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April 2024
Trains.com

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Six scenery projects

- Ground foam and static grass
- Plaster loading dock and streets
- Abandoned track
- **and more!** p.48

Visit two N scale empires

- **Great Northern in Big Sky Country** p.32
- **Inspired by Appalachia** p.42



Doug Dederick models the Great Northern Kalispell Division in N scale. p. 32

PLUS

Cheryl Sassi scratchbuilds spruce trees p.23
N scale online resource celebrates 25 years p.40

\$7.99



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04

Vol. 91 • Issue 4

KEYSTONE DUOS!

H21 4-BAY HOPPER

**HO
SCALE**



3D CAD render, subject to revisions upon final production.



G22 46' STEEL GONDOLA



Early sample, subject to revisions upon final production.

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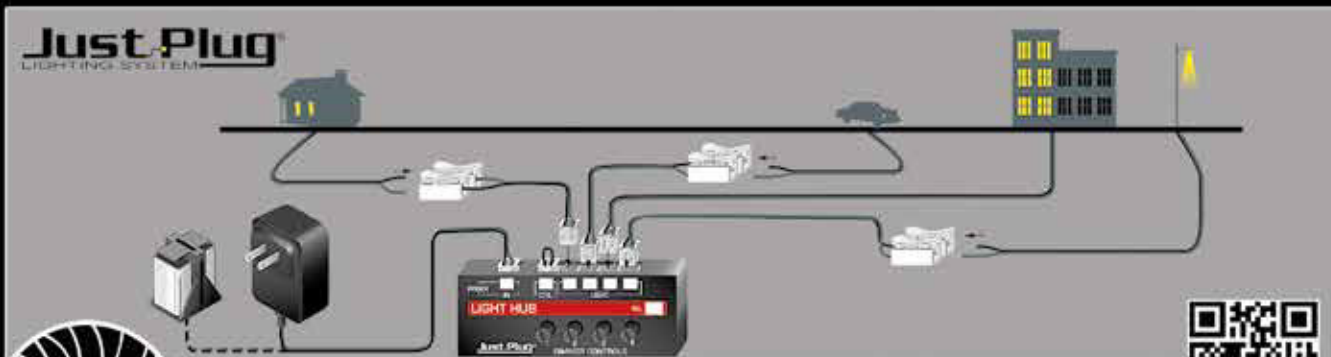
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Overcoming inertia



On the cover: Doug Dederick's N scale basement empire captures the sweep and grandeur of Big Sky Country. Lou Sassi photo



Next issue

In May, get a look at two compact HO scale model railroads. Plus, build a wood structure Step By Step, compare a model scene to the prototype, and more!

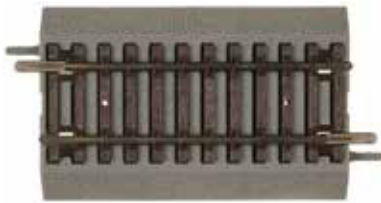
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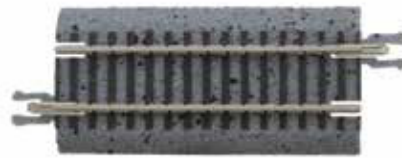
Atlas HO Code 83 track features prototypically-fine brown ties and nickel silver rail, and not only looks realistic but is incredibly reliable.



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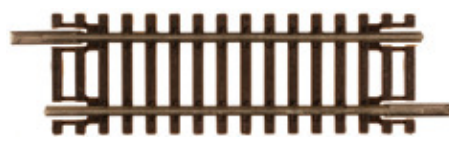
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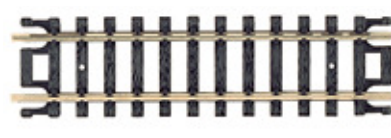
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Conducted by Bryson Sleppy



Have layout, will travel

Jeff Shaw takes portable layouts to a new dimension with two layouts, each designed to fit into a station wagon. Both are built in sections that can be stacked on top of the other. In addition to stacking, they structurally support each other using natural bluffs and hills in the scenery. Using a wooden crate, he's able to take them to shows or have them shipped. They're quick and easy to set up and start running trains. See how he did it on Trains.com.



Athearn HO scale EMD SW1500 review

The **Athearn HO scale** EMD SW1500 pays a visit to the Jones Island section of our Milwaukee, Racine & Troy staff layout. *Model Railroader* Senior Editor Cody Grivno discusses the features on the end-cab switcher, which is being offered with light-emitting-diode lighting and a SoundTraxx Tsunami2 sound decoder for the first time. In addition, he shares a brief prototype history of Wisconsin Central SW1500 No. 1569. See the features and details, hear the sound, and watch the unit run by scanning the attached QR code with a smartphone camera or tablet.



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Union Pacific Railroad (UP) class 4000

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

TRIX



To commemorate this event, Trix has reissued an accurately redesigned model in HO scale (Item No. 22163). This model was made specifically for the HO US market.

- RP 25 Wheels
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This metal model has a total of 14 design changes to accurately represent the prototype, including changing to an oil firing tender, "Big Boy" written on the smoke box door, applying the UP 4014 logo onto cab floor and more!

Trix products are available from authorized Trix and Märklin dealers. See our complete line of products at marklin.com and trix.de/en. Contact customerservice@marklin.com for more information or to request a free New Items catalog.

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Hobby milestones: The creation of N scale

As we work our way through this anniversary year, I've been thinking about the history of the hobby. It's not an unusual pastime here at Kalmbach. If you follow us on Facebook, you've probably seen David Popp's posts about his journey through the 1960s in his collection of *Model Railroader* bound volumes.

One of the big little events of the 1960s was the introduction of N scale. Named for its track gauge, N scale track measures 9 mm between the railheads. In many European languages, the word for 9 begins with an N. For 9 mm gauge rails to represent 4'-8½" standard gauge, the proportion is 1:160.

So, what are the advantages of 1:160 proportion, or N scale? Obviously, the smaller the scale, the more trains a modeler can fit into a given space. If you want a model

railroad, but can't devote hundreds of square feet to the hobby, N scale lets you get much more in your space than HO or O, the scales that bracket N in popularity. (Estimates vary, but N makes up about 20% of modelers' primary scales, HO about 78%, and O makes up most of what's left.)

But what if you have lots of space? Why fill a basement with an N scale layout? Proportion. This time, the ratio of trains to scenery. In most instances out in the real world, even trains are dwarfed by their environment.

If you want to model mountain scenes so they look like photos in *Trains* magazine, N scale makes a lot of sense. It only takes a quarter of the square footage of HO to model a mountain pass, and one-eighth the volume.

We're sharing a couple of high-quality N scale layouts

this month that feature mountain railroading: one in the East (page 42), and another in the West (page 32). These basement-sized layouts really let the landscape dominate the trains.

On a large layout, N scale lets builders broaden curves to get a much more pleasing look. The same goes for higher frog numbers on turnouts. What we consider generous as modelers, full-sized railroaders would look at as potential hazards.

Another advantage N scale modelers have is The N Scale Locomotive Encyclopedia at spookshow.net. If you're an N scale modeler, you probably already know about this site. If you don't, now you do.

It's a comprehensive listing of every N scale locomotive model of a North American prototype sold since the beginning of the scale. The



site celebrates its 25th anniversary this year. Founder Mark Peterson has probably done more to improve the quality of N scale equipment through his exhaustive testing than anyone else in the hobby. You can read more about it on page 40.

If you're still trying to decide on a scale, take a look at N. You won't be sorry.

Model Railroader

Model railroading is fun!

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N scale



Fairbanks-Morse H24-66 Train Master diesel locomotive.

Atlas Model Railroad Co. offers this six-axle unit decorated for Erie-Lackawanna; Canadian Pacific; Chihuahua Pacific; Delaware, Lackawanna & Western; Jersey Central; Pennsylvania RR; Reading Co.; and Southern Pacific in two to three road numbers per scheme. The N scale locomotive features

directional golden-white light-emitting diode headlights, painted safety rails, etched-metal grills, and blackened metal wheels. Direct-current units feature a factory-installed speaker and are priced at **\$139.95**. Models featuring an ESU LokSound decoder sell for **\$249.95**. Atlas Model Railroad Co., 908-678-0880, shop.atlasrr.com

Model Train Stuff ends operations

M.B. Klein, also known as Model Train Stuff, has announced its closure after 111 years in operation. The news was released on the store's website and social media channels in late January.

Uncertainty has surrounded Model Train Stuff following the announcement that Hattons Model Railways, the United Kingdom-based manufacturer and distributor that recently



purchased Model Train Stuff, would be closing its doors in the coming months.

The announcement said, "We regret to inform you that M.B. Klein Inc. (Model Train Stuff) has now ceased trading. Thank you for your custom and support over our incredible 111 years of continuous operation. Our customer service agents are available for a limited period to assist with any final queries."

Model Train Stuff stated that it's unable to accept returns and recommends customers reach out to the product's manufacturer for returns.

Originally founded in 1913 as a hardware store named M.B. Klein, the company evolved into a model train distributor operating out of Maryland. It was acquired by Hattons Model Railways in September 2023.

The final day of operations for Hattons Model Railways was February 4.

ACI scan app now available

Exciting news for fans of the 1970s!

Modelers can now download a working ACI scanner to their smartphones and start keeping track of freight cars just like railroads in the 1970s did.

The new KarTrak ACI 0401 scanning app uses the camera on a smartphone to read the ACI labels on the sides of model freight cars and locomotives. This should greatly speed up set-up and staging for operating nights on model railroads, providing all the cars have unique ACI label decals on them.

Models of the scanners have been available as lineside detail parts for years, but those were non-working detail parts. Now, model railroaders with Apple iOS

or Android smartphones finally have a working ACI system they can use to keep track of their rolling stock.

0401 Industries is a startup company that's hoping to take the modeling world by storm. The app itself is free, but as you might be thinking by now, you'll need to label all of your cars for this to work, and the labels will need to be unique. This is where 0401 intends to make its money. Packs of unique ACI placards, optimized to work with the ACI 0401 app, are \$24.99 for a 100-pack. These labels are printed on thin brass sheet stock and should be easy to apply with cyanoacrylate adhesive. They're available in both HO and O scales.



Available now from 0401 Industries, the KarTrakACI 0401 scan app can be found in your smartphone's app store.

Model Railroader doesn't yet have a sample product in-house for testing, as 0401 Industries says it has a few developmental tweaks to make. "It has to be foolproof," said Werner Aprilscherz, product director. We hope to have a review to publish by the April 2025 issue of MR. Stay tuned!

HO scale



Thrall 48-foot two-hood coil car. Paint schemes on this ScaleTrains Rivet Counter line model include Norfolk & Western (with Norfolk Southern hoods); Atchison, Topeka & Santa Fe; BNSF Ry.; Central of Tennessee Ry. & Navigation Co.; Illinois Central; and Union Pacific. The HO scale freight car (\$52.99) features a dual-trough body with center divider, wire grab irons, Barber S-2 100-ton trucks with rotating bearing caps, and a simulated wood floor. Four positionable load dividers and coil steel loads with a metal weight are also included. The underbody has a complete brake system with separately applied parts. ScaleTrains, 844-987-2467, scalettrains.com

HO scale locomotives



• **Electro-Motive Division GP38-2 diesel locomotive.** CSX, Canadian Pacific, Conrail, Norfolk Southern, Seaboard System, and Union Pacific. Multiple road numbers per scheme. Light-emitting diode lighting, full cab interior, wire grab irons, Celcon handrails, detailed fuel tank, die-cast metal frame, and all-wheel drive and electrical pickup. Direct-current model with 21-pin NEM connector, \$219.99; with DCC and sound, \$319.99. Add \$10 for Primed for Grime. Genesis series. Athearn Trains, 800-338-4639, athearn.com



• **Electro-Motive Division GP9 diesel locomotive.** Phase II: Norfolk & Western, Boston & Maine, and Grand Trunk Western. Phase III: Illinois Central, Milwaukee Road, and Pennsylvania RR. Four road numbers per scheme; also available undecorated. Road-specific details including horn, bell, fans, antenna, headlight, fuel tank, and trucks. Light-emitting-diode lighting, wire grab irons, and photo-etched lift rings. With or without beacon as appropriate. Direct-current model with 21-pin connector, \$199.98. With DCC

and sound, \$299.98. Walther's Proto. Wm. K. Walther's Inc., 414-527-0770, walther's.com



• **Siemens SCV-42 diesel locomotive.** VIA Rail Canada. Directional light-emitting-diode headlights, marker lights, and auxiliary light; interior corridor work lights; and steady/alternate-flashing ditch lights. English and French station announcements. Dual-mode TCS sound decoder. \$495. Bachmann Trains, 215-533-1600, bachmanntrains.com

HO scale rolling stock



• **Illinois Central Centralia Shops 3,834-cubic-foot capacity four-bay hopper.** Inland Steel, Illinois Central, and Illinois Central Gulf. Multiple road numbers per scheme; also available undecorated. Road-number-specific details include body style, end frame, ladder assemblies, brake wheel housings, and routing board options. Separately applied wire grab irons and uncoupling levers. \$52.95. Hopper topper three-pack, \$44.95. Tangent Scale Models, 828-412-3886, tangentscalemodels.com

In Memoriam

Bill Neale, 1949-2023

Bill Neale, 74, died on December 28, 2023, after a brief illness.

Bill became a life-long member of the National Model Railroad Association while a teenager. He, along with friend Bill Darnaby, started the Midwest Railroad Modelers Club, also known as the "Batavia Club."

After moving to Farmington Hills, Mich., Bill started work on his HO scale Pennsylvania RR Panhandle Division layout, featured in *Great Model Railroads 2010*. The 25 x 27-foot layout is set between Burgettstown, Pa., and Mingo Junction, Ohio, in September 1939. Not only did Bill focus on stunning scenery, but operations were a high point for his layout.

Bill, a former NMRA Central District Direction, enjoyed hosting modelers from around the country at his frequent operating sessions.



Victor Roseman, 1948-2024

Victor Roseman, 76, died on January 5, 2024, in Brooklyn, N.Y.

Victor, who used the byline V.S.

Roseman, was a skilled model rail-roader and historian, with credits in both articles and books. His work appeared regularly in various hobby publications in the United States and Europe. He also wrote historical references on the Railway Express Agency and Central RR of New Jersey.

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

Before retiring, Victor taught photography art and design at middle and high schools throughout New York City.



Atlas acquires Custom Signals

Atlas Model Railroad Co. of Hillside, N.J., announced in December that it acquired Custom Signals of Poughkeepsie, N.Y. The company produced O scale signal products and built signal systems for layouts.

The acquisition included inventory, the Track/Signal Configuration Library, and all of Custom Signals' tools, including molds, dies, designs, plans, and diagrams for all current and proposed signal products.

Paul Graf, Atlas CEO, said in a press release, "This purchase will allow the expansion of our signal line from a basic Automatic Block Signaling system (ABS) to a full Absolute Permissive Block

Signaling system (APB). It will grow our N and HO signal products, and offer all customers valuable assistance in building track layouts using the Atlas All Scales Signal System."

Atlas' All Scales Signal System currently offers a variety of products and was first introduced in the early 2000s. Terry Christopher from Custom Signals worked with Atlas to produce the system. The system was revamped in 2019 with more products available for N, HO, and O scales.

Current signal types in the Atlas line are Type G, modern hooded, and searchlight, in multiple configurations. With the Custom Signals acquisition, Atlas



This Norfolk & Western/Baltimore & Ohio Color Position Light signal is an example of a Custom Signals product. Atlas Model Railroad Co. of Hillside, N.J., acquired the O scale signal manufacturer in December 2023.

now has a full line of products for these three scales.

For the latest information on the Atlas All Scales Signal System, visit shop.atlasrr.com.



- **Enterprise covered hopper.** New York Central version: Penn Central (Deepwater Green maintenance-of-way and gray schemes), Canada Southern (gray with Gothic lettering), New York Central (gray with Gothic and Roman lettering), and Merchants Despatch Transportation Corp. (gray with MSGX reporting marks and Flo-Sweet Bulk Granulated Sugar lettering and gray with GFCX reporting marks). Canadian National version: CN (as-delivered red,

red OCS sand service, and gray with "wet noodle" herald [in-service and MOW schemes]. Both versions also available undecorated. Detailed body and underframe, turned metal wheelsets, and Rapido semi-scale metal couplers. Single car, \$54.95; three-pack, \$164.85; six-pack, \$329.70. Rapido Trains Inc., 905-474-3314, rapidotrains.com



- **Pennsylvania RR GLA hopper.** Pennsylvania RR (four paint schemes), Berwind (BWCX and NRBX reporting marks), Buffalo Creek & Gauley, Central Vermont, Cumberland & Pennsylvania, and Pennsylvania Coke & Coal. Multiple road numbers per scheme. Full interior rivet and bracing details and factory-installed grab irons. Die-cast metal frame and floor. PRR 12D-F8 or Archbar trucks as appropriate. Narrow semi-scale draft gear box and metal couplers. Single car, \$54.95; three-pack, \$164.85; six-pack, \$329.70. Rapido Trains Inc., 905-474-3314, rapidotrains.com



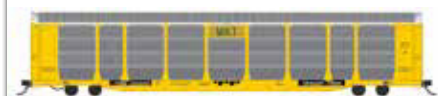
- **Maintenance-of-way set.** Burlington Northern, Conrail, Canadian National, Denver & Rio Grande Western, maintenance-of-way, and Union Pacific. Three-piece set includes converted tender fuel oil tank car, 40-foot derrick flatcar, and

52-foot gondola. Separately applied grab irons on fuel tender and gondola. Derrick car has separate metal derrick chain and hook details. \$144.99. Athearn Trains, 800-338-4639, athearn.com



- **Pennsylvania RR X23 boxcar kit.** Four versions available. Cast-resin kits with one-piece body, Youngstown and car builders doors, booted ribs, and decals. \$59.99. Funaro & Camerlengo, 570-224-4989, fandckits.com

Club offerings



- **Missouri-Kansas-Texas bi-level auto rack.** InterMountain Railway Co. HO scale model produced for the Texas Northern Model Railroad Club. Six road numbers available. Etched-metal see-through side panels, wire grab irons, InterMountain metal wheelsets, and Kadee No. 158 couplers. Single car, \$99.95; six-pack, \$539.70. Texas residents add 8.25% sales tax. Texas Northern Model Railroad Club, texasnorthern.org

N scale rolling stock



- **General American 23,000-gallon Tank Train tank cars.** Quaker State, Canadian National, and General American. Multiple road numbers per scheme. Transfer plumbing per prototype series and end (A-end or B-end). Detailed, soft vinyl transfer hoses that bend as the car negotiates curves. Prototype-specific walkways, manways, and load/unload plaques. Separate grab irons, etched-metal coupler platforms, and 36" machined metal wheelsets. Single car, \$39.99; two-pack, \$74.99; three-pack, \$104.99. Athearn Trains, 800-338-4639, athearn.com

Rapido HO scale Canadian Pacific D10 4-6-0



A Canadian Pacific Class D10 4-6-0 is the second offering in Rapido Trains' Icons of Canadian Steam line (that's *Icones de la Vapeur Canadienne* for you Quebecois). The diminutive but doughty HO scale Ten-Wheeler impresses with its realistic details, Digital Command Control with sound, and pulling power, mustering 7 ounces of drawbar pull.

The CP class D10 Ten-Wheeler was the most numerous, popular, and successful steam locomotive in Canada. Canadian Pacific ordered 502 of them between 1905 and 1913, and some of them lasted through the railroad's end of steam in 1961. In that time, they handled both mainline freight and passenger trains, later serving on branch lines in Canada and the United States. Rapido offers many road numbers for this versatile engine, including painted but unlettered options.

How does it measure up? In our David P. Morgan Memorial Library photo collection I found two photos of CP 4-6-0 No. 1057, a restored class D10 from the same batch as our sample model. The model's lettering, detail placement, and overall appearance matched the photos.

I found a builder's diagram for the class D10, and the model's major dimensions matched or came very close to the measurements in the diagram.

The paint on our model was smooth and even. The lettering was opaque and straight; even the builder's plate was legible under magnification.

All the wheels were blackened metal and were in gauge. The back two drivers

had traction tires. A replacement set of drivers without traction tires was included. Also included were a spare set of traction tires and a small multi-purpose screwdriver-wrench tool.

On the test bench. Our sample model was equipped with an ESU LokSound V5 sound decoder. This decoder is dual-mode, meaning that it can run under either direct current or DCC. I tested it first using direct current.

The decoder played a start-up sound sequence when the voltage reached 8.5V. As I continued to turn up the power pack, a steam release sound played at 9.5V, and the engine started to move at less than 1 scale mph at 10V. At 13.5V, the maximum our power pack could put out, the locomotive reached 40 scale mph. I was pleased that the decoder was equipped with momentum effects that also worked with direct current.

A wide array of on-demand sound effects became available when I switched to DCC, which also offers a broader range of speed control. Speed step 1 resulted in a steady crawl at just 0.6 scale mph; the locomotive peaked at 68 scale mph at speed step 28, close to the prototype's rated top speed of 65 mph.

Most impressive, though, was the engine's big pulling power. Our test bench force meter registered a huge 7 ounces of drawbar pull, equivalent to 98 free-rolling 40-foot boxcars on straight and level track. That's under ideal conditions, though; in the real world of our HO scale Milwaukee, Racine & Troy staff layout, the doughty little engine

wrestled a dozen less-than-free-rolling 50-foot boxcars up the curving 3 percent grade from Bay Junction to Skyridge.

Rapido built its reputation mainly on passenger cars and diesel locomotives. This second steam entry proves that the first, CPR's Royal Hudson, was no fluke. As a steam aficionado, I truly appreciate this new focus for Rapido. — *Steven Otte, senior associate editor*

Facts & features

Price: Direct current, \$499.95; with Digital Command Control and sound, \$599.95; tender only, \$109.95

Manufacturer

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

Era: 1905 to 1961

Road names: Canadian Pacific (freight scheme, nine road numbers; passenger scheme in one number), Dominion Atlantic (two numbers), and Quebec Central (one number). Also available painted black and unlettered with prototype-specific variations.

Features

- Minimum recommended radius 18"
- Prototype-specific walkway, headlight, bell, tender, and detail variations
- Working head, marker, and class lights, plus flickering firebox light
- Weight: engine alone, 10.2 ounces; with tender, 15 ounces

Athearn HO scale EMD SW1500



The Electro-Motive Division SW1500, part of the Athearn HO scale product lineup since 1991, is back. The latest release of the end-cab switcher is offered with a newly designed can motor, light-emitting-diode lighting, and a dual-mode SoundTraxx Tsunami2 decoder.

Electro-Motive Division produced the SW1500 from July 1966 until January 1974. During that time 808 units were produced. The 1,500 hp switchers were equipped with a 12-645E engine.

The sample we received is decorated as Wisconsin Central (WC) 1569. The regional carrier acquired the former Southern Pacific unit in 1998. It wore the railroad's maroon-and-gold scheme through October 2002, when it was repainted into the colors of WC's new owner, Canadian National.

The Athearn model has an injection-molded plastic shell and die-cast metal chassis. Details on the front and rear pilots of the WC model include a weed-cutter snowplow, m.u. and trainline hoses (with the glad hands picked in silver), and plastic uncoupling levers.

The cab details on the WC switcher accurately reflect the unit's SP heritage. On the back of the cab, plates cover the locations of the removed single and twin Gyalites. The front light package features a similar treatment. Number boxes with factory-printed number boards are on the front of the cab.

Other railroad-specific features on the WC locomotive include a whip-style antenna and vent on top of the cab, Flexicoil trucks, an all-weather window, and speed recorder cable.

Our sample is decorated in WC's maroon-and-gold paint scheme. The paint is smooth and evenly applied, and the separation lines between colors are crisp. The model's dimensions closely follow data published in the *Model Railroader Diesel Cyclopedica: Vol. 2, Diesel Locomotives* (Kalmbach Books, out of print).

There were a few detail discrepancies between the model and the prototype. The model has molded marker lights on both ends, but they should be plated over. Prototype images also show the WC 1569 with pilot-mounted ditch lights on both ends and spark arrestors.

The sample we received has a dual-mode SoundTraxx Tsunami2 sound decoder. I used an NCE PowerCab to test the model at the workbench. At step 1, the model moved at 6 scale mph. At step 28, I recorded a top speed of 77 scale mph. The full-size SW1500 had a top speed of 65 mph. The model's speed range can be fine tuned using configuration variables.

I took the SW1500 over to the Milwaukee, Racine & Troy for further testing. The locomotive performed well when working the interchange at Jones Island.

Finally, I ran the SW1500 up the 3 percent grade between Williams Bay and Skyridge. The model was able to pull six 50-foot boxcars up the hill.

Though the HO scale SW1500 is more than 30 years old, it's refreshing to see Athearn continue to find ways to improve it. The end-cab switcher certainly has come a long way from its blue box kit origins. — *Cody Grivno, senior editor*

Facts & features

Price: Direct-current model with 21-pin NEM connector, \$219.99; with dual-mode SoundTraxx Tsunami2 sound decoder, \$319.99

Manufacturer

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

Era: Late 1990s through early 2002 (as decorated)

Road names: Wisconsin Central, Burlington Northern, Conrail, St. Louis Southwestern (Cotton Belt), and Western Pacific in three road numbers per scheme. Also available undecorated (standard and Southern Pacific/Cotton Belt detail packages).

Features

- Correctly gauged wheels
- McHenry scale couplers, at correct height
- Minimum radius: 18"
- Weight: 8.8 ounces



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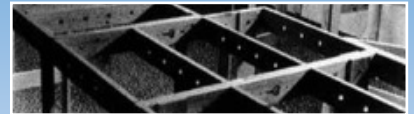
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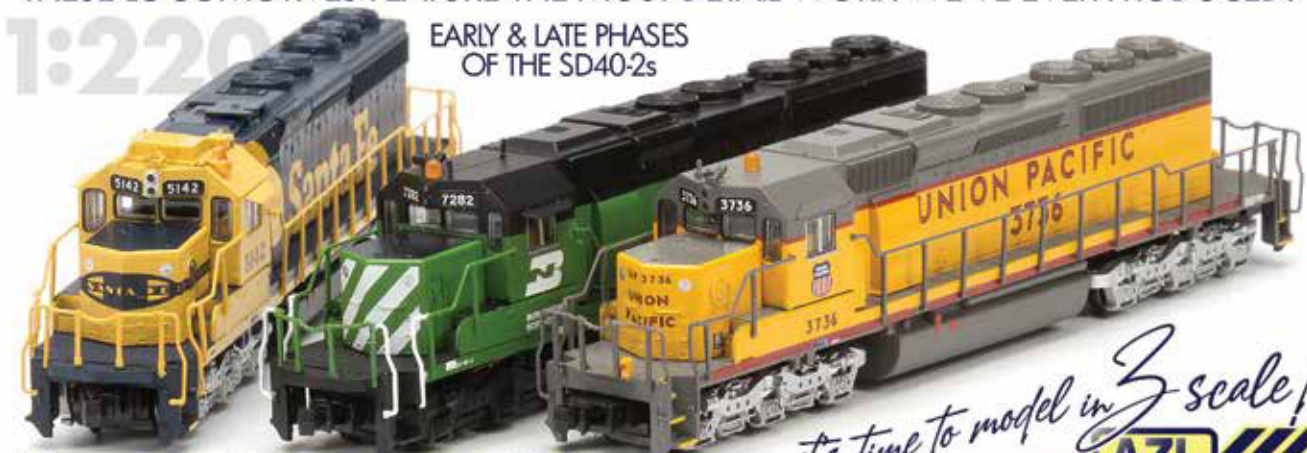
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Pittsburgh Plate Glass Cumberland Works No. 7 produced glass in Cumberland, Md., from 1953 to 1981. For a time it was the only plant in the country with both a conventional rolled glass and float glass line. Photo courtesy of PPG

Why are there no kits for a glass plant?

Q I'm slowly building the industries on my HO layout and can't seem to find one in particular: a glass plant. I see all types of industries one can buy in HO scale, but no one seems to make a glass plant. Why not? I once worked for one of the largest glass container manufacturers in the country. Several railroads brought us silica sand, potash, limestone, and cullet. Outbound, we loaded over-the-road trailers and intermodal containers. You'd think a glass plant would be a good addition to a layout, what with the rail traffic required to keep it running 24/7.

Dana Vincent

A You're right, modeling a glass plant would be a fascinating subject that can generate a lot of rail traffic for a model railroad.

The primary ingredients of glass are sand, powdered limestone, and soda ash, all of which would be delivered by rail in covered hoppers. These materials would be unloaded in covered sheds and stored in silos on site. A glass plant would also receive materials used in the polishing and finishing process, like salt cake, iron oxide powder, and felt. Packaging material, such as cardboard, wood, Styrofoam, and bubble wrap, could arrive by boxcar. Some plants might ship their product in boxcars, as well.

Glass is made by melting the sand and other raw materials together into a viscous liquid at very high heat. In a modern float glass plant, the molten glass is extruded onto a pool of molten tin. Since this metal is both denser than glass and melts at a lower temperature, the glass can float along on this perfectly flat surface while it cools and solidifies. It's then cut, finished and packaged for shipping. Older plants use rollers to flatten and shape the glass as it cools, then grind and polish it.

Most of this information came from Henry Freeman's article "A plug-and-play industry for your railroad," published in the January 2003 *Model Railroader*. In that article, Henry goes into more detail about how a glass plant is designed, how it operates, and how the railroad would serve it. If you're a subscriber to our website, Trains.com, you can find the HO scale track plan from that article by searching for "Pittsburgh plate glass."

As for why you can't find a scale model kit of a glass plant out there, it's probably because from the outside, they look pretty generic. See the picture above. An assortment of large brick, concrete, and corrugated metal industrial structures would do.

Modeling a glass plant can take a lot of layout space. You might consider modeling only the unloading shed and warehouse areas of the factory in 3-D and represent the rest of the plant with low-profile background buildings or photo backdrops.

Q Which steam locomotive wheel configurations are better for pulling a train up a hill vs. long freight loads a long distance, and why? Also, what is the relation between the drive wheels and the cylinders?

Peter Burris

A The relationships between steam locomotive power and its moving parts are complicated. If it wasn't, there wouldn't have been so many different cylinder, valve, firebox, boiler, and wheel combinations tried and built. But there are some general rules.

The wheel configurations of a steam locomotive come down to two factors: tractive effort vs. speed. Both are desirable, because the stronger the tractive effort (a.k.a. drawbar pull), the more cars the engine can pull. And the faster the engine can go, the faster those cars can get to their destinations.

Unfortunately, there's a direct trade-off between the two factors. Larger drive wheels, which travel farther per revolution thanks to their larger circumference, make for a faster engine. Smaller drive wheels, which have more mechanical advantage than large ones, pull harder but move slower.

Steam locomotive power is also related to cylinder size and shape. A larger diameter cylinder will provide more power than a small one, but over a shorter distance. A large drive wheel needs a cylinder with a longer stroke, which — all other things (such as the volume of steam produced) being equal — means a smaller cylinder diameter, which means less power.

Power also depends on how much steam the boiler can produce, which is directly related to the size of the firebox and boiler. The larger and heavier the locomotive is, the more wheels it needs. Freight locomotives need more traction to pull heavier loads, so it will have more drivers rather than unpowered lead and trailing axles whose purpose is simply to carry the engine's weight.

There are other factors that govern the number of drive wheels vs. leading and trailing axles, such as the fact that you can't fit a large firebox between the drivers, so it has to be supported by a larger trailing truck. But in general, when you see a locomotive with a high

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number of small driver wheels, that's generally a freight engine, built for pulling strength. An engine with fewer but larger drivers is usually passenger power, made for speed.

Q I model a bridge line connecting the Nickel Plate (NKP) at Wheeling, W.Va., with the Norfolk & Western (N&W) at Bluefield, W.Va. I roster several EMD GP30s and some Alco units, all in NKP livery. Most of my steam power is lettered for N&W.

I've seen photos of locomotives with a placard indicating it is leased.

I would like to make decals of such a placard to place on some of my locomotives indicating they are leased to my freelanced railroad. Please give me the wording I can use.

I have two GP30s numbered 902. One of those is a candidate for leasing. If I patch an additional digit, does it have to be in the same font as the current digits? That is, if the current digits are in Railroad Roman, could I use a Railroad Gothic digit of the same size for the patch? Lastly, should the number I add be on the left or the right on the current number?

Steve Perry

A The only locomotives I've seen with a placard or lettering indicating they're leased are those belonging to leasing companies, such as CIT Rail Resources

(CITX), Helm Leasing Corp. (HLCX), Pioneer Rail Equipment (PREX), and National Railway Equipment (NREX). The X at the end of those reporting marks indicates that the equipment is privately owned and doesn't belong to a railroad. This is usually enough to indicate that a locomotive is a leased unit, so even leasing companies don't always bother to further label their equipment as such. And even when they do, the lettering lists the locomotive's owner, not who it's leased to.

A railroad that has been assigned to long-term use on a foreign road will usually not be labeled as leased. A lease arrangement is by nature temporary, and when the original owner gets the unit back, it isn't going to want to have to paint over a lease placard.

You also said you had two GP30s with the same number and asked about renumbering one of them. If those two diesels belong to the same railroad and therefore also have the same reporting marks, one should be renumbered, but that doesn't have anything to do with its lease status.

On the prototype, locomotives and rolling stock are frequently "patched out," or renumbered without being repainted. Railroads usually like to keep their engines numbered in an orderly way, so they wouldn't simply append a digit to the beginning or end of the previous road number. They would want it



A railroad that wanted to change a locomotive's number would patch out the entire number, not just add a digit. M.R. Snell showed how he patches out diesel locomotives in our July 2012 issue.

M.R. Snell photo

to have a number in the same range as other locomotives of the same type. The old number would instead be covered with paint or a patch of vinyl film, and a completely new number added on top, as in the photo seen above. (You don't have to worry about matching typefaces that way, either.) Check out our August 2018, December 2014, and July 2012 issues for articles demonstrating techniques for patching out diesels and freight cars.

Q Many years ago, in the mid-1980s if memory serves me correctly, MR had an article about building a metal paint booth. Is this article available in the magazine's archives?

Tony Van Bergen



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A It sure is! Every article we've ever published is available to archive subscribers on the Trains.com website. The article you're looking for is an installment of the Paint Shop column from the January 1988 issue. The Paint Shop spray booth was designed by MR staffer Gordon Odegard to be buildable by a hobbyist without sheet-metal-bending experience or specialized tools.

For a portable option, check out "A deluxe spray paint booth" in our August 1983 issue. Hobbyist Ken Breher explained in that article how he built a self-contained plywood booth with wood doors to keep the area looking neat when the booth is not in use.

Q I have a tight HO scale helix with a grade of 3%. My smaller steam engines have a hard time pulling more than two or three cars up the grade. I know the standard answers: increase engine weight, add a second engine, apply Bullfrog Snot to the drivers, and make sure car trucks roll smoothly. But I'm curious. Has anyone ever tried to

imitate the prototype method of applying sand? I'm considering roughing up the rails with sandpaper. Has anyone ever tried that, and if so, what problems did they run into?

Randy Bartelt, Madison, Tenn.

A Hi, Randy. I haven't heard of anyone trying that idea, but I'm still confident in advising you not to do it. The reason is power — not pulling power, but electricity. Roughing up the surface of your railheads might improve your model locomotives' traction, but it would do so at the expense of electrical contact. Model railroad wheels already contact only a very small patch of the railhead. A rough rail surface would by definition contact the wheel less reliably. The difference might not be a big one, but the smaller your pickup wheels, the more significant the difference would be.

But even worse would be a problem that would just increase over time: rail gunk. The microscopic pits and scratches you'd be etching into your railheads would become natural places for



Bullfrog Snot, applied to the second set of drivers on this HO scale locomotive, is a better way to improve your locomotives' performance on a steep helix than sanding your rails. Steven Otte photo

non-conductive grime to build up. One theory of where this mysterious stuff comes from is carbon from electrical sparking between the wheels and the rails. If this theory is true, rough railheads would also lead to more arcing, and more gunk.

I suggest you stick with your standard answers. I reviewed Bullfrog Snot in our May 2009 issue, and I can recommend it. Just make sure you only apply it to one drive axle per locomotive. **MR**

An advertisement for Broadway Limited Imports. It features a collection of HO scale locomotives. At the top, five locomotives are shown in a row: a red and yellow EMD F3/F7, a black and yellow EMD F3/F7, a blue and yellow EMD F3/F7, a red and black EMD F3/F7, and a black and white Baldwin Sharknose. Below them, a large black and yellow Baldwin Sharknose is shown. The text "EMD F3/F7, HO Multiple Paint Schemes!" is overlaid on the first locomotive. The text "Baldwin Sharknose, HO Multiple Paint Schemes!" is overlaid on the bottom locomotive. A large "ORDER NOW!" graphic is in the center. The Broadway Limited Imports logo is in the top right. At the bottom, a banner reads "PREORDERS FOR \$0 DOWN, CANCEL ANY TIME. FACTORYDIRECTHOBBIES.COM".

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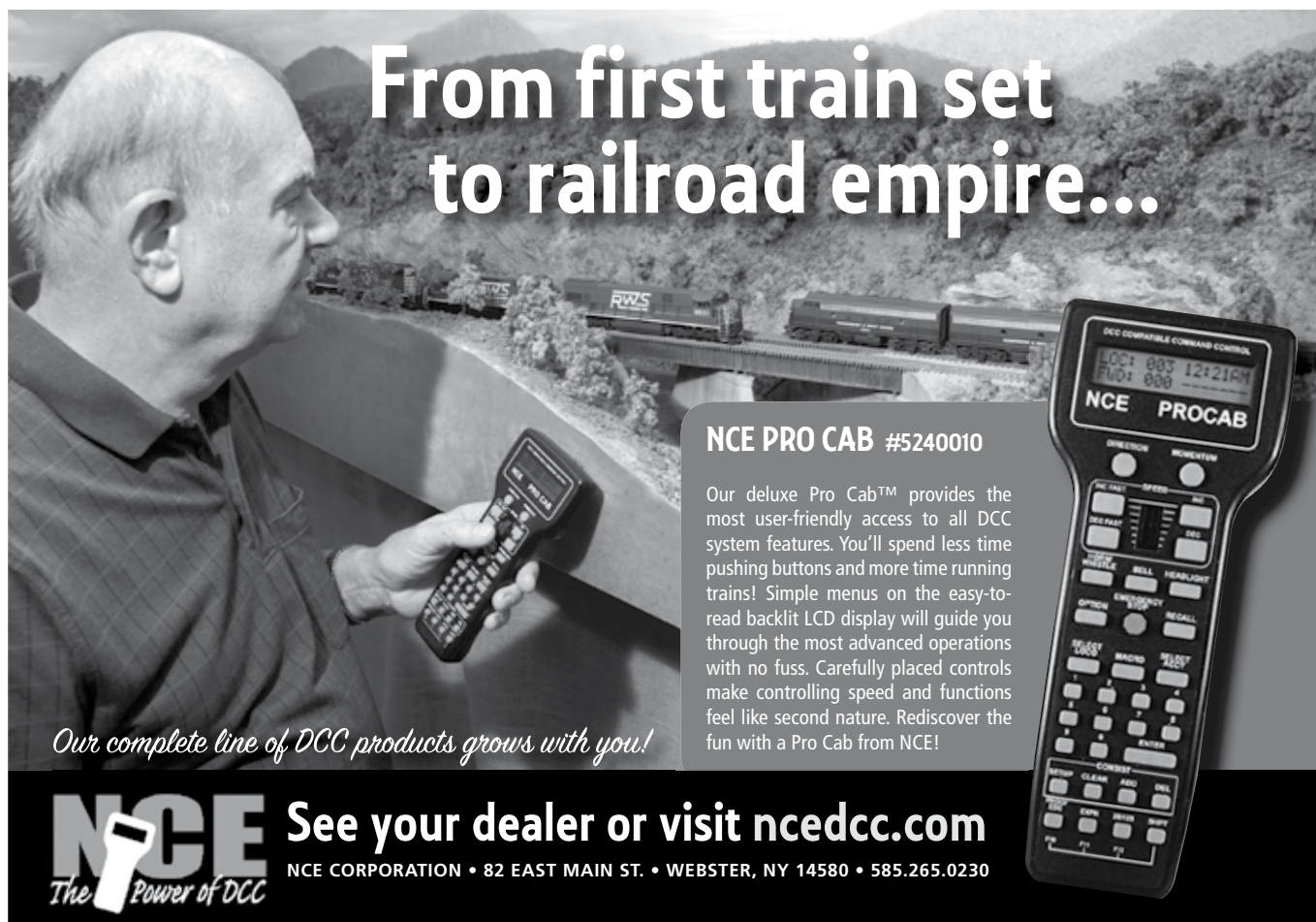
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When frequent MR Contributor Gregg Condon first got into model railroading 65 years ago, one of his first rolling stock purchases was an MR 25th Anniversary boxcar. Gregg Condon photo

Another *Model Railroader* anniversary commemorated

The January *Model Railroader*

arrived today, and in it is an ad for an MR "90th Anniversary boxcar." Immediately I grabbed my camera and went to the display shelves over my staging yard. Here's my photo of the 25th Anniversary car I bought as a new MR subscriber in 1958. The car is

by Mantua, it has "NMRA couplers," and its wheel flanges are so big that they would ride the spike heads on my layout. This was one of my first cars, and it's a nostalgic reminder of my 66-year subscription to MR, from age 11 to 77 and still going strong.

Gregg Condon

Hobby Show in Springfield, Mass., just went out, and I understand that MR was invited to bring Freemont to the show. If you are able to attend, that might get me to travel 7 hours to the show in January.

Lastly, I am building a list of all Free-mo and Free-moN groups in North America, which can be found on the Membership page of the Free-mo website at www.free-mo.org/membership/. My hope is that the list will be used by people to find a group near them. If readers know of groups that are missing from this list, they can advise me through a form on the website so I can keep the list up to date. Thank you.

Steve Adamson

I enjoyed the first Freemont Mills article. I have a suggestion for other "future plans." I suggest that when MR sends staff to national and regional conventions, they bring Freemont Mills along and include it in the convention's Free-mo HO layout. Be sure and bring some MR&T trains, too, and join in the fun of running trains on the full layout.

I'm a member of the North Raleigh Model Railroad Club. We specialize in NTrak and T-Trak modules. I do T-Trak since I have no space for a layout at home, and because they are small, light, and easy to transport to shows. Please consider including more articles on modular model railroading in future issues of MR. This would show people that one doesn't need a spare room or basement to enjoy model railroading.

John Page, Cary, N.C.

Freemont feedback

Very pleased to see a project using Free-mo ["Welcome to Freemont Mills," January]. I had two layouts in the past. Moving multiple times and changing space available for a layout delayed my participation in the hobby. Free-mo gave me a way to participate again.

Were I to have the opportunity to build a large layout, it would be based on a modular plan. Free-mo also allowed me to start with just a couple of modules, to which I have added when I realized I needed more.

I encourage all modelers to consider building modules. Using the Free-mo standard would also let you take a section of which you are particularly proud to Free-mo clubs to share your ideas and receive input from others.

*Ed Spalding, Soap Lake, Wash.
Inland Washington Free-mo Gang*

I just read the January article about the Freemont project layout, and it was great. I've designed many Free-mo modules, and I thought that your planning process

was spot on. Layouts often lack curved modules, which can make it a challenge for layout designers to fit the layout into the available space. I look forward to the remaining three installments as well as more articles about Free-mo and Free-moN in the future.

The invitation for the Free-mo layout at the Amherst Railway Society Railroad



The *Model Railroader* staff presented Freemont Mills, the magazine's 2024 project railroad, in the January issue. Photo by Connor Bruesewitz/Saturn Lounge

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 editor@modelrailroader.com. Please include your name, city, and state.



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Spruce trees are the latest addition to Lou Sassi's On30 Sandy River & Rangeley Lakes layout. His wife, Cheryl, shares her scratchbuilding techniques in this month's Step by Step. Photos by Lou Sassi

How to scratchbuild spruce trees

Frequent readers of *Model Railroader*

know that I've been building a variety of trees for my husband Lou's On30 Sandy River & Rangeley Lakes layout. Since 2019 I've shared my techniques for constructing hardwoods, white birch, and white pines. This time around, he asked me to try my hand at spruce trees.

The methods demonstrated in this article are best suited for "hero," or foreground, trees. These are trees that have a high level of detail and are intended to be near the front of the layout. If you're trying to populate a large section of model railroad, commercial trees are a better and less time-consuming option.

As shown in the photo above, the spruce trees added a nice pop of color and texture to Lou's layout. If you need some foreground trees for your model railroad, give these techniques a try.

Cheryl Sassi worked for General Electric Co. in Schenectady, N.Y., for 32 years. She is the wife of Model Railroader Contributing Editor Lou Sassi.

STEP 1 MATERIALS LIST

Though it looks like I used a lot of materials to scratchbuild spruce trees, many of them can be used for modeling other tree types. Here's are the supplies I used.

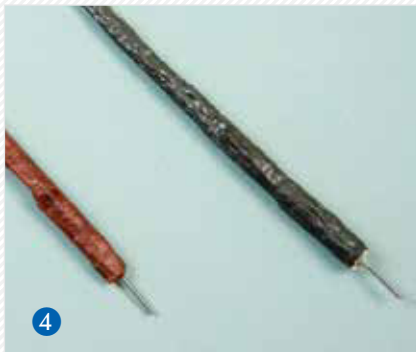
The key items are Caspia, sesame bloom, 22 gauge floral wire, floral tape, wire cutters, and scissors. I sourced the Caspia from Save on Crafts (800-928-6175, laura-c@list-companyinc.com). Sesame bloom can be found on sites like Etsy, though it may not always be in stock.

For paints, I used Rust-Oleum Painter's Touch 2X Hunt Club Green (268414) and Stops Rust Hunter Green (7732830) satin spray paint; Mars Black, Raw Umber, and White tube acrylics; and Model Master Engine Black, Reefer White, and Roof Brown acrylics. The Testor Corp. discontinued Model Master paints a few years ago. You can find similar acrylic colors designed for brush-painting in the Vallejo Model Color and Ammo by Mig Rail Center lines. I used a few small brushes to apply the tube acrylics and hobby paints.

Additional items I used were fine Conifer Green ground foam, a pin vise, No. 65 bit, No. 18 x 1" brads, Styrofoam, tap water, a paint palette, a ruler, hairspray, and wood glue.



STEP 2 TACKLING THE TRUNK

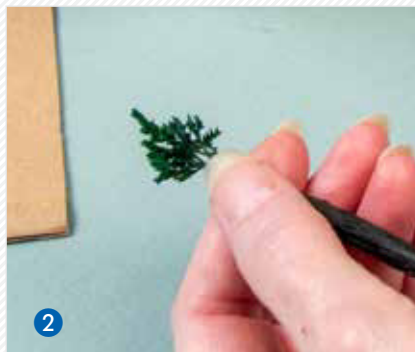


I started work on the spruce trees by wrapping sesame bloom stems and a length of floral wire in floral tape **1**. I used thin stems near the top of the tree trunk and thicker stems (and more of them) closer to the base. I wrapped the floral tape as tightly as I could around the wire and stems. Since I would be inserting branches into the trunk later on, I wanted as sturdy a structure as possible. Two wrapped trunks, complete with No. 18 x 1" brad mounting pins, are shown in **2**.

Next, I mixed Mars Black, Raw Umber, and White tube acrylics on a paint palette and applied them to the trunk with a brush **3**. The difference between the wrapped and painted trunks is shown in **4**.

After the tube acrylics had dried, I blended Model Master Engine Black, Reefer White, and Roof Brown acrylics and brushed them onto the trunk **5**. I then applied light washes of Engine Black and Roof Brown over the base coat. This gives the trunk a realistic appearance **6**.

STEP 3 BRING ON THE BRANCHES



I modeled the branch structure on the spruce trees using Caspia. First, I sprayed the natural material with Rust-Oleum Painter's Touch 2X Hunt Club Green and Stops Rust Hunter Green satin spray paint **1**. Use the paints in a

well-ventilated area (preferably a spray booth) and wear a respirator, nitrile gloves, and eye protection.

After the paint had dried, I trimmed sprigs from the Caspia using scissors. Then I applied a small sprig to the

STEP 3 BRING ON THE BRANCHES (CONT'D)



top of the tree with wood glue [2](#), previous page. I used a No. 65 bit in a pin vise to drill holes in the trunk for the branches [3](#).

Once I'd finished drilling the holes in the trunk, I dipped the Caspia sprigs in wood glue and inserted their stems into the trunk [4](#). I used shorter sprigs near the top and progressively longer ones as I worked toward the base of



the tree. When in doubt on how a tree should look, refer to prototype photos.

I hand-painted some of the branches that wouldn't receive foliage with Model Master Engine Black [5](#) and inserted them near the bottom of the trunk. These represent dead branches. You can see how they look in photo [2](#) of step 4, below.

STEP 4 FINISHING TOUCHES



After I'd attached all of the branches, I brush-painted the locations where they attached to the trunk with Model Master Roof Brown, being careful not to get paint on the areas I'd painted green [1](#). This blends the branch color with the trunk while hiding any shiny spots of excess glue.

Then I sprayed the trees with Testor's Dullcote to give them a uniform, flat finish [2](#). As with the spray paint, do this in a well-ventilated area and wear proper personal protective gear.

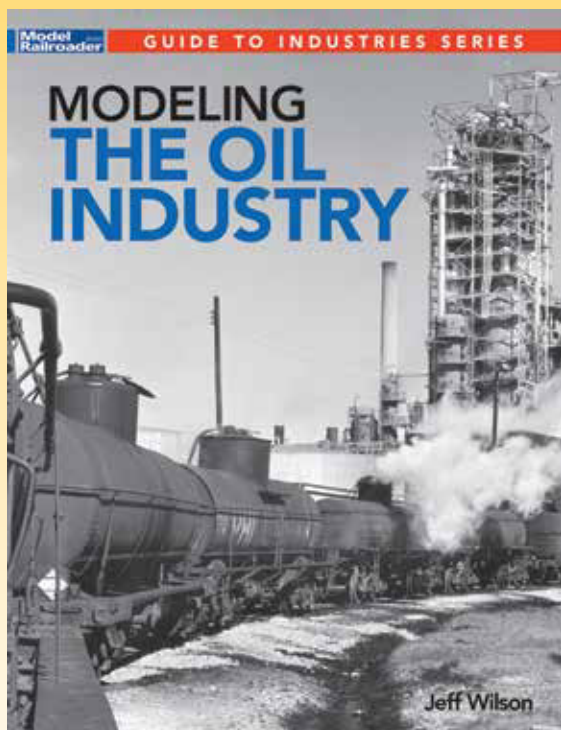
Finally, I sprayed the tree with unscented hairspray and sprinkled fine Conifer Green ground foam on the branches [3](#). Apply the ground foam above a clean work surface or over a container so you can reclaim any material that doesn't stick to the branches.

With that, the spruce trees were ready to plant on Lou's On30 Sandy River & Rangeley Lakes layout. [MR](#)





MODELING PETROLEUM TRAFFIC REALISTICALLY

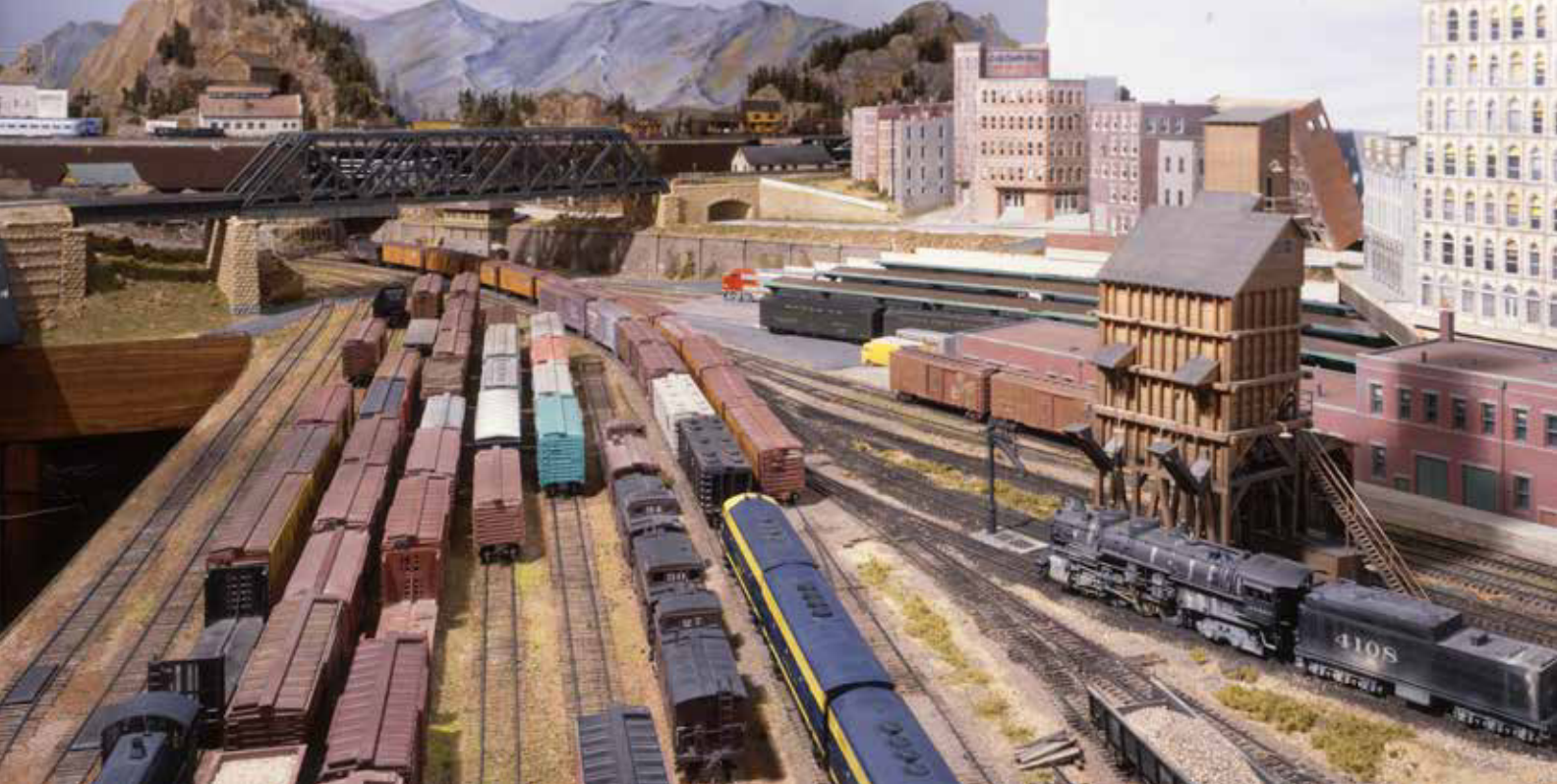


Get the information you need to model petroleum traffic realistically in this new book from Jeff Wilson. *Modeling the Oil Industry* explains how to model this dynamic and fascinating industry, from its facilities to operations.

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This book provides great ideas for modeling oil fields, pipeline terminals, oil refineries, local petroleum jobbers, LPG dealers, and more.



A three-unit set of Santa Fe F3s pulls a train into its destination of Dixie Yard in Provo, Utah, on Gil Freitag's Stony Creek & Western. This photo is from one of many articles featuring Gil's layout throughout the years. Dave Frary photo

MODEL RAILROADER HALL OF FAME

These three brought operations, track planning, and promotion to our hobby

NOMINEES

By Bryson Sleppy

By now, you may have heard that we've been creating a Model Railroader Hall of Fame. Why? It's the 90th anniversary year of *Model Railroader* magazine, and we wanted to honor those who have contributed so much to our hobby. Editor Eric White inaugurated the Hall of Fame in January's issue, along with the first three nominees. In February, Senior Editor Cody Grivno shared three more nominees, and last month, Senior Associate Editor Steven Otte followed suit. Now it's my turn. The list of nominees will be put up on our website, Trains.com, and you can vote for your favorite there. Using your smartphone camera, visit the website associated with

the QR code on the next page and vote for your favorite candidate from this group of nominees.

If you've already voted in previous months' polls, please continue to vote for new nominees. The inductees will be selected by the popular cumulative vote from the whole year, not one per month. Previous nominees can still be voted for by visiting Trains.com.

Do you think we've missed a worthy nominee? Please let us know at the addresses listed on page 8 of the magazine. We will take your suggestion into consideration, but we can't guarantee that they will be nominated. The candidates must have made a significant contribution to model railroading and be no longer living.

Model Railroader Hall of Fame nominees

January: Albert C. Kalmbach, Linn Wescott, and W. Allen McClelland
February: John Allen, John Armstrong, and Gordon Odegard
March: Art Curren, Andy Sperandio, and Jack Work
April: Gilbert A. Freitag, Iain Rice, and Frank Ellison

The inaugural class of the Model Railroader Hall of Fame will be announced in the December 2024 issue. Until then, please continue to vote.

Gilbert A. Freitag (1936-2022)

A true ambassador of the hobby, Gilbert (Gil) Freitag made a large impact on the hobby, especially in the Houston, Texas area. Gil's iconic HO scale Stony Creek &



Gilbert A. Freitag

Western has been featured many times in the hobby press, including the July 1982, August 1995, and April 2003 issues of *Model Railroader*, as well as *Great Model Railroads 1994*. He began building his layout in 1966 with the goal of having the longest main line that he could and scenery quality equivalent to John Allen's. [Read about John Allen's nomination in the February 2024 issue of MR. —Ed.] He surely achieved the scenery goal, and his scratchbuilt structures won him multiple awards. Due to his excellent craftsmanship and achievements in the hobby, Gil became National Model Railroad Association (NMRA) Master Model Railroader No. 91.

In addition to building his own layout, Gil and his wife, Virginia, were heavily involved with the social side of the hobby, being longtime members of the NMRA's Lone Star Region. They would attend local conventions and shows and would plan their vacations around the national NMRA convention almost every year. His clinic demonstrations of scenery and structure techniques were always in demand, as were his open houses, where about 350 to 400 visitors would view and operate the SC&W over two days. In fact, Gil described his layout as "a tool to promote model railroading."

Peers recognized Gil for his dedication to the hobby. In the Lone Star Region, he was recipient of the Loeffler Service Award (1981) and President's Award (2015). The NMRA presented Gil with the President's Award for general promotion of model railroading (2003) and the inaugural Fellow Award (2007). Gil was a 50-year member of the NMRA.

Aside from modeling, Gil graduated from Texas A&M University with a BS in mechanical engineering. He retired from ARMCO Steel after a career in the field. In addition to HO scale, Gil built a 1½" scale diesel road switcher.

Gil died on May 22, 2022 in Houston, Texas. He was 86 years old. His wife, Virginia, passed away on April 19, 2022.

Iain Rice (1947-2022)

Four hundred articles. You read that right, Iain Rice was the author of more than 400 magazine articles and more than 20 modeling books. He was known as one of the most



Iain Rice

creative and prolific track planners in the hobby. Not surprisingly, Iain made a career from the business of modeling railways, as a designer, pattern maker, and custom builder. He ran weekend courses from his Model Railway Study Centre in Devon, U.K.

Iain was a frequent contributor to *Model Railroader* as well as its annual special issue *Model Railroad Planning*. He also wrote four books for Kalmbach: *Small, Smart & Practical Track Plans* (2000), *Mid-Sized & Manageable Track Plans* (2003), *Shelf Layouts for Model Railroads* (2009), and *Compact Layout Design* (2015). He authored prototype railroad and other historical and topographical books and articles and even tried his hand at the odd bit of fiction.

MR's Rice Harbor project layout, featured in the January-May 2014 issues, is named after Iain and designed using his style of track plan. He also built Roque Bluffs, a 1½ x 12-foot shelf layout, built to Proto:87 fine-scale standards. Part 1 of that series can be found in the October 2003 issue of MR.

Having wide-ranging railroad interests, Iain always preferred to tackle a series of smaller modeling projects covering diverse subjects rather than concentrating his efforts in a single large undertaking. Not that there was space for anything large anyway in a 200-year-old, stone-built Devon quarryman's cottage!

Iain was born in London, England, not long after the end of World War II. Trains were an abiding interest from Iain's earliest years. His first model railroad was constructed on an old table-tennis table when he was 8.

He also enjoyed music and old wooden boats. He passed away on Oct. 8, 2022.

Frank C. Ellison (1887-1964)

The author behind *The Art of Model Railroading* has to be included as a nominee for the great influence he had on the hobby. Frank Ellison's masterpiece series of articles



Frank C. Ellison

was originally published in the March through April 1944 issues of *Model Railroader*.

In his feature on Ellison in the August 2008 issue, the late Andy Sperandio said, "If railroad-like operation is the purpose of a model railroad, this is as fine an explanation of both why and how to do it as we've had in print."

Frank built the Delta Lines, an O scale outside-third-rail model railroad that was probably one of the best-known layouts of its day. This layout wasn't well-known just because of its looks; Frank built the Delta Lines for operation. The premise of his book *Frank Ellison on Model Railroads* was that model railroads are meant to be operated like their prototypes. His layout, with location names associated with the New Orleans area where he lived, was maintained by an informal club over the years.

What started as a plan featuring a 375-foot-long main line expanded through the years to wrap around his 30 x 44-foot basement space four times. With a point-to-point plan divided into divisions and terminals at each end and division point, the Delta Lines featured many operating challenges. Frank and the Delta Lines truly pioneered and popularized model railroad operation.

However, Frank wasn't just a builder and operator. He was a railroad telegrapher, vaudeville marimbaist, storyteller, and a newspaperman by profession, so naturally he began to write about the hobby. A prolific and expressive writer, he wrote more than 50 articles for MR between 1940 and 1955. With the common theme of these articles being operation, he had a way of telling a story by conveying excitement while making his ideas accessible to anyone who read the article. He also wrote articles about scratchbuilding structures for the Delta Lines, as well as scenery techniques that he used on the layout.

Frank passed away on Sept. 30, 1964, in Baton Rouge, La. **MR**



Diesel locomotives by generation

A look at first- through fourth-generation engines

By Jeff Wilson

Photos by Cody Grivno



This Alco PA1 and PB1 set from Rapido Trains is quite the iconic pair, with their streamlined look and Santa Fe Warbonnet paint scheme. But it's also a great example of the first generation of diesel locomotives, in which streamlined units were widespread.

If you've read stories about diesel locomotives on the Trains.com website or in Kalmbach Media's railroad magazines and books, you've most likely seen references to diesel locomotives by generation. But what does generation mean?

Unlike automobiles, locomotive manufacturers don't bring out new models each year. The same basic locomotive model can stay in production for years — sometimes decades — albeit with upgrades and detail changes through its lifetime.

Diesels also have long lifespans, often lasting 15 to 20 years in heavy service as intended, which can be followed by another 15 to 25 years in secondary or reduced service (especially with rebuilding of the engine itself and other major components).

Grouping diesels built during various periods or eras is often referred to by generation, with similar characteristics across locomotives from multiple manufacturers in each time period. Various landmarks in design and evolution mark the boundaries between generations. We're currently in the fourth generation of diesel locomotive production, and although there's a bit of overlap in the timeframes that define them, here's a general summary of each generation and what separates them.

For additional information, check out my *Guide to North American Diesel Locomotives*. The book is available online at KalmbachHobbyStore.com and at Kalmbach Media retailers.

First-generation diesels



The Rapido Trains HO scale Alco PA1, this one decorated for the New York, New Haven & Hartford, is an example of a first-generation diesel. All engines produced by minority builders — Baldwin, Lima, and Fairbanks-Morse — are considered part of the first generation.

Early locomotives that directly replaced steam locomotives are referred to as first-generation diesels. This covers the first diesels of the 1920s up to those built through the late 1950s, including all those built by minority builders (Baldwin, Lima, and Fairbanks-Morse). The period began with manufacturers simply trying to make diesel technology work, followed by efforts to make diesel engines more reliable and efficient. Remember that steam manufacturers continued to push their products heavily through the mid- to late 1940s, and steam locomotives outnumbered diesels in service into the early 1950s.

The first generation of diesels is typified by small, low-horsepower locomotives compared to later eras. Streamlined (cab-unit) models were the norm until the early 1950s, when railroads realized the versatility of the road switcher. Road diesels were typically around 1,500 hp, with some passenger diesels (EMD Es and Alco PAs) at 2,000-2,250 hp. The first high-horsepower freight diesels appeared starting in 1953 (FM's H24-66 Train Master and Alco's RSD15, both at 2,400 hp), but they were curiosities that didn't sell well.

Second-generation diesels



The Walther's Proto HO scale Electro-Motive Division SD45 represents a second-generation diesel.

Locomotives purchased by railroads to replace early diesels (as opposed to replacing steam) are second-generation diesels. This began happening on a smaller scale by the late 1950s as EMD pioneered the idea of the "trade in." Some railroads had traded in FTs for GP9s by the mid-1950s, but the idea really took off by 1960, the year that steam essentially disappeared from Class I railroads.

The second generation is marked by increased horsepower and the complete changeover to the road switcher. The usual dividing line for the start of the second generation is marked by GE's pioneering 2,500-hp U25B of 1959; EMD's first turbo-charged road diesels, the 2,400-hp SD24 (1958) and 2,000-hp GP20 (1960); and Alco's redesigned Century line, introduced in 1963.

Through this period, horsepower kept increasing, with 3,000-hp (EMD GP40 and SD40 series, GE U30B and U30C, and Alco C430 and C630) to 3,600-hp (EMD SD45 and SD45-2, GE U36B and C, and Alco C636) models into the 1970s. Six-axle power became the norm for fast freight as well as heavy-haul service.

The second generation also saw the demise of Alco in 1969, although Montreal Locomotive Works continued its designs as a minority builder. The remaining two manufacturers made upgrades to their 1960s models with EMD's Dash-2 line and GE's Dash 7 series, plus EMD's not-so-successful attempt to get more power from its existing 645 engine with the SD50. Both manufacturers would soon completely revamp their offerings, bringing the second generation to a close in the early 1980s.

Third-generation diesels



The General Electric Dash 8-40C is considered a third-generation diesel. This Atlas Model Railroad Co. N scale model was reviewed in our July 2022 issue.

Third-generation diesels, which began appearing in the early 1980s, are marked by the introduction of microprocessor and advanced electronic controls, which improved engine and fuel efficiency, traction, and wheel-slip control, and also allowed the eventual advent of AC traction motors. Electro-Motive Division's SD60/GP60 line (1984) and GE's Dash 8 series (1983) were the first and represented complete redesigns of their locomotive lines.

Both major manufacturers also developed new and/or redesigned larger diesel engines, with horsepower eventually moving to 4,000-4,400 hp for most locomotives. Further developments were EMD's SD70 line and GE's Dash 9 models, which evolved through the early 2000s with steadily improving computer monitoring and controls and increased engine efficiency. This third generation, featuring DC traction motors, continued into the 2000s while the next generation of diesels began appearing; their lines were eliminated by the advent of stricter emissions standards by 2005.

Fourth-generation diesels



The Siemens SC-44 Charger is a fourth-generation passenger diesel. This N scale model was produced by Bachmann Trains.

The latest evolution in locomotive design, marked by the advent of AC traction motors in 1993 (EMD SD70MAC and GE AC4400CW), is known as the fourth generation. The coming of AC traction is regarded as the most significant evolution in diesel technology, as it greatly increased tractive effort and efficiency. However, DC-traction locomotives would continue to be built for another decade, as AC-traction was significantly more expensive.

The fourth generation has also seen adaptation of new diesel engines, largely the result of increasingly stringent emissions regulations, beginning with Tier 0 in 2000 and advancing to Tier 4 in 2015. Earlier (third-generation) locomotives met Tier 1 specs in the early 2000s, but tougher Tier 2 regulations, which took effect Jan. 1, 2005, forced both GE and EMD to redesign locomotives to be both more fuel efficient and cleaner to operate. The results — GE's Evolution-series GEVO locomotives and EMD's SD70ACe and SD70M-2 — feature advanced electronic engine controls, computer

Common locomotives by generation

First generation

EMD freight: FT, F2, F3, F7, F9, GP7, GP9, SD7, SD9

EMD passenger: EA, E1, E2, E3, E4, E5, E6, E7, E8, E9, FP7, FP9

EMD switcher: SW1, NW2, SW7, SW8, SW9, SW900, SW1200

Alco freight: FA1, FA2, RS1, RS2, RS3, RSD4, RSD5, RSD7, RSD12, RSD15, RS11, RS23, RS27, RS32

Alco passenger: DL109, PA1, PA2

Alco switcher: HH600, HH660, HH900, HH1000, S1, S2, S3, S4

Second generation

EMD freight: GP18, SD18, GP20, GP30, GP35, GP38, GP38-2, GP40, GP40-2, SD24, SD35, SD38, SD38-2, SD40, SD40-2, SD45, SD45-2, F45, GP50, SD50, GP15-1

EMD passenger: SDP35, SDP40, FP45, SDP40F, F40PH

EMD switcher: SW1000, SW1500, MP15

Alco freight: C420, C424, C425, C430, C628, C630, C636

Alco switcher: T6

GE freight: U18B, U25B, U25C, U28B, U28C, U30B, U30C, U33B, U33C, U36B, U36C, B23-7, B30-7, C30-7, B36-7, C36-7

GE passenger: U28CG, U30CG, P30CH

Third generation

EMD freight: GP60, SD60, SD60M, SD70, SD70M, SD75M

EMD passenger: F40PH-2, F40PHM-2, F59PH

GE freight: Dash 8-40B, Dash 8-40C, Dash 8-40CW, Dash 8-44CW, Dash 9-40CW, Dash 9-44CW

GE passenger: Dash 8-32BWH, P40, P42DC

Fourth generation

EMD freight: SD70MAC, SD80MAC, SD90MAC, SD70ACe, SD70M-2, SD70ACe-T4

EMD passenger: F125

GE freight: AC4400CW, AC6000, ES44AC, ES44DC, ET44AC, ET44C4

GE passenger: P32AC-DM

Other passenger: MPI MPXpress, Siemens Charger

Note: All locomotives from early minority builders (Baldwin, Fairbanks-Morse, Lima) are first generation.

diagnostics, automatic shutdown and startup, and even more advanced micro-processor systems.

Tier 4 requirements necessitated a major revision of locomotive designs, including the engine itself and increased cooling capacity. General Electric (now Wabtec) met the regulations with its ET44AC and ET44C4, and EMD with its SD70ACe-T4.

The fourth generation has also seen new high-speed, four-axle passenger locomotives, including the Siemens Charger, MPI MPXpress, and EMD F125 Spirit.

Service lives

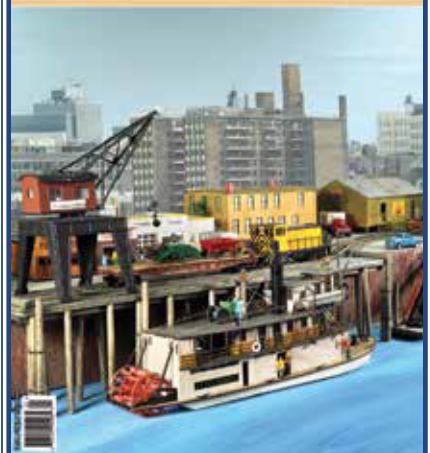
Many first-generation diesels were retired by the late 1960s, although some

(especially EMD GPs) survived another decade or more with rebuilding. Many second-generation diesels remained in front-line service through the 1990s (especially EMD SD40-2s), and they can still be found (rebuilt) in secondary service. Today, fourth-generation locomotives dominate key trains, but there are plenty of third-generation diesels still in mainline service, and many earlier third-gen diesels have been acquired by regional and shortline railroads to replace their aging second-hand first- and second-generation diesels. 

Jeff Wilson was an associate editor at Model Railroader for 10 years. He currently works as a freelance writer, editor, and photographer, contributing articles to MR and other magazines.

N-Scale

MARCH / APRIL 2024



N-Scale Magazine is a bi-monthly magazine devoted exclusively to N scale, featuring Layouts, Dioramas, Nn3, DCC, Electronics, Painting & Weathering, 3D Printing, Scratchbuilding, Kitbashing, Reviews, New Products and so much more. Begin the new year in N scale and let us help you build a layout or learn new detailing techniques. Subscribe today at www.nscalemagazine.com



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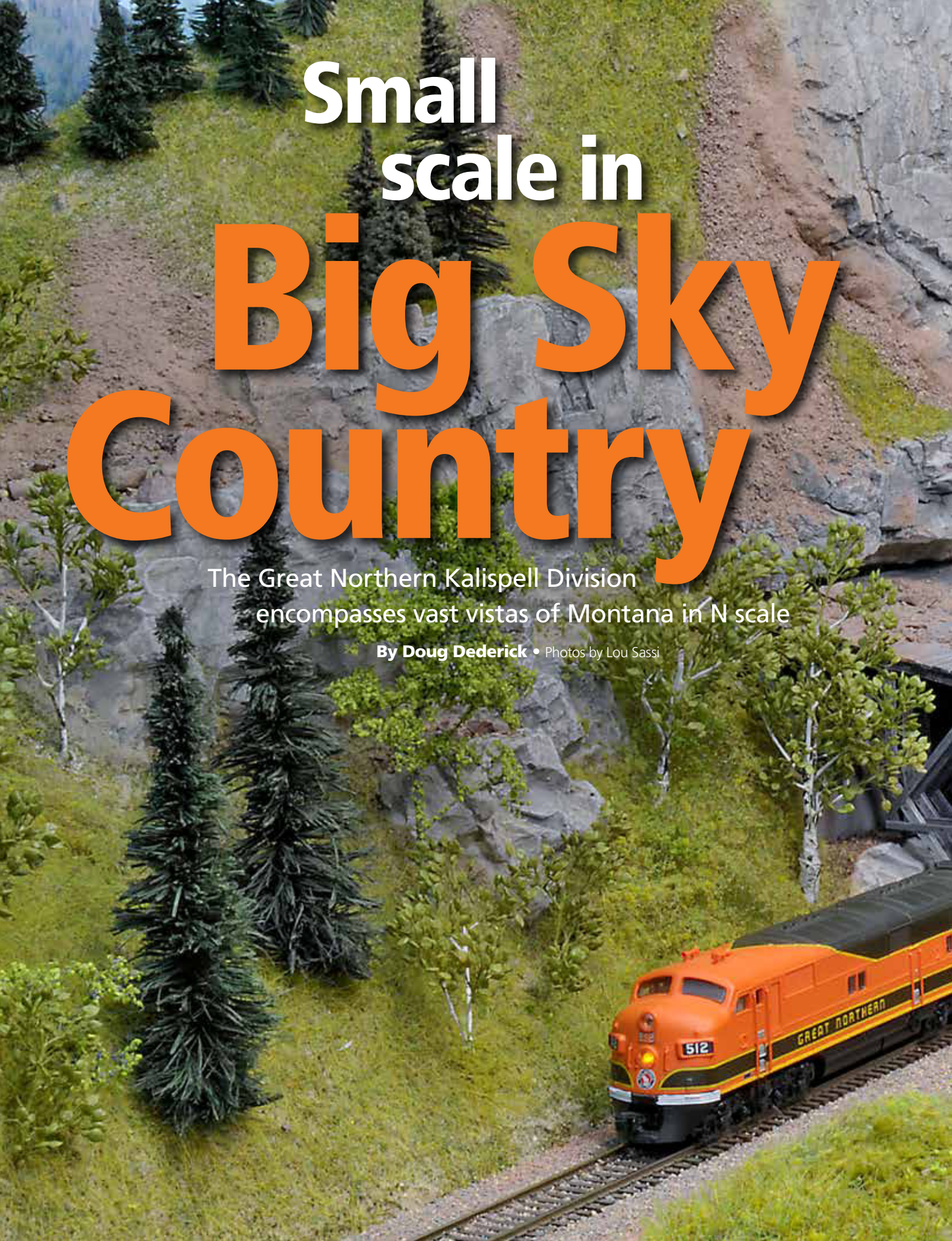
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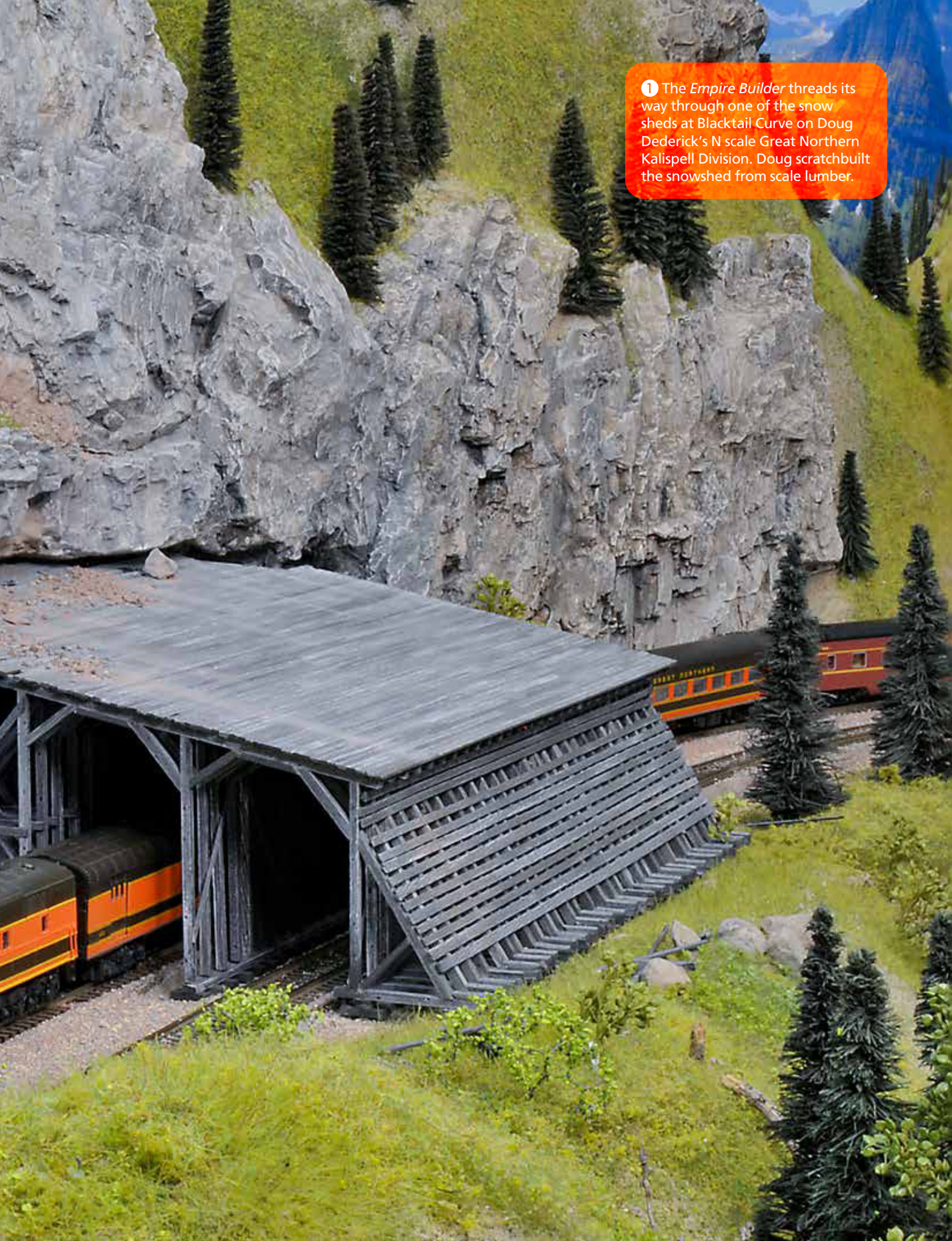
www.cti-electronics.com



Small scale in Big Sky Country

The Great Northern Kalispell Division
encompasses vast vistas of Montana in N scale

By **Doug Dederick** • Photos by Lou Sassi



1 The *Empire Builder* threads its way through one of the snow sheds at Blacktail Curve on Doug Dederick's N scale Great Northern Kalispell Division. Doug scratchbuilt the snowshed from scale lumber.



My model railroading story is familiar, for the most part. Like many in this hobby, I received my first train set when I was a youngster. But it wasn't your typical O or HO scale train set. This was a relatively new scale, called N. Although the train didn't run all that well, I enjoyed setting it up and letting my imagination run free. I discovered all the model train magazines and dreamed of one day creating my own miniature world.

Life moved on, and my priorities changed. It wasn't until I had my own family and three young sons that I returned to model trains. At first, I set up the old trains and ran them around the track. Then I bought some new equipment and built a small layout for the boys.

But it was when I joined the Albany NTrak club that things really changed for me. I became friends with club member John Valachovic, who also belonged to the Hudson Berkshire Division of the National Model Railroad Association. John invited me to several meetings where I would meet fellow members such as Bob Hamm, Bill McChesney, and Dick Elwell, to name a few. I would also get the pleasure of seeing their great layouts and the amazing work that they were doing. I became friends with them

and many others who have inspired me in so many ways.

The prototype

My Great Northern Kalispell Division was born out of two loves, fly fishing and model trains. While I was exploring the possibilities of building a home layout, I took a fly-fishing trip to Montana and fell in love with that part of the country. I just needed a railroad.

But which railroad? The area was home to the Northern Pacific; Milwaukee Road; Chicago, Burlington & Quincy; and Great Northern, among others. The Northern Pacific and Great Northern were the two I would focus on and research.

I read the history of James Hill, his Continental Railway, and Hill's search for a northern route over the Rockies. That classic green-and-orange paint scheme and the drama of the famous Marias Pass made GN an easy choice.

I never planned on modeling after the prototype, but I decided I wanted to recreate the section from Whitefish, Mont., along the southern border of Glacier National Park, to Shelby, Mont., in the late 1950s. Whitefish Yard, which was the division point until 1955, had an icing facility and stockyard. This section of the railroad would also include

2 This view of the Marias Pass aisle shows the Sheep Creek Bridge on the left, the Blacktail snowsheds in the distance, and Summit on the right.

Columbia Falls and the large lumber mill there; Belton, the west entrance to Glacier National Park; Essex, where there was a ballast mine; helper service over Marias Pass to Summit; East Glacier, the east entrance to Glacier National Park; and Glacier Park Lodge.

At Shelby sits another large yard, where trains from the east and the south would meet. Shelby also served a number of grain elevators. The branch line to Kalispell, where there was a small yard, would also be included.

I would run the GN's named passenger and freight trains such as the *Empire Builder*, *Western Star*, the *West Coaster*, *Twin City*, and *Fruit Forwarding*. Amtrak's revived *Empire Builder* still runs from Chicago to Seattle today.

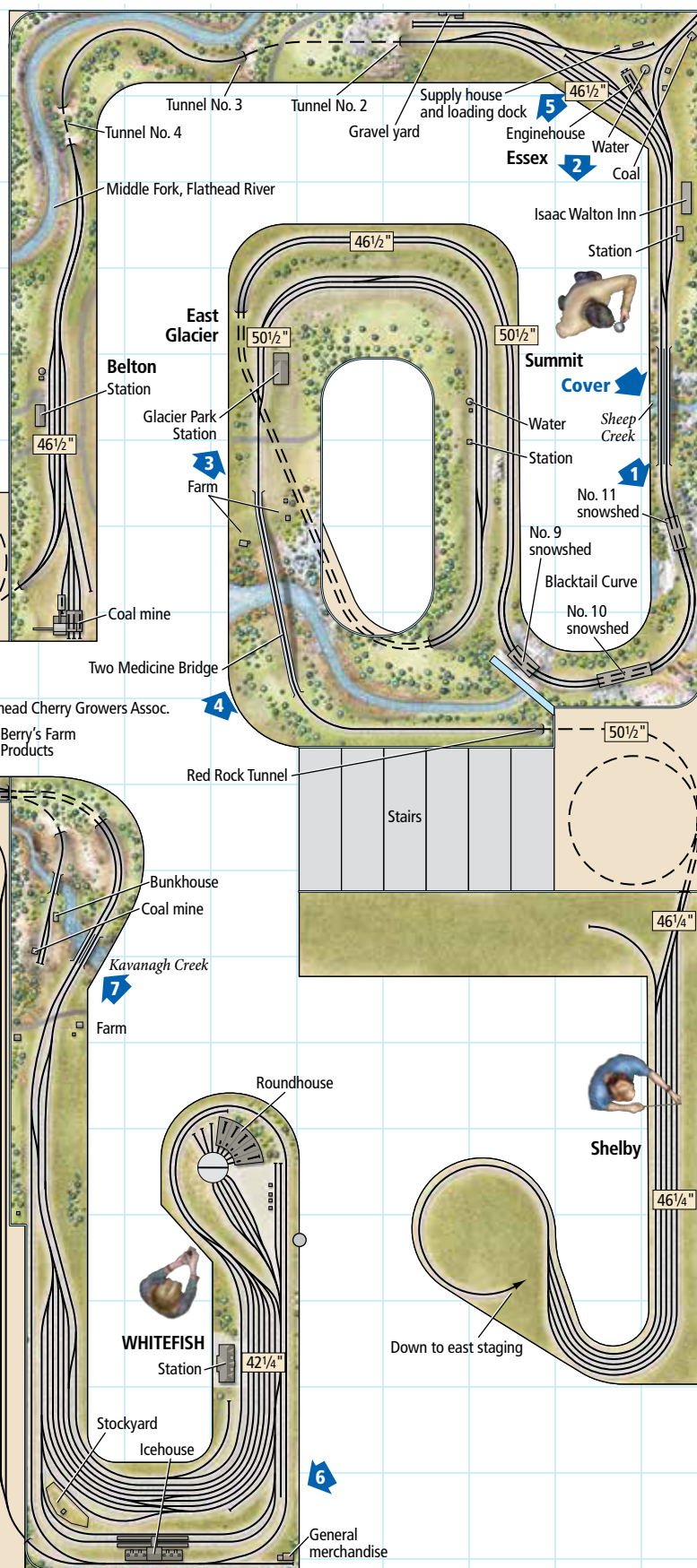
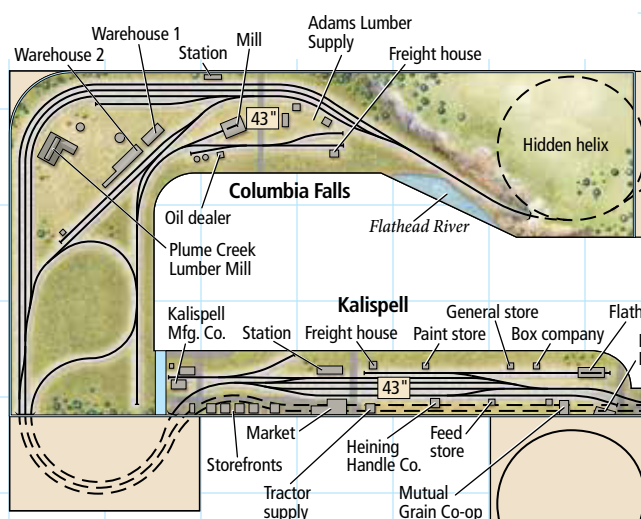
Building the layout

Construction started with preparing the basement with finished walls and a drop ceiling. Lighting was installed, and I used trim coil, a rolled aluminum sheet available from hardware stores and home centers, to cove my corners.

I wanted the benchwork to be removable in case we decided to move

Great Northern Kalispell Div.

N scale (1:160)
Room size: 29'-5" x 36'-3"
Scale of plan: 1/4" = 1'-0", 24" grid
Numbered arrows indicate photo locations
Illustration by Kellie Jaeger
Find more plans online in the
Trains.com Track Plan Database.



The layout at a glance

Name: Great Northern Kalispell Division
Scale: N (1:160)
Size: 29'-7" x 36'-3"
Prototype: Great Northern
Locale: Montana
Era: late 1950s
Style: walk-in
Mainline run: 238 feet
Minimum radius: 18" (main), 16" (branch)
Minimum turnout: No. 5
Maximum grade: 2%
Benchwork: box frame, shelf, and L-girder
Height: 42 1/4" to 50 1/2"
Roadbed: extruded-foam insulation board or 1/4" plywood
Track: Atlas code 55 and 80, Peco code 55
Scenery: extruded-foam insulation board
Backdrop: photos and hand-painted on trim coil
Control: NCE Digital Command Control with wireless throttles



3 A tourist bus approaches Glacier National Park Station just in time for its occupants to board the steam excursion pulled by GN 2-8-2 Mikado No. 3205. Doug scratchbuilt the station to match the prototype. The heavy Mikado is from Broadway Limited Imports.

someday. For this, I constructed rectangular boxes of various sizes, framed with 1 x 4 lumber and filled with 2" foam board. I placed them on top of wall-mounted brackets and bolted them together. In some locations, I used plywood on risers to create the subroadbed. The peninsula was made using L-girder construction bolted to 2 x 2 legs. Stringers with risers were installed to support the 1/4" plywood subroadbed.

I painted the walls in three shades of blue, starting with dark blue at the top, medium in the middle, and light blue on the bottom. I blended the colors together as I moved along. The clouds were added freehand using an airbrush.

For my backdrops I used photos I took while I attended the Great Northern Railway Historical Society (GNRHS) conventions at Kalispell and Glacier Park in 2006 and 2010. The exception is the one at Whitefish, which I hand-painted.

The peninsula has a freestanding backdrop made from trim coil mounted to a wooden frame using hook-and-loop fasteners. I used this same method for creating my valance.

Track and train control

The track is mostly Atlas code 55, except for Whitefish Yard (code 80) and Columbia Falls (Peco code 55). When I was laying track at those locations, Atlas code 55 wasn't yet available. But once it came out, I've used nothing else.

Turnouts are lined using Caboose Industries ground throws, homemade slide switches, and Tortoise by Circuitron switch motors. Turnouts on the main are controlled Tortoises operated by panels on the fascia.

I use an NCE wireless 5-amp system and a 5-amp booster to run trains. The layout has a number of power districts and auto-reversers from Tony's Train Exchange.

Scenery

I regard scenery as a three-dimensional art form, and it's my favorite part of the hobby. I really enjoy re-creating in miniature what I see in the natural world. Scenery is about different textures and colors and trying to match what we see in the real life. With so many new scenery products on the market, there are plenty to choose from.

I've learned many of my scenery techniques from model railroaders such as Bob Hamm and Dick Elwell. I start with foam board and carve out the contours, then cover it with a mixture of sheetrock powder, water, and foam shavings. I then paint it brown and add some sand, dirt, and fine ground foam while the paint is still wet.

Once that's dry, I add static grasses of different lengths and colors. I then add small pieces of poly fiber laid over the grass and sprinkled with ground foam to create bushes.



The rocks are made using plaster rock molds, both commercial and homemade. I use washes to stain the rocks, starting with dark colors in the cracks, and dry-brush the edges with light gray and/or white to bring out the highlights.

My layout has lots of trees. Some of my conifers were handmade using the bottle brush method, but with so many needed, I decided to use modified commercially made trees. I modify them by reshaping and spraying them various colors. Very few are used right out of the box. There are more than 2,000 conifers on the layout.

Most of my deciduous trees are handmade using a dry flower known as Pepper Weed. I first spray-paint them



light green. Then I hand-paint the stems and branches white. I wrap the bases in small bundles with floral tape and paint that white. Using a small brush, I mark up the trunk and branches with black paint to represent aspens and birch trees. I can't tell you how many I've made, but there are a lot. I also have some Scenic Express SuperTrees flocked with Noch fine leaf material.

Enviro-Tex Lite, a two-part epoxy, is used to create the water. I prepare the bottom of riverbed by painting it a certain color depending on the look I'm trying to capture. Because of the silt from the spring glacier runoff, some of the rivers appear light blue or green. Rocks and gravel are glued down along the edges or

in the stream bed itself. I then pour the epoxy into the stream or lake. I may have to do this more than once depending on how much is needed. I keep layers thin so it will cure correctly.

To give the streams texture, I add a poly fiber used for fish tank filters and lay it in the epoxy, creating rapids and ripples. The waterfalls are created much in the same way, but I use a heavier fiber pad pulled apart and artist's gel medium to hold it down. Once that's dry, I pour epoxy above and below the waterfall. The last step is to highlight the moving water with white paint and along some of the edges in the direction of the flow.

There are a couple of special effects I've added to the layout, such as the

4 The *Twin City*, Train No. 402, crosses Two Medicine Creek on its way east with a freight train. The bridge was built using Micro Engineering kits. The Electro-Motive Corp. FT locomotives are by Micro-Trains Line.

sound of a running stream and bird sound chips which run continuously; lightning and thunder, which are triggered by an infrared detector going up the Kalispell branch; and nighttime lighting effects.

Structures

Because I'm modeling a prototype, there are some iconic structures I just had to have on the layout. This includes



5 Great Northern Alco RS2 No. 204 heads to the gravel pit with a train of empty hoppers. As many as 30 cars a day are switched at this industry, just outside of Essex. The locomotive is by Wm. K. Walther's Inc.

Whitefish Station, Belton Station, the Izaak Walton Inn, Summit, Glacier Park Station, Sheep Creek Bridge, and Two Medicine River Bridge.

Because there are no kits currently available for these buildings, I have to scratchbuild them. To date I've completed Whitefish Station and Glacier Park Station. The Great Northern Railway Historical Society, of which I've been a member for many years, provided me with scale drawings of these iconic structures to work from. I have also taken photos of the prototypes during my several visits.

For me, Whitefish Station is the crown jewel of the layout because of its Tudor architectural style, plus the fact that it was my first attempt at scratchbuilding. I enjoy scratchbuilding and have built other structures on the layout, including snowsheds. The snowsheds were a fun project, and it's one of my favorite scenes.

Other structures are laser-cut wood kits from American Model Builders, Bar



6 Yard switcher No. 147 spots reefers for icing at the Whitefish Yard icehouse. Doug built the structure from two Atlas kits joined with a scratchbuilt middle section to represent the icehouse that was on the prototype in the 1950s.

Mills, GCLaser, and others. There are also some plastic kits from Design Preservation Models (now owned by Woodland Scenics) and Wm. K. Walther's Inc.

The two bridges (actually three, since Sheep Creek Bridge is two bridges side by side) are Micro Engineering tall steel

viaduct kits. When building the Two Medicine River bridge, I added a few details and kitbashed the center span to match the prototype.

There are few structures that are still waiting to be scratchbuilt, such as Belton Station. For now, I use stand-in buildings until I'm able to complete them.

Locomotives and rolling stock

The locomotives on my layout are a mixture of diesels from the 1950s, both with and without sound. There are three Broadway Limited Imports steam engines, all with sound, that I run as extras or VIP trains. This isn't prototypical, but I love having some steam engines on the layout.

Most of the freight rolling stock is Micro-Trains and Atlas, with a few other manufacturers thrown in for good measure. I changed out the wheelsets from the large flanges to the small flanges in order to ride on the code 55 track. Weight was added and couplers replaced as needed. Passenger cars are a mix of InterMountain Railway Co., Kato, Rapido, and Walthers.

Operation

Operation is what brings the layout to life and gives it purpose. There have been many articles written on the subject, and I suggest doing a little homework if you're planning on building a layout with this in mind. I also recommend operating on as many layouts as you can to see what you like or don't like. There has never been a layout that I haven't learned something from.

I belong to an operating group that meets once a week taking turns hosting. We all enjoy doing this throughout the year. I started out using switch lists but have moved to a car-card system. This is a work in progress, but I feel I'm moving in the right direction.

Currently I have two locals, or turns: the Columbia Falls Turn, which works Plum Creek Lumber Mill and the local industries; and the Kalispell Turn, which works all of Kalispell. There's also the Gravel Extra and the Coal Extra. Though there were actually never any coal operations in the area, I'm using my modeling license.

There are several through freights. Any eastbounds over 10 cars need helper service from Essex to make it up the grade to Summit. Whitefish Yard needs two operators, one on the east end and one on the west.

I run two passenger trains per session, which may drop or pick up cars at Belton. This was done for passengers traveling to Glacier National Park during the summer season, and you could see sleeper cars from all sorts of railroads parked at Belton.



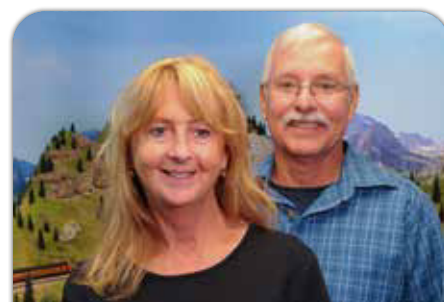
7 Train No. 436 heads east over Kavanaugh Creek while an RS1 works the A&J Coal Mine. The Alco is an Atlas model and the A-B set of F3 diesels are from Broadway Limited Imports.

The future

The Great Northern Kalispell Division has a little something for everyone. Modeling trains has become a great pastime for me. I've met so many wonderful people associated with the hobby and have made so many friends.

There's still a lot to be done, and I hope to complete several more projects, including the east staging yard, in the near future. This will open up even more possibilities for operation.

My closing thought is this: It isn't always about the trains, but the people you meet along the way. [MIR](#)



Meet Doug Dederick

Doug Dederick lives with Nadine, his wife of more than 41 years, near Albany, N.Y. They have three loving adult sons and are proud of each of them. Doug enjoys the local model railroading community and is vice president of the National Model Railroad Association's Berkshire Division. He loves the outdoors, traveling, and fly fishing.



Scan this QR code to watch video of trains running on Doug Dederick's layout.

A quarter-century of Spookshow.net



Mark Patterson of Spookshow.net not only hosts the N scale locomotive encyclopedia, but also freight car and passenger car encyclopedias and blog posts about his N scale layouts. Here he shows off his current layout, a model of Hope, Minn. Right: For 25 years, Mark Peterson has worked to get his hands on, test, and review every N scale North American prototype locomotive model. His “concise and unbiased” reviews have made his website an indispensable resource for N scale modelers.

The N scale locomotive resource celebrates its 25th anniversary

By Will Everitt • Photos by Sean Berry

Like most modelers, N scalers have questions. *How does Athearn's Big Boy compare to Broadway Limited's? How can you tell the second run of Kato's GP38-2 from its first? How do you remove the shell of a Fox Valley GP60M? What's the (crazy!) production history of Con-Cor's 2-8-8-2 Mallet?*

A quirky and indispensable website named after a Rob Zombie album has these answers and more.

The N Scale Locomotive Encyclopedia (spookshow.net/locos) provides a review of every American (and Canadian!) locomotive model ever made in that scale.

The encyclopedia, which will soon celebrate its 25th anniversary, lists 700 models. Each locomotive has been tested by more than 20 hours of run time. They are evaluated for pulling power,

minimum radii, slow speed, and performance through turnouts. The reviews include each model's DCC-friendliness, shell removal instructions, an overall grade of “A” through “F”, and blurbs from *Model Railroader's* first review of the locomotive.

The brains and elbow grease behind Spookshow.net is Mark Peterson. A computer programmer by profession, Mark got back into model railroading in 1999 after having given it up as a child. “I didn't know an RS3 from an SD,” he reminisced, “but N scale was cheap and I began buying a bunch of locomotives.”

Buy them all

A collector by nature, Mark realized that it was possible to own one of every model ever made. At that time, the N

scale wing of the hobby was only about 40 years old. The initial challenge was making a comprehensive list. Mark scoured collectors' guides, old Walther's catalogs, and perused every issue of *Model Railroader* back to 1962, when N scale got started.

He eventually put photos of every N scale locomotive ever made in a online so that he would always have access to which models he owned in order to avoid accidentally buying the same engine twice. This formed the skeleton of what would eventually become the encyclopedia.

“This was in the early days of eBay,” Mark explained. “I could purchase decent stuff for \$5 to \$20.” To this day, he has stayed on top of new locomotive releases by pre-ordering them from various manufacturers.

Grade	Model Year	Prototype Year	DCC	Importer/Vendor	Exporter/Manufacturer	Locomotive Model
D	2000	1964	.	Images Replicas	OCS Models (Korea)	ACE R-26 Subway Cars
B	2006	2000	E	Bachmann	Bachmann (China)	Acela Express
B	2005	2002	E	Bachmann	Bachmann (China)	Acela HHP-8
N	2019	1966	.	Briggs Models	Briggs Models (Canada)	Alco C-415
A	2007	1963	E	Atlas	Atlas (China)	Alco C-420
A	2020	1963	SE	Atlas	Atlas (China)	Alco C-420
C	1976	1963	.	Model Power	Mehano (Yugoslavia)	Alco C-420
F	1969	1963	.	MRC	Mehano (Yugoslavia)	Alco C-420
B	2002	1967	.	Life-Like	Life-Like (China)	Alco C-424
A	2004	1963	E	Atlas	Atlas (China)	Alco C-628
A	2018	1963	SE	Atlas	Atlas (China)	Alco C-628

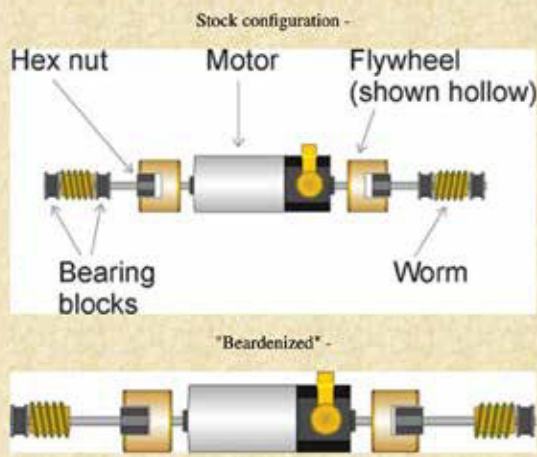
The Locomotive Encyclopedia is housed on a no-frills website that can easily be sorted by model year, prototype year, manufacturer, locomotive model, grade, DCC-readiness, and more.

The 1997 GP40-2 release was Atlas's first DCC-Ready model (the original GP40 chassis having been modified slightly, allowing for the installation of a full-length lightboard with motor contacts). These models were actually available with factory-installed Lenz decoders (the first USA profile model since Arnold's 1991 Alco S-2 to be so equipped). This same basic chassis/mechanism would be used for all the rest of the models in this series up until 2018 (when the internals were completely redesigned) -



Each Spookshow article includes photos of the internal mechanisms of the model, including production updates, such as noted here in the review of Atlas's GP40.

If the model was built before 2016, a suggested solution to this problem (pioneered by the inestimable Ron Bearden) is to remove the inner bearing blocks and slide the hex nuts further into the flywheels -



One example of an optional fix offered to modelers is this noise-reduction hack shared by *Model Railroader* contributor Ron Bearden.

Getting attention

To his surprise, other N scale modelers began to find his online list. People from around the world began to e-mail him asking about how well certain Atlas or Kato or Life-Like models ran. Mark has a scientific mind, so to answer these questions he began a formal evaluation process. Grades proceeded naturally from there. Experts, such as Ron Bearden (*Model Railroader* contributor), collaborated with Mark on tweaks and fixes for problematic locomotives.

Hobbyists modeling specific eras or roads often have to resort to buying used locomotives to fill out their rosters. In this use, Mark Peterson's reviews shine. His rigorous testing reveals common flaws in both new and vintage models along with fixes to those problems.

An industry tool

Eventually, manufacturers took notice. Jeremy Fleming of Rapido Trains has the encyclopedia bookmarked. "Mark's locomotive reviews are concise and unbiased,"

All the details

Mark Peterson's N Scale

Locomotive Encyclopedia includes a performance review of every North American model ever sold in that scale. Each review includes:

- Production years of the model
- Production history
- Photos and descriptions of the internal mechanisms
- DCC readiness
- Refreshingly frank reviews
- Performance on grades, pulling power, speed, reliability, and ability to handle turnouts and 9¾" radius curves
- Common deficiencies with the model (and often, useful solutions to those problems)
- Noted trivia about the model (for example, what other companies' shells fit the model)
- Notation of the locomotive's review in *Model Railroader*
- A-through-F grades based on use for model railroad operations

Jeremy said. "Since I've become an industry 'insider' I've interacted with Mark on several occasions. Whether it's helping to troubleshoot FP9s or just answering general questions he has about our products, I've got all the time in the world for Mark and what he does. I've even passed his site on to our project managers for whenever they tackle an N scale release."

But wait, why is the website named "Spookshow?"

Mark's internet provider gave him a "free" website builder. Never intending the site to be bookmarked by thousands of model railroaders, he simply named it in reverence for an album from his favorite performer. And now his N scale locomotive resource celebrates its anniversary.

Mark regularly receives e-mails from O, S, and HO hobbyists wishing there was a similar resource for them. N scalers know they are a lucky bunch and wish Spookshow a happy 25th anniversary.

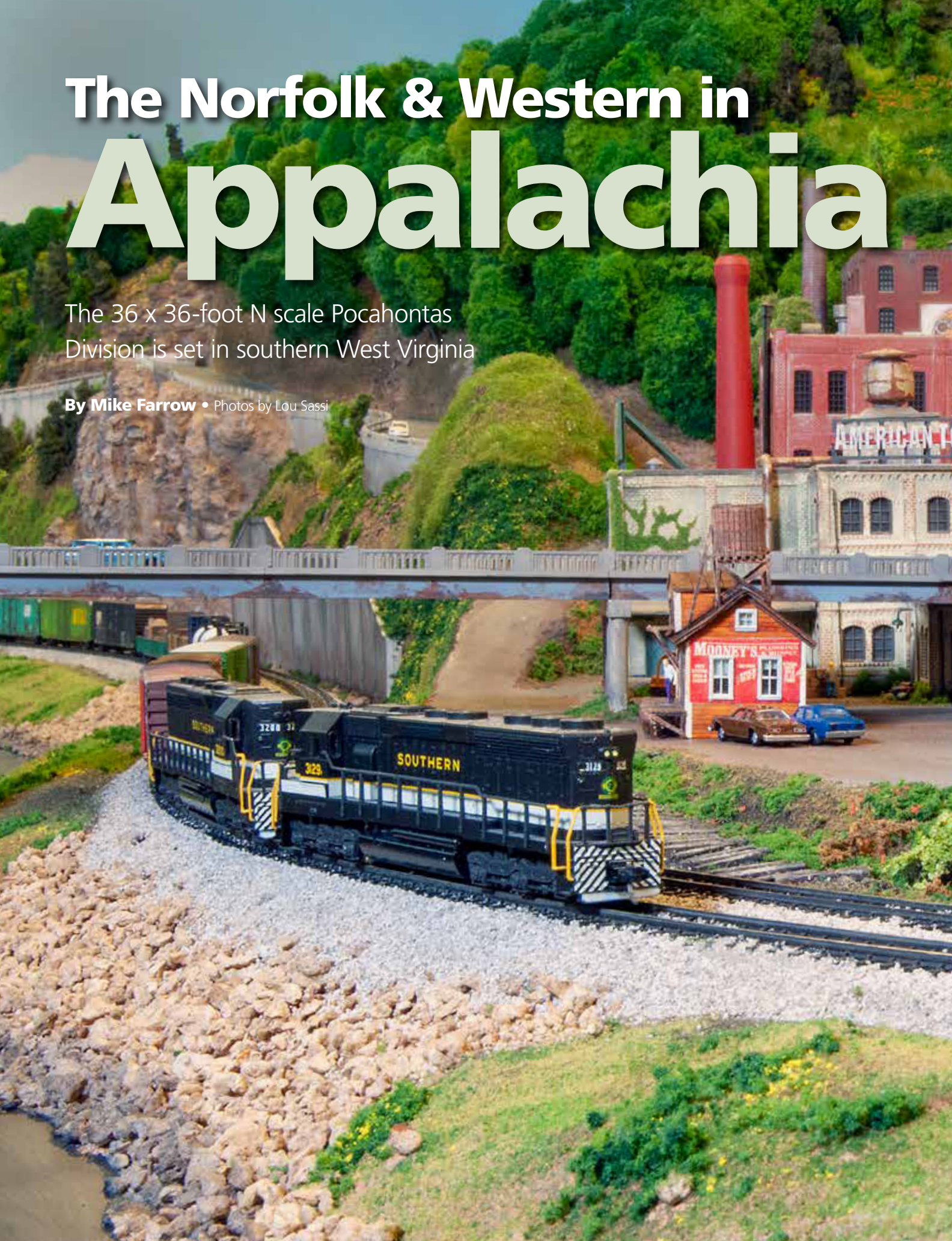
The N scale locomotive database has been incredibly resourceful in the N scale community for the past 25 years. Here's to the next 25. [MR](#)

Will Everitt is the executive director of a marine environmental nonprofit organization located in Maine called Friends of Casco Bay. This is his first byline in MR.

The Norfolk & Western in Appalachia

The 36 x 36-foot N scale Pocahontas Division is set in southern West Virginia

By Mike Farrow • Photos by Lou Sassi





① Train M460, powered by a pair of Southern Ry. Electro-Motive Division six-axle road units, hugs the banks of the Tug River at Welch, W.Va. The action takes place on Mike Farrow's 36 x 36-foot N scale Norfolk & Western Pocahontas Division layout set in southern West Virginia.



② This wide-angle view, looking toward Eugene, W.Va., shows how the model railroad fits in Mike's basement. Most of the lighting is hidden behind valances.

Inspiration for model railroads can come from a variety of places. White-water rafting trips and vacations to southern West Virginia led me to model the Norfolk & Western Pocahontas Division in N scale. The 36 x 36-foot model railroad is set during the 1970s and early 1980s, when six-axle Electro-Motive Division (EMD) and General Electric (GE) diesels were the primary road power on this part of the system.

I was taken by the beautiful landscape of Appalachia and hoped that I could re-create what I saw in N scale. Trips to the large coal marshaling yards in Bluefield, W.Va., further cemented my decision to model this part of the N&W.

A lifelong hobby

I like to think I come from a model railroading family. My father was a

model railroader, and we always had a train around the Christmas tree. My grandfather would frequently take us railfanning at New York Central's Collinwood Yard in Cleveland. I also had uncles and cousins who were into Lionel trains.

During the 45 years since then, I've built three layouts, all relatively complete. My second was based on *Model Railroader's* N scale Burlington Northern project layout, which was featured over several issues in 1990. My version of the layout was sectional, which enabled me to incorporate parts of it into the Pocahontas Division.

We moved into our new home in mid-2002. I'm a custom home builder, so I built the basement with high ceilings and fewer posts. With my busy schedule, the room preparation took two years.

I used recessed lighting over points of interest, concealing it with a tempered hardboard valance. I also built a storage closet, an observation deck, and a staging room.

Scenery and track

I focused on building the infrastructure true to the areas I visited on my rafting trips, even collecting dirt, rock, and twigs during visits. Careful



③ Norfolk & Western Electro-Motive Division SD40-2 road diesels 6103 and 6175 lead a freight train through Eugene, W.Va. A portion of the former coal branch above is now being used as a logging loadout.

The layout at a glance

Name: Norfolk & Western Pocahontas Division

Scale: N (1:160)

Size: 36 x 36 feet

Prototype: Norfolk & Western

Locale: southern West Virginia

Style: walk-in

Mainline run: 290 feet

Minimum radius: 18"

Minimum turnout: No. 6

Maximum grade: 2 percent

Benchwork: tabletop

Height: 52" to 58.5"

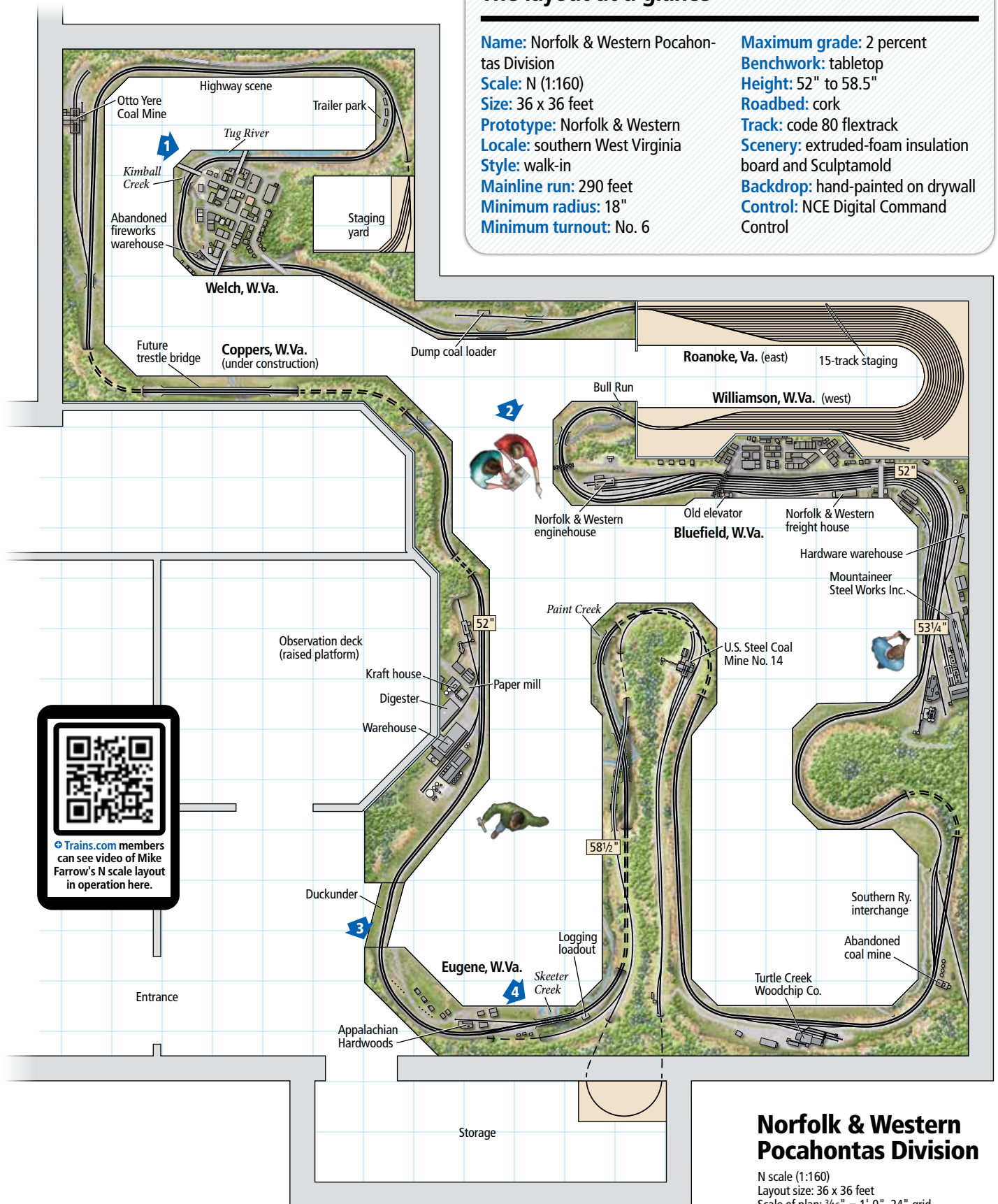
Roadbed: cork

Track: code 80 flextrack

Scenery: extruded-foam insulation board and Sculptamold

Backdrop: hand-painted on drywall

Control: NCE Digital Command Control



Norfolk & Western Pocahontas Division

N scale (1:160)

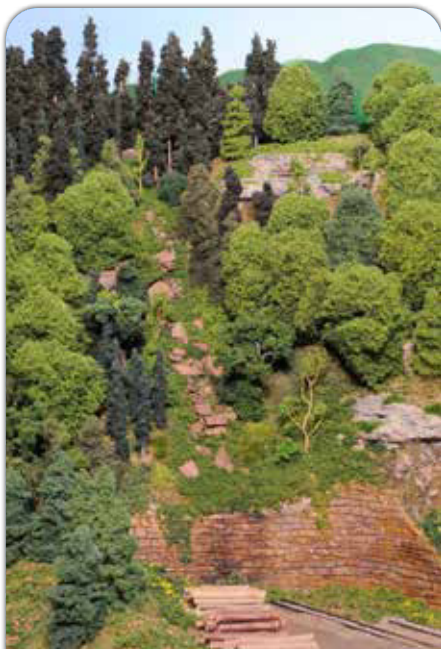
Layout size: 36 x 36 feet

Scale of plan: $\frac{3}{16}$ " = 1'-0", 24" grid

Numbered arrows indicate photo locations

Illustration by Kellie Jaeger

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



Mike added a mountain wash to this wooded scene. He applied water stains to the retaining wall.

Mountain washes

Appalachian mountain scenery

calls for many trees. Modeling the density of these forests can be very costly. There are several ways to reduce the number of trees, including narrower benchwork with a detailed backdrop; more exposed rock work; and my favorite, mountain washes.

Mountain washes are V-shaped areas where rain and snow melt and water drains in temporary streams. The fast-moving water can cleanse these areas, prohibiting large trees from growing. A wash can be filled with loose rock and smaller foliage to create a detailed scene all its own.

I built mine by first placing larger chips of rock on the mountainside, followed by progressively smaller rocks to create the water path. Then I added foliage, starting with smaller pieces and building up to larger clumps.

Mountain washes can also break up the monotone green canvas of a wooded scene. Younger trees and bushes can be modeled in various shades of green. Flowers and vines provide opportunities to add shades of red, yellow, white, and purple depending on the season. —
Mike Farrow



4 This freight train, destined for Roanoke, Va., passes over Skeeter Creek. The trailing Electro-Motive Division SD40-2 is one of a small number of Norfolk & Western units repainted Tuscan Red for use on office car specials and excursions.

observation of the area's topography helped me produce better scenes.

The landforms are layers of extruded-foam insulation board secured with white glue and occasionally some 8d common nails. I shaped the contours with a steak knife, smoothed the foam with sandpaper, and filled in any gaps between layers with Sculptamold. Then I applied a coat of flat tan latex paint in preparation for the scenery.

I made the rock outcroppings from ceiling tiles, along with plaster castings poured in rubber molds. These formed the walls of the mountains. Blending the base color with the real rocks that I collected in West Virginia helped add to the scenery's realism.

In addition to natural materials, I used a variety of ground foam, static

grass, and static grass mats to scenic the layout. Poly fiber and foliage mats were useful when modeling vines and trees.

Speaking of trees, there are approximately 10,000 on the layout. Those in the background are puffballs. Foreground trees include those made with wire armatures, Woodland Scenics tree kits, and basically anything else that looked like an N scale tree.

I used paint and Mod Podge for most of the water features. I painted the backdrop scenes directly on the drywall.

The sectional parts of my previous layout, which I incorporated into this model railroad, had Atlas code 80 flex-track and Peco turnouts. All of my new work includes the same. I positioned the turnouts close to the edge of the layout so I can operate them manually.

Towns and structures

In 2018 I expanded the layout so I could extend the main line and add the city of Welch, W.Va. Given the size and scale of the model railroad, I included two mid-size cities (Bluefield and Welch); a pair of small towns (Eugene and Coppers); and a variety of industries, such as a steel mill, a paper mill, a log load out, and a wood-chip plant.

There are two major coal mining operations on the layout. There are others in various conditions, including an abandoned mine near the Southern Ry. interchange and small dump locations.

I built more than 300 structures for the Pocahontas Division. I enjoy kitbashing and scratchbuilding to create unique structures. All of the buildings are painted and weathered, but details are saved for the exposed sides. Many of the kits are used several times, featuring the backs of some and fronts of others, depending on locations.

Coal country with a twist

The N&W during the 1970s and '80s meant coal. An army of hoppers would haul black diamonds from the coal fields east to Norfolk, Va. On my version of the Pocahontas Division, I've put a greater emphasis on manifest freights traveling to various markets.

Following the N&W's lead, my diesel fleet consists of locomotives from the 1960s through the 1980s. Second-generation EMD Geeps, SDs, and some GE units, many with high short hoods, are commonly seen.

About 20% of my diesel fleet is decorated for Southern Ry., hinting at the upcoming merger. The two roads merged in 1982 to form the contemporary Norfolk Southern Ry.

Several of my diesels have sound. However, I still prefer the quiet, relaxing environment of the train room as is. I recently converted to Digital Command Control using an NCE system with four cabs (two each radio and tethered). A couple of friends from my NTrak club assisted with the setup. I equipped the diesels with TCS decoders.

The majority of the rolling stock is correct for the layout's era, but I have a few pieces that I like from outside that time frame. The cars are weathered with acrylic paint and chalks, weighted, and equipped with metal wheels.

Most of the traffic on the Pocahontas Division is unit trains and manifest freights, with a few locals thrown in to



Mike used Central Valley Model Works truss bridge parts, assorted styrene shapes, and drinking straws to model conveyors for the industries on his layout.

Convincing conveyors

When modeling various industries, I found that the number of realistic conveyor systems available commercially is limited. That led me to come up with a simple and inexpensive "scratch-bashing" project that let me re-create open and covered conveyor systems.

I started with truss bridge parts package from Central Valley Model Works. The smallest size was best for N scale; other sizes are available. Other key parts included various styrene shapes and drinking straws.

The image above shows how I stacked the styrene to support the conveyor belt covers. The stacked styrene can also be used to create longer conveyors by overlapping sections.

I cut the straws lengthwise in roughly 12 scale foot sections to model the covers. Following prototype practice, I overlapped the pieces. This is done on full-size conveyors to shed rainwater.

I painted the supports a weathered black color. The covers were painted to match the industrial complex. — *Mike Farrow*

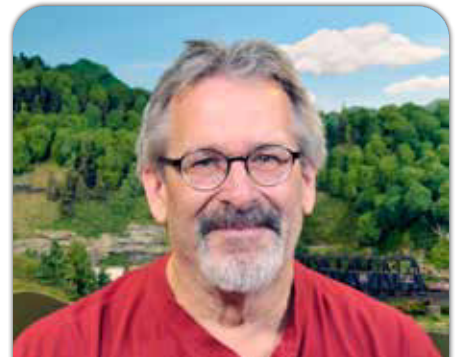
mix things up. An occasional passenger train can also be found on the line.

More to do

I don't follow a formal operating scheme. I enjoy running multiple long trains through the beautiful mountains of West Virginia. On occasion I have between six and eight folks over to run trains and socialize.

I've hosted many open houses for local groups and the National Model Railroad Association. It was a great experience to meet so many friendly, gracious people from around the world during the NMRA National Convention that was held in downtown Cleveland back in 2014.

Although my N scale Norfolk & Western Pocahontas Division layout is still evolving, I believe it has met my personal goals. The 36 x 36-foot model railroad still serves as a great form of creativity and relaxation. **MR**



Meet Mike Farrow

Mike Farrow is a custom home builder from Hiram, Ohio. He and his wife, Dee, enjoy the outdoors and historical architecture. Facebook users may recognize Mike's work under his moniker "Zeke McGee." In his spare time Mike enjoys railfanning, fishing, and exploring old towns.

Scenery and details for **FREEMONT**



Part 4: We finish off our project layout with dirt, grass, an abandoned track, trees, and more

By **Steven Otte** • Photos by Trains.com Video staff unless noted

Scenery is the last step that turns a train layout into a realistic model railroad. Since our HO scale Freemont Mills project layout is mostly a flat cityscape, roads and parking lots took care of almost everything that wasn't already covered with track and ballast.

But we thought our layout could use some natural scenery to break up the plain vista. So we got out our Sculpta-mold, ground foam, static grass, and tree-making materials, and got to it.

The empty triangle between the yard and the shuttered factory was the

obvious place for such a scene. We covered the landscape with dirt, grass, and weeds, then added Scenic Express SuperTrees. I also laid a string of overgrown ties to represent an abandoned rail siding.

On the urban side, we also paved and painted the streets and cast a team track loading ramp out of plaster.

We hope you've enjoyed reading about the construction of this year's project layout. There are a lot of reasons a modeler might choose to build a Free-Mo module, some of which we've touched on in this series of articles. But

Though much of our HO scale Free-Mo module is track and structures, the *Model Railroader* staff felt it needed some scenery as well, such as trees, grass, an abandoned track, and a loading ramp. Cody Grivno photo

The Freemont Mills series

January: Welcome to Freemont Mills

February: Benchwork, track, and wiring

March: Structures

April: Scenery and details

for many, the biggest benefit is the fellowship they find participating in a modular train club. Seek one out in your area and you might find it to be a place where, like a module, you can join in as part of a greater whole. [MR](#)

GROUND COVER

For the base layer of ground cover, I went with my favorite material: sifted paver sand. Paver sand is a variegated material sold in bulk at home and garden centers, intended to provide a flat, permeable base for stone or brick walkways and patios. One bag is probably enough for a dozen model railroads. I bake the sand in the oven to dry it and use an assortment of sifters to separate it into grades from powder to talus.

Only in one area of the layout did I raise a small hill with a mound of Sculptamold, a papier-mache-like scenery material. On the rest of the layout, I applied ground cover directly to the plywood tabletop. I painted the surface with earth-tone latex house paint, working in small patches so it wouldn't dry too fast. I then sprinkled the finest grade of sifted sand into the wet paint. Once the paint dried, I used isopropyl alcohol and Woodland Scenics scenic cement to glue down another layer of sand to obscure the paintbrush strokes. After that dried, I topped the sand with various grades of ground foam turf, more alcohol, and more scenic cement.

In wilder, more overgrown areas, I added grass tufts torn from a Busch scenery mat, and Senior Editor Cody Grivno applied static grass to make the area look even more unkempt.



Cody Grivno photo

FREIGHT RAMP



Cody Grivno photo

For the unloading ramp at the team track area, I wanted to try something different and model a concrete ramp. I built a styrene mold in which I could cast the ramp in plaster. So the sides of the ramp would bear grooves as if it was poured in a wood-plank temporary mold, I used scribed styrene for the sides. I mixed a small amount of plaster in a cup, tinted it with Model Master Concrete acrylic hobby paint, and poured it into the mold.

After leaving the ramp to dry for several days on the

workbench, I pulled the mold apart from the casting. The final product looked great, but the sharp end of the ramp was too thin and broke as I was unmolding it. I saved the pieces and glued them back on when I stuck the ramp in place with spackle.

Unlike my tinted plaster, the spackle was white, so I had to repaint the whole ramp with Concrete paint to make it match. After it dried, I added some cargo crates and a worker with a forklift waiting to unload the next boxcar.

ABANDONED TRACK



Although the **Syzdek Manufacturing** building was always going to be a fairly prominent structure on the layout, there was no good way to get a track to it for rail service. The only obvious connection would be to the yard, which would be an inconvenient double switchback. Then the boarded-up windows on the cast-Hydrocal kit walls gave me this idea: What if the factory — and the spur track leading to it — were abandoned?

After determining the building's exact placement on the module, I drew a pencil line representing the abandoned track's centerline. Once the hill alongside this track was in place and the area covered with sifted sand, I got started on the track.

First, I cut and stained a few dozen ties from appropriate size stripwood. I used $\frac{1}{16}$ " x $\frac{1}{8}$ ". After the stain had dried, I used an old piece of flextrack as a jig to space out the ties in

foot-long strips. I used masking tape to pick up the row of ties, applied white glue to the bottoms, and stuck them to the layout **1**.

Once the glue was dry and I could peel off the tape, I ballasted the track with the same sifted sand and powdered dirt I had used for ground cover **2**. This gave the abandoned track a poorly maintained appearance, as if it had been laid directly on the dirt without ballast.

Next, I sprinkled on a bit of green ground foam to represent grass that was taking over the track. I made sure to brush it off the ties before gluing it down **3**.

Despite this greenery, the track still didn't look abandoned enough for me. I peeled some tall grass clumps off of a silicone-backed Busch summer grass mat and glued them between the ties **4**. This made the track look like it had been neglected for a good long while.

LANDSCAPE ISLANDS



Cody Grivno photo

To separate the station parking lot from the street out front, I made some landscape islands. I measured the lot and decided where I wanted the islands, then traced them on paper. I transferred those shapes to .010" thick styrene and cut them out with a hobby knife. Then I glued .040" x .060" styrene strip curbs on the edges and painted them Concrete.

Next, I mixed a small amount of Sculptamold with water and a dab of earth-tone acrylic craft paint for color. I used this to fill the areas between the curbs, with a small mound in the middle, then let them dry overnight.

The next day I painted full-strength white glue on top of the Sculptamold and sprinkled on some fine turf blend ground foam. I decorated the grassy areas with some clump foam bushes and flowers made from static grass tufts topped with purple ground foam.

After gluing the islands in place around the parking lot with adhesive caulk, I drilled a couple holes in the side islands to plant a couple of commercially made trees. I sprayed the treetops with 3M Super 77 spray adhesive and sprinkled on some ground foam first to spruce them up.

STREETS

I used Woodland Scenics Smooth-It to pave the streets and parking lots of Freemont Mills. This is a lightweight, plaster-based material that trowels on easily when mixed with water to a batter-like consistency.

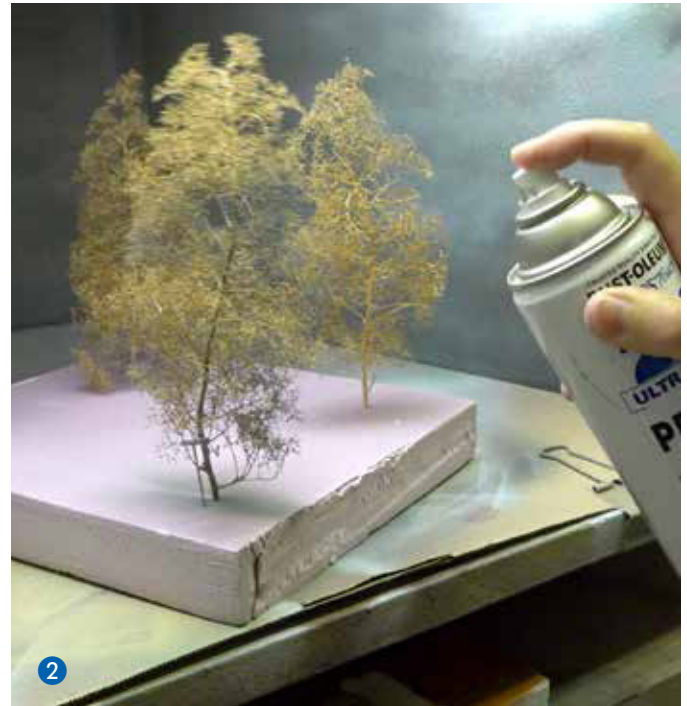
I mixed the Smooth-It with black liquid pigment from Woodland Scenics' Earth Colors line to give the material a light gray tint, so if the material cracks or chips, no white shows.

After the material dried, I sanded it smooth, weathered it with dark gray weathering powder, and painted on stripes where appropriate. The stripes in the station parking lot came out badly, so I repainted the lot with Grimy Black hobby paint to represent a newly repaved lot and give me a fresh start (see above).



Cody Grivno photo

TREES



We used **Scenic Express SuperTrees** to add trees to our layout. SuperTrees are a natural dried plant material with fine branches. No two pieces are exactly the same. Right out of the box, they look like spindly tan weeds, so they need some prep to look like trees.

After choosing the most tree-shaped candidates from a big box of raw material, Editor Eric White removed some unrealistic leaves from the stems with a hobby knife. He then soaked the dried branches in a tub of diluted white glue to make them more flexible and durable **1**. He hung them upside-down to dry with small weights clipped to the tops to pull them straight as they dried.

Next, Eric inserted the trunks into a chunk of extruded-foam insulation board and spray-painted the trees **2**. He first used a gray primer for the trunk and branches, then carefully sprayed just the outer branch tips with Rust-Oleum Painter's Touch Camouflage Green.

Once the paint cured overnight, Eric held the trees one at a time above a garbage can to catch overspray and spritzed the armatures with spray adhesive **3**. He then sprinkled on medium green coarse ground foam foliage, more adhesive, and then fine ground foam in various shades of green. Finally, he drilled holes in the plywood layout surface and used wood glue to plant the trees in the holes **4**.

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20494 Amtrak AMD 103 "Genesis" Diesel Locomotive; Road No. 108
Paint scheme and lettering are prototypical for Era VI. This is a special version of road number 108 for the 50th anniversary of Amtrak.



20493 Amtrak AMD 103 "Genesis" Diesel Locomotive; Road No. 160
Paint scheme and lettering are an adaptation of the Phase III scheme as applied to Amtrak's Dash 8-32BWH locomotives to celebrate the 50th anniversary of Amtrak.



31201 Amtrak Baggage Car (Streamliner)

LGB Amtrak cars have interior lighting and metal wheelsets. Passenger cars also have interior details. Cars include stickers for creating different road numbers when adding additional passenger cars to create a prototypical Amtrak passenger train.



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Get the Spud to Idaho!

Something crossed my desk recently that delivered a jolt! National Model Railroad Association (NMRA) Operations Special Interest Group (OPSIG) members exchanged information about the methods of operation followed by layouts participating in popular operations weekends. The data sampled more than 200 layouts. It showed how popular timetable-and-train-order (TTTO) methods are in operating sessions.

This surprised me, given how often I hear “TTTO is too complicated.” Polls suffer from a loss in credibility these days, but the OPSIG finding suggests the subject deserves more how-to attention than it’s been given.

Say you’re curious enough to try TTTO, but the rulebook thumpers give you the jitters, as the rulebook can. While you read this, then, make yourself an aspiring brakeman who’s working with an “old head,” a seasoned conductor.

You’re marked up for the Spud, a harvest season westbound hotshot which expedites loaded reefers from Kennebec to Idaho. You’re called for a 6:50 a.m. departure, 30 minutes from now, so you sit down with the conductor to study the material the host has provided. How do you even get to Idaho? Here’s how to simplify your decision-making.

Importantly, you notice the Spud is an extra train. A regular train draws its track authority, the right to run on the main track, from a

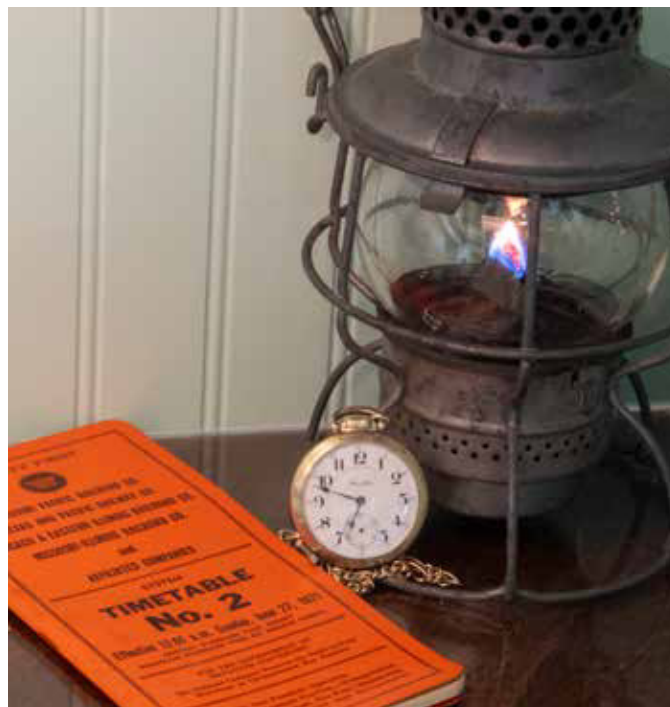
schedule in the timetable. Extra trains get their authority from a train order, not a schedule, so you’ll need one of those. Regular trains are superior to extras, and you see so many to deal with. So many that as you study the timetable, your head spins.

The “Brains” walks you over to the Kennebec train register, a record of arrivals and departures, and shows you how it rules out all but two. No. 11 is a westbound first-class train scheduled to leave Kennebec at 7:05 a.m., and No. 202 is an eastbound second-class train due out of Idaho at 6:50 a.m. (The schedules of both trains are shown in the chart at right.)

Both trains command attention in their own right. The superintendent will grumble if you delay No. 11 coming up behind you. However, heavenly voices may be the next thing you hear if you ignore No. 202 coming in the opposite direction. You turn back to the timetable and see passing sidings at Fries and Baked. The schedules say that No. 11 and No. 202 meet at Baked.

“Good,” says Brains, “This narrows things down. Let’s see how meeting at Fries could work out.”

Without a schedule, it’s necessary to figure running times. The conductor suggests using No. 202’s times: “We’ll run fast, but we won’t make the same time as No. 11.” This means allowing 20 minutes between Kennebec and Fries and 20 more



This caboose has a quiet corner opposite the conductor’s desk on which to rest a lantern, an employee timetable, and the most important railroader’s tool, a watch. Jerry Dziedzic photo

WESTWARD FIRST CLASS NO. 11	STARCH DIVISION	EASTWARD SECOND CLASS NO. 202
L 7:05 a.m.		A
7:20	Fries	7:55
7:35	Baked	7:35
A	Idaho	L 6:50 a.m.

to Baked. “If we get out at 6:50, we can stay ahead of No. 11 to Fries and let him go by there. We shouldn’t follow closer than 10 minutes behind him, so can we go to Baked after he passes?”

You ponder this for a moment. “No, that won’t work. That means we leave Fries at 7:30. This puts us at Baked at 7:50, but 202 is due out at 7:35.” He smiled: “You’re catching on, kid.”

Despite this, you squirm because sitting at Fries until 202 is due at 7:55 means waiting there 45 minutes. This delays the hotshot long enough to put the Spud in hot water. You’re not ready to say so, but the Brains eyeballs you knowingly and winks. He

heaves his grip up on the caboose platform, climbs aboard, and motions you to join him. You arrange yourself with your timetable and lantern in a corner to watch him in action. You compare timepieces: it’s 6:48.

“Okay, kiddo, no harm getting a little head start. You ready to throw a highball to the head end?” He frowns when you nod.

Prodding gently, “What’s our authority? Who gave us authority?” Oh, my! You were so wrapped up in the details that you overlooked the train order that the Spud needs to leave Kennebec.

We’ll complete the Spud’s TTTO run in next month’s column. **MR**



**A REGULAR
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AUTHORITY,
THE RIGHT TO
RUN ON THE
MAIN TRACK,
FROM A
SCHEDULE IN
THE TIMETABLE.**
-JERRY

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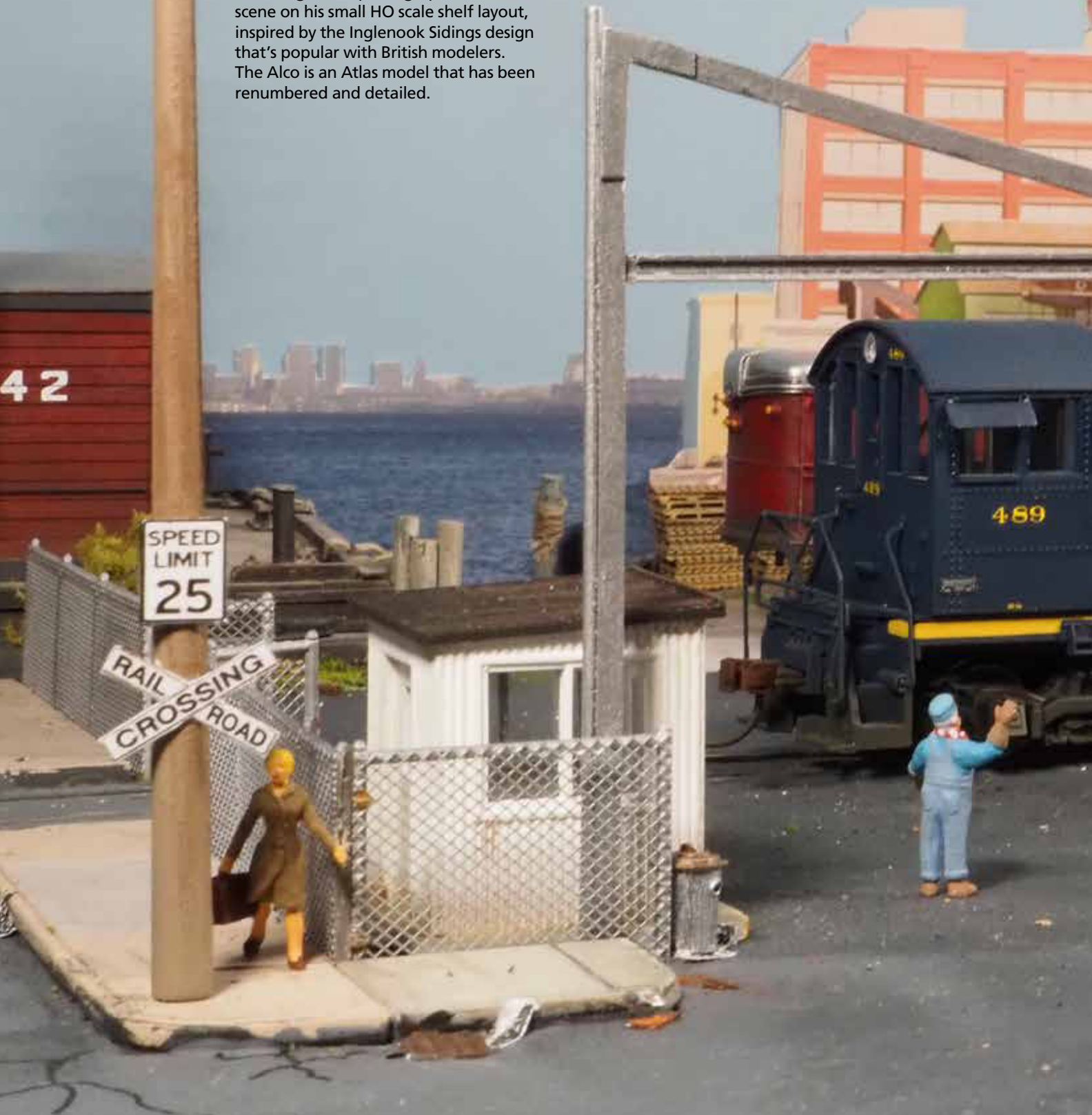
**CLASSIC TOY
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Staten Island Rapid Transit Ry. Alco S2 No. 489 is seen returning to Clifton Yard caboose light. The locomotive just dropped off a short cut of cars to the Pouch Terminal, a waterfront warehouse on Staten Island. Marc Pitanza of Old Bridge, N.J., photographed the scene on his small HO scale shelf layout, inspired by the Inglenook Sidings design that's popular with British modelers. The Alco is an Atlas model that has been renumbered and detailed.





The fireman waits for the turntable to finish turning before joining the engineer onboard Albion, Pautuxet & Gallilee No. 70. The scene is on the On30 model railroad built by George Landow of Providence, R.I. The turntable is kitbashed and all the other structures on this part of the layout are scratchbuilt. George also shot the photo.



A passenger train led by Denver & Rio Grande Western No. 346, a Baldwin-built class C-19 narrow gauge 2-8-0 Consolidation, emerges from the west portal of Toltec tunnel on its way to Chama. The action takes place on Robert Gouge's HO_{N3} D&RGW Cumbres & Toltec Division model railroad. Robert posed the train to reproduce the image printed on the cover of the passenger guide provided to guests of the current tourist railroad. James Shrouds took the photo.



Rutland No. 82, a 4-6-2 Pacific, leads its local freight through Center Rutland on its way to Whitehall, N.Y. Gregory Wiggins of Plymouth Meeting, Pa., photographed the scene on his HO scale Rutland Bellows Falls Subdivision. The locomotive is a Broadway Limited Imports model. The scenery materials are from Scenic Express.

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Schedule of Events Rate: \$45 per issue (55 word maximum). Ads will contain the following information about the event: state, city, sponsoring organization and name of event, meet, auction or show, dates, location, times, admission fee, name and/or telephone number and/or email of person to contact for information. Name, daytime telephone number and street address of the person providing the information is also required but need not be included in the ad. Unless otherwise requested, ads will be published in the issue month that the event occurs in. Please specify issue date(s). **Word Ad Rates;** per issue: 1 insertion — \$2.03 per word, 6 insertions — \$1.89 per word, 12 insertions — \$1.77 per word. \$40.00 MINIMUM per ad. To receive the discount you must order and prepay for all ads at one time. Count all initials, single numbers, groups of numbers (i.e. 4-6-0 or K-27), names, address number, street number, street name, city, state, zip, phone numbers each as one word. Example: John A. Jones, 2102 South Post St., Waukesha, WI 53187 would count as 10 words. For MR's private records, please furnish: a telephone number and, when using a P.O. Box in your ad, a street address. **Model Railroader** reserves the right to refuse listing. **All Copy:** Set in standard 6 point type. First several words only set in bold face. If possible, ads should be sent typewritten and categorized to ensure accuracy.

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

Schedule of Events

CO, DENVER: Rocky Mountain Train Show. April 6-7, 2024. National Western Complex, 4655 Humboldt St., Denver, CO 80216. Saturday, 9:00am-5:00pm, Sunday 9:00am-4:00pm. 3 acres of model trains, all scales, 30 layouts, 700 sales tables, clinics and more. Admission \$14.00, under 12/scouts in uniform FREE. Discounted tickets available for military/first responders through VetFix.org. Free Parking. 303-364-0274, www.RockyMountainTrainShow.com

CT, ANSONIA: Classic Shows, LLC will hold a Train and Toy Show on Sunday, April 7, 2024, from 9:00am-2:00pm at Warsaw Park, 125 Pulaski Hwy (Route 243), Ansonia, CT 06401. Admission \$6.00, children 15 and under are free with an adult. For information, please call 203-926-1327 or go to: www.ClassicShowsLLC.com

FL, CRYSTAL RIVER: Regal Railways presents Toy Trains & Hobby Show. Florida National Guard Armory, 8551 W. Venable St., Crystal River, FL 34429. Saturday, April 27, 2024, 9:00am-2:00pm. Admission: \$6.00 adults, children under 12 free. Vendors and operating layout. Lunch items available. Contact Joe: 727-244-1341 or visit www.regalrailways.com for more information.

FL, PINELLAS PARK: Suncoast Model Railroad Club Train Show/Open House. Saturday, April 6, 2024. SHOW-New venue! Pinellas Performing Arts Center, 4951 78th Avenue N., Zip: 33781. 9am-3pm. Admission: \$8.00, Children \$3.00, under 11-free. Free parking. Food/snacks. Tables: Hugo Sacco: saccohugo459@gmail.com OPEN CLUB HOUSE- 12355 62nd Street North, Suite A, Largo, FL 33773. Admission: FREE. www.suncoastmrrcc.com

IL, COLLINSVILLE: 17th Annual St. Louis Railroad Prototype Modelers Meet. Gateway Convention Center, 1 Gateway Dr., Collinsville, IL 62234. July 19-20, 2024. Friday 9:00am-9:00pm and Saturday 9:00am-5:00pm. Admission: \$35.00 for both days; \$25.00 for Saturday only. For information, www.stlrrpm.com or Contact: Lonnie Bathurst at bathurst@litichfieldil.com or 217-556-0314

IL, LENA: Depot Stove Gang 34th Annual Model Railroad Show and Swap Meet. March 23 & 24, 2024. 10am-4pm both days. Lena-Winslow Elementary, Junior & Senior High Schools. 401 Fremont Street, Lena, IL 61048. Over 26,000 sq.ft. Operating exhibits, vendors, and food. Free parking. Info: Roger Schamberger 815-238-7888 or email: depotstovegang@gmail.com

IL, URBANA: Lincoln Square Train Show, 100 W. High St., Urbana, IL 61801. March 23-24, 2024. Saturday 8am-5pm, Sunday 11am-4pm. Hosted by Illinois Terminal Division, NMRA. FREE public admission. Railroadiana and historical societies. Free Set-up and run. Free parking, wheelchair accessible. Vendor table info at <http://itd.illinoisterminaldivision.org/show/show.htm>

MI, KALAMAZOO: Annual Spring Swap Meet. Kalamazoo County Expo Center, 2900 Lake Street, Saturday, April 6, 2024, 10am-3pm. Admission \$5.00; Children 12 and under free (when accompanied by an adult). Operating layouts, vendors, railroad memorabilia, model trains, accessories. Concessions, free parking and more! Presented by Kalamazoo Model Railroad Historical Society. Contact: David Hayes-Moats, 269-344-0906, www.kmrhs.org

MI, WYOMING (GRAND RAPIDS): Greater Grand Rapids Spring Train Show. Saturday, May 4, 2024, 10:00am-3:00pm. HSB Inc., 5625 Burlingame Avenue SW. Adults \$5, under 12 FREE. 203 vendor-display tables, RR Books & Photos, Trains in all scales, Food, Lionel "Thomas-the-Train" drawing, door-prizes, and free parking. Vendor tables \$25 each. Contact Tom Klonowski, 847-691-1163, trainshow@grvrrc.org or www.grvrrc.org

MN, WOODBURY: Newport Model RR Club Train Flea Market. Woodbury High School, 2665 Woodlane Drive, Woodbury, MN 55125. Saturday, May 4, 2024, 9:00am-2:00pm. Admission \$5.00. Club Address: Newport Train Club, PO Box 0061, St. Paul Park, MN 55071. Contact: Don, 763-257-5443

NC, GREENSBORO: Train Show, Lewis Recreation Center, 3110 Forest Lawn Dr., Greensboro, NC 27455. March 23-24, 2024. 9:00am-5:00pm both days. Admission \$10 (includes both days), \$2 off with flyer, children under 12 free with adult. Visit us: www.carolinamodelrr.org. Contact Kenn at kcassell@twc.com, 336-501-0233, or Ron at ronalddidonato195@gmail.com, 336-240-6881

NC, HICKORY: 22nd Annual NC Railroad Expo. Hickory Metro Convention Center. Friday, April 5, 2024, 12:00pm-7:00pm and Saturday, April 6, 2024, 9:00am-3:00pm. Admission \$7.00, children under 12 free with paid adult. Contact: HickoryTrainShow@gmail.com

NC, RALEIGH: Neuse River Valley Model Railroad Club 6th Annual SPRING INTO TRAINS Show. Agri Supply Exposition Center, NC State Fairgrounds, 4825 Trinity Road. May 4-5, 9am-5pm. Admission: \$10 covers both days, children 12 and under admitted free with adult. 300 tables of model railroading and railroadiana. Contact George Lasley, 919-757-4503, email: gwlasley52@gmail.com, visit www.nrclub.net

NH, DOVER: The Great Northern New England Spring Train Show. Dover Lodge of Elks #184, 282 Durham Road, Dover, NH 03820. Saturday, April 6, 2024, 10:00am-3:00pm. Admission: \$5 per person, children under 12 free. Exhibitor tables \$35, includes entrance fee. All scales, operating layout, railroadiana items, and food on premises. Contact Ed Martin, efmartin@aol.com or 603-362-4300

NY, HAMBURG: TCA Upstate NY Chapter Toy Train and Collectible Toy Show! St. Mary's of the Lake Church Hall, 4737 Lakeshore Rd. (Rt. 5), Hamburg, NY 14075. Saturday, March 23, 2024. TCA Members: 8:30am, General Public: 9:00am-2:30pm. Admission: Adult \$5.00, Children 12-17 \$3.00, Upstate Chapter Members & children under 12, free. Contact: Mike 716-913-4195, Email: tca.upstatenychapter.events@gmail.com

OK, KELLYVILLE: Heartland Toy Train Association's Greater Tulsa Area Spring Train Show. Saturday, April 6, 2024, 9am-3pm. Creek County Fairgrounds, 17808 W OK-66, Kellyville, OK 74039 (I-44 Exit 211, Hwy 33 / Hwy 66). Operating layouts and door prizes. Admission: \$5.00, kids under 18 free. For information: www.heartlandtoytrain.org

PA, HAWLEY: Model Train Show & Sale. Hawley Fire Department, 17 Columbus Ave., Hawley, PA 18428. Sunday, April 28, 2024, 9:00am-2:00pm. 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. Saturday, April 6, 2024, 10:00am-3:00pm. Adults \$5.00, under 12 free w/adult. All scales, 50/50 raffle, food, fun for the whole family! Sponsored by Beaver County Model RR & Historical Society. Contact: Walt Steiner, 724-843-3783 or www.bcmrr.railfan.net or beavercitymrr@gmail.com

TN, BULLS GAP: 2nd Annual Train Show 2024 sponsored by Bulls Gap Railroad Museum. April 12 & 13 at Bulls Gap Community Center (139 S Main St). Friday, April 12th, 10am-7pm; Saturday, April 13th, 9am-5pm. Admission: \$5. Children under 12 FREE. Table setup: \$10 (April 11). Hot dogs, hamburgers & homemade chili available. Contact: Bill 423-393-4429.

TN, JOHNSON CITY: BIG TRAIN SHOW, May 31-June 1, 2024. Host: George L. Carter Railroad Museum. 330+ tables, 64,000 sq.ft. All scales, operating layouts, vendors, memorabilia, books, food. ETSU "Mini-Dome" Noon-6pm Friday, 10am-4pm Saturday. Admission: \$8 per day, under 12 Free. Free covered parking. Contact Roger Teinert 423-791-4937 or www.etsu.edu/railroad

WA, CHEHALIS: Lewis County Model Railroad Club, Annual Spring Train Show and Swap Meet. Southwest Washington Fair Grounds, Blue Pavilion Building, 2555 N. National Ave., Chehalis, WA 98532. April 6-7, 2024. Saturday 10:00am-4:00pm and Sunday 10:00am-2:00pm. Admission \$5.00. Free parking. Contact information: Ted, 360-985-7788, or email: TedsTrains@LewisCounty.com

WI, LA CROSSE / ONALASKA: La Crosse & Three Rivers Railroad Club's 43rd Annual Model Railroad Show. Orni Center, 255 Riders Club Road, Onalaska, WI 54650. March 16-17, 2024. Saturday 9:00am-5:00pm, Sunday 10:00am-3:00pm. Adults \$8.00, \$7.50 with a non-perishable food item, 2-day pass \$12.00, children 11 and under free w/adult. Info: Belva Thompson, 608-780-7364

WV, CHARLESTON: KVRA MODEL RAILROAD SHOW. Charleston Convention Center, 200 Civic Center Dr., Charleston, WV 25301. May 4 - 5, 2024. Saturday, 10am-6pm & Sunday, 10am-4pm. Admission \$6.00, children under 12 free. Tables \$40.00. Clinics, layouts, new and used equipment for sale. Website: www.kvrrailroad.org. Contact Joe: 304-539-6721 or kvrrailroad@gmail.com

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Overcoming inertia



Overcoming inertia is largely a matter of using deadlines to advantage, even when it requires outsourcing projects to meet them, as was the case with this intricately detailed wood-and-brick depot at Veedersburg, Ind., scratchbuilt for Tony by Wayne Wesolowski. Tony Koester photo

Sometimes all it takes is a little push. We want to do something; we know we should do something; but we can't seem to get off the dime. And, from long experience, we know that once we get started on this dead-in-the-water project, others will fall in line, and significant progress will be made. So what's the problem? Inertia.

You don't have to be a physics major to have a keen understanding of the pros and cons of inertia. Get something heavy rolling and, for better or for worse, it tends to keep on rolling as it gathers momentum. The problem is getting it rolling in the first place; we can deal with getting it stopped later.

Regardless of their mass, modeling projects have built-in inertia. They will sit there staring back at us for weeks, months, years. If only we could summon the energy to get them started.

On my HO tribute to the Nickel Plate Road's St. Louis line in 1954, only a few important buildings — a

depot, the superintendent's/dispatchers' office, a small yardmaster's office, a lumberyard, and maybe more accurate versions of two shanties — remain to be constructed. Frank Hodina and Randy Laframboise each contributed an L-shaped joint (shared by two railroads) depot, helping progress significantly.

The superintendent's two-story brick office looks like a complex, hence interesting, kitbashing project based on two, maybe three, Walther's Merchant's Row III kits. To test the feasibility, I made sketches of what could go where, and I may make several photocopies of each wall and then cut and tape them together as further insurance of eventual success.

The Nickel Plate depot at Veedersburg, Ind., still stands, so obtaining information about it was not a concern. What was a concern were several tricky architectural features, including a wood arch over the entrance door and a cranked or compound hip

roof — that is, one with two different slopes — and flared clapboard siding.

It has been a roadblock to other progress for a decade, so I outsourced it to master modeler Wayne Wesolowski, who completed it in time for me to meet a book photo deadline. As you can see in the photo above, he did a great job. Not every problem can be solved alone.

Three other structures — a complex L-shaped brick depot, a two-story hotel, and an L-shaped wood freight house modified from a Monon Historical Society kit — were quickly completed as a video shoot loomed with Forrest Nace of Nace Videography, who has since released a DVD on my railroad. Deadlines, be they for videos, magazine articles, layout tours, or the next operating session, need to be leveraged.

When we built our current home, I was 31 years old. I could work all day, build the Allegheny Midland until late at night, and teach folks how to fly sailplanes on weekends. I was kidded about being over the hill when I reached age 30, but that was actually a high-energy time for me. Few hours were wasted.

I seldom waste time today, either, but my definition of what constitutes waste has changed. I enjoy producing the Nickel Plate Road Society quarterly magazine, Kalmbach's *Model Railroad Planning* annual issue, and books for Kalmbach's book department, which contribute not a whit to the progress of my model railroad. Still, I forge ahead.

If you had visited the Allegheny Midland before it was dismantled at the turn of the century, you would have come away with the impression that it looked "finished." If you visit the NKP layout in the same basement today, I suspect your impression would be the same.

So what's my secret to overcoming inertia? Deadlines. I scare easily when a deadline looms, and I seem to encounter a lot of externally or self-imposed deadlines. Finishing

projects before the next operating session, National Model Railroad Association regional convention, or prototype modelers' meet are good examples of how to use pressure to your own benefit.

Yes, it's just a hobby, but most of us are happier when we get a lot done. **MR**



I SELDOM WASTE TIME TODAY, EITHER, BUT MY DEFINITION OF WHAT CONSTITUTES WASTE HAS CHANGED.
— TONY



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176-5347-S | E8A Amtrak Phase I #322 w/Sound | MSRP: \$320

Like their locomotives, all of Amtrak's rolling stock was inherited from other railroads and it took many years for uniform branding to be painted on the entire fleet. This resulted in a colorful rainbow-like appearance on Amtrak trains throughout the 1970s. To replicate these early years, Kato is releasing an 8-Car "Rainbow Era" Coach Set comprised of various Penn-Central & Amtrak Phase I cars.

106-1971 | Amtrak "Rainbow Era" 8-Car Set | MSRP: \$280

106-1971-1 | "Rainbow Era" 8-Car Set w/Lighting | MSRP: \$400

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N Scale ALC-42 Charger

Based on the highly successful SC-44 Charger, the ALC-42 is designed specifically for cross-country service on America's most scenic and storied routes, displaying an updated appearance with a new nose profile and cab door configuration. Thanks to both Siemens and Amtrak®, Bachmann's ALC-42 has been developed using original design documentation and employs prototype field recordings for maximum realism. Features include a TCS WOWSound® CD-quality 16-bit 44,100Hz decoder with Audio Assist® for easy configuration without CVs, and a Keep-Alive® device for uninterrupted operation, even over dirty track. The WOWSound® diesel-electric locomotive package includes an authentic horn, bell, prime mover, startup/shutdown, compressor, cooling fan, coupler close/release, brake release/application, crew alert, grade crossing quill, station announcements, and more. A new era of cross-country passenger railroading is ready to depart for your N Scale layout. Take charge of it this summer with the all-new Bachmann ALC-42.



AMTRAK® #301 - 50TH ANNIVERSARY "DAY 1"
Item No. 68351



AMTRAK® #300
(Phase VII)
Item No. 68352



AMTRAK® #309
(Phase VII)
Item No. 68353



AMTRAK® #310
(Phase VII)
Item No. 68354



AMTRAK® #304
(Phase VI)
Item No. 68355

Features Include:

- Siemens-approved design
- DCC sound-equipped for sound, speed, direction, and lighting control
- TCS true CD-quality audio in 16-bit, 44,100Hz sound
- Keep-Alive® device that keeps your engine running during power interruptions due to dirty track or loss of electrical contact
- E-Z Mate® Mark II couplers

- voice-guided Audio Assist® programming tool for easy setup of almost all decoder functionality
- dual-mode NMRA compliant decoder
- directional headlights and marker lights
- interior corridor work lights
- steady/alternate flashing ditch lights
- die-cast frame with separately applied windshield wipers, grab irons, and detail parts

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MSRP: \$459.00 • Arriving Summer 2024

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