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October 2024

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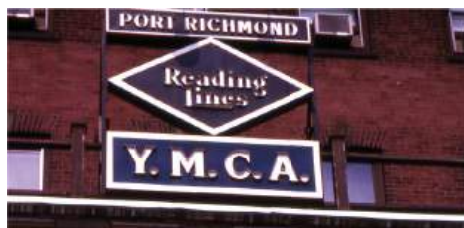
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On the cover: Passenger trains line up for loading at Pittsburgh Station on the Model Railroad Club Inc. HO scale layout. Dan Munson photo



Next issue

November's issue is an S scale spectacular! Visit a 1:64 Monon layout and scratchbuild S reefer cars. Plus, build wood pallets, working traffic lights, switch kits, and more!

Model Railroader (ISSN 0026-7341, USPS 529-810) is published monthly by Firecrown Media Inc., 605 Chestnut Street, Suite 800, Chattanooga, TN 37450. Periodicals postage paid at Chattanooga, TN and additional mailing offices. **POSTMASTER:** Send address changes to *Model Railroader*, PO Box 850, Lincolnshire, IL 60069.

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Cardinal River Models' Super Power startup

In May 2024, an up-and-coming model railroad company took the stage with Super Power in its arsenal. Cardinal River Models LLC of West Virginia announced plans to manufacture a museum-tier model of the Nickel Plate Road Class S-2 2-8-4 Berkshire-type steam locomotive in HO scale.

Although Nickel Plate Berkshires are nothing new to the market, owner and founder Robert Perez says this will be the first true-to-form replication of the S-2 class in 1:87 scale. What began as a passion project now could become the flagship product for the young company.

Final stages of the computer-aided design model are currently progressing, with the goal of having shipping the finished locomotives in 2025.

Read all about how this project came to be and the inspiration behind it on Trains.com.

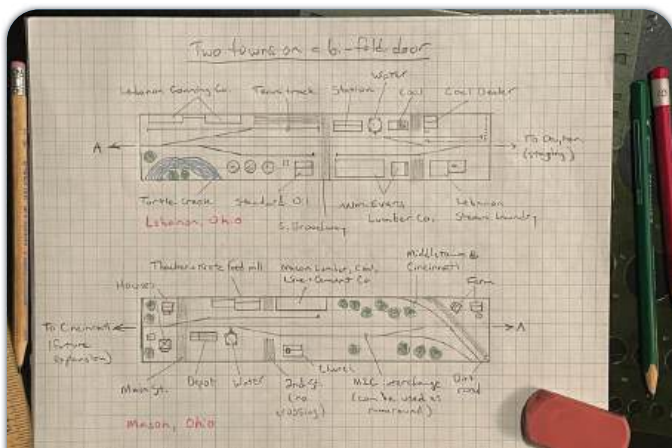


Harvey Simon's HO F Line traction layout

Harvey Simon's HO F Line traction layout is set in modern-day San Francisco, re-creating the route between the Castro District and Fisherman's Wharf.

In this layout tour video, you'll get an opportunity to see San Francisco MUNI trolley car No. 1818 in action on the layout. The Peter Witt car, subject of a May 2024 article in *Model Railroader*, features a sound decoder and lights.

All of this and more can be found on Trains.com Video.



Designing two HO scale modules on a hollow core door

When people think about building a model train layout on a hollow core door, they most often envision an N scale layout, like our Red Oak project from 2015. But hollow core doors come in a wide range of widths useful for other scales, as well.

So Steven Otte decided to see what sizes were available and sketch plans for HO scale modules on a hollow core door that anyone can build. Look for "Sketching With Steve" on Trains.com.



Meet Eric White, editor of *Model Railroader*

How well do you know Model Railroader editor Eric White? He may be the one who built the impressive Pennsylvania RR Washington Avenue train shed, featured in the September 2015 issue of MR, but how did he get started in the hobby?

Eric is always one to go to for advice, especially when it comes to modeling, so it's no wonder that he has some rock-solid advice for new hobbyists and a great model railroading philosophy. Meet Eric today on Trains.com.

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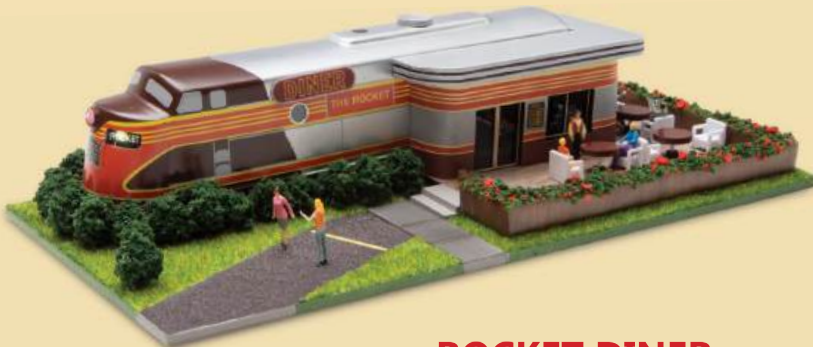
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Anniversaries, updates, and less is more

As we wind down our 90th anniversary year, we take a moment to look at another model railroading anniversary. The Model Railroad Club Inc. of Union, N.J., is 75 this year, and invited us to do a story on what the club has been up to since we last visited in 1997. Photographer Dan Munson made the trip east (in addition to being a prolific model railroad photographer and operator, Dan is also a professional rail-roader) and got these great images for us. You can check it out starting on page 40.

When we started our 90th anniversary year, we hardly expected how many changes would be coming our way.

A sale of *Model Railroader* and its sister publications *Trains*, *Classic Trains*, and *Classic Toy Trains*, as well as *FineScale Modeler* and *Astronomy*, resulted in a

move to new offices, which is well underway as I write this.

Our staff layout, the Milwaukee, Racine & Troy, wasn't able to make the move. It had never been designed to move and was literally bolted to the floor of our old offices. But a section has been preserved and donated to the National Model Railroad Association. And several of our project layouts have safely moved too, either to our new offices in Brookfield, Wis., or to Firecrown Media HQ in Chattanooga, Tenn.

Moving is a part of many layout owners' lives, and for layouts that weren't built to move, it often means starting over. Sometimes, that can be a daunting task, but other times, it offers a chance to home in on what's really important to you in the hobby.

Ken Smith started with a layout in his parents' basement when he was a youth,

then built two more in adulthood, each being torn down before completion because of a move.

His third adult layout is featured this month, and it fills a 9'-6" x 11'-0" room. Ken realized a basement-filler wasn't what he wanted. Rather, he wanted something he could complete and enjoy. Sometimes it takes a few tries before you can figure out what you really want.

The MR&T was what the staff of *Model Railroader* wanted in 1989. By 2024, our needs and desires were different. We'll still be building project railroads in our new location, but there's probably not going to be another giant MR&T, and that's OK.

In a world where people have lots of things to occupy and interest them, smaller layouts seem to be getting more attention. Our Free-mo project from this year was an



acknowledgement of that. I expect you'll see more of that kind of thing, especially if builders of compact and micro layouts send in stories and photos of their work.

If you know of a layout we need to feature in the magazine, send a few photos to the email address below!

Hoping to hear from you!

Model Railroader

Model railroading is fun!

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We welcome contributions from readers, including articles, photographs, and drawings. For more information on submitting material, email Editor Eric White at eric.white@firecrown.com. *Model Railroader* assumes no responsibility for the safe return of unsolicited material. We assume unsolicited material is intended for publication by Firecrown Media unless otherwise noted. We assume letters, questions, news releases, and club news items are contributed gratis.

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I've Seen What's Neat. Have you?



What's Neat This Week is your go-to video podcast for everything model railroading, featuring new products, in-depth tutorials, interviews with experts, and much more. Hosted by Ken Patterson, a lifelong model railroader, professional model railroad photographer, and scene designer, *WNTW* covers everything you need to know - whether you've been in the hobby for 10 minutes or 10 years. Catch new episodes every week on YouTube, or watch our extensive back catalog of almost 300 episodes at any time.



Find the new *What's Neat* HO Scale Boxcar from Value Trains at this link:



whatsneat.com

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HO scale



Electro-Motive Division GP38 diesel locomotive. Rock Island Rail is one of 11 new paint schemes offered on this four-axle road switcher from Atlas Model Railroad Co. The HO scale model, offered with or without ditch lights as appropriate, features a five-pole, skew-wound motor with dual flywheels; a die-cast metal underframe; and golden white light-

emitting-diode lighting. Details include separately applied windshield wipers, grab irons, and handrails. Direct-current models are **\$189.95**. Models with a dual-mode ESU LokSound V5 sound decoder retail for **\$299.95**. Add \$10 for models with ditch lights, subtract \$10 for undecorated locomotives. Atlas Model Railroad Co., 908-687-0880, shop.atlasrr.com

HO scale locomotives



• **Alco RS3 diesel locomotive.** Erie Western; Burlington Northern; Central Railroad of New Jersey; Chicago, Rock Island & Pacific; Conrail; Delaware & Hudson; Denver & Rio Grande Western; Greenwich & Johnsonville; Lehigh & Hudson River; New York, Susquehanna & Western; and Penn Central. Multiple road numbers per scheme. Separately applied details including air hoses, windshield wipers, grab irons, uncoupling levers, window glazing, and fuel tank. Blackened metal wheels. Light-emitting-diode lighting. Direct-current model, \$229.95; with DCC and sound, \$329.95. Bowser Manufacturing Co. Inc., 570-368-2379, bowser-trains.com



• **Electro-Motive Division GP9u mother and slug diesel locomotives.** Canadian Pacific, Cando, St. Lawrence & Hudson, and Southern Ry. of British

Columbia. Multiple road numbers available. Detailed piping and traction cables. Road number-specific light-emitting diode light package including track lights, class lights, control stand lights, headlights, and ditch lights (as appropriate). Road-number-specific front and rear plows, plates, or footboards. Detailed walkway tread. Fully powered slug. Direct-current GP9u, \$239.95; direct-current Mother/Slug set, \$449.95; GP9u with DCC and sound, \$359.95; Mother/Slug set with DCC and sound, \$679.95. Rapido Trains Inc., 905-474-3314, rapidotrains.com



• **Electro-Motive Division SD90MAC diesel locomotive.** Union Pacific, Burlington Northern, CIT Equipment Finance Corp., Iowa Pacific Holdings, Norfolk Southern, and San Luis & Rio Grande. Multiple road numbers per scheme. Road-number-specific features including nose door details and road number patch. Etched metal steps, flexible rubber trainline and m.u. hoses, and see-through cab window with detailed interior. Light-emitting diode headlights, number boxes, truck lights, and ditch lights. Separately applied uncoupling

levers, windshield wipers, horn, lift rings, and sand lines. Direct-current model, \$259.99; with DCC and sound, \$359.99. Add \$10 for Primed for Grime. Genesis series. Athearn Trains, 800-338-4639, athearn.com

Club offerings



• **Flexible Co. 50-foot double-door boxcar, Arlington Club Beverage Co. 40-foot steel refrigerator car, and Cooper Range 36-foot double-sheathed boxcar.** Accurail HO scale kits produced for the Illini Chapter of the Professional Car Society. One road number per paint scheme (renumbering decals available). 50-foot double-door boxcar, \$27.98; 40-foot steel reefer, \$29.98; 36-foot double-sheathed boxcar, \$22.98. Shipping: One car, \$9.95; multiple cars, \$13.40 to USA addresses; \$24.80 for foreign orders of any size. Illini Chapter PCS, 918 W. Colfax St., Palatine, IL 60067

HO scale rolling stock



• **International Car Co. Rock Island bay-window caboose.** Chicago, Rock Island & Pacific; Chicago & North Western (lease); and Union Pacific. Undecorated kit also available. Multiple road numbers and paint schemes. Road- and era-specific details including multiple body, roof, and bay-window variations, underframe detail, and truck and side window combinations. Ten different end railing and marker light options. Road-specific, fully painted interior including chairs, bunk, desk, lockers, ice chest, sink, oil burner, and cabin heater. Light-emitting-diode interior lighting, marker lights, and end lights as appropriate. \$124.95. Tangent Scale Models, 828-412-3886, tangentscalemodels.com



• **Magor 53-foot Department of Defense flatcar.** Department of Defense, Amtrak, and United States Army. Multiple road numbers per scheme. Also available unlettered in gray, green, or black. Solid-bearing or retrofit roller-bearing, heavy-duty Buckeye six-wheel trucks. Detailed underframe. Separately applied wire grab irons, uncoupling levers, and stirrup steps. Simulated wood deck. Die-cast metal chassis. Single car, \$59.95; six-pack, \$359.70. Rapido Trains Inc., 905-474-3314, rapidotrains.com



• **Procor GP20 tank car.** Sunoco, Canadian National, Irving Oil, Mitsui & Co. Canada, Safety Kleen, Texaco, Turbo Resources, and Union Carbide. Multiple road numbers per scheme. Etched metal walkways. Detailed vent stacks, loading hatches, air tanks, and brake equipment. Early 70-ton or late 100-ton trucks as appropriate. Single car, \$59.95; six-pack, \$359.70. Rapido Trains Inc., 905-474-3314, rapidotrains.com

HO scale



Greenbrier/Gunderson

7,550-cubic-foot capacity 60-foot boxcar

These contemporary freight cars from Aurora Miniatures North America are decorated for GATX (LRS and BKTY reporting marks), TTX Co. (XGH61B with low reporting marks and XGH61C with high marks), Ferromex, Union Pacific (with BKTY marks), and Utah Central Ry. in six to 12 road numbers per paint scheme. The newly tooled HO scale cars (\$59.99) have many separate, factory-applied details; 100-ton roller-bearing trucks with 36" metal wheelsets, rotating bearing caps, and brake beams; and AuroraJanney scale couplers. Aurora Miniatures North America, na.auroraminiatures.com

HO scale passenger equipment



• **10-5 sleeper.** CSX, Conrail, Erie, Erie-Lackawanna, and Missouri Pacific. Track-powered interior lighting with capacitor controlled by Rapido Lighter. Tighter connections between body and roof. Improved design and assembly to prevent warping. Redesigned free-rolling trucks and new couplers. Detailed underbody and multi-color interior. \$119.95. Rapido Trains Inc., 905-474-3314, rapidotrains.com



• **Horizon coach and cafe club food service passenger cars.** Amtrak. Twelve road numbers available. Now available with factory printed numbers. Detailed interior with seats and tinted window glazing. Factory-installed diaphragms and modeler-installed close-coupling drawbars. Detailed underbody with Proto-Max couplers. Detail kit and interior lighting kit sold separately. \$49.98. Walther's Mainline. Wm. K. Walther's Inc., 414-527-0770, walther's.com

HO scale vehicles



• **Ford C Telesqurt fire truck.** Tri-State Volunteer Fire, Chicago, County Fire, Fire Protection District, San Francisco, and Washington, D.C. One number per scheme. Medium wheelbase chassis with conventional cab. Fully extending Telesqurt arm with fire monitor and photo-etched ladders. Molded cab interior with separately applied steering wheel. Clear molded windows and vinyl tires. \$34.99. Athearn Trains, 800-338-4639, athearn.com

N scale locomotives



• **Baldwin Locomotive Works 4-8-4 steam locomotive.** Atchison, Topeka & Santa Fe. Five road numbers available. Also offered painted black but unlettered. Built-in capacitor and traction tires on one driver. Die-cast metal

Continued on page 16

WalthersProto HO EMD SD9



Wm. K. Walthers Inc. has released a new run of its Proto-series Electro-Motive Division (EMD) SD9 road switcher. The HO scale model features an injection-molded plastic body; die-cast metal chassis; and a mix of plastic, etched-metal, formed wire, and cast brass detail parts.

Electro-Motive Division produced the SD9 from January 1954 to June 1959, constructing 471 units for railroads in the United States of America. The 1,750hp diesel was equipped with a 16-cylinder, 567C diesel engine.

The sample we received is decorated as Great Northern 595. The full-size unit was built in April 1958 under order number 5564-6. The six-axle road switcher was part of GN's 573 through 599 series.

Following the March 1970 merger that created Burlington Northern, GN 595 became BN 6122. In 1995, the unit joined the BNSF Ry. fleet following BN's merger with Atchison, Topeka & Santa Fe. The SD9 was renumbered BNSF 6122 on July 29, 1999. The engine was retired on Jan. 16, 2003.

The WalthersProto SD9 has a multi-piece plastic shell consisting of the short hood, cab, long hood, dynamic or non-dynamic brake blister (as appropriate), and the combined sills, pilots, and stepwells. Factory-installed and painted formed-wire grab irons are used throughout the

model. The eyebolts on top of the long hood are etched metal.

The models in this production run all have railroad-specific details. Among those on the GN unit are a brass Leslie RS-3L air horn, a large winterization hatch with a photo-etched metal grill and GN-style walkway, fuel tank breather pipes, and a 48" long hood fan.

Our sample is decorated in GN's *Empire Builder* scheme with solid sill stripes, correct for April 1958 through the late-1960s. Photos from Sept. 1969 show the 595 with dashed sill stripes.

The orange and green paint is smooth and evenly applied, and the yellow stripes and lettering are opaque. The edges of the long hood around the hand-brake should be green, not orange.

I compared the model to drawings in the 1956 *Locomotive Cyclopedia of American Practice*. The dimensions closely follow published data.

The Great Northern SD9 we received features an ESU LokSound 5 sound decoder. I did the initial testing at the workbench using an NCE Power Cab. At step 1, the model crawled at less than 1 scale mph. At step 28 the SD9 was hustling down the test track at 69 scale mph. The full-size engine had a speed range of 55 to 89 mph depending on the gear ratio. Then I took the SD9 to our layouts for more testing. The SD9 ran without issue pulling a short freight train and doing

industrial switching on the Wisconsin & Southern. It muscled 14 50-foot insulated boxcars up the 3 percent grade between Bay Junction and Skyridge on the Milwaukee, Racine & Troy.

With railroad-specific details, authentic sounds, and metal couplers, the WalthersProto EMD SD9 has come a long way since it was first introduced by Life-Like back in the 1990s. The HO scale six-axle road unit is plenty capable of handling yard switching, transfer runs, and mainline freights on a model railroad. — *Cody Grivno, senior editor*

Facts & features

Price: Direct-current model with 21-pin DCC plug, \$219.98; with dual-mode ESU LokSound 5 sound decoder, \$319.98

Manufacturer

Wm. K. Walthers Inc.
5601 W. Florist Ave.
Milwaukee, WI 53218
walthers.com

Era: April 1958 to late 1960s (as decorated)

Road names: Great Northern; Chicago, Burlington & Quincy; Chicago & Illinois Midland; Duluth, Missabe & Iron Range; and Southern Pacific. Also available undecorated.

Features

- Proto-Max couplers, at correct height
- Metal wheel stubs mounted on plastic gears, correctly gauged
- Weight: 15.3 ounces



Trains.com members can see the Walthers HO scale SD9 in action with this QR code.

Rapido Trains HO scale Budd Slumbercoach



A **Budd Slumbercoach** is the latest addition to the Rapido Trains HO scale passenger car fleet. The 24-single-room, 8-double-room car is based on the as-built version with steam heat equipment. The injection-molded plastic model features separate, factory-applied name boards; etched-metal end gates; and sprung diaphragms.

Budd produced the Slumbercoach from 1956 to 1959. During the course of the production run 18 cars were built. Baltimore & Ohio had the largest fleet with five cars. Chicago, Burlington & Quincy; New York Central; and Northern Pacific had four cars each. Missouri Pacific had one. The full-size car had a 40-passenger capacity.

The sample we received is decorated as NP No. 327, part of the railroad's 325 through 328 series. The full-size car (plan 9540) was built by The Budd Co. under Job No. 9691-090 in 1959. The sleeper was part of NP's *Loch* series; car 327 was named *Loch Lomond*. In *Burlington Northern Passenger Cars* by Charles A. Rudisel (C.A.R. Publications, 1974), it notes, "The Slumbercoaches were designed to provide modestly furnished private room accommodations for economy-minded travelers at coach fare plus a nominal room charge. They were given Scottish lake names to suggest thrift."

Loch Lomond was one of 16 Budd Slumbercoaches that became part of Amtrak's fleet in 1971. The car, which retained its name, was first renumbered 2026 and painted in the passenger carrier's phase 1 scheme. In March 1980 the car was upgraded with head-end power, renumbered 2084, and repainted in the phase 3 scheme. Amtrak put the 24-8 sleeper up for sale in October 1995.

The Rapido Trains model has a one-piece injection-molded plastic body with correctly defined Budd-style fluting.

Freestanding formed wire grab irons are found on the sides, roof, and ends. The factory-applied uncoupling levers are molded in black plastic.

The Slumbercoach has an illuminated, multi-color interior. The constant, track-powered lighting works on direct current and Digital Command Control. The lights can be turned on and off with the supplied magnetic wand. The backs of the roomette doors feature mirrors, and the windows have blinds.

As with other Rapido HO passenger cars, the Slumbercoach is loaded with underbody details. Both ends of the car have Barco steam connectors. On the B end of the sleeper, to the left of the truck, is a Safety Industries Inc. Genemotor with shaft and cable detail. The axle-driven generator was used to power the air conditioning, electrical equipment, and lighting.

Additional underbody details include battery charging receptacles; an air conditioner condenser; a multi-piece Trane air conditioner compressor unit; a D22 brake system with a combined reservoir, control valve, quick-service valve, and relay valve; two main reservoirs; and battery boxes. Details on the water tank include fillers and steam regulator valves.

Our Northern Pacific review sample has stainless steel sides with a black underbody and trucks (the battery boxes are silver). The placement of the name boards matches a prototype photo of car 327 I found online. The model's dimensions closely follow drawings published in Rudisel's book.

The car rides on multi-piece General Steel Castings 41-NDO-11 trucks with disk brake detail on the back. The metal wheel stubs mounted on plastic axles are correctly gauged.

Though the couplers are at the correct height, from the factory they had low trip pins. A quick adjustment with trip

pin pliers fixed the issue. At 7.4 ounces, the model is .7 ounce too heavy per National Model Railroad Association Recommended Practice 20.1.

With its staggered window arrangement, the full-size Budd 24-8 Slumbercoach certainly stood out in trains such as NP's *North Coast Limited*, Baltimore & Ohio's *National Limited*, and Missouri Pacific's *Texas Eagle*. Rapido has done a good job faithfully re-creating the fluted-side car as it appeared from delivery through the early 1980s. — *Cody Grivno*, senior editor

Facts & features

Price: \$119.95

Manufacturer

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

Era: 1959 to 1970 (as decorated)

Road names: Northern Pacific; Amtrak (phases 1 and 3); Baltimore & Ohio; Burlington Northern; Chicago, Burlington & Quincy (NP); Missouri Pacific; and New York Central. One to five car numbers per scheme; also available painted silver and black but unlettered.

Features

- Body-mounted metal couplers, at correct height (trip pins low from the factory)
- Metal wheel stubs mounted on plastic axles, correctly gauged
- Minimum radius: with factory-installed medium-shank couplers, 24"; with long-shank couplers, 22"
- Weight: 7.4 ounces, .7 ounce too heavy per National Model Railroad Association Recommended Practice 20.1

Jacksonville Terminal N container flatcar



A 60-foot intermodal container flatcar has joined Jacksonville Terminal Co.'s growing N scale freight car lineup. The newly tooled car features Very Real Knuckle (VRK) couplers and insulated metal wheelsets.

The sample we received is decorated as Trailer Train car VTTX 91927. The prototype VTTX cars were a mix of Pullman-Standard 60-foot bulkhead (PTTX) and 60-foot plain-deck (MTTX) flatcars. When 68-foot, 100-ton bulkhead cars became a more popular choice with shippers, the railcar pooling company looked to better utilize its fleet of 60-foot flatcars. The solution? Full-size kitbashing so the cars could haul 20- and 40-foot intermodal containers.

"The conversion included removal of bulkheads on PTTX flatcars, removal of latitudinal floorboards, replacement of the drop-shaft handbrake with a crank-type handbrake mounted on the side sill, applying upgraded cushioning units, and reconditioning of the trucks," said James D. Panza, retired TTX senior manager. "On cars having the floorboard extensions removed, the bolt holes in the side sill are visible. Some of the PTTX bulkhead supports attached to the side sill were cut flush with the side sill top flange, leaving numerous securements intact.

"Between 1985 and 1988, TTX converted 677 PS 60-foot cars to the TTCX (202) and VTTX (475) configuration. Of those 677 cars, 495 were ex-PTTX bulkhead flatcars and 182 were ex-MTTX plain-deck flatcars."

The Jacksonville Terminal model has a plastic body with stringer and cross-bearer detail on the deck; freestanding stirrup steps, crank-type handbrake, and train line hoses; and molded grab irons and stake pockets.

The container bolsters on both ends and the one positioned for a 20-foot

container on the A end are molded. The one spaced for a 20-foot container on the B end is removable. A fold-down bolster (molded in the down position) and a flat container pedestal are included. From the box our sample was set up to transport three 20-foot containers. The model can be configured to haul one 20- and 40-foot container with the other parts.

The center sill, crossbearers, body bolsters, and draft-gear boxes are a single, die-cast metal casting attached to the body with two screws. The air reservoir, brake cylinder, control valve, and related pipes and levers are a plastic piece secured with glue. A screw-mounted plastic casting covers the center sill and angled cross members. The draft-gear box covers are also plastic.

Making its debut on this model are JTC's VRK couplers. The two-piece couplers are offered with and without trip pins in black and rust. Two springs placed parallel to the inside edges of the draft-gear box are used to center the couplers. The VRK couplers are compatible with Accumate, Magne-Matic, and Kato couplers, among others.

The model's dimensions closely follow data published in the *Trailer Train Company Equipment Guide* (November 1987). The lettering placement matches prototype photos. The three-panel consolidated lube plate lacks data.

Jacksonville Terminal offers its VTTX container flatcars in fresh paint and weathered to depict 3-5, 5-8, 8-11, and 12-plus years of service. The weathering on our sample (3-5 years) looked odd as it was applied around the raised and recessed details on the sides and ends.

I noticed a gap between the body and draft-gear box on both ends. As I suspected, the couplers were low on the model. To correct this, I removed the die-cast metal chassis and gently pressed

up on both ends to bring the couplers to the correct height. Don't press too hard on the metal casting, though, as it can break. I learned this lesson the hard way on the other sample we received.

The car is equipped with screw-mounted 70-ton roller-bearing trucks with 33" insulated metal wheelsets. The gauge on all four wheelsets was tight when measured with a National Model Railroad Association Standards Gauge. I fixed the gauge by adjusting the insulated wheel on each axle.

If your layout is set between the mid-1980s and 2010s, you'll want to check out the VTTX 60-foot intermodal container flatcar from Jacksonville Terminal. The car will be an attention getter loaded or empty. — Cody Grivno, senior editor

Facts & features

Price: \$48.95 to \$49.95

Manufacturer

Jacksonville Terminal Co.
9526 Argyle Forrest Blvd.
Ste. B2 No. 406
Jacksonville, FL 32222
jtcmodeltrains.com

Era: mid-1980s to present (varies depending on scheme)

Road names: Trailer Train and TTX (both schemes with and without weathering). Multiple road numbers per paint scheme.

Features

- 33" insulated metal wheelsets, out of gauge
- Very Real Knuckle couplers, low on both ends
- Weight: 0.5 ounce, .7 ounce too light per National Model Railroad Association Recommended Practice 20.1

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News & Products

Continued from page 11

N scale



Procor 5,820-cubic-foot-capacity four-bay covered hopper. Paint schemes on this Rapido Trains plastic pellet car include BF Goodrich, Dow Chemical, Essex Hybrid, Procor (five paint schemes), and Union Carbide. The N scale covered hopper is offered with three styles of roof hatches and two styles of outlet gates. Additional features include etched-metal running boards, full end cage details, and spare hatches for modeling different eras. The Procor 5820 covered hopper is priced at **\$39.95** (single car), **\$119.85** (three-pack), and **\$239.70** (six-pack). Rapido Trains, 905-474-3314, rapidotrains.com

locomotive body and chassis. Light-emitting-diode lighting including headlight and rear emergency light. Factory applied details including handrails, ladders, piping, whistle, bell, and more. Minimum radius: 9.75". Direct-current model, \$359.99; with DCC and sound, \$449.99. Broadway Limited Imports, 386-673-8900, broadway-limited.com



• **Electro-Motive Division GP30 diesel locomotive.** Denver & Rio Grande Western, Chicago & North Western, CSX, Pennsylvania RR, Southern Ry., and Union Pacific. Multiple road numbers per scheme. Light-emitting-diode headlight, number boxes, and Gyalites as appropriate. Separately applied m.u. hoses, uncoupling levers, horn, sunshades, wire grab irons, and more. Road-specific details including hood doors, long hood details, front and rear pilots and steps, handrails, antennae, ATS pick-up shoes, non-operating class lights, light package, trucks, and more. Scale treadplate. All-wheel drive and electrical pickup. Body-mounted Micro-Trains-compatible couplers. Draft-gear boxes will accept Micro-Trains 1015/1016 couplers without modification. Direct-current model, \$149.99; with DCC and sound, \$254.99. Rivet Counter line. Scale Trains, 844-987-2467, scaletrains.com

N scale rolling stock



• **Thrall 48-foot 2-hood coil steel car.** Elgin, Joliet & Eastern; BNSF Ry.; Burlington Northern; CHTT; CSX; and Norfolk Southern. Multiple road numbers and hood variations per scheme. Body with dual trough design and center divider. Separately applied wire grab irons, handrails, hood guides, stanchions, load divider tracks, uncoupling levers, and trainline hoses. Detailed brake system. Simulated wood interior floor. See-through etched metal walkway. \$40.99. Rivet Counter line. Scale Trains, 844-987-2467, scaletrains.com



• **Bay-window caboose.** Burlington Northern; BNSF Ry.; Chicago, Rock Island & Pacific; Southern Ry.; and Western Pacific. Two road numbers per scheme. Separately applied details including antenna, marker lights, smoke jack, vent, and axle-mounted generator (as applicable). Fully detailed underbody, end walkway tread, and clear window glazing. \$34.99. Athearn Trains, 800-338-4639, athearn.com **MR**

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A westbound freight led by Pennsylvania RR Fairbanks-Morse H20-44 No. 8930 and an A-B-A set of Alco covered wagons is seen at Gallitzin, Pa., in August 1960. The handrail-like bars mounted atop the H20-44 and both FA1s are Pennsylvania RR train-phone antennas. Doug Wingfield photo

How Pennsylvania RR's train-phone worked

Q What are the bars on top of Pennsylvania RR diesel locomotives for? Are they for radio?

Damien Bouchev

A Those bars aren't for radio, though they served the same function — communication. Those are Pennsylvania RR train-phone antennas. In the mid-1930s, the Pennsy was looking for a more efficient way for dispatchers and towermen to send messages to engineers than the current method, which was paper forms. Radio was fairly new at the time, and railroads didn't yet have access to any broadcast frequencies, so the Pennsy went a different route: electrical induction.

Electricity and magnetism are intimately connected. When a current flows through a conductor, it creates a moving magnetic field around the conductor (which is how electromagnets and electric motors work). And when that magnetic field intersects with another conductor, it creates a matching current in that conductor. That effect is called induction.

In the train-phone system, an engineer used a handset in the cab to communicate with the nearest tower or dispatch office. The signal was sent along the rod-like antenna on the roof of the locomotive, which set up the magnetic field. Its range wasn't very long, but it didn't have to be to reach its receiver, which could be telegraph wires strung along the right-of-way or even the rail itself. The magnetic field was picked up by this conductor and transmitted to the station, where it was amplified and turned into sound waves again. The same system operated in reverse to send messages to the train. Pennsylvania RR train-phone antennas could also be seen on the roofs of cabin cars (caboose) and the tenders of steam locomotives as well, not just on diesels.

The train-phone system worked well enough to be used through the steam-to-diesel transition era and into the 1960s. But the biggest problem was that it couldn't be used on electrified routes. The sheer power coursing through the overhead catenary or third rail overwhelmed any signal that could be inducted by a puny train-phone transmitter. Since the Pennsy's Northeastern electrified divisions were its busiest, that was a serious drawback. The train-phone system was obsolete by the 1960s, replaced by increasingly reliable radio transceivers.

Q I've heard of some of the uses for alcohol in model railroading, such as cleaning parts, removing paint, and track cleaning. Are there other uses I'm not aware of? And what strengths would be used?

Ron Buddemeier

A Isopropyl alcohol is a fairly strong solvent, and as such, it has a lot of uses in our hobby.

As you mentioned, cleaning things is one of the most common uses. For example, cleaning wheels. Locomotive and car wheels can pick up a layer of sticky gunk as they roll around the railroad. Opinions differ about what that gunk is or where it comes from, but luckily, alcohol is pretty good at dissolving it. Dampen a paper towel with isopropyl alcohol, place it across the tracks, then hold a locomotive so one set of wheels is on the towel and the other is on the rails. Turn on the power and let the wheels spin against the towel. You'll see black streaks appear on the towel as the gunk rubs off the wheels. Turn the locomotive around to clean the other wheels. You can do the same with unpowered rolling stock; use a Microbrush or cotton swab to scrub the wheel treads by hand.

Isopropyl alcohol can also be used to clean track. If you use a wet-pad-type track cleaning system, alcohol works well as a cleaning fluid. The best thing about it is that it evaporates completely, leaving no residue behind like other cleaning fluids can.

Alcohol is also good for cleaning parts before painting. For example, after you solder your track joiners or feeder wires to your rails, use alcohol on a Microbrush to clean off any remaining liquid or paste flux before weathering your rails. Alcohol also works to clean mold release and fingerprints from resin or metal castings and to get the printer residue off of 3-D printed parts.

Alcohol is also a superior wetting agent. Apply it with an eyedropper or a misting spray bottle to wet down ballast, ground cover, and the like before adding scenery cement, diluted white glue, or diluted matte medium to secure the scenery. The alcohol breaks the surface tension, allowing the adhesive to soak into the scenic materials rather than beading up on the surface.

Send questions to Senior Associate Editor Steve Otte at AskMR@ModelRailroader.com.



One use for isopropyl alcohol in model railroading is cleaning locomotive wheels by spinning them against a paper towel dampened with alcohol. Jim Kelly photo

Another use is as a thinner for stain or paint. Add two tablespoons of India ink to a pint of isopropyl alcohol to make a weathering stain that's useful for wood, paved streets, and rockwork. And some modelers use alcohol to thin acrylic paints so they'll flow more smoothly through an airbrush. Before you do this, though, test-mix a few drops of paint with alcohol in a disposable cup — alcohol can make the pigments in some paint formulations “curdle,” or clump up. And neither your models nor your airbrush will like that.

For all of those uses, 70 percent concentration is sufficient. The stronger variety, 91 percent, is too strong for most uses, as it can damage paint and dissolve glue. However, it's still useful to have around, because it can be used to strip paint from models for repainting. You can also use it to soak and soften scenery cement and wood glue so you can scrape off ground cover and salvage glued-down track and turnouts.

Q I'm familiar with where the water filler is on more modern steam locomotive tenders. But I don't see a similar place for water to be taken in on the old wood burning engines, like *The General*. Can you enlighten me?

Robert Taunt

A *The General* was a 4-4-0 American-type steam locomotive belonging to the Western & Atlantic RR, a 5-foot-gauge line running from Marietta, Ga., to Chattanooga, Tenn. It entered history when a squad of Union raiders stole the locomotive during the Civil War,

prompting a rail-based hot pursuit that became the subject of the Disney movie *The Great Locomotive Chase*.

Based on a blueprint of *The General* that I found on social media website Reddit, the wood burning steam locomotive's water filler was right where you'd expect it, at the back of the tender's deck. You just don't see it because it's usually hidden by firewood.

A coal tender's fuel bunker is typically at the front of the tender, surrounded by the U-shaped water tank. Its floor is sloped so the coal will roll forward as it's shoveled out by the fireman or carried to the firebox by the stoker. Firewood, though, wouldn't roll forward in such an orderly fashion. It might form literal logjams or tumble forward uncontrollably. Therefore, the deck of a wood burner's tender is usually flat, sometimes with a metal fence around three sides to allow the firewood to be stacked higher. It wouldn't matter if firewood was piled around and on top of a wood burning steam locomotive's water filler, since at least some of that fuel would be consumed by the time the locomotive needed to take on more water.

For more about *The General* and *The Great Locomotive Chase*, check out the April 2012 issue of *Trains* magazine. For even more about wood-burning steam locomotives in general (pun not intended), check out my answer to Alexander Brennan's question in the August 2022 Ask MR. And if you want to see *The General* for yourself, the historic locomotive is preserved at the Southern Museum of the Civil War and Locomotive History in Kennesaw, Ga. (southernmuseum.org).

Q Did short line railroads use timetables for such loads as logs, lumber, cattle, grain, merchandise, and the like for short distances such as 100 miles or less? For example, is a timetable necessary for a train running back and forth between a log landing site and a small lumber mill?

Russell Brenchley, Cottage Grove, Ore.

A Timetables aren't just for Class I railroads or passenger traffic. They're an important tool for any railroad busy enough to have multiple trains that need to keep out of each other's way.

As I wrote in the September 2018 “Ask MR,” railroad timetables aren't just conveniences to let passengers know

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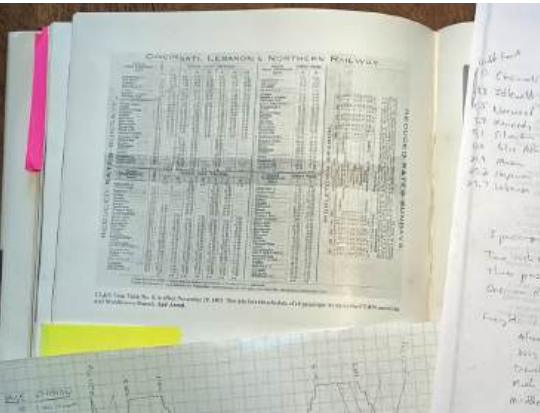
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Photo: a scene on the stunning **Lakehurst**. Modelled & photographed by Ray O'Neill.



Steven Otte referred to prototype timetables in the book *Narrow Gauge in Ohio* by John Hauck to make a timetable for his HO scale version of the 29-mile-long Cincinnati, Lebanon & Northern. Steven Otte photo

when the next train will arrive. There are also employee timetables, which are safety tools that prevent traffic jams and collisions, among other uses. Consulting the timetable will tell dispatchers and engineers where any scheduled train on

the railroad is expected to be at any particular time. This lets them know if and when it's safe for a train to enter a block of track.

That usefulness has nothing to do with how long a railroad is or what it's carrying. As long as it can have more than one train running at the same time, a timetable may be needed to keep them apart. This is called timetable and train order (TTTO) operation, so called because the dispatcher has the power to authorize, cancel, and modify the schedules of trains by issuing train orders.

Timetable and train order operation is an outdated procedure these days, but it still has its place in model railroading, since it was still in use during the steam-to-diesel transition many of us model. If you model a later era, though, there are more modern methods to consider, such as Centralized Traffic Control, Direct Traffic Control, Track Warrant Control, Form D control, and more. To learn about them, search for "traffic control systems" on our website, Trains.com.

Not all trains on a railroad belong on the employee timetable, though. Timetables list trains that operate on a regular schedule. But under TTTO, the dispatcher can authorize unscheduled "extra" trains. There are numerous reasons an extra train might be authorized: a crush of seasonal traffic, to rebalance the distribution of locomotives or cars, a special movement like an inspection trip or passenger excursion, maintenance of way, or simply a train that doesn't get enough business to run on a fixed schedule (like your log train example). Extras are considered lower priority than any scheduled train, so it's up to the extra's engineer to clear up five minutes ahead of the arrival of any scheduled train.

But I digress. Back to the point, you would certainly be justified to operate with a timetable for your model railroad, regardless of how short it may be or what the train is hauling. Evaluate the traffic on your line and decide which trains run regularly enough to be on a schedule and which are intermittent enough to be extras. **MR**



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Norwegian reader Erik Solhjell thinks exposing youngsters to model railroading in schools and museums is a way to turn the hobby around. Erik Solhjell photo

Keeping the hobby alive

I bought my first *Model Railroader* magazine in 1961, when I was 16 years old. I have, except for a few years, been a regular subscriber of the magazine since then. Though every issue has been interesting to read and often given me good advice, it's easy to see that our great hobby is in some trouble. A declining number of people are involved in building their own layouts. The dwindling number of pages in each MR magazine is an indication. And if you look at the number of ads for model railroad shops, it's obvious that there are far fewer shops than we used to have.

It's fairly obvious that there are fewer people in the hobby today than 30 or 40 years ago. I'm especially concerned that young people are so focused on their phones and social media that they have no time to get into a hobby like model railroading.

So, what can we do to change this trend? I believe one key is to try to get kids interested in model railroading when they are younger, age 12-16. I'm personally involved in keeping two old model railroad layouts running at the Technical Museum in Oslo, Norway, where I live. They give the many kids who visit the museum the opportunity to see a real, running model railroad. I hope this will ignite interest at least in some of the kids.

We should also try to convince our local schools to let kids build a small model railroad layout in shop class. This is a good way of teaching the kids that it's enjoyable to sometimes focus on something other than social media.

Erik Solhjell, Oslo, Norway

His message should lay to rest any concerns that many of us have had about the future of MR and the other railroad-related Kalmbach magazines. Based on what he wrote, it seems that his oversight of the magazines will prove to be in the tradition of Al Kalmbach and many other model railroaders of the past. The future seems to be a little brighter than we feared. Thank you, Mr. Fuller.

Grant L. Graeber

Customizing vintage cars

I smiled when I read Eric White's editorial in the June MR, in which he said "The skills to create and maintain a '32 Ford coupe hot rod might come in handy when trying to get locomotives and turnouts to work well."

Let me tell you about my other hobby. I'm not a "hot rodder," but I do own, maintain, and drive three classic cars. I've also been a member of the West Island Model Rail Road Club for 31 years. All our members have found a niche in the hobby, and mine is vehicles. I've taken it upon myself to add as many period-correct cars to the club layout as possible. This isn't as easy as you think.

You see, the club models middle America from 1955-1965, and very few of the readily available model cars from that period were actually on the roads. Case in point, when I was growing up, there were four '55 Chevys on my block, but not one was a Bel Air convertible. People bought the "plain Jane" version.

So what do I do? I customize. I make them look used, worn, and damaged. I will paint a fender or a door a different color, as if the owner replaced it himself. I will make one tire a blackwall while the other three are white, to imply a spare tire. I open hoods, trunks, doors, and tailgates. I add rearview mirrors, license plates, and radio antennas. I have a tow truck helping a stranded motorist. I have a mechanic under the hood at a repair shop and another working on a tilt-cab truck. I have a police car pulling over a VW Bus with some "funny" smoke coming out of the window.

There's no limit to this aspect of the hobby. Hopefully the manufacturers will add more work-a-day cars in the future.

Ken Michaels

Looking forward to Firecrown

When I heard the rumors about the sale of Kalmbach Media to an unknown publishing company, I thought, "Well, there goes the ball game." I, my friends at our train club, and the owners of area hobby shops all expected this would contribute to the potential decline of the

hobby. The general suspicion was that this new company would quickly proceed to kill the print products and go to all online digital formats. Yuck!

But when I went to Trains.com to look at my Trackside Photo in the August MR, I was happy to see on page 11 a very nice message from Craig Fuller, CEO of Firecrown Media.

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, 18650 W. Corporate Dr., Suite 103, Brookfield, WI 53045**, or email rpo@modelrailroader.com. Please include your name, city, and state.

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Larry Naus 3-D printed a portable toilet rail cart to add to his maintenance-of-way track equipment fleet. The HO scale model is shown with a Custom Finishing Models tie crane (7083) and Tichy Train Group push cart (4011). Photos by the author

How to model a portable toilet rail cart

A requirement of modern railroads, besides moving freight and passengers, is addressing the needs of employees while on the job. This covers all workers, from office personnel to maintenance-of-way crews in the field. As modelers, we're only concerned with this when it becomes a visible part of our railroad operations, such as re-creating a track maintenance scene. A typical assembly of maintenance-of-way (MOW) equipment in a scene might include tie cranes, ballast regulators, and laser-alignment carts, among other items. In recent years, a new addition has joined the MOW equipment fleet: the portable toilet rail cart.

The cart moves with crews as their work progresses along the right-of-way. The base for the toilet is a towable rail cart (trailer) designed by the railroad or a railway equipment supplier. It's then outfitted with a standard portable toilet. Several variations of the chassis can be found on the internet. Some have ladders, platforms with handrails, and auxiliary water tanks. This project was inspired by the design that seems to be widely used by Union Pacific throughout its system.

I determined this was going to be a resin 3-D printing project. The missing link was a detailed dimensional drawing of the full-size rail cart. One manufacturer said the wheels on its carts were 16" in diameter. With that dimension, I was able to reasonably scale the necessary dimensions to develop a 3-D model.

The finished portable toilet rail cart has helped bring my MOW equipment fleet into the modern era.

You can also use the portable toilet, minus the towable rail cart, as a stand-alone detail near an industry or construction site. [MR](#)

Larry Naus is a plastic injection tool and mold maker. He models the Canadian Pacific and Union Pacific and is building a 22-foot-long HO scale switching layout. His article "A prototypical look for turnouts" appeared in the December 2023 issue of Model Railroader.

Wire diameter and length

O scale

A-frame legs (.040") 2.183"
A-frame braces (.040") .436"
Axles (.040") 1.383"
Safety cone posts (.020") .631"
Safety flag mast (.020")

HO scale

A-frame legs (.020") 1.170"
A-frame braces (.020") .240"
Axles (.020") .730"
Safety cone posts (.0125") .330"
Safety flag mast (.010")

N scale

A-frame legs (.010") .700"
A-frame braces (.010") .125"
Axles (.010") .400"
Safety cone posts — not used
Safety flag mast (.010")

Tichy Train Group bronze wire

1101 .010" diameter
1103 .020" diameter
1106 .0125" diameter
1107 .040" diameter



Use this QR code to get plans to 3-D print Larry's cart in N, HO, and O scale.

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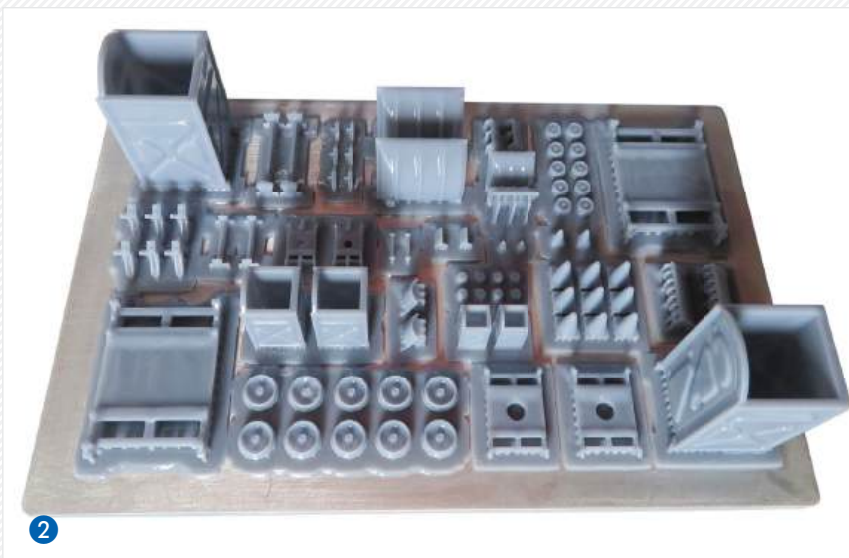
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STEP 1 FROM PLANS TO THE PRINTER



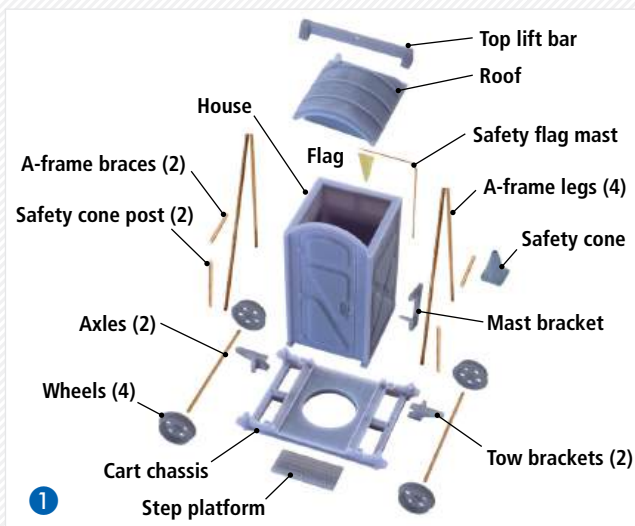
First, I divided the components of the portable toilet rail cart into individual parts that would make it conducive to supporting 3-D printing, painting, and assembling. Initially, I developed the 3-D model for O scale ①. Then,



using the scaling feature of the modeling software, along with a few minor adjustments, I was able to concurrently print the parts for the project in O, HO, and N in a single session on one build plate ②.

A few components of the N scale version were combined into one unit because of their small size. After removing the supports from the parts and doing some touch-up work, I was ready to begin assembly.

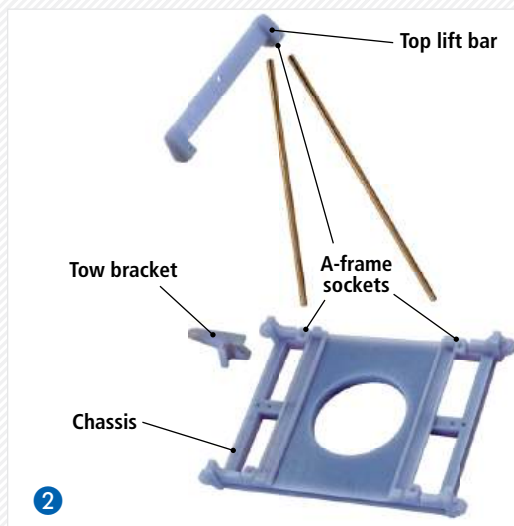
STEP 2 MULTI-MEDIA ASSEMBLY



I used various diameters of Tichy Train Group phosphor bronze wire for the carts in all three scales. I cut it slightly longer than the dimensions listed on page 24. This allowed me to remove any burrs or deformities caused by cutting and bring the

pieces to finished length. It's important to keep the legs of the A-frame equal so it sits evenly on the cart.

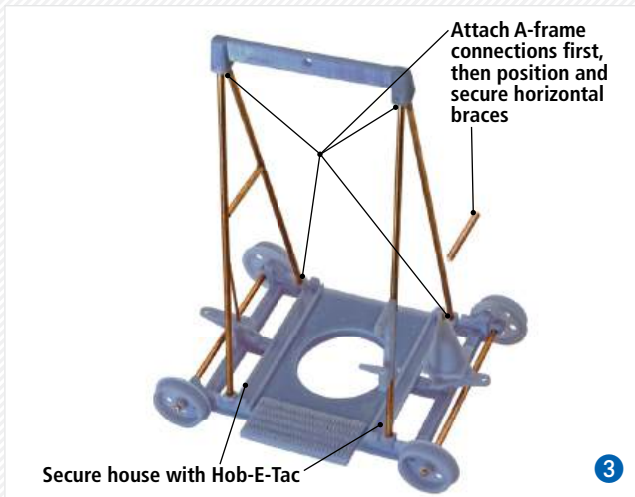
With the wire cut to length, I assembled the cart, securing all joints with small applications of thin cyanoacrylate adhesive (CA). Due to the



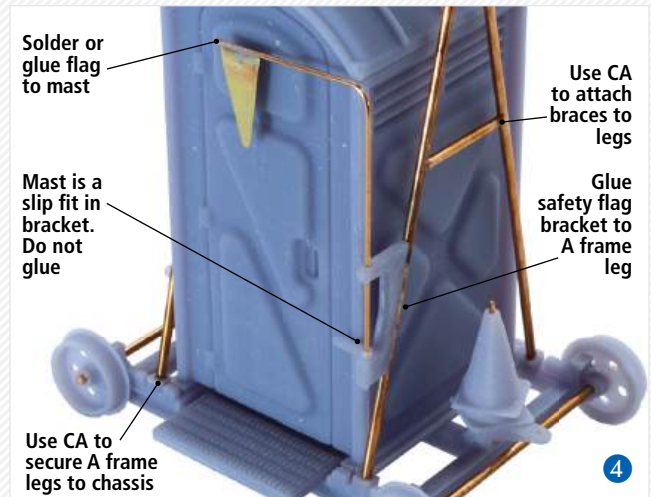
differences in resin material, printer settings, and supporting methods, it might be necessary to ream some of the holes in the printed parts.

I began by installing the axles, wheels, tow brackets, and safety cone posts at each end of the chassis ①.

STEP 2 MULTI-MEDIA ASSEMBLY (CONT'D)



3



4

Next, I inserted the four bronze legs of the A-frame into the sockets on the chassis and top lift bar **2**, opposite. I then checked the assembly for straightness and secured it with CA.

Once the basic frame was assembled, I secured the two horizontal braces to the legs of the A-frame **3**.

I then attached the safety flag bracket to the A-frame. I bent the mast for the safety flag at a 90-degree angle. I made the safety flag for all scales using .005" thick brass and soldered it to the mast. Cyanoacrylate adhesive could be used to secure the flag instead.

The safety flag and mast assembly should drop into the openings on the flag bracket **4**. Do not glue this part. Instead, the safety flag should be allowed to swing freely as it does on the prototype. Due to the small size, the N scale version is permanently secured in the closed position.

STEP 3 PAINT, DECALS, AND FINAL DETAILS



1

I painted the rail cart safety yellow. Railbox Yellow is a good off-the-shelf color. If you can't find it, mix 32 parts yellow to 1 part red to get a decent match. I painted the portable toilet housing Amtrak Blue, the roof and safety flag white, and the step platform black. Portable toilet colors can vary, so use photos as a guide.

I used Microscale Railroad Gothic letters and numbers (90102) to add

data to the top lift bar. Then, with decal remnants from past projects, I cut small silver rectangles to represent the hinges and door latch. After applying decal setting solution and letting it dry, I sprayed the cart with Testor's Dullcote **1**.

I mounted the completed portable toilet to the rail cart with Woodland Scenics Hob-e-Tac. This allows future removal, if necessary.



2

Next, I fashioned a lifting cable by stripping the insulation from 28AWG stranded electrical wire for the O scale version. I removed individual strands for the HO and N carts.

I attached the cable to the top lift bar with a small loop at one end and a loop at the opposite end for lifting. Then I placed the safety cones on the mounting posts, and the portable toilet rail cart was ready for service **2**.



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Build an N scale barn

A photo in an office inspired this modeling project

By Steve Miazga • Photos by the author

Winter is the time of year when my model railroad gets a facelift. Even though my N scale Missabe Junction Ry. is complete to the eyes of most folks, I'm always looking for ways to generate more interest in the layout.

On most model railroads, we concentrate new construction on rail-related structures — depots and industries, among other items. I've found

that the addition of non-rail structures adds more realism.

While looking for the structures to build, I found an interesting building from RSLaser Kits. The structure is based on an abandoned brewery silo in Missouri.

Around the same time, I was in a meeting at a business that had a framed print of an aged barn on the wall. A large U.S. flag was painted on the



Steve Miazga used a silo from RS Laser Kits and a picture that he saw in an office as inspiration to build this patriotic scene on his N scale Missabe Junction Ry.

side. Good companion for the silo kit? You bet. I snapped a photo and began planning.

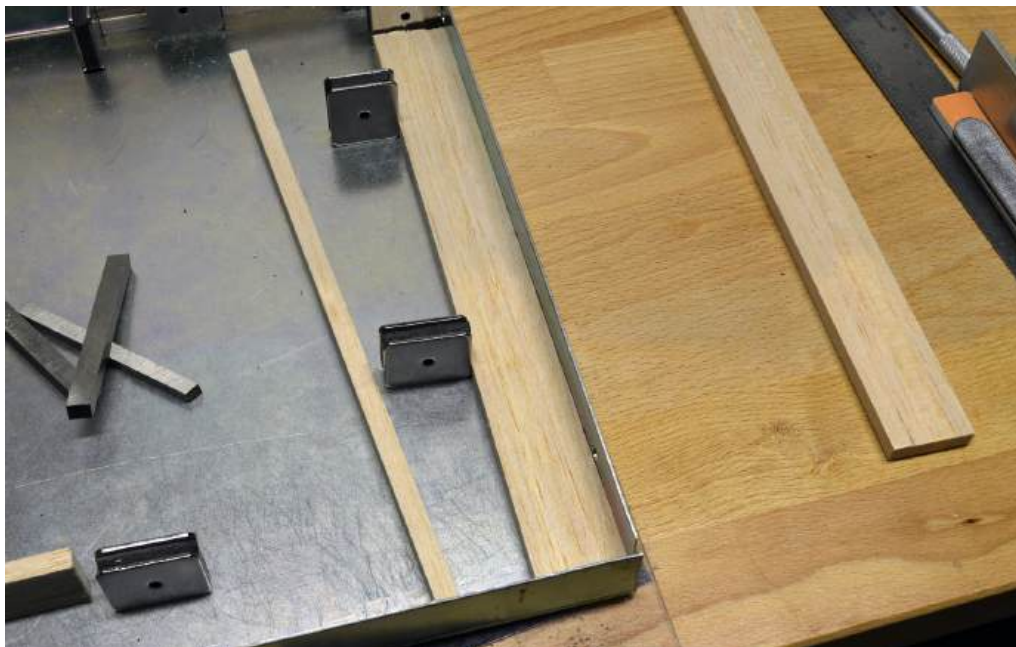
I found a spot on the layout where I could use the barn and silo near each other. I combined the two buildings to represent an abandoned farm and distillery. The barn would represent the building used for aging the liquor and the silo was for grain storage.

Developing a plan

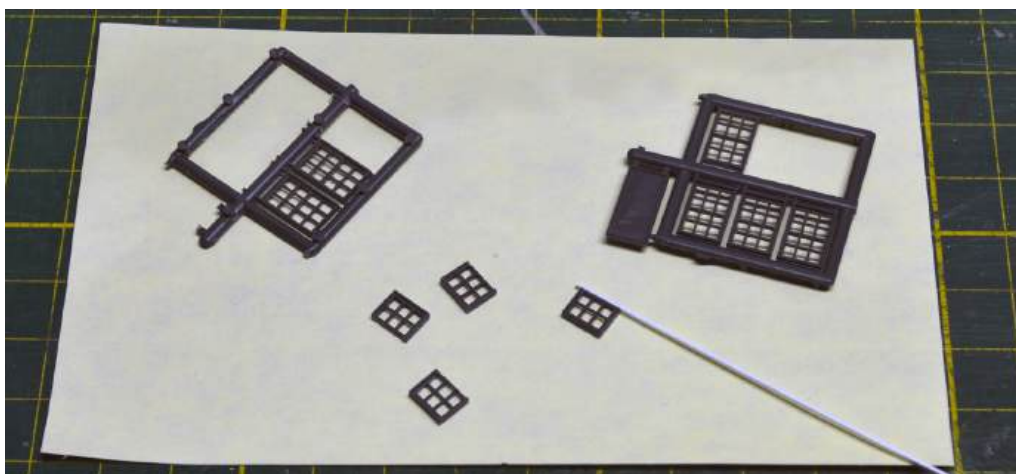
Having found the site, I now had to build the barn. I wasn't trying to re-create the photo. Instead, I used the photo as a guide.

I wanted to use stripwood for the exterior siding and to replicate the metal roofing. The one thing that concerned me was how to prevent the wood from warping. Fortunately, I found an article that solved my dilemma. The author used basswood blocks to build a rough frame for the structure. I could use the same technique to provide a solid frame for the barn.

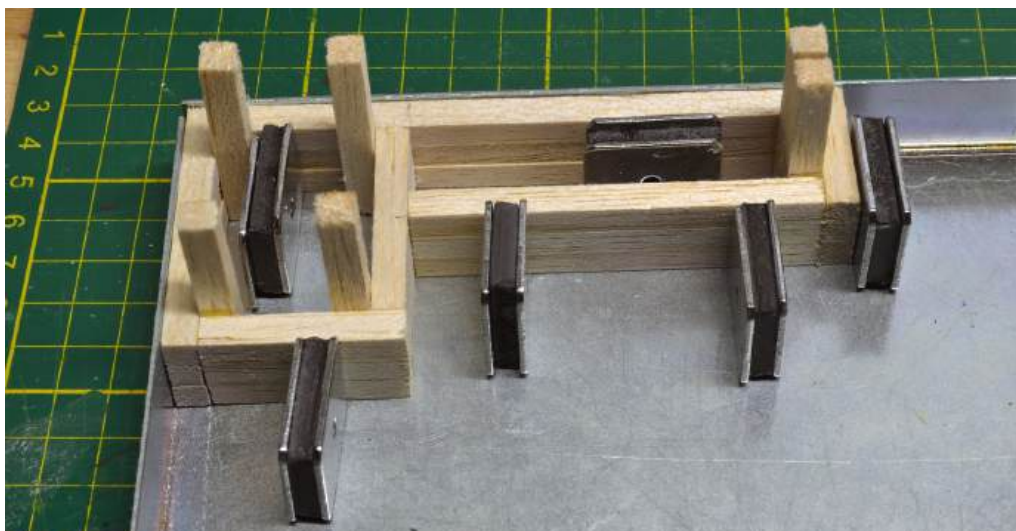
Midwest Products markets an assortment bag of basswood for craft projects. There are two typical assortments — strips and sheets. I picked up a bag of strips (no. 23) for my project. I used the photo



1 Steve used wood glue to laminate basswood strips for the side walls of the barn. He used a magnetic jig to hold the parts while the glue dried.



2 For the windows, Steve kitbashed Tichy 2501 windows to better resemble those in the prototype photo. He used Evergreen 122 styrene strip for the bottom sill plate.



3 Steve cut the laminated wall sections with a razor saw and miter box. He installed 1/4" square basswood strips to the interior corners of the first floor walls.

to come up with a rough size for the building footprint and drew a sketch to follow. The finished structure measures a scale 30 x 66 feet.

I used three sizes of Northeastern Scale Lumber for the planking. I turned to Campbell corrugated metal for the roofing and modified some Tichy masonry windows to capture the look of the six-pane windows in the prototype image. I did some online research and found an American flag photo that I could edit in Photoshop. With the details covered, it was time to start construction.

Prep work

I laminated basswood strips to make a solid core for the barn. I estimated that the first floor was about 9 feet tall and the upper level 12 feet. My stripwood assortment included 1/4" square strips. In N scale, gluing three strips together would yield a 9-foot wall; four strips would be 12 feet. I used a magnetic jig and Titebond carpenter's glue for all of the laminating and assembly **1**.

Next, I worked on the windows. I kitbashed Tichy 2501 windows to have six panes and glued a styrene sill plate (Evergreen 122) to the bottom of each casting **2**. I then painted them with Vallejo 71.001 White using a Microbrush. Once dry, I used canopy glue to attach Evergreen 9006 clear styrene to the back of each window and set them aside.

Building the structure

I used a razor saw and miter box to cut the laminated basswood for the lower wall sections. Using a magnetic gluing jig, I built the first level walls. I then cut vertical corner blocks from the same 1/4" square basswood strips and glued them on the inside corners **3**. These would be used to attach the second-level wall sections.

I then cut the walls for the upper level. I again used the magnetic jig and clamps to hold everything in place while the glue dried.

Next, I worked on the roof over the exposed lower level area of the barn using $\frac{1}{32}$ " sheet basswood. 4. I scored planks into the surface using the blunt end of a hobby knife. Then I scraped the surface lightly with a razor saw to add texture and glued the basswood in place.

I also cut a roof section for the top of the second story from the same material and glued it in place. This would be used to mount the roof support trusses. Once dry, I sanded the edges smooth.

Placement of the window openings was next. I marked the approximate location of each window with a pencil. I then used a hobby knife and chisel to remove about $\frac{1}{32}$ " of wall material to set the windows in. I test-fit each window to ensure a proper fit 5.

Stripwood siding

The prototype photo showed narrower planks on the first level. First, using Midwest Products 8002, I added a bottom sill plate to the structure walls. I then added a nailer plate (Northeastern Scale Lumber HOSCAL1411) at the bottom of the second level around the perimeter and cut and glued corner planks (Northeastern Scale Lumber HOSCAL1611) in place at all of the exterior corners.

Using a NorthWest Short Line Chopper, I cut the lower level plank boards and began gluing them on the walls, allowing for the window openings 6. I constructed the lower-level doors from the same material 7.

The siding on the upper level overlaps that on the first level. I'd already applied a nailer strip to the bottom of the second level. I then added vertical and horizontal furring strips to each wall face

and the corners. The horizontal ones are 3 scale feet on center. Once dry, I used the chopper to cut the vertical planks from Northeastern Scale Lumber HOSCAL1811 stripwood.

I notched and distressed the lower end of each plank to match the picture. I penciled in vertical guides on the wall to keep the spacing of the siding even across the length of the structure. I glued the planks in place so they were flush at the top roof edge and slightly overlapping the bottom siding below the nailer board. The siding was only applied to the two long walls.

Up on the roof

I then cut four roof supports from $\frac{1}{32}$ " basswood, sanding the edges to make sure they were the same 8. I cut and glued mounting blocks, made from $\frac{3}{16}$ " square basswood strips, to these supports to provide a stable connection to the sub-roof when glued in place.

On the gable ends, I added furring strips to the exterior side to match the lower part of the upper wall. I used mechanic squares and a magnetic jig to keep the gables plumb while the glue dried 9. Once the gables were secured I added the two intermediate roof supports.

The siding planks were applied to the gabled ends to match the other walls, overlapping the top of the gable. Once dried, the gable tops were trimmed to the roof line. I cut the roof sheeting from $\frac{1}{32}$ " basswood and set it aside. I applied the roof after the main building was complete.

Details and weathering

Next came the painting and weathering. I used an India ink wash for the base color. Then I drybrushed the wood with a Vallejo 73.601 Gray Surface Primer and let it dry for 24 hours.



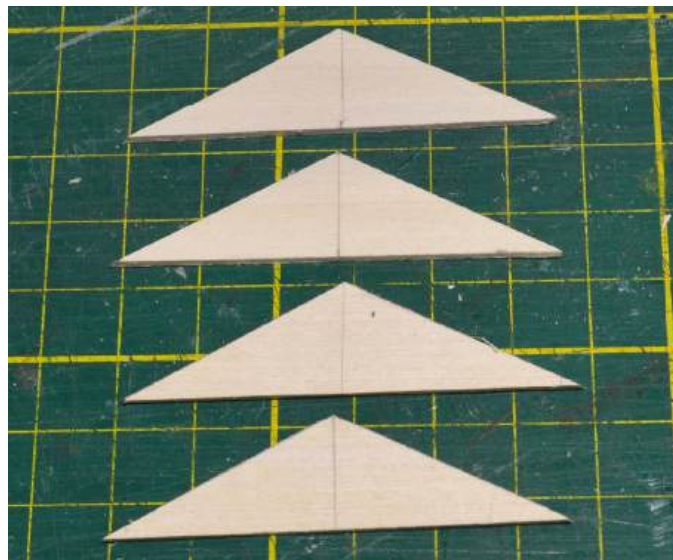
4 Once the second level of walls was completed, Steve added a gluing block on the interior first level wall to act as an anchor for the addition of the roof over this open first level area.



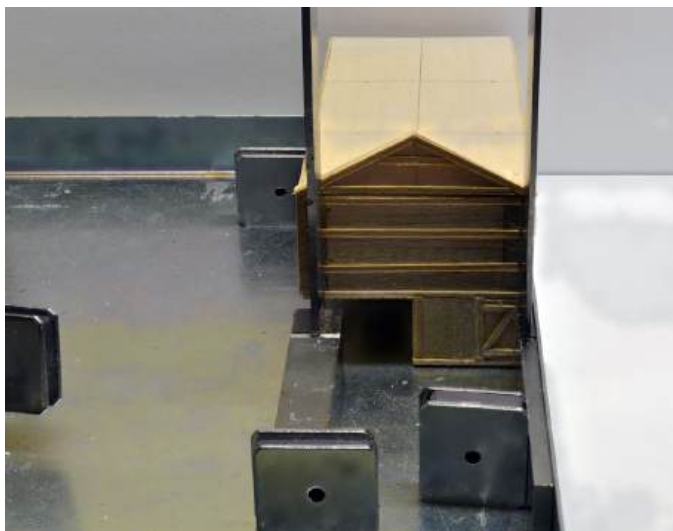
5 6 With the window positions marked in and cut in the core, Steve glued the first floor siding in place. He used a window as a check to make sure the siding was flush.



7 Steve built the end doors using stripwood. Once installed, the siding was added to complete the first floor.



8 The upper roof supports were cut from $\frac{1}{32}$ " thick basswood sheet. Steve sanded the supports to make sure they were an exact match before installation.



9 After being cut, the two end gables were added to the roof. Steve used the magnetic jig and machinist squares to keep the building square.



10 Once the building was weathered, Steve installed the windows. He used thinned canopy glue to attach the American flag.

To soften the color, I used a brush to apply PanPastel Payne Gray. Then I applied Vallejo 76.519 Olive Green Wash to add highlights to the aged wood. I sealed the barn with Testor's Dullcote.

Before installing the windows, I painted the areas I carved out earlier Vallejo 71.057 Black. I used canopy glue to fix them in place **10**.

The last part of the project was adding the American flag. I used photo-editing software to adjust the size and proportions of the image I had found online. After printing the image with a laser

printer, I trimmed it to size and used several grits of sandpaper to reduce the thickness of the paper.

To attach the flag, I thinned canopy glue to a 2:1 ratio with water. I brushed the diluted glue on the back of the image and applied it to the building. Then I used a smooth sponge to press the flag into the wood planks to get a painted-on look.

After letting the image dry overnight, I aged the flag with Vallejo 71.051 Neutral Gray and a coarse sponge **11**. Once dry it got a light coat of Dullcote to protect the image.

Finishing the structure

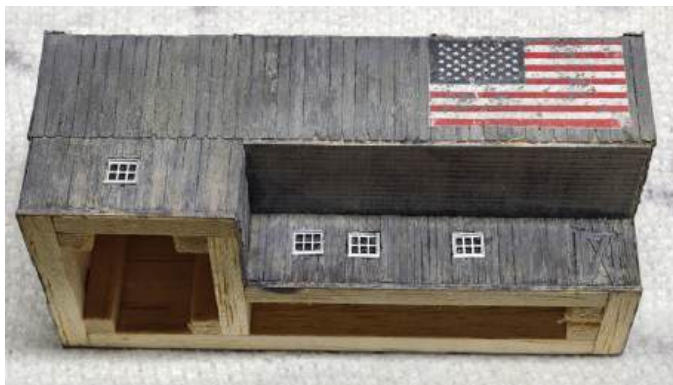
I cut the posts and cross timbers supporting the second floor from Midwest Products $\frac{1}{16}$ " square stripwood. I used scrap pieces of Northeastern Scale Lumber used for the gusset plates. Once dry, I weathered the parts to match the barn. I used medium viscosity cyanoacrylate adhesive (CA) to secure the wood.

Next, I sanded the top edge of the subroof sections to form a tight joint at the peak. Then I test fit and trimmed the roofing material,

allowing for a scale 1 foot overhang at the eaves.

I brushed an India ink wash on both sides of the sub-roof to prevent warping. I then glued it into position on the supports with carpenter's glue. Once dry, I added fascia boards (Northeastern Scale Lumber HOSCAL1611) to the gable ends and painted them Vallejo Neutral Gray to match the structure.

I used Campbell Scale Models 802 corrugated aluminum was used for the roofing. Using the original photo as a guide, I first marked the roof to allow for three



11 Once the flag was dry, Steve used a coarse natural sponge to apply Neutral Gray paint to give the flag a weathered look. The color was selected to match the weathered barn.



12 Steve cut Campbell corrugated metal into scale 4 x 8-foot panels and installed them with tacky glue. He applied the panels slightly staggered to match the prototype photo.

overlapping courses **12**. I cut the material into roughly scale 4 x 8-foot panels and attached them with Aleene's Quick Dry Tacky Glue.

I brush-painted the roof with Vallejo Gray Surface Primer and Neutral Gray paint. When dry, I sprayed on a light layer of Dullcote.

I used Vallejo Model Washes for the initial weathering, working from lightest to darkest: Gray, Rust, Dark Rust, Oiled Earth, Dark Brown, Olive Green, and Black. Once dry, I added rust, gray, brown and black accents with PanPastel products. I sealed it with more Dullcote.

Completing the scene

I wrapped up the project by building the RSLaser Kits silo. The base is simulated



13 With the barn complete, Steve installed on the layout and added details. The tractor under the overhang is a GHQ model.

brick, so I used some Roberts Brick Mortar to give the brick more relief. The main artwork for the silo is a print on paper. There isn't much you can do to this unless you want to scan it and manipulate it with photo-editing software.

The kit comes with printed weathered steel for the roof of the silo and exterior and roof of the head house. I replaced

Materials list

Acrylicos Vallejo paints (Wash FX unless noted)

71.001 White (Model Air)
71.051 Neutral Gray (Model Air)
71.057 Black (Model Air)
73.601 Gray (Surface Primer)
76.506 Rust
76.507 Dark Rust
76.514 Dark Brown
76.516 Gray
76.517 Dark Gray
76.518 Black
76.519 Olive Green
76.521 Oiled Earth

Campbell Scale Models

802 .002" x 7 1/2" corrugated aluminum

Evergreen Scale Models

122 .020" x .040" strip styrene
9006 .010" clear styrene sheet

Midwest Products

23 strip bag
4022 1/16" x 1/16" basswood strips

4055 3/16" x 3/16" basswood strips
4058 3/8" x 3/16" basswood strips
4066 1/4" x 1/4" basswood strips
4401 1/32" basswood sheet
8002 .0208" x .0416" basswood strips

Northeastern Scale Lumber (HO scale)

HOSCAL1411 1" x 4"
HOSCAL1611 1" x 6"
HOSCAL1811 1" x 8"

Tichy Train Group

2501 double-hung masonry windows

Miscellaneous

Aleene's Quick Dry Tacky Glue
J-B Weld Superweld Extreme
Instant Adhesive
PanPastel mix of grays and rusts
Roberts Brick Mortar Formula
1260 Testor's Dullcote
Titebond Wood Glue
Zap 560 Canopy Glue

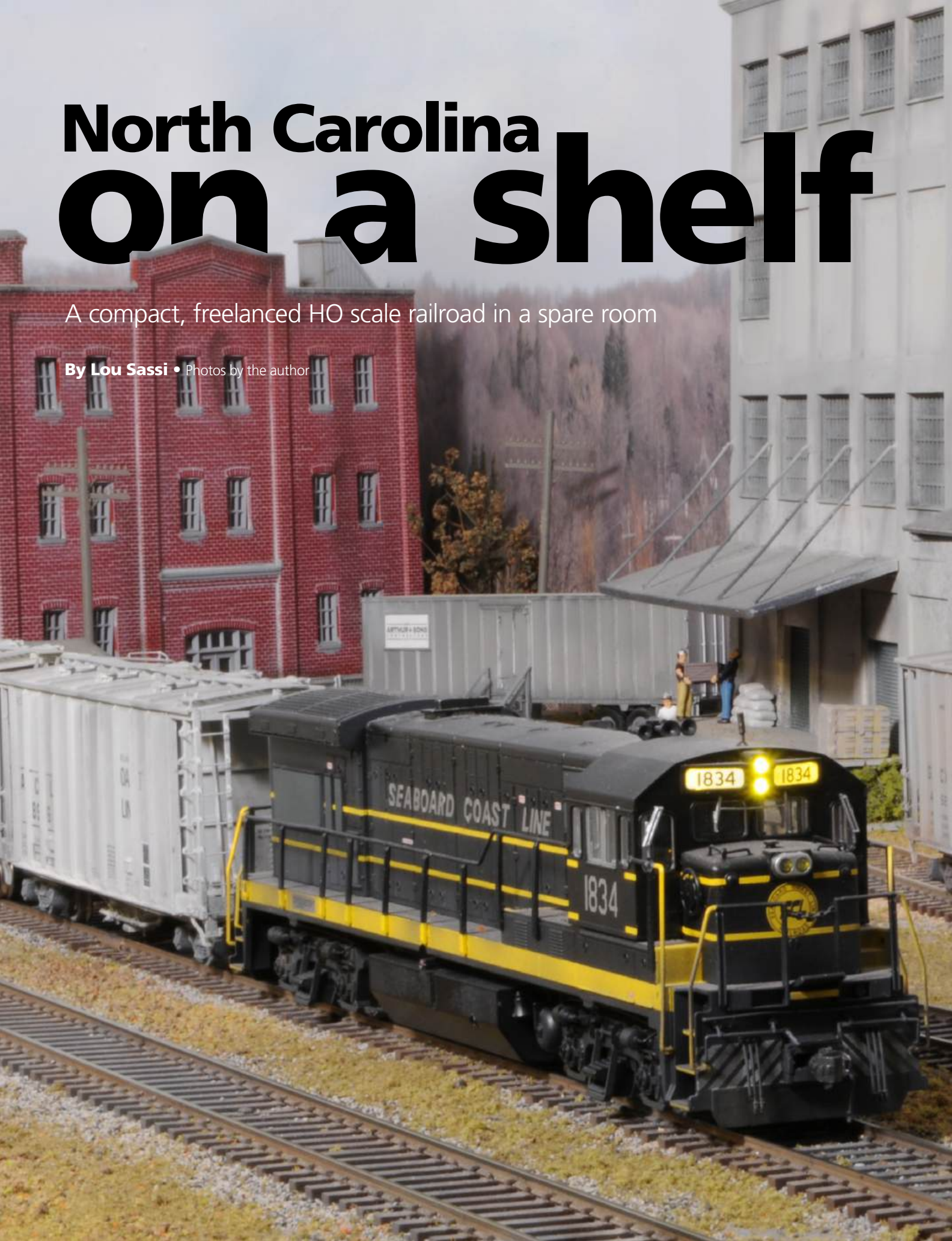
on the silo. The two structures really complement each other and have been a great addition to the layout **13**. [MIR](#)

Steve Miazga and his wife, Jenny, live in Pewaukee, Wis. He graduated with a degree in civil engineering from the University of Wisconsin and enjoys outdoor cooking, golf, travel, and railroad history.

North Carolina on a shelf

A compact, freelanced HO scale railroad in a spare room

By Lou Sassi • Photos by the author



① A Seaboard Coast Line General Electric U36B arrives at the South Durham Ry. yard with a few local cars to drop off on its way to Charlotte, N.C., on Ken Smith's HO scale layout. Ken's freelanced model railroad circles the walls of a small spare room in his home.





② This photo from the entrance of the train room shows most of the layout, including the display shelf above the backdrop.

Ken Smith was introduced to model trains in 1959 when his dad gave him an American Flyer set for Christmas. This was followed by a modest sized HO layout in the basement of the family home. After reaching adulthood, finishing college, and marrying, Ken built two more.

The first was in the bonus room above the garage of his first home, which was about 80% complete when he left it behind in a move. He then started a second railroad in the basement of his new house, which was less than a quarter complete when another move required him to abandon that project.

That next move resulted in the railroad seen here, a freelanced HO scale layout built around the walls of a 9'-6" x 11'-0" room. This time Ken modeled central North Carolina in the 1970s, naming the new railroad the South Durham Ry. (SDR). This freelanced line handles bridge traffic and interchange from the Seaboard Coast Line (SCL), Southern Ry. (SOU), and Durham



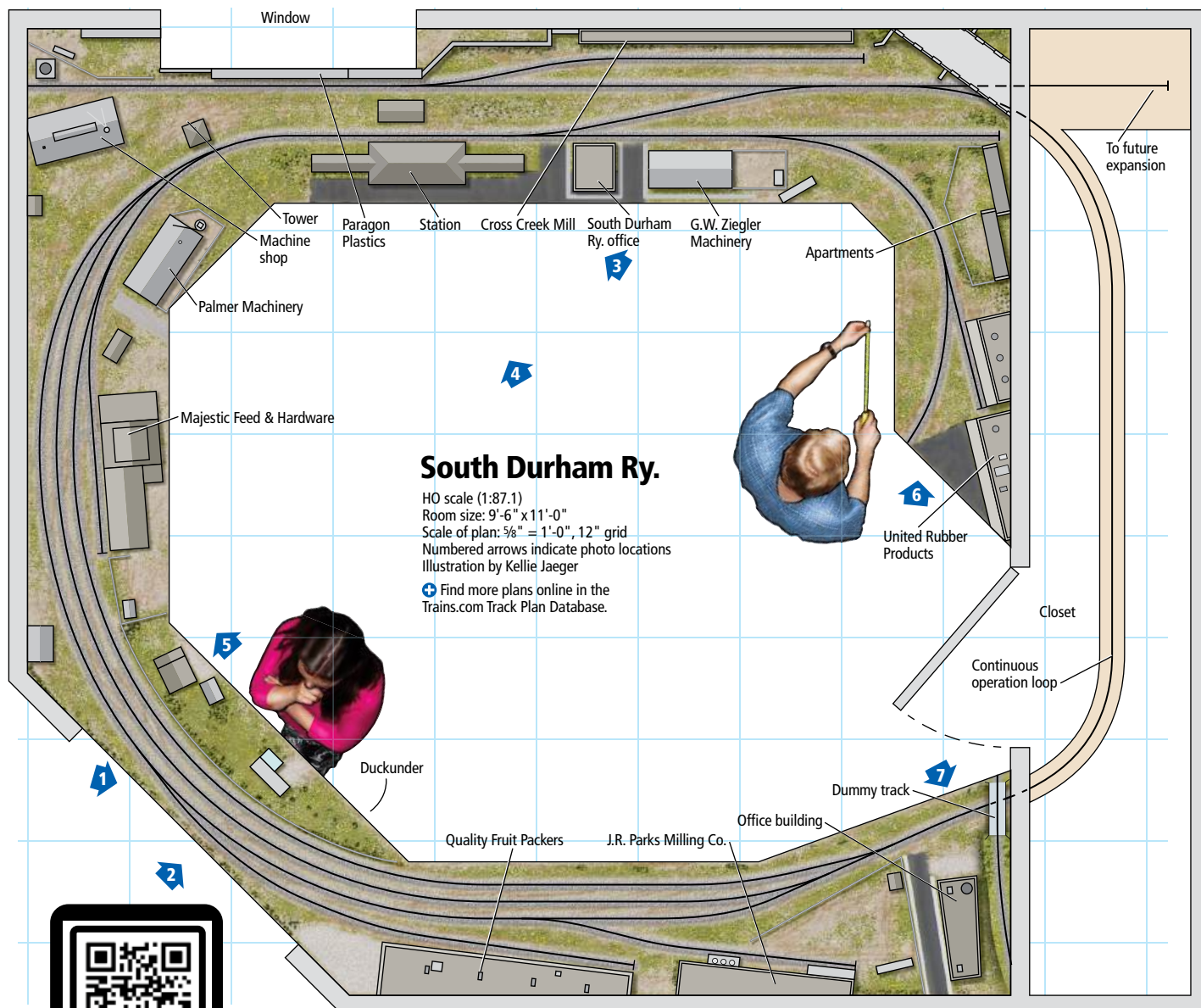
③ Southern Ry. No. 6326, an Electro-Motive Division SD24, passes the restored station as it heads west out of SDR yard with a mixed freight. The old freight house between the SCL main and the yard lead is used for storage by the SDR.

Southern in a small town that's home to a variety of rail-served industries.

Building the layout

Construction began in 2019. After removing the door to the railroad room,

Ken continued a high ornamental shelf that was already in place around the rest of the room. This shelf would become a display space above the railroad. Although it limited the height of the railroad's backdrop, it allowed Ken to display a rotating variety of equipment



South Durham Ry.

HO scale (1:87.1)
Room size: 9'-6" x 11'-0"
Scale of plan: 5/8" = 1'-0", 12" grid
Numbered arrows indicate photo locations
Illustration by Kellie Jaeger
Find more plans online in the
Trains.com Track Plan Database.

The layout at a glance

Name: South Durham Ry.
Scale: HO (1:87.1)
Size: 9'-6" x 11'-0"
Prototype: freelanced
Locale: North Carolina
Era: 1970s
Style: around the walls
Mainline run: 22 feet
Minimum radius: 22"
Minimum turnout: No. 4

Maximum grade: none (flat)
Benchwork: shelf
Height: 57"
Roadbed: cork on Homasote
Track: code 83 flextrack
Scenery: tabletop
Backdrop: photo backdrop from Backdrop Junction
Control: Lenz DCC

not in current use on the layout.

Below the shelf, Ken attached photo

backdrops from Backdrop Junction to the walls. He used some N scale backdrops to create more scenic depth.

The shelf benchwork, ranging from 12" to 18" deep, is mounted to the walls. The scenery is flat, since Ken wanted to focus on a small town and yard off the main line, not a rural landscape. There are no grades; all trackage is 57" from the floor, creating an ideal eye-level perspective of the layout.

All the track is Atlas code 83 flextrack laid on Homasote over a plywood base. Turnouts are also from Atlas and are operated with Caboose Industries ground throws.



④ Ken built his shelf layout's benchwork a few inches away from a window to leave room to open the window and operate the blinds.

Working around a window

When I planned this around-the-walls layout, I had to deal with a window on one wall. I not only wanted to open the window, but also raise and lower the shades. My project involved a double-hung window, which is what most people would have to deal with.

First, I determined how much clearance I would need to be able to open the window and work the shades. I figured 3 to 4 inches from the window area would work. I built the benchwork to allow for that clearance.

The next thing to deal with was the backdrop. I was planning on using a photo backdrop, so I cut a sheet of tempered hardboard a few inches taller than the backdrop so I could secure it to the rear of the benchwork. I supported it on either end with 1 x 2 lumber the height of the backdrop. A couple narrow pieces of tempered hardboard closed in the ends to complete the project. — *Ken Smith*

⑤ Southern Ry. GE U23B No. 3964 heads some grain cars into the SDR yard by Majestic Feed & Hardware, which still receives cars. Some of the property has been leased out to a contractor, as evidenced by the presence of the road grader.



⑥ South Durham Ry. No. 101, a former Southern Ry. Electro-Motive Division GP7, drops an empty boxcar in the United Rubber Products siding. The industry was kitbashed from a Walthers kit.

Ground cover consists of Woodland Scenics ground foam and a variety of textures of real dirt and small stones. Ground foam of assorted textures and colors is also used to represent bushes and weeds. Trees are made of hand-made wire armatures covered with ground foam as well as commercial trees

from Woodland Scenics. Blacktop roads are created using Road System Top Coat Asphalt acrylic coating.

Structures are a mix of kits and kitbashed, built to fit the space allotted, while varying in size, height, and color in order to add visual interest. Ken makes sure they fit the era modeled. He



7 Ken cut away the far side of a boxcar at an angle to make it look like the track continues into a wall.

Continuing into a wall

I wanted to add something to this particular scene that would call the viewer's attention and give a sense of this branch line still being in operation. Rather than ending the track square into the far wall, I curved it into the wall gradually behind a building. I then modified a Branchline 40-foot boxcar by removing the far side and cutting the roof at an angle so it seemed to be going into the wall. — Ken Smith

also includes period vehicles, figures dressed for the 1970s, and appropriate details such as window air conditioners.

Rolling stock and operations

Ken has 12 diesel locomotives, all equipped with Digital Command Control (DCC) sound decoders. The layout is controlled by a Lenz DCC system with two cabs. The layout can handle a maximum of four trains at once. During the next phase, when Ken plans to expand the layout into an adjacent room, the layout will switch to a Digitrax system using WiFi-connected cell phones for throttles.

The rolling stock fits the era modeled. Most of the freight cars represent Southern, SCL, and Atlantic Coast Line, plus cars from other railroads that would typically operate in the area, especially grain hoppers. Many are custom painted, lettered, and weathered using prototype photos to replicate their full-scale counterparts. Ken also uses online resources to help verify realistic colors and features of his rolling stock.

Operation consists primarily of blocking traffic, but when the second phase

is complete, the number of operators the layout can host will increase from two to four. This second phase will include staging for SCL, SOU, and Durham Southern traffic.

Ken wanted to create a railroad that would not only operate well, but also provide him with an outlet for his artistic talents. He also wanted to be able to share the railroad with visitors, whether they came over to operate the railroad or just for a social visit. The train room is right by the front door, so it always catches visitors' eyes. They never fail to be impressed.

Smaller is better

Ken thinks the hobby has come a long way, particularly in the past decade, with the availability of prototypical products, tools, and resources on the internet. Even so, he learned from his two prior railroads that less can be more. His previous endeavors were just too big for him to finish, much less maintain and operate by himself.

He suggests to other modelers that they build for a purpose while making the final product something that can be

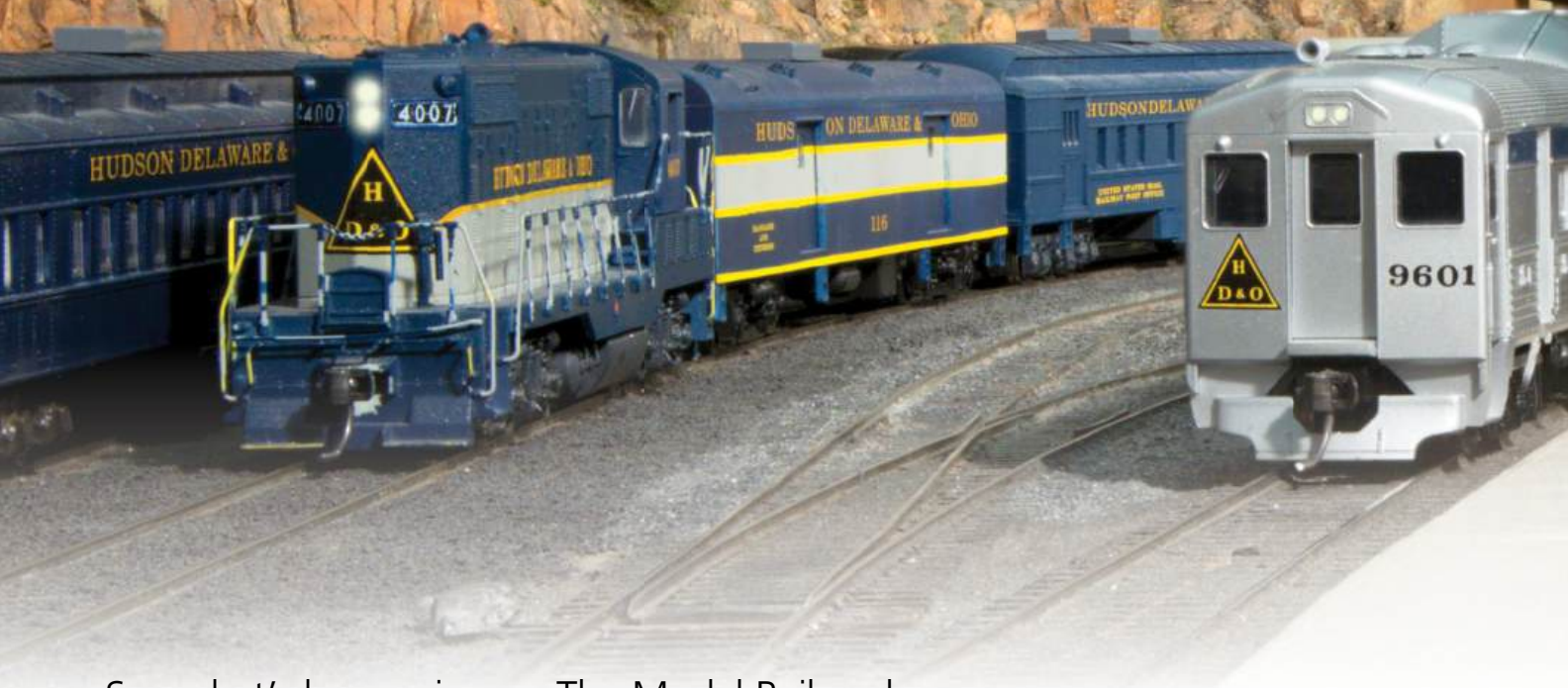
completed and maintained once finished. He also thinks it's important to always be willing to learn, not be afraid to seek help, try new ideas, and develop skills while listening to those who know from experience. Above all, he says, know and accept your limitations. **MR**



Meet Ken Smith

Ken has spent more than 30 years in corporate financial management and is the principal of a corporate tax and consulting firm. He is also a professional musician. He and his wife Lynne live in Durham, N.C., where they enjoy camping, kayaking, and biking. Between them, they have 16 grandchildren.

CELEBRATING 75 YEARS OF FUN



See what's happening on The Model Railroad Club's HO scale Hudson, Delaware & Ohio today

The Model Railroad Club Inc. of Union, N.J., is no stranger to the pages of *Model Railroader*. The group has been the subject of articles in the May 1997, October 1983, and July 1972 issues. What started as the idea of four men — Paul Draper, Walter Kalin, Paul Mallery, and Ken Robinson — in the winter of 1949 has grown to become one of the largest model railroad club layouts in the United States, if not North America.

2024 marks the club's 75th year. The diamond anniversary seemed like a good occasion to reflect on the club's past; give a progress report on its HO scale Hudson, Delaware & Ohio; and learn what projects are in the works.

The early years

The club was officially formed on Feb. 17, 1949, as the Summit-New Providence

By Bob Nalbone

Photos by Dan Munson

HO Model Railroad Club. Putting the scale in the club's name was a fairly bold move at the time. It was less than four years after World War II ended, and modeling in HO scale back then was far different than it is today.

Another bold — perhaps even radical — move was the modeling philosophy adopted. The Summit-New Providence club was the first group founded with prototypical operations in mind. A



① The Pittsburgh station on The Model Railroad Club's HO scale Hudson, Delaware & Ohio is a busy place. As GP7 No. 4007 works the post office track, a Budd RDC-3 waits to depart on Track 3 and *The Three Rivers* boards passengers on Track 2.

sound concept, taking into account the “where, when, and why,” would be essential to achieve the goal of a realistic railroad in miniature.

To that end, the layout would be designed and built as a point-to-point railroad. Prototype towns, stations, and track were to be modeled as closely as space permitted. Operating sessions would likewise strive to replicate the prototype as closely as possible. The club

still subscribes to this modeling philosophy today.

Electronics was another early focus for the club. It even tested ASTRAC (Automatic Simultaneous Train Control, an early command control system) for General Electric.

The Summit-New Providence club's layout would ultimately grow to 30 x 36 feet. By the late 1960s, it was time for the club to seek a new home.

Mallery works his magic

In addition to his modeling and engineering skills, club founder and hobby pioneer Paul Mallery was a planner. He used this skill to help the club secure a permanent home.

Paul first tried to lease space in the Rahway Valley RR's unused Springfield, N.J., depot. Railroad President George Clark declined the offer.



② Trenton Northern Transportation & Light Co. interurbans race to Trenton, N.J., while a westbound Hudson, Delaware & Ohio freight passes below. At bottom, a Trenton Northern freight ducks into a tunnel on the lower level.

building (and its several expansions), and donate ownership of the building back to the county. The club would own the model railroad.

Where to build

The next step was to find a suitable location. The club found the original site in Springfield, N.J., to be unacceptable, so the backup location (about a mile farther east on Route 22, off Jefferson Avenue in Union Township) was selected. Today the land is part of Lenape Park of the Union County Park System.

The building design for the new club, shown in the July 1972 MR, was as audacious as it was large. Planned to be completed in three distinct phases, it was to be the largest structure ever to be specifically designed for model railroading.

A unique feature of the design was that the layout benchwork would be built on a platform 6½ feet above the actual floor level. This provided full-height clearance below the layout, making wiring and troubleshooting easier. An added benefit of this “rack system” was it provided space for work stations and material storage.



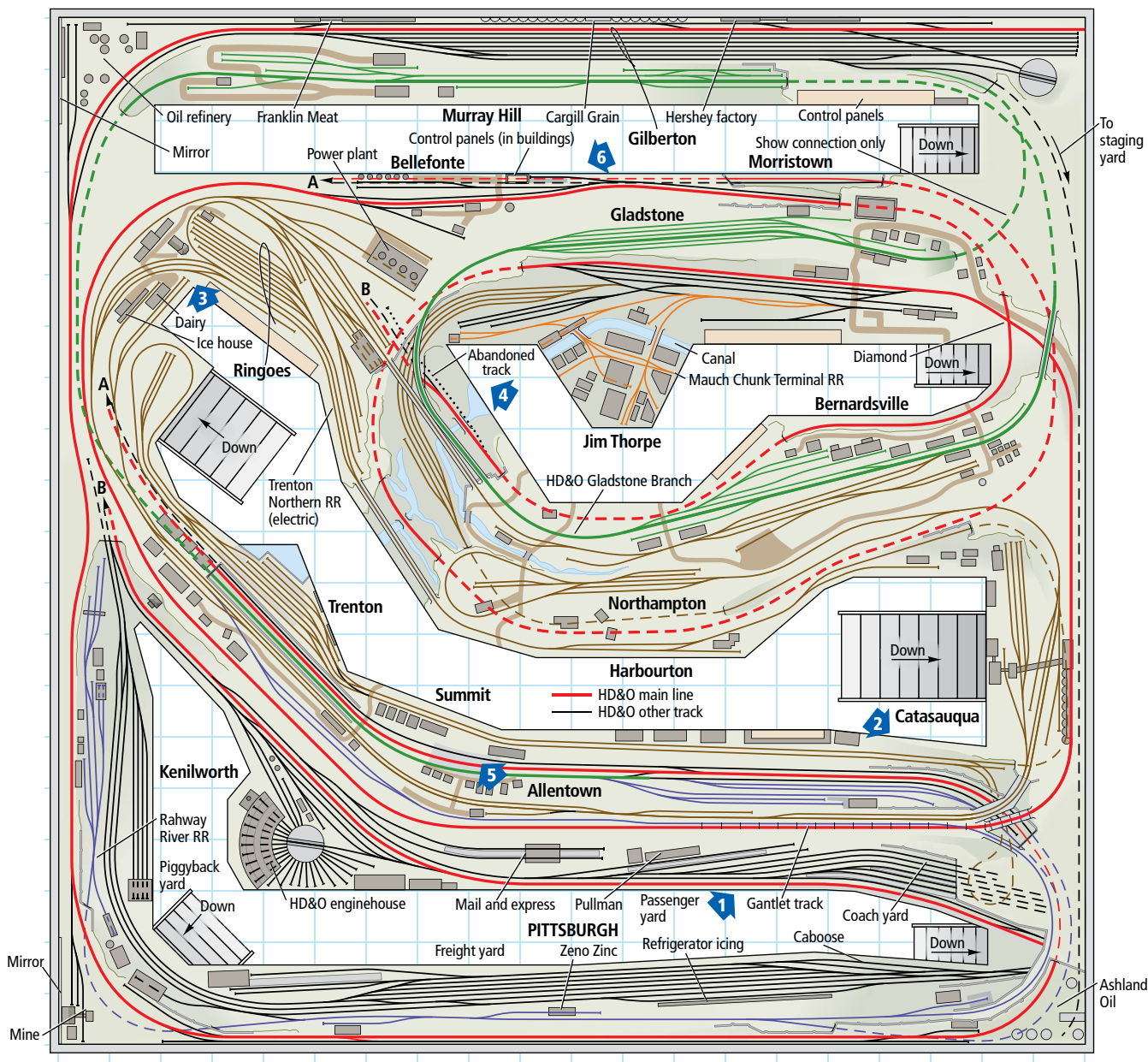
③ Ringoes, N.J., is the junction of the Trenton Northern’s Beardsville Branch with the mainline to Trenton. Here, interurban No. 217 swings onto the main after making a station stop while motor No. 52 brings a freight into the yard.

In 1969, Paul heard of a public-private partnership plan by the Union County [New Jersey] Parks Department to help develop county park land. Recognizing the potential of this opportunity, Paul talked with two other local model railroad groups and proposed a three-way merger between them and the Summit-New Providence club.

The new organization approached Union County with a plan to design, build, maintain, and operate a model railroad center on a mutually agreed upon location, in exchange for permanent occupancy. The county liked Paul’s proposal, but the other two clubs didn’t

and backed out of the proposed merger. Meanwhile, the club went ahead and changed its corporate name to the proposed name for the merged clubs: The Model Railroad Club Inc. It entered into a formal agreement with the county in May 1971.

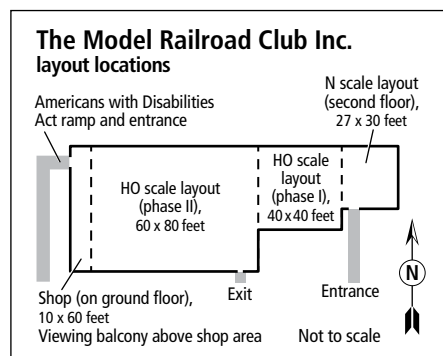
Under the agreement, the club would be open to the public at designated times, hold at least one open house a year, and would have an open membership policy — as long as applicants demonstrated an active interest in the hobby of model railroading. No public tax money would be used; the club would raise the necessary funds, construct the



Hudson, Delaware & Ohio

HO scale (1:87.1)
Room size: 40'-0" x 40'-0"
Scale of plan: $\frac{3}{32}$ " = 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: Hudson, Delaware & Ohio and Trenton Northern Transportation & Light Co.

Scale: HO (1:87.1)

Size: 40 x 40 feet (phase I), 60 x 80 feet (phase II, under construction)

Theme: freelance, inspired by Eastern Class I railroads

Locale: northern New Jersey and Pennsylvania

Era: steam-to-diesel transition (circa 1955)

Style: multi-level walkaround

Mainline run: HD&O (40 x 40-foot section), 9.86 scale miles; Trenton Northern, approximately 2.75 scale miles

Minimum radius: HD&O: main, 72", branch 48"; Trenton Northern, 9"

Minimum turnout: No. 8 (HD&O), No. 4 (TN)

Maximum grade: 2.75%

Benchwork: open-grid rack system and L-girder

Height: 30" to 42"

Roadbed: $\frac{1}{4}$ " pine on $\frac{3}{4}$ " particle board subroadbed on $\frac{5}{8}$ " plywood base

Track: handlaid

Scenery: various (hardshell, plaster cloth on screen, etc.)

Backdrop: hand-painted on walls

Control: Digitrax Digital Command Control



4 A Gladstone Branch commuter train crosses the Morris Gulch Trestle as Alco FA units struggle to keep an HD&O eastbound freight moving up the 2.75% grade out of Pittsburgh. The Trenton Northern/HD&O interchange yard is in the middle.

The club has been blessed over the decades with members possessing trade skills and professional credentials, including a civil engineer and an architect, which saved tens of thousands of dollars as the members started the hard work of actually constructing the building — which was (and still is) a study in sweat equity and dedication.

Still, money was needed for materials and to hire professionals to do work that the membership was unable to do or prohibited from doing themselves. Thus, fundraising became (and remains) an important club activity.

The first section to go up was the area that today houses the lobby, lower-level restrooms, and the club's offices (originally the location of the shop) on the ground floor and the N scale layout room on the second floor. Construction then followed on the 40 x 40-foot space that the HO layout would occupy. Construction began in October 1971 and the cornerstone was laid in 1972.

The phase II expansion began in 1993 and was completed in 2001. Enough funds were raised that a small section of the phase III expansion was also built. That section currently houses the shop and paint booth on the ground level, with an enlarged balcony area housing

the club's gift shop and meeting space above it. [See the layout locations in the diagram on the previous page. — Ed.]

Currently, the entire building stands at about 11,000 square feet. The HO scale model railroad has also expanded, with more track and scenery being added every year.

Modeling in N, HO scales

The club has two permanent model railroads. The N scale layout is named the Jersey Shore & Western. Contrary to what some think, the Jersey Shore part of the name has nothing to do with sand and surf. Instead, it refers to Jersey



5 Trenton Northern homebuilt "Little Jeff" No. 89 runs under the wires as it leads a short freight down the middle of the street in Summit. At left taxis and a Railway Express Agency truck serve the Hudson, Delaware & Ohio depot.

Shore, Pa., where the JS&W has an interchange with the Hudson, Delaware & Ohio RR.

The JS&W is set in the modern era and packs a lot of layout in a 27 x 30-foot space. It's a double-deck, around the walls design, with a large peninsula in the middle of the room. A lot of industry is represented, including an impressive steel mill on the upper level.

Most of the remaining space is occupied by the HO scale Hudson, Delaware & Ohio. The first section is 40 x 40 feet and is 95% complete. The second section is 60 x 80 feet.

The HD&O has been operating since 1951. Its mainline stretches from Hoboken, N.J., to Pittsburgh, Pa. The HO layout also features the Trenton Northern Transportation & Light Co., a traction line; the Rahway River RR short line, inspired by the prototype Rahway Valley RR; and the Mauch Chunk Terminal, the only part of the phase I section that remains unfinished and not part of club's operating sessions.

Running trains

The HO railroad is set in the steam-to-diesel transition era, more or less in the summer of 1955. Establishing an era is important to develop a realistic operating scheme. The industries and types of trains during this era are varied, interesting, and just about extinct from today's railroad scene.

The club uses a tab-on-car waybill system, an outgrowth of the "colorful operations" waybill-on-car system of routing cars that the Summit-New Providence Club first developed in 1965.

A Microsoft Access database developed in house — called CAWS (Computer Assisted Waybill System) — is run once every three weeks to represent traffic for the upcoming operating day.

The club doesn't use a fast clock; however, a fast-time ratio of 8:3 is used. Each three hour operating session represents one eight hour trick (shift). Thus, it takes three operating sessions to complete an operating day.

One of the hallmarks of the club's operating session is live interchanges. The HD&O, Trenton Northern, and Rahway River railroads all interchange with each other during operating sessions. In addition, a live interchange with the Baltimore & Ohio in Pittsburgh takes place. The B&O brings its trains with HD&O eastward and TN and Rahway River traffic out of a hidden staging yard and delivers them to the



6 A midday HD&O commuter train, carrying a baggage/Railway Post Office car, makes a station stop at Bellefonte, Pa. One of the road's end-cab switchers works the oil loading tracks.

HD&O. The B&O returns to staging with cars waybilled "everywhere west." This part of the operation occurs on Tuesday nights, and is referred to the HD&O's Allegheny Division.

The HD&O is now large enough in scale mileage that it's necessary to operate the two divisions on two different days. On Saturday afternoons, when the club is open to the public, the HD&O Eastern Division (called the New York Division) is run. This serves several important purposes.

First, it's a continuation of the previous Tuesday night session and sets up the next Tuesday night session. Second, it's a way to show and educate the public about how railroads used to be run and to demonstrate model railroad operations. Third, it provides an opportunity for members who can't attend the Tuesday night operating sessions to participate and learn about prototypical operations. The traffic is lighter and the operations less intense on the New York Division than it currently is on the Allegheny Division.

Check it out!

The Model Railroad Club Inc. is open to the public most Saturdays from 1 to 4 p.m. Other special events are planned from time to time, and new members are always welcome. For additional information, visit themodelrailroadclub.org or search for The Model Railroad Club Inc. on Facebook.

Similar to the west end, there's a live interchange on the east end. The Erie RR comes out of another hidden storage yard and runs east to Newark, N.J., over the HD&O Kearny Branch (a temporary use of a public show loop track) with interchange traffic waybilled west from New England and returns light.

Later in the session the HD&O runs an interchange run with New England-bound traffic to staging and returns light. Through freights are made up and run west to Gilberton, where they continue their journey west during the next Tuesday session.

The club today... and tomorrow

The club continues to attract new members. Prototypical operations, craftsmanship, and electronics are still primary subjects of interest.

Recently, the club has embarked on a long-overdue project to update the electronics on the HO layout. Java Model Railroad Interface and touch-screen control panels will replace the 1970s-era panels. Track laying (and even some scenery) continues its eastward trek, and the benchmark for "temporary" Hoboken (permanent Hoboken will be located in the phase III expansion) is being built. **MR**

Bob Nalbene is a lifelong model railroader. He has been a member of The Model Railroad Club Inc. for more than 28 years. He resides in Roxbury Township in northwest New Jersey. In addition to model railroading, Bob enjoys writing music and oil and pastel painting.



To store his trains in view but keep construction dust away, Randy Bartlet built a display case that connects to his layout's helix.

Build a WORKING DISPLAY CASE

Move locomotives and rolling stock from the layout to the display case — without picking them up

By Randy Bartlet
Photos by the author

My first model railroad, an HO scale double-deck layout, is under construction in an 11 x 12-foot spare bedroom. After finishing the helix and several sections of benchwork, I realized I wanted easy access to my locomotives for testing things as the layout expands. But I wanted to protect them from construction dust.

So I designed a Plexiglas and wood display case with six levels. Except for the top shelf, each connects to a level on my helix.

It's extremely unlikely that anyone would need to build a helix that matches my specifications, so I won't waste your time with its dimensions. Instead, I will offer ideas and methods that may inspire you to do something similar on your layout. Perhaps you can save time by avoiding some mistakes I had to learn from.

The case

The case is a wood box made of 1 x 6 pine with a 1/8" plywood back. But I used smaller braces on the left side to allow

rolling stock to move onto the layout. For the top, I used a 1 x 3½" piece, a little more than half the depth of the other sides. This allows more light to enter the display but gives enough room for the cover when flipped open. As I worked on the wood frame, I was always mindful of where the cover would be when open and when closed.

I routed a rabbet on the back edge of each 1 x 6 to accept the plywood back without making the joint visible from the outside ❶. The mitered corners hide the rabbet from view.

On the side that opens to the layout, I used braces rather than a 1 x 6 to keep the frame rigid. I had to shape these braces to allow clearance for rolling stock ❷.

Half of the helix is inside a closet, and I had to trim the display frame to allow for the closet doorway trim ❸, next page. In order to match the case to the helix and to the doorway, I had to do a lot of dry fitting. Before gluing anything, I held the frame pieces together with screws. This allowed me to disassemble the pieces to make adjustments.

Shelf assembly

For the shelving and cover, I used ¾" Plexiglas (actual thickness 7/32"). To provide spacing and support between the shelves, I used 1/16" Plexiglas (that's the nominal thickness; the actual is 3/32"). These supports run the full length of the shelves against the back panel.

With the entire shelving assembly lying on its side, small ¾" Plexiglas spacers can be seen at the front of the open end to provide support, as well as cutouts (at the top of the photo) for the closet doorframe trim ❹. I painted the 1/16" Plexiglas spacers on the back side the same color as my walls to give the illusion that the back of the case is open. I polished the front edge of the shelves with sandpaper, starting with dry (150, 220, and 400 grit) and graduating to wet (800, 1500, and 2000 grit). This gives a nearly clear finish.

On the right side of the assembly, facing away from the helix, I wanted each shelf to butt up against the wood frame without any visible support. I hid the actual support by routing dado grooves in the wood frame ❺ (page 49) and notching the end of each shelf ❻. The end result is that each shelf extends into the side frame, but not at the front, so the notch can't be seen.

Image ❻ also shows that the 1/16" Plexiglas spacers are set back the same

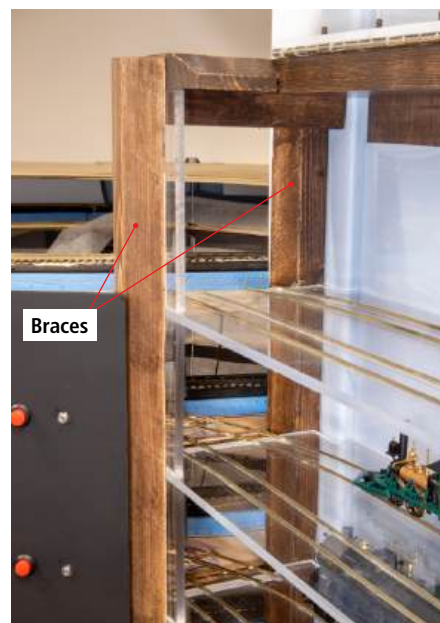


❶ The back of the case is shown with its mitered corner and rabbeted frame. The dashed lines indicate the edges of the frame pieces that are partially covered by the plywood back.

distance as the notches to allow the shelves to fit into the dado grooves. I didn't realize this was necessary until I tried fitting the first shelf into the frame when gluing the first spacer. With great care, I repeatedly inserted the assembly into the wood frame as the gluing progressed. One by one, I glued the spacers to the shelves, doing another dry fit after each glue joint had cured.

I used cyanoacrylate adhesive (CA) at first, because in a previous, non-railroad project, it provided a strong and clear joint. But in that project, the glued surfaces were much larger. For this assembly, the joint between spacer and shelf was only 1/16" wide, the thickness of the spacers. And if I didn't have a perfectly straight edge on the spacer, it left gaps in some places and pressure points in others. This bent the shelves ever so slightly, a bend that became exaggerated as more spacers and shelves were added. When I would handle the assembly to fit it into the frame, any flexing would cause the joints to break. In addition, the glue would leave unsightly clumps where it oozed from the joint and where I wasn't careful in applying it.

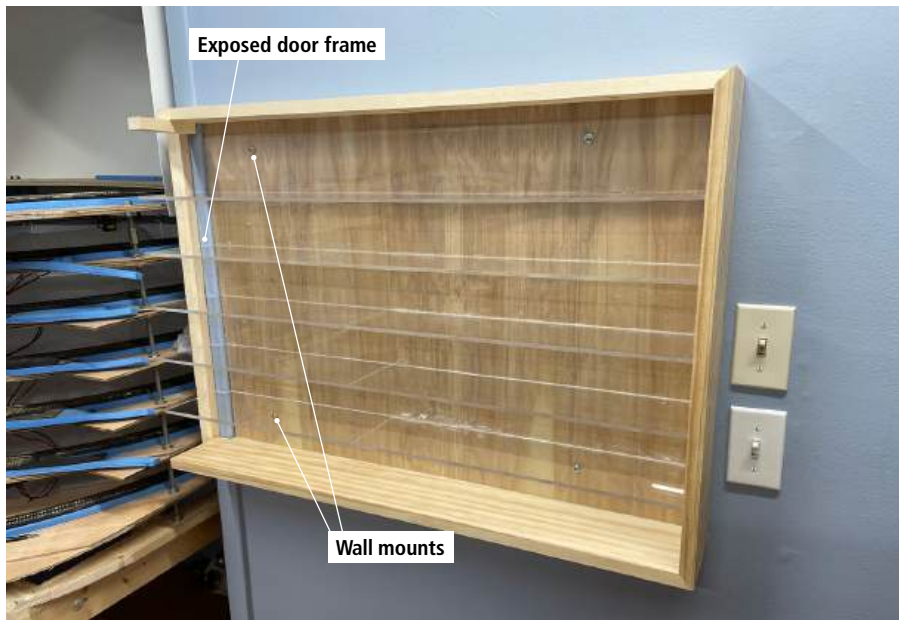
So, I did some research and discovered Weld-On 3 (dichloromethane). Weld-On 3 cures faster, but Weld-On 4, which cures slower, provides a stronger bond. Weld-On is a solvent cement that only bonds similar materials, like Plexiglas to Plexiglas. It doesn't leave clumps, but can produce hazing on an otherwise smooth surface.



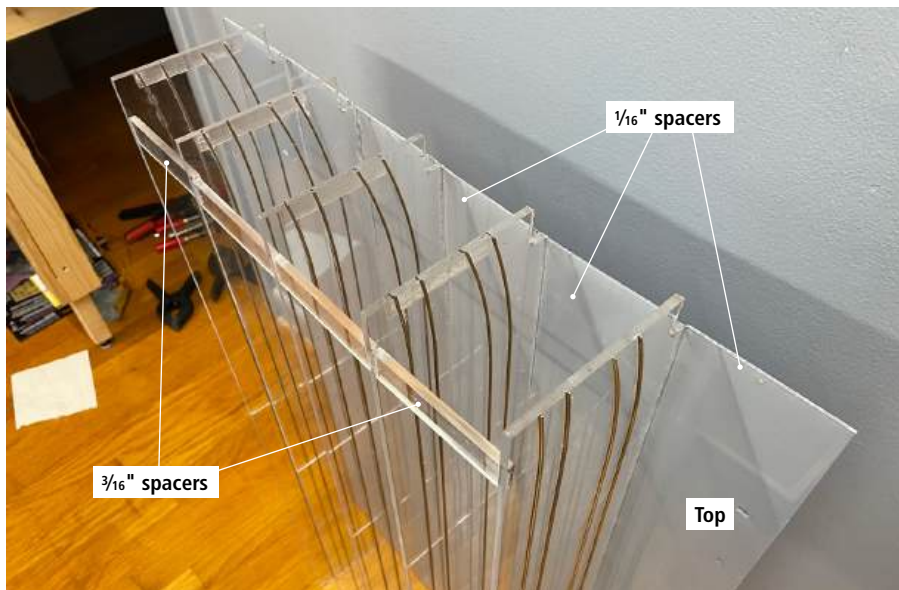
❷ To keep the frame rigid, Randy used braces rather than a 1 x 6. The braces had to be shaped to allow rolling stock adequate clearance.

This is an experience that you can learn from. I had to scrape off all the CA residue and re-adhere everything using Weld-On. If I had to do over again, I would spend a little more and use thicker Plexiglas for the spacers to provide a larger gluing surface. But I used what I had available at the time.

Another important lesson is to make sure you have as straight of an edge as possible on the long spacers (in my case, 36"). Also, use a very sharp saw blade



3 The display frame had to be notched to accommodate the closet doorway trim. This meant a lot of dry fitting.



4 Spacers $\frac{3}{16}$ " thick added support to the front of the shelves without being visually distracting. The $\frac{1}{16}$ " spacers in the back and the shelves were cut so the unit would fit around the closet doorway trim.

when cutting Plexiglas to avoid chipping and minimize rough edges. Ideally, you shouldn't need to clamp the pieces, though I did. And if you glue them while they're placed into the frame, as I did, be sure to protect the wood surfaces with aluminum foil or waxed paper.

Attaching the rails

The 6" depth of the case is wide enough for two side-by-side HO scale tracks on each shelf. If I'd used flextrack, it would have made the track laying much easier, but I didn't want the ties to obstruct the view of trains below the

shelf, especially those in the back. So I went with the bare minimum, gluing rails directly to the Plexiglas.

To ensure gauge accuracy and uniformity, I built a template **7**. I cut a piece of Plexiglas the size of a shelf. Then I cut five spacers of $\frac{1}{16}$ " Plexiglas. See the cross-section diagram for a better understanding of the template **8** (page 50).

I started with the spacers between the rails, using a piece of flextrack to ensure the correct gauge. I knew I had a good fit if the spacer fit snugly between the rails but didn't stick when removing it. Next, I cut the spacer between the two tracks. I was careful to not only have clearance

between the tracks, but also clearance between the track and the front/back of the case. The width of the outside spacers isn't critical; they are just to hold the rail in place.

I drew an exact scale track plan transitioning from the shelf through the front/back turnout to the helix mainline turnout, then laid the paper template onto the shelf and the helix. It took several drawings before I got everything properly aligned. This showed where I needed to locate the front/back turnout and that I needed a curve to begin inside the case. I couldn't think of a good way to cut the template spacers at a curve and still maintain the correct gauge, so I decided to cut the spacers straight, from end to end, and then bend them to the right curve at the end.

I then marked a straight line about $\frac{1}{16}$ " from the inside edge of each spacer. This would be my stop line for cutting and would provide a good way to view the curve's angle. Then I cut slots in the spacer, from the outside edge up to the stop line, creating something similar to a comb. The remaining prongs would each still maintain the correct gauge around the curve.

But the $\frac{1}{16}$ " spine of the comb-like spacer wasn't flexible enough to bend to the necessary curve. I was certain it would crack, so I heated up the spine edge with a heat gun just enough to bend it. I was careful not to overheat it, as this could deform the Plexiglas enough to change the gauge.

The spacer between the front and back tracks needed a little extra attention. In addition to curving, it needed to be tapered, as the two tracks converge toward the turnout. After bending this piece, I laid it onto my paper template and marked the ends of the prongs. Then I cut them to the prescribed length, being careful not to break the now fragile spacer.

After I'd cut and curved all the spacers, I glued them to the template base, one by one, using a piece of rail to keep them separated while the glue cured. I held the curing spacer tight against the rail and the already glued spacer on the other side. If a piece of rail doesn't fit tightly between the spacers, it will fall out when gluing the rail to the display shelf. In a few spots the gap ended up being too tight, so I used a hobby knife to trim away areas of the spacers that made rail removal difficult. I didn't want the rail to fit so tightly that it pulled the rail from the shelf when the template was removed.

Remember, you must place the template with the piece of rail upside down onto the shelf for gluing. I suppose you could turn the shelf upside down and glue the rails from below, but that would have its own potential problems. There's little room for error, because once the glue touches the Plexiglas shelf, any attempt to adjust it or remove it will likely mar the smooth shelf surface.

For each shelf I glued the rails one at a time. After the first one was secured, I made sure that subsequent rails were placed correctly by securely fitting the already glued rails back into their place in the template.

Applying the glue was also a picky process. I used Loctite Super Glue Ultra Gel Control for this process. With the rail placed into the template, I squeezed a blob of glue onto a piece of scrap wood. I then took a used hobby knife blade and drew it through the top of the blob, getting just a small bead of glue along the length of the blade. I then touched the blade to the center of the rail, one blade-length at a time. It took perhaps two minutes to apply the glue to the entire 36" rail, but the gel was still liquid when I attached the rail to the shelf. I clamped the template to the shelf for an hour to be sure it had fully cured before removing the template for the next rail.

As I said earlier, CA can cause hazing of the smooth Plexiglas surface. I removed these spots by carefully rubbing



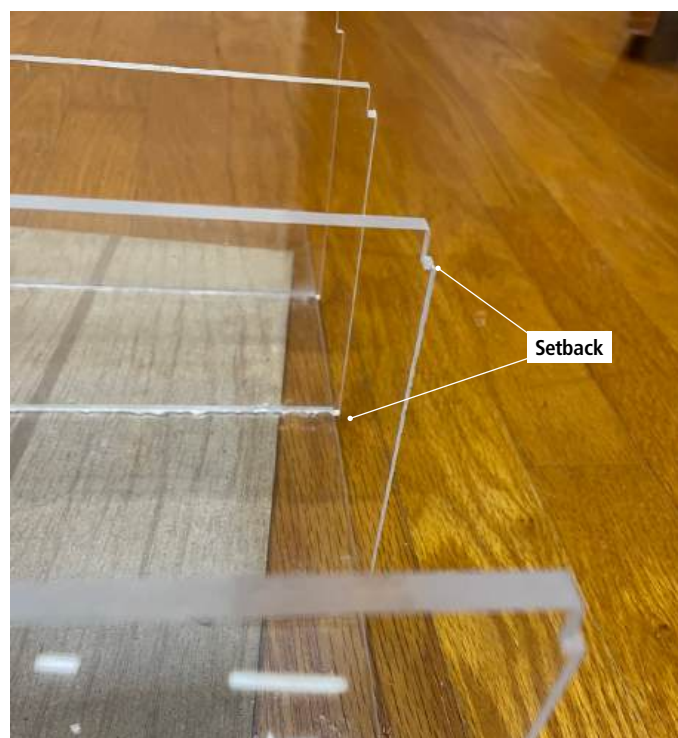
5 Dado grooves in the wood frame add extra horizontal support to the Plexiglas shelves. They're notched to fit inside the grooves.

the areas with my fingernail. I removed any clumps of glue with a very sharp knife blade, using a slicing motion with the side of the blade against the Plexiglas to minimize marring the surface. Do not use a scraping motion! You might also try gently using a toothpick, but don't apply so much pressure that you crack the glue joint.

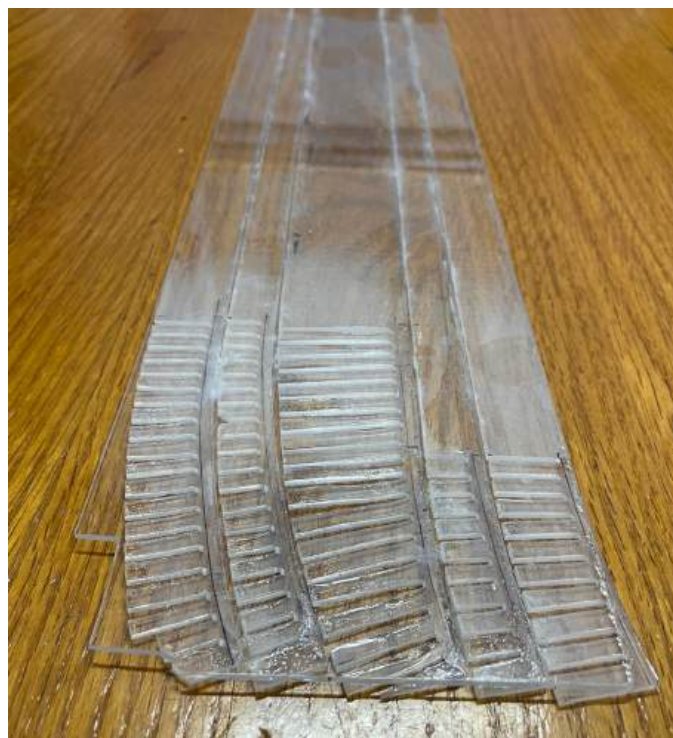
With the shelf assembly complete, I glued the wood frame together. I used a minimal amount of glue to avoid oozing,

which would affect the stain. Of course, it's always a good idea to stain before gluing. I routed the exposed edges with a round over bit and then stained and varnished the frame.

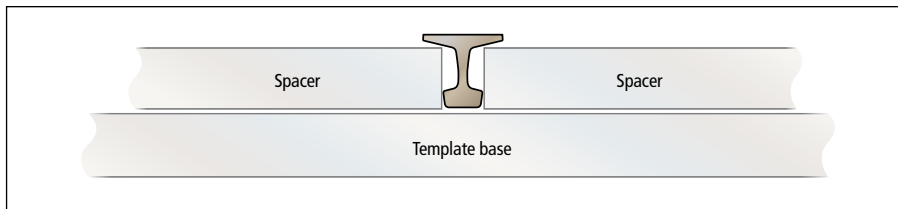
Because I had done a lot of dry fitting to ensure a good fit, I was able to insert the shelf assembly into the frame without any glue or fasteners. This was another advantage of the hidden dado grooves mentioned earlier. After insertion, I attached the front brace, which up



6 These notches in the Plexiglas shelves give them a flush finish when mounted in the dado grooves.



7 To keep the rails uniformly gauged without using ties, Randy made a template out of Plexiglas.



8 This cross-section shows how the template is made, with Plexiglas spacers on top of the base keeping the rail at a level height and spaced correctly.

to this point had to remain unattached to allow for dry fitting and insertion of the shelf assembly.

I attached the case to the wall with long screws that go directly into the studs. The screws go through the 1/16" Plexiglas spacers and through the back panel. Because the screw heads are up against the Plexiglas, I used washers and made sure to not over tighten, as I didn't want to crack the Plexiglas.

The cover

I attached the Plexiglas cover with a piano hinge **9**. To ensure the cover can open freely, the depth of the wood must be greater than the Plexiglas cover. I attached the hinge to the Plexiglas cover by cutting threads into the Plexiglas to accept the bolts. Because there are many screw holes in the hinge, each individual

bolt doesn't receive that much pressure, so I didn't need to use nuts.

I could've made the cover from two pieces of Plexiglas, one for the top and the other for the front, similarly threading and bolting and gluing them together. But I wanted a cleaner look. So I spent a little extra to have a single piece bent at a 90-degree angle by my local Plexiglas supplier.

Since most of the weight of the cover is far from the hinge, it easily stays open or closed simply by gravity. In fact, when I close the cover, it has the feel of being held by magnets. A small piece of spongy foam glued to the wall protects the Plexiglas when opened.

Connection to the layout

Because I plan to disconnect the display case from time to time as I work on

the layout, I made rail bridges, connecting the bridge rails with printed-circuit (PC) board ties. Remember to file insulation gaps in the PC board ties to prevent a short circuit.

I soldered rail joiners onto the right end of the bridge so I can push the whole bridge onto the display tracks **10**. With the display case end of the bridge attached, I align the other end of the bridge with the helix track and slide the rail joiners over the joint. I tapered the rail ends with a file to allow easy attachment of the joiners.

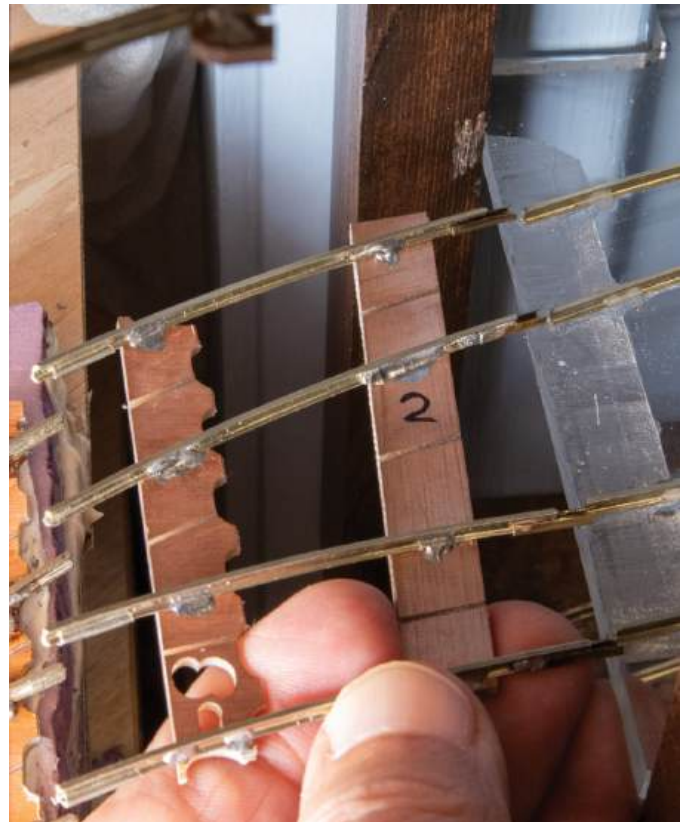
Because I didn't want the display case to show any wiring, I power the rails through these bridges and their rail joiners. I don't advise that you do the same; but if you do, you'll need to ensure that all joiners fit snugly to ensure good electrical contact.

Since my display rails don't extend beyond the end of the display shelves, I had to grind a space under the rails to provide room for the rail joiners. **MR**

A Wisconsin native, Randy has lived in Nashville, Tenn., for the past 40 years. Now in retirement, he has started a spare bedroom layout depicting the 1850s railroad expansion into the Midwest. This is his first article in Model Railroader.



9 A two-part hinge finishes off the top of the cabinet. This could be made with two pieces of Plexiglas, but bending one piece of Plexiglas gives a cleaner look.



10 The connecting bridge was made by soldering rail to printed-circuit board ties. To accommodate rail joiners, some of the Plexiglas was shaved at the end of the shelf.



Florida East Coast Train No. 960, led by Electro-Motive Division GP40-2 No. 434, switches the Matco Industries transload facility at Pompano Market. The crew is sorting cars on the lead to the facility.

Going to the FEC Pompano Market

Two track plans based on an industrial switching area in South Florida

By **Thomas Klimoski** • Prototype photos by Tolga Erbora

Sandwiched between Interstate 95 on the east and the CSX main line on the west in Pompano Beach, Fla., lies an industrial area known on the Florida East Coast Ry. (FEC) as the Pompano Market. The market is bordered by Hammondville Road on the south and West Copans Road on the north. Despite its proximity, CSX doesn't connect to the FEC tracks nor serve any of the industries in the Pompano Market.

This unique area features numerous diverse industries and is an excellent prototype for a modern switching area that can be modeled in a compact space.

FEC history

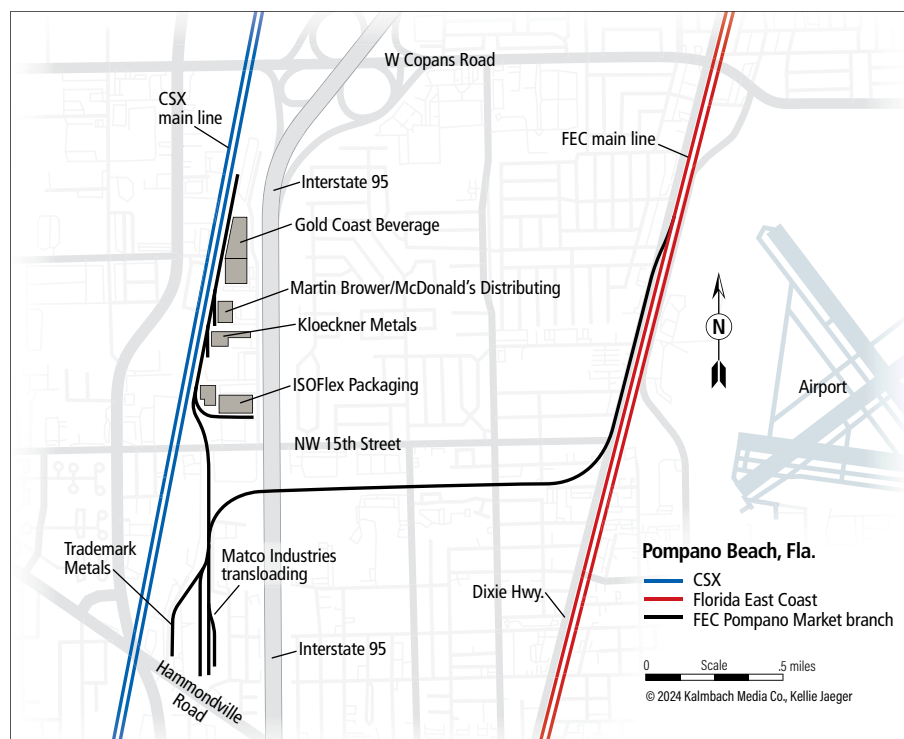
The FEC has a rich history dating back to 1885, when it was developed by Henry M. Flagler. Starting in Jacksonville and running down the east coast of Florida, the main line reached Miami in 1896. In 1905, Flagler made the bold decision to extend the line more than 100 miles from the tip of the Florida peninsula over water to Key West. After seven years of grueling work, the FEC reached Key West in 1912. The Overseas Extension (also called "Flagler's Folly") operated until 1935, when the Labor Day

Hurricane caused extensive damage to the route. The FEC decided that it couldn't afford to rebuild the destroyed sections of the line, and the remaining bridges and roadbed were sold to the state of Florida, later to become part of U.S. Highway 1.

The FEC runs 351 miles from Jacksonville to Miami. The FEC is a Class II railroad owned by Grupo Mexico. Beginning in 2018, Brightline passenger trains use the FEC from Palm Beach to Miami, which was double-tracked to accommodate the increased traffic. Recently, FEC has re-established



With a GP40-2 locomotive on each end of the consist, FEC train No. 960 heads west under the Interstate 95 overpass to Pompano Market. The image shows some of the various car types found on the line.



rail service to the Port of Miami and added new lines into Port Everglades.

The railroad rosters EMD and GE locomotives. The EMDs include the SD70M-2, GP40, GP40-2, GP38-2, and SD40-2 models in various paint schemes. The four-axle units are used primarily in local switching service.

The GE locomotives are ES44C4, which are the only liquefied natural gas (LNG) fueled locomotives in the United States. The ES44C4 locomotives are operated in pairs, with a LNG fuel tender coupled between the units.

The Pompano Market

The Pompano Market Job originates in the FEC's yard northeast of Fort Lauderdale-Hollywood International Airport in Broward County, Fla. Train No. 960 works the Pompano Market Monday through Thursday, and a separate crew operates Train No. 906 on Fridays. From the yard the FEC main line runs about 10 miles north and then branches off to the Pompano Market.

The branch heads west for about one mile, passing under I-95 before splitting

north and south to the industries. On the east-west portion of the line just before passing under I-95, there's a 2,500-foot double-ended siding where the crew can run around the train without fouling grade crossings.

West of the siding, the line curves south to serve Matco Industries and Trademark Metals Recycling. At the end of the curve is a turnout that divides the line into north and south segments. The south branch is approximately 2,000 feet long and splits into numerous stub-ended sidings at Matco, plus one curving off to serve Trademark.

Heading north from the division point, the line runs about a mile to serve ISOFlex Packaging, Kloeckner Metals, Martin Brower/McDonald's Distribution Center, and Gold Coast Beverage. The northernmost portion of the Pompano Market trackage parallels the CSX main, only 50 feet to the west.

While much of the line isn't accessible to the public, a lot can be seen from satellite images. Google Earth allows you to virtually railfan the line and see the arrangement of the track and industries.

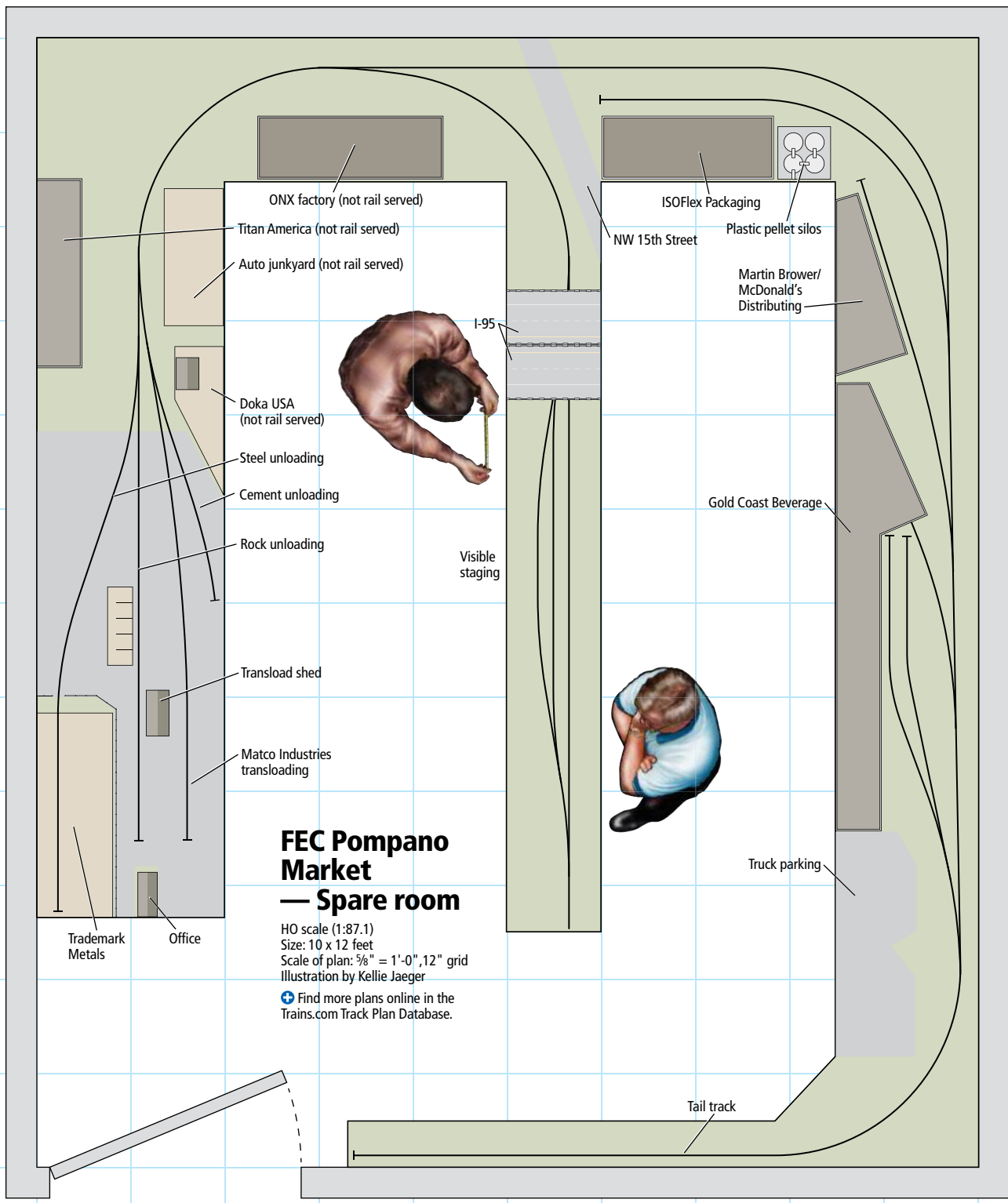
Pompano Market industries

As of 2022, the two biggest customers on the FEC Pompano Market line were Matco Industries Transload and Gold Coast Beverage Distribution. Matco Industries is a 12-acre transload facility that loads dry bulk materials, aggregates, building materials, steel, and liquids. From aerial photos of the facility you can see several different types of covered hoppers, flatcars, hoppers, and gondolas.

At the northern end of the line is Gold Coast Beverage Distribution, which claims to be the largest beer wholesaler in Florida. The facility receives numerous boxcars of product. Gold Coast has two parallel spurs alongside the main portion of the building and a third that enters the structure.

While not as large as the two primary customers, other industries on the line also receive regular service by FEC. Next to Matco, Trademark loads gondolas with scrap metal using a grapple crane. The facility has a lot of character, with piles of scrap metal and heavy equipment moving around. ISOFlex Packaging receives covered hoppers of plastic pellets it uses to make packaging for the food and beverage industry as well as other consumer products.

Kloeckner Metals has a rail siding that enters its structure. According to its website, Kloeckner Metals is a



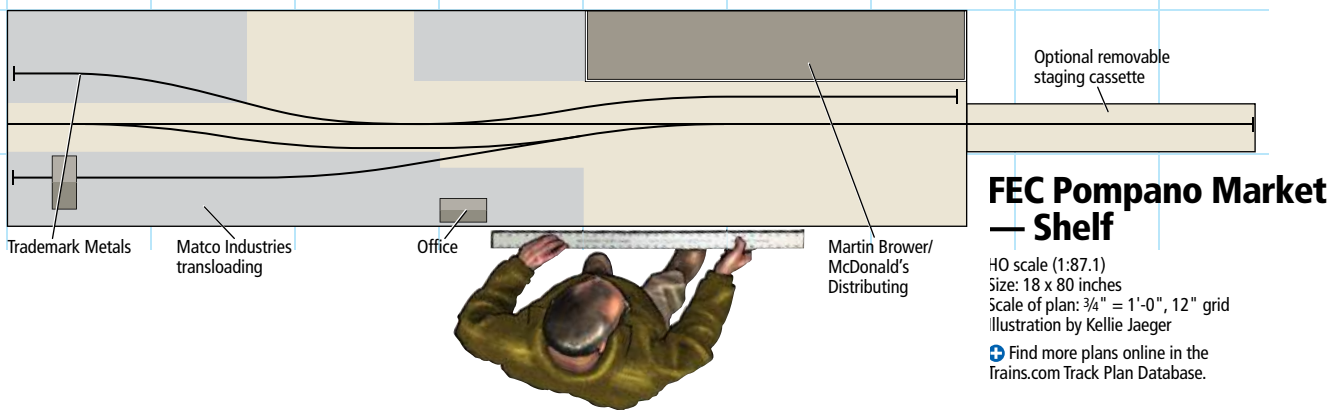
full-service metal facility that stocks structural beams, plate, angles, and rebar. The facility receives occasional shipments of steel plate on bulkhead flat cars.

The final industry on the line is Martin Brower/McDonald's Distributing. The facility receives shipments of food in refrigerator cars for distribution to chain restaurants.

The track plan at a glance

Name: Pompano Market
Scale: HO (1:87.1)
Size: 10 x 12 feet
Prototype: Florida East Coast
Locale: Pompano Beach, Fla.
Era: present

Style: walk-in
Mainline run: none (all within yard limits)
Minimum radius: 24"
Minimum turnout: No. 6
Maximum grade: none (flat)



The track plan at a glance

Name: Pompano Market
Scale: HO (1:87.1)
Size: 18 x 80 inches, plus optional 24" staging cassette
Prototype: Florida East Coast
Locale: Pompano Beach, Fla.
Era: present
Style: shelf
Mainline run: none (all within yard limits)
Minimum radius: 24"
Minimum turnout: No. 6
Maximum grade: none (flat)

Working the line

Until just a few years ago, the Pompano Market Job used locomotives at both ends of the consist to avoid a long shove move when working portions of the line. Lately, though, railfans say the crew has been using just one locomotive to work the job. If necessary, the crew can use the siding on the east/west part of the branch to rearrange cars before shoving to the industries. All sidings are oriented in the same direction, so run-around moves are unnecessary.

With their locomotive on the east end of the cut, the crew shoves around the curve to the two industries on the south branch. Pulling and spotting cars at the industries takes some time, as they may have to re-spot cars that haven't been unloaded yet. The crew uses the space at the head end of the sidings as off-spots.

Once their work on the south industries is done, the crew heads north to switch the remaining industries. After finishing those tasks, they conduct a shove move back to the north/south switch. The crew then heads to the siding, where they can perform a run-around, putting the locomotive on the west end of the consist. The crew next shoves the train east toward the FEC main. After receiving clearance to enter



After working the north industries in the Pompano Market industrial area, Train No. 960 shoves two empty refrigerator cars and a covered hopper of plastic pellets south across NW 15th Street in Pompano Beach. Since this is a shove move, the ditch lights have been turned off.

the main, the crew shoves onto the main, then heads south to the yard with the locomotive in the lead.

Track plans

I developed two HO scale track plans for the industrial area. The first is designed for a spare bedroom. The second plan, built on a hollow-core door, is for those who don't have much space for a layout. This shelf layout can easily fit along one wall of a room and still leave room for other functions. Both plans offer plenty of operations and should be fun to build and operate.

The established minimums for both plans are No. 6 turnouts and 24" radius curves. These should allow all car types to be run without issues. If you have more room, especially for the bedroom-sized plan, you could increase the radius of the curves or lengthen the sidings.

I drew my track plans to use Micro Engineering code 70 track and No. 6

turnouts, but any other brand of track can be used. There are no elevation changes, as South Florida is basically flat.

Bedroom plan

The bedroom-sized track plan more closely follows the arrangement of the prototype than the smaller plan. The center peninsula represents the east/west portion of the line including the passing siding. This functions as a visible staging yard for the Pompano Market industries. I added a second runaround siding to allow for more switching options. The track passes under I-95 and makes the curve south, just as on the prototype.

The industries on the left side of the plan are Matco Industries Transload and Trademark Metals Recycling. I had to eliminate a couple of prototype Matco sidings to give the transload area a realistic amount of open space. A second compromise was to have the rock and steel unloading at the head end of the



With locomotive No. 511, an EMD GP38-2 in the old "Going Places in Florida" paint scheme, heads south on the FEC main line after working the Pompano Market industries. The four-axle road unit has horns on the cab and rear of the long hood.

siding going to Trademark. This will add a little more challenging switching, as cars will have to be blocked in proper order when shoving into the track. I've also included a few non-rail-served structures to replicate the urban canyon effect as the train passes between buildings and industrial storage yards.

Heading to the right side of the plan, the track passes by ISOFlex Packing. Its siding can easily hold three plastic pellet covered hoppers, with one or two cars off spot at the head end of the siding.

I chose not to model Kloeckner Metals, as it would receive only occasional shipments by rail, but it could be included if you have the space. It would be an interesting industry to model, with the siding going into the structure and the flatcar loads of steel.

Next the track passes Martin Brower/McDonald's Distributing. The facility receives food in refrigerator cars. While compressed from the original, the facility can accommodate two reefers.

The final industry on the northern portion of the line is Gold Coast Beverage. This is the largest industry on the line and takes up almost the entire right side of the layout. The building could be modeled as a cutaway so that you can show the interior of the storage facility from the aisle side. The siding that goes into the building can accommodate two cars, while the two parallel sidings can hold three cars each. If you want to use a curved turnout, the sidings could be made a little longer to give you a few more car spots.

I wasn't able to determine if the cars on the second parallel siding were

unloaded using a loading dock bridge between the cars, but this could be a possibility. If not, the second track could be used for off-spot storage of cars waiting to be unloaded. I have allowed for a generous tail track.

Operations for the bedroom-sized track plan would begin with the locomotive and a cut of inbound cars for the industries staged on the center peninsula, representing the connection to the FEC main line. The locomotive would arrange the cars in industry order if they aren't already blocked that way by Fort Lauderdale Yard. Working from the west end under the I-95 overpass, the crew has plenty of room to pull out the cars and sort them on the three tracks.

Once the cars are sorted into two of the tracks, the locomotive makes a run-around move to the east end of the peninsula to get to the locomotive pocket. Depending on the number of cars, the crew will shove the first cut to the clear point and then come back to shove the second cut onto the first.

Next the crew will work the south industries by pulling outbound cars and setting out the inbound. This can take quite a while. Operators are cautioned

not to overload the area with too many cars as this can make switching the industries more difficult.

Once the work on the south end is done, the crew heads north to work the other industries. One option for the crew is to leave the outbound cars from the south industries on the main by Titan America, as the crew will be shoving back later and can pick them up then.

Headed north, the crew passes through the only grade crossing on the line and then arrives to work ISOFlex, Martin Brower/McDonald's Distributing, and Gold Coast Beverage. These are simple moves, but it can take a lot of time following prototype procedures.

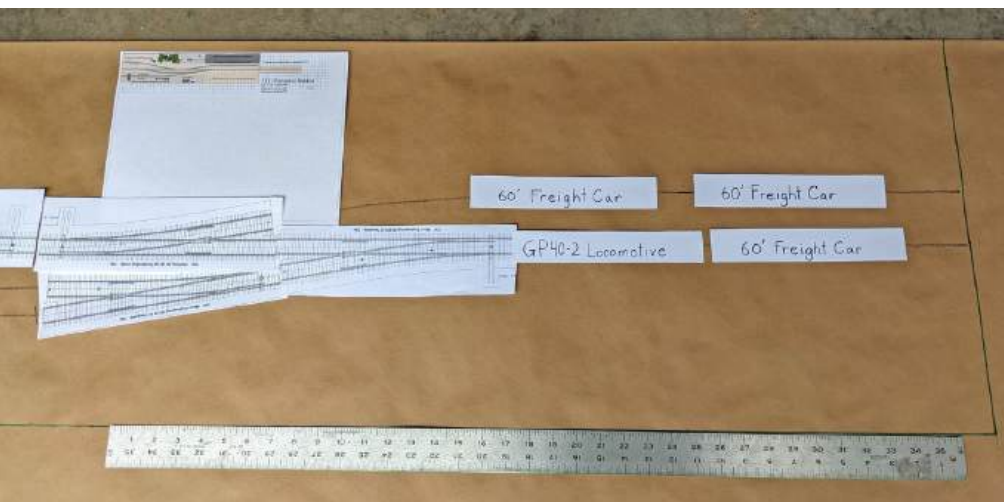
After switching these industries, the crew conducts a shove move back south. A crew member will need to provide point protection for the long shove move.

After picking up the rest of the outbound cars that were left on the line, the crew pulls back to the visible staging yard on the peninsula. The operating session could end there, or the crew can use the double-ended siding to run around their consist and place their locomotive on the west end to simulate a shove move back to the FEC main.

Operations on this layout can easily take more than an hour to complete depending on the number of cars to be picked up and set out. Using a two-person crew, one acting as engineer and the other as a conductor, will add a lot of fun and realism to the ops session. The conductor will have to communicate their moves to the engineer, simulating the prototype radio transmissions used by the crews.



Thomas Klimoski's book *Building the Right Sized Layout* has plans and tips for building small model railroads. It's for sale now at hobby shops and Shop.Trains.com.



Tom placed turnout templates on a full-size mock-up of the track plan to determine optimal placement for the best siding length. Thomas Klimoski photo

Shelf plan

While small, this second track plan for the FEC Pompano Market packs a lot of operations into a small space. Designed to fit on an 18 x 80-inch flat-panel hollow-core door, the layout could be stored under a bed when not being operated and then placed on sawhorses or a tabletop to be operated. Some 1 x 2-inch framing along the back of the door can be added to create a wiring run that won't interfere with placing it on a table or sawhorses.

As designed, the layout will be able to be operated only on the door portion, but adding a removable extension to the right side of the plan will really help with switching operations. A removable extension, or staging cassette, could be built using a 1 x 4, and some thin tempered hardboard added to the sides to prevent cars from accidentally falling off. The staging cassette can be attached to the layout with a clamp, hinges, or a couple of screws. A staging cassette of just 2 feet long will allow more flexibility with operations and give you the head room you might need for the siding to Matco and the main. In addition, a second removable section could be added to the left side of the plan. This second removable section would allow for crews to have more than just a locomotive use the run around track from the left side.

A lot of tough decisions had to be made to get the industries to fit in the

limited space. It's always better to eliminate things rather than trying to cram in too much, as realism will suffer. I selected three of the key industries on the line: Matco Industries Transloading, Trademark Metals, and Martin Brower/McDonald's Distributing. These industries give you a variety of car types. You could easily switch out Gold Coast Beverage for Martin Brower if you want to use boxcars instead of reefers.

While the prototype doesn't have a runaround near the industries, I included one so that the space could be better utilized with facing- and trailing-point sidings. On the prototype there's a runaround located east of the industrial area, so I don't think I'm stretching reality too far.

On the lower right side of the plan you'll notice a large, empty lot. This area can be used for a non-rail-served industry or an empty gravel lot for

truck parking. This gives the layout some negative space and helps it look more realistic.

When designing a small track plan, every inch is critical. While track-planning software can keep you from cheating and drawing an unworkable plan, it never hurts to see it in 3-D. This is where mocking up a track plan on the benchwork or a large roll of kraft paper can really pay off.

Once I had the track plan designed, I printed up full-size templates of the Micro Engineering No. 6 turnouts that I found online. Next, I used the track plan

to determine the location to draw the center line of the main track on a roll of kraft paper marked to the size of the hollow core door.

Then I placed the paper turnout templates on the main line where they branch off to the industries. By sliding the templates around I could determine the exact position of the turnouts to give me the length of the sidings I needed for the cars. One inch can make the difference of being able to spot one or two cars at an industry. A siding that holds one and three-quarters cars really holds only one. I used paper templates of cars and a locomotive to determine the space for each spur and the run-around. It's best if you have the cars you're going to use on your layout when you decide the location of the turnouts so there won't be any surprises when you start to operate.

Operations on the smaller plan begin with the locomotive and three or four inbound cars on the main line or staging cassette on the right side of the layout. First the crew will work Martin Brower. Once their work is done there, they'll use the runaround to get to the other end of the consist. Moves will have to be planned out to make the most of the track length you have.

Once all the cars are switched, the crew will depart to the right with their locomotive in the lead. While it looks simple, operations on the layout can take 30 minutes to an hour following some of the prototype practices of stopping before coupling, conducting car inspections, and performing brake tests. This layout will allow you to build your skills of track laying, wiring, structure building, and operations. It's a great layout for a beginner or for someone with very little space for a layout.

Checking out

Industrial areas like the FEC Pompano Market make a great subject for a layout. It may not be possible to model a high-speed main line in a bedroom or on a small shelf layout. But you can still model modern-day railroading by selecting a small portion of the line. No matter what plan you choose, you'll have a great time checking out and operating at the Pompano Market. **MR**

Thomas Klimoski is a frequent contributor to Model Railroader and its special issues. His HO scale Georgia Northeastern was featured in Great Model Railroads 2020.

Train No. 960 works the Pompano Market Monday through Thursday, and a separate crew operates Train No. 906 on Fridays.



Bob Kingsnorth used assorted diameters of brass tube, wood, and fastening hardware to make a painting jig. The device can be used with HO scale freight cars of any length.

Build a handy PAINTING JIG

This device can be adjusted to work with HO scale freight cars of any length

By Bob Kingsnorth • Photos by the author

Ready-to-run HO scale freight cars save time from an assembly standpoint, but they also present a modeling challenge. How do you safely hold the assembled cars for painting and weathering? Cotton or vinyl gloves are a must to keep skin oils off the model. But even gloved hands can leave smudges in fresh paint and unsealed powdered pastels.

My solution was to build painting jigs using assorted diameters of brass tube, wood, and fastening hardware. The jigs, which can accommodate any length of

HO scale car, can be held at any angle, including upside down.

The jigs consist of a “coupling” that’s attached to the car bolsters using the truck screws, legs that support the car, a piece of wire to lock the legs in the coupling, and a base that clamps the legs and provides a stable foundation.

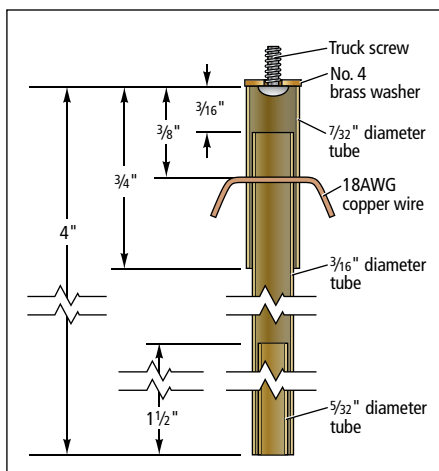
Couplings and legs

The coupling is a $\frac{3}{4}$ " length of $\frac{7}{32}$ " brass tube. The nominal $\frac{3}{16}$ " internal

diameter accommodates the typical head of HO truck screws, including 2-56, metric equivalents, No. 2 sheet metal, and other proprietary screws that I’ve encountered in the hobby.

The legs are $\frac{3}{16}$ " brass tube. I made the assembled coupling and leg 4" long. The lower section of the leg is reinforced with $\frac{5}{32}$ " tube to withstand the clamping forces of the wood **1** (next page).

The coupling and leg are held securely by a short length of 18AWG electrical wire that passes through a cross hole in



1 The components. This illustration shows how the couplings and legs fit together. Bob used assorted sizes of brass tube, copper wire, and a brass washer to build the components.

Illustration by Kellie Jaeger



2 Mark and drill. To make it easier to drill cross holes through each coupling and leg, Bob inserted the pieces in a $\frac{3}{4}$ " length of $\frac{1}{4}$ " square tubing. He used a center punch to make a drill-starter point for the No. 55 bit.



3 Matched sets. Even though the jig made drilling easy, the location of the cross holes varied slightly from set to set. Because of this, Bob marked paired couplings and legs with the same letter, in this case A.



4 Smooth finish. The top of the tube for the coupling needs to be level for the washer to seat properly. To ensure that, Bob chucked the brass in an electric drill, turned it on, and used a file to true the end.



5 Keeping it together. Bob used a No. 4 $\frac{1}{4}$ " flathead screw and nut to hold the No. 4 brass washer to the top of the coupling for soldering. Don't overtighten the nut, or it may distort the brass tube.



6 A helping hand. Before applying the solder, Bob prepped the area with a wire brush and a thin coat of rosin flux. Then he held a soldering gun on one side of the coupling and flowed the solder around the joint.

the two pieces. Drilling a No. 55 cross hole in the coupling and leg can be a challenge because of the tube's curved surface. To ease the process, I used a $\frac{3}{4}$ " length of $\frac{1}{4}$ " square tubing to provide a more stable target. A few blows on the center punch with a hammer provided a starter point for drilling the cross hole in the soft brass **2**.

The square tube can be used as a guide for drilling additional couplings and legs, but the center punch is always needed as a starting point for the drill. The exact position of the cross hole will vary from set to set, so I identified matched sets **3**.

To ensure that the top end of the coupling was square and true, I spun the

coupling in an electric drill and held a file to smooth the end **4**.

Next, I used a No. 4 $\frac{1}{4}$ " flathead screw and nut to hold the No. 4 brass washer to the top of the coupling **5**. I cleaned the joint with a wire brush and a thin coat of rosin flux. Then I held the tip of the soldering gun on one side of the joint until the solder began to flow around the tube **6**.

I cleaned the solder joint with denatured alcohol and a wire brush. A slight concave shape of the solder generally indicates a good joint **7**, opposite. A convex shape means there's excess solder (no real harm), but could indicate a weak joint. You can reheat the joint and use a copper wick to remove the excess solder.

Small stranded electrical wire prepped with some rosin flux can also be effective for eliminating unwanted solder.

Wood base

I ripped a piece of 2 x 4 lumber for the wood base. Stock 2 x 2 is an alternative if you don't want to rip lumber or you don't have the tools to do it. If you're using fresh lumber, be aware that it may warp as it dries out. The warping will affect whether the legs will stay parallel when they're clamped.

My longest wheelbase cars are 89-foot flatcars and auto racks. The truck centers on those cars are approximately 9", so I made the bases 11" long **8**.



7 Slick soldering. Bob cleaned the soldered joint with denatured alcohol and a wire brush. This removed flux and any other residue leftover from the soldering process.

Solder or adhesive?

Since some modelers are solder-averse, I tried using epoxy and gap-filling cyanoacrylate adhesive (CA) to attach the No. 4 washer to the top of the coupling. Here's what I learned.

The gap-filling CA snapped without warning, but only after a forceful pull. The epoxy failed after beginning to show some strain, but again only after force was applied.

The solder joint held securely after heavy pulling and bending. Distortion of the brass tube indicated impending failure.

The glue joints may be strong enough for general use, but I advise periodic testing with reasonable force. Make sure the glue forms a consistent fillet around the joint for best results. – Bob Kingsnorth

The large center screw provides the clamping force. I selected a $\frac{3}{8}$ " screw, thinking that the $\frac{3}{8}$ " wing nut would be comfortable to handle. It is, but the resulting drill sizes are a bit large if you're using a handheld electric drill. If you're comfortable with a $\frac{1}{4}$ " wing nut, use the smaller size.

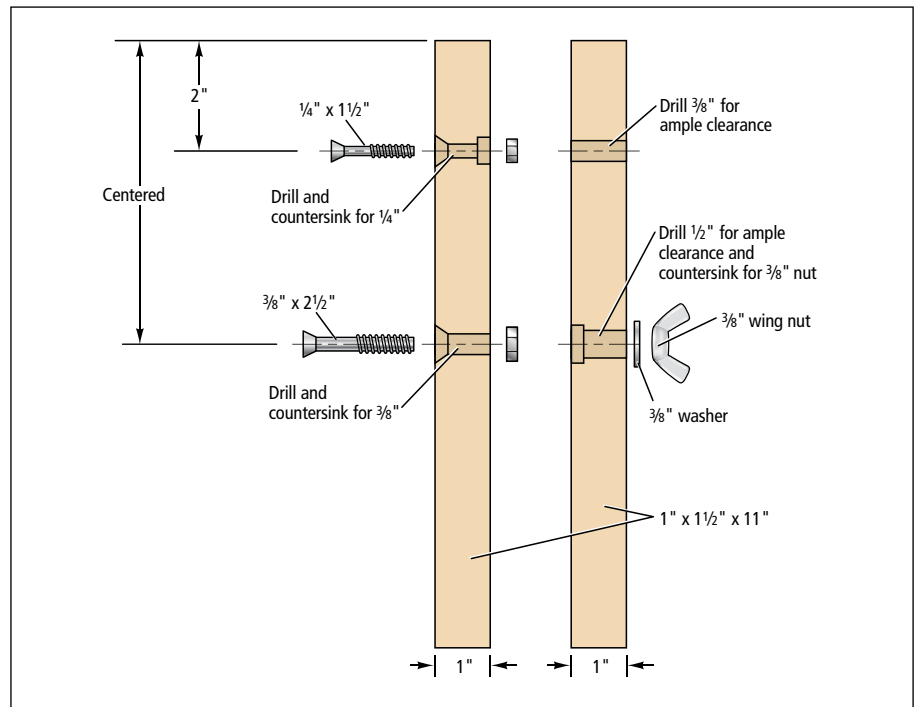
The smaller screw to the side maintains the rough orientation of the two wood pieces. The as-built dimensions of the wood base are shown in 9.

Making the connections

To set up the jig, I first attached the coupling to the bolster using the car's truck screws. I fastened the first coupling so it was snug 10, next page. For the second coupling, I tightened the screw and backed it off $\frac{1}{2}$ to $\frac{1}{4}$ turn, creating some



8 A basic base. Bob ripped a 2 x 4 in half to get the parts for the base. His longest freight cars are approximately 9", so he made the base pieces 11" long.



9 A closer look. This illustration shows how the base is constructed. Bob used a $\frac{3}{8}$ " screw, washer, and wing nut in the center to provide the clamping force.

Illustration by Kellie Jaeger

play. Note that I'm wearing gloves while handling the model.

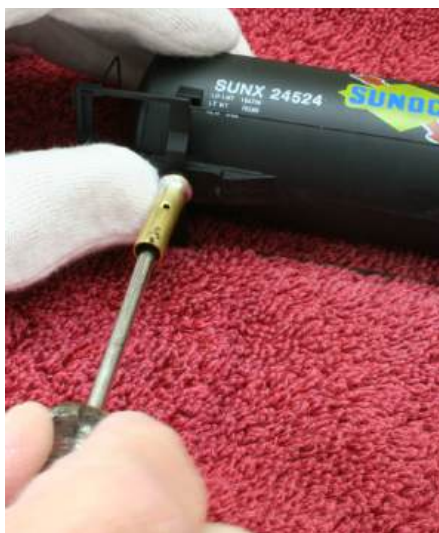
Then I slid the legs into the couplings, locking them in place with pieces of 18AWG copper electrical wire. Ideally the two legs will be perfectly parallel, but in reality there will be some skewing. The slight wiggle of the second coupling let me adjust the legs so that any skew angles the legs toward the other. Any side-to-side skew can stress the bolsters.

Once the car and legs were in position, I tightened the thumb screw. This safely held the car and legs, allowing the model to be safely rotated 11.

Easily adaptable

Though my painting jigs were designed for HO rolling stock, they can be resized for other scales. The only important dimensions relate to the interface of the coupling and car bolster. The internal diameter of the coupling should be just large enough to accommodate the head of truck screws, and the external dimension should be small enough to avoid interference with the structure around the car bolster.

The outside diameter of the washer at the top of the coupling should be slightly



10 Attaching the couplings. Using the car's truck screw, Bob attached the coupling to a freight car. Notice that he's wearing a cotton glove to keep skin oils off the car.



11 A secure grip. The painting jig can be held at any angle, including sideways and upside down. It can also lay flat in a spray booth, as shown in the background.

larger than the outside diameter of the coupling, providing some gripping area for a solder joint. The diameter of the hole in the washer must be small enough to capture the head of any truck screw. If the car uses friction pins to hold the

trucks, I'd recommend converting the model to screws.

If you're looking for an easy way to hold your ready-to-run cars for painting and weathering, try building this painting jig. [MR](#)

Robert "Bob" C. Kingsnorth of Medford, Ore., wrote on a variety of hobby topics for Model Railroader magazine and its special issues. He passed away on October 8, 2018. Bob was 73 years old.



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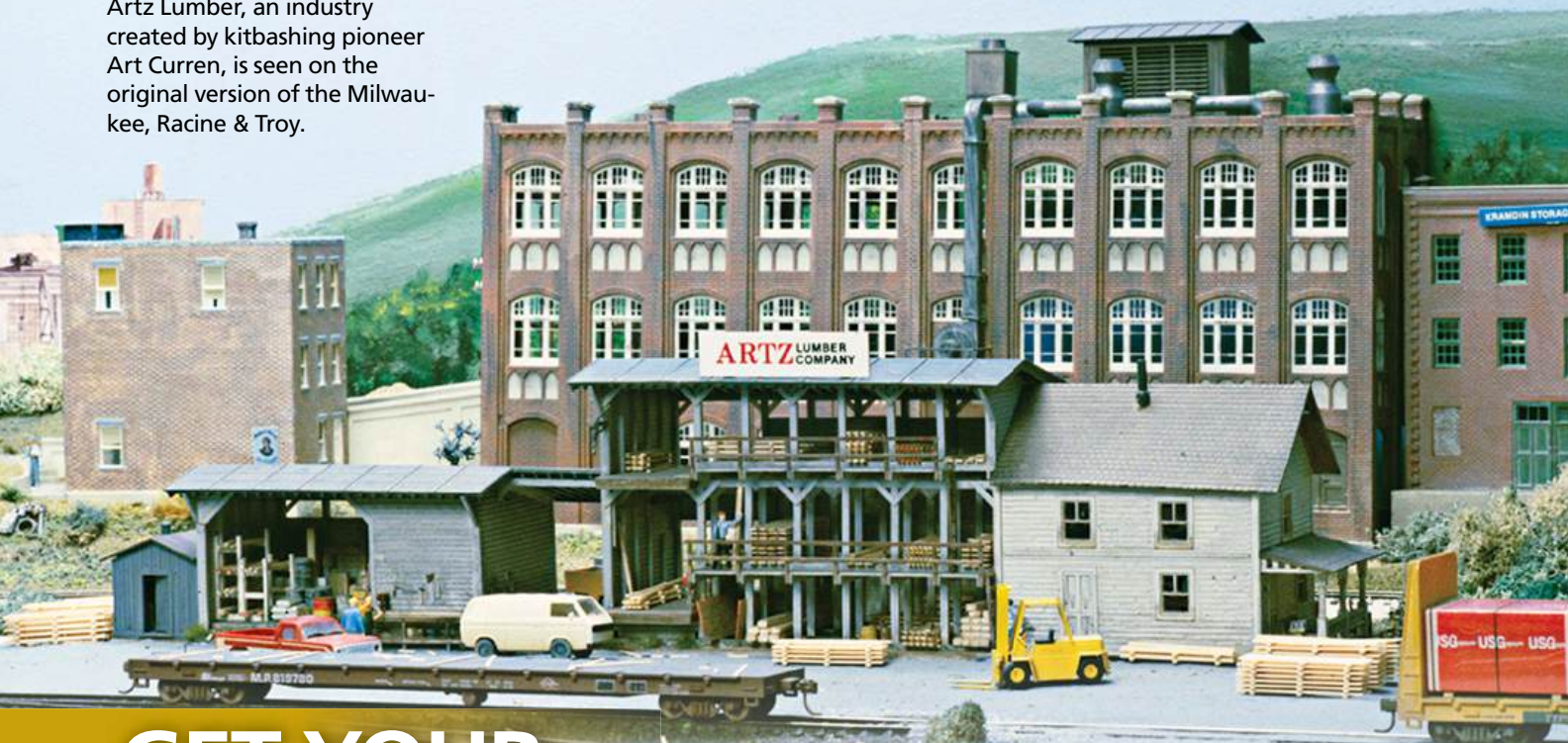
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Artz Lumber, an industry created by kitbashing pioneer Art Curren, is seen on the original version of the Milwaukee, Racine & Troy.



GET YOUR VOTES IN!

The Model Railroader Hall of Fame is getting ready to induct its inaugural class, and we need your help

By Eric White

Since January, we've been nominating people to establish a Model Railroader Hall of Fame. Just to be clear, this isn't a *Model Railroader* magazine Hall of Fame, but a Hall of Fame for all model railroaders.

This idea had been percolating in my mind since a couple of middle-aged model railroaders came to visit the old *Model Railroader* offices at 21027

Crossroads Circle in Waukesha, Wis. We would offer tours to see the Milwaukee, Racine & Troy model railroad, as well as various project layouts we had around the office, and always included a stop at the display cabinet outside our offices.

Inside the cabinet are artifacts that help chart the history of model railroading. One of them is a steam locomotive from John Allen's Gorre & Daphetid model railroad. When I showed it to the modelers, I was expecting an expression of awe, or appreciation at least. But instead I was met with a blank look on both of

their faces, and a question from one of them, "Who?"

These were guys who were clearly modelers. They appreciated everything they saw, but John's name was new to them. It occurred to me that other great names were probably also unknown to them and others.

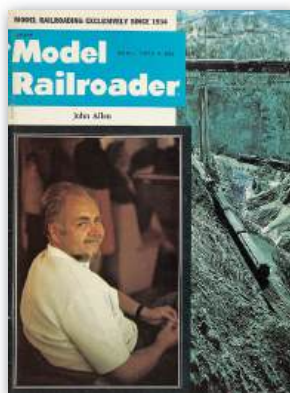
One of the great things about this hobby is all of the people who have worked out best practices for building a successful model railroad. From scenery, to wiring, to benchwork, to structure and rolling stock construction, someone has probably tackled something similar to what you want to do and shared his or her experiences so we could all learn without frustrating trial and error.

In presenting the nominees for the inaugural class, we wanted to be sure to include the folks

John Allen's influence spread all across the hobby from the 1950s into the 1970s. His Gorre & Daphetid was a pioneering HO scale layout.



Scan this QR code with your cell phone to vote for this year's nominees.



who made the big contributions. The plan is to start with a dozen inductees and add to this list every year. We want this to be a hall of fame for all model railroaders, and with that in mind, we want the votes of our readers to help us choose the first 12.

Voting is still open on our website, but it will be closing soon so we can get the initial class into our December issue. So if you haven't voted yet, or if someone was nominated later in the year who you'd like to vote for, go to Trains.com and check out the survey pages for the Model Railroader Hall of Fame and cast your votes.

Here, in the order they were nominated, are this year's candidates:

January: Al Kalmbach, founder and first editor and publisher of *Model Railroader* magazine; Linn Westcott, innovator and longtime MR editor; W. Allen McClelland, builder of the landmark Virginian & Ohio model railroad and operations pioneer.

February: John H. Armstrong, the Dean of Track Planning and an accomplished O scale modeler; John Allen, builder of the Gorre & Daphetid and a pioneer in model railroad photography and weathering; Gordon Odegard, an MR associate editor known for his craftsmanship as a modeler and as a railroad draftsman.

March: Art Curren, known for his embracing of the concept of kitbashing (rearranging and combining kit parts into a different model than the manufacturer intended); Andy Sperandio, the MR executive editor who was a familiar sight at model railroad operating sessions and did much to promote that aspect of the hobby through his "The Operators" column; Jack Work, a prolific author and master craftsman whose articles inspired many to build his projects even many years after the articles first appeared.

April: Gilbert A. Freitag, creator of the HO scale Stony Creek & Western, an excellent modeler and also a first-class ambassador for the hobby; Iain Rice, a proponent of compact model railroads whose beautiful watercolor renderings of track plans graced MR for years; Frank C. Ellison, author of *The Art of Model Railroad*, who helped define what a model railroad is and how to operate it once it was built.

May: Malcolm Furlow, who burst onto the model railroad scene with his artistic approach to



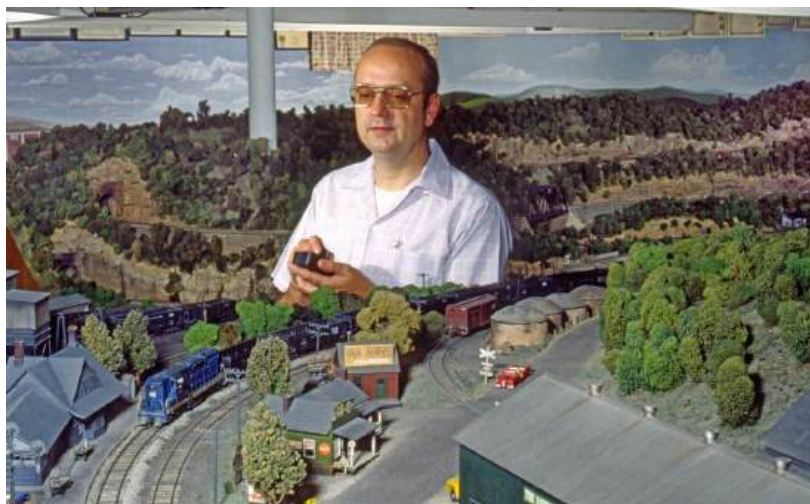
Al Kalmbach waves from the cab of Milwaukee Road 4-8-4 No. 265 while it was on display in Milwaukee. The founder of Kalmbach Media, Al published the first issue of *The Model Railroader* in January 1934. The locomotive is now at the Illinois Railway Museum in Union, Ill. A.L. Schmidt photo

repurposing found items into details on his models; Harold H. "Hal" Carstens, editor and publisher of *Railroad Model Craftsman* for much of its history.

August: James D. Hediger, the longest-serving editor at *Model Railroader*, with more than 42 years on the masthead when he retired in 2015, and an innovator who built one of the first double-deck model railroads; Michael R. Stephens, a second-generation Kalmbach employee who helped develop the World's Greatest Hobby promotion and served as president of Athearn Trains and vice president at Wm. K. Walthers Inc.; George H. Drury, well known for his passenger car and station modeling, who also created the David P. Morgan Memorial Library at Kalmbach, now at Firecrown.

September: Jim Fitzgerald, known as "Mr. Ntrak," who

was one of the first modelers to dig into standards for modular railroads; Cliff Robinson, who hosted numerous modelers on his HO scale Marquette Union Terminal and helped many of them become notable modelers themselves; Whit Towers, author of more than 100 articles in the hobby press, who also helped spread the word about model railroad-ing through many positions in the National Model Railroad Association, including as editor of the *NMRA Bulletin*. **MR**



Allen McClelland was an innovator who developed walkaround throttles so he could follow the trains on his freelanced Virginian & Ohio, which was designed to represent a fictional but realistic part of the national rail network. W. Allen McClelland photo

Journey's end

Long hours, irregular call times, and frequent absences from home make railroading a demanding profession. The 1907 Hours of Service Act recognized the danger of exhaustion and limited the time a train crew could work without rest to 16 hours. On duty time, now only 12 hours, draws attention but rest between assignments is also important. Where did train and engine service employees relax and sleep when away from home?

A good friend told me how he'd come in from a night job in the wee hours and curl up on a coach seat to "catch some Zs" until an early morning commuter run deadheaded him home to his own bed. And the caboose long played a role: It became a home away from home when assigned to a specific crew. But neither a coach seat nor a caboose can deliver a warm bath or the peaceful comfort that rest depends on.

As the United States rail network expanded, railroad workers were scattered to away terminals, some in remote locations, when they went off duty. Visionaries in the Young Men's Christian Association (YMCA) formed the first Railroad Y in Cleveland, Ohio, in 1872 "to provide whole-

some overnight lodging and meeting space for railroad workers," according to the organization's website. The facilities spread quickly. YMCA recognized how Railroad Y's differed from its traditional ones and established a

Railroad Department that ran them independently.

A Railroad Y offered clean, comfortable quarters and a 24-hour lunchroom. A library was a regular feature. Busier Y's had gyms, billiard tables, bowling alleys, and other amusements which also attracted small-town guests. Plentiful, "home-cooked" servings at Maybrook, N.Y., were dear to nearby residents who joined New Haven and Erie Lackawanna crews there. Similarly, Chesapeake & Ohio's Y in Russell, Ky., welcomed all with popular food and recreation, prompting a local historian to call it "a pillar of the community."

Railroad bunk houses and lunchrooms, or "beaneries," were fixtures at other terminals. Two left me with lasting impressions. The Turntable Restaurant in Minturn, Colo., fed Rio Grande crews and the public. Its indomitable operator, Darla Goodell, made it dizzy with railroad, Elvis, and Denver Broncos memorabilia. I lapped up so many breakfast burritos swimming in pork green chili that she recognized me (or pretended she did) even after long absences.

Union Pacific's beanery in Yermo, Calif., highlighted a day of railfanning in Afton Canyon in the early '70s. We pulled in for food after dark and dug in, enjoying its trackside setting. Lifting a forkful of peas gave me a glimpse of the plate they rolled around on. Spooning aside gravy frantically bore out my hunch, because UP's Winged Streamliner appeared!



UP'S WINGED STREAMLINER APPEARED! DINING CAR CHINA MAKES GOOD FOOD TASTE BETTER.
— JERRY



Port Richmond, near the Delaware River, was Reading Co.'s major Philadelphia freight yard. Jerry Dzedzic wished he had stepped inside the Y there when he photographed its entrance on April 30, 1974. Jerry Dzedzic photo

Their condition deteriorated as progress began claiming Railroad Y's. Paul Hraska said most he knew had become shabby and their restaurants greasy spoons when he was a Penn Central fireman in the early '70s.


The Y on the upper floors of Washington Union Station, where Penn Central; Baltimore & Ohio/Chesapeake & Ohio; Richmond, Fredericksburg & Potomac; and Southern Ry. crews laid over, was in poor condition. "It was not unusual to be woken up by the matron at the appointed time and to put our feet onto a cold wet floor where rain had seeped in."

Happily, not all have fallen. Drury Hotels' first historic renovation repurposed the Y at St. Louis Union Station. Durand, Mich., and Richmond, Va., found residential use for theirs.

The local historical society and a restaurant occupy the former Y in Brewster, Ohio. New York City's Vanderbilt Y at 225 E. 47th Street still operates, now a more traditional Y. Douglas, Ariz., brought its back to life as YMCA Plaza Esmeralda.

Railroad Y's were as common at division points as roundhouses, turntables, fuel racks, and sanding towers. Doesn't a convincing terminal scene deserve one? **MR**





Late afternoon sun shines through the beams of the covered bridge at Silver Lake and highlights the exhaust of Otter Creek & Ripton 0-4-4 No. 6. Dave McLeod of Burlington, Vt., photographed the atmospheric scene on his On30 model railroad. The haze effect was created by burning incense; the locomotive exhaust was added in Photoshop. The locomotive is a modified Bachmann Forney.

Send us your photos

Trackside Photos is a showcase for the work of *Model Railroader* readers. Send your photos (digital images 5 megapixels or larger) to: *Model Railroader*, Trackside Photos, 18650 W. Corporate Drive Suite 103, Brookfield, WI 53045; or email them to Senior Associate Editor Steven Otte at steven.otte@firecrown.com.



Oregon Coast RR No. 40 passes a busy salmon cannery as it hauls a train of wood chips eastbound along the banks of the Columbia River in 1957. The scene is part of Mat Thompson's HO scale Oregon Coast RR layout. The Electro-Motive Division GP9 locomotive is an Athearn Genesis model. The cannery is a Sheepscot Models wood craftsman kit. The coastal ferry is from Seaport Models.

It's early morning at Ellison City Yard, and Pennsylvania RR class E6 Atlantic No. 13 has just been topped off with its last load of coal. Tomorrow, the steam locomotive goes to the scrapper. Meanwhile, the diesels that will take its place get ready for their first official run. Paul Kahne shot the photo on Lee Gasparik's O scale Pennsylvania RR/New York Central layout, which was featured in *Great Model Railroads 2020*. The Atlantic is a Max Gray import.



Poco Valley Alco RS3 No. 1153 rounds up its cars in Hagerstown Yard for its return trip down the old Washington Branch of the Baltimore & Ohio, which is now operated by the PV. Matt O'Brien of Chester, Mass., photographed the action on his HO scale layout, which is set in the mid-1970s. The Poco Valley, built by modeler Ken Nelson, appeared in MR in the 1980s and '90s. After Ken passed away, Matt acquired some of his rolling stock, including this Alco, and dedicated part of his model railroad in tribute to Ken.

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

Schedule of Events

AL, HELENA: Smokey City Rails Show & Sale. October 25-26, 2024. Helena Sports Complex, 110 Sports Complex Dr., Helena, AL 35080. Friday 4pm-8pm, Saturday 9am-3pm. Admission: Adults \$6, Children 8-12 \$2, Under 8 Free. \$10 Two-Day available. For additional information, contact: 205-587-1338, email: mims9006@bellsouth.net or visit: SmokeyCityRails.com

CA, CARMICHAEL: Sac-Sierra TCA Toy Train Show. Elks Lodge, 5631 Cypress Ave., Carmichael, CA 95608. Saturday, October 5, 2024, 10am-3pm. Admission \$10.00, children 12 and under FREE w/paid adult. Buy/Sell/Trade, operating layouts, free parking, food. Free train set drawing for 17 and under (must be present to win). Contact: Bryan Stanton at brsta@comcast.net

CA, SACRAMENTO: International Railfair 2024. November 2-3, 2024. Cal Expo, Building C, 1600 Exposition Blvd., Sacramento, CA 95815. Saturday 10am-5pm and Sunday 10am-4pm. Admission: Saturday \$12, Sunday \$10. Kids 12 and under free. Vendors, Kids Activities, on-site food. Help judge our "Fall into Winter" Square Foot Diorama Challenge! Visit: internationalrailfair.com or contact Tom Campbell at tom.c.ir@gmail.com

CO, ESTES PARK: Rails in the Rockies XXVII. Estes Park Event Complex. September 21-22. Saturday 10am-5pm, Sunday 9am-4pm. Admission \$10; under 13 free w/adult. Large operating layouts, club layouts, all scales, exhibits, vendor tables, activities for kids. Fun for the whole family! 25000+ square feet of railroad excitement! Facebook: <https://www.facebook.com/groups/railsintherockies.org>. Email: estesparktrainshow@gmail.com. Website: <https://railsintherockies.org>

IA, HAMPTON: NCIMRRC Train Show. Franklin County Convention Center, 1008 Central Avenue W., Hampton, IA 50441. Sunday, October 27, 2024. 9:00am-3:00pm. Admission \$5.00. 10 and under free with paid adult. Trains (all scales), memorabilia and collectibles to buy, sell and trade. Individual tables welcome. For information or table reservations contact, Eastside Trains, 641-456-1998, email: eastsidetrains@gmail.com

IA, IOWA CITY: 4th Annual Iowa City Train Show. Sunday, October 20, 2024. 10am-3pm. 4261 Oakcrest Rd. SE, Iowa City, IA 52246. Admission: \$5, children 10 and under free w/adult. New club building open house! All different scales! Displays and layouts to see! Sponsored by the Hawkeye Model Railroad Club. lowacitytrainshow@gmail.com or visit: www.hawkeyemodellclub.com

IL, ST. CHARLES: 33rd Annual Chicago Railroadiana and Model Train Show. Kane County Fairgrounds, (Front Building), 525 South Randall Rd., St. Charles, IL 60174. Sunday, October 20, 2024, 10:00am-3:00pm. Admission: \$6.00 (includes tax). Children under 12 FREE. Tables starting at \$65.00. For information: 847-358-1185, RussFierce@aol.com or www.RRShows.com

KS, TOPEKA: TMRR Club 3rd Annual show. West Ridge Mall, 1801 SW Wanamaker Rd., Topeka, KS 66604. October 5-6, 2024. Saturday 9am-5pm; Sunday 9am-3pm. Admission: \$8 Adults (13 and up); Children 12 and under Free with paid adult. 10,000 sq.ft. of operational layouts, railroad histories and vendors. Free parking. Contact: philschow@yahoo.com or 785-221-2174

MA, MARLBOROUGH: Hub Division NER/NMRA. Royal Plaza Trade Center, 181 Boston Post Road West (Rte. 20 West), Marlborough, MA. Saturday December 7, 2024, 10am-4pm and Sunday December 8, 2024, 10am-4pm. Admission: \$15.00; Children under 12 and Scouts in Uniform FREE. Admission good both days. Information: Gerry 617-543-0298; E-mail: TE.info@hubdiv.org; website: www.hubdiv.org

MA, TAUNTON: OLD COLONY MODEL RAILROAD CLUB 24th ANNUAL MODEL RAILROAD SHOW & SALE. Taunton Inn and Conference Center, 700 Myles Standish Blvd., Taunton, MA 02780. Exit 25 off Route 495. Sunday, September 15, 2024, 10:00am-3:30pm. Adults \$5.00, children under 12 & scouts in uniform FREE. For more information contact Dennis Ingalls, email: dingalls@comcast.net or call 508-558-9883

MI, EAST LANSING: Lansing Model Railroad Club Show and Sale. Michigan State University Pavilion. Sunday, November 10, 2024, 10:00am-4:00pm. Admission \$8.00, under 12 free. Michigan's largest train show: layouts, demonstrations, and 500+ tables. Free parking. Flyer, table forms and map, visit: www.lmrc.org or call Ron St. Laurent 517-256-3588

MN, ST. CLOUD: GRANITE CITY TRAIN SHOW AND SALE. River's Edge Convention Center, 10 4th Ave S. St. Cloud, MN 56301. Saturday, November 16, 2024. 9:00am-3:00pm. \$6.00. Kids 10 and under FREE. Buy/sell model/toy trains, books, videos, railroad collectibles. Operating model and toy train displays. Win a LIONEL train set! 612-558-6484; GraniteCityTrainShow@gmail.com or visit www.GraniteCityTrainShow.com

MN, WOODBURY: Newport Model RR Club Train Flea Market. All scales, model railroad equipment, collectibles, antique toys, books/magazines, and much more! Woodbury High School, 2665 Woodlane Drive, Woodbury, MN 55125. Saturday, October 12, 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

MO, ST. LOUIS: 33rd Annual Greater St. Louis Metro Area Train Show by Mississippi Valley N. Scales. NEW LOCATION and DATE! Meramec Community College Gym, 11333 Big Bend Rd., Kirkwood, MO 63122. October 5-6, 2024, Saturday 10am-4pm; Sunday 10am-3pm. Admission: \$10, kids 12 and under FREE! All scales-swap tables-layouts-grand prize drawing! Free parking. David Johnson, 636-225-2405, <http://mvns.railfan.net>

NC, RALEIGH: Neuse River Valley Model RR Club 40th annual FALL TRAIN SHOW: NC State Fairgrounds, Exposition Center, 4825 Trinity Road; November 9-10, Sat 9-5; Sun 9-4. Admission: \$10 covers both days, children 12 and under free w/adult. 400 tables of model railroading, 6 operating layouts. Contact Bob Witwer bobwitwer@gmail.com, 919-632-0785; Visit www.nrvclub.net. Follow us on Facebook.

NJ, BRICK: ECTP and Collectibles LLC presents The Brick Train Show. Elks Lodge, 2491 Hooper Avenue, Brick, NJ 08723. Sunday, September 29, 2024. 9:00am-2:00pm. Admission: \$7.00; under 12 free with adult. John LaLima 732-845-5966. Go to www.eastcoasttrainparts.com and click on The Brick Show.

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, September 28, 2024. TCA Members: 8:30am, General Public: 9:00am-2:00pm. 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

OH, BEREA: The 50th Annual Great Berea Train Show hosted by the NMRA. Saturday, October 5th and Sunday, October 6th. 10:00am to 4:00pm both days. Cuyahoga County Fairgrounds in Berea, Ohio. Admission \$10.00. Under 16 free with an adult purchase. 70,000 square feet of model railroading. Show Contact: David James showmanager@thegreatbreatrainshow.org 440-785-9907. Visit: www.thegreatbreatrainshow.org

OH, DAYTON: 48th Original Dayton Train Show. The New Montgomery County Fairgrounds, 645 Infirmary Road, Dayton, OH 45417. November 23, 2024. Saturday 11am-5pm and Sunday 11am-4pm. Admission: \$8.00 per adult, children 12 and under free with paid adult. Gail Yarnall, PO Box 341233, Beavercreek, OH 45434, 937-424-6413. Email: NMRA.Div.3@gmail.com or visit: www.DaytonTrainShow.com for updates.

OH, MASSILLON: CJ Trains Winter Train and Toy Show. Massillon Knights of Columbus Hall, 988 Cherry Road NW, 44647. Sunday, December 15, 2024, 10:00am-3:00pm. Admission: \$5.00, 12 and under FREE. \$25/dealer table, 152' - 8" dealer tables. Jon Ulbright, PO Box 446, Wooster, OH 44691, 330-262-7488, cathijon@ssn.net www.cjtrains.com

OK, CHICKASHA: Fall Train Show. Saturday, October 12, 2024, 9am-3pm. Grady County Fairgrounds, 500 E. Choctaw Ave., Chickasha, OK 73018. Across the tracks from Rock Island Depot. BUY/SELL/TRADE. Operating layouts and door prizes. Admission: \$5.00 per adult, kids under 18 free w/paid adult. Sponsored by the Heartland Toy Train Association. For further information visit: www.heartlandtoytrain.org

PA, HAWLEY: Model Train Show & Sale. Hawley Fire Department, 17 Columbus Ave., Hawley, PA 18428. Sunday, September 29, 2024. 9:00am-2:00pm. Admission \$3.00, under 12 free with adult. Only 88 tables available. Bill Delling, 618 Fern St., Hawley, PA 18428, 570-226-3206

Schedule of Events Cont..

TX, HOUSTON: Houston Area Model Train Show, November 16-17, 2024, Saturday 10am-5pm, Sunday 10am-4pm. Adults \$7, 17 and under free. All scales, operating layouts, club/museum displays, table sales and more. Pearland Knights of Columbus Hall, 2320 Hatfield Rd., Pearland TX 77581. More information at <http://houstonttrak.org> or by email info@houstonttrak.org. Sponsored by Houston Area T-TRAK Association, Inc.

TX, TEMPLE: 42nd Annual Temple Model Train & RPM Show by CentraMod Inc. Central Texas Area Model Railroaders. Frank W. Mayborn Convention Center, 3303 North 3rd St., Temple, TX 76501. September 21-22, 2024, Saturday 10am-5pm and Sunday 10am-4pm. Admission: \$10, Seniors & Military w/ID \$9, 12 and under free w/adult. FREE Parking! Additional information: 254-760-3761 or www.centramodrr.com

WA, BATTLE GROUND: Southwest Washington Model Railroaders, Great Train Swap Meet. Battle Ground High School Gymnasium, 300 W. Main St., Battle Ground, WA 98604. Saturday, September 28, 2024. 9:00am, Beat-the-Crowd, admission \$10. 9:30am-2:30pm, Adults \$5, Students \$3, under 6 FREE with adult. Take N. Parkway Avenue to Free Parking. Vendor tables \$25.00. Info: Larry Sprenkel, Larry.sprenkel@gmail.com

WA, SPOKANE: River City Modelers Fall Train Show. Spokane Fairgrounds, 404 N. Havana. Sunday, October 13th, 9:30am-3:30pm. Admission: \$8 for adults, 12 & under free. 200+ tables of Railroad-related items for sale, operating layouts, Free-MO, Operation Lifesaver & more. Free Parking. For table rental or general info, contact: Shirley Sample, 509-991-2317 or email: shirley@busnws.com

WI, MONROE: Green County Model Railroaders 46th Annual Model Train Show & Swap Meet. The Stateline Ice and Community Expo, 1632 4th Avenue West, Monroe, WI 53566. September 28-29, 2024. Saturday & Sunday, 10am-4pm. For information contact Kevin Johnson, 608-558-9332, or visit www.gcmrrinc.org

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

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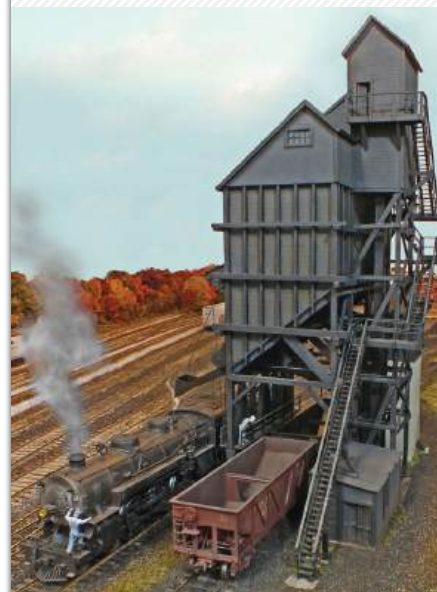
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The look and feel of the place



The prototype photo shows Tower CK from a westbound Milwaukee Road train, where it will cross the Chicago & North Western on July 18, 1981. Even though the model track is straight through the diamonds, the look and feel of the junction isn't significantly compromised. Prototype photo: Art Anderson, Jason Korth collection; model photo: Tom Wencil



Prototype modeling isn't always the strict discipline that those of you who have yet to try your hand at it may assume. It's a matter of making wise choices, of compromises, of not fighting battles you're unlikely to win but not giving in too soon.

The goal of prototype modeling is to re-create the look and feel of a certain location at a specific time, and then combine several such sites into a contiguous whole that allows you to operate a railroad through them in an equally realistic manner.

But doing this does not require acquiring scale drawings of the sites you're modeling, enlarging them to the scale you've chosen to model them in, and then fastening track down exactly where it should be — although I've seen examples of that done in the smaller scales. Rather, we need to capture the essence of a scene so that its key identifying features are there to inform the viewer about the location and time period.

Which brings us to Tower CK. It is, or rather was, where the Milwaukee Road's main line to the Pacific Northwest

crossed the Chicago & North Western's famous "Alco Line" at the west end of Winona, Minn. Chicago Great Western (CGW) had trackage rights on the C&NW for trains that originated in Rochester, Minn., and terminated in Winona. I know of at least three modelers — Jason Korth, Tom Wencil (who shot the model photo above), and Dennis Eggert (who models the Alco Line; see *Model Railroad Planning 2023*) — who have chosen to model it.

Tom Wencil wanted to have a tower as a primary Layout Design Element on his railroad because of a wonderful experience he had at Grand Crossing, about 30 miles down the Mississippi River southeast of Tower CK.

"I was invited up into Grand Crossing tower while it was still active," Tom says. "At age 21, I didn't have the sense to take any photos while inside. Every image of Kodachrome was money spent, so it wasn't like today where we pop off 75 photos in less than two minutes on our phone cameras.

"I vividly remember hearing the bell on the wall make a loud, blunt metallic ring,

and the tower operator saying a westbound was approaching. Several minutes later, it clattered across the double diamond and right past the windows of the tower, with a hand wave exchanged between the op and the engineer. The whole place shook from being so close to the tracks, and the loud throbbing cadence of the SD40-2s was an auditory delight. That experience inside the tower had a huge impact on what I eventually chose to model."

Today, the Milwaukee Road main line remains, but was reduced to a single track after the railroad was merged into the Soo Line in 1986. It is operated by Canadian Pacific today. The tower was apparently razed in late 1989 after the junction was reconfigured a year earlier. The crossing was lost with the removal of a portion of the C&NW main line through the area.

The model photo shows

Tom's HO version of Tower CK. He describes his railroad as a "one-town type of layout set in October 1968 that features the Tower CK scene as the focal point. It's operational, but still a work in progress." He scratchbuilt the Tower CK structure and out-buildings using commercially available styrene siding, windows, doors, and roofing.

What caught my eye, however, was how Tom was able to use commercial crossings rather than going to the trouble of handlaying the curving diamonds of the prototype, yet not losing the look and feel of the place in the pro-

cess. Had I not pointed this out, you and other visitors and crew members might never have noticed this slight compromise. He chose to spend the time saved on other, more rewarding projects, such as building Tower CK from scratch.

He, and we, must choose our battles wisely. **MIR**



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-TONY

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GATX 4180 AIRSLIDE HOPPER



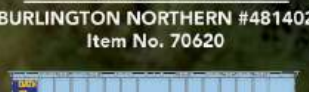
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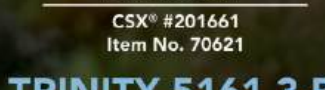
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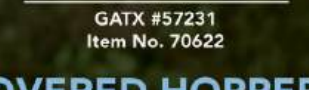
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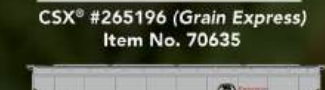
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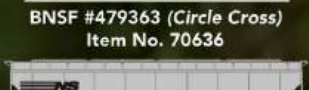
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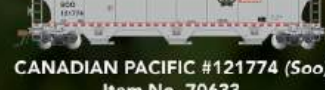
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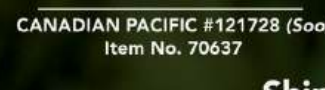
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