't have much impact. Then, while at a "pound" shop (like a dollar store) to get some glue, I spotted makeup in several different shades of brown.

The makeup stuck well to the brick paper because of its slightly more oily powder. When mixed with weathering powders, the makeup worked quite well.

The layout at a glance

Name: 59th and Rust
Scale: HO (1:87.1)
Size: 18 x 96 inches
Theme: freelanced urban switching
Locale: northeast New Jersey and New York
Era: 1965 to 1975
Style: Shelf
Mainline run: 14 feet
Minimum radius: 24"

Minimum turnout: no. 5
Maximum grade: none
Benchwork: open grid
Height: 54"
Roadbed: cork
Track: Peco code 100
Scenery: Woodland Scenics ground foam
Backdrop: 1/8" plywood
Control: Lenz 100 Digital Command Control



5 Well-detailed scenes, like the open dock at 3 Crown Storage, draw visitors into the layout. The structures are card and brick sheet attached to a wood frame with three-dimensional detail parts added.

Industrial scenery

Though 59th and Rust is an industrial area, there are patches of vegetation. The grassy areas are hanging basket liner attached with white glue. I covered the liner with assorted Woodland Scenics ground foam, secured with hairspray.

I modeled the roads to look like asphalt over cobblestones. To capture that look, I cut pieces of Wills plastic

cobblestone sheet into random shapes and attached them to the plywood with contact adhesive.

I filled in around the plastic cobblestone sheet with a mixture of Spackle, white glue, and gray water-based paint. Once that dried, I weathered the roads.

Then came the fun part, adding details to create a period-appropriate industrial feel. Old cardboard boxes, garbage cans, shopping carts, discarded



lumber and paper, and old cars can be found across the layout.

Small layout, big operations

Most U.K. exhibitions are two-day events, running from 10 a.m. to 5 p.m. Since 59th and Rust is a switching layout, I had to have some form of card system for operations. To me this is better than just exchanging one car for another.

Meet Raymond O'Neill

Raymond O'Neill was born in Workington, Cumbria, England. He is a retired self-employed decorator. Raymond and his wife, Jo, have an adult son, Tom.



Card 1 is the setup card for positioning the equipment at the start of a session. Then there are eight scenario cards, each with set destinations and pickup points.

Each of the cards can take between 40 and 60 minutes. Once you've completed the full sequence of cards with card 8, you arrive back at the beginning.

Trains are made up in the fiddle yard for each card, typically consisting of a diesel, four or five freight cars, and a caboose. The trains aren't blocked ahead of time, which adds more variety and a greater degree of difficulty for operators.

There are also different operating instructions to follow on certain car moves. For example, if there's a "3" beside the location when picking cars up, this indicates the car has no brakes and has to be attached behind the caboose when the train heads back to the fiddle yard. All in all, it works well and keeps both operators happy and occupied.

To add atmosphere I have a home-made soundtrack running in the background with various noises you'd expect

6 Team tracks are a universal industry that allow additional car types to appear on the layout. Here, Erie S-4 no. 529 spots an empty 40-foot gondola under the overhead crane.

to hear in a busy city. I also have specific sounds that play randomly, including a hot dog vendor, dogs barking, ferry horns, and emergency sirens.

The background sounds and the locomotive sound decoders are set at reasonable levels. You can only hear them when you're in front of the layout and about 2 to 3 feet away. This works well and adds that finishing touch of atmosphere to the layout.

See you at the next exhibition

My HO scale 59th and Rust layout has been a joy to build, and it wasn't too expensive. (I've got to say that – my wife might read this!) Come and see my little slice of New York at an exhibition near you. As I live on the other side of the big pond, that may be difficult, but you never know. **MR**



Cheryl Sassi, wife of contributing editor Lou Sassi, built this hardwood tree using natural materials. Her easy-to-follow techniques will yield realistic foreground trees for any scale.

How to model hardwood trees

Use peppergrass, floral tape, and paint to get all-star results on the first try

By Cheryl Sassi • Photos by Lou Sassi

For nearly 30 years, when we lived in upstate New York, I would occasionally watch my husband, Lou, making trees for his HO scale West Hoosic Division RR. Over the years, together with his friend, Pete Darling, he managed to build and plant more than 4,000 HO scale hardwoods on his 22 x 26-foot layout.

Eight years ago, Lou tore down his HO scale layout. He started construction on an On30 model railroad in our new home in North Carolina. This time around, he opted to model the Sandy River & Rangeley Lakes in Maine as it existed in the mid-1930s.

One humid, 90-plus-degree July day, I opted to skip my gardening for a while and stay in our air-conditioned house.

That afternoon I wandered up to the train room to see what the resident railroader was up to. I found Lou studying the scenery in the Kingfield area and asked what he was considering doing next. He explained that he had been contemplating building some hardwood trees to plant around Kingfield, incorporating the same methods he had used on the HO scale trees. However, Lou wasn't sure he could achieve the same results in O scale.

Since I had some free time, I said if he could supply me with the tools and materials, I would give tree construction a try. My first, single-trunk tree came out so well that I decided to try a double-trunk version. When I showed him the results, Lou was so impressed he told me I should share my methods with *Model Railroader* readers.

Cheryl Sassi worked in the finance department at General Electric Co. in Schenectady, N.Y., for 32 years. Her husband, Lou, is one of Model Railroader's contributing editors.

STEP 1 BUILDING THE TREE



I used **peppergrass sprigs**, also known as candy tuft and sesame bloom, for the crown and branch structure of the hardwood trees. Lou gets his peppergrass from Carroll Creek, P.O. Box 535, Center City, MN 55012. Peppergrass can occasionally be found in big-box craft stores, but it's usually dyed bright colors for use in floral arrangements. Raw peppergrass is easier to paint.

I selected sprigs that best represented the branch structure and crown of a hardwood tree. Raw peppergrass has flowers and leaves. I removed the plant's leaves but left its flowers intact, as they looked like O scale tree leaves **1**.

Once the leaves were removed, I wrapped two separate bunches of peppergrass together with floral tape **2**. I then combined the separate stem assemblies with more tape **3**.

To force the two trunks apart, I wrapped tape between the two groupings of sprigs and pulled gently on the tape in a downward motion, crossing them over each other **4**. I taped additional branches to the tree structure to form the desired shape of the crown. I used tweezers to pull the tape through narrow spots.

Once the branch and trunk assembly was completed, I trimmed off the base of the trunk with cutting pliers. Then I trimmed the head off a 2" finishing nail and inserted it into the bottom of the trunk.

One additional feature I added to my tree is branches that have broken off. I captured this detail by dipping a short stub of peppergrass stalk into white glue and attaching it to the trunk.

STEP 2 APPLYING BARK AND ROOTS

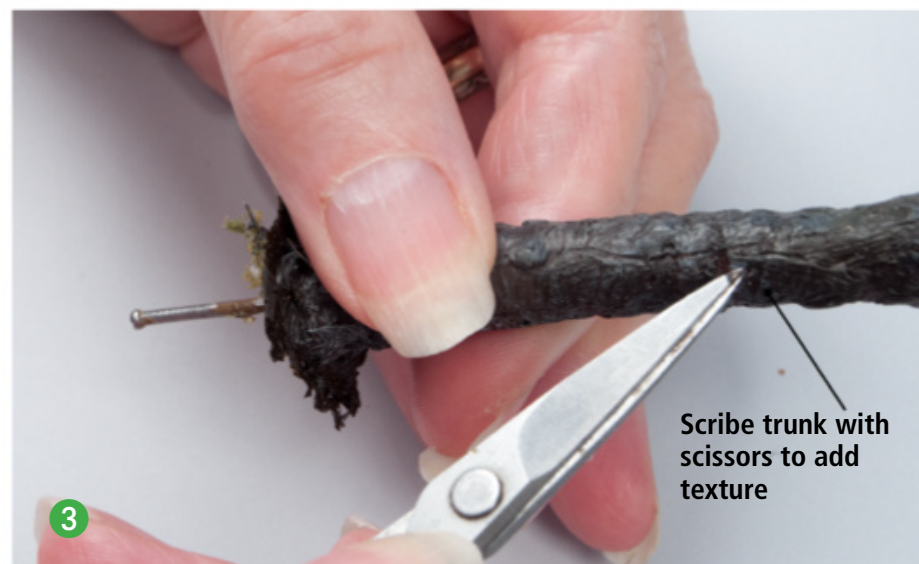
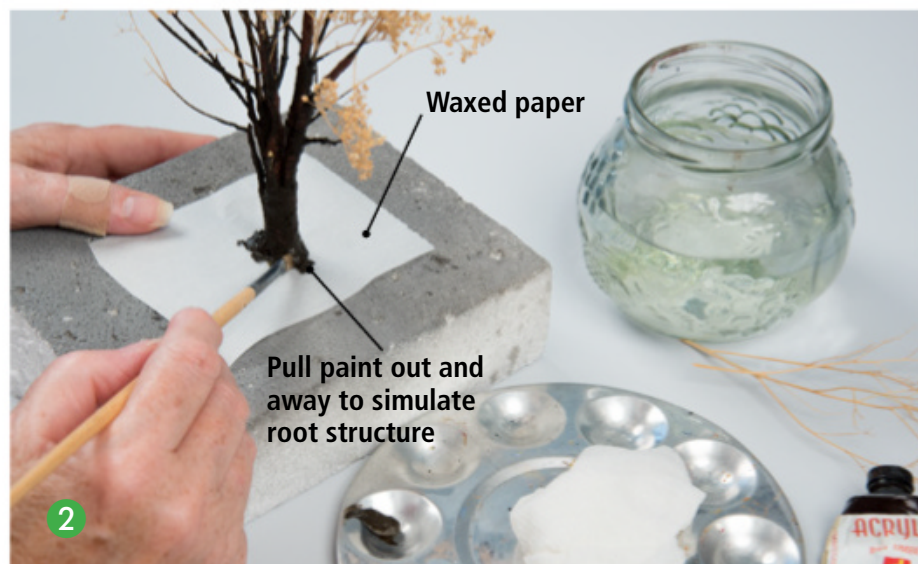


With the taping complete, I used a stiff-bristle brush to apply full strength Raw Umber artist's tube acrylic to the trunk and base of random branches **1**. I stippled additional acrylics on the trunk with a stiff-bristled brush to give it a rough, textured look.

Next, I placed a piece of waxed paper between the tree and a scrap of Styrofoam, as shown on the next page. Then I applied globs of acrylic around the base of the trunk, pulling it out and away from the tree to form the upper portion of a root system **2**.

After the acrylics dried for about 30 minutes, I scribed the trunk and roots with a small pair of scissors to add texture **3**.

STEP 2 APPLYING BARK AND ROOTS (CONT'D)



STEP 3 ADDING COLOR



I **spray-painted** the leaves with a combination of aerosol green paints, beginning with Valspar satin Hunter Green (no. 65034) ①. Do this in a well-ventilated area and wear personal protective equipment. Then I highlighted the tops of the leaves by lightly spraying Krylon Woodland Light Green (no. 4296) in a downward direction ②.

After the paint dried, I used a soft-bristle brush to paint the trunk and branches Model Master Grimy Black (no. 4887) ③. Next, I used the same brush to add streaks of Model Master Reefer Gray (no. 4886) and Roof Brown (no. 4884).

I then went back to the stiff-bristle brush to drybrush the trunk, branches, and roots with both Polly Scale Reefer

White [The Testor Corp. discontinued the Polly Scale Line of acrylic paints. Model Master Reefer White no. 4873 can be used instead. – Ed.] and Liquitex Chromium Oxide Green tube acrylic ④. The trick is to remove almost all of the paint from the brush by dabbing it on a piece of cloth before touching it to the tree. The white highlights the tree's raised surfaces; the green gives the appearance of moss.

So there you have it, hardwood trees using peppergrass sprigs as the starting point. Even if you've never built trees before, give these techniques a try. Lou was so happy with my results that he named me the Sandy River & Rangeley Lakes' new arborist. **MR**

In quest of **MORE REALISM**

① A vacationing family waits while Electro-Motive Division covered wagons lead Baltimore & Ohio Train 88 across Highway 50 on Carl Griffin's HO scale B&O Southwest layout. Carl built the layout based on research, modeling key industries and interchanges to mirror the prototype.

Much prototype research went into to this HO scale Baltimore & Ohio layout

By Carl Griffin • Photos by the author

When my son, Dan, was 15, we were looking for a project to share and settled on a small railroad layout. He liked the Chessie System's blue, yellow, and vermillion paint scheme. For some specific modeling challenges, I wanted to model a town with a river. A former railroader friend suggested the Baltimore & Ohio (B&O) in Athens, Ohio, home of Ohio University.

We started by collecting reference material published by Kalmbach. Over the next two years, the layout served its purpose of teaching us new skills together. For the most part, I was able to follow best practices for benchwork, wiring, and track, although there were a few

memorable times when I tried to do something the wrong way.

After Dan went off to college, I started spending time with model railroaders in my area who were more advanced than me. This led me to realize that my layout lacked the operational opportunities that I enjoyed on other layouts. I needed to redesign the layout for better operations and to make room for several operators rather than one or two. My wife and I worked out a way for the railroad to move from the finished to the unfinished area of the basement, a space of about 14 x 30 feet.

Taking time for research

On others' layouts, I recognized that prototypical operation improved entertainment value over the long term. Side by side with seasoned model railroaders (including several with 1:1 railroad experience), I saw that I had a lot to learn about railroad operating schemes, waybills, timetables, and so forth. Articles I read in *Model Railroader* demonstrated not only the fun in capturing key scenes from one's prototype for reproduction on the layout, but also the satisfaction of





② New York Central Train No. 301 prepares to work the interchange with the B&O at Athens, delivering two cars and picking up one bound for Toledo, Ohio. Interchanges are an important part of Carl's layout; all four are "live," meaning they are worked by both railroads during operating sessions.

the research itself. Recognizing the adage of enjoying the journey as much as the destination, I took my time at this stage of creating a new layout.

This section of the B&O had interchanges with the Chesapeake & Ohio and New York Central. I joined both the C&O Historical Society and B&O RR Historical Society to make use of their extensive resources. In addition, I communicated with other members at society events.

Internet searches taught me that Athens was about in the middle of the B&O Parkersburg Subdivision, which stretched from Parkersburg, W.Va., to Chillicothe, Ohio. This part of the railroad was known to many as the Baltimore & Ohio Southwest. At Athens and Dundas, Ohio, the B&O had three interchanges with the C&O and NYC, and those two railroads also interchanged with each other.

Despite much of the right-of-way in these towns having been abandoned by the time of my research in the 1990s, U.S. Geological Survey maps and other

sources allowed me to see the track configurations that had been present decades earlier in the three towns I planned to represent on my layout. A few weekend trips to the area allowed me to take pictures of many remaining railroad structures and rail-served industries, including aerial photos of the Shell Plastics and Ashland Chemical plants near Belpre. These were unusual industrial plants that begged to be modeled.

Design

Now, with experience operating on other layouts and knowledge about railroading in the area of my interest, I assembled a list of what influential modeler John Armstrong called "givens and druthers." Givens are must-haves or other factors that can't change, like scale, prototype, and room size; druthers are a wish list of things one would rather have on the layout, like operational and terrain features.

For me, it was a given to have generous space in each town for switching

operations and what would function as an intermediate yard in the middle of the operation. Three towns would be enough to keep the five or six operators who would fit in the train room busy enough. Four interchanges (including the C&O/NYC in Athens) would have to be represented.

As for "druthers," I wanted at least a couple of minutes of run time between towns. On pencil and paper, I worked out rough sketches of a two-level layout, deciding that Chillicothe and Parkersburg would be my staging points and that the modeled towns would be Dundas, Athens, and Belpre, Ohio.

To achieve as much of my Givens list as possible, it appeared that I was going to have to forego my druther of greater distance between towns. To have staging for the C&O interchange in Dundas and the C&O and NYC in Athens was challenging, but I was determined that it could be done.

My early trial-and-error drawing efforts were frustrating. Then I saw Sandia Software's product, CADRail,



③ Baltimore & Ohio's *Timesaver*, led by Electro-Motive Division E units, heads through Belpre, where the massive Shell Chemical Co. plastics plant straddles the main line. Using prototype photos for reference, Carl included many recognizable features of the prototype plant in his version.

advertised in MR, and decided that computer-aided design could work for me. Having zero experience, I used the tutorials to get started, and learned more as I progressed. With the software, I could freely experiment with different track arrangements and move around whole design elements as one piece. Once I had designed a yard or large industry to my satisfaction, I could slide it however far I needed to align it with the curve or tangent track that would bring rail traffic into it.

For me, this was a great advantage over pencil-and-paper drawings. I'm very satisfied with what I was able to do using the program when it came to designing the layout, from the L-girders to tracks, crossings and turnouts, and even placing roads and buildings. Since I first installed the software from the DVD, it has gone through several updates, and the new version is even more user-friendly.

Construction

I used L-girder construction everywhere except the helix, which I designed



④ Carl cut some pre-built Walthers Merchant Row structures in half horizontally and used both the fronts and the backs along the backdrop behind Athens Station.

Doubling your pleasure

When the location of the Athens Yard and passenger station were determined, I knew that it would be a challenge to create a believable downtown scene in only 10" of depth. Fortunately, the design and build phase for Depot Street arrived at the same time that a fellow railroader, Ted Luce, was disassembling his C&O layout. He gave me some of his structures, including a couple of Walthers' Merchant Row blocks. But these were too deep to fit between the wall and the depot. To solve the problem, I cut off the back of each building, facing the fronts along Depot Street. I then used the rear walls to line the alley behind the depot. The sections are far enough apart that I didn't even have to repaint the structures to obscure their shared heritage. – *Carl Griffin*

using Baltic birch plywood subroadbed, supported by threaded rods on 2 x 4 legs. I used riser supports for the 1/2" plywood subroadbed, which allowed me to fine-tune the roadbed heights and grades.

In Athens, where the NYC, C&O, and B&O run in close proximity, the ability to adjust track height was especially helpful to future operation. Placing the adjacent tracks at slightly different heights and using different colored ballast helps operators distinguish between the three railroads' trackage.

Next came cork roadbed, followed by code 100 Atlas flextrack and mainly Atlas turnouts. Most of this construction was done nearly 20 years ago, when Code 83 and smaller rail were just being adopted. At that time, I decided to stay with the larger rail for operational reliability. My larger rail is ballasted and fully weathered; it's reliable and photographs well.

Scenery techniques varied depending upon the location and the demand. Foam, plaster cloth over cardboard forms, and some cast plaster rock forms were used. Once in place, plaster and foam were painted with flat interior gray-brown house paint, then covered with a variety of ground foam and other modeling products from Woodland Scenics and AMSI. The numerous evergreens are from Noch and Heki, and I assembled nearly all of my deciduous trees from plastic armatures by Woodland Scenics.

I initially planned my backdrop to be fairly simple and started to paint it myself. My desire was for operators and visitors to enter the layout room and feel that they were in southern Ohio in early fall. I wasn't happy with the results. Fortunately, in our community there was a professional graphic artist who enjoyed painting railroad backdrops. I had seen him accomplish on other layouts what I wanted to do on mine. As we collaborated, we agreed on the importance of using the same color palette in his work as would predominate in my trees and other scenery. His backdrop matches the scenery perfectly and enhances my scenes, buildings, rolling stock, and motive power.

Structures and scenes

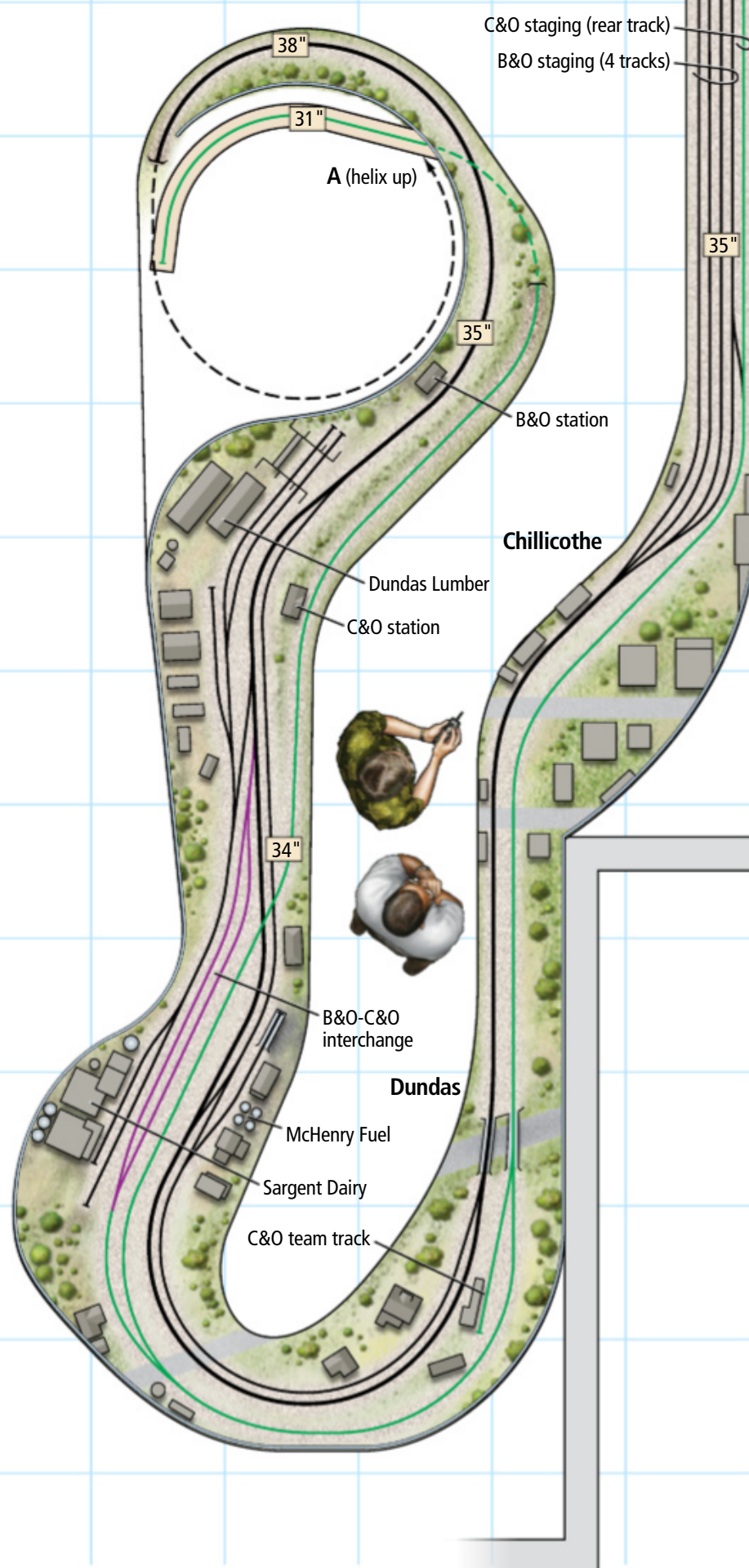
Many of my town structures are Magnuson, Bar Mills, and enhanced Design Preservation Models (now part of Woodland Scenics) and Walthers city buildings that suit the steam-to-diesel transition era. However, the field trips

Baltimore and Ohio Southwest, Ohio Division

HO scale (1:87.1)
Room size: 14 x 29 feet
Scale of plan: 5/16" = 1'-0", 24" grid
Numbered arrows indicate photo locations
Illustration by Rick Johnson

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

LOWER DECK





⑤ A Baltimore & Ohio GP30 prepares to pull a covered hopper loaded with carbon black from the Ashland Chemical Plant in Belpre, Ohio. The plant is one of several prototype industries Carl felt it was important to model accurately.

Must-model industries

My research trips to southeast Ohio revealed two industrial sites that I felt I had to include on the layout. The first is the Ashland Chemical plant (seen above), which produces carbon black, a fine, black, granular substance resulting from the controlled partial combustion of petroleum products (mainly no. 2 fuel oil). Carbon black was originally utilized as a stabilizing material in tires and other rubber products, but its uses have been expanded to include color pigmenting in plastics, paints, printer toner, and inks.

At the Belpre plant, fuel oil is off-loaded from barges on the Ohio River about half a mile away, then pumped through above-ground piping up over State Highway 7 to the plant. Rail service delivers other raw material by tank car. Outgoing carbon black is carried in covered hoppers, and miscellaneous incoming and outgoing material moves by boxcar.

Shell Chemical Co.'s Belpre plant [see photo 3 on page 41 –Ed.] manufactures a thermoplastic elastomer known as Kraton. In the 1990s, Kraton's uses included medical products, wire and cable insulation, adhesives, sealants, and oil viscosity modifiers. Raw material arrived via chemical tank car and covered hopper, and pelletized product shipped via covered hopper.

If the plant was present at this site in the 1960s, its configuration would likely have been considerably different than what I documented during my research in the mid-1990s. But the combined factors of its location on both sides of the B&O main line, its modeling possibilities, and its contribution to operations were so overpowering that I had to model it. My plant circulates 20 covered hoppers, 10 chemical tank cars, and five coal hoppers. – *Carl Griffin*

derailing a railcar as it moves through a thrown switch. During my “Golden Spike” operating session, before I had established the power districts, the entire layout came to a standstill early in the evening. Finally, the culprit was identified as a metal handrail stanchion that had fallen off a caboose and caused a short across the tracks.

The problem was hard to track down because I had not yet properly diagrammed and recorded where the power districts were divided. I installed the power manager soon after. Having an accurate diagram as a reference makes it much easier to localize and fix a short or similar problem.

Although there's an emphasis on switching, the schedule for a 3½-hour operating session with five operators includes two passenger trains, two fast through freights, four freights with pickups and setouts at Athens, two B&O peddlers, two C&O locals, and one NYC local. Trains operate via an informal verbal track warrant system, which includes where and how meets will occur.

Except for three turnouts that are behind the backdrop or otherwise out of reach of the operator, all turnouts are hand-lined using switch stands from Caboose Industries. Car routing is done via four-cycle waybills.

A few differences

Interchange tracks have been popular among modelers for many years. They increase the diversity of car types, being a universal industry to which all car types can be delivered. I hoped to improve on the usual interchange track concept, in which cars are set out and dropped off during the session, and then changed between sessions. It was a given for me that all four interchanges would be “live” – that is, for each to be served by both railroads during the session. Designing this gave me numerous gray hairs (or hastened their loss), but it was worth the effort it took to tuck in the extra “mezzanine” staging tracks necessary to provide the interchange traffic.

In a session, each interchange will see three to six cars in each direction. Local operators appear to enjoy the challenge of getting their interchange track serviced early so that those cars will be moved again during that session via the interchanging railroad. The operator may return to the interchange later in the shift to move incoming railcars.

During most of the 20th century, federal law directed railroads on the matter



6 The St. Louis Section of Baltimore & Ohio No. 97 rumbles past the Athens, Ohio, passenger station on Carl Griffin's HO scale B&O Southwest layout. Like many other structures on the layout, the station was scratchbuilt to match the prototype.

of unloading, feeding, watering, and resting of confined animals. With some variation depending on the type of animal, confinement in a railcar was limited to 28 hours, by which time the stock being transported had to be unloaded in a humane way into properly equipped pens for at least 5 consecutive hours.

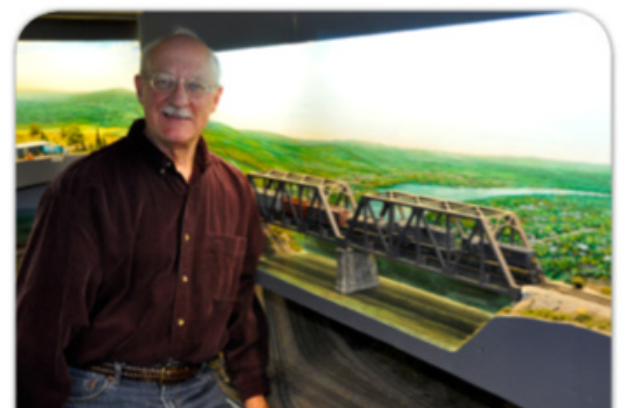
To meet this requirement, many railroads, including the B&O, had stock rest stations at key locations; one of these was in the Parkersburg Subdivision. On my layout, two eastbound freights set out to pick up cattle and pig stockcars at Belpre before proceeding to Parkersburg. The stock rest stations had designated areas for pigs, which had special ramps to more quickly load and unload the two-level pig stock cars, and for cattle, which were transported in single-level cars. The Mather Stock Car Co. provided thousands of these specialized cars, and Walthers has modeled them both.

Naturally, the operators need to be attentive to ensuring that a cattle car doesn't get placed at the pig pens and vice-versa. Also, in order to reduce stress and injury to the animals, stockcars have to be placed near the front of the train to minimize excess car movement associated with braking and acceleration.

What I like most

In addition to the great people aspect of model railroading, I've enjoyed developing and refining the skills needed to build a functioning layout. It took me about 20 years from negotiating the real estate to applying ground foam to the last bit of extruded-foam insulation board. To the visitor, the railroad is complete. But of course, there are always tweaks that can be done to the operating scheme, minor repairs to railcars, and improvement to scenes to keep me busy.

As *Model Railroader* contributing editor Tony Koester and others have pointed out, the owner of a railroad layout often doesn't operate on his or her own layout. The host instead has a variety of jobs, including addressing issues that arise during an operating session and assisting new operators when needed. But almost every operating session, I'm fortunate enough to have a few minutes to simply observe the yard and train operators as they move cars from main to yard to interchange track or industry. So I get to witness the culmination of many years of work (and fun) that it took to go from the concept of a relatively simple point-to-point railroad



Meet Carl Griffin

Carl Griffin has practiced medicine in west-central Indiana for more than three decades. He and his wife, Lynn, have four children and seven grandchildren. In addition to serving on his county's planning commission, he also enjoys bicycle riding, sailing, bird-watching, woodworking, and gardening.

to a fully functional railroad system. The layout is entertaining to the visitor's eye, both the railroader and the non-railroader. It also provides a venue for a half dozen people to get together and enjoy the re-enactment of railroading in the 1960s. **MR**

Build the N scale CANADIAN CANYONS



The Ashcroft panel is unlit, indicating the mainline turnout is set to normal while a red light on the lower-level control panel shows staging track 3 occupied. Block detection and other electronics enhance operation on the N scale Canadian Canyons.

Part four: Enhancing layout operation with stationary decoders, block detection, and remote-control turnouts

By Dana Kawala

Photos by Bill Zuback and the Model Railroader Video Plus staff

The double-deck N scale Canadian Canyons layout features stunning scenery and meticulous modeling, but I find what's going on under the benchwork to be just as impressive. The *Model Railroader* and Model Railroader Video Plus staffs have built layouts wired for Digital Command Control (DCC) before, but never to the extent of this

railroad. Using block detection, stationary decoders, and custom control panels, this 5'-7" x 8'-0" project layout shows the capabilities of DCC beyond simply being able to run multiple trains.

Model Railroader Video Plus associate editor Ben Lake, with some help from producer David Popp, wired Canadian Canyons for efficient control with nothing to diminish the layout's mission as a railfan's model railroad. Routes through the staging yard can be triggered by a DCC throttle or the touch of button on the fascia. The control panel for the partially hidden lower level and helix shows what routes are active and what blocks are occupied.

The mainline turnouts also feature push-button or DCC control. In addition, the upper level is wired with provisions for future projects, including an operating signal system and computer control with Java Model Railroad Interface (JMRI) software. Stay tuned!

Most of the wiring work was done with the layout benchwork clamped on

its side to a pair of sawhorses. This proved a much easier approach than having to crawl under the benchwork and work overhead.

The following pages provide an overview of the electronics that Ben and David installed on the Canadian Canyons. If you're looking for more detail on any of the projects mentioned in this or previous articles about the layout, I encourage you to check out the more than 60 videos featured in the Canadian Canyons series on Model Railroader Video Plus.

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

Switch motor installation

Tortoise by Circuitron switch motors line the points of every turnout on the layout. Detailed installation instructions are included with these motors.

David laminated the included paper template to styrene, then used it to drill mounting holes for each switch motor ①. He also cut the slot for the actuating rod to go through the subroadbed and roadbed to the turnout switch rod.

Next, David screwed no. 6 x 3/8" screws into two of the holes and slipped the motor's flange over them. Then he pushed the rod through the slot and hole he had drilled in the turnout's switch rod above ②.

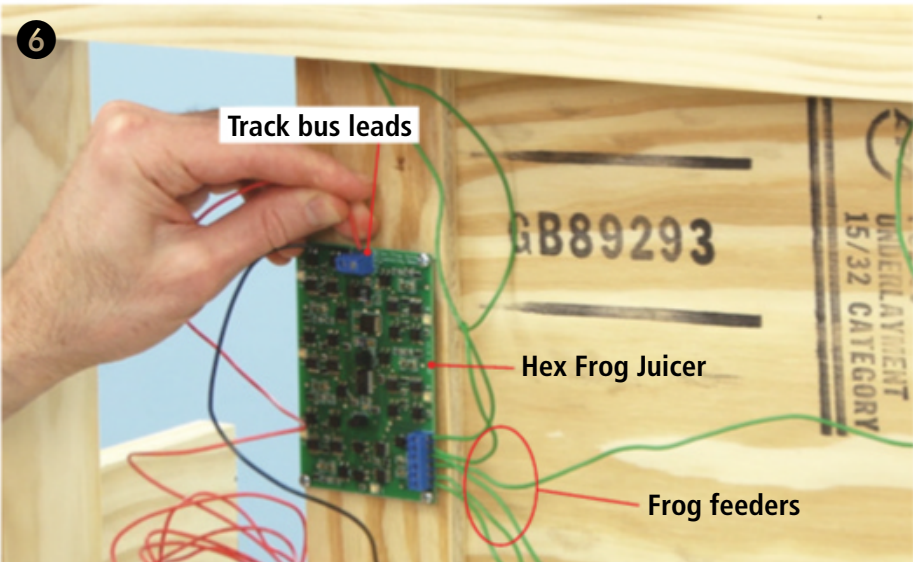
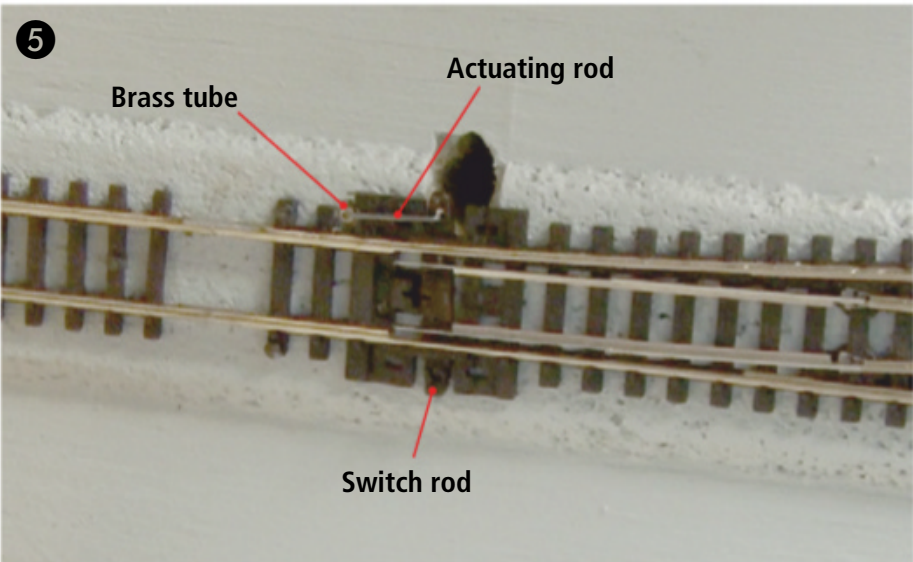
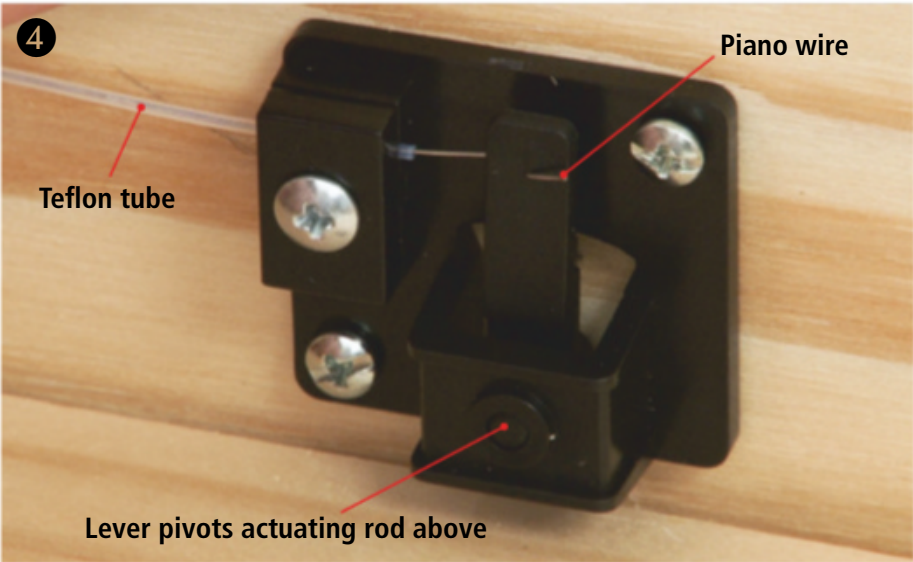
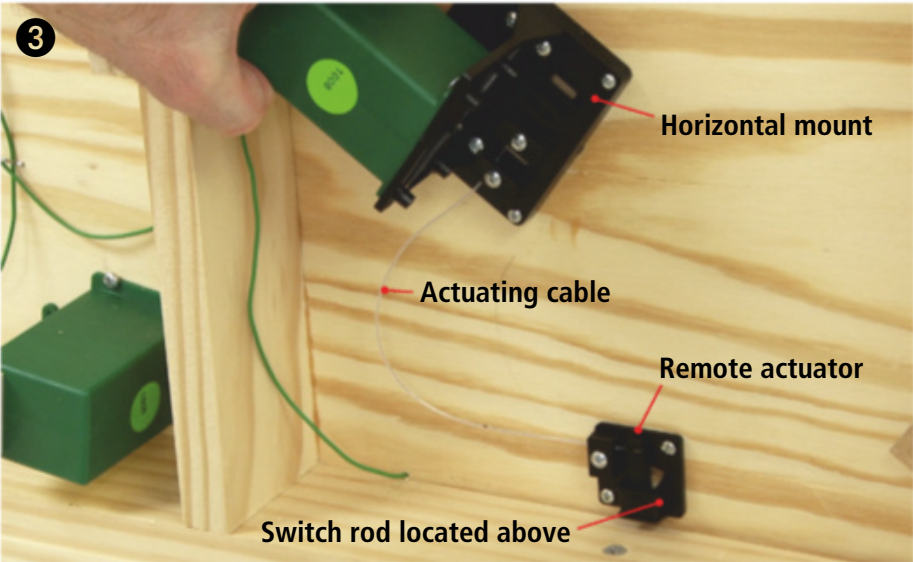
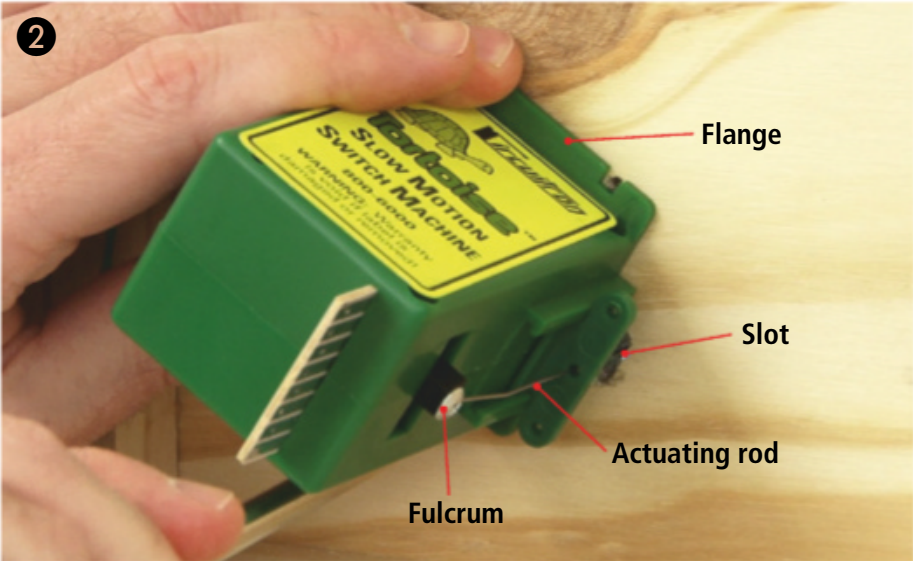
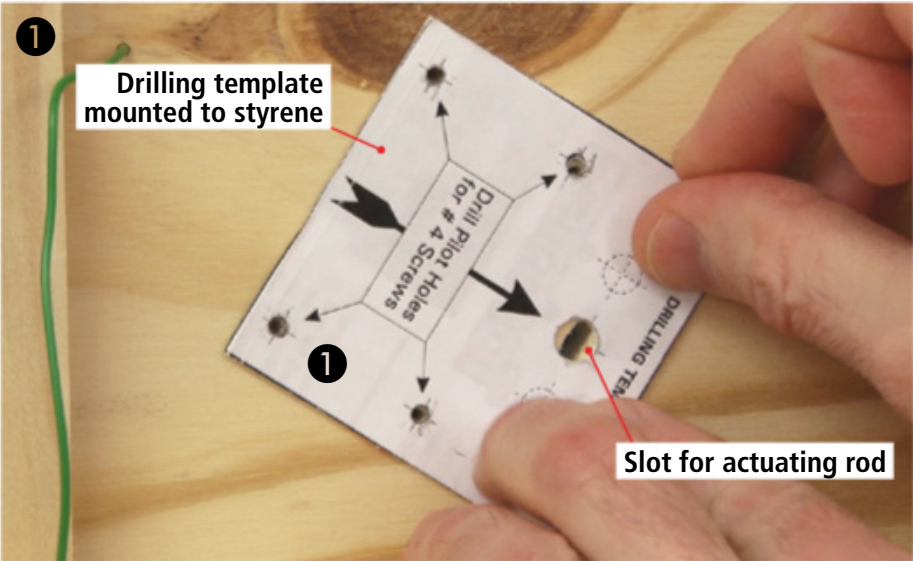
After tightening the two screws, David added two more. Once the motor was installed, he tested it and adjusted the fulcrum as needed.

One of the staging yard turnouts is in a location where the switch motor couldn't be mounted in the normal vertical position. In this location David installed the Tortoise horizontally using a Circuitron no. 800-6100 Remote Tortoise Mount ③. In addition to the mount, this product includes a remote actuator that can be located up to 18" away from the motor. A length of wire running through a teflon tube connects the motor's fulcrum to the lever that

lines the turnout ④ by pivoting an actuating rod through a length of brass tube to move the switch rod above ⑤.

David added 22AWG green feeder wires connected between the metal turnout frogs and points and a Tam Valley Products Hex Frog Juicer. This device ensures the points and frogs of up to six turnouts are always the correct polarity. David installed the frog leads to one barrier strip and track power bus leads to the other ⑥.

Step-by-step instructions for installing the switch motors and the Frog Juicer are found in parts 12 and 13 of the Canadian Canyons video series.



Stationary decoders for the staging yard

The turnouts in the staging yard are powered by two Digitrax DS64 quad stationary decoders ❶ that were installed by Ben. Each decoder can power up to four turnouts. A 12V, 1.5A “wall wart” transformer powers the decoders. Ben made the connections between the decoders and the power supply using an Alltech 10-pole barrier strip. Each pole is isolated, so to power multiple connections, Ben added jumpers as needed ❷.

Next, Ben connected the decoders to the Digitrax DB 150 command station ❸ using LocoNet cables. (Note the photo shows the command station

during layout construction, mounted on a workbench.) A LocoNet bus is also used to connect the throttle plug panels on the layout’s fascia.

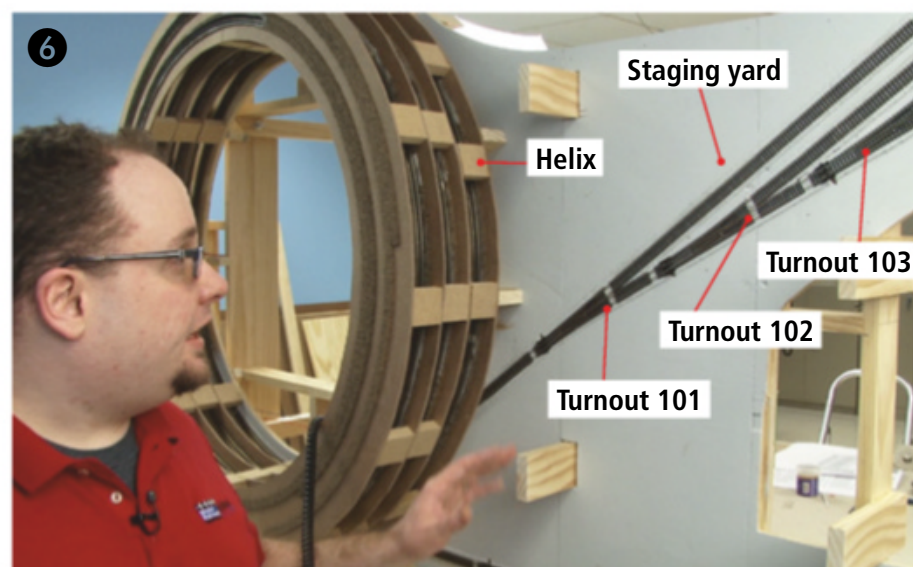
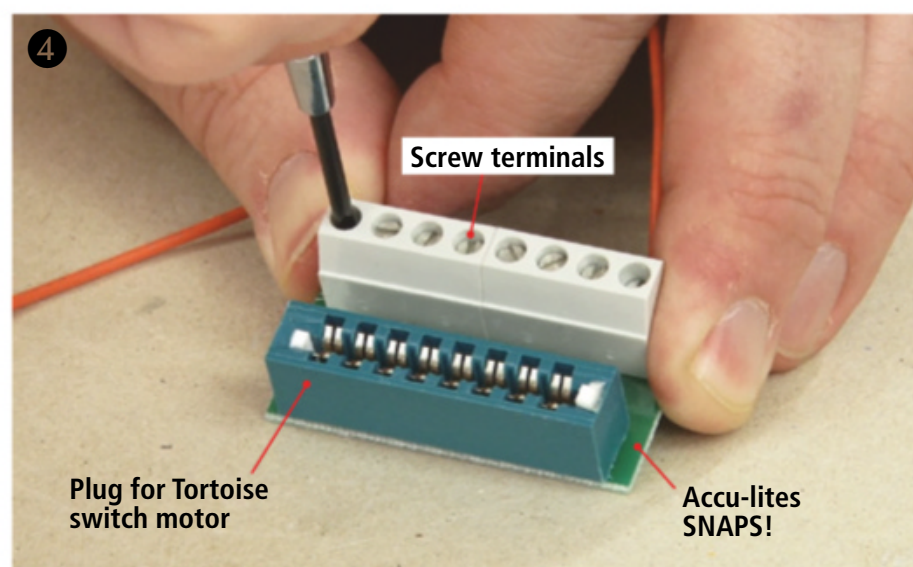
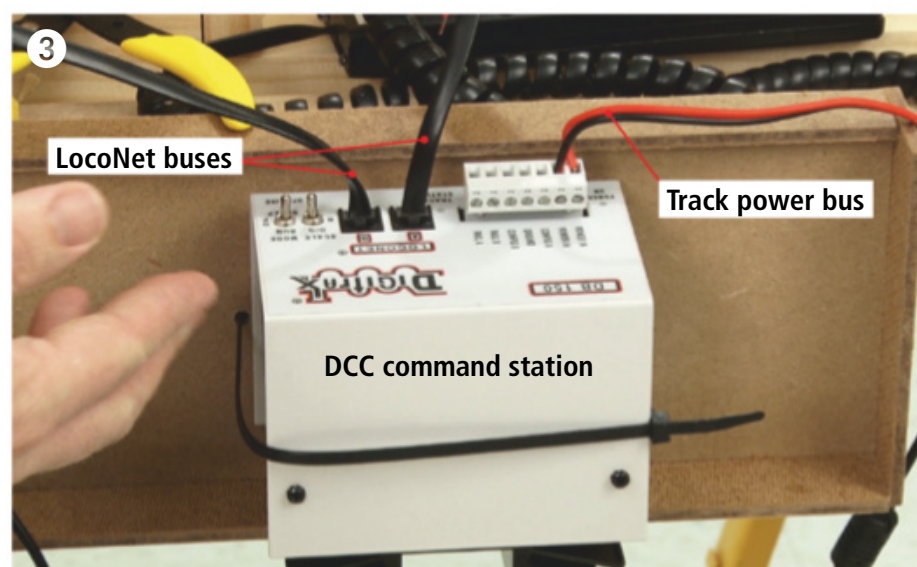
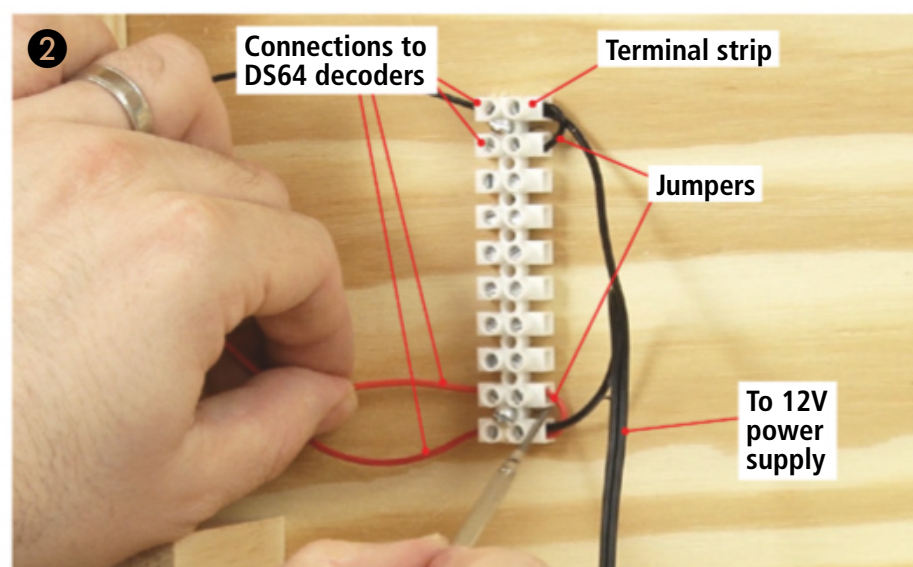
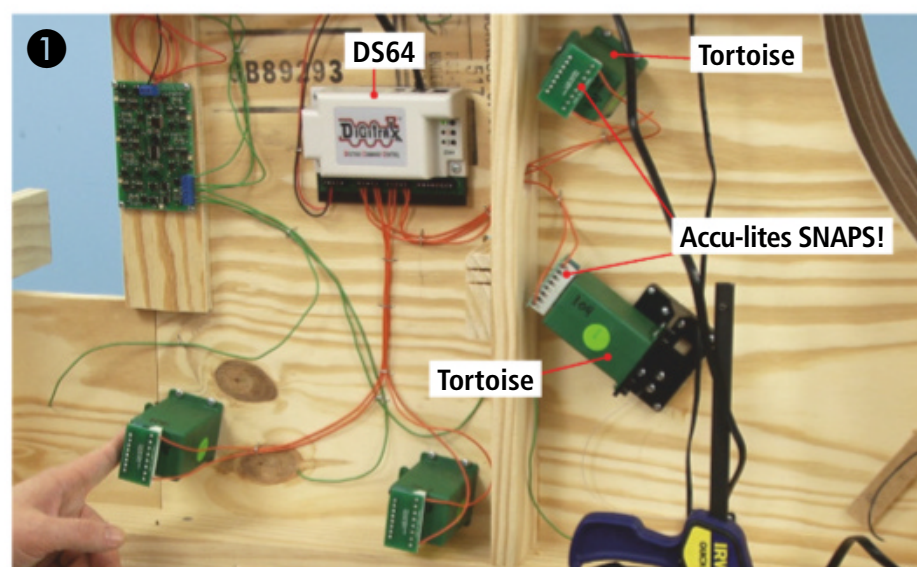
The motor terminals on each Tortoise are then connected to the R and G terminals on the DS64. Instead of soldering wires to the soldering pads on each Tortoise, Ben used Accu-lites SNAPS! No. 1001 edge connectors that feature separate screw terminals ❹.

Ben programmed the turnout addresses into the DS64 with a Digitrax DT402 Super Throttle ❺. He also wrote the addresses on each switch motor. Each turnout can be lined by entering

its address into the throttle and then pressing “t” (throw) or “c” (closed).

Ben used the turnout addresses to set up the routes for the staging tracks. That way an operator can select a route with a single throttle command or push button, instead of having to enter multiple addresses. To plan the routes, Ben walked around to the track side of the layout ❻. After programming the routes with individual route addresses, he tested each one with his throttle.

All the steps for DS64 stationary decoder wiring and programming are shown in part 14 of the Canadian Canyons video series.



Bus wiring and block detection

Following the route of the track above, Ben ran the 16AWG stranded track bus wires through holes drilled in benchwork members as needed ①. The 22AWG track feeder wires had already been soldered to the track. Ben worked with the common (black) bus first, attaching the feeders with solderless insulation-displacement (suitcase) connectors. He secured the bus to the benchwork using a cable tacker.

Ben wired the red bus for block detection. For the lower staging level, Ben used two Digitrax BD4 block detectors, one for the staging yard and one for the helix. Each detector has inputs

for feeders from four blocks and one input for the track bus. A wiring diagram is shown in ②.

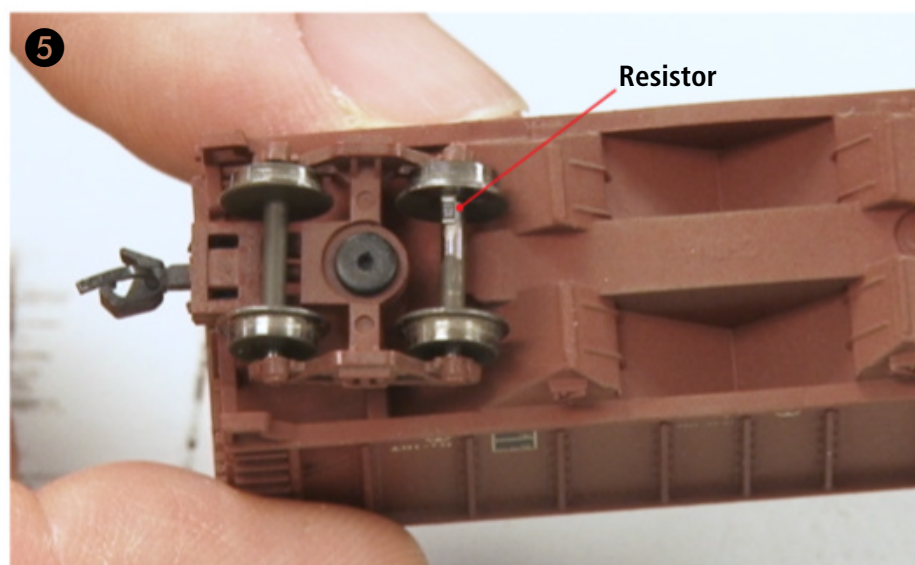
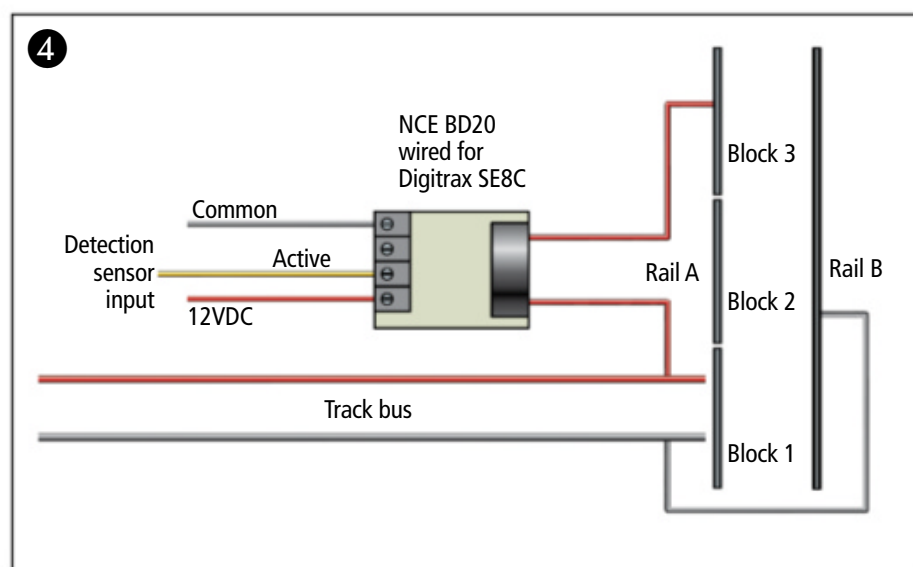
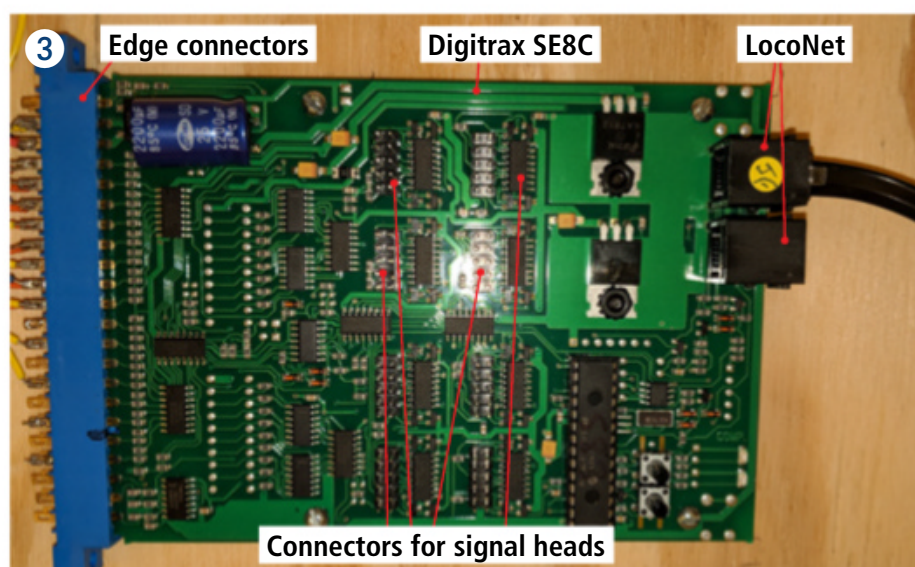
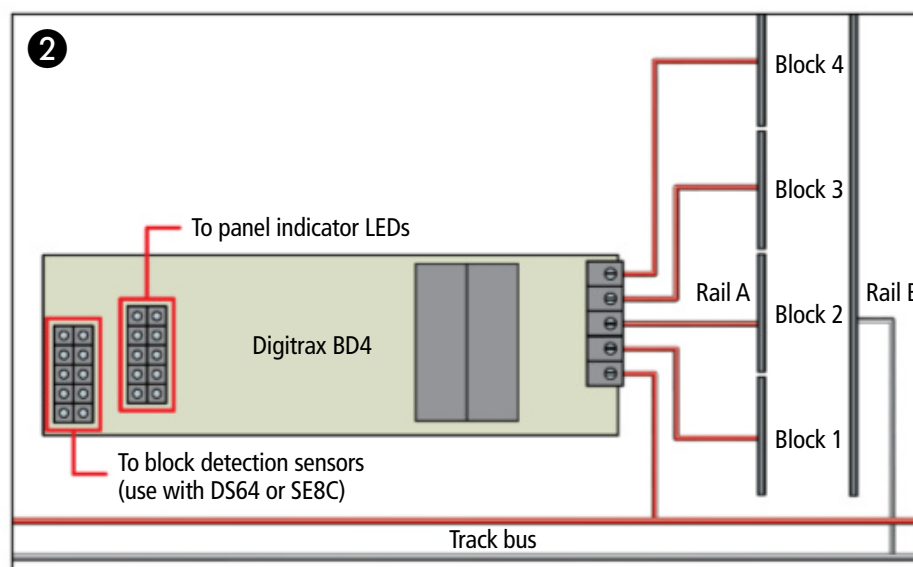
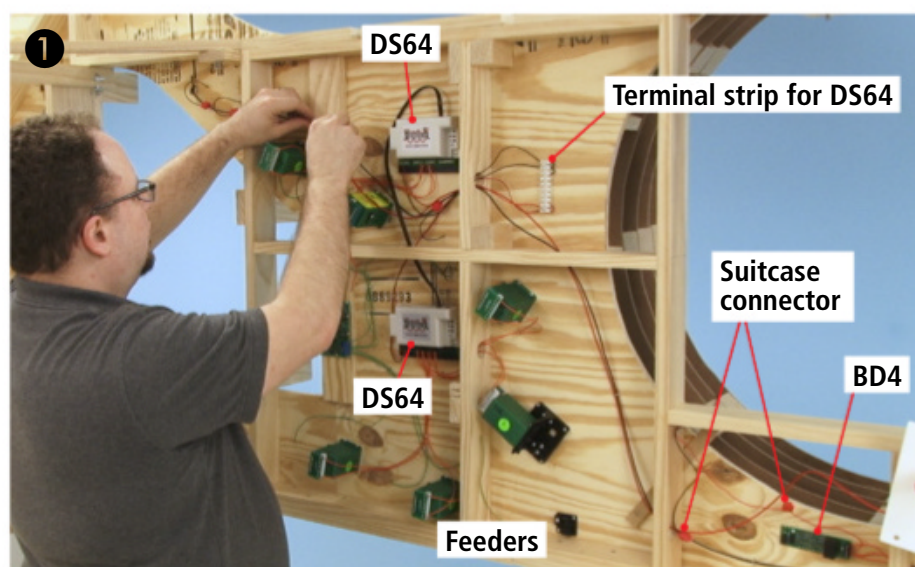
All four upper-level mainline turnouts are also powered by Tortoise switch motors and Frog Juicers.

Because Ben plans to install working signals on the upper level main line, he installed a Digitrax SE8C signal decoder ③. The SE8C plugs into the LocoNet and has edge connections for switch motors, push buttons, and signal heads.

Instead of a BD4, Ben used NCE BD20 block detectors on the main. The wiring diagram for these detectors is shown in ④.

Both the BD4 and BD20 rely on sensing current draw on the rails. Powered locomotives automatically draw current, but freight cars don't draw any on their own. Group Technical Editor Cody Grivno installed one Fox Valley Models N scale 33" resistor-equipped wheelset ⑤ on each car, as available. You can also make your own by soldering a 10KΩ surface mount resistor to a metal wheelset's axle.

For more detailed information about block detection and wiring, watch part 16 of the video series. To learn more about wiring the upper level and upcoming projects, watch MRVP Tech.



Control panels, push buttons, and LEDs

Ben made control panels for the staging yard on the lower level and the four turnouts on the upper level ❶. The panels use push-button LEDs to line the turnouts. The staging yard panel also has red LEDs connected to the BD4 block detectors.

The panels are made of .080" styrene sheet laminated to thin aluminum sheet. Ben created the design for the panels using computer software and a Silhouette Cameo craft cutter that cut out the design on adhesive vinyl ❷.

Ben then drilled the holes for the LEDs. The main line turnouts and the staging yard routes are triggered

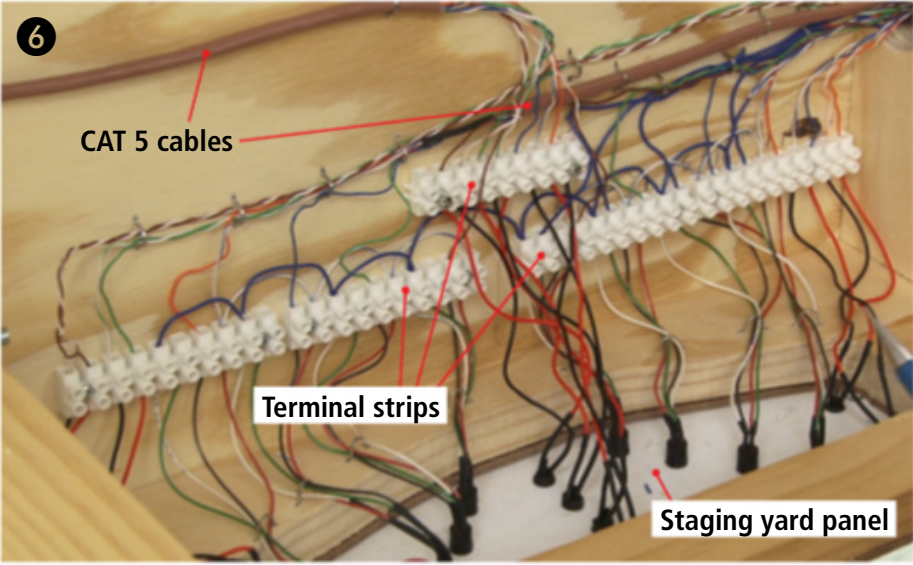
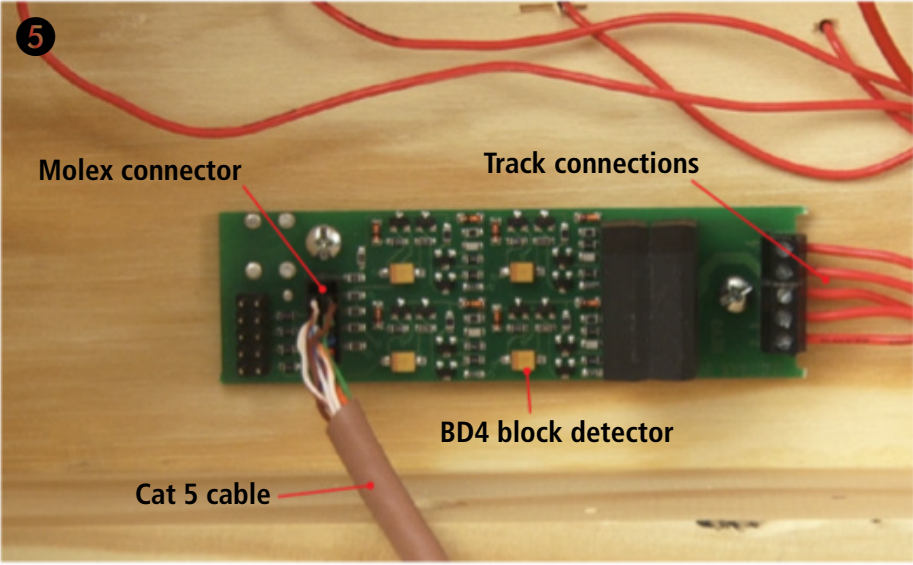
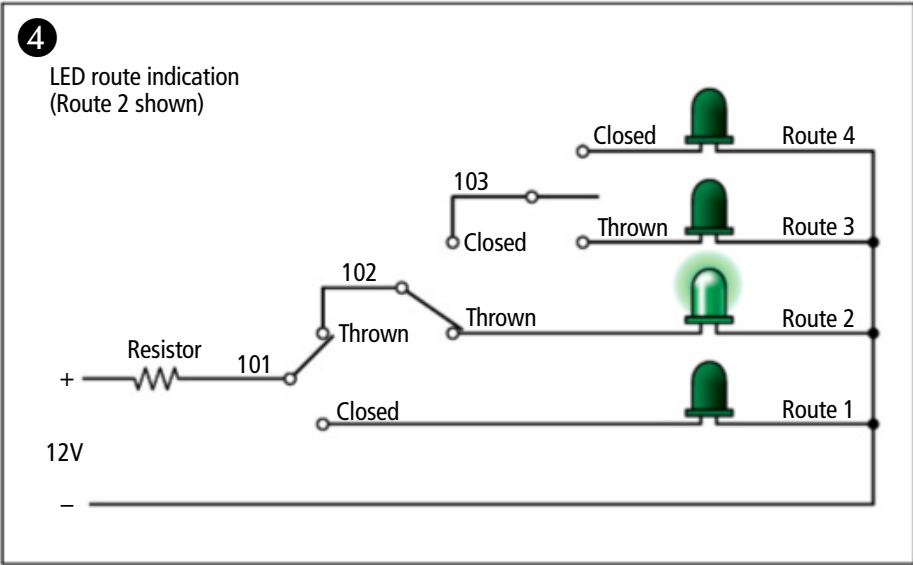
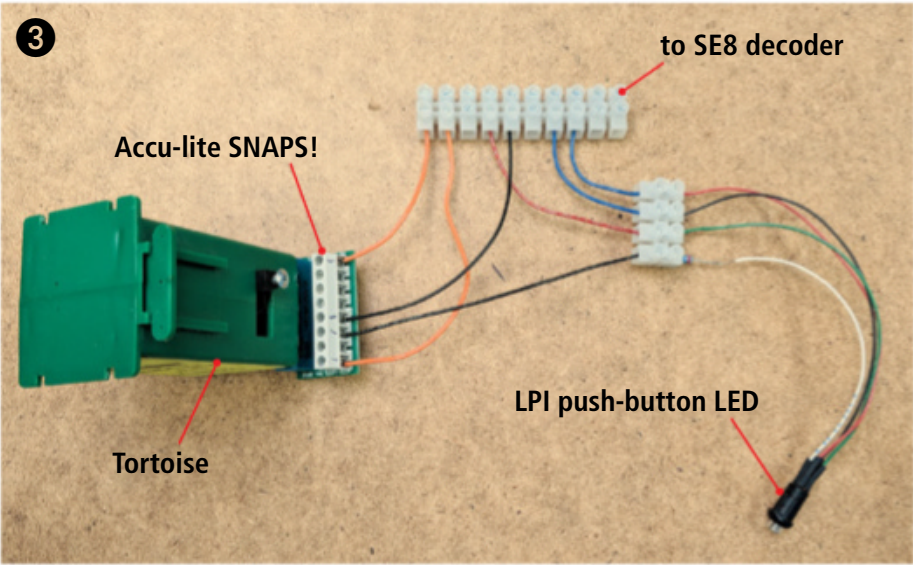
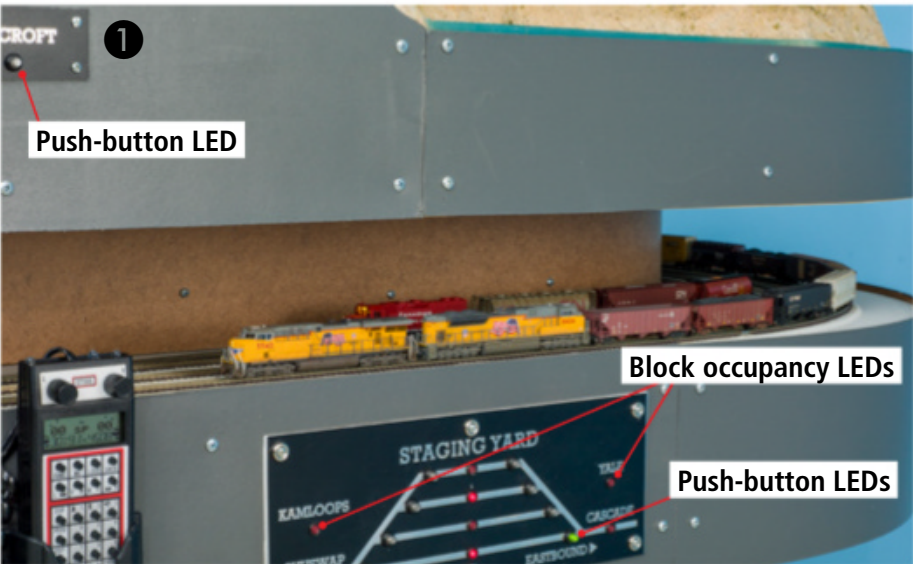
by E-Switch LP1 push-button LEDs ❸. These LEDs turn on when the button is pushed. The mainline turnout LEDs are yellow to indicate the turnout is in the reverse position, while those on the staging yard panel are green to indicate that the turnouts for the selected route are lined.

Each LP1 has four contacts. The two push-button contacts are connected to one of the DS64 decoders on the lower level or the SE8C on the upper level. For the staging yard, the two LED contacts are wired following the diagram shown in ❹ that uses the relays in each switch motor to illuminate the correct LED.

To show block occupancy on the staging yard panel and in the helix, Ben installed Lumex LED panel-mount indicators. He used a Molex connector attached to the end of a length of CAT5 cable ❺ to connect the LEDs to the socket on the BD4 shown in the diagram on the previous page.

Ben used terminal strips to keep the layout wiring organized. The terminal strips for the staging yard panel are shown in ❻.

For an in-depth look at designing, making, and wiring control panels, watch parts 15 and 17 of the Canadian Canyons video series. [MR](#)





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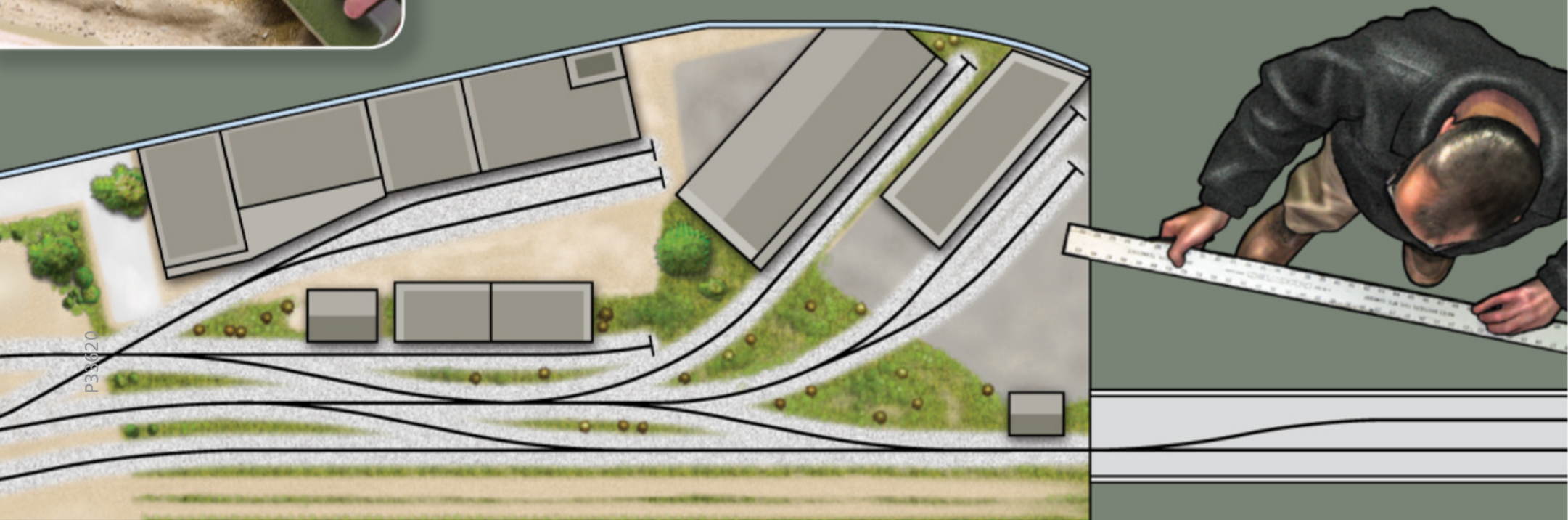
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① Doug Kirkpatrick runs the Hoyt Street yard switcher in the foreground while John Swanson (right) and Mat Thompson (not shown) are on a local leaving Clatskanie, a town physically adjacent but logically many miles east of the yard. Though many modelers would use a backdrop to separate the two scenes, Mat wanted to keep the overall layout view open.

Alternative thoughts on **VIEW BLOCKS**

Visually separating scenes isn't a mandatory practice

By **Paul J. Dolkos** • Photos by author



② Mat, operating a train of skeleton cars behind a Northern Pacific Alco RS-1, painted a simple mountain scene on the wall along his outer aisle to create a pleasing backdrop for this scene. The wall mural is about 4 feet beyond the layout edge.

IN ANY PURSUIT there are practices and techniques that become popular. In model railroading, one is the use of view blocks or backdrops to separate scenes. Backdrops make a lot of sense and are employed effectively and frequently. When I first visited Mat Thompson's then-under-construction HO scale Oregon Coast RR [Mat's layout was featured in *Great Model Railroads 2014*. – Ed.], I asked how high the backdrop would be to separate the main yard from a town scene down the line. Though the town was reached via a different aisle, there was little physical separation between the two back-to-back points on the railroad.

"None," was the immediate answer. "I want to stand back and have an overview of my empire and not have it cut up with view blocks." That didn't sound right to me, but it was his railroad. His approach seemed to hark back to the days when large island-style layouts set in the middle of a room were popular. An operator could stay in one spot and control a train as it ran over the entire railroad.

Today, most operators want to walk with their train isolated from activity in other locations. Backdrops help create such illusions.

Later, during operating sessions, I was only vaguely aware of the presence of nearby yard crews while switching the

adjacent town. The lack of a view block didn't seem to diminish the operating experience. Having two areas supposedly miles apart, yet adjacent, didn't seem to violate any illusions. On other parts of Mat's 1,200-square-foot railroad, hills and mountains separate scenes.

Backdrop or no backdrop?

By no means do I propose doing away with view blocks or backdrops between distinct operating areas. If a view block or backdrop works, install it. But sometimes it may be aesthetically desirable to just leave things out in the open. The backdrop may be more of a visual impediment than the separation one wants to achieve. It may also be difficult to build and install.

Not having any backdrop may improve access and lighting. Lots of neighboring prototype railroads have adjacent tracks. If a railroad's crew is busy, it may not even notice the other line's trains.

Layouts where trains pass through only once are called sincere designs. The feature is very effective and frequently utilized. But this is not a written-in-stone requirement. As Mat has found, unrelated tracks can coexist side by side. This is especially true if they're at different elevations, as seen in ①.

Scenes on the wall

Having an island-style layout where an aisle runs around the perimeter means that when you look across the railroad, the room wall is in the background. Pictures and posters on the wall or bookcases often intrude. Mat took down wall hangings, moved bookcases, and painted a simple mountain range outline and blue sky on the walls ②.

Because there's an aisle between the layout and wall, the bit of distance between the two enhances the view. This provides a good background for layout photos and takes no space. The wall painting doesn't need to run from the ceiling to the floor. It should be high enough so the bottom and top edges aren't normally visible.

A good use of such backdrop placement is where there's an operator aisle on the back of a yard along a wall. It provides a visually pleasing background. Also, having aisle access on either side of a yard keeps the yard workers clear of crews on through trains.

Just because the benchwork doesn't butt up against the room walls, don't ignore the background possibilities. **MR**

Paul J. Dolkos is a frequent contributor to Model Railroader and Model Railroad Planning.

Easier installations with 21-pin connectors



F40PH no. 219 heads up Amtrak's Northeast Regional on its run from Roanoke, Va., to Washington, D.C., on Larry Puckett's HO scale Piedmont Southern layout. Taking advantage of the 21-pin connector on the Rapido motherboard simplified installation of a sound decoder.

About 15 years ago

Electronic Solutions Ulm (ESU), maker of LokSound decoders, was working on a decoder for German model train maker Märklin. In the process, ESU came up with a new decoder format that included 22 pins in a dual row with one pin blanked out.

The remaining 21 pins allowed ESU to make plug-and-play installations a near reality, and made possible a lot of connections in the process. As long as a manufacturer installs a matching socket and wires all the connections, modelers can easily install a decoder of their choice.



THERE DOESN'T SEEM TO BE ANY REAL PROBLEM USING A 21MTC DECODER IN A LOCOMOTIVE HAVING A DIFFERENT 21-PIN FORMAT OR VICE VERSA. — LARRY

This new decoder format became a popular option in European models as the 21mtc connector (mtc meaning Märklin Trix Connector) **1**. Since then, this connector format, also known as an NEM connector, has been adopted by many manufacturers. Some followed the 21mtc format verbatim, whereas others have done a little of their own thing. At this point, however, manufacturers seem to be rapidly converging on the 21mtc as a standard.

So what does this mean for modelers considering using a 21-pin decoder? Most importantly, there doesn't seem to be any real problem using a 21mtc decoder in a locomotive having a different 21-pin format or vice versa. I've been assured it will not blow the decoder or cause any other harm. This is because the main differences are in the way certain function outputs are handled. The worst that could happen is some functions might not work properly.

The big difference among the formats is the way in which decoder functions 3

and 4 are controlled. The 21mtc decoders have a logic output for these functions, which requires a transistor or other circuitry to activate functions. However, few locomotive makers use more than the headlights and a couple other wired functions, so this shouldn't be a problem in most cases. Motherboards designed to be used specifically with 21mtc decoders have these special circuits built on them.

Let's take a look at a couple installations I did using these 21-pin connector decoders, and I'll point out some things I discovered in the process. First let's look at an easy installation.

The Rapido F40PH locomotive shown above has been available for several years in a variety of phases and paint schemes. It has an ESU-designed motherboard that accepts a LokSound or other 21mtc pin decoder **2**. The model I purchased for this article didn't have a decoder installed, so I used a LokSound 21mtc version.

I discovered this decision created a challenging situation for me, since unlike with many manufacturers' models, the sound package for the

Rapido model isn't available to be downloaded from the LokSound website.

The Rapido locomotives are available with a decoder with its proprietary sound project already installed, or you can purchase a pre-programmed decoder directly from Rapido.

Since I have a LokProgrammer, I programmed my own sound project for it. As a starter, I downloaded a sound project from the LokSound website designed for the Kato F40PH. This gave me all the sounds and basic functions I'd need. Using the LokProgrammer software, I made the necessary function reassignments and loaded the sound project into the decoder.

To finish, I installed a sugar cube speaker in the rear of the model, where a factory-installed speaker would go, and soldered the wires to the motherboard. I later found that adding the wires wasn't necessary, as the decoder comes with speaker wires attached to it. I placed the speaker directly beneath the open fans on the locomotive roof, so it puts out a lot of sound.

Now for a warning. During the test phase of this process,

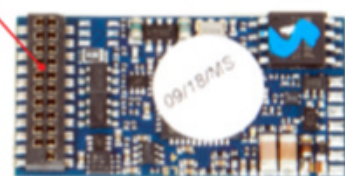
21-pin connector



TCS motherboard



TCS decoder



ESU decoder

1 21-pin salute. A TCS WOWSound 21mtc decoder with its 21-pin connector makes installation a plug-and-play operation if a matching motherboard is installed in the locomotive. Shown on the upper right is a TCS 21mtc WOWSound decoder and lower right is an ESU LokSound 21mtc.

I also tried a Train Control Systems (TCS) WOWSound 21mtc decoder on the motherboard and gave it a test run. It immediately shorted out! After pulling the decoder I saw the problem right away. The motherboard has a pair of large resistors installed directly under the decoder area, and the metal leads were sticking up far enough to touch the metal underside of the TCS board. I trimmed these leads short and placed a piece of electrical tape over them, then reinstalled the decoder. It ran fine.

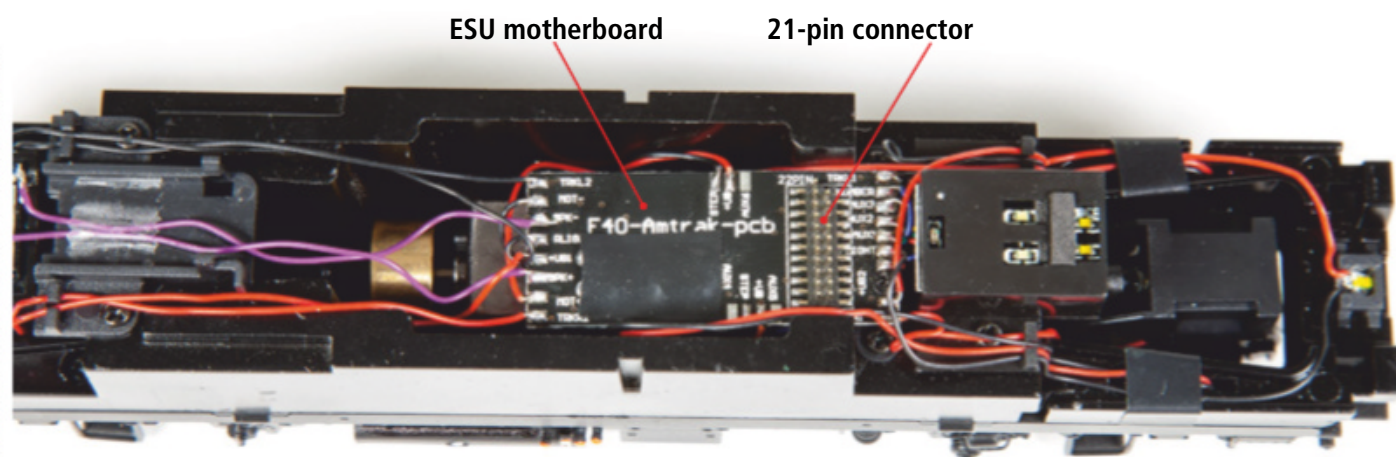
Now let's take a look at a more difficult job. Train Control Systems sells a wide selection of motherboards for both diesel and steam models. Since I had an old Bachmann light 4-8-2 on hand, I used a TCS B-MB1 motherboard designed specifically for that model **3**.

After disconnecting the tender from the engine and removing the shell, I surveyed the array of variously colored wires, few of which seemed to correspond to the National Model Railroad Association (NMRA) standards and recommended practices.

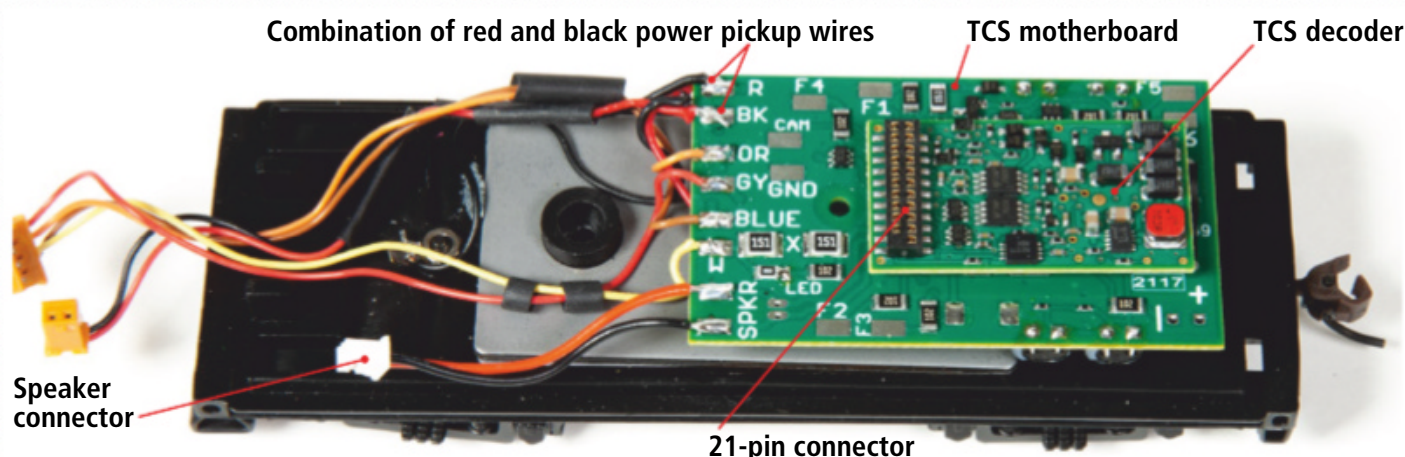
Fortunately, the circuit board doesn't appear to have changed over the years, and TCS provides a labeled photo on its website (tcsdcc.com/installation/ho-scale/bachmann-light-4-8-2/wsk-bac-1) showing what each wire is for.

One important connection was the track pickup wires. These were the correct red and black colors and they were correctly connected on the tender. However, the red and black wires from the engine were reversed.

As you can see in **3**, I have a mix of red and black wires connected to the same spots on the motherboard. Also, there's no guarantee the same color wires were used on models from different



2 Plug-n-play. The Rapido F40PH comes with a DCC-ready motherboard designed by ESU that's compatible with decoders using the 21mtc format. A sugar cube speaker, just out of sight on the left, installed in the rear of the model was the only soldering Larry had to do.



3 Everyone has a mother. TCS makes a number of model-specific motherboards, such as this one for Bachmann's light 4-8-2, with its Keep-Alive capacitor system built in to them. The 21mtc connector allows a decoder to be plugged in once the board is installed.

runs, so make sure to go by TCS's labeled photo and not wire colors.

Using the TCS labeled photo I was able to quickly wire and install the TCS motherboard in place of the factory original. With that in place I found a 23mm high bass speaker that fit in the front end of the tender **4**.

After cutting an opening for the speaker under the plastic coal load, I glued it in place using silicone caulk. I drilled a pattern of holes in the coal load itself so more sound could get out, as I showed in the October 2018 DCC Corner, and slid the tender shell back in place.

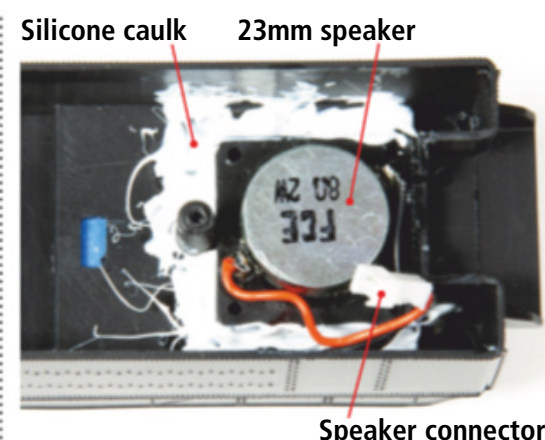
Here's another tip on this installation. The TCS motherboard comes with resistors on the function outputs for use with light-emitting diodes (LEDs). However, in the older Bachmann models, including mine, a small light bulb was

installed for the headlight instead of an LED. While it would be possible to remove the resistor from the motherboard, I instead replaced the light bulb.

As it turned out, this wasn't the easier option. It required removing the boiler casting from the engine. Using the exploded diagram that came with the model, I removed the screws holding the boiler in place and removed the small circuit board with the light bulb.

After clipping the wires I soldered an LED in its place and tested it before replacing the boiler. Fortunately the red and black wires were the correct polarity.

The 21mtc decoders made these installations fairly easy, especially in the case of the Rapido locomotive. In most similar models all you may need to do is install a speaker



4 High-bass sound. Larry used silicone caulk to install a 23mm high-bass speaker (available from Railmaster and SoundTraxx) in the tender under the coal load for this Bachmann 4-8-2. To let the sound out, he drilled holes in the plastic coal load.

and solder those wires to the motherboard. Installing a motherboard like those TCS includes in its WOWSound kits is a great way to upgrade an older model and include a stay-alive circuit in the process. **MR**



PIKO SmartControl Light HO ICE 3 train set

Zooming by in a flash of red and pale gray, Deutsche Bahn (DB) Intercity-Express (ICE) trains are 21st century icons of high-speed rail travel in Germany and its surrounding countries. PIKO has upgraded its HO scale ICE 3 passenger train set to include the firm's new SmartControl Light Digital Command Control (DCC) system.

The set also features a powered car factory-equipped with a dual-mode motor-and-light decoder for operation on DCC and direct-current (DC) layouts. An optional ESU LokSound Select decoder with prototype-specific sound effects is available separately.

The prototype. First developed in the 1980s with InterCity Experimental and continuing in the 1990s with ICE 1 and ICE 2, ICE trains serve an evolving system of high-speed rail lines that connect the major cities of Germany as well as cities in Austria, Belgium, Denmark, France, the Netherlands, and Switzerland. Many of the latest ICE

trains, including ICE 3 equipment, have in-service speeds of 330 kph (205 mph). The ICE 3 trains are also the only ICE trains powerful enough to handle the 4 percent grade of the high-speed line between the German cities of Cologne and Frankfurt.

Siemens Velaro delivered the first eight-car ICE 3 trains beginning in 2000. Instead of being built as a locomotive-pulled train, the ICE 3 was designed in an electric multiple-unit configuration with traction motors on each car. Two pantograph-equipped coaches collect current from overhead catenary. Including seating in the Bistro car, an eight-car ICE 3 train has a capacity of 441 passengers. The trainsets can also be doubled to 16 cars as needed.

In addition to the original 50 ICE 3 (class 403) trainsets designed to run in Germany, there are 17 ICE 3M or multi-system (class 406) trainsets designed to operate in international service. Another international version, with increased passenger capacity and more efficient

operation, Velaro D (class 407) recently entered service.

The model. The PIKO train set includes two cab-end cars (first and second class), a pantograph-equipped second-class coach, and a BordBistro car. An additional second-class coach and a first-class coach with pantograph are also available separately.

The PIKO ICE 3 represents class 403 equipment and measures within scale inches of the prototype's major dimensions. The model's plastic components all fit together tightly, helping the model achieve the sleek appearance of the prototype. Separate parts include the sprung metal and plastic pantograph on the pantograph coach.

All the cars feature darkly tinted plastic window glazing. The cars also have molded plastic interior detail.

The paint is smoothly applied with sharp color separation and crisply printed graphics that match prototype photos, including the first- or second-class (1 or 2) designation on the car windows. Even the tiny warning and maintenance stencils along the car sills are legible under magnification. Door seams are represented by black printed outlines.

Mechanism. After removing two screws from the bottom, I could easily lift off the BordBistro car shell. A printed-circuit board and dual-mode decoder are mounted to the top of a die-cast metal weight. Concealed inside this die-cast metal housing, a dual-flywheel-equipped can motor powers one axle of each of the car's trucks. The wheels of the powered axles have vinyl traction tires.

The train picks up track power through all eight wheels of the first-class end car. Five-pin sockets and plugs serve as couplers between the cars and



In addition to the four-car train, the set includes an oval of track, SmartControl Light DCC system, and a power supply.



Locomotive information is easy to see on the throttle's display.

transmit electricity to the electronics in the BordBistro car as well as the lights in the opposite end cab car. The specially designed coupler drawbars hold the cars close enough so the diaphragms touch on straight track, yet allow the cars to swing out wide enough to handle the 16.6"-radius R2 curves included with the set.

As you can see in the charts above, the ICE 3 accelerated smoothly to prototypical top speeds in both DC and DCC tests. The train also held the rails securely, running at top speed around the included oval of track. During runs on our staff layout, the Milwaukee, Racine & Troy, the ICE 3 easily negotiated no. 6 turnouts and crossings at both high and low speeds.

The light-emitting diode (LED) headlights change to red marker lights when the train changes direction. The factory-installed motor decoder supports two functions: I could turn the lights on or off with function 0 and could activate switching mode for finer slow speed control with function 6.

An installation diagram is included in the set for a custom ESU LokSound Select decoder available from PIKO for \$138.99. The decoder simply plugs into the eight-pin socket on the main printed circuit board. Installing the pre-wired speaker requires carefully removing the motor and weight to access the speaker

PERFORMANCE CHARTS

DRAWBAR PULL	7.5 ounces
	35 HO scale passenger cars

SCALE SPEED (DC)

VOLTS	SCALE MPH
5 (start)	7
7	48
9	73.5
10	160
12	180

SCALE SPEED (DCC)

SPEED STEP	SCALE MPH
1	2
7	56
14	120
21	172
28	180

enclosure on the car floor. Note that the motor leads are fragile. They snapped off our review sample, so I had to solder new leads to the motor contacts.

With the sound decoder installed, the ICE 3 really came to life. The 22 user-controlled functions include horns, station announcements, and pantograph sounds. Virtually every sound, lighting, and performance aspect of the decoder can be adjusted by programming configuration variables (CVs).

SmartControl Light. Although it's not as fully featured as the PIKO America SmartControl system I reviewed in the September 2018 issue, Smart Control Light offers an impressive introduction to DCC. It's also easily expandable and can be used beyond the confines of a train set oval.

The tethered throttle has a large speed control knob that's easy to use one-handed. The numbered keypad can be used to trigger up to 24 different functions, making it compatible with the most advanced sound decoders. The easy to read .75" x 1.5" digital display shows current train information and various menus, including those for service mode programming or programming on the main. SmartControl Light also supports decoder-equipped turnout control and can handle up to 16 different turnout routes.

Facts & features

Price: \$359.99 (set with DCC system), \$194.99 (DCC system alone)

Manufacturer

PIKO America LLC
4610 Alvarado Canyon Rd., Suite 5
San Diego, CA 92120
www.piko-america.com

Era: 2000 to present

Road name: Deutsche Bahn

Set includes:

- 6 straight tracks and 1 straight terminal track
- 12 R2 curved tracks
- 16V, 2.25A power supply
- Four car ICE 3 passenger train
- Layout requires minimum area of 38.6" x 66.2" (98 x 168 cm)
- Plastic rerailer
- Track features nickel-silver rail and plastic ties with simulated wood grain
- SmartControl Light Digital Command Control system

Car features

- Chemically blackened metal wheelsets, in gauge
- Detailed interiors
- Directional light-emitting diode headlights and marker lights on cab cars
- First-class cab car has power pickup on eight wheels
- Minimum radius: PIKO R2 (16.61")

Powered bistro car features

- Dual flywheel equipped can motor
- Dual-mode decoder with eight-pin plug for optional sound decoder
- One powered axle with traction tires on each truck

Weight

- 1 pound, 1.8 ounce (powered bistro); 4.4 ounces (coach); 6.3 ounces (end car)

Using the supplied three-foot coiled cable, the throttle plugs into one of the two LocoNet ports in the back of the 1.5" x 2.25" x 4" command station. These ports make it easy to expand the system with other LocoNet-supported devices, including Digitrax boosters as well as wired or wireless throttles. There are also separate outputs for both the main and programming tracks as well as a relay connection for a reversing loop.

Whether you're looking to add high-speed rail to an existing layout or want to run trains with DCC, the PIKO HO scale ICE 3 SmartControl Light set provides an excellent starting point. – Dana Kawala, senior editor



Atlas Classic HO scale Alco RS-11 diesel

Atlas Model RR Co. has re-released its HO scale model of a well-known Alco workhorse, the four-axle RS-11 road switcher, with an upgraded ESU LokSound Select dual-mode Digital Command Control decoder. The decoder features realistic sounds and smooth motor control under both DCC and direct current (DC).

History. Alco released the 1,800-hp RS-11 in 1956. Designed to replace its own RS-3 and compete with Electro-Motive Division's GP9, the RS-11 was a modest success. A total of 327 were built for American railroads between February 1956 and May 1961; Alco's export subsidiary Montreal Locomotive Works built 99 more RS-11s for the National Rys. of Mexico (NdeM) until April 1964. A few are still in service today on short lines.

Our sample model is decorated in the Delaware & Hudson's handsome blue-and-gray lightning-bolt scheme, one of six numbered 5000 to 5005. The six were originally built for the New York Central (numbered 8009 to 8014) but never delivered to that railroad; the D&H purchased them in 1961.

When delivered, they had small Roman road numbers beneath the "Delaware & Hudson" on the sides of their long hoods. In 1980, D&H adopted large sans serif road numbers, painted above the road name; nos. 5000, 5004, and 5005 received the large numbers. This is the paint scheme offered by Atlas.

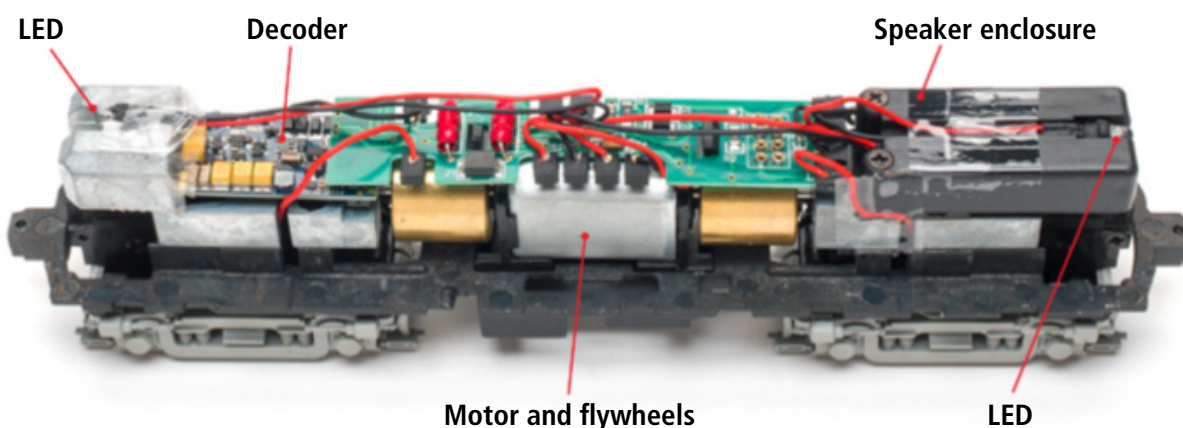
All but one of D&H's (then part of Guilford Transportation Industries) original six RS-11s were scrapped in 1988; no. 5002 was sold in 1998.

The shell and what's under it. We reviewed a direct-current (DC) version of Atlas' HO scale Alco RS-11 when it was re-released in April 2013; the tooling doesn't appear to have been changed since then. All the dimensions I checked came within a few scale inches of those on a prototype drawing published in the 1956 *Locomotive Cyclopedia of American Practice* (Simmons-Boardman). The placement of details like air filters, access doors, grab irons, and louvers also matched the drawing.

The horn on our model was mounted on the cab roof rather than on the side of the short hood, as on the drawing, but horn placement often varied among prototype railroads. All the photos I found online of D&H no. 5000 showed the horn mounted on top of the nose.

The blue and gray paint was smoothly applied, without any voids in the lettering or striping where it crossed body panels. The yellow stripe that separates the colors was crisp, straight, and opaque, even where it passed over molded-in grills. All lettering was likewise straight, legible, and opaque, and matched prototype photos taken after 1980 and later. (Photos taken prior to the locomotive's repaint show the "Delaware & Hudson" lettering higher on the long hood, with the road number beneath it.)

After removing the couplers and draft-gear boxes from both ends, I was able to remove the shell from the chassis by disengaging two clips from the back end, lifting the rear of the shell slightly, and sliding it forward to disengage two hooks on the front. Inside, two large brass flywheels flank the can motor, which connects via metal driveshafts to the gear towers. On top of the motor is a printed-circuit board with the decoder plugged to a socket under its front end.



Plenty of die-cast metal weight above the trucks and an all-wheel drive mechanism give the Atlas Alco RS-11 enough tractive effort to haul 40 HO freight cars.

PERFORMANCE CHARTS

DRAWBAR PULL	2.9 ounces
	40 HO scale freight cars

SCALE SPEED (DC)

VOLTS	SCALE MPH
6.5 (start)	1
8	10
9	24
10	42
12	78

SCALE SPEED (DCC)

SPEED STEP	SCALE MPH
1	1
7	15
14	40
21	70
28	70

The speaker enclosure is on top of the rear of the chassis. Light-emitting diodes (LEDs) are taped in place on top of both ends of the frame; clear acrylic light pipes conduct the light to the headlights and number boards.

Testing 1, 2, 3. Dual-mode decoders like the ESU LokSound Select installed in this model will run on both direct current and DCC. I tested it first under DC. I was pleasantly surprised when the distinctive sound of an Alco 251B engine start-up sequence kicked in at 6V. Sound-decoder-equipped models often require much higher voltage to get started. At just 6.5V, the locomotive started rolling smoothly at a stately 1 scale mph. At 12V, it reached 78 scale mph, which is a bit faster than the 65 mph top speed of the D&H prototype's 74:18 gearing, but not out of the range of the RS-11's available gearings.

The only sound effect that plays in DC operation is the motor sound, but that "pocketa-pocketa" will warm an Alco fan's heart. The RPMs ramp up and down with the locomotive's speed, which is governed by a healthy dose of built-in momentum. And as you decrease the voltage to 6V, the locomotive comes to a stop, but the engine sounds remain on idle. Gradually decreasing the voltage to 4V plays a shutdown sound sequence.

Under DCC, I had much more control over the sound effects. The melodious Nathan P3 air horn and bell were loud and clear. Using other function keys, I could also trigger a coupler clank, exhaust fans, and dynamic brake.

The engine responded at speed step 1 as it had in DC, rolling at a nice, slow 1 scale mph. It reached its top speed of 70 scale mph at speed step 21, though. So

Facts & features

Price: \$269.95 (DCC and sound), \$159.95 (DC, no sound)

Manufacturer

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

Era: D&H models as painted, 1980 to 1988; all RS-11s, 1956 to present (depending on paint scheme)

Road names (two numbers each): Delaware & Hudson (with large numbers), Apache, California Western, Conrail (ex-Penn Central patch out), Missouri Pacific, Nickel Plate Road (broad stripes), Norfolk & Western ("half moon" scheme), and Southern Pacific ("bloody nose" scheme). Also available undecorated.

Features

- Accurate magnetic knuckle couplers, mounted at correct height
- All-wheel drive and electrical pickup
- Blackened metal wheels, in gauge
- Directional light-emitting diode lighting
- Eight-pin plug for Digital Command Control decoder (direct-current version)
- ESU LokSound Digital Command Control sound decoder (DCC version)
- Factory-applied and painted wire grab irons
- Five-pole, skew-wound motor with dual brass flywheels
- Painted crew figures in cab
- Weight: 10.6 ounces

I adjusted Configuration Variable (CV) 6, Vmid, to a value of 48. This lowered the middle of the speed curve and stretched out the upper half. After this adjustment, the locomotive rolled at 57 scale mph at speed step 21 and 74 scale mph at step 28.

Pressing F7 puts the locomotive in switching mode, which cuts the engine's speed approximately in half for more precise execution of yard duties.

An Alco fan's dream. Alco may not have outsold EMD's Geeps, but the company makes up for it in the fervor of its fans. I've never met a model railroader who only kind of likes Alco diesels. In my experience, Alco fans absolutely love their Alcos. If you're a fan who models in HO, you'll love Atlas' model, too.

— Steven Otte, associate editor

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Walther's HO scale Trinity two-bay covered hopper

A **TrinityRail 39-foot**, 3,281-cubic-foot-capacity two-bay covered hopper has been added to the Walther'sMainline. The HO scale model is based on a contemporary freight car used to haul frac sand, roofing granules, cement, and other dense materials.

Our sample is decorated as General American Marks Co. no. 9837, part of the leasing company's 9722 through 9952 series built under TrinityRail lot no. F11026 in November and December 2011. The full-size car has high side sills, which make it easier to reach the vibrator brackets and outlet gates. The Walther'sMainline model has three round hatch covers. Sales literature from



The Walther's car features separate end cages and brake appliances.

TrinityRail indicates the car can be built with other hatch configurations.

The HO scale covered hopper has a one-piece plastic body. The roof is a separate casting with tabs that lock into corresponding notches on the car's interior. The hatch covers are separate castings.

A one-piece plastic running board, attached to supports molded on the roof, frames the top of the car. The casting has recessed (not see-through) round hole detail, giving it a 3-D quality. The seams between running board sections are crisply rendered. The corner grab irons are molded.

The end cages are separate castings with molded ladder rungs. The crossover platforms are smooth, but should have recessed detail like the running boards.

I compared the model to prototype drawings and data found on the Trinity Rail website. The covered hopper accurately follows published dimensions. The paint on our sample was smooth and evenly applied. The printing was crisp, legible, and matched prototype placement. The TrinityRail logo and lot number stencil, located to the left of the Clean, Oil, Test & Stencil (COTS) panel on full-size cars, were omitted. However, I appreciated that the built date in the COTS panel was 12-11, correct for this car.

Most of the car's weight comes from a 1/16"-thick steel weight. The weight is held in place with three Phillips-head screws. At 3.1 ounces, the car is .5 ounce too

Facts & features

Price: \$27.98

Manufacturer

Wm. K. Walther's Inc.

5601 W. Florist Ave.

Milwaukee, WI 53218

www.walthers.com

Era: 2011 to present (as decorated)

Road names: General American Marks Co., CSX, Norfolk Southern, Trinity Industries Leasing, Wells Fargo (WSOX reporting marks), and Union Pacific (Chicago, St. Paul, Minneapolis & Omaha reporting marks). Four road numbers per scheme.

Features

- 36" metal wheels mounted on plastic axles, correctly gauged
- Proto-Max metal couplers, installed at correct height
- Weight: 3.1 ounces (.5 ounce too light per National Model Railroad Association Recommended Practice 20.1)

light per National Model Railroad Association Recommended Practice 20.1. The covered hopper performed without incident on our Wisconsin & Southern layout.

If you stand by any busy main line in North America today, you're more than likely going to see a Trinity 3,281-cubic-foot-capacity two-bay covered hopper. A unit train of the Walther'sMainline HO cars would look impressive on a large model railroad, but the short-wheelbase car will also serve small layouts well.

– Cody Grivno, Group Technical Editor

QUICKLOOK



Rapido N scale New Haven 8600-series coach

Price: \$59.99

Manufacturer

Rapido Trains Inc.

500 Alden Rd., Unit 21

Markham, Ont. L3R 5H5

Era: 1947 to 1988, depending on paint scheme

Road names: New York, New Haven & Hartford (delivery with skirts, McGinnis with skirts, McGinnis without skirts); Massachusetts Bay Transportation Authority (MBTA) without skirts; Penn Central without skirts; painted with stainless-steel finish but unlettered

Comments: With the same attention to detail and accuracy as its HO scale model that I reviewed in the July 2017 *Model Railroader*, Rapido Trains has released an N scale version of its New York, New Haven & Hartford RR Pullman-Bradley 8600-series coaches for N scale.

Like the HO cars, the N scale 8600s measure within scale inches of drawings in *The Official Pullman-Standard Library, Vol. 10*, by W. David Randall (1991, Railway Production Classics). The silver paint replicates the prototype's distinctive stainless-steel finish. All of the lettering was sharp and opaque.

The compressor wheel spokes that impressed me on the HO model are visible in N scale, as well. Other details include separately applied wire handrails and photo-etched metal end gates. Although some of the underbody piping is molded in place, there's plenty of separately applied plastic detail to be found there, too. The silver-painted window sashes on the flush-fit plastic glazing are a nice touch.

Getting inside the car to install the included 1.5V button batteries for the lighting was a snap. I pried open the car sides with my thumbnails, then pulled

on a truck and eased the floor and interior out of the body. Inside are plastic seats in the proper configuration.

Illumination comes from downward-facing surface-mount light-emitting diodes on a printed-circuit board. A magnetic wand turns the interior lights on and off. The cars weigh 1.5 ounces, matching National Model Railroad Association (NMRA) Recommended Practice 20.1. Coupler height and wheel gauge also matched NMRA standards.

During testing the cars tracked perfectly through no. 6 turnouts and 13"-radius curves. The only hiccup was tunnel portals that contacted the handrails on the curves. I can report that the handrails are sturdily attached.

Whether you're modeling NH, PC, or MBTA – or you just like handsome passenger cars – these models will make a sharp addition to an N scale layout. – *Eric White, associate editor*



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QUICKLOOK

InterMountain Value Line HO scale coal gondola

Price: Single car, \$26.95; six-pack, \$159.95

Manufacturer

InterMountain Railway Co.

P.O. Box 839

Longmont, CO 80502-0839

www.intermountain-railway.com

Era: 1995 to present (as decorated)

Road names: Burlington Northern, BNSF Ry., Canadian National, and Procor. Two six-packs and one single car per scheme; also available with data only and blue, red, or yellow rotary end.

Comments: InterMountain has added an HO scale Johnstown America AeroFlow coal gondola in its Value Line. The model, made from former Hubert's Model Railroad Manufacturing Corp. tooling, has an injection-molded plastic body; two interior braces; and weights, painted the same colors as the interior, that double as the slope sheets.

Our sample is decorated as Burlington Northern (BN) no. 535623, part of the railroad's 535460 through 535699 series. The full-size cars were built by Johnstown America in 1995. The AeroFlo has side posts on the interior, making the car more aerodynamic.

The paint on our model was smooth and evenly applied, with crisp separation lines between colors. The lettering placement matches prototype photos of car no. 535623 I found online.

I compared the model to prototype drawings and data published in Robert C. Del Grosso's *Burlington Northern Santa Fe 1994 Annual* (Four Ways West, 1995). The truck centers and distance over the strikers are a scale 9" short.

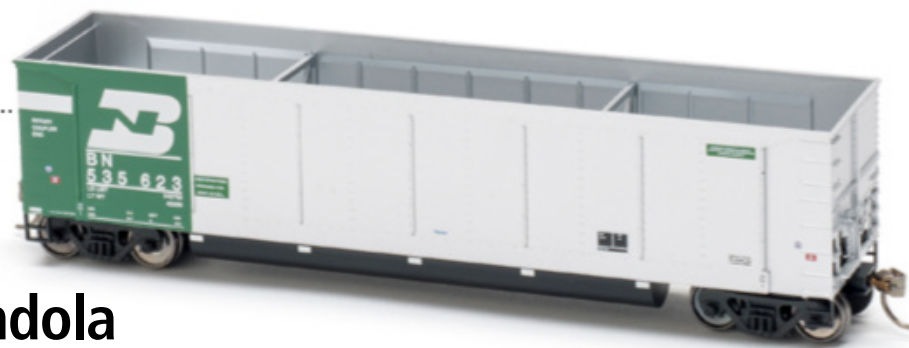
When comparing the model to prototype photos, the interior posts are too low (they should touch the top chord of the car) and are more round than post-like. The interior braces are

spaced incorrectly. Some rivet detail was also omitted.

The draft-gear box and end bracing is cast as a single unit. The draft-gear-box cover and bolster is a separate casting held in place with screws. The air reservoir, control valve, and brake cylinder are freestanding.

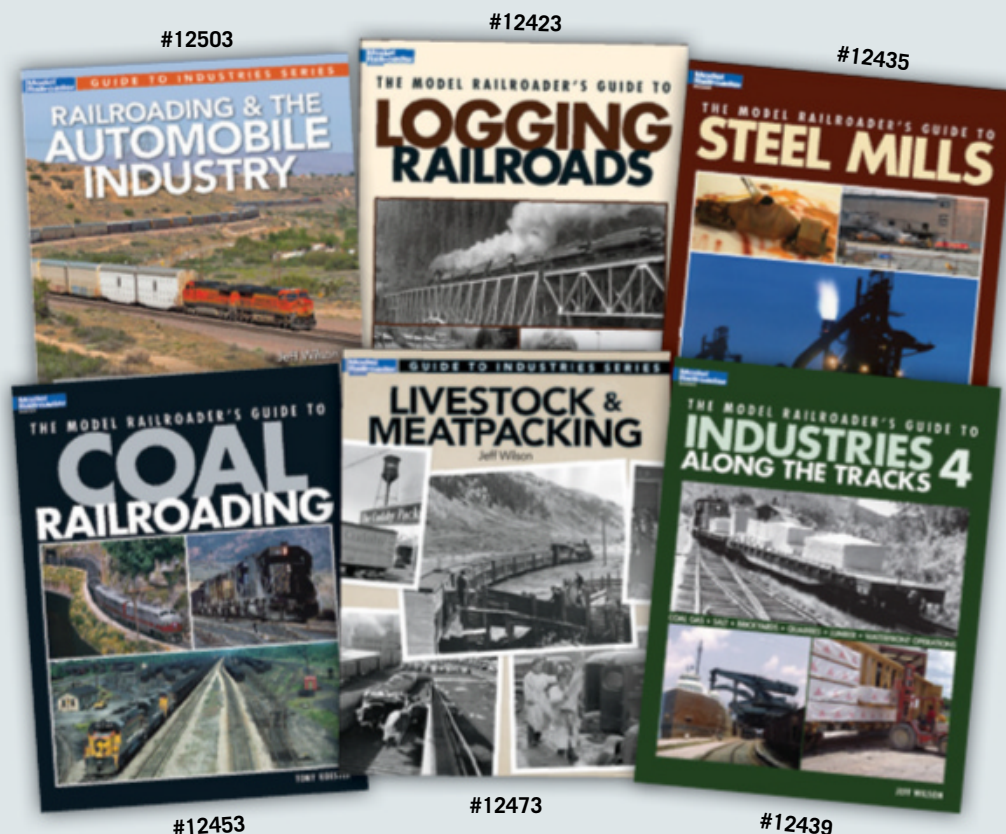
The body-mounted metal couplers are at the correct height. The metal wheelsets are correctly gauged. At 4 ounces, the car is .3 ounce too light per National Model Railroad Association Recommended Practice 20.1. The model operated flawlessly on our Wisconsin & Southern project layout.

As a BN and BNSF Ry. fan, I'm glad to see the Johnstown America AeroFlo coal gondola back on the market. Does the model leave some things to be desired? Yes. But when running in a train, it will capture the flavor of a distinct prototype. – *Cody Grivno*



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Handling less-than-carload-lot freight



A United Transportation Co. local using leased Pennsylvania RR equipment, itself on borrowed time, pauses to unload a package at New Egypt, N.J., in 1958. Aaron Fryer photo

I slipped a copy of this photo into my “On Operation” file the instant it appeared in the “Photo of the Day” series published by *Classic Trains*. It shows railroaders performing a ritual once witnessed by thousands of small towns every day, handling a less-than-carload-lot (LCL) shipment.

The man wrestling the large parcel appears to be a member of the train crew, perhaps a brakeman. He’s delivering a package carried on the caboose. The package might be company material, possibly an item for the maintenance-of-way crew or the signal maintainer. It might also be a railroad LCL or Railway Express Agency (REA) shipment. The engine crew watches intently.

Less-than-carload-lot and REA freight stirs my imagination. Long before United Parcel Service and Federal Express, families and businesses all over the country

reached retailers by mail, ordering goods that retailers, wholesalers, and manufacturers often shipped by rail.

These commodities were as diverse as the communities they served. Local grocers might receive boxes of cereal; hardware stores, kegs of nails. Waybills from the 1940s in my collection open a window into an earlier, rural America. There were wooden oars, drums of disinfectant, and cases of macaroni for a summer camp; plowshares and a fence gate for a farmer. A chair and a settee furnished a local home. A creamery received roller conveyors and barrels of cleaning compound.

Less-than-carload-lot freight once made a significant part of rail traffic. Packages were combined in full carload shipments between major

terminals. They were then broken down for final delivery by local freights. Railroads each ran their own LCL services, interchanging LCL cars as freely as full carloads.

Railway Express Agency was its own nationwide operation, a premium service that often included local pick-up and delivery. The carrier’s distinctive diamond logo, black-and-white lettering on a red background, adorned so many depots and baggage wagons that it was once as commonplace as today’s yellow-and-brown UPS shield. Railroads sometimes contracted to have REA trucks pick up and deliver railroad LCL at locations too small to support separate railroad LCL and REA express services.

Jeff Wilson’s *Express, Mail & Merchandise Service* (Kalmbach Books, 2018) is an invaluable resource. It describes the history of express agencies and covers LCL handling in detail. *Moving the Freight* is a 1947 Chicago & North Western promotional film that can be found on YouTube. It contains a nine-minute segment with thorough coverage of LCL handling at Proviso Yard, C&NW’s major Chicago-area terminal.

for towns along the a local freight’s route. The peddler car would be blocked next to the caboose, convenient for the conductor and the rear brakeman.

Larger towns might see a full car of LCL spotted at the depot or freight house. Others might see the peddler car worked from the main, with the car and train spotted at the depot for loading and unloading while the engine switched nearby carload customers, such as a lumber yard, a feed mill, or small factory.

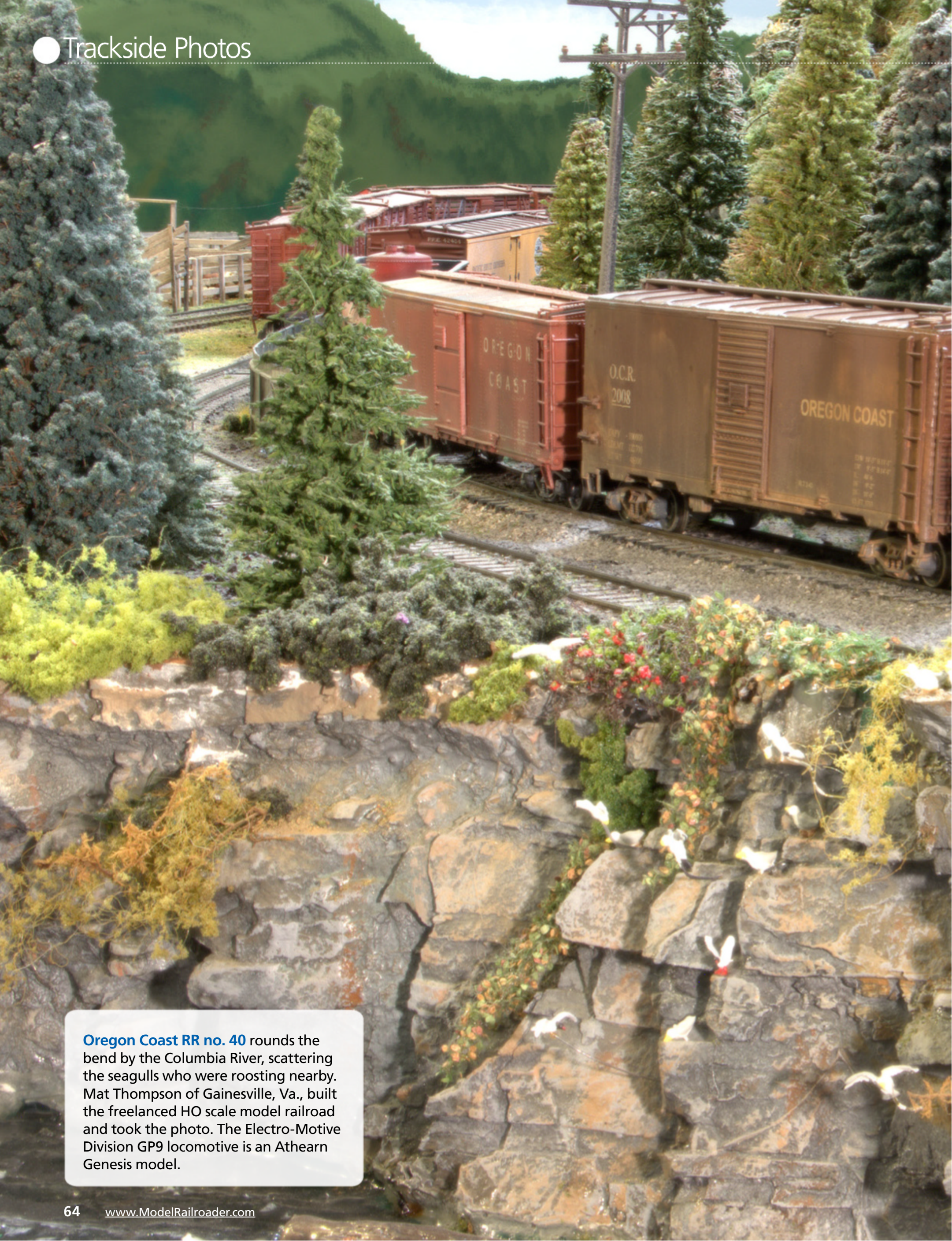
A peddler car allows unique equipment to appear on a layout. Some roads used specially equipped boxcars for LCL shipments. Boxcars assigned to such service might have a step beneath the door and a long grab iron mounted vertically on the wall at the side of the door. These fixtures eased access to the car’s interior.

When the railroad carried REA shipments, the car might display “Railway Express Agency” lettering in addition to its conventional reporting marks. These cars could be older cars, no longer accepted in interchange but still suitable for on-line service.

What about the boy in the photo? There’s strong tension in his posture, standing with legs wound up and hands clasped behind his back. Was he a budding railfan, daring not move any closer for fear of intruding on the railroaders he admired? Or, had he come to the depot for days in a row, eagerly anticipating a special present ordered from a Montgomery Ward catalog? Put an LCL car on one of your locals, perhaps occasioning a young visitor with a quick history lesson. 



The weather-worn Pennsy N6b cabin car carried the LCL shipment pictured. Some railroads handled LCL in side-door cabooses in which a small freight compartment was built. It was also common to use a peddler car, a boxcar loaded with LCL destined



Oregon Coast RR no. 40 rounds the bend by the Columbia River, scattering the seagulls who were roosting nearby. Mat Thompson of Gainesville, Va., built the freelanced HO scale model railroad and took the photo. The Electro-Motive Division GP9 locomotive is an Athearn Genesis model.

Conducted by Steven Otte



MORE ON THE WEB

• This photo of Mat Thompson's Oregon Coast layout is April's wallpaper. Download it free at ModelRailroader.com



A set of Long Island Rail Road “Ping Pong” coaches leaves Babylon Yard, heading toward Montauk. Since this section of the railroad is not electrified, diesel power is required. Eric Lohwasser of Hancock, N.Y., photographed the scene on his HO scale LIRR layout. The coaches are from Funaro & Camerlengo.

Send us your photos

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



The Allegheny Mountains loom over the Pennsylvania RR's Middle Division main line west of Altoona in 1947. David Gale of Matthews, N.C., photographed the scene on his O scale Pennsy layout. The structures were scratchbuilt by Harry Hieke.



A railfan shot this photo of a pair of General Electric ES44ACs doing distributed power duty in Grand Road's RODENX (Roseville to Denver Expedited) freight from the abutment of a bridge over Terror Creek. The action takes place on Paul Brennecke's N scale Grand Road. Paul shot the photo using a first-surface mirror and image-stacking software to improve depth of field.





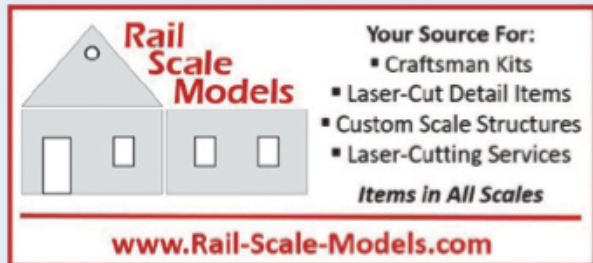
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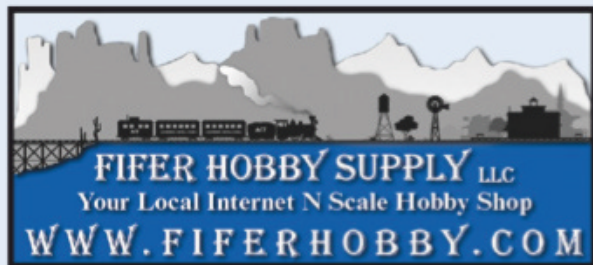
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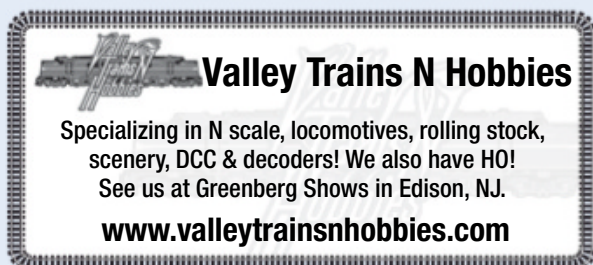


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CLOSING DATES: Jan 2019 closes Oct. 22, Feb. closes Nov. 8, March closes Dec. 17, April closes Jan. 21, May closes Feb. 18, June closes Mar. 25, July closes Apr. 22, Aug. closes May 17, Sept. closes June 21, Oct. closes July 22, Nov. closes Aug. 16,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

Schedule of Events

CO, COLORADO SPRINGS: Train Expo Colorado (TECO) hosts its next model train show in Colorado Springs at Chapel Hills Mall Events Center, April 13-14, 2019. Saturday 10:00am-5:00pm and Sunday 10:00am-4:00pm. Admission: \$6.00/person or \$10.00/family. Senior and military discounts. Contact Elizabeth 915-491-4819 or <http://www.tecoshow.org>.

CO, DENVER: Rocky Mountain Train Show March 2-3, 2019. Denver Merchandise Mart, 451 East 58th Avenue, Denver, CO 80216. Saturday, 10:00am-5:00pm, Sunday 10:00am-4:00pm. 2-1/2 acres of model trains of all scales, 30 layouts, 700 sales tables, clinics and more. Admission \$10.00 Free-Parking. Phone: 303-364-0274 www.RockyMountainTrainShow.com information@RockyMountainTrainShow.com

CT, BRANFORD: New Show Date, April 6, 2019. United Methodist Church, 811 East Main St. (RT#1) Branford. Saturday, 9:00am-3:00pm. Vendors, Layouts, Kids Stuff, Admission: \$6.00 Families, \$4.00 Seniors, Children under 12 FREE. Larry Appleton 203-457-1571 or UMC 203-488-0549 for table rates, and information. lappleton795@comcast.net

FL, PINELLAS PARK: Regal Railways Presents a Toy Train, Collectible and Hobby Show/Sale. Lopez Hall, 7177 58th St. North, Saturday, April 20, 2019. 9:00am-2:00pm. Adults \$5.00. Vendors, videos & operating layout. Serving lunch items. Contact Joe: 727-244-1341 or visit www.regalrailways.com for more information.

FL, PLANT CITY: H.B. Plant Railroad Historical Society Train Show and Swap Meet. John Trinkle Building, Plant City Campus, Hillsborough Community College, 1206 North Park Rd., Zip: 33563. March 23, 2019. 9:00am-3:00pm, Adults \$7.00, under 17 free w/adult. Contact: Gilbert Thomas, 863-412-3090, E-mail: Thomas_12399@msn.com Website: www.hbplantrr.org

IA, DAVENPORT: 8th Annual Davenport Model Railroad & Memorabilia Swap Meet. Mississippi Valley Fairgrounds, 2815 W. Locust St. Saturday, April 13, 2019. 9:30am-4:00pm. Admission: \$5.00. Tables \$20.00. All scales, operating layouts, food available, free parking. This is Iowa's Largest Train Show. Info: 563-391-6431, 8:00pm-10:00pm

IL, DECATUR: Decatur Train Fair 2019. Decatur Civic Center, 1 Gary K Anderson Plaza, Corner of Eldorado Street and Franklin Street. April 6-7, 2019. Saturday 10:00am-4:00pm, Sunday 11:00am-4:00pm. Adults \$5.00, under 12 free with adult. Steven Bricker, 217-864-4397, sabrickr@comcast.net

IL, JOLIET: Will County Model Railroad Club Swap Meet & Open House. Stone City VFW. 124 Stone City Drive. Saturday, March 30, 2019, 9:00am-2:00pm. Admission \$4.00 per person, children under 12 free. Dealers Welcome. Contact: Mike at 708-308-9036 or visit: www.wcmrra.org

IL, LOMBARD: Chicago O Scale Meet (2-Rail), Westin Lombard Yorktown Center, 70 Yorktown Center. March 15-17, 2019. Friday dealer set-up, show open to public Saturday 9:00am-5:00pm, Sunday 9:00am-2:00pm. Buy/sell, trade, clinics, layout-tours, model contest. Largest O Scale show. \$20.00 entire weekend. Info: Melissa 630-745-7600 or www.marchmeet.net

IL, ROCKFORD/BELVIDERE: Rock River Valley Division NMRA 28th Annual Show & Sale. Belvidere North High School, 9393 Beloit Rd., Belvidere, IL. March 30th 10:00am-5:00pm, March 31st 10:00am-4:00pm. Admission \$5.00 under 12 free. Website: rrvd-nmra.org or Doug 815-765-3135 vendors contact donbrindle@aol.com or Don 815-874-6095.

IN, INDIANAPOLIS: Central Indiana Division/NMRA Train Show. New Location at Manual High School Gym, 2405 S. Madison Ave. Saturday April 13, 2019, 10:00am-3:00pm. Admission \$3.00, Family \$5.00. Operating Layouts, Door Prizes, Displays, Free parking, and food available. Contact: Michael Roderick, 317-833-3556, mdrghost@hotmail.com or www.cidnmra.org

MA, WORCESTER: HUB Division NER/NMRA SPRING TRAINING CLINICS/TRAIN SHOW; Saturday March 16, 2019, 10:00am-4:00pm. Worcester State University, 280 May Street. Admission \$8.00, Children under 12 FREE. Featured clinician Joe Fugate, Editor Model Railroad Hobbyist magazine. More information and clinic details visit website www.hubdiv.org

MI, KALAMAZOO: Annual Spring Swap Meet. Kalamazoo County Expo Center, 2900 Lake Street. Saturday April 6, 2019, 10:00am-3:00pm. Admission \$3.00; Children 10 and under free. Presented by Kalamazoo Model Railroad Historical Society. Contact David Hayes-Moats 269-344-0906, www.kmrhs.org

MI, WYOMING (GRAND RAPIDS): Grand River Valley Railroad Club Spring Train Show. Saturday, April 13, 2019. Home School Building, 5625 Burlingame Avenue SW. 10:00am-3:00pm. Adults \$5.00, under 12-free. 203 vendor-display tables. Food, Door-prizes and Free parking. Vendor tables \$16.00 each. Contact Ken Skopp, 616-667-9680, kwsokopp@gmail.com OR www.grandrivervalleyrrc.org.

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

NC, ASHEVILLE: Asheville Train Show. Western North Carolina Agricultural Center. March 1-2, 2019. Friday 12:00pm-7:00pm and Saturday 9:00am-5:00pm. Admission \$6.00, under 10 free. All scales, all gauges, collectibles, artifacts. Operating layouts, Thomas The Tank Engine, hundreds of vendor tables. More: www.Asheville-Trainshow.com

NE, DESHLER: Train Show & Open House, June 29-30, 2019. Thayer County Activity Center, 4th & Race St. Hours: Saturday, 9:00am-5:00pm, Sunday 10:00am-4:00pm. Special clinics, layouts, and manufactures. Admission \$6.00, under 12 FREE. Extended hours at Spring Creek Model Trains. 304 E. Bryson Ave. Details: www.springcreekmodeltrains.com

NH, DOVER: The Great Northern New England Spring Train Show. Dover Lodge of Elks #184, 282 Durham Road, Zip: 03820. Saturday, April 6, 2019, 10:00am-3:00pm. Admission: \$5.00 per family. Exhibitor tables \$25.00 (includes entrance fee). All scales, operating layout, food. Contact Ed Martin, efmenter@aol.com or 603-362-4300

NJ, EAST RUTHERFORD: METCA/NYSME Train Show, St. Joseph's School, 120 Hoboken Road, Zip: 07073. Saturday, March 30, 2019, METCA/NYSME members 8:00am, Public 9:00am-2:00pm. Admission: \$5.00 Adults 16+, FREE for METCA/NYSME families. NYSME Club layouts open FREE to attendees. Info: www.METCA.org; Bob Amling, Secretary@METCA.org - 718-541-8619 or contact@modelengineers.org

NY, ALBANY: Albany Train Show, Polish Community Center, 225 Washington Avenue Extension, Albany NY. Saturday March 9, 2019, 9:00am-3:00pm. Admission \$5.00 adults, Kids 12 and under FREE. O, HO and N gauge working layouts. Over 100 vendor tables of Trains and Train related items. www.albanytrainshow.com or Jeff Stedje 518-852-7725.

NY, BETHPAGE: Annual Bethpage High School Train Show, Cherry and Stewart Avenue. (Exit 9 off Route 135). Saturday March 23, 2019, 11:00am-4:00pm. Admission: Adults, \$5.00 children \$1.00. Multi Scale Train Show. Information: Yolanda, 516-547-1300.

NY, KINGSTON: Kingston Model Train and Railroad Hobby Show. Murphy Midtown Center, 467 Broadway. Sunday, March 24, 2019, 10:00am-4:00pm. Adults \$7.00, kids under 12 \$2.00. 11,000 sq. ft. Operating layouts, dealer, vendor tables, Thomas the Tank engine and LEGO trains. Information: www.kingstontrainshow.com or e-mail kingstonmts@aol.com

OH, BUCYRUS: 33rd Annual Bucyrus Model Railroad Assoc. Train Show & Swap Meet. Crawford County Fairgrounds, 610 Whetstone St. Saturday, April 13, 2019, 10:00am-4:00pm. Adults \$5.00, children 12 and under free. Club layout open, videos, memorabilia, model train parts. Food by Katering Kountry Style. Contact: Dave Moore 419-462-5035.

OH, COLUMBUS: The 11th Ohio N Scale Weekend, "For N-Scalers by N-Scalers" Franklin County Fairgrounds, Hilliard, Ohio. Presented by Central Ohio N-Trak. May 18-19, 2019, Saturday, 10:00am-5:00pm and Sunday 9:00am-3:00pm. Set-up Friday May 17th, 1:00pm-8:00pm. Event registration \$10.00. Event info www.centralohiontrak.org or e-mail ohionscaleweekend@yahoo.com

OH, FREMONT: Fremont Model Train Show & Swap Meet, Fremont Community Recreation Complex, 600 St. Joseph Street. Sunday March 24, 2019, 10:00am-3:00pm. Admission: 10 and over \$5.00. Trains all scales, Toys, Books and operating layouts. Free Parking and lunch is available. Information: 419-706-8038, www.norwalkandwesternrr.com

PA, HAWLEY: Model Train Show & Sale. Hawley Fire Department, 17 Columbus Ave. Sunday, April 28, 2019, 9:00am-3:00pm. Admission \$3.00, under 12 free with adult. Bill Delling, 618 Fern St., Hawley, PA 18428, 570-226-3206.

PA, MONACA: Beaver County Model RR Spring Train Show & Sale. Monaca Turners, 1700 Old Brodhead Road. Sunday, April 7, 2019, 10:00am-3:00pm. Adults \$5.00, under 12 free. Sponsored by Beaver County Model RR & Historical Society. Contact: Walt Steiner 724-843-3783 or www.bcmrr.railfan.net or beaverctymrr@gmail.com

SC, CHARLESTON: Charleston Area Model Railroad Club Annual Train Show, Danny Jones Armory Park, 5000 Lackawanna Blvd. North Charleston. April 27-28, 2019. Saturday 9:00am-5:00pm and Sunday 10:00am-4:00pm. Adults \$7.00, Active military family's are Free and children under 12, Free. Additional information or table rentals, contact: trainshow@chamrc.com or www.chamrc.com

TN, JOHNSON CITY: George Carter Railroad Museum Train Show. East Tennessee State University MINIDOME, 1081 John Robert Bell Drive. May 31, & June 1, 2019. Friday Noon-6:00pm and Saturday 10:00am-4:00pm. Admission \$6.00, under 12 free. Free garage parking. Vendors, working layouts, live steam. Contact Roger Tienart 423-791-4937.

TX, NEW BRAUNFELS: Annual Model Railroad Jamboree. New Braunfels Civic Center, 390 S. Seguin Ave. April 13-14, 2019. Saturday 10:00am-5:00pm, Sunday 10:00am-4:00pm. Adults (over 14) \$8.00, children (5-13) \$2.00. 300 vendor tables, layouts including Legos, silent auction, refreshments, museum open house. Info: www.nbrmm.org Jim Edmondson 830-629-2071

UT, OGDEN: 30th Annual Hostlers Model Railroad Festival. Historic Union Station, 25th St. & Wall Ave., March 8-9-10, 2019, Friday 3:00pm-8:00pm; Saturday 9:00am-6:00pm; Sunday 9:30am-3:00pm. Admission \$7.00, 12/under free, weekend-pass \$10.00. Layouts all scales, many vendors, LEGO layout. Biggest train show in the West. Information: 801-394-4952, www.hostlers.info

WA, CHEHALIS: Lewis County Model Railroad Club, Annual Spring Model Railroad Swap Meet and Show. Southwest Washington Fair Grounds, Blue Pavilion Building, 2555 N. National Ave., Zip: 98532. April 6-7, 2019, Saturday 10:00am-4:00pm and Sunday 10:00am-3:00pm. Admission \$5.00. Free parking. Contact information: Ted, 360-985-7788 or TedsTrains@LewisCounty.com

WA, PORT ANGELES: North Olympic Peninsula Railroaders' 20th Train Show & Swap Meet. Clallam County Fair Grounds. September 21-22, 2019. Saturday 10:00am-5:00pm, Sunday 10:00am-4:00pm. FREE Admission & Parking. Several operating layouts. Scales Z to G & beyond welcome. Tables \$20.00 Contact stevenstripp@juno.com

WI, LA CROSSE: La Crosse & Three Rivers Railroad Club's 38th Annual Model Railroad Show: NEW LOCATION: Omni Center, 255 Riders Club Road, Onalaska, WI. March 16-17, 2019. Saturday 9:00am-5:00pm, Sunday 10:00am-4:00pm. Adults \$7.00, \$6.50-non-perishable food item, children 11 and under free w/adult. John Uehling 608-790-8889.

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The trick to getting a needed model

How often have you asked yourself why someone doesn't produce an Alco RS- or Electro-Motive Division GP- or SD- whatever? It's a lot like cows finding the grass is always greener on the other side of the fence: No matter what we have, we always find something we wish we had.

I remember way back in the 1960s when Gilbert (American Flyer) made a massive HO scale six-wheel-trucked Alco DL-600 (RSD-7) or maybe a DL-600B (RSD-15). I managed to acquire one, but I didn't need one of those. Instead, I needed a much shorter, four-wheel-trucked DL-701 (RS-11) like those on the Nickel Plate Road's roster. I chopped out portions of the body shell and came up with something that vaguely resembled an RS-11, but I never did remove the unwanted dynamic brake grilles and associated rooftop appurtenances or fit the shell to a powered chassis.

By the time I really needed RS-11s in quantity, Atlas offered them. (Indeed, they still do.) They had dynamic brakes, but by then mine were slated for service on the Allegheny Midland. The Midland Road was a mountain-climbing (and descending) railroad and therefore needed those dynamic brakes. I added a Mars light casting and chime horns and called it a day.

I'm still convinced that the reason they produced the RS-11 was a direct result of my chopping up that old Gilbert shell.

Remember when Athearn introduced the hobby's first second-generation hood units – an EMD GP30 and GP35 and several General Electric U-boats? The Nickel Plate had but a single GP35, no. 910,



Joe Smith of New Haven, Conn., superdetailed this Atlas RS-11, almost ensuring that another manufacturer would soon offer a model with myriad prototype-specific details. Joe Smith photo

bought as a wreck replacement unit in 1964. I had to model it, so I laboriously filed and sanded off the dynamic brake hatch and "blisters." I also added the bell tucked into a recess on the engineer's side of the low nose. It wasn't a bad model for the time.

In more recent times, Athearn produced a new GP35 model with tooling options that allowed them to offer these units with or without dynamic brakes. Among their road-name offerings was NKP 910. I have mine carefully packed away for the day when I may shift the era up to 1965, the year after the NKP and Wabash merged into the Norfolk & Western. All it needs is the bell in the low-hood notch to be a very good model of that unit.

But I'm positive they never would have produced the new model had I not gone to the trouble of detailing the original one.

Connecticut modeler Joe Smith upped the ante another notch when he detailed an Atlas RS-11 for his favorite railroad. I'm sure he enjoyed

the project as he added myriad details: steam generator air intake and exhaust, Hancock air whistle, wind-shield wipers, train-control equipment, extended walkway over the train-control box, enlarged cab-side windows, water fill, split fuel tank (50/50 water and fuel), corrected exhaust height, stanchion modifications, and brass handrails, among other odds and ends.

I could have told him what would happen next. Someone would notice that a really superdetailed RS-11 (with or without dynamic brakes) was still missing in action. Sure enough, just when you thought it was safe to detail those RS-11s tucked away in your home hobby shop collection, Rapido announced a "new and improved" RS-11 and the Canadian version, the RS-18. They're big on railroad-

specific details, so even those far down on the favorite-prototype totem pole can hope that they eventually get around to us.

Maybe I've gotten lazy, but with a basement-size, multi-deck model railroad that still needs attention, having someone produce a near-perfect, factory-painted model of a needed locomotive is a happy day indeed.

So here's the deal: Rather than suggesting that you

write a letter to the manufacturer of your choice urging them to produce a much-needed model, I recommend that you get busy modifying and upgrading the closest-available model that's already on the market.

This ploy has worked many times before. No reason to assume it won't work again. **MR**



I'M SURE THEY NEVER WOULD HAVE PRODUCED THE NEW MODEL HAD I NOT GONE TO THE TROUBLE OF DETAILING THE ORIGINAL ONE.
—TONY

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