

**HOW TO WEATHER USING PASTELS** p.60



**Atlas N diesel on  
our test track** p.80

January 2016  
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**On the cover:** A Kaiser Steel U30B leads an ore train toward the processing plant on *Model Railroader's* 2016 project layout, the Eagle Mountain RR. William Zuback photo

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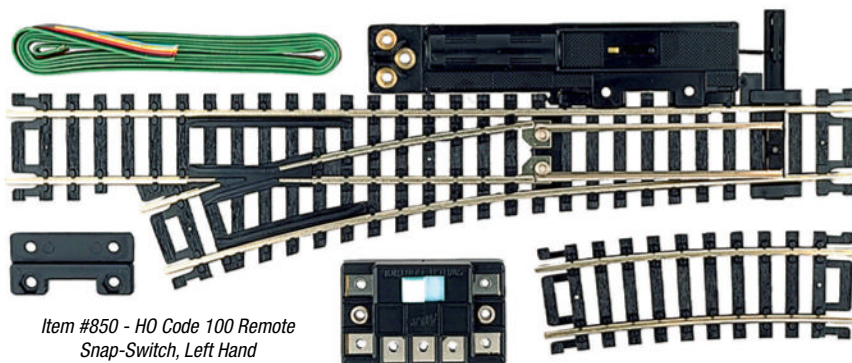


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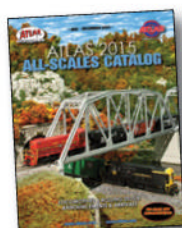
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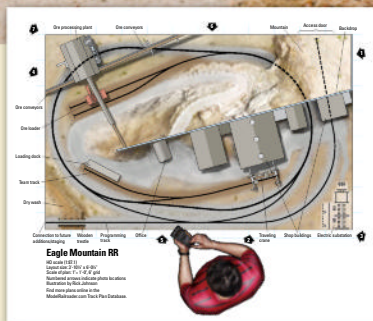


## New project layout



### Tour the Eagle Mountain RR

Read all about the *Model Railroader* staff's latest project, the HO scale Eagle Mountain RR, on page 52. Visit [www.ModelRailroader.com](http://www.ModelRailroader.com) to download the track plan and watch a video tour of this new compact model railroad.



## New Product Videos



### Korea Brass HO **MREXTRA** scale GE U25C diesel

A prototypically detailed General Electric U25C is the first locomotive from Korea Brass. The model features a Train Control Systems Digital Command Control sound decoder. Subscribers can see and hear the HO scale U-boat in action at [www.ModelRailroader.com](http://www.ModelRailroader.com).

### SoundTraxx Econami DCC decoder

This month we review

the new Econami Digital Command Control decoder from SoundTraxx. Watch a video demonstration of the steam version of the Econami reviewed in this issue.



## Layout visit video



### Scenes along the Southbay Western

**MREXTRA**

The *Denver & Rio Grande Western* running through the Colorado Rockies inspired the N scale Southbay Western. This multi-deck model railroad fits in just 8 x 8 feet. Subscribers can watch video highlights of trains running along the line. Click on the link under Online Extras at the MR home page.

## MR Video Plus



### How to make rock castings

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To learn more about rock molds and plaster castings, Model Railroader Video Plus subscribers can check out this 2-part video. Click on the links in the January issue online table of contents or visit the MRVP home page.

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## Our new 4 x 6 foot layout



**Each year** the *Model Railroader* staff builds a new layout, and in each January issue the staff takes great pride in showing you what we've built.

This year's project is the 4 x 6-foot HO scale Eagle Mountain RR, inspired by an iron ore-hauling line in the Southern California desert.

Readers perennially ask for stories about small layouts, and one day about a year ago we asked ourselves which of the many project layouts that *Model Railroader* has built was the smallest.

One of the candidates was found in the March and April 1984 issues of *Model Railroader*. The 4 x 6-foot HO scale Gold Hill Central was built by staff members "live" in a hotel conference room during the magazine's 50th anniversary celebration event.

While not the absolute smallest, the Gold Hill Central was pretty close. And what would the Gold Hill Central layout be like if we had built it today?

The answer, as associate editor Eric White explains on page 52, is the Eagle Mountain RR.

Eric, along with other staff members, will be writing about the Eagle Mountain Railroad throughout 2016. In next month's issue we'll use our monthly Step-by-Step column to continue our Eagle Mountain construction project.

Every month through the end of the year, the Step by Step column will be

devoted to a different aspect of the Eagle Mountain layout, from benchwork, to scenery, to structures, and more.

Dividing up our story into a dozen monthly segments will give you more in-depth information than we have been able to provide in the past.

I think you'll like our new approach.

**Elsewhere** in this issue are the second part of Paul Dolkos' story about building and operating an industrial harbor, a story by Don Janes about kitbashing a Central Vermont caboose, and a story by Kim Nipkow detailing three ways to model great-looking rock scenery.

And there are three stories about Digital Command Control this month.

N scale columnist Jim Kelly gives advice about installing decoders in N scale diesels, senior editor Dana Kawala reviews the new Econami steam sound decoder from Soundtraxx, and DCC Corner columnist Larry Puckett puts an Econami into a brass diesel.

We've done a little bit of re-arranging as well, and have moved Tony Koester's Trains of Thought column adjacent to the inside back cover.

In December's issue, we passed along the sad news that contributing editor Andy Sperandio had died. Andy had been *Model Railroader's* editor and executive editor for many years and wrote our monthly operations column.

We received hundreds of heartfelt emails, phone calls, website comments, and Facebook postings from readers mourning the loss of Andy.

On page 20, managing Editor Hal Miller has gathered a sampling of those comments into a special Railway Post Office section.

NEIL BESOUGLOFF

# Model Railroader

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stripes), Denver & Rio Grande Western (as delivered), Penn Central (orange "C" herald), and Rock Island (blue). The Geeps are offered in three numbers per scheme and feature Scale Speed motors. Direct-current models sell for \$119.95. Versions with NCE Digital Command Control motor decoders are priced at \$154.95. Atlas Model Railroad Co., 908-687-0880, [www.atlasrr.com](http://www.atlasrr.com)

## Industry news

■ **Rapido Trains to offer new steam locomotives.** Rapido Trains announced that it plans to produce the HO scale Icons of Canadian Steam line. The firm made the announcement in early October 2015 during an event at Exporail, the Canadian Railway Museum near Montreal, Quebec.

The multi-year project will consist of 12 notable Canadian steam locomotives, usually in multiple classes.

The first release of the series will be the Canadian Pacific 4-6-4 Royal Hudson in 2017. Rapido then plans to release two engines per year until 2023.

The locomotives planned for the series are: 2017 - Canadian Pacific 4-6-4 Royal Hudson (three classes), 2018 - Canadian Pacific 4-6-0 (three classes), 2018 - Canadian National 4-6-0 Ten Wheeler (two classes), 2019 - Canadian Pacific 4-6-4 Hudson (two classes), 2019 - Canadian National 2-8-0 Consolidation (two classes), 2020 - Canadian Pacific 4-6-2 Light Pacific (two classes), 2020 - Canadian National 4-8-2 Mountain (Class U1f), 2021 - Canadian Pacific 4-6-2 Heavy Pacific (three classes), 2021 - Canadian National 4-6-2 Pacific (three classes), 2022 - Canadian Pacific 2-10-4 Selkirk (two classes),

2022 - Canadian Pacific 4-8-4 U4 Northern (two classes), 2023 - Canadian Pacific 4-4-4 Jubilee (two classes).

## HO scale locomotives

■ **Electro-Motive Division SD45-2 diesel locomotives.** Arizona & California (two road numbers); Atchison, Topeka & Santa Fe; Conrail (Quality scheme); Maine Central (Pan Am Rys. scheme, three numbers); Montana Rail Link (two numbers); and Trona Ry. (three numbers). Road-number-specific details, RP-25 contour metal wheels, and McHenry scale couplers. Direct-current model with Quick Plug (eight- and nine-pin connector) for Digital Command Control decoder, \$189.98; with dual-mode SoundTraxx sound decoder, \$289.98. August 2016. Genesis series. Athearn Trains, 800-535-5551, [www.athearn.com](http://www.athearn.com)



■ **United States Railroad Administration light Mikado 2-8-2 steam locomotive with medium tender.** Union Pacific, Baltimore & Ohio, Maine

Central, New York Central, and Pennsylvania RR. SoundValue SoundTraxx sound package (chuff, short and long whistles, bell, air pump, steam release and blower). \$399. Bachmann Trains, 215-533-1600, [www.bachmanntrains.com](http://www.bachmanntrains.com)



■ **Alco/Montreal Locomotive Works FA-2 and FPA-2 diesel locomotives.** FA-2: Canadian Pacific (script and block lettering, three road numbers each), Baltimore & Ohio (three numbers), Canadian National (as-delivered scheme with original and new nose heralds, two numbers each), Erie Lackawanna (three numbers), Lehigh Valley (two numbers), New York Central (four numbers), and Pennsylvania RR (five numbers). FPA-2: B&O (three numbers), CP (block and script lettering, two numbers each), Great Northern (three numbers), and LV (two numbers). Each road name offered unnumbered with decals; both body styles also available undecorated. Prototype-specific details, etched-metal grills, detailed cab interior, factory-installed grab irons and



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Cody Grivno

handrails, and Macdonald-Cartier couplers. Direct-current model, \$225; with dual-mode sound decoder, \$325. Summer 2016. Rapido Trains, 905-474-3314, [www.rapidotrains.com](http://www.rapidotrains.com)

## H0 scale freight cars

■ **Assorted freight cars.** Clinchfield and Pittsburgh & Lake Erie United States Railway Administration two-bay hoppers (single car, \$15.98; three-pack, \$46.98). Farmers Co-Op (Creston, Iowa) Pullman-Standard 4,750-cubic-foot-capacity covered hopper, \$18.98. Illinois Central Gulf 50-foot welded-side boxcar, \$16.98. Nickel Plate Road 40-foot double-door boxcar, \$16.98. Northern Pacific 40-foot combination-door boxcar, \$16.98. Western Fruit Express/Great Northern 40-foot double-sheathed refrigerator car (single car, \$17.98, three-pack, \$52.98). Injection-molded plastic kits with plastic wheelsets, separate brake appliances, and Accumate couplers. Accurail, 630-365-6400, [www.accurail.com](http://www.accurail.com)

■ **60-foot flatcar.** Atchison, Topeka & Santa Fe; Chicago & Eastern Illinois; Conrail; Missouri Pacific; St. Louis-San Francisco; and Trailer Train (HTTX reporting marks). Body-mounted McHenry scale couplers and RP-25 contour metal wheelsets. \$29.98. July 2016. Ready-to-Roll. Athearn Trains, 800-535-5551, [www.athearn.com](http://www.athearn.com)



■ **Aluminum coal gondola.** New paint schemes: Great Northern (fictional scheme), BNSF Ry., CIT Group, Conrail, and Norfolk Southern (yellow rotary ends and Thoroughbred scheme). Four road numbers per scheme. Removable coal load, weighted underframe, and metal wheelsets. \$26.95. Trainman series. Atlas Model Railroad Co., 908-687-0880, [www.atlasrr.com](http://www.atlasrr.com)

■ **Assorted freight cars.** Norfolk Southern (pre-1982 company) 55-ton fish-belly hopper, Northampton & Bath



**H0 scale 50-foot plug-door boxcar.** New paint schemes on this Master Line car are Kansas, Oklahoma & Gulf; Burlington Northern; Chicago, Burlington & Quincy; Denver & Rio Grande Western (original and late schemes); and Pennsylvania RR. The car (\$31.95) is offered in three road numbers per scheme and features late improved Dreadnaught ends and an overhanging diagonal panel roof with or without running boards as appropriate. Atlas Model Railroad Co., 908-687-0880, [www.atlasrr.com](http://www.atlasrr.com)

70-ton two-bay covered hopper, Pennsylvania RR class N5C caboose with shadow keystone (\$15.95), PRR class X32D 50-foot flush round roof boxcar with shadow keystone, and Western Maryland 55-ton U-channel hopper. Three road numbers per scheme. One-piece injection-molded plastic body, brake appliances, and free-rolling trucks. \$14.95 each unless noted. Bowser Manufacturing Co. Inc., 570-368-2379, [www.bowser-trains.com](http://www.bowser-trains.com)



■ **Pennsylvania RR class G22 46-foot steel modernized gondola.** With interior stake pockets, interior stake pockets removed, and interior stake pockets removed and braced ends. Cast-resin kit with one-piece body, Tichy Train Group and cast-resin detail parts, and decals, but no trucks or couplers. \$44.99. Funaro & Camerlengo, 570-224-4989, [www.fandckits.com](http://www.fandckits.com)



■ **General Steel Castings 60-foot flatcar.** New road numbers: Union Pacific (original 1966 scheme), MP (UP maintenance-of-way green post-2005 in four numbers), and Pennsylvania RR (1965 scheme). New paint schemes: Burlington Northern (1985 repaint), Great Northern (1963 Glacier Green scheme, three numbers), Illinois Central Gulf (1977 orange repaint), and Missouri Pacific (Union Pacific MOW green pre-2005 in four numbers and 1981

repaint). Six numbers per scheme unless noted. Prototype-specific details, wire grab irons and uncoupling levers, and Kadee scale couplers. \$34.95 (quantity discounts for orders of six, 12, and 24 cars). Tangent Scale Models, 828-279-6106, [www.tangentscalemodels.com](http://www.tangentscalemodels.com)

## H0 scale passenger cars

■ **Pullman 10-section, 1-drawing-room, 1-compartment heavy-weight sleeper.** Chicago, Burlington & Quincy (Pullman-lettered cars *Carter Lake* and *Linoma Lake* in Pullman Green scheme); Chicago & North Western (*Floyd River* and *Fox River* in green-and-yellow scheme); Norfolk & Western (*Island Regal* and *Island Rose* in Tuscan scheme); Northern Pacific (*Chief Black Bear*, *Chief Many Horns*, and *Chief Standing Buffalo* in two-tone green and yellow scheme); Pennsylvania RR (*La Reine* in Tuscan scheme); Pullman (*Chief Red Tomahawk* and *Blue Bird Lake* in Pullman Green scheme); Southern Pacific (*Palouse Falls* and *Prior Lake* in two-tone gray scheme); and Union Pacific (*Balsam Fir*, *Columbia Gorge*, and *Crown Point* in Armour Yellow and Harbor Mist Gray scheme). Also available undecorated. Detailed interior and underbody, sprung diaphragms, and metal wheelsets. \$64.95. Master Line. Atlas Model Railroad Co., 908-687-0880, [www.atlasrr.com](http://www.atlasrr.com)

## H0 scale structures

■ **Prince Edward Island RR (later Canadian National) Booking Station.** Laser-cut Northeastern Scale Lumber Co. siding; Mt. Albert color-



# NEWS&PRODUCTS

## Club offerings



■ **Abington Lines United States Railroad Administration two-bay hopper.** Accurail HO scale kit produced for Abington Lines Model Railroad Club. Two road numbers. Kit, \$22; assembled stock kit, \$25; assembled kit with Kadee couplers, \$30; and assembled kit with Kadee couplers and

metal wheelsets, \$35. Shipping \$7.50 for one or two cars; \$9 for up to four cars. Abington Lines Model Railroad Club, Attn: Treasurer, 2066 Second St. Pike, Richboro, PA 18954; [www.abingtonlines.org](http://www.abingtonlines.org)

■ **Garden State Model Railroad Club layout video.** One hour DVD tour of club's HO scale layout. \$10 (shipping included). Garden State Model Railroad Club, 575 High Mountain Rd., North Haledon, NJ 07508; [www.gsmrrclub.org](http://www.gsmrrclub.org)

coded scale lumber; Campbell Scale Models shingles; and cast windows, doors, foundation, and chimney. Station will also be offered in a set with freight house and outhouse. Price to be announced. Kanamodel Products, [www.kanamodel.com](http://www.kanamodel.com)

## HO scale details and accessories

■ **20-foot intermodal containers with refrigerator units.** CGA/CGM, Columbus Line, K Line, OOCL, P&O, and P&O/Nedlloyd. Injection-molded plastic with separately applied details. Three-pack, \$26.98. Athearn Trains, 800-535-5551, [www.athearn.com](http://www.athearn.com)

■ **Fairmont Speeders.** A-6 and M-14. Unpainted 3-D printed models. \$39.99 each. GLX Scale Models Inc., 613-294-2276, [www.glxscalemodels.com](http://www.glxscalemodels.com)

## N scale locomotives



■ **Electro-Motive Division E9A and E9B diesel locomotives.** Union Pacific (Excursion Train scheme). Modified roof details and front headlight bezel, non-functioning ditch lights and roof beacon, and updated printing. A unit (\$175 each) available in two road numbers, B unit (\$140) in one. Kobo custom line. Kato USA Inc., 847-781-9500, [www.katousa.com](http://www.katousa.com)



■ **General Motors Diesel Division 1400-series GMD-1 diesel locomotive.** Canadian National (eight road numbers plus unnumbered with decals). Undecorated 1600-series GMD-1 also available. Five-pole skew-wound motor, die-cast metal chassis, and body-mounted Magne-Matic couplers. Direct-current model, \$159; with dual-mode sound decoder, \$259. Early 2016. Produced in association with MLW. Rapido Trains Inc., 905-474-3314, [www.rapidotrains.com](http://www.rapidotrains.com)

## N scale freight cars



■ **90-ton hopper.** New road numbers: Northern Pacific, Bessemer & Lake Erie, Chicago & North Western, CSX (with New York Central reporting marks), and Union Pacific. Three road numbers per scheme. Coal load, plastic wheelsets, and Accumate couplers. \$19.95. Trainman series. Atlas Model Railroad Co., 908-687-0880, [www.atlasrr.com](http://www.atlasrr.com)

■ **Pullman-Standard 2,960-cubic-foot-capacity hopper.** Louisville & Nashville; Alaska RR; and Seaboard

FIGURES & VEHICLES  
NOT INCLUDED

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**N scale assorted freight cars.** The latest freight car offerings from Micro-Trains Line Co. include a Richmond, Fredericksburg & Potomac 40-foot boxcar, \$21.70; Great Northern 33-foot two-bay offset-side hopper with coal load (two road numbers), \$24.60; and a Union Pacific

40-foot drop-bottom gondola, \$24.85. The injection-molded plastic models have plastic wheelsets, a separately applied brake wheel, and Magne-Matic couplers. Micro-Trains Line Co., 541-535-1755, [www.micro-trainsline.com](http://www.micro-trainsline.com)

System. Four road numbers per scheme; also available undecorated. Die-cast metal hopper and center sill, solid- or roller-bearing trucks as appropriate, and optional heap shields. \$21.95. Atlas Model Railroad Co., 908-687-0880, [www.atlasrr.com](http://www.atlasrr.com)

■ **Assorted freight cars.** Burlington Northern/National Academy of Railroad Sciences 50-foot plug-door boxcar, \$20.60. Canadian National 36-foot offset-cupola caboose, \$32.80. Delaware & Hudson 33-foot two-bay hopper, \$24.90. Injection-molded plastic cars with plastic wheelsets and Magne-Matic wheelsets. Micro-Trains Line Co., 541-535-1755, [www.micro-trainsline.com](http://www.micro-trainsline.com)

## N scale passenger cars



■ **70-foot heavyweight mail baggage car.** New paint scheme: Pennsylvania RR. Injection-molded plastic with 3D7P2 six-wheel trucks, Magne-Matic couplers, and clear window glazing. \$29.95. Micro-Trains Line Co., 541-535-1755, [www.micro-trainsline.com](http://www.micro-trainsline.com)

## N scale structures

■ **New York Central System/Boston & Albany standard wood tower.** Laser-cut wood kit with interior wall system, self-adhesive exterior shake shingles laser-etched as single piece, and elevation and plan view diagrams. Footprint is 1½" x 3¾". \$59.95. The N Scale Architect, 607-746-8416, [www.thenarch.com](http://www.thenarch.com)

## N scale details and accessories

■ **Peterbilt 280 and 350 tractors.** Black and red, green and yellow, red and white, two-tone blue, white and black, white and red, and yellow and white. \$25.95 each. Trainworx, 970-874-9747, [www.train-worx.com](http://www.train-worx.com)

## O scale freight cars

■ **Evans 53-foot double-plug-door boxcar.** New paint schemes: Alaska RR and Western Pacific. New road numbers: Burlington Northern; Illinois Central; and Minneapolis, Northfield & Southern. Two numbers per scheme. Sprung, die-cast metal 70-ton trucks; separately applied ladders, brake wheel, door bars, and door handles; and Kadee-compatible scale couplers. \$69.95. Second quarter 2016. Atlas O, 908-687-9590, [www.atlaso.com](http://www.atlaso.com)

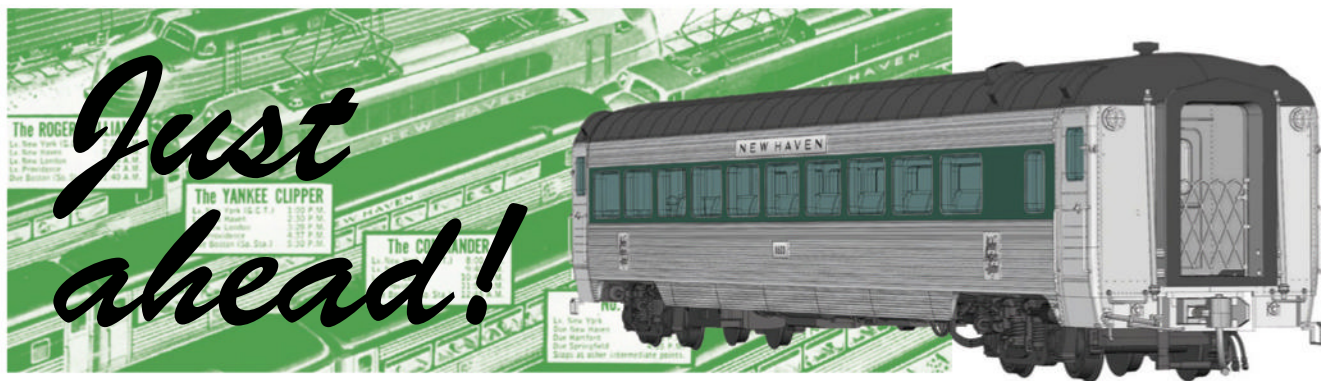
■ **Pullman-Standard 4,427-cubic-foot-capacity covered hopper.** New paint schemes: Atchison, Topeka & Santa Fe (Quality "Q" stencil); Canadian National (with Wisconsin Central reporting marks); Illinois Central Gulf; and Union Pacific. New road numbers: Chessie System (with Western Maryland marks). Four numbers per scheme. Sprung, die-cast metal 100-ton trucks and separately applied wire grab irons. \$79.95. Second quarter 2016. Atlas O, 908-687-9590, [www.atlaso.com](http://www.atlaso.com)

## O scale details and accessories

■ **53-foot intermodal containers.** International Marine Containers (CIMC): EMP (Union Pacific), Hub Group (Norfolk Southern), and UMAX (UP and CSX). Jindo Manufacturing: CSX, Hub Group, and Pacer. Six container numbers per scheme; undecorated versions of both container styles also available. \$29.95. Second quarter 2016. Atlas O, 908-687-9590, [www.atlaso.com](http://www.atlaso.com)

■ **Hurricane oil lantern.** 3-D printed model painted black. Cored to accept SMD0402 warm white light-emitting diode. Lantern can be wired from top or bottom. Wired LED, resistor, and lantern handle included. Voltage input: 3 to 12V





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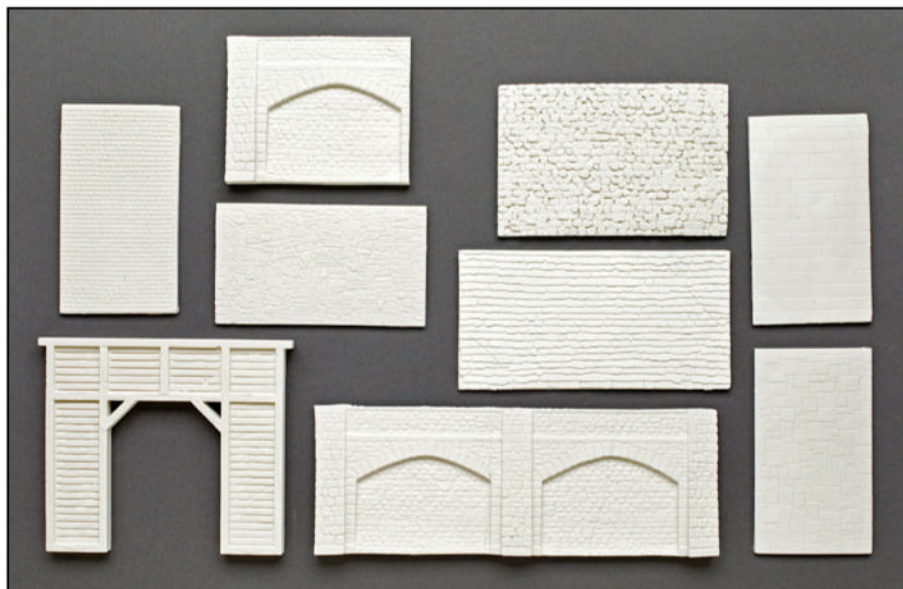
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## NEWS&PRODUCTS



**Assorted plaster castings.** ScaleCast Mouldings offers an assortment of castings, including a granite stone sheet, \$2.50; single-arch retaining wall, \$7.50; small stone wall sheet, \$2.50; heavy random stone wall, \$3; shingle roof sheet, \$3.50; standard paving sheet, \$2.50; York paving sheet, \$2.50; twin-arch retaining wall, \$15; and HO scale timber tunnel portal, \$14.50. The castings are designed for HO, OO, and N scales unless noted. ScaleCast Mouldings, 780-863-2330, [www.scalecast.ca](http://www.scalecast.ca)

DC. \$19.99. GLX Scale Models Inc., 613-294-2276, [www.glxscalemodels.com](http://www.glxscalemodels.com)

### Z scale locomotives

■ **Electro-Motive Division F3A and F3B diesel locomotives.** New paint scheme: Baltimore & Ohio. Can motor with flywheels (A and B units), traction tires, optional drawbar for close coupling, and AutoLatch couplers. A-B sets (two numbers available), \$318. American Z Line, 614-764-1703, [www.americanzline.com](http://www.americanzline.com)

### Z scale freight cars

■ **American Car & Foundry two-bay covered hopper.** New paint scheme: BNSF Ry. Metal wheelsets and AutoLatch couplers. Single car (two road numbers), \$39; four-pack, \$138. American Z Line, 614-764-1703, [www.americanzline.com](http://www.americanzline.com)



■ **Pullman-Standard 4,750-cubic-foot-capacity covered hopper.** New paint scheme: Great Northern. Etched-metal details, blackened metal wheelsets, and AutoLatch couplers. Single car (two

road numbers), \$37; four-pack, \$143. American Z Line, 614-764-1703, [www.americanzline.com](http://www.americanzline.com)

### Electronics/controls

■ **Sound cards for Sound Box.** Electro-Motive Division third generation diesel locomotives (appropriate for SD90-43MAC and SD70ACe), General Electric third generation diesel locomotives (appropriate for P42 and C44-9W), Union Pacific light steam (appropriate for small to medium steam locomotives like the heavy Mikado), and Union Pacific FEF-3 and Southern Pacific GS-4 heavy steam locomotives. For HO and N scales. \$29.99 each. Kato USA Inc., 847-781-9500, [www.katousa.com](http://www.katousa.com)

■ **Smith Southwest Model Rail speed monitor system.** Direct current and Digital Command Control compatible. For HO and N scales. Calculates scale speed in mph with accuracy of +/- 1 mph and identifies assigned train number and speed. Basic speed monitor system (\$138) includes a receiver, CPU, primary display with cable, and four transmitters. Requires DC power to run four units. With addition of SSMR Network and open source SSMR Speed Limit Software, users can accurately calculate scale speed (multi-

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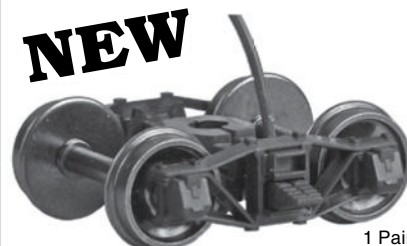
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### Correction

The story "Improved hands-free uncoupler control" in the November issue contained incorrect information. The RadioShack push-button switch should be part no. 275-1549. The circuit will work with the specified switch, but will require two button presses for each uncoupling.

Also, the circuit in fig. 5 is missing a resistor. There should be a resistor R3 on the bottom line of the figure connected to the normally open contact of switch S1. The value of R3 is indicated in the materials list. **MR**

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# Readers fondly recall Andy Sperandeo



**Andy operated trains on hundreds of layouts. Here he's operating the yard on Tom Piccirillo's Somerset County Traction System.** Tom Piccirillo photo

*Andy Sperandeo, Model Railroader's former editor and a member of the staff more than 35 years, died Oct. 2. This is just fraction of the hundreds of comments we received about Andy. Also, Tony Koester writes about Andy in his column on page 102.*

## From letters and e-mail

**Speaking for** the members of the Tri-State Model Railroaders, we are sorry to hear of the passing of our friend, Andy Sperandeo. He was always one of the "good guys" at *Model Railroader*. We have all learned so much from him.

"The Operators" has become one of my personal favorites in that I always learned something about operations I never really knew before. Our best to his real and MR family!

*Thomas Roskelley, president,  
Tri-State Model Railroaders Inc.,  
Mineral Bluff, Ga.*

**I am very sorry to hear** about Andy. He has been such an important leader in the hobby for many decades and will be sorely missed. His column on operations is always one I read as soon as MR comes in the mail. He also was most gracious in sending me thank-you letters after operating on my layout. For one who is known for knowing so much about operations, I was always please, that he would extend a note to

me, who has limited knowledge and abilities in the operational field.

Please accept my deep condolences, and he will be in my prayers.

*Andrew Dodge, Olney, Md.*

**I am so sorry** to hear of the loss of Andy Sperandeo. He was an inspiration to so many of us, especially his love of operation and guidance to superb model building. He will be sorely missed.

Above is a picture of Andy doing what he like best – operating a model railroad – this one being my Somerset County Traction System.

*Tom Piccirillo, Warren, N.J.*

**I read about** Andy Sperandeo's death in *Trains'* online newsletter. I am just stunned. Maybe it's my age (73), but not even learning of John Allen's or Linn Westcott's deaths hit me as much as this. The loss belongs to all of us. I don't doubt that he and John, along with a host of others we lost over the years, are welcoming him on the The Happy Valley Line.

*Daniel Seward, Morongo Valley, Calif.*

**I can't think** of another model railroader and magazine editor who knew more about railroading large and small, or who did a better job of sharing it with his fellow modelers, than Andy. I'm one of the fortunate modelers who came to

know him well. Judy and I extend our sincere condolences to his wife, and best friend, Arlene.

*Tony Koester, Newton, N.J.*

**Andy was a great modeler** and operator with an inspiring column in MR each month. His tenure as editor and later executive editor were marked by growth in the hobby. The entire National Model Railroad Association family joins with the Kalmbach family in mourning the loss of Andy.

*Charlie Getz,  
NMRA president,  
San Carlos, Calif.*

**Like so many others,** I am deeply saddened to have learned of Andy Sperandeo's passing. I feel very privileged to have met Andy all too briefly on two occasions and to have corresponded with him on occasion as pertained to our common interest in the Santa Fe Ry. and, in particular, Cajon Pass. Over the years his many articles in MR never stopped teaching me about railroads real or as models. Not only was he a gifted modeler, he was a wonderful educator. In recent years I've saved every one of his "The Operators" columns as excellent resource and reference material.

We have recognizable "names" in model railroading, those special people that contribute so greatly to the benefit of all of us. Had we a model railroading "Hall of Fame," Andy would be an easy first round inductee. Godspeed, Andy, and may you forever rest in peace.

*Peter Youngblood, Kennesaw, Ga.*



**Andy received a special magazine cover upon retirement from *Model Railroader* in 2011.** Jim Forbes photo



## From *Model Railroader's* website

**In my nearly 50 years** of reading MR, Andy's byline was one that I always looked for. He was a consummate modeler and a very effective and engaging communicator. Though my interests might have differed from his, there was always something in his articles that I found useful in my modeling.

My sincere condolences to Andy's family and friends, and may he rest in peace. – *Jeff Goldenberg, N.Y.*

**This is an end of an era.** In New Orleans, I worked with Andy at Hub Hobby Supplies and was a member of the Crescent City Model Railroad Club with him. He hand-crafted the switches in Port – my favorite place to operate on the CCMRC HO layout. Up in Heaven, I suspect Andy's hand is on the throttle of an AT&SF 2-10-2 rumbling through the pass into eternity. God bless you, Andy. Thank you for all that you have done for us. – *Kent Courtney, Pa.*

**What a guy!** Though I'm sure I annoyed him at least a bit, I'll never forget his patience with me exchanging quite a few e-mails about a circuit diagram in his book on wiring model railroads that I was just having a really hard time wrapping my head around. He got me straight, though. He'll be missed sorely by many. I just wish I'd had a chance to meet him in person. So, Andy, here's a big "Paradise Limited, Clear Signal, Heaven's Gate," to ya. – *Rick Shivik, Ga.*

**I just read the announcement** of Andy's passing and it's like a huge hand squeezed my heart. I recently started back into the hobby and was using Andy's insight to better understand how the "old" ways integrate with "new" operations. My prayers and sympathies are extended to Andy's family and his Kalmbach cohorts. *Jon Taylor, Texas*

**DSP DE PG A.SPERANDEO OS RIP** – *Marty Mason, Ga.*

**I was saddened** to read this. I loved the interviews with Andy on MR Video Plus and enjoyed his "The Operators"



**Andy early in his MR career.**

column in MR. Although I haven't personally known him, the staff of MR has become friends through the pages of the magazine and MR Video Plus. My condolences to the MR staff and to Andy's family. – *Werner Pieterse, South Africa*

**I have known Andy** since 1982 when I first came to work at *Model Railroader* magazine as the video director. He contributed so much to the hobby and my own enjoyment of it over the years. – *Allen Keller, Tenn.*

**I once gave a clinic** the same day he gave one of his clinics to the local NMRA division and he was kind enough to sit through the other clinicians' talks (something which not all "star" clinicians tend to do).

Mine was about David Barrow's "domino" method of benchwork and layout construction and planning. I had apologized during my clinic that Barrow's 1995 articles were more on the planning and theory aspects and not on construction per se, and that I had tried to glean his actual construction methods and dimensions from the articles' drawings and photos and hoped I came close. Andy was kind enough to come up afterwards and assure me that I had gotten the details correct. – *Dave Nelson, Fox Point, Wis.*

## From *Model Railroader's* Facebook page

**Andy was the editor** of MR when I sent my first article to the magazine. He took it and that was what started my model railroad author career, so I owe him a lot. Rest in peace, Andy. – *Pelle Soeborg*

**I am very saddened** at the passing of Andy Sperandio. While I never had the honor of meeting or speaking with him in person, we did correspond via e-mail on many occasions through the years.

As a native of New Orleans, he provided me invaluable help in modeling both Union Passenger Terminal and the Clara Street Tower on my Mississippi, Alabama & Gulf RR layout. I also appreciated his interest in having me write two articles for *Great Model Railroads*.

The hobby has lost a true icon. I'll miss you, Andy. – *Cliff Powers*

**Andy came to Kansas City** and ran the yard that I helped a friend build. Andy said it looked familiar, and my friend told him, "It should, it's one of your plans." – *William Lace Beutler*

**Andy hired me** for the MR staff in 1991, and he was an outstanding leader and a good friend. He always encouraged staff members to stay active in modeling, to work on models and home layouts, and to continue experimenting and find new and better ways of doing things. Andy, you will be missed. – *Jeff Wilson*

**I had the pleasure** of operating with Andy a few times at Great Basin Getaway and meeting him at a couple of NMRA conventions. He gave me some ideas for my yard plan, and later "approved" my final design. My yard works great. I may rename it now to Sperandio Memorial Yard. – *Phil Hartung*





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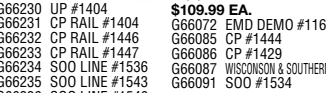
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 G66231 CP RAIL #1404  
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 G68684 UP #8669  
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 G68804 ERIE #1065  
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G68629 FEC G68631 FEC  
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 26297 COASTER #3001  
 26301 NEW MEXICO RAILRUNNER  
 26302 NEW MEXICO RAILRUNNER  
 25783 NORTHSTAR #512  
 25786 AMTRAK/CALIFORNIA #2003  
 25789 AMTRAK/CALIFORNIA #2007  
 25791 SEATTLE SOUNDER #906  
 25793 SEATTLE SOUNDER #911

G62645 EL #1264  
 G62646 EL #1265

**HO Scale Ready-to-Roll Athearn GP-35 DCC READY \$89.99 EA.**  
 91757 ST. L. & SF #1  
 91765 SEABOARD #539  
 91771 UP #762  
 91772 UP #783  
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 77159 SP  
 78895 NdeM #9242  
 78897 NdeM #9277  
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 79978 D&H #7316

G6044 CP #8213  
 90409 SP #6521  
 90501 SP #6536

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 29221 FERROMEX #2032  
 29222 NS #5323  
 29223 UNION PACIFIC #767  
 29275 FERROMEX #2041  
 29276 FERROMEX #9298

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 93546 CHESBIE B&O #2  
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 98300 NYS&W #3010  
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 98006 F&E FERROMEX #3196  
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 98018 NdeM #13058  
 98019 NdeM #13073  
 98020 NdeM #13076

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Running multiple locomotives as a consist is simple to set up using Digital Command Control. Bill Zuback photo

## How do I run engines together under Digital Command Control?

**Q** Can I run multiple locomotives together on the same train if they all have Digital Command Control decoders in them? Or do I have to run one with a decoder and the rest as unpowered units?

*Gabe Berg, Chico, Calif.*

**A** You certainly can run engines together under DCC! It's called "consisting."

By consisting your decoder-equipped locomotives together, they will all respond to the same throttle commands simultaneously. Our former DCC Corner columnist Mike Polsgrove described three ways to do it in his article "Consisting and motor performance" in our September 2011 issue.

The easiest way is to program all the locomotives in a consist to the same DCC address. However, when you want to run those engines separately, you'd have to go to the trouble of reprogramming the addresses.

The second way is called universal consisting. In this method, you program your DCC base station to send out the same command simultaneously to multiple locomotives. Not all DCC systems support universal consisting, though.

Finally, there's advanced consisting, which programs the decoders to respond to motor commands sent to a consist address. Function commands can be sent to individual locomotives in the consist.

Whatever method you use, your locomotives should be speed-matched. To learn about that and how to accomplish it, see the February 2010 DCC Corner column or watch "DCC Programming with Dana Kawala" on [www.ModelRailroaderVideoPlus.com](http://www.ModelRailroaderVideoPlus.com).

**Q** The layout divider that is used on the 2015 Red Oak project layout – where do you find it?

*JoAnn Donaldson, no address given*

**A** It's about nine inches from the back of the layout. (Rimshot!) But seriously, folks – we know you're really asking about the 1/16" styrene sheet we used to make it. We cut it from a 4 x 8-foot sheet of the material bought from a local plastics wholesaler. You can find a plastics dealer in your area by searching online or in the Yellow Pages under "Plastics & Plastic Products."

**Q** What's the best turnout size for an N scale yard – no. 4, 6, or 8?

*James Browne, Philadelphia*

**A** That depends on what's more important to you – space or realism. Turnouts on the prototype can be quite

broad compared to our scale track, so the higher the turnout number, the more realistic your yard will look, and the smoother your equipment will operate. However, you may find broad turnouts too long for the space you have for your yard. Since speeds are restricted in yards, and our models are more tolerant of tight curves than the prototype, feel free to use no. 4 or 5 turnouts if it helps you fit in the yard ladder you need. Just test that your longest locomotives and cars can pass over them reliably first.

**Q** My father worked for the Chicago & Eastern Illinois for 36 years, and I'm making dioramas of C&EI cabooses for two nephews. The models arrived the other day, and the color seems off to me. Yesterday, I Googled my fingers off trying to correctly identify the proper color, without success. Isn't there a website that both identifies or

names the actual color for rail cars and provides the paint color or mixing ratio for that color? I actually couldn't sleep last night because I want to make these dioramas accurate. Thanks!

*Michael Pignotti, Tinley Park, Ill.*

**A** First, get some sleep! There is no absolutely right answer. A lot of people get caught up in having the right color on their rolling stock, when in fact the cars coming out of the prototypes' paint shops were far from uniform.

Many railroaders who worked in the maintenance end of things say the same paint color could vary by the batch. Yes, the railroads had color chips for paints, but in most cases nobody was holding them up to the locomotive or car.

A piece of rolling stock fresh out of the paint booth will also not look the same as another that's been in service for years, due to weather and sun fading.



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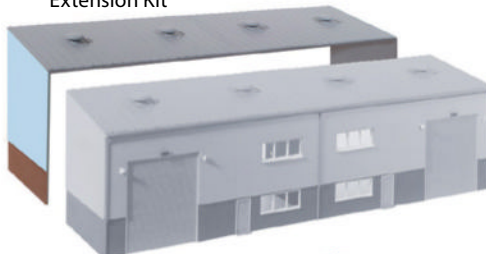
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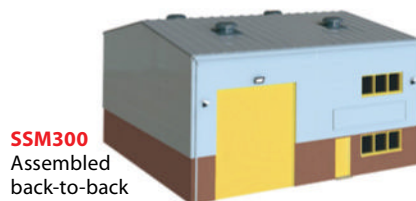


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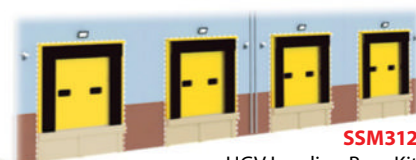
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## ASKMR

Not to mention, a color that looks right  
under sunlight will look different under  
artificial layout lighting. So if a caboose  
looks a little off, that's OK.

In most cases, the color you want is  
out there; it might just be called some-  
thing else. There's little or no need to  
mix paint.

Here's a link to a post in the *Model  
Railroader* Forums that links to several  
good paint equivalency charts: [http://cs.  
trains.com/mrr/f/11/t/230634.aspx](http://cs.trains.com/mrr/f/11/t/230634.aspx). You  
might also check the C&EI Historical  
Society to see if it has any information  
on paint schemes: [www.ceihs.org](http://www.ceihs.org).

Sounds like a nice project. Good luck  
on it!

—Hal Miller, managing editor

**Q**I'm modeling sugar beet opera-  
tions in HO scale. Where could  
I find agricultural equipment (defolia-  
tor, digger, etc.) and how would you  
recommend modeling beet fields,  
both in the growing and defoliated  
conditions?

Brandon Idhe, Montana

**A**Mature sugar beets have a crown of  
broad, curly-lobed leaves a little over  
a foot high. At this size, in HO scale,  
modeling individual plants would be  
tedious. Instead, I'd represent a row of  
crops by coating a thread or string in  
adhesive and sprinkling on coarse green  
ground foam. See Step By Step in our  
March 2010 issue to see how I used this  
technique to model a cotton field.

Modeling the rows of scalped sugar  
beets awaiting harvest seems a bit more  
of a challenge. Since the whitish beets

## More Q&A



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[www.ModelRailroaderVideoPlus.com](http://www.ModelRailroaderVideoPlus.com).

protrude only a few inches above the  
soil, you might get away with painting  
rows of tan dots on a furrowed field  
painted an earth color. If you really want  
the full effect, though, try gluing white  
poppy seeds or mustard seeds in rows to  
represent the beet tops.

As for the equipment you'll need,  
Wiking makes a tractor with two beet  
trailers, item no. 87502. Busch has a  
Fortschritt sugar beet plow you can hitch  
to your favorite HO scale tractor. Both  
products are carried by Walthers.

German die-cast maker Siku sells an  
HO scale EuroTiger XL sugar beet lifter,  
item no. 1803. Siku doesn't distribute in  
the United States, but we found some of  
them for sale on Amazon.com and eBay.  
Most sugar beet digger models we saw  
are 1:32 scale, so be careful when shop-  
ping online.

You might also be interested in Jeff  
Wilson's book *The Model Railroader's  
Guide to Industries Along The Tracks 3*  
(Kalmbach Books, 2008), which has a  
chapter on sugar beet operations. Get it  
at [www.KalmbachHobbyStore.com](http://www.KalmbachHobbyStore.com).

**Q**I'm wiring a layout with a double  
track wye in both directions with  
a stub yard at the end for DCC. Would I  
need an automatic reverser for this? If  
so, how would I wire this and what  
auto reverser would I need to use?

Dale Long, Red Jacket, W.Va.

**A**Yes, you need a reversing unit to  
wire wyes in DCC. However,  
depending on how your system is set up,



Modern harvesters lift sugar beets from six or more rows at a time, dumping  
them into trucks as they roll along the field, such as this one in northern  
Minnesota in September 2007. Jeff Wilson photo





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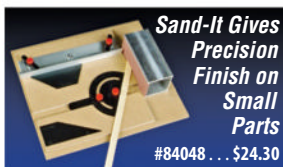
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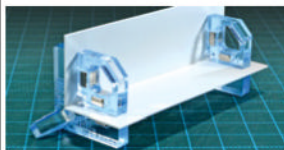
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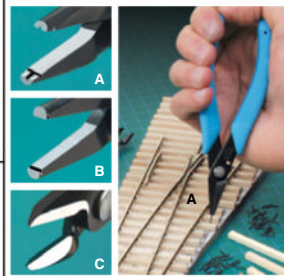
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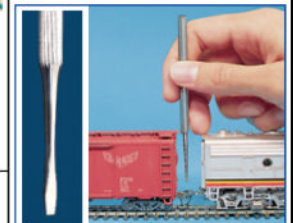
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## ASKMR

### ▶ Reader Tip: Marking holes

**Before I glue** scenery such as grass or foliage to my layout, I drill holes in the plaster terrain for trees, line poles, and fence posts. I would always lose sight of the holes because the scenery would cover them. I found that if I cut cotton swabs in half and place them in the holes before applying scenery, it's much easier to find them when it comes time to install the trees and line poles. The swabs are easy to pull out of the holes even if they get glued in.

*William Littlejohn, Spartanburg, S.C.*

you might not have to buy a separate reversing module.

I have a wye at Blue Ash on my HO scale Cincinnati, Lebanon & Northern. That part of my layout is rather far from my DCC base unit, so it's powered by a booster that's wired through a four-district power manager/breaker. In addition to protecting the layout's power districts from short circuits, this module has an option to set up any of the districts as auto-reversing sections. I simply made the tail end of the wye and the town it leads to into a separate power district and configured that circuit to auto-reverse. It works seamlessly.

My system is from Digitrax, but other manufacturers make similar products.

If you have a large layout that could benefit from a power district manager, check if your manufacturer offers one with auto-reversing built in. If not, stand-alone reversers aren't that expensive. All you have to do is electrically isolate the tail of the wye by using insulated rail joiners on all four rails at the frog end(s) of the turnout(s). Then run the power feeders for that section to the auto-reversing module, and connect that module to your DCC power bus.

Reversing loops work the same way. Isolate the reversing section at the frog end of the turnout that leads into it.

If you need more detail, check out *DCC Projects & Applications Vol. 3* by Mike Polsgrove with Cody Grivno (Kalmbach Books, 2015). It's available at [www.KalmbachHobbyStore.com](http://www.KalmbachHobbyStore.com).

Send questions and tips to associate editor Steven Otte at [AskMR@MRmag.com](mailto:AskMR@MRmag.com).

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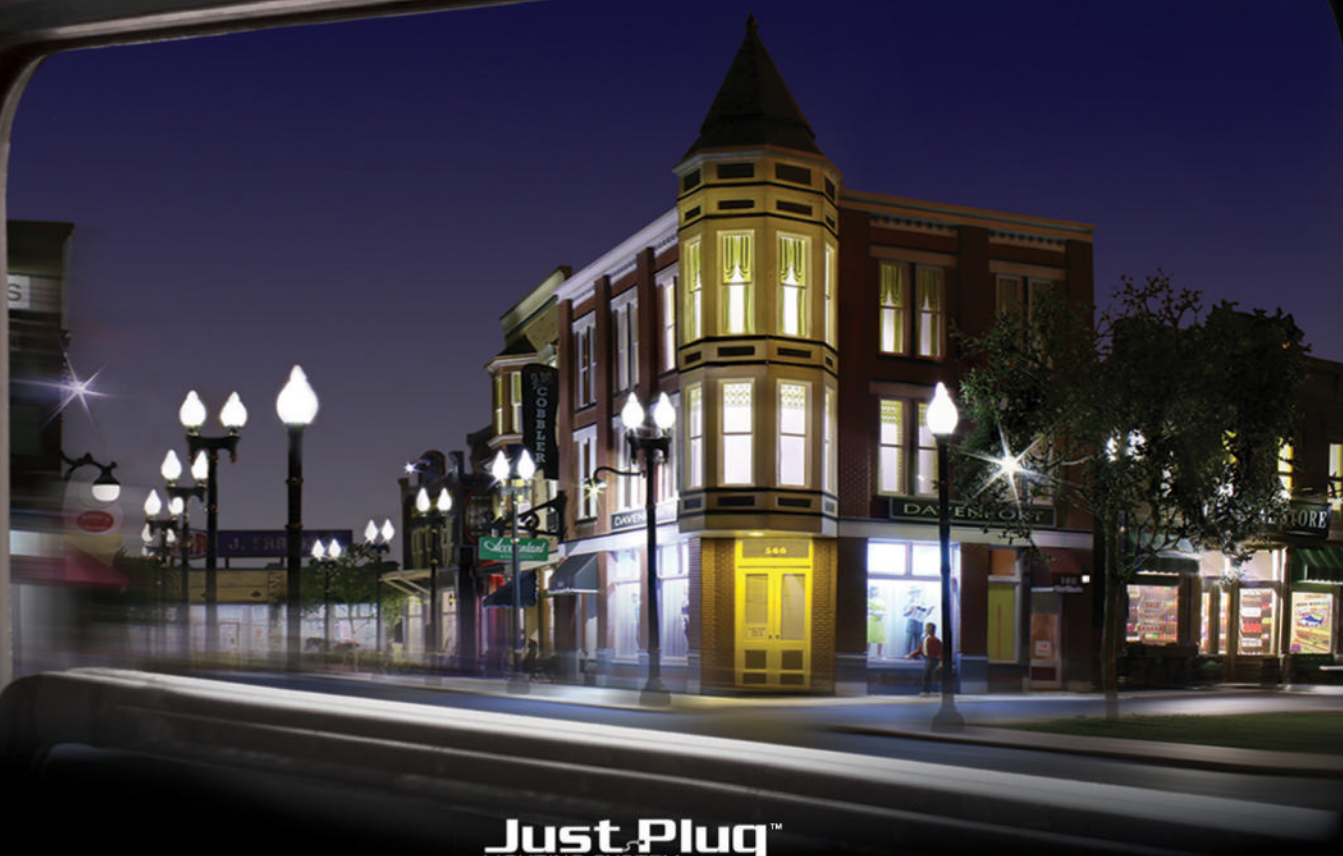
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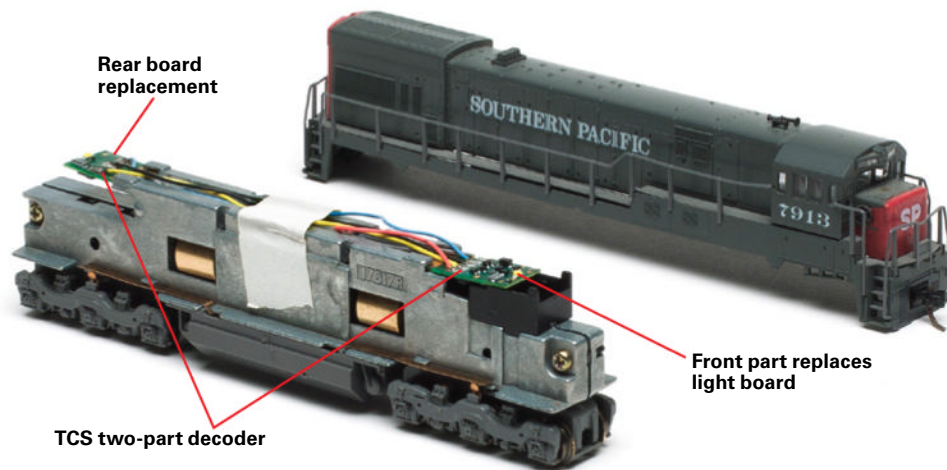


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# DCC decoder advice for N scalers

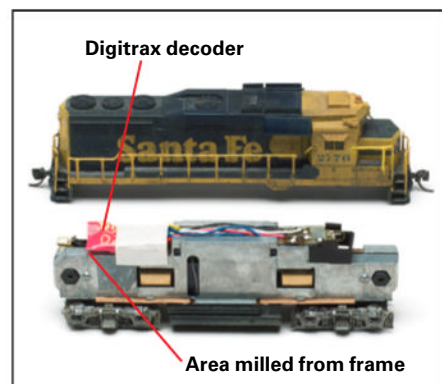


Jim installed a Train Control Systems two-part hardwired decoder in this early production Kato C30-7. The frame required little modification. Bill Zuback photos

**Any argument about** powering a layout with Digital Command Control (DCC) ended for me many years ago. If you have more than one locomotive it's the way to go, and the easiest way to get going is to purchase engines that come with the decoder already in there. This is becoming easier, but you still may have to install a decoder.

I know of two ways to install decoders yourself. The first way – the old-fashioned way – is to hard-wire them. The second – much preferable – is to install drop-in (also called plug-and-play) decoders.

In the old days, hard-wiring was the only way, but nowadays my advice is to avoid it like spotted ticks. I'm still doing it because I still have some 20-year-old locomotives that I'm just now getting around to converting, but I'd much prefer not to.



This early production Atlas/Kato GP30 sports a Digitrax decoder in a frame modified by Aztec Manufacturing Co. Installation took several hours.

**Doing it the hard way.** The only advantage to hard-wiring that I can think of is cost savings. Quality wired motor decoders go for about \$20 each, whereas drop-in types run about \$35. For me, eliminating the frustration of hard-wiring is worth a lot more than \$15.

In the early days, the toughest part about hard-wiring was finding a place in the locomotive frame to install the device. This meant milling, if you knew how and had the equipment, or hogging away with a file. Then came complete disassembly. Eventually, Aztec Manufacturing Co. ([www.aztectrains.com](http://www.aztectrains.com)) made all this easier by milling our frames for \$10, or \$20 for sound decoders, and mailing them back to us.

If you have an older engine you want to hard-wire, I have two recommendations: The first is to use the two-piece decoder made by Train Control Systems. One piece plugs in where the front light board goes; the other replaces the board at the rear. You don't need to modify the frame. The lights are already on the new boards, and you have only five solder connections to make. It's a beautiful thing.

My other recommendation: don't pull the brush caps off the motor so you can solder the motor wires to them. When doing so you risk having the brush springs pop out, and trying to find them is pure misery. Instead, clip the brush contacts off to about 1/8" long and solder the decoder's motor leads to them.

**Drop-in decoders.** Should I ever meet the person who realized you could build

a decoder on a replacement light board, I will very happily treat them to lunch.

In theory at least, this development turned a 2- to 3-hour job into one that took only five minutes and was much more likely to end in success. Here are a few tips I'd like to pass along:

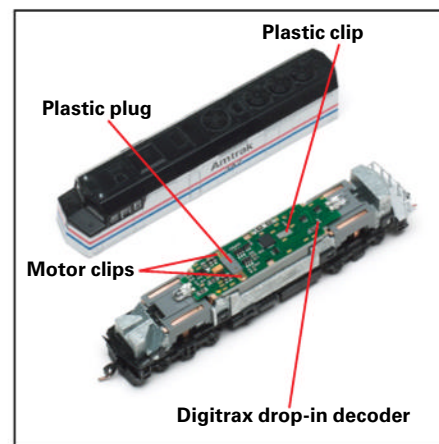
If you must loosen the screws holding the frame together to remove the light board, don't do it any more than necessary. One of the advantages of drop-in decoders is you don't have to disassemble the locomotive, but if the locomotive falls apart on you, that advantage is gone.

Make sure the tabs that contact the decoder pads are properly lined up and doing their job. Often I've completed installations and found the lights worked, but the motor didn't. This is a pretty sure indication that the motor leads and decoder aren't making proper contact.

After muttering a few curse words, I take the decoder back out, clean the contact pads with a pencil eraser, and am in business. It would make a lot of sense to clean these before beginning the installation, but that seems to never occur to me.

It also makes a whole lot of sense to make sure the engine runs well on DC before starting the conversion, but I usually don't think of that either.

**As I said at the beginning,** the easiest solution to DCC installation is to let the factory do it, and my experience with ready-to-run DCC has been very good. These are some things I've learned, and I hope you'll find a helpful hint or two to make your N scale DCC life even happier. **MR**



This Kato F40PH is controlled by a Digitrax drop-in decoder.



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White-metal vehicle kits have been a part of the hobby for a long time. Cody Grivno explains how to prepare, assemble, and paint the tractor shown here. Photos by Cody Grivno and Bill Zuback

## How to build a white-metal kit

**Like you, I enjoy spending time** at the workbench building models. Yes, even in this day of ready-to-run locomotives and freight cars, factory-assembled vehicles, and painted and weathered structures, there are still opportunities to do some hands-on modeling. I recently enjoyed doing just that with an HO scale white-metal tractor kit from GHQ.

White-metal vehicle kits are by no means new to model railroading. Unfortunately, many modelers gloss over these kits or deem them too hard to build. In reality, many of the skills you use to build freight cars and structures apply to white-metal kits. If you can sand, file, glue, and paint, you're

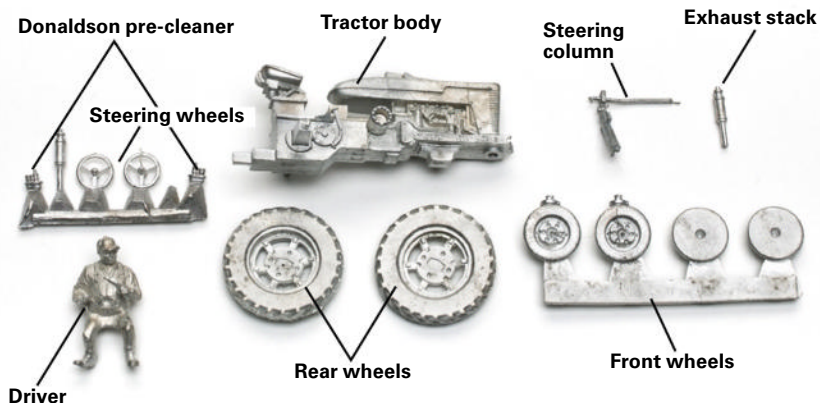
more than qualified to tackle kits like the tractor and hay wagon shown above.

For this project, I used GHQ's 1950s red farm tractor (kit no. 60-001). Other white-metal kit manufacturers include Alloy Forms, Custom Finishing, Evergreen Hill Designs, JL Innovative Design, and Selley Finishing Touches. In many cases, these manufacturers offer kits that aren't available in plastic.

If you're looking for an excuse to get back to the workbench, try building a white-metal kit. They're fun to build, and in the end you'll be rewarded with a fine-looking model.

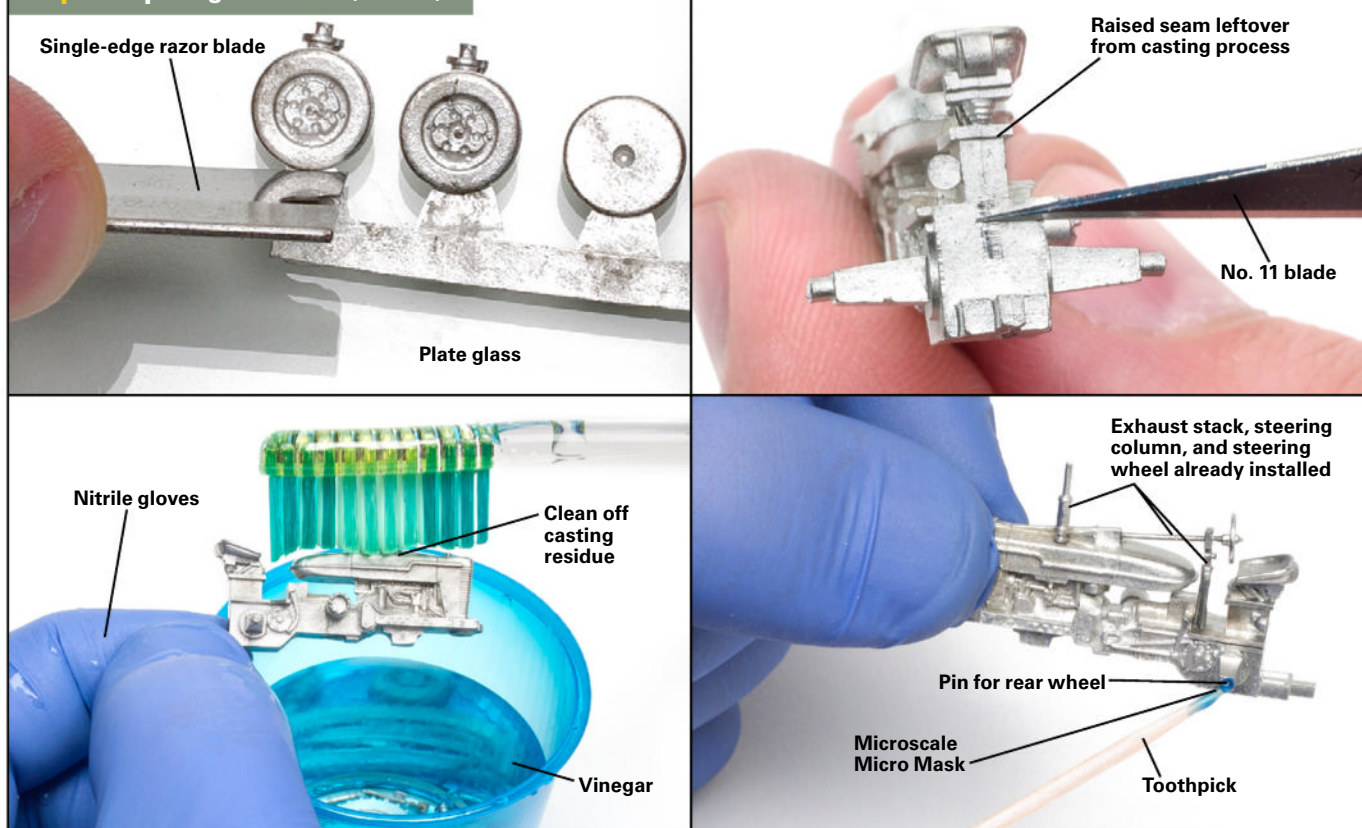
### Step 1 Preparing the metal

**Before I start work** on a white-metal kit, I first take a parts inventory. Are all of the parts there? Are they in good shape? Fortunately, the answer was "yes" to both questions with the GHQ 1950s red farm tractor. In fact, the kit included an extra exhaust stack, front wheels, steering wheel, and Donaldson pre-cleaner (which are easy to lose, as noted in step 2).





## Step 1 Preparing the metal (cont'd)



Next, I carefully trim parts from the sprues using a single-edge razor blade or a no. 11 blade for tighter spaces. Make the cuts on a piece of plate glass to avoid deforming the soft metal parts. Clean up any rough spots with a combination of jeweler's files and sanding sticks.

Several of the parts on the tractor had raised seams from the casting process. I used a no. 11 blade, jeweler's files, and sanding sticks to remove the seams. Do this carefully so you don't damage any details

(such as tire tread) or put gouges in the metal.

With the castings prepped, I tried a cleaning technique I read about on the *Model Railroader* forums. I soaked the castings in vinegar for a couple of minutes and then used a toothbrush to scrub the castings. This serves two purposes. It cleans off any residue left from the casting process and etches the metal, providing "tooth" for the paint to adhere to.

After scrubbing the castings, I rinsed them in water to remove any

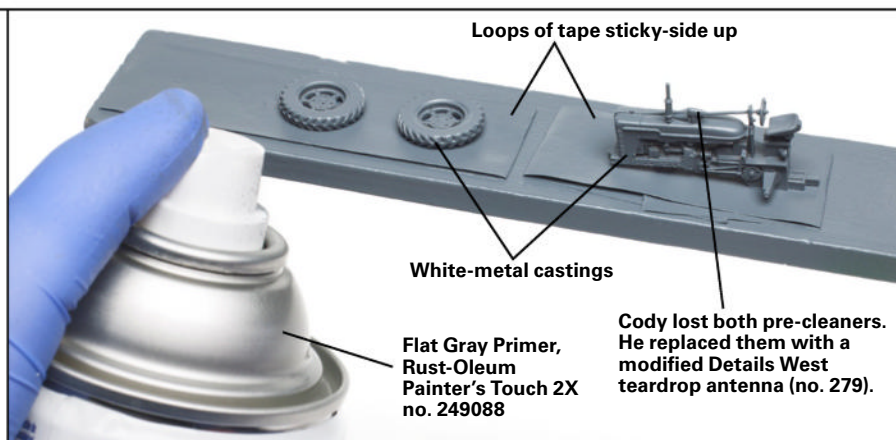
vinegar residue. After the cleaning process is complete, only handle the model while wearing latex or nitrile gloves to keep skin oils and other impurities off the model.

I attached some, but not all, of the parts using medium viscosity cyanoacrylate adhesive (CA). I used a toothpick to apply Microscale Micro Mask on the pins for the rear wheels and the socket for the front wheels. This liquid masking material works well for areas that are too small or difficult to cover with tape.

## Step 2 Priming and painting

**I set the castings** on loops of tape placed sticky-side up and sprayed them with Rust-Oleum Painter's Touch 2X no. 249088. The primer covers well (usually in two coats) and provides a uniform base for the final colors.

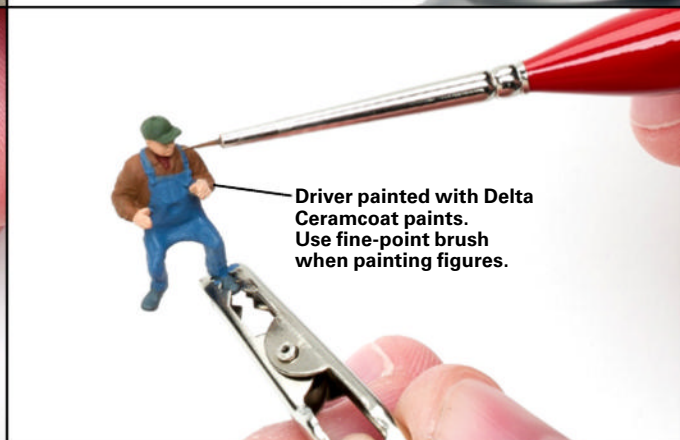
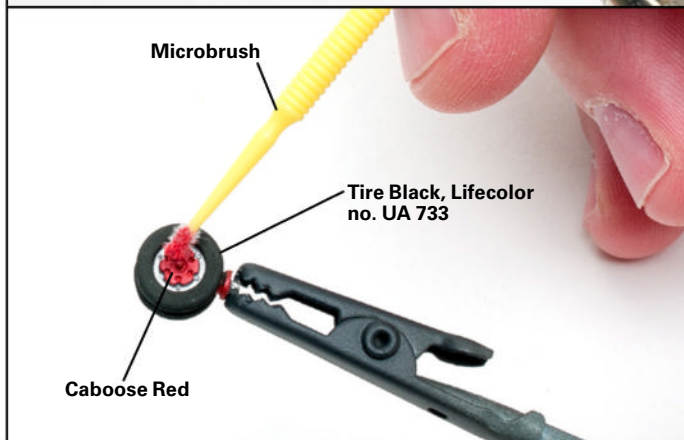
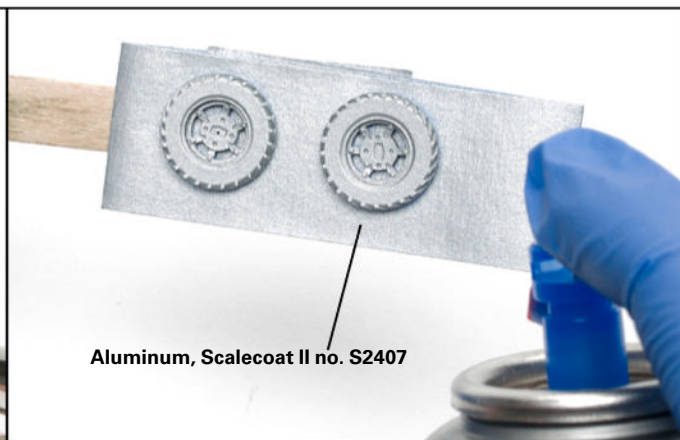
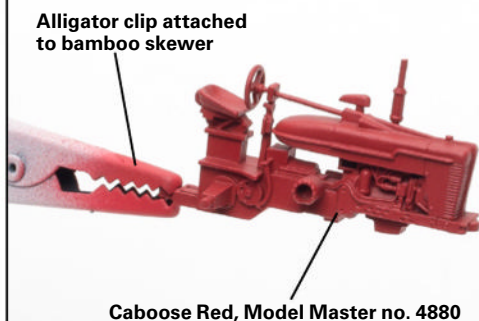
Use this, and all paints and solvents, in a well-ventilated area and wear nitrile gloves, goggles, and a respirator while spraying.





# STEPBYSTEP

## Step 2 Priming and painting (cont'd)



I let the primer dry until there was no discernible paint odor. Then I used an airbrush to spray the tractor body Model Master Caboose Red (no. 4880). I held the tractor with an alligator clip attached to a bamboo skewer to make the casting easier to rotate while painting.

Next, I sprayed the front and rear wheels with Scalecoat II Aluminum (no. S2407). Don't forget to paint the

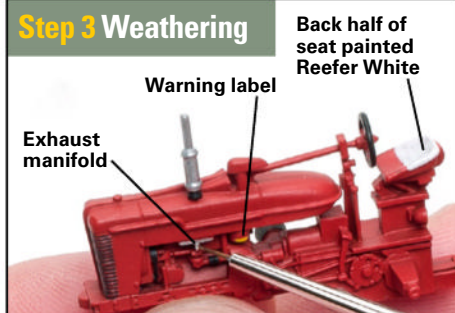
back of the rear wheels, as they're visible on the finished model. Though only the rims will be this color, I found it easier to spray the Aluminum and brush-paint the other colors.

After the Aluminum had dried, I brush-painted the tires with Lifecolor Tire Black (no. UA 733, part of the Black Rubber Shades & Co. set no. CS-27). Then I used a Microbrush to paint the wheel weights Caboose

Red. I built up the red in several layers so the details would remain visible.

The tractor includes a driver. I sprayed the figure with the same Flat Gray Primer as the rest of the model. However, when it came time for painting, I used a brush and an assortment of colors from Delta Ceramcoat. These paints, available in most craft stores, dry smooth and cover in one or two coats.

## Step 3 Weathering




**Using prototype photos** as a guide, I used Model Master acrylic paints to highlight the exhaust manifold, belts, and hoses and add warning labels. I also painted the back half of the seat Reefer White.

To make the various raised and recessed details stand out, I used a brush to apply washes from Lifecolor set no. TSC 208.

Finally, I drybrushed the raised tread detail on the front and rear

tires with Model Master Reefer Gray (no. 4886).

I sealed the weathering by applying Model Master Clear Flat. The finished tractor looks at home in the farm scene on page 32. 





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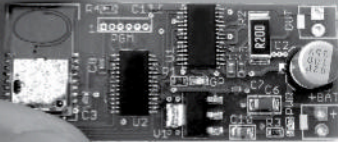
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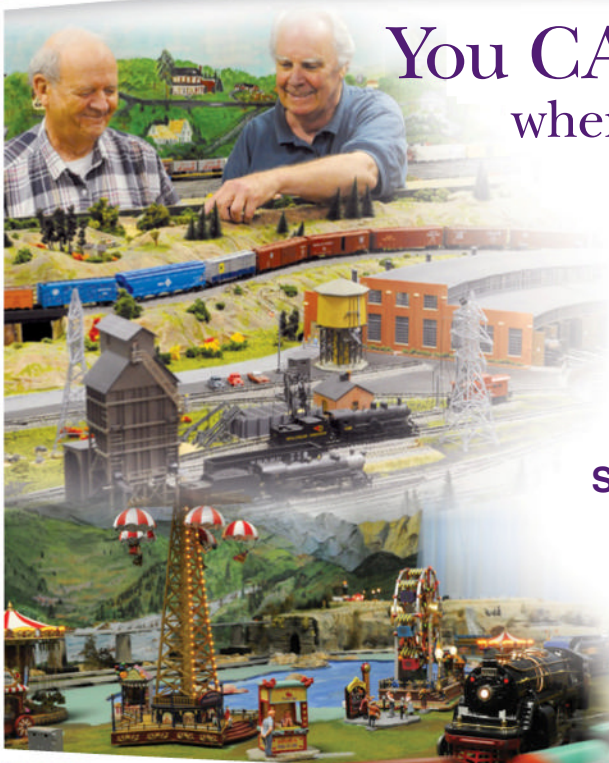
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# PART 2 Build and operate an ON THE



A Baltimore & Ohio RR Fairbanks-Morse H10-44 ventures down the long Royster fertilizer plant siding to pull out cars on Paul Dolkos' HO scale Baltimore Harbor District layout. Royster is one of two large industries at Wagner's Point.



# industrial zone WATERFRONT

Learn how competing railroads shared sidings and customers, and how to build a car float bridge and barge

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







**Fig. 1 Virtual industry.** Two empty hoppers are pulled off the Western Maryland Ry. storage track to be placed on the outbound car float as part of a virtual industry operation scenario. The gravel piles and a backdrop tippel photo represent the Arundel Sand & Gravel Co.

**A**s I studied rail operations at Baltimore's Wagner's Point, it struck me as an ideal inspiration for a layout scene, as I said in part 1 of this story in last month's *Model Railroader*. In my era, 1955, two competing railroads switched several industries. The Baltimore & Ohio RR had secured the area early with a land route. Later, a large shipper invited the Western Maryland Ry. to provide service via car float. This combination of two railroads, one coming in via water, was irresistible to me.

### Industries at Wagner's Point

My representation of Wagner's Point occupies a 2 x 12-foot shelf on a peninsula of my Baltimore Harbor District layout. Rather than modeling several small industries, I selected two larger ones with multiple car spots. One is a chemical refiner that produced a variety of products including Sterno, an alcohol-based fuel. There are nine designated car spots, plus some overflow space on three sidings, in a fenced 3½-square-foot area. The second industry, a fertilizer plant, has one long siding with eight car spots.

The car float, while not an industry, also provides additional switching activity for Western Maryland crews. Its capacity is 8 to 10 cars. Unloading and loading the float barge takes as much time as working one of the industries.

I've also added what I call a virtual industry, Arundel Sand & Gravel, shown in **fig. 1**. Its presence is indicated by piles of gravel along the backdrop and a photo of a tippel for truck loading behind them. It was an afterthought, and I didn't want to allocate space for a siding, so I imagine it's around the corner, out of sight. Cars of gravel arrive and are spotted on a storage track because presumably the industry isn't ready to receive the loads.

On a prototype railroad such a move is called "constructive placement." Before the next operating session the gravel hoppers magically become empties.



**Fig. 2 Shift starts.** The Baltimore & Ohio switch job has arrived to work Wagner's Point industries. The B&O and Western Maryland both switch the industries here, but work on different shifts.



## Building the transfer bridge and car float

**The Western Maryland** car float barge and transfer bridge closely follow the prototype. That meant I had to scratchbuild them. Fortunately, I had good barge data and photos. The basic barge began as a 1 x 6-inch clear white pine board. I cut it down to length and width and added 1/4" shims underneath to increase its thickness.

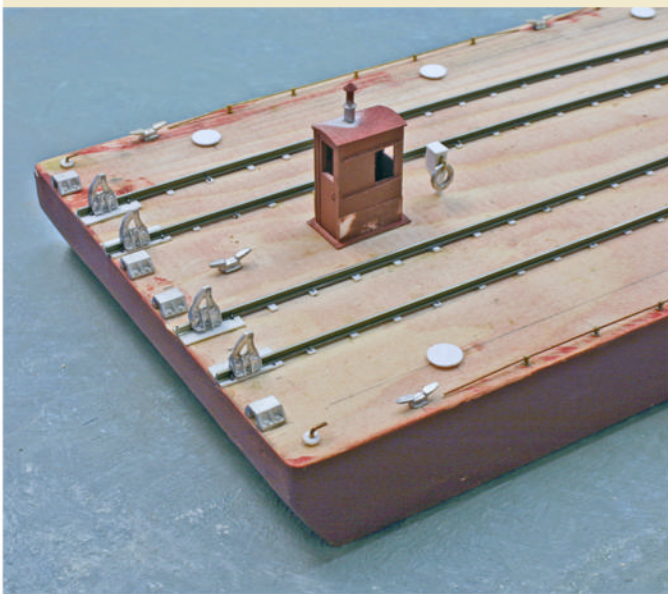
The rounded corners and the bow and stern angles were filed to shape. The work went very quickly. I filled the seams and other imperfections with Bondo auto body putty, sanded it, painted it, sanded it again, and so on until it could pass for a steel hull. I use Bondo as a filler in modeling because of its extended shelf life: a large tube of the material hasn't dried out after several years.

Sea Port Model Works and Frenchman River Model Works offer castings of fittings for the deck hardware found on car floats. The most tedious item to install was the rail. On most prototype floats, the rail is bolted to the deck using cleats and pads. I drew lines where the rail would run.

On this barge prototype, the two tracks curved toward the center and then back out again, rather than running straight. My guess is this was done to move some weight to the center of the barge. So following the lines, I glued short pieces of .015" styrene strip to the deck to represent the track cleats. Then I drilled holes through the pads and spiked the rails.

The counterweight-style WM transfer bridge is unusual, and I only had a couple photos to guide me. I had to guess its dimensions and ended up manipulating them to fit the space I had for the model. The bridge is built with styrene strips and a few Central Valley Model Works bridge trusses.

The rails are sections of Micro Engineering code 55 track that run off the bridge and onto land, where feeder wires are attached. The barge rails are also powered. The WM's light locomotives often ran onto barges, and idler cars were seldom used. The float bridge's concrete piers are plaster castings made from home-made styrene molds. – P.J.D.



Castings and a scratchbuilt doghouse have been applied to the unpainted wood barge deck. The hull is made from a piece of clear white pine 1 x 6 with several coats of Bondo autobody filler applied for a smooth finish. The code 55 rail is spiked through cleats glued to the deck.



This transfer bridge is similar to a truss bridge and is built of styrene strip and shapes, plus some Central Valley truss bridge sections. Micro Engineering track was used on the deck and extends onto land, making it easier to solder feeder wires to power the rails.

### Operating on Wagner's Point

The turnouts for the chemical company and the fertilizer plant face opposite directions, so a crew can't simply work from one end of the yard to pull and spot cars. Crews need to classify incoming cars by industry and spot location, along with cars on storage tracks also waiting to be spotted. Crews must also look ahead and decide what to do with outbound cars so they don't block later moves.

Once a cut is in the desired order, a runaround move may be required, and a clear track is required for that. While there's enough track to accomplish all this, a crew must always be thinking ahead. One can easily spend an hour or more switching Wagner's Point.

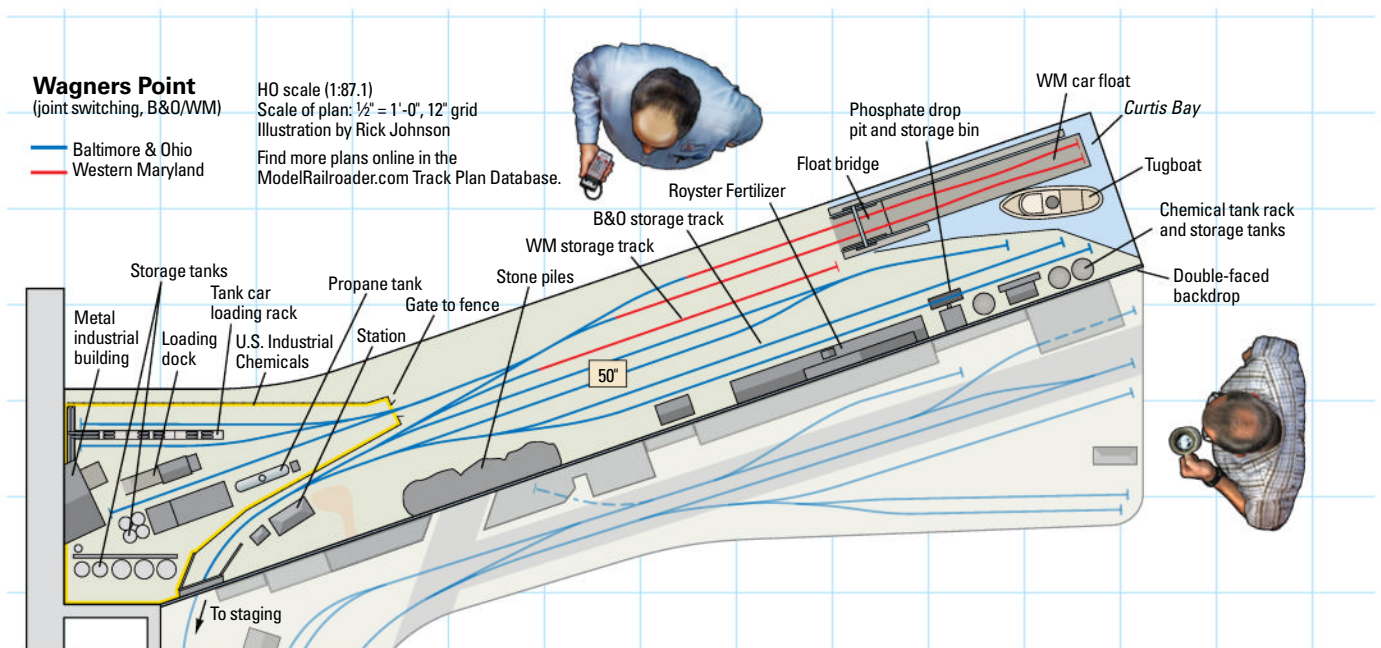
The area is jointly switched, but the two railroads work on different shifts. So during an operating session only one railroad is on the job. Baltimore & Ohio trains originate in staging and run to the

location. See **fig. 2** on page 40. The WM job begins work at Wagner's Point as if the barge has just arrived with inbound cars.

Crews encounter cars that've been spotted by the other railroad blocking the spot they need to reach. We assume it's okay with the shipper to move any car so the new inbound car can be delivered. If the car hasn't been released by the industry, it's listed as a "hold" on the switch list, and must be returned to the original spot. See **fig. 3** on page 42.



**Fig. 3 On hold.** One of the two General Electric 44-ton locomotives the Western Maryland owned moves a tank car to an off-spot location while it switches the U.S. Industrial Chemical plant. The car was listed as a “hold” on the switch list, so it must be returned to its original spot.





If the unloading or loading is complete and the car has been released to the other railroad, the crew can return it to the original spot, leave it at a convenient off-spot location, or move it to the other company's storage track. While some track belongs to the WM and some to the B&O, crews are free to use any track.

## Inform your operators

Working with switch lists rather than individual car cards and waybills, crews have all the information they need on one or two pieces of paper. To set up an operating session, I prepare a switch list with the reporting marks, number, and the location of each car at Wagner's Point, and another for the inbound cars.

I have a file box of car cards with 4-cycle waybills sorted by location. I turn the waybills to determine where the cars will move next. This destination information is entered on the switch lists.

## Balancing act

For the prototype, moving cars between floating barge and solid land is always a balancing act. Changing winds and tides, and varying car weights, will tilt the barge as well as the transfer bridge to one side or the other. The docking facility is designed to accommodate this movement, but there's a limit, and crews work to minimize problems. See **fig. 4**.

Normally cars aren't just pulled off the barge one track at a time like a factory siding. Crews will leave some cars in place on one track as a counterweight to cars on



**Fig. 4 Safe harbor.** Paul's barge sits on stable benchwork, but he simulates the operation of unloading the barge as though it were floating on the water's surface. The tug model is a Walthers kit that closely follows the prototype Lehigh Valley RR tugs used in New York Harbor service. The Lehigh Valley sold a tug to Curtis Bay Towing, which renamed it *Hawkins Point* and used it in Baltimore Harbor for years.

## Modeling harbor water

**If one wants a car float scene**, that requires a reasonably large area of water. I didn't want to use a pour-on gloss finish like Enviro-Tex. Containing such watery materials in a large area that runs right to the benchwork edge would be a challenge. Also, water in an industrial seaport is seldom clear, so transparency isn't required.

I began by applying various shades of blue, gray, and brown craft paint directly on the plywood base. I didn't want a solid color, but a varied pattern of melded tones and shades. Once the color dried, I applied a heavy gloss gel made by Golden Artist Colors and sold by craft stores and art supply dealers.

Golden offers a wide range of gels. I selected one labeled as being transparent, glossy, and thick. Waves built up with brush strokes will hold their shape as the gel dries. The gel is an acrylic polymer, and brushes and tools can be cleaned with water. Subsequent gel coat layers can be applied later.

I painted the water surface and applied the gel before installing any objects. So the tug, barge, and piers are on



**This water surface is paint applied directly on a plywood base, then coated with a glossy artist's gel, creating a wavy surface. The paint and gel were applied before the piers were installed, making it easy to paint the area.**

top of the water. There are no objectionable gaps. The advantage is that you don't have to paint around the objects. Just don't create high waves where a ship or other object will be placed.

Unlike Enviro-Tex, the gel won't creep up onto items like rocks or piers, creating an unwanted glossy fillet around them. — P.J.D.

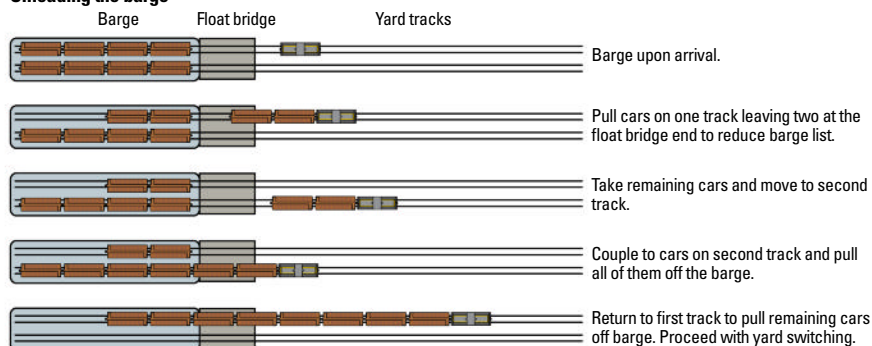




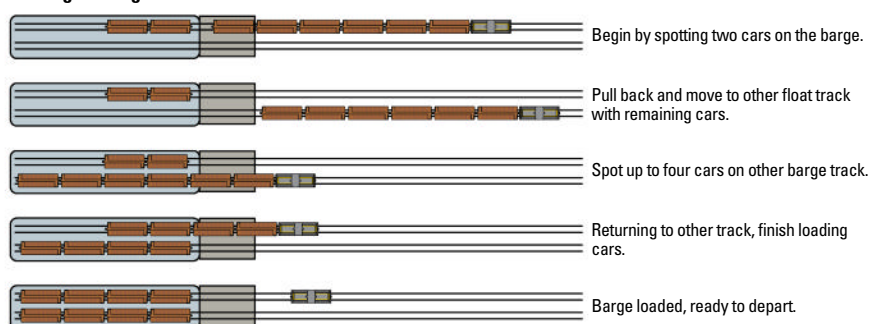
**Fig. 5 Mind the gap.** In the 1920s the Western Maryland installed unique counterweighted transfer bridges at several locations in Baltimore Harbor to service customers the railroad could not reach by land. Operators must take their time unloading the barge, taking into account the balance of the load.

**Fig. 6 Barge instructions.** This diagram is similar to one Paul Dolkos gives his operators so they can prototypically unload the barge at Wagner's Point. The key to safe switching is balance.

#### Unloading the barge



#### Loading the barge



While there may be more or less than eight cars on the first move, still position a car or cars alternately on barge tracks for balance. Sometimes the superintendent will instruct crews to load the locomotive on the barge for return to Port Covington. Nominal capacity of the barge is eight 40-foot cars, but will hold up to 10 tank cars.

the other track or tracks. The barge and transfer bridge will list to one side or the other, but hopefully not enough to cause problems. Experienced crews proceed slowly and with care. See **fig. 5**.

John Teichmoeller, coordinator of the Rail-Marine Information Group at [www.trainweb.org/rmig](http://www.trainweb.org/rmig), says he witnessed a switching contest at a National Model Railroad Association (NMRA) meet that had a model car barge actually floating in water. Participants tried to load a mix of heavy and light cars onto it. It was extremely frustrating or amusing, depending on whether you were operating or just watching.

One doesn't have tilting and twisting problems with a model barge on solid modeled water, but the loading and unloading still presents an operational opportunity. I provide the instructions shown in **fig. 6** for unloading and loading my barge. The Western Maryland didn't have idler flatcars, but if buffer cars were needed, crews would borrow a low-profile gondola or flat for that function. Light-weight locomotives like a General Electric 44-tonner could run onto the barge.

It's often suggested that I have multiple car float barges and swap them in and out to provide a continuous flow of cars at Wagner's Point. I find that providing just eight inbound cars on the barge along with earlier arrivals not spotted provides plenty of operation during a session. My car float barge is removable, but feeling confident that I can always pick it up and move it without dropping cars is a concern.

A friend, Dave Ramos, tried this on his New York harbor layout and refers to movable model barges as "rotary Dumpsters." And I think moving barges in and out and keeping barge and transfer bridge rails properly aligned would be an issue. The prototype had similar gauge problems. It's much safer to manually swap out cars on the barge between sessions.

### Satisfying operation

The Wagner's Point scene has provided the setting and operations I envisioned. This scene provides plenty of operation for two operators, with one serving as engineer and the other as conductor, and could exist as a standalone layout. **MR**

### Now on ModelRailroader.com

The photo spread on pages 38 and 39 of Paul Dolkos' layout is this month's free computer wallpaper. You can download it from our website at [www.ModelRailroader.com](http://www.ModelRailroader.com).



## The clean fascia look

**I think fascias** should have a minimalist quality; no car-card boxes, town names, diagrams, or even control switches if possible. Many think otherwise, and that's okay. I've benefited from the guidance provided while operating other layouts, especially for the first time.

But I want operators to be looking at the railroad, not the fascia. I chose aesthetics over utility. My thinking is that place and industry names should be signage on buildings and signposts. I do provide a detailed track diagram for each location with track names and spot numbers, which I prepared using basic graphic features in word processing software. It's far more detailed than what can be displayed on the fascia, especially in an industrial switching area (See the Wagner's Point track diagram on page 42). I use switch lists, which eliminates the need for car card boxes.

But one does need a place to lay down the lists, pencils, coupler picks, track diagrams, and other items. To accommodate this I have pull-out shelves. If the benchwork is 50" or higher, it may also be possible to install a recessed shelf just under the benchwork edge. Installed at waist height, one can look down and see paperwork or sort car cards. The pull-out shelf shown here has a CVP EasyDCC command station and a programming track, but you can still place paperwork on it since it's not normally used during operating sessions.

Toggle switches for turnout controls aren't so easily removed from the fascia. I could use ground throws; they work well, and there's never a question about what switch is being lined. But I don't like their looks, especially in photos. There are also modelers who reach in to manually change sprung points, such as those on Micro Engineering turnouts. However, I wonder about access when one has to reach behind a string of cars or distances greater than 30", as well as the long-term durability of the switch point assemblies.



Pull-out shelves mounted on keyboard slide hardware provide a place for paperwork, pencils, coupler picks, and other items. This one does double duty by housing a Digital Command Control programming track and control panel. The shelf easily slides under the layout and out of sight when not in use.



**Clean fascia and an uncluttered room enhance the layout's appearance. Also, egg crate lighting diffusers were hung as a lower level suspended ceiling to hide the fluorescent tubes, especially when viewed from the peninsula end.**

Accordingly, I equip my turnouts with Tortoise by Circuitron switch motors. The control toggle is mounted below the fascia opposite the turnout headblock ties, or at least as close as possible where there are parallel turnouts.

On the layout peninsula I was able to easily create a recessed mounting surface for the toggles by screwing a tempered hardboard strip on the back of the front benchwork stringer. The tip of the toggle lever is usually visible, and operators soon learn to intuitively reach for the correct control while switching. In addition to a clean, uncluttered look the fascia eases passage in aisles, especially in tight locations since there are no protrusions to brush against. – P.J.D.



Paul slightly recessed switch machine toggle switches by mounting them on a strip attached to the lower benchwork stringer below the fascia. This keeps the switches out of the way in the aisles. The neutral color on the fascia blends reasonably well with the primary earth colors used for the scenery.





Don Janes kitbashed this HO scale Central Vermont caboose using a Walthers model as the starting point. An example of the full-size car, restored by Allen B. Pomeroy III, is shown at Thomaston, Conn. on Nov. 3, 2012. Prototype photo by Howard Pincus



# How to kitbash a **WOODEN CABOOSE**

A Walthers HO scale model serves as the starting point for this Central Vermont car

**By Don Janes** • Photos by the author



One of the many reasons I model the 1950s is that cabooses were still the norm on the rear of all freight trains. Since I model the Central Vermont (CV) I needed several cabooses to carry the markers on the through freights and locals on my HO scale Boston & Maine RR.

The 30-foot double-sheathed offset-cupola caboose was the CV standard caboose for several decades. In the late 1940s CV began re-building its caboose fleet with a steel underframe and Canadian National (CN) style end platforms and steps. In the 1950s the CV block lettering was replaced with a green maple leaf herald and white lettering similar to parent company CN.

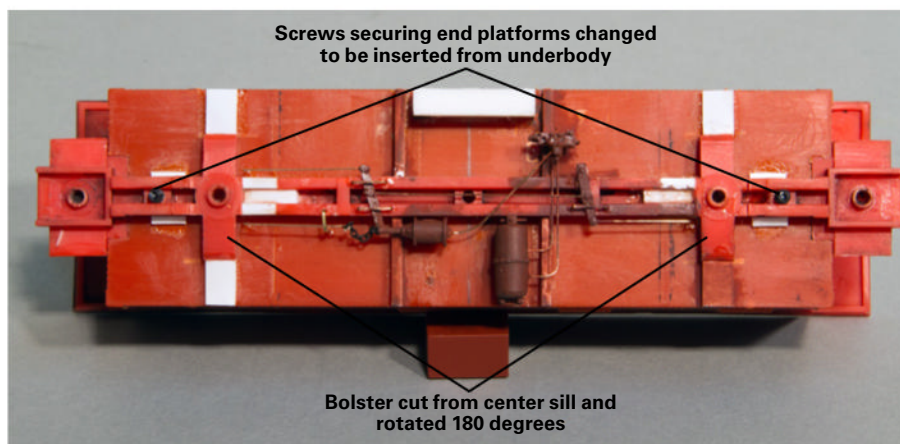
While I knew what cabooses I wanted, the road to getting them had many paths. Pacific Fast Mail, a brass importer, released a model of the early version with solid steps and original end platforms many years ago. These models were offered in several paint schemes and undecorated. They show up at swap meets and on Internet auction website eBay occasionally. I own one of the PFM models.

Another option was the resin kit produced by Funaro & Camerlengo. I've built several F&C kits, but I wanted to add a couple of modernized cars to my roster to help reinforce my layout's mid-1950s era.

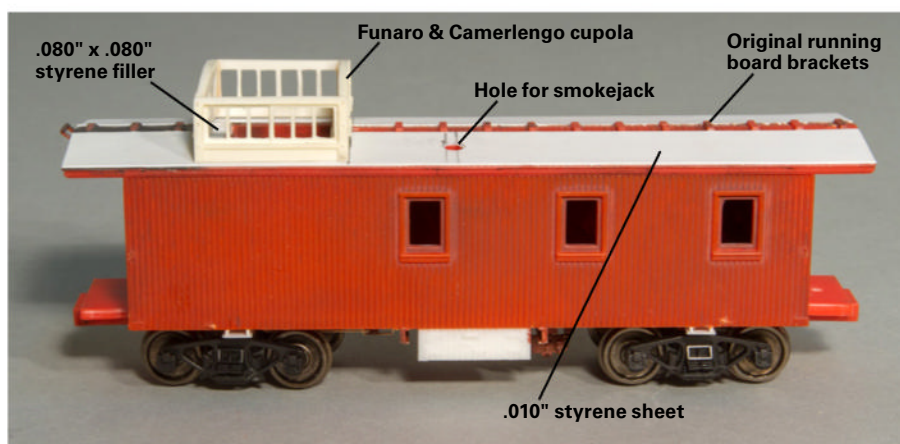
Since there are no commercial models of the modernized caboose, my two options were to scratchbuild or kitbash. George Dutka, a friend and fellow CV modeler, recently finished an interesting kitbash of a CV caboose that used the Walther's Grand Trunk Western 30-foot double-sheathed caboose body, a Funaro & Camerlengo cupola, and True Line Trains CN wood caboose underframe that had the modern end platform and steps.

George's project got me interested in the kitbashing option. I compared the overall measurements of the Walther's model to those of the Pacific Fast Mail and Funaro & Camerlengo cabooses. I was pleased to find out that other than the windows having a slightly different spacing, the overall dimensions were almost spot on.

It took several months of searching online, but I finally found two of the Walther's cabooses, one in CV paint with the maple leaf herald (932-7514) and one undecorated (932-7500). With the models in hand, I set out to build a pair of CV cabooses that closely matched the modernized prototype.



**Fig. 1 Underbody upgrades.** The bolsters were too close to the steps on the Walther's model, restricting how freely the trucks could rotate. Don fixed this by rotating the bolsters 180 degrees.



**Fig. 2 Modified roof.** The position of the cupola and the style of roof didn't match the Central Vermont prototype. Don relocated the cupola and attached styrene sheet to the roof.

## Getting started

While working on the models I referred to prototype photos and Vol. 11, no. 2 of the Central Vermont Ry. Historical Society *Ambassador*, which contained an article on CV's caboose fleet. In addition, friend and CV modeler John Pagannoni sent drawings he'd made from field measurements of a full-size caboose, which were helpful while detailing the models.

With plenty of prototype information to work from, the first step was to disassemble the Walther's model, separating the cupola, roof, body, and underframe. The model also has an interior, but I didn't use it on either of my models.

I then removed the crossbearers, crossties, and other details molded on the underbody. I replaced those parts later in the kitbashing process.

The underframe, which consists of the center sill, bolsters, and steps, is held to the carbody by three screws fastened from inside. One screw is located in the center, while the other two are located behind the draft-gear box on each end.

A major design flaw that plagued the Walther's 30-foot GTW caboose was that the bolsters were too close to the steps, restricting the trucks' pivot. To correct this, I turned the car over and marked the underframe where the bolsters needed to be for the trucks to swing freely. I used a razor saw to cut the bolsters from the frame, rotated them 180 degrees, and glued them back to the center sill on the inboard side only. I left the steps and draft-gear boxes separate from the center sill for reasons that will be apparent later on. The modification made about a one scale foot difference at each end, sufficient for the truck to move freely. See **fig. 1**.

## Roof renovations

The cupola on the GTW caboose sits a little closer to the end of the roof than the CV prototype. Using my Funaro & Camerlengo and Pacific Fast Models cabooses as guides, I marked the correct location for the cupola on the Walther's models. I filled in the gap in the roof with .080" x .080" styrene strip.



## Materials list

### Builders in Scale

250 chain, 40 links-per-inch (black)  
252 chain, 27 links-per-inch (black)

### Cal Scale

351 Ajax brake wheel housing

### Canadian National Rys. Historical Association paint

100-1 CN Orange no. 10  
100-7 CN Red no. 11

### Detail Associates

2524 flat brass wire  
6227 AB brake set

### Evergreen styrene

164 .080" x .080" strip  
263 .100" channel  
8106 1 x 6 strip  
8110 1 x 10 strip  
8204 2 x 4 strip  
8206 2 x 6 strip  
9010 .010" sheet  
9015 .015" sheet  
9020 .020" sheet

### Floquil paint (discontinued)

110013 Grimy Black

### Funaro & Camerlengo

513 Central Vermont caboose

### Grandt Line

5053 queen posts

### Kadee

58 scale couplers

### Microscale Decals

87-1031 Grand Trunk Western  
caboose

### Northeastern Scale Lumber stripwood

3004 1 x 6  
3013 2 x 6

### Precision Scale Models

3150 brass air hoses  
31455 brass caboose stack

### Sylvan Scale Models

DP-0010 brass CNR caboose steps  
and ladders

### The Testor Corp.

201503 clear flat

### Tichy Train Group

1101 .010" phosphor bronze wire  
1106 .0125" phosphor bronze wire  
3013 AB brake set (for brake wheel)  
3021 18" straight grab irons  
8021 turnbuckles

### True Line Trains

leaf spring caboose trucks from  
Canadian-style wood van  
TLT 900908 caboose markers

### Yarmouth Model Works

YMW-355 etched brass eye bolts

The Walther's model has a tongue-and-groove roof, which is incorrect for the CV cars. After the .080" x .080" styrene strip had dried, I added slightly oversized pieces of .010" styrene sheet to the roof to simulate tar paper. Use liquid plastic cement sparingly when securing the roof. Too much cement will melt the plastic, spoiling the effect you're trying to achieve.

Since I wanted to use the stock running board supports, I butted the inner edge of the styrene against the molded details. Once the stripwood running boards are in place, you can't tell the difference. After the glue had dried, I ran a small file along the edges of the styrene until it was flush with the original roof.

I used a Funaro & Camerlengo cupola for each caboose. I made a new roof for each one using .015" styrene sheet. I set the cupolas aside until it was time to add them to each model.

While working on the roof, I marked the location and drilled the hole for the Precision Scale Models caboose stack. All of the roof modifications are shown in **fig. 2** on the previous page.

## Carbody changes

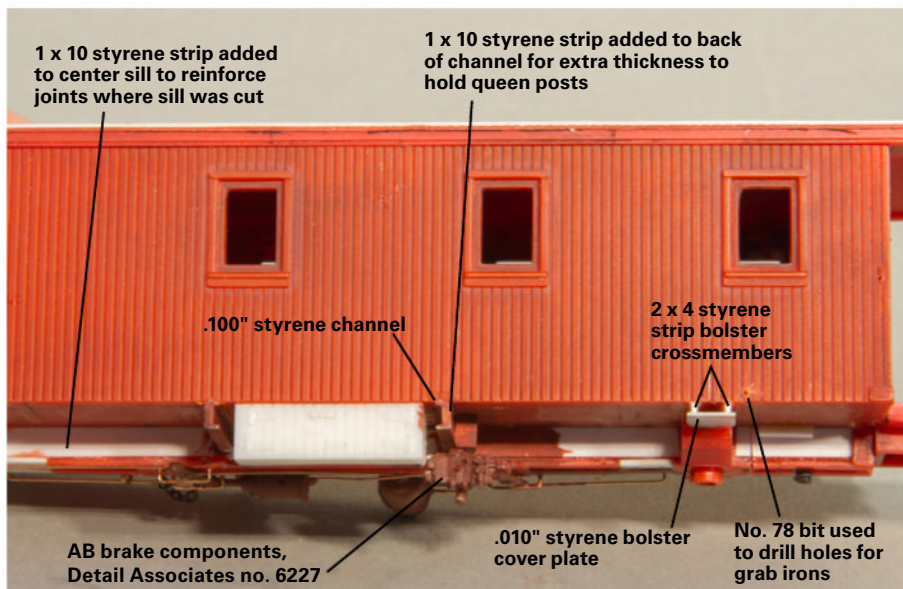
The sides and ends of the Walther's carbody required little modification. Following prototype photos, I marked the locations of the handrails and grab irons and drilled holes with a no. 78 bit at these locations. I used the curved side handrails from the Walther's kit and formed all the other handrails and grab irons from .0125" phosphor bronze wire.

Accurately detailing the underbody was a little trickier. I was mainly concerned about correctly duplicating the details on the cabooses that would be seen when the car was sitting on the rails. I wasn't as concerned about the brake piping being 100 percent accurate, though John's drawings and photos helped get things fairly close.

The first modification was to the outer edges of the bolsters. The ones on the model, although close for GTW models, didn't match the CV cars. I removed the outer edges and fabricated new ends using styrene 2 x 4 for the crossmembers and .010" styrene for the top plate.

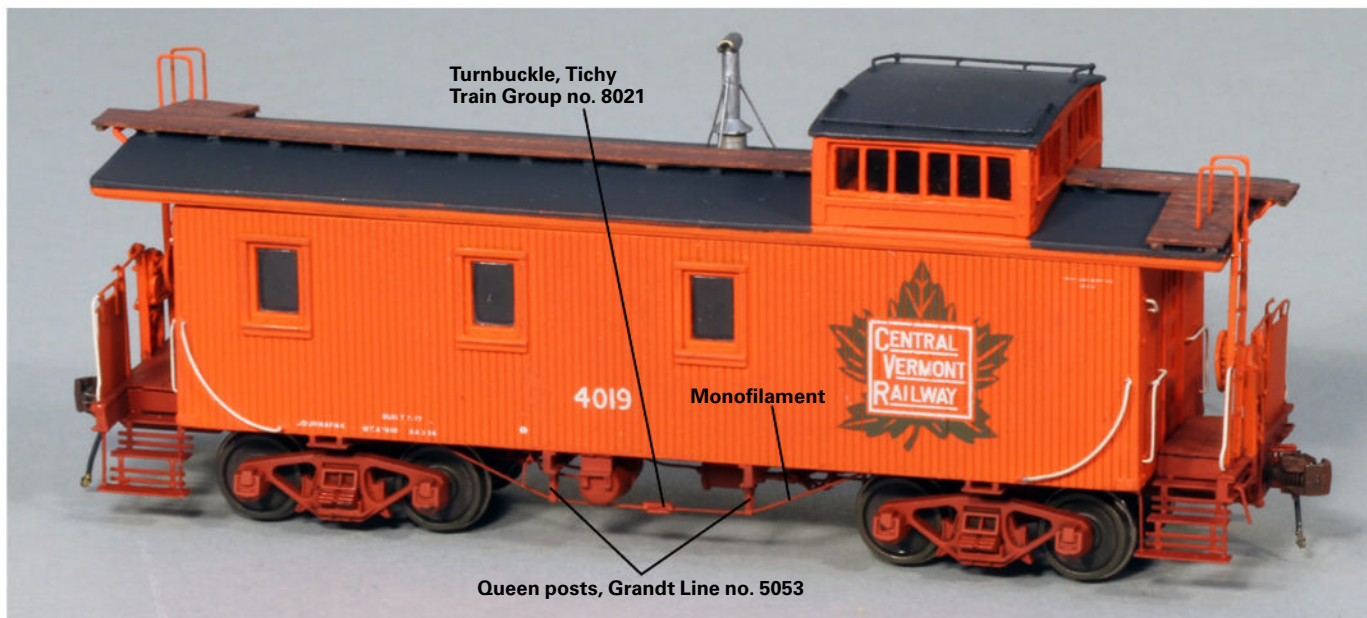
Next, I installed four .100" styrene channel crossmembers. I added a piece of 1 x 10 styrene strip to the back of each piece of channel for extra thickness to hold the queen posts. I also applied pieces of 1 x 6 styrene to the center sill where the bolsters would be attached.

Adding the brake cylinder, air reservoir, and associated brake piping and



**Fig. 3 Carbody changes.** Don made a variety of changes to the carbody. He used a no. 78 bit in a pin vise to drill holes for the grab irons.





**Fig. 4 Adding the truss rods.** Monofilament and detail parts from Tichy Train Group and Grandt Line were all Don needed to add the truss rod detail. He secured the queen posts to the .100" styrene channel.

rodding came next. I used Detail Associates AB brake components and pretty much followed the diagrams John sent me. Then I added toolboxes leftover from the Funaro & Camerlengo CV caboose kits. All of this is shown in **fig. 3** on the opposite page.

Finally, I added the two truss rods and queen posts. I used Grandt Line parts and monofilament to re-create these details.

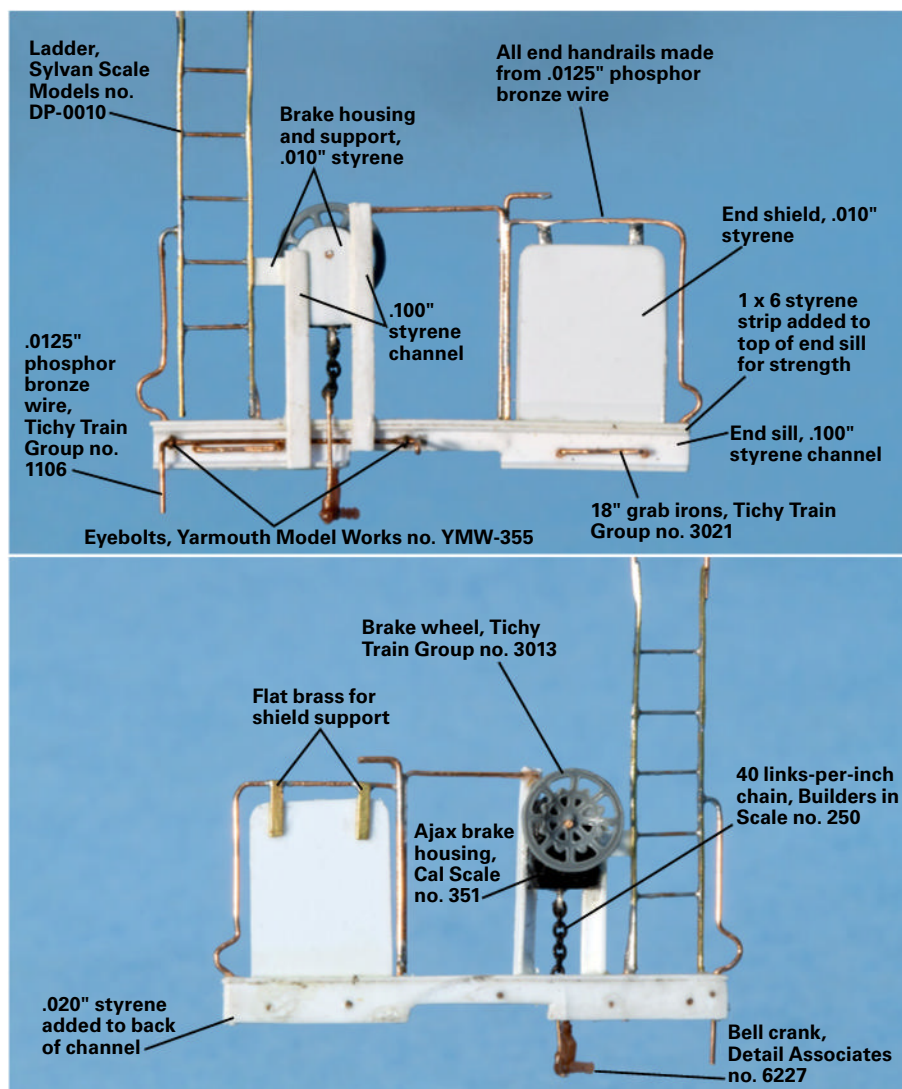
I cemented the queen posts into holes that I drilled in the crossmembers. Then I drilled a hole in the floor where the monofilament would pass through the floor. I threaded one end of the monofilament through the floor, tied a knot in the line, and pulled it tight against the floor. I used a drop of cyanoacrylate adhesive (CA) to secure the monofilament.

When the CA had dried, I ran the monofilament along the bottom of the car, up and over one queen post, and through the other hole. I secured that end inside the car using the same method as before.

After the glue had set, I gently lifted the monofilament over the remaining queen post, producing a nice, tight line representing a steel truss rod. I didn't glue the monofilament to the queen posts to allow for expansion and contraction. The finished details are shown in **fig. 4**.

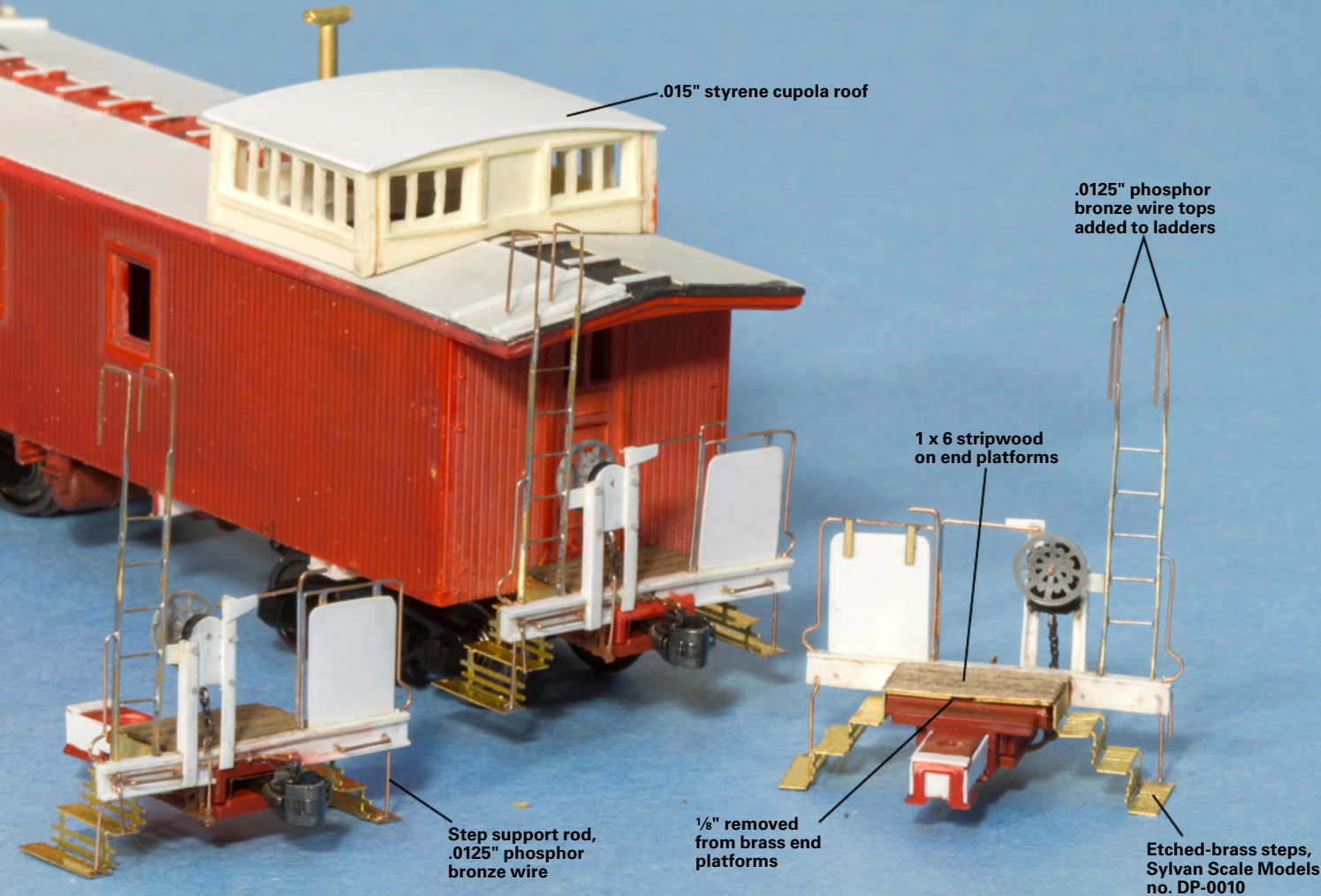
## End platforms

After studying prototype photos, I decided to build the end platforms (steps, railing, brake wheel, etc.) from brass and styrene parts.



**Fig. 5 Improved ends.** After studying prototype photos, Don determined it would be easier to make new ends from brass and styrene. He used solder on the metal-to-metal joints and cyanoacrylate adhesive on the metal-to-plastic joints.





**Fig. 6 A fine ending.** Don completed work on the ends of the caboose by adding etched-brass steps and stripwood end platforms. He worked on two cabooses at the same time, hence the duplicate platforms.

First, I cut the steps from the body. To do this, I removed the screws from inside the model. When I earlier rotated the bolsters, I didn't re-attach the portion with the end platforms to the center sill. This not only made it easier to cut the molded steps, but it allowed me to work on each end of the model separately without having to handle the rest of the model.

Next, I repositioned the screws holding the end platforms so they could be reached from the bottom of the model. To do this, I tapped holes in the floor for 2-56 screws (one on each end) and made a larger pilot hole in the center sill for the screw head. By running the screw in from the bottom, I could detail the end platforms and attach them after the roof was detailed, reducing the potential for damage to the delicate end details.

I used two sets of Sylvan Scale Models etched-brass CN steps and ladders for my cabooses. Before working on the end platforms, I bent the steps to their final shape and measured their width against the width of the carbody. The steps were a little wide for the Walthers model, so I cut out an  $\frac{1}{8}$ " section in the middle of

the platform creating two separate steps. This enabled me to adjust their position to the correct spacing.

At first building four identical end platforms seemed a little daunting, but I took my time and worked slowly. Fortunately these end platforms are almost identical to CN cabooses, so I got out one of my True Line Trains CN cabooses and used it as a guide to scratchbuild the ends. See **fig. 5** on page 49. Once I finished all four end assemblies (two for each caboose) I secured them to the end platform with liquid plastic cement.

Next I attached the brass steps to the platform with contact cement and let the glue dry. I then covered the end platforms with 1 x 6 stripwood. At this point the steps are rather flimsy, but the addition of the vertical rods between the end sill and bottom step make the assembly more rigid.

I then drilled a no. 78 hole in each side of the end sill in line with the hole in the bottom step. I ran the .0125" wire up through the step, into the hole, and soldered the wire to the underside of the step. I used CA to fasten wire to the plastic sill. I trimmed the excess wire and

filed it flush with the underside of the step.

The tops of the ladders on the full-size caboose have the CN-style bend, so I cut them off above the top rung and formed new square top sections to more closely match the CV style. Then I soldered the new tops to the stiles.

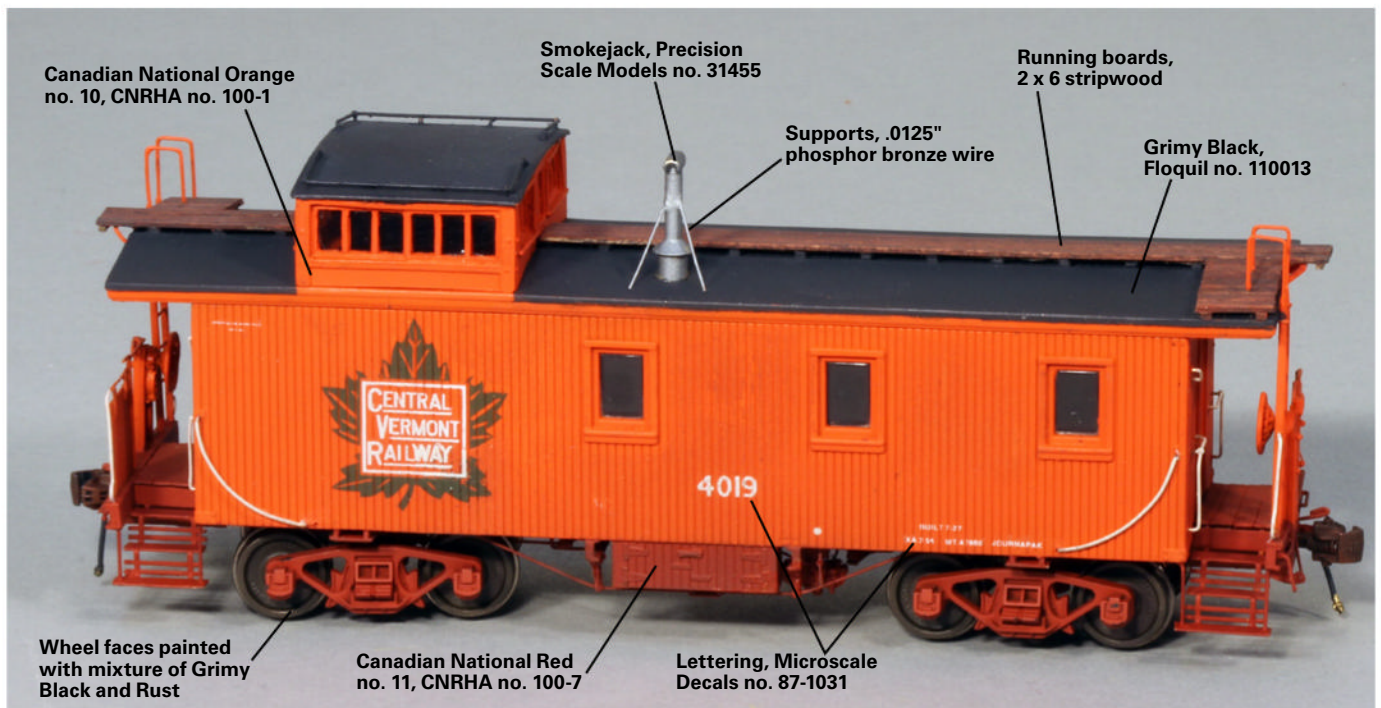
I wrapped things up by adding Kadee no. 58 couplers to the draft-gear boxes. Then I set the end platform assemblies, shown in **fig. 6**, aside until I finished the rest of the work on the caboose.

## Paint and decals

With the major components largely completed, I had to figure out the order in which I'd add the last details, paint the model, and do the final assembly.

First, I glued the roof to the cupola. Once the glue had dried, I filed and sanded it to its proper size. I then added the handrails, which I made using .0125" wire and Yarmouth Model Works eyebolts, around the edge of the roof. The eyebolts are small brass etchings that are more to scale than other offerings. I also used them for the uncoupling lever brackets and end handrail brackets.





**Fig. 7 Final touches.** Here is one of Don's completed cabooses. He lettered the model with Microscale decals.

I replaced the Walthers trucks with leaf spring caboose trucks from True Line Trains.

Before painting the model, I washed all the parts in warm, soapy water and let them dry. One of the cabooses came factory painted with the CV maple leaf herald. Even though it was a well done paint job, I wasn't sure if I could match the factory paint. I carefully masked the maple leaf and painted the entire body with the CN Morency Orange, a custom Scalecoat color produced for the Canadian National Rys. Historical Association.

The second caboose was undecorated. I painted the entire carbody, cupola, end platforms, and fascia CN Orange no. 10. I let the paint dry thoroughly (no discernible odor) before proceeding.

Next, I masked the side and end fascia on the roof and the sides and ends of the cupola. Then I sprayed the roof with Floquil Grimy Black to simulate the tar paper roof used on these cars. [Acrylicos Vallejo 70.924, Russian World War II uniform, is a close match to the discontinued Floquil color. — Ed.]

I then removed the wheelsets and masked the lower edge of the carbody and axle sockets in the trucks in preparation for painting. I sprayed the underbody with CN Red no. 11. I brush-painted the steps and end platforms.

If you can't locate the CNRHA colors, True Line Trains (acrylic) and Tru-Color Paint (solvent-based acrylic) offer these, and other Canadian-railroad-specific colors, in their respective paint lines.

Then I brush-painted the face of each wheelset with a mixture of Grimy Black and rust.

I decaled the models with Microscale set 87-1031. Since one caboose already had the maple leaf herald, all I had to do was apply the road number and car data to that model. I completely lettered the other caboose.

After the decals were dry, I air-brushed the cabooses with Model Master Clear Flat to seal the decals and give the models a uniform flat finish.

### Final assembly

I installed the grab irons and handrails that I formed earlier. I painted these, and the vertical handrails on the end platforms, white.

Before I attached the roof to the body, I added weight to the floor to bring the models up to National Model Railroad Association recommendations and installed window glazing. I then snapped the roof into place.


I used .005" clear styrene for the cupola windows and secured them with Microscale Kristal Klear. Then I attached the cupola to the roof with Walthers Goo. I used Goo here because it gave me the working time necessary to make sure the cupola was seated squarely on the model.

I set the smokestack into the hole I drilled earlier. Then I added the three wire supports using Tichy Train Group .0125" phosphor bronze wire, which I brush-painted a steel color.

Next, I used 2 x 6 stripwood for the running boards. Although a little heavy, I thought that it would look better than 1 x 6, which was too thin for my taste. I stained the wood with Hunterline Driftwood followed by a thin wash of Floquil Boxcar Red. This gives the running boards the look of wood exposed to the harsh New England elements. After cutting the stripwood to length, I secured it to the model with a small amount of Goo.

Finally, I added the end platforms by sliding each platform into place and inserting the screw through the center sill. By building these delicate assemblies ahead of time, I was able to avoid handling them until they were ready to be installed.

Once the platforms were in place, I added the inboard step support rods using .0125" wire. This section can be removed at any time if the caboose should require maintenance. Then I added a brass air hose to each end of the car and installed the trucks. See **fig. 7**.

Once I hang the markers, these cabooses will be ready for revenue service on my HO scale model railroad. 

*Don Janes of Sarnia, Ontario, is a retired Canadian National locomotive engineer. He models the Boston & Maine's Green Mountain Division in HO scale. Don's layout was featured in Great Model Railroads 2001. This is his sixth article in Model Railroader.*



# Meet the *EAGLE*



1. The Eagle Mountain RR wound through some desolate country in the Southwest to bring 100-car trains of iron ore to Kaiser Steel's Fontana, Calif., mill. The HO scale Eagle Mountain model railroad winds around a 4 x 6 layout and brings loads of ideas.



# MOUNTAIN PROJECT LAYOUT

Learn how to build *Model Railroader's* 4 x 6-foot HO scale railroad as we begin a new series

By Eric White • Photos by Bill Zuback



**T**here's a ghost town in Southern California that's a popular site for post-apocalyptic films and videos. It was built in the economic boom after World War II and abandoned in the mid-1980s. At one time, part of the town was a prison, and for all of its working life, it was at the end of a railroad line.

The town is Eagle Mountain, built by Kaiser Steel as home for the workers at the company's Eagle Mountain Mine. The open-pit mine produced iron ore that was shipped by rail to Kaiser Steel's Fontana Steel Mill east of Los Angeles.

To get the ore to the mill, Kaiser Steel built a 51-mile-long railroad, the Eagle Mountain RR. The Eagle Mountain RR, reporting marks KSCX, interchanged its mine loads with the Southern Pacific at a spot called Ferrum, which is Latin for iron.

The railroad crossed the parched desert near Joshua Tree National Park. It zigged and zagged to a high point called Summit, where there was a 3,000-foot-long passing siding to accommodate the 100-car ore trains that made up the line's only traffic. It then zigged and zagged some more before dropping into Eagle Mountain, which had a population of about 4,000 at the height of operations.

Much of the railroad still exists, but Google Maps shows various washouts that have either covered the rails or taken out the roadbed since the last revenue train passed in 1986.

## From inspiration to perspiration

So, how do you fit a 51-mile-long railroad into a modest HO scale layout? You don't. You pick a spot that has several interesting modeling projects, and you focus on that. *Model Railroader's* project

layouts have generally been compact, something a budding hobbyist can use to get started without the overwhelming thought of filling a basement or spare room.

And for practical purposes for the magazine and its staff, we need something that isn't going to take up our entire workshop. So, our editor, Neil Besougloff, went looking for a small track plan that could be adapted to our needs, and he found it in the Gold Hill Central from *Model Railroader's* 1985 50th anniversary celebration.

The Gold Hill Central was a 4 x 6-foot layout with a town on one side and a mine on the other. It had a backdrop down the middle to separate the two

scenes. In the Eagle Mountain RR, Neil saw the potential for a variation of the same. He called Cody Grivno and me into his office and outlined the plan.

Using the Gold Hill Central as a starting point, we would come up with a track plan to fit on a 4 x 6-foot tabletop. We'd develop the scenes for each side, and we'd describe the whole thing in a year's worth of Step by Step columns, like the how-to story on page 34 in this issue. He had some ideas for the kinds of stories he wanted, and told us to take pictures as we worked and add, subtract, multiply, and divide his list as we saw fit while the project progressed.

Over the next few months, we did just that.



**2. Aerial photos from Google Maps showed a large structure with a traveling crane in front, presumably used to unload heavy cargo such as repair and replacement parts for mine machinery.**



3. The layout is divided by a tempered-hardboard backdrop. This side features shop buildings similar to those at Eagle Mountain, used to keep the railroad and mine operations running.



4. Steven Otte reasoned that the mine and town received rail shipments for various needs, and added a scratchbuilt loading dock to the layout's team track.

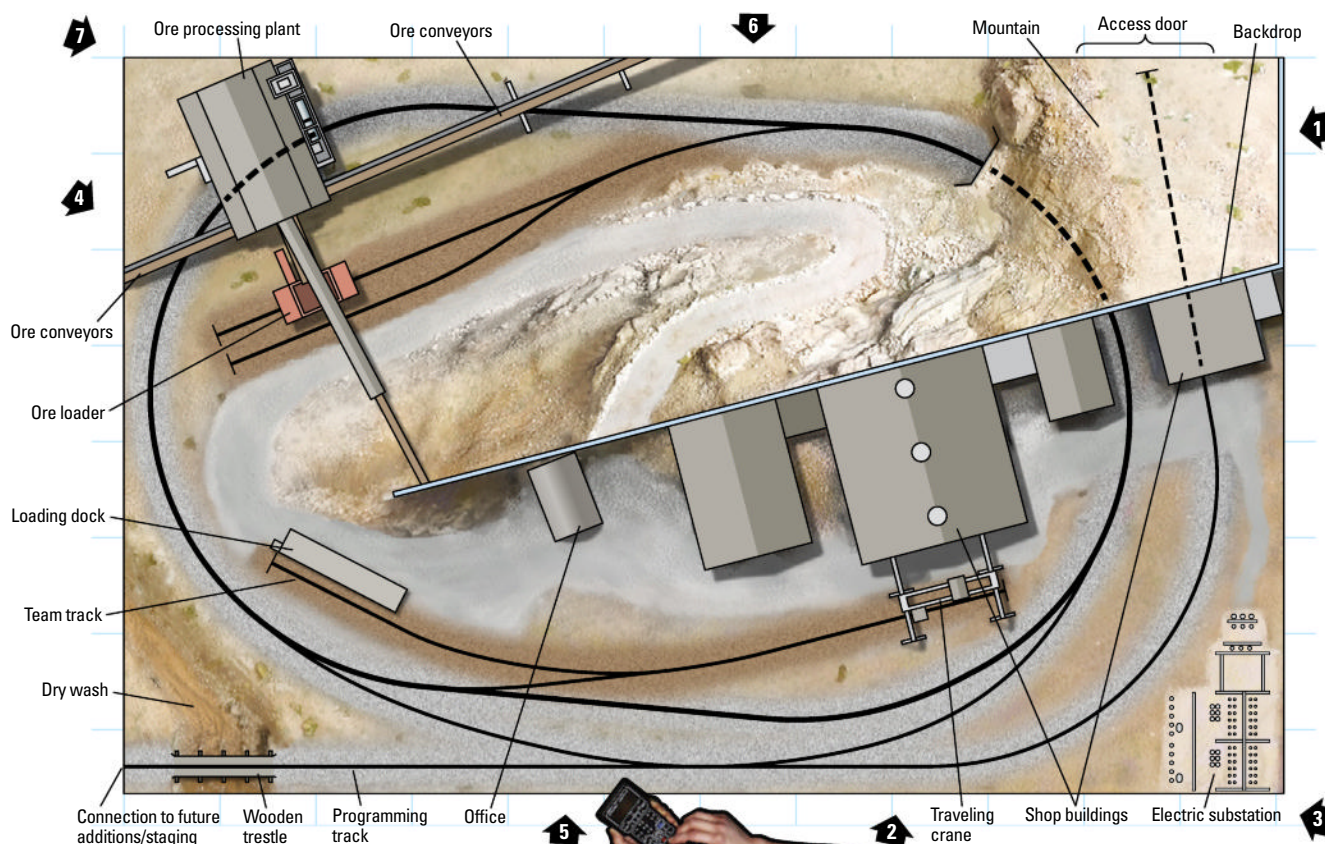
## Serendipity

In each project railroad, as in many home layouts, there's some chance discovery that leads the project in a particular direction. Early on, I found a U.S. Bureau of Mines report online about Eagle Mountain Mine operations, which included photos of equipment and activities at the mine in the mid-1950s.

This record at the University of North Texas Digital Library gave us our first glimpse of what was done at the now-defunct mine. There were photos of the ore loading process, the open pit mine, and a map showing the relationship between the pit, the railroad, and various buildings.

We could see that most of the buildings were corrugated steel, and combined with images from Google Map's satellite view, we started to put together a list of buildings we could model in each scene. Initially, we wanted to include the





## Eagle Mountain RR

HO scale (1:87.1)

Layout size: 3'-10½" x 6'-0½"

Scale of plan: 1"= 1'-0", 6" grid

Numbered arrows indicate photo locations

Illustration by Rick Johnson

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

town of Eagle Mountain, but in a layout of 4 x 6 feet there's only so much space.

That meant our "town" side of the layout became the shop side instead. Using a Walthers rolling mill kit, I kitbashed several buildings that had a general appearance of heavy industry. Since the mine site itself is closed off to the public, and we weren't able to take a road trip to Southern California for research, we used the phrase "inspired by" often in descriptions of what we were building.

Toward the end of the project, I stumbled on a Facebook page with photos called "Eagle Mountain, CA refugees." Some of the town's former residents, who were the workers at the mine, posted photos of activity at the mine, showing scenes much later than those in the 1956 Bureau of Mines report.

These photos were helpful in inspiring the structures on the mine side of the layout, and if I'd found them sooner, we

might've done things a little differently on the shop side, but for the most part, I think we captured the feel of the area reasonably well. Of course, because of space, we couldn't come close to modeling the sprawling mine operations.

### Track plan

Developing the track plan was fairly straightforward. From the Gold Hill Central, I took the basic oval – a starting point for most new model railroaders. We needed a connection to the outside world, and we needed an area to load ore cars. These items were placed on opposite sides of the backdrop.

Satellite photos showed what appeared to be track entering a building, and an overhead crane outside another building served by rail as well. Both were interesting scenes. And we'd need a runaround track to be able to switch sidings from two directions. In addition to the crane

### ▶▶ The layout at a glance

**Name:** Eagle Mountain RR

**Scale:** HO (1:87.1)

**Size:** 3'-10½" x 6'-0½"

**Prototype:** Eagle Mountain RR

**Locale:** Riverside County, Calif.

**Era:** late 1960s to early 1970s

**Style:** island, portable

**Mainline run:** 14 feet

**Minimum radius:** 19"

**Minimum turnout:** Peco no. 5

**Maximum grade:** none

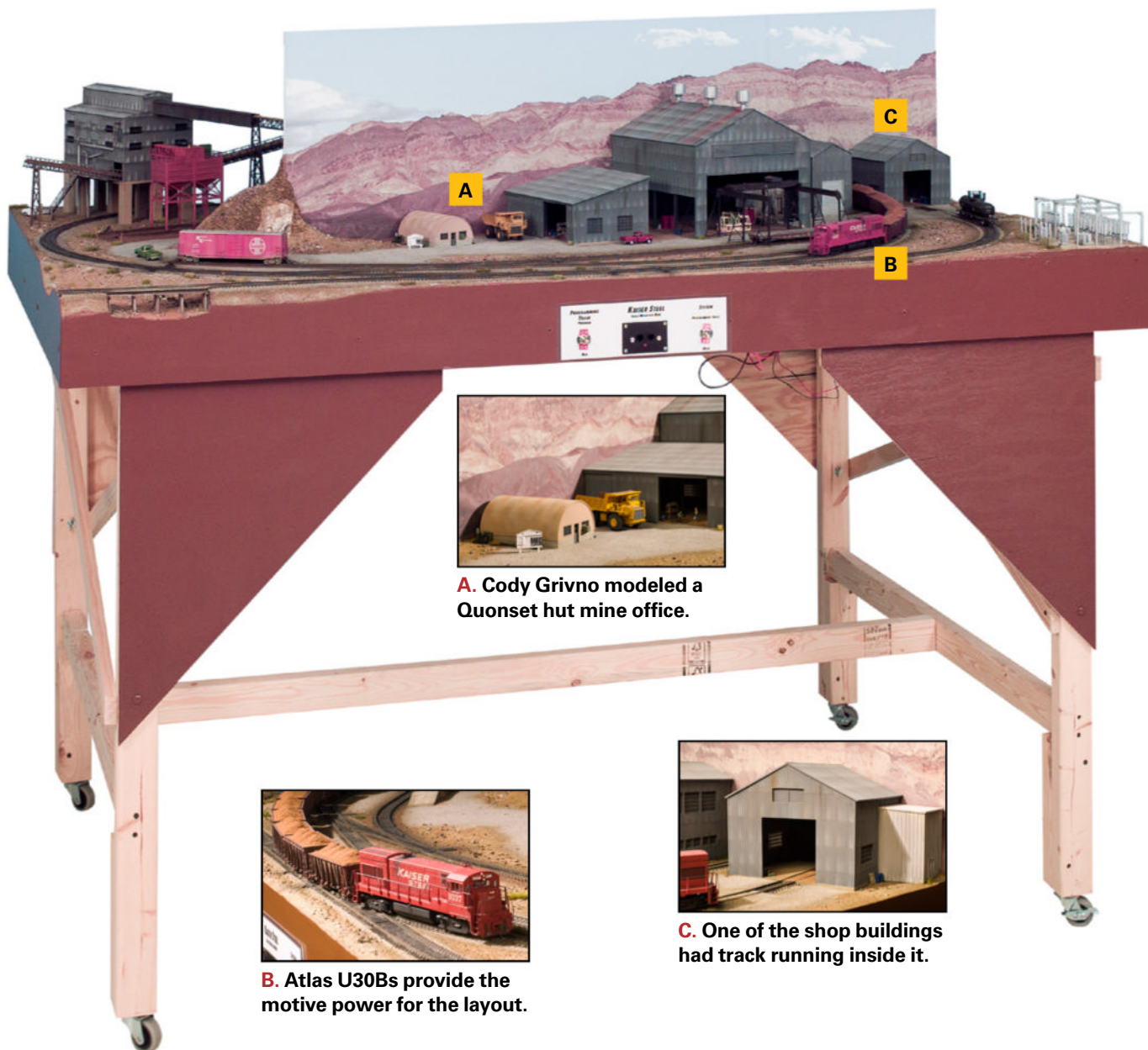
**Height:** 45"

**Track:** Peco code 83 flextrack, Peco and Walthers code 83 turnouts

**Scenery:** plaster gauze over cardboard webbing and extruded-foam insulation board

**Control:** NCE Powercab DCC





**A. Cody Grivno modeled a Quonset hut mine office.**



**B. Atlas U30Bs provide the motive power for the layout.**



**C. One of the shop buildings had track running inside it.**

**5. The shop side of the layout has the more complicated track arrangement. All the turnouts are lined by hand, except the two turnouts on the opposite side of the layout, which were equipped with Tortoise by Circuitron switch motors.**

scene and the track running into the building, associate editor Steven Otte suggested a team track for assorted deliveries of machinery and supplies to the mine.

To allow trains to disappear through the backdrop between buildings, I moved the lead for the siding that went into the building to the outside of the oval of track. The other two sidings sit within the oval, and require a switch-back move to get to the team track, adding an interesting complication.

When the oval comes through the backdrop to the mine side, we added a tunnel. One doesn't appear on the prototype, but this is our railroad, and we wanted a tunnel. In addition, A.I.M.

Products offers a tunnel portal with a 1948 date on it, the year the Eagle Mountain RR was built. The tunnel also created a useful project for our series of articles.

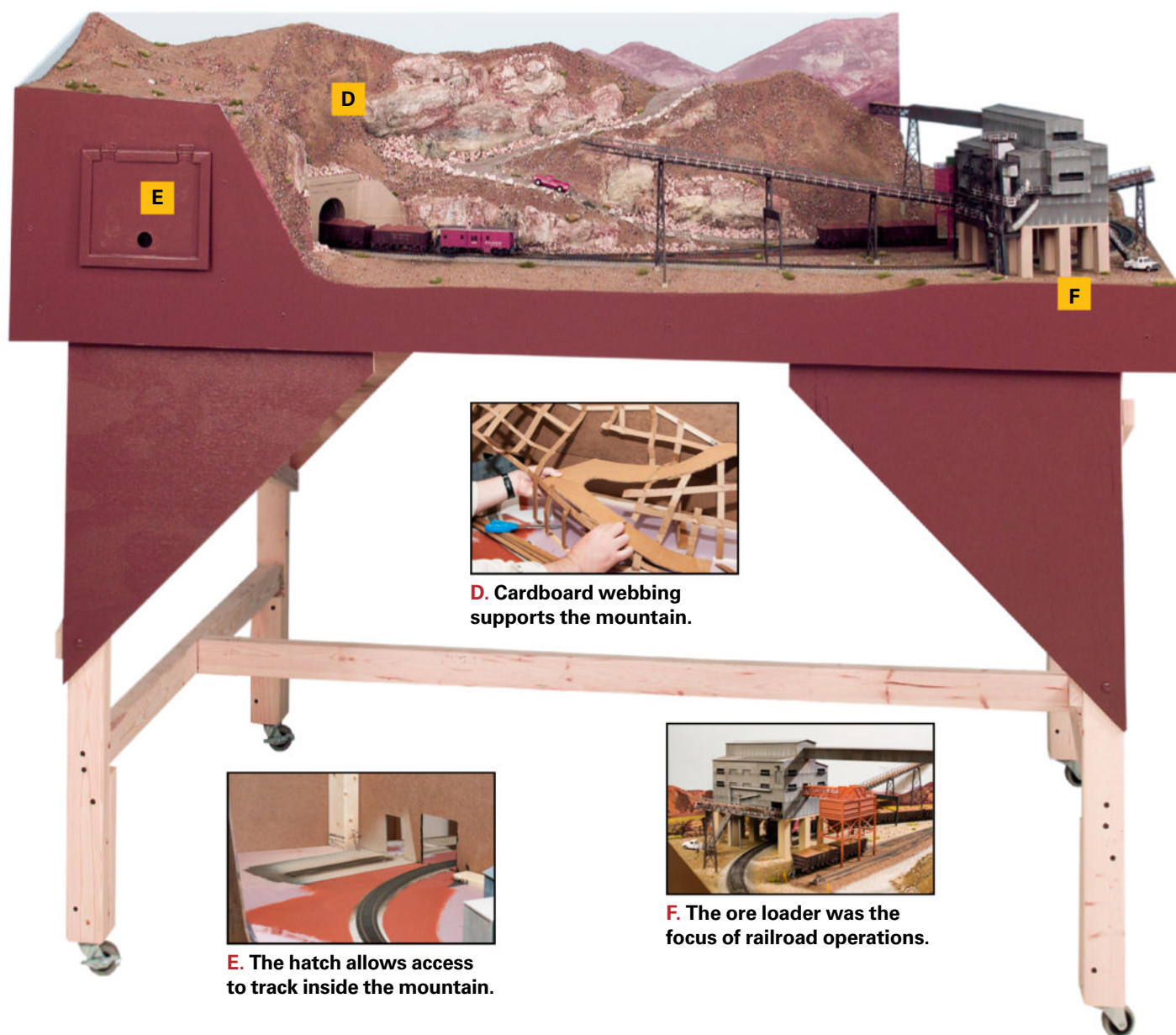
The layout is built on a flat tabletop, but we took advantage of the chance to carve into our extruded-foam insulation board scenery base to create a dry wash and give the impression the railroad runs on fill in some areas. Using a mountain to disguise the hole in the backdrop brought the scenery up above the rails in an interesting manner, so despite simple carpentry and a lack of grades for the track, the landscape has a variety of elevations.

We used mostly Peco code 83 flextrack and turnouts, with a pair of Walthers code 83 curved turnouts and some filler sections from an Atlas track assortment pack to help fit things together. The main curves on the railroad are 19" radius.

We powered the turnouts on the mine side with Tortoise by Circuitron switch motors. The Walthers curved turnouts are controlled by Caboose Industries ground throws. The remaining Peco turnouts rely on their built-in sprung points to keep them in place.

The mainline track is laid on Cascade Rail Supply ([www.cascaderailsupply.com](http://www.cascaderailsupply.com)) Homasote roadbed. I especially





**D. Cardboard webbing supports the mountain.**



**E. The hatch allows access to track inside the mountain.**



**F. The ore loader was the focus of railroad operations.**

**6. The layout surface is two layers of 1" extruded-foam insulation board glued to a 1/2" plywood table top on an open grid framework. The mountain is made from plaster gauze draped over corrugated cardboard webbing.**

liked the 1.5 percent transition ramps that made it a simple matter to go from the graded mainline track to the sidings laid on the ground in the shop area.

## Structures and scenery

As I mentioned earlier, we bought a Walther's rolling mill as a source of corrugated siding and other parts. Besides the siding, the kit comes with a number of girders and columns, several trusses, two types of vents, and the steel rolling equipment, which got repurposed into various other items.

A Walther's traveling crane stands in front of one of the buildings, and between three of the corrugated steel

buildings are additions built from Pike-stuff panels from the Milton A. Corporation kit. Cody indulged his enthusiasm for Quonset huts with a modified Rix Products kit to depict our version of the mine office building, and Steven added a scratchbuilt unloading platform for the team track and built the dry wash scene with its timber trestle. An Atlas electric substation kit rounds out the shop complex buildings.

On the mine side, we tapped Walther's again for its Diamond Coal Mine, which formed the basis of the ore processing building, and Glacier Gravel for the ore loader. The mountain is built with traditional cardboard webbing covered with

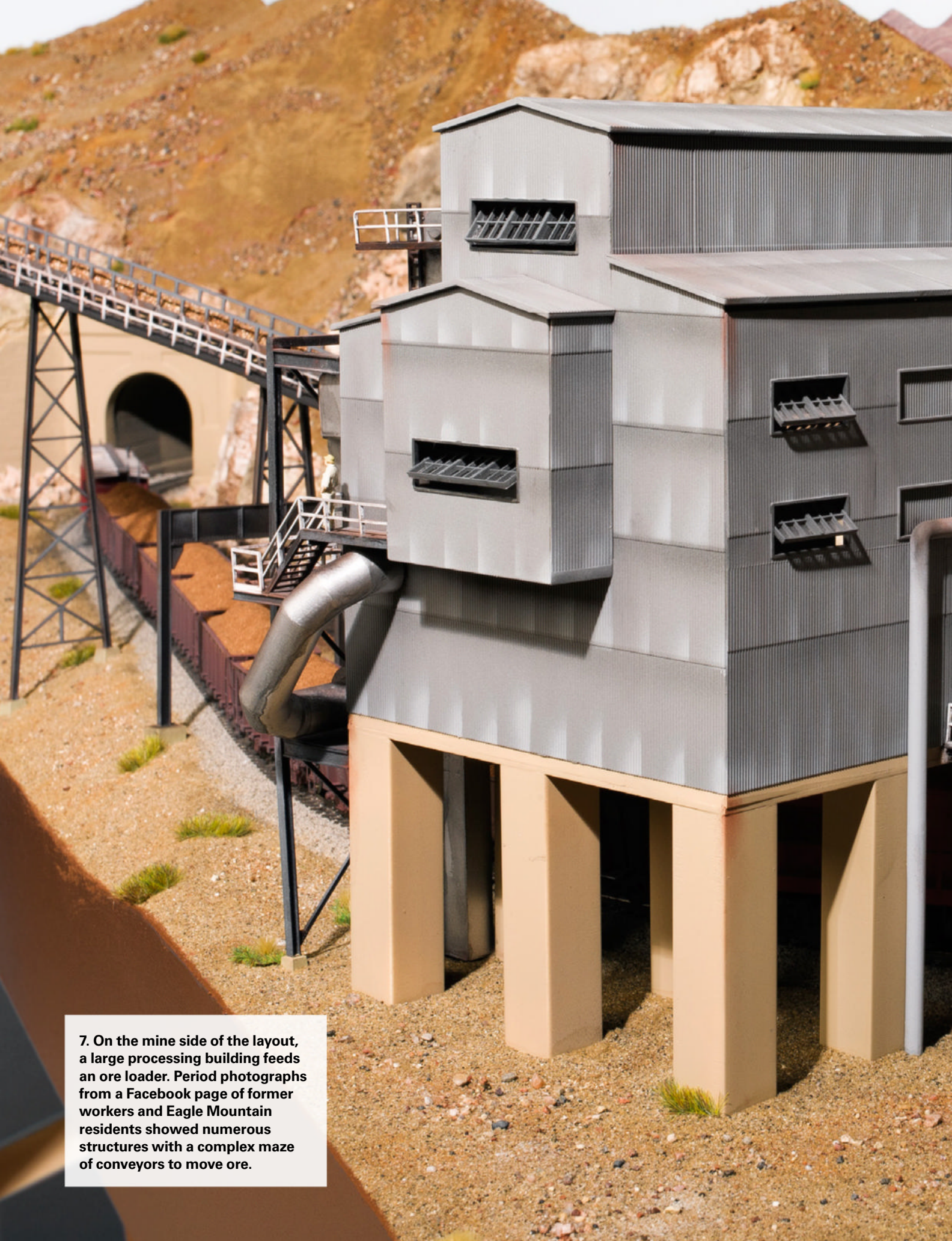
plaster gauze. Rock faces were cast in place using Woodland Scenics molds, then colored with the firm's Earth Colors liquid pigments.

There are no trees. Ground cover came from a variety of sources, including Highball Products, Arizona Rock & Mineral, Walther's, and Busch. We also used leveling sand from the local home center, as well as crushed, dyed plaster from rejected rock castings.

## Rolling stock

The Eagle Mountain RR had its own locomotives and homebuilt cabooses. When the railroad began operations, it used Baldwin DRS-6-6-1500 and AS616





7. On the mine side of the layout, a large processing building feeds an ore loader. Period photographs from a Facebook page of former workers and Eagle Mountain residents showed numerous structures with a complex maze of conveyors to move ore.





road switchers. By the late 1960s, these machines were showing the wear of twice-daily 100-car trains, and were replaced by General Electric U30Cs.

Although the Baldwins would have been neat, we couldn't immediately lay our hands on any models. And since we were using tight 19"-radius curves, Neil and Cody decided to go with four-axle power in the form of Atlas U30Bs as stand-ins for Eagle Mountain's U30Cs.

Cody painted and detailed the locomotives and installed Digital Command Control (DCC) decoders. He also repainted an Athearn Southern Pacific bay-window caboose as a stand-in for Kaiser Steel's homebuilt bay-window cabooses.

Ore cars were a simple matter of finding enough Athearn 100-ton Southern Pacific ore gondolas. Cody treated them to coat of weathering and spruced up their molded plastic ore loads.

### Control system

To control our project railroad, we installed an NCE Powercab starter DCC system. The track leading off the layout and over the dry wash is electrically isolated so it can be used as a programming track. Double-pole double-throw toggle switches mounted to the fascia control power routing to the programming track and the rest of the layout.

We used a stationary decoder, an NCE Switch-It Mark II, to control the Tortoise by Circuitron switch motors on the tracks for the ore loader. A Tam Valley Depot Dual Frog Juicer powers the frogs on the Walthers curved turnouts on the shop side of the layout. In all, it's a simple system for a simple layout.

### Looking ahead

Throughout 2016, we'll be diving into the details of our project layout, starting next month with construction of the benchwork. After that, we'll get into trackwork, scenery, structures, rolling stock, and other topics.

You can be sure to catch everything by following our monthly Step by Step column, which will be home to the 2016 project railroad. Be sure to follow along! **MR**

### Now on ModelRailroader.com

Catch the Eagle Mountain RR in action! Readers can take a tour of the layout in the video introduction of our 2016 project layout at [www.ModelRailroader.com](http://www.ModelRailroader.com).





**Fig. 1 Before and after.** The pastel weathering applied to the O scale boxcar on the right adds greatly to its appearance.

# Basic weathering with pastel sticks

Quick, easy application provides great results

**By Lou Sassi** • Photos by the author

**P**owdered pastels have been my weathering material of choice for over three decades. I use them to weather rolling stock, figures, structures, vehicles, roads, and the list goes on.

Over the years I've experimented with other techniques, such as airbrushing and ink washes. All have produced good

results, and some of the best effects I've created used combinations of them.

However, I always come back to my trusty boxes of Windsor-Newton pastel sticks when I want quick, easy results. I particularly like the results I obtain with them when weathering freight cars.

I recently started weathering my On30 (O scale, 30" gauge) Sandy River &

Rangeley Lakes boxcar fleet, so let's go through the steps I took to achieve the results seen in **fig. 1**. On the left is an oxide red Bachmann boxcar that was lettered for the SR&RL, flat finished with Testor's Dullcote, and lightly weathered with an airbrush. The boxcar on the right has received the same treatment, plus additional pastel weathering.



I used Dullcote on those cars because a flat finish is absolutely necessary for good results with weathering powders. Whether it be factory- or self-applied, the dry colors will adhere to a flat finish much more readily than a glossy one. If your cars come from the factory with a flat finish, it might not be necessary to apply your own.

I have two color palettes I use regularly, Earth tones and Hi-Fi Grays.


**Figure 2** points out which colors I most often use for specific purposes, as well as the tools I use. You might use different colors if you're weathering cars painted different colors, or modeling a part of the country with a different color of dirt. I apply the pastels using a dry stiff-bristle brush, the kind used for oil paint.

Begin by pushing or pulling the brush along the length of the pastel stick to pick up some powder on the brush (**fig. 3**). If you need more powder all at once, you can scrape a single-edged razor blade along the surface of the stick to build up a mound of powder. Don't worry if you get excess powder on adjacent sticks; this blend of similar colors will actually enhance the weathering.

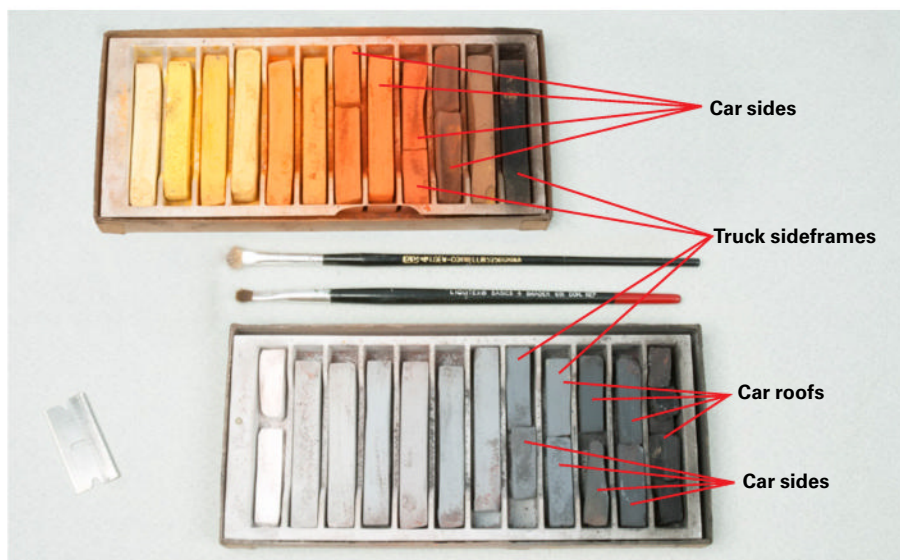
Draw the powder vertically down the sides of the car (**fig. 4**). In almost all instances, I apply the colors in a vertical direction, bearing in mind the way rain would wash dirt and grime down the roof and sides of the real thing. I use my breath to blow off any excess powder.

Unless I'm attempting to create contrasting highlights, I try to keep the colors close to the base color of the car being weathered. I also weather the car roof and truck sideframes using the same technique. In this case, the roof is black, so I opted for three or four of the darker grays to vary the base color. Since the trucks also started out black, I relied on a couple shades of medium gray topped with a couple of rusty reds.

Once you're satisfied with the results, you can airbrush the car and trucks with Dullcote to fix the powders, or use a matte varnish from a spray can. This step will cause the pastels to fade, though, so you may have to reapply the colors and respray the flat finish until you're happy with the results.

After applying the powders, I opt to leave my cars as-is, rather than spraying them with Dullcote. I don't handle my equipment that much, and if doing so leaves fingerprints or removes any of the weathering, I simply re-apply it. 

*Lou Sassi is a frequent contributor to Model Railroader magazine.*



**Fig. 2 Materials.** Earth-tone and gray pastels give Lou the colors needed to simulate a variety of dirt, dust, mud, rust, and soot effects.



**Fig. 3 Loading the brush.** Lou rubs a stiff brush along a pastel stick to pick up powder. If he needs more, he scrapes the stick with a single-edged razor blade.



**Fig. 4 Application.** Rain washes dirt, soot, and rust vertically down the sides of prototype freight cars, so Lou applies his powders with vertical strokes.



# Colorado in just 8 x 8 feet



1. An A-B-A set of Alco PAs rumble over the U.S. 40 grade crossing at West Sulphur on Steve Kibort's N scale Southbay Western. At the lower right of the scene, Alco RS-3 no. 5200 switches Western Forest Products.

This double-deck N scale layout is in the living space of a fifth-floor condominium

By Lou Sassi • Photos by the author

**One of the most common reasons** want-to-be modelers give for not building a model railroad is space. But longtime modeler Steve Kibort didn't let the space constraints of a fifth-floor condominium dash his dreams of building a layout. Instead, he views his 8 x 8-foot double-deck N scale model railroad as both a layout and an animated, three-dimensional piece of art.





2. While the morning local switches the mine in the background, a pair of Alcos leads the heavyweight Yampa Valley. The 8 x 8-foot double-deck layout is set in Colorado during the 1950s.





**3. This overall view shows how Steve's layout fits into his condominium. The New River Mine is to the left, and Kremmling is at the center. A lower deck can be seen in the opening.**

When Steve moved from Colorado to Florida, he originally thought about modeling the CSX (ex-Clinchfield) Blue Ridge Subdivision. But memories of watching the *California Zephyr* and *Rio Grande Zephyr* while railfanning in Colorado led him to model the Denver & Rio Grande Western.

Selecting an era proved a bit more difficult for Steve. His locomotive fleet consists of steam and early diesel locomotives, plus a good-size collection of sound-equipped modern diesels like Electro-Motive Division SD70MACs, General Electric AC4400s, and GE P42s. Steve's rolling stock collection ranged from 40-foot boxcars to the latest auto racks, allowing him to model anywhere from 1955 to 2005. Steve selected the former, but said, "I do, however, reserve the right to have my custom painted PA's with the *California Zephyr* in tow meet AC4400s with a string of auto racks on occasion."

### Building a layout

The track plan is an original design that incorporates features like a single track main line; a double reversing loop that allows trains to travel in either direction; online traffic destinations

and sources; yards for the origin and termination of trains along with storage tracks; and run-through bridge traffic with passenger operations to complicate local train movements.

Layout design and construction were influenced by several factors: the possibility of a move to a new home, the desire for multiple levels, and the ability to operate the railroad at eye level while sitting down.

Steve accomplished the latter goal by setting the lower level at approximately 24" (so an armless chair can roll under it) and the upper level at 54", allowing him to sit in an office chair fully raised. At 6'-2" tall, if Steve stands up, he can get a birds-eye view of both levels.

The layout is a combination of table top plywood, micro-board, and open frame topped with extruded foam insulation board. The helix is the cornerstone of the railroad with everything else emanating from it. The Ashlin Designs 10-turn helix kit, which has a 2 percent grade, provides 24" of elevation change between the levels.

Steve handlaid the mainline and upper level sidings with code 55 rail and Clover House ties. He prefers the firm's ties because they're stained in

### ►► The layout at a glance

**Name:** Southbay Western

**Scale:** N (1:160)

**Size:** 8 x 8 feet

**Prototype:** Freelanced, inspired by Denver & Rio Grande Western

**Locale:** Colorado Rockies

**Era:** Late 1950s

**Style:** double-deck

**Mainline run:** 300 feet (including helix and double reversing loop)

**Minimum radius:** 11"

**Minimum turnout:** no. 5

**Maximum grade:** 2 percent

**Benchwork:** modular 2 x2 with high density foam, plywood, and micro board

**Height:** 22" to 53"

**Roadbed:** VinylBed

**Track:** handlaid code 55 except for yards

**Scenery:** "ground goop," real dirt, and ground foam

**Backdrop:** handpainted on tempered hardboard and photo backdrops

**Control:** NCE Digital Command Control









**4. An A-B set of Electro-Motive Corp. FT diesel locomotives brings a westbound extra freight past Bladock Farm. The house, barn, and silo are American Model Builders kits.**

multiple colors, giving them a less uniform appearance.

The mainline turnouts are no. 7, and those on the sidings are no. 5. Steve built the turnouts using Fast Tracks jigs and the firm's QuickSticks laser-cut wood ties. Steve also handlaid the main line and turnouts on the lower level, but used Atlas and Micro Engineering code 55 flextrack for the yard to expedite the building process.

Steve controls the lower level turnouts for the main line, passing sidings, and reverse loops using a combination of Tortoise by Circuitron switch motors

and Hare stationary decoders from DCC Specialties. Turnouts on the upper level are controlled by Tam Valley Depot Singlets.

The industrial sidings and yard tracks are controlled by single-pole double-throw micro slide switches. These simultaneously power the frogs and control point movement. The operating block signals were produced by Custom Signal Systems. Steve plans to use reflective infrared to control some of the trackside accessories, such as grade crossings.

**More than a layout**

The model railroad occupies a space previously allotted to the family room, so Steve needed to visually separate it from the adjacent dining and living

room. To do this, Steve built a ¾-height wall, finishing the side facing the living room and adding a chair rail to match the adjacent walls.

Since the layout is open to the dining room, Steve made it resemble animated, three-dimensional artwork. The railroad acts as a sculpture, while the trains are something he and his friends could enjoy as model railroaders.

The upper level backdrop took on a heightened level of importance, as it needed to stand alone while, at the same time, compliment the overall look of the rest of the railroad. To accomplish this, Steve turned to a local mural artist. The backdrop scenes were influenced by Steve's 84-year-old father, who was living with him at the time. His dad noted that the layout was





positioned to mimic the Florida sunsets as observed from the condo's balcony. This led to one of the most striking features of the railroad – turning a Florida sunset into its Colorado counterpart!

### Mountain scenery

The scenery base consists of stacked and carved extruded-foam insulation board covered with a home-blended “ground goop” made from a mix of fine sawdust, white glue, and a bit of Lysol added as a mold and mildew inhibitor. [See the March 2015 issue of *Model Railroader* for another recipe for ground goop. – Ed.]

Steve then covered the scenery base with a layer of sifted local black soil combined with other finely sifted dirt in shades of red and yellow. Some of

## Realistic road signs



Road signs help reinforce a sense of time and place on a model railroad. Steve found the road signs shown here on the Internet and reduced them to N scale on his computer.

**To help reinforce** that my model railroad is set in Colorado during the 1950s, I use an assortment of period-appropriate road signs.

A valuable online resource for signs is [www.roadtrafficsigns.com](http://www.roadtrafficsigns.com). This website has a large catalog of signs, and it also gives the dimensions for each sign. Once I've downloaded images of the signs, I insert them into a PowerPoint page, set the zoom to 100 percent, and size the sign on the screen using a scale rule.

Then I print the signs, I cut them with a sharp no. 11 blade and soak them in diluted white glue (60 percent glue, 40 percent water) for a few minutes and place them on waxed paper to dry.

I attach the signs to .015" piano or music wire with cyanoacrylate adhesive. Then I use a no. 78 bit to drill a hole for the sign post and set the sign into place. I've learned not to glue the post into the hole in case the sign gets damaged (this happens more than you might expect). It's easier to pull the post out and glue on a new sign on a flat surface than attach the sign to a vertical post. – Steve Kibort



**5. The afternoon local, led by a pair of Electro-Motive Division SD7s, approaches Sulphur. Steve scratchbuilt the wood trestles in the foreground.**



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**6. The employees and customers at Katy's Fresh Produce have a front row seat to the action on the Rio Grande. Today, a three-unit set of Electro-Motive Division F3s cruises past the signal with an eastbound manifest freight.**

these materials came from Arizona Rock & Mineral.

Next, Steve applied various shades of ground foam turf over the ground goop and dirt. He secured the scenery materials to the surface with white glue thinned with water.

Steve populated the wooded areas with a variety of products. Most of the trees are Scenic Express SuperTrees that he spray-painted black and coated with fine ground foam. The aspens are from Grand Central Gems.



## ▶ Meet Steve Kibort

**Steve Kibort**, a Colorado native, has been modeling for more than 45 years. He spent 25 years in management consulting before “retiring” to own and operate a motel on St. Petersburg Beach. Steve is now mostly retired, modeling in N scale and helping out at the Sundance Center for Fine Scale Modeling in Odessa, Fla.

The coniferous trees are a combination of bulk tree armatures covered with ground foam and spruce trees built by Steve’s friend, Ray Feldt. Steve modeled the Colorado Pinyon trees using the tops of Super Trees.

Steve re-created the undergrowth with small pieces of SuperTrees, Woodland Scenics Clump-Foliage, and poly fiber spray painted black and coated with ground foam.

The water features on the layout were made using Enviro-Tex and Magic Water by Unreal Details, both two-part resin products. Steve used poly fiber coated with gloss medium to model rapids and waterfalls.

## Structures and rolling stock

Most of the buildings on Steve’s Southbay Western RR are laser-cut wood or injection-molded plastic kits. Regardless of the material, Steve first spray-paints all of the exterior parts prior to assembly. For example, he sprays masonry structures a brick red color. Once the paint has dried, he applies a thin wash of white or gray water-based paint to represent mortar. Steve follows that up with a thin weathering wash of black over most of the exterior walls and adds decals and interior window treatments.

Once the structure is assembled, Steve sprays it with a clear matte finish. Most structures have a 3-D or flat photo interior. Buildings with larger windows feature window signs and figures. Many of the structures also have illuminated interiors and exteriors.

## Running trains

Steve runs trains with two handheld wireless NCE throttles. Even though the NCE throttles have fast clock capability, Steve prefers not to utilize it. He feels the option puts too much pressure on the operators. Steve says the goal of his model railroad is to have fun, not to be driven by a clock.

Because of the layout room’s compact size and small walk-in area, it can support a maximum of three operators. One or two local freights can operate at a time with up to two through or local passenger trains.

Occasionally other operators bring their own wireless cabs for what Steve refers to as “more strained” operations. These sessions require a dispatch function for yard, lower level passing siding, and reversing loop operations.

All of the mainline passing track turnouts are decoder equipped, letting operators handle their own passing maneuvers while coordinating with each other and the locals. Since the operators are so close to each other, no communications tools are used.

Operation is dictated by a modified switch list that specifies which cars will be picked up or dropped at an industry or yard. Crews can decide themselves which cars are empties or loads, and thus how complex to make their switching moves.

## Making it fit

Steve feels that his railroad has exceeded his expectations with respect to being an animated piece of artwork that comfortably resides within the living space of his home. It has proved to him that model railroads need not be exiled to a basement or garage, but can, with careful planning, be an integral part of the family environment. This way, everyone, whether or not they’re model railroaders, can admire and enjoy Steve’s layout. **MR**

*Lou Sassi is a frequent contributor to Model Railroader magazine. The second edition of his book Basic Scenery for Model Railroaders is available at [www.kalmbachhobbystore.com](http://www.kalmbachhobbystore.com).*

## Now on ModelRailroader.com

Lou Sassi shot video of trains running on Steve Kibort’s N scale Southbay Western layout. Model Railroader subscribers can watch at [www.ModelRailroader.com](http://www.ModelRailroader.com).



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A dramatic vertical rock face looms above Kim Nipkow's HO scale narrow gauge line. Follow along as Kim describes the easy-to-learn techniques that he used to create this realistic mountain landscape.

# 3 WAYS FOR REALISTIC ROCKS

How to use rock molds, carved plaster, and charcoal chunks for layout scenery

**By Kim Nipkow**  
Photos by the author

**Cliffs and exposed rock faces** are a signature element of many famous prototype railroad scenes, such as the “high line” of the Durango & Silverton RR or Windy Point on the Cumbres & Toltec Scenic RR. A rocky vertical landscape also adds a dramatic element to model railroad scenery, as I found on my HO scale 3-foot gauge line.

I use three basic techniques for modeling rocks on my layout: casting plaster

with rock molds, carving partially cured plaster, and installing charcoal chunks in wet plaster. Each method is effective in any modeling scale and easy to master with a little practice. I’ll also describe how I paint and weather my model rocks to make them look like the real thing.

With each of these techniques, I use prototype photos as a guide. There’s no other way to know that I’ve achieved the

shape and color that I’m going for. I also find that some types of rock lend themselves to a specific modeling technique.

Modeling rocks isn’t that hard, and they add a lot of interest to the landscape along a model railroad.

*Kim Nipkow’s most recent article was “How to model a desert” in the January 2015 issue of Model Railroader. He lives in Switzerland.*



# 1. Rock molds



**1** Silicone or rubber rock molds are available from several manufacturers. Almost any kind of plaster works in rock molds, including plaster of paris and Hydrocal.



**2** Following the manufacturer's directions, I mix  $1\frac{1}{4}$  cups of Hydrocal with  $\frac{1}{2}$  cup of water. Before pouring the plaster, I spray the inside of the rock mold with water. This prevents air bubbles from forming in the plaster. Once it's mixed and poured, the plaster will begin to set in 40 minutes, but should be left in the mold overnight to completely cure.



**3** The scenery base is extruded-foam insulation board, which is easy to carve using a serrated knife or hot-wire tool. To begin adding rocks, I first need to cut away some of the foam so that the castings will sit flush against the scenery base.



**4** Using a palette knife, I spread wet plaster on the backs of the fully cured rock castings and attach them to the scenery base. For variety, I use several different molds and will break some of the castings apart and rearrange the pieces.



**5** Since the plaster takes 20 to 30 minutes to set, there's plenty of time to position the rocks. I use a palette knife to apply more plaster into any gaps between the castings. After letting it set up overnight, the rock formations are ready for painting.

## 2. Carving plaster



**1** Although the process can be more tedious, applying plaster, waiting for it to partially cure, and then carving it on a scenery base has some advantages over using rock molds. This carving technique is more flexible and there's no danger of rock formations looking unrealistically identical. With some patience and practice, a modeler can re-create almost any natural rock formation by carving plaster.

The first step is to choose a type of plaster with a relatively long drying



time. I suggest trying several brands. Woodland Scenics makes a product called Carving Plaster that's specifically formulated to be slow-curing.

After mixing the plaster with water according to the manufacturer's directions, I use a putty knife or palette knife to apply an even  $1\frac{1}{2}$ " thick layer to the scenery base.

**2** Next I allow the plaster to start to firm up. For Woodland Scenics Carving Plaster, this takes about

40 minutes. It doesn't need to be fully cured. Once the plaster is firm I start carving, again using photos as a guide.

There are many options for plaster carving tools, including artist's chisels. [Carving tools made specifically for modeling are available from several manufacturers, including Micro-Mark. – Ed.] Many rock formations are sedimentary, so for realism it's often most effective to carve rocks as parallel strata or layers. As with plaster castings, the carved plaster formations should be allowed to cure completely before painting.



Video Plus subscribers can watch a 2-part rock-casting video online. Enter the term "plaster rocks" in the search box at [MRVideoPlus.com](http://MRVideoPlus.com).



### 3. Charcoal chunks



**1** Natural lump charcoal provides an easier way to add a variety of interesting rock formations to layout scenery. Unlike charcoal briquettes, which have been processed into consistent shapes, lump charcoal is irregularly shaped chunks of charred wood. The growth rings of the wood are often still visible as parallel lines, which can be useful for modeling sedimentary rock strata.



**2** I apply a layer of plaster to the scenery base, then set the charcoal chunks in the plaster. The charcoal can be broken apart as necessary, but it's important to place the pieces as close together as possible. Once the plaster dries, I further shape the charcoal by carving it with a knife. It can also be effective to use charcoal chunks in conjunction with plaster casting and plaster carving techniques.



**3** Once the charcoal is arranged and carved to my liking, I apply a coat of primer to the black surface. The primer can be applied with an airbrush, paintbrush, or spray can. Make sure the primer isn't too thick, or else the cracks and other fine texture will fill up with paint, ruining one of the benefits of using this material. I use white acrylic from the Woodland Scenics Earth Colors set.

### Coloring rocks



Any type of acrylic paint works well for coloring plaster and charcoal rocks. Again, photos are the ultimate guide for color. I find that the Woodland Scenics Earth Colors liquid pigment set offers an assortment of colors that works for a wide variety of rocks. I also often use Revell Aqua Color acrylic paints in various earth tones.



Patience is key when painting plaster or charcoal rocks. It's important to build up the color slowly using thin coats of paint. First I apply light gray or beige washes (1 part paint to 2 parts water). After that dries, I apply a dark brown or black wash (1 part paint to 5 parts water). The dark color runs into the cracks and low areas, which adds depth to the rock surface.



After applying white primer to the charcoal chunk rocks, I use the same technique for applying paint washes as with the plaster rocks. The only difference is that I add a little more paint to the washes in order to more easily cover the charcoal. Depending on the color and paint this takes some experimentation, and may take several applications.



The finished rocks are shown in the photos above. It's hard to tell the difference between rocks made with molds (left), carved plaster (middle), or charcoal (right). I hope you'll give these techniques a try on your layout. **MR**





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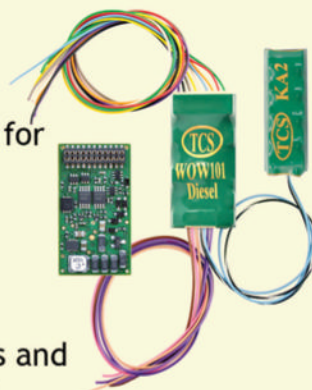


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# Install DCC with sound in a brass diesel



Like all Alco PAs, Southern's PA-3s were a magnificent sight at the head of a passenger train, and the sound of the diesel engine was unmistakable. Larry Puckett used a SoundTraxx Econami sound decoder to bring the Alco 244 to life.

**In the last year** I've received several requests for information on installing decoders in brass locomotives. This month I'm going to start with a brass diesel locomotive, and later in 2016 I'll follow up with a brass steam locomotive.

I'm going to show you how I installed one of the new SoundTraxx Econami [Pronounced Eco-nami, to rhyme with Tsunami – *Ed.*] ECO-100 decoders in an Overland Models brass Alco PA-3 locomotive. The ECO-100 is the smallest of the new SoundTraxx Econami decoders. It's about the size of a standard N scale decoder and is rated at 1 amp, with four functions, and a 1W, 8Ω amplifier. For more details on this and the other new Econami decoders, see Dana Kawala's product review on page 82 of this issue.

**The great thing** about this new decoder is the small size and 1 amp rating – making it compatible with a wide range of locomotive models. The sound files were chosen from among the most popular in the SoundTraxx Tsunami inventory. Some are new and others are remastered.

Engine sounds on the diesel version include the Electro-Motive Division 567

(non-turbo), 645 (turbo), and 710 (turbo), General Electric FDL-16 (modern), and Alco 244 (RS-3, FA, PA). A selection of 16 air horns and 6 bells are included, along with an array of other sounds, some user-selectable and others that play at random or defined intervals.

These aren't stripped-down Tsunami boards, but instead are the first in a new generation of decoders as SoundTraxx updates its product line.

**Brass locomotives are renowned** for requiring tuneups before they'll run reliably, so before doing anything else, I highly recommend giving the locomotive a test run. They're often shipped unlubricated to make painting easier and to keep grease and oil from getting all over the locomotive during transport.

The journals on mine were never lubed at the factory, but a quick shot of Teflon grease on the gears and light oil on the axle and motor bearings took care of them. Although this locomotive is about 20 years old, it has an efficient Mashima can motor and electrical pickup from the wheels on both sides of each truck.

**The opening** in the bottom of the body shell limited me to a component width of no more than 3/4". I used a 1.1" diameter Train Control Systems (TCS) speaker, which fit through the opening when turned sideways. The speaker is rated at 8Ω and 1W to match the decoder's amplifier.

To produce as much sound volume as possible I chose a SoundTraxx enclosure (**fig. 1**). These consist of a base, two rings, and a top, which when assembled in a stack with the speaker inserted came out to about .6" tall by about 1.2" diameter. Turned sideways, I could slip the whole package into the locomotive body.

Another neat feature of the Econami is the ability to install a SoundTraxx Current Keeper. These are wired in place of the small capacitor provided with the decoder. In this case, the blue wire on the Current Keeper goes to the blue wire on the decoder, and its black wire goes to the green-and-white-striped decoder wire. Make sure to install sections of heat-shrink tubing over the soldered connections.

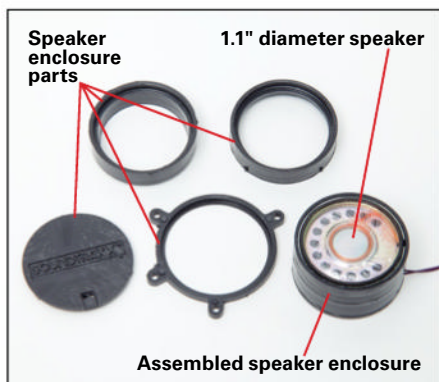
For this locomotive I needed both a headlight and a Mars light. I was able to fit a 2.4mm, 14V Miniaturics bulb in the headlight casting, but had to use a smaller 1.7mm, 1.5V, 40 milliamp bulb in the Mars light. I secured both of these into the brass castings with cyanoacrylate adhesive (CA). The 1.5V bulb required a resistor to drop the lighting voltage down to 1.5V.

The Econami decoder's wired functions aren't regulated at 12V but instead are actually about 1.8V less than whatever your track voltage is (check your track voltage with a RRampmeter, [www.dccspecialties.com](http://www.dccspecialties.com)).

To calculate the resistor size, all you need is Ohm's Law:  $R=E/I$ , where R is resistance in ohms, E is the voltage drop required, and I is operating current in amps. Since my track voltage is exactly 14.0V,  $R=(14-1.8-1.5)/.04=267.5$ , where 1.8V is the voltage drop from the decoder, and 1.5V is the drop from the bulb, and .04 is the amperage draw of the bulb.

When I tested the bulb with a 270Ω resistor, the light was too dim, so I went down to 220Ω and it was just right. Make sure to use heat-shrink tubing to protect the solder joints.





**Fig. 1 Sound decisions.** SoundTraxx enclosures consist of a base, two rings, and a top for securing the speaker. By adding or subtracting the stackable rings you can alter the finished height of the enclosure. For more bass and volume, make it as tall as possible.

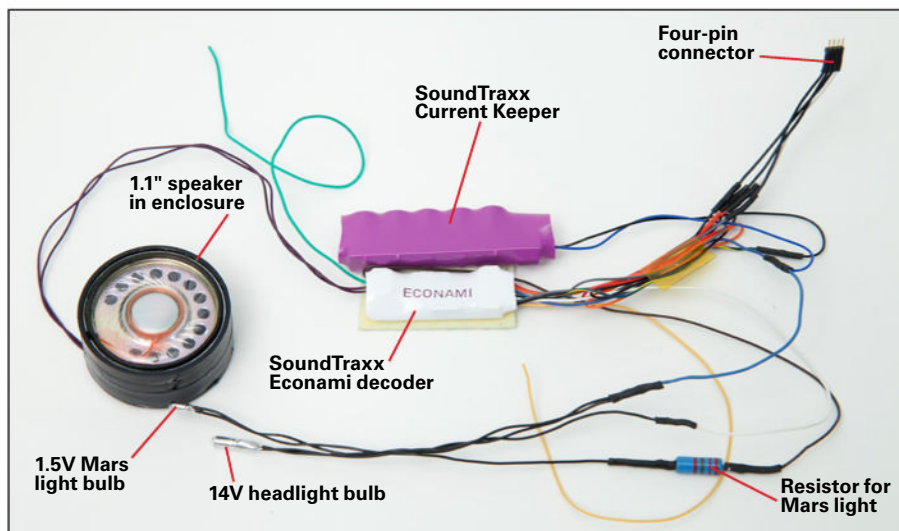
I wired the headlight to the white decoder wire and the Mars light to the FX3 brown decoder wire. The brown wire by default is assigned to function button F24, so I remapped it to button F3 and disabled the short horn. But that didn't work.

I subsequently learned a batch of ECO-100s got out of the factory with the green and brown wires reversed, so if you use FX3 and/or FX4 and they don't seem to work right, this may be why. Instead of rewiring the light bulb, I just remapped FX4 to F3 and programmed it accordingly.

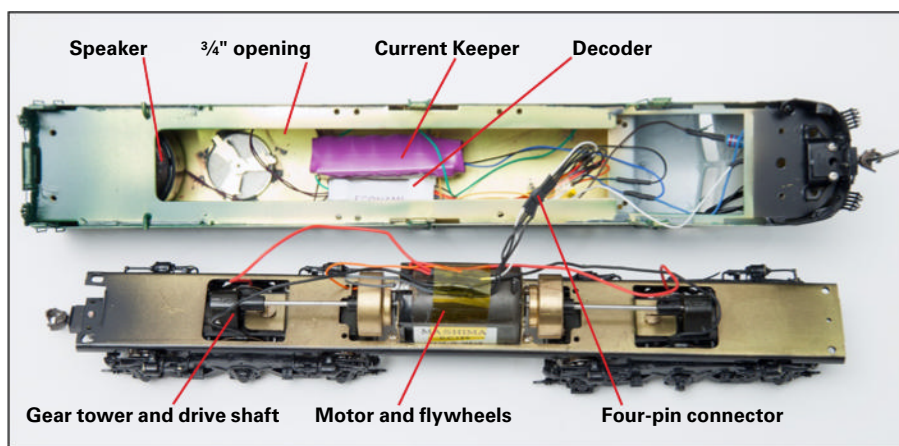
All the above connections were hard-wired to the decoder (**fig. 2**). However, the connections to the motor and track pickup wires required a different approach. I used a TCS four-pin harness for the connection between the motor and decoder. I wired the red, black, orange, and gray wires from the decoder to the connector plug, and repeated the same connections to the connector socket for the motor and truck wires.

This makes it easy to remove the locomotive body for maintenance. I installed the speaker, decoder, and Current Keeper in the locomotive using double-sided foam tape (**fig. 3**).

I made the final connection, reassembled the locomotive, and headed for the programming track. Why not give the locomotive a try on the main line with the default address 3? The programming track is limited to 250 milliamps, and is less likely to do any damage if you mis-wire something.




**Fig. 2 Components assembled.** Larry assembled the speaker, decoder, Current Keeper, and lights as a unit, then slipped them into the opening in the body and secured the parts with double-sided foam tape.



**Fig. 3 Components in place.** Larry used a Train Control Systems four-pin harness to make separating the body from the chassis for maintenance easy.

Also, many decoders today can detect a short and shut down before any real damage occurs. The Econami, for example, has a red error light-emitting diode (LED) that signals overloads and shuts down the decoder to prevent damage. (Note: the users manual says both the pilot and error lights are blue, but only the pilot light is blue).

**Programming this decoder** was easy, especially using DecoderPro. Most of the default values don't need changing, although I needed to configure the FX4 light as a Mars light and remap it to the F3 button. Using the lighting panes and mapping function in DecoderPro, all it took was a few clicks and a write to the decoder for the change. Other simple changes included selecting the Alco 244 prime mover, Nathan M5 horn, and Alco bell.

So, how does it sound? Well, I'm an Alco fan, and I was blown away with that wonderful rattle of the 244 diesel engine. The 1.1" speaker and SoundTraxx enclosure deliver a nice level of bass frequencies, and the new electrical design of the Econami board, with its more powerful components, delivers a lot of volume. In addition, there's a 12 db boost on the horns, making them significantly louder as well. For more tips, and to hear the finished installation and see my Southern PA-3 in action, visit my website [www.dccguy.com](http://www.dccguy.com). 

Send your questions about Digital Command Control to DCC Corner, *Model Railroader* magazine, P.O. Box 1612, Waukesha, WI 53187, or e-mail [dcc@mrmag.com](mailto:dcc@mrmag.com). We regret we can't answer all the questions we receive.



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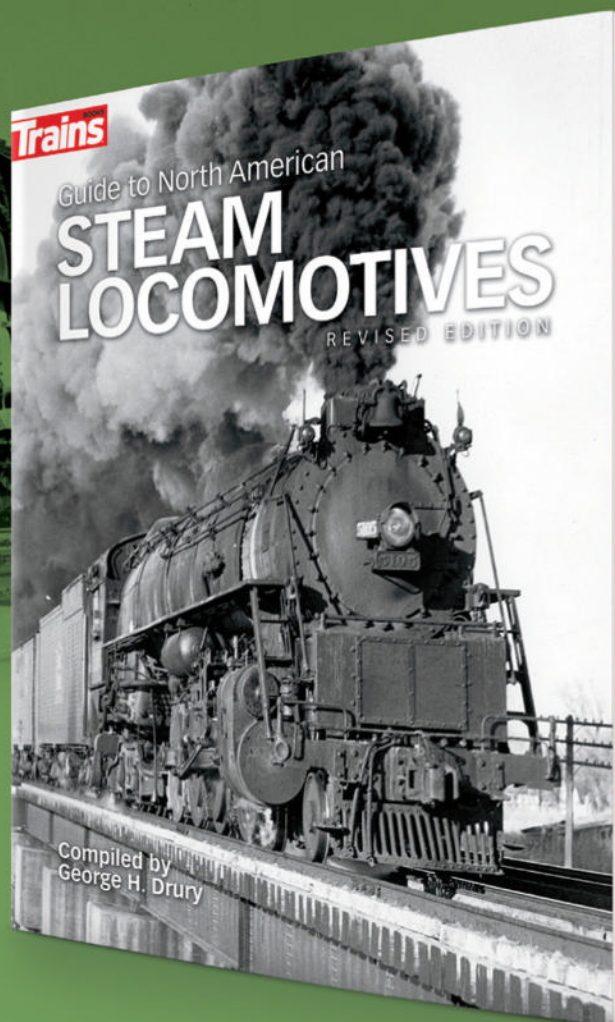


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## Korea Brass HO scale U25C shows off WOWDiesel sound and pulling power

**A General Electric U25C** marks the debut of Korea Brass USA as a new brand in the HO scale locomotive market. The six-axle locomotive accurately models its second-generation diesel prototype. The best news for Digital Command Control operators is that the model is available with a factory-installed Train Control Systems WOWSound (WOWDiesel version) DCC decoder.

**The prototype.** Following the success of the four-axle U25B, GE introduced a six-axle version in 1963. Both locomotives had 2,500 hp FDL-16 engine as their prime movers. The U25C, and all the locomotives in GE's "Universal" series, were nicknamed "U-boats."

Only 113 U25Cs were built, beginning with six for the firm building Oroville Dam in California. Other customers included the Atlantic Coast Line; Chicago, Burlington & Quincy; Lake Superior & Ishpeming; Louisville & Nashville; and Northern Pacific.

General Electric delivered a total of 20 units to the Pennsylvania RR in 1965. Many of the PRR U25Cs were relettered after the Penn Central merger and eventually finished their careers in the 1970s and 1980s lettered for Conrail.

**The model.** Most of the major dimensions of the Korea Brass model match a prototype diagram in the 1966 *Car and Locomotive Cyclopedia of American*

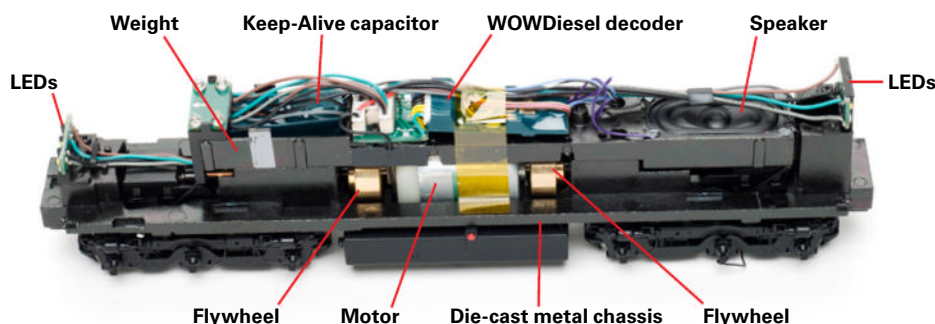
*Practice* (Simmons-Boardman). As with other HO locomotive models, the overall length over coupler pulling faces is a scale foot too long because of the over-size model knuckle couplers.

The model has a plastic body shell that accurately represents what railfans refer to as a Phase III U25C, with air reservoirs behind the cab and screened access doors. Phase II U25Cs had louvered doors and Phase I versions had air reservoirs on each end of the fuel tank.

On the model, the air reservoirs and radiator fans are separate parts behind see-through etched-brass screens. Other separately applied detail parts include the Sinclair "ice skate" antenna on the cab roof, the properly positioned three-chime air horn and bell, and the wind-shield wipers. The cab interior includes painted crew figures.

The tri-mount trucks have the correct 7'-3" and 69" axle spacing. The plastic sideframes feature separate brake cylinders and sand lines. To avoid interfering with the swivel of the trucks, the sand lines on the model end at the tops of the sideframes, which isn't prototypical.

Our review sample models Conrail no. 6810, one of the CR U25Cs that were repainted in the railroad's blue livery. The blue paint has an even, but thick, finish. This softens some of the raised detail, such as rivets and hinges.



The Train Control Systems WOWSound decoder and Keep-Alive capacitor is mounted atop a die-cast metal weight. The locomotive chassis and fuel tank is also made of die-cast metal.



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The placement of the lettering, herald builder's plate, and warning stencils matches prototype photos. However, the spacing between the numerals on the model's number boards looks half as wide as those on the prototype.

**Mechanism.** After removing the coupler boxes, I lifted off the body shell. A can motor with dual brass flywheels rests in the center of a die-cast metal frame, which also includes the fuel tank casting. Driveshafts transfer power from the motor to truck-mounted gearboxes.

The lighting board, TCS decoder, and Keep-Alive capacitors are attached to the top of a die-cast metal weight, which also provides an enclosure for a  $\frac{5}{8}$ " x  $1\frac{3}{8}$ " rectangular speaker.

Four surface-mount light-emitting diodes on each end of the locomotive provide illumination for the headlights and number boxes, as well as the cab interior. With the shell in place, the light from the rear set of LEDs bleeds through the housing, causing a slight, unrealistic glow from the top radiator grills.

**Performance.** Although our TCS WOWDiesel-equipped U25C will run with a direct-current (DC) power pack, the sounds don't function in DC. Therefore, I tested our review sample as a DCC-only locomotive.

Controlled with a DCC system, the decoder provided exceptional slow-speed control, creeping along at 1 scale mph. Back-electromotive-force (back-EMF) control kept the speed steady when hauling a load or heading upgrade.

The model's 96 scale mph top speed is faster than the prototype. However, reducing the top speed can be easily adjusted by programming configuration variables (CVs) 2, 6, and 5. The decoder also supports user-loadable speed tables.

In real-world testing, the U-boat showed some exceptional pulling power, including hauling a 20-car coal train up

a 3 percent grade without any slipping. The model easily negotiated 18" radius curves and no. 5 turnouts. The decoder's Keep-Alive capacitor provides 10 seconds of power, ensuring uninterrupted operation, lights, and sound.

**WOWDiesel.** After a short startup sequence, the decoder's engine sound settled into a throaty idle. It sounds like a prototype recording of an FDL-16.

The decoder has three throttle modes. In traditional mode, the DCC throttle controls the train speed and braking like any other model. In manual notching mode, function keys control the engine rpm sound independent of the train speed. In prototype mode, the engine rpm is controlled by back-EMF on the motor, so as the load increases, the rpm sound increases. The engine sound will automatically notch up when starting a heavy train or heading upgrade, then notch down as the locomotive gets under way or heads downgrade.

In prototype mode, braking is also independent of the throttle and is controlled by function buttons. Function 5 triggers a dynamic brake effect that, in addition to the sounds of the fans, will slow the train with each key press.

Pressing function 8 twice toggles between sound and light function modes. Sound effects include a long and short horn blast and a grade-crossing signal. The default bell and "GE U-boat three-chime" horn sound correct to me, but if you disagree there are more than 30 bells and prototype horns to choose from. There are also coupling and uncoupling effects, "spitter" valves, and windshield wiper sounds.

When the crew alert feature is activated, the locomotive will randomly simulate an emergency stop.

I could turn on the directional headlights in either light or sound mode. Other lighting effects include the cab light and number boards, both triggered by function 1. I used function 4 to dim the headlight, after programming CVs 49 and 50, as noted in the printed instruction sheet. More extensive manuals are available for free at [tcsdcc.com](http://tcsdcc.com).

Some programming tasks, such as function mapping and choosing sound and light effects, are easily accomplished using the decoder's Audio Assist feature. After pressing "8" four times, voice prompts guided me through the programming process. I found the feature

Dana Kawala

## ►► Korea Brass HO scale U25C

**Price:** \$299.99 (DCC sound), \$199.99 (DC, no sound)

**Manufacturer**

Korea Brass USA  
845 Blooming Glen Rd.  
P. O. Box 341  
Blooming Glen, PA, 18911  
[www.korea-brass-usa.com](http://www.korea-brass-usa.com)

**Era:** 1963 to early 1980s

**Road names (multiple road**

**numbers):** Conrail; Atlantic Coast Line; Burlington Northern; Chicago, Burlington & Quincy; Lake Superior & Ishpeming; Louisville & Nashville; Northern Pacific; Oro Dam Constructors; Penn Central; Pennsylvania RR; Seaboard Coast Line. Undecorated version also available.

**Features**

- All-wheel drive and electrical pickup
- Factory-installed Train Control Systems WOWDiesel sound decoder with Keep-Alive capacitors (DCC version)
- Five-pole skew-wound motor with dual brass flywheels
- Plastic operating knuckle couplers, at correct height
- RP-25 contour metal wheels, in gauge
- Weight: 1 pound 4.6 ounces

### HO scale GE U25C

Drawbar pull	4.6 ounces
	65 HO scale freight cars
Scale speed (DCC)	
Speed step	Scale mph
1	1
7	23
14	49
28	96

especially helpful for adjusting volume levels and calibrating the locomotive for prototype mode operation.

The decoder supports CVs 19, 21, and 22 for easy advance consisting and consist function control.

This detailed U boat, the first locomotive available with a factory-installed TCS WOWSound decoder, is an impressive entry from Korea Brass. I look forward to future models from this manufacturer. — Dana Kawala, senior editor

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Subscribers can see and hear the Korea Brass WOWSound-equipped U25C in action. Watch the video at [www.ModelRailroader.com](http://www.ModelRailroader.com).





## Updated Atlas N scale SD50 offers smoother performance, great graphics

**Atlas Model RR Co.** has upgraded its N scale Electro-Motive Division SD50 diesel with an improved drivetrain that offers smoother performance at more prototypical speeds. The Master Line series model is also available in new paint schemes, both of which model locomotives still on the rails today.

Now-retired senior editor Jim Hediger reviewed Atlas' previous N scale SD50 in our September 1999 issue. Today's model has improvements to both the shell and the mechanism, such as a new slow-speed motor and a separately applied nose brake wheel.

**History.** When EMD introduced the 3,500-hp SD50 in 1981, the locomotive made a number of improvements over its predecessors. The most important change was its "Super Series" electronic

control package, which included a ground-scanning radar to monitor the locomotive's true speed. This controls the sanders and traction system, resulting in a 25 percent improvement in wheel adhesion. Electro-Motive Division claimed this let three SD50s do the work of four older units.

This, combined with improvements to fuel efficiency, made the SD50 a popular offering. A total of 492 were initially sold to a dozen railroads, 60 of which were wide-cab SD50Ms bought by Canadian National. The biggest purchasers were Conrail, which rostered 135 of the units, and Seaboard System, one of the first purchasers, which bought 81.

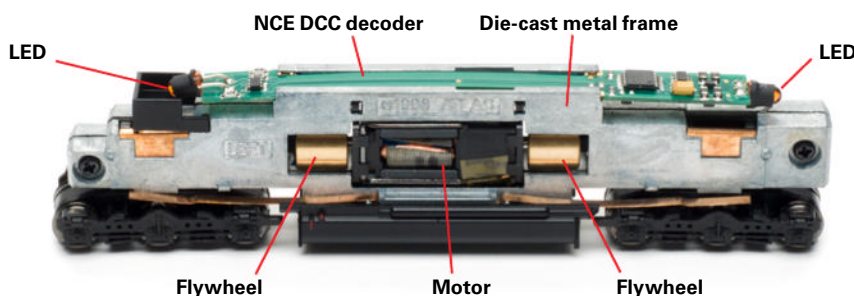
Numerous SD50s are still on the rails today. The paint schemes offered by Atlas are both worn by modern-day locomotives. These include CSX

Transportation (former Seaboard units) and the Utah Ry. (ex-Hamersley Iron).

**Appearance.** The model is neatly painted in CSX's current blue-and-yellow scheme. The blue paint is even and smooth; the yellow "boxcar" logos on the sides are opaque and without voids. A subtly different shade of yellow represents the reflective safety stripes on the sill. The numerous safety stickers and other graphics, while too small to read even with magnification, are well done, though the American flags on the cab's sides are positioned almost a scale foot too high, according to prototype photos.

All the model's major dimensions matched those on drawings published in the January 1984 MR. The model also has a straight sill, appropriate for no. 8541's heritage as a former Seaboard System unit (other engines had stepped sills). Other details differ from prototype photos of no. 8541, though.

The model has a three-chime horn on the front of the cab roof, a feature seen on the full-size CSX no. 8541 when it was wearing the railroad's yellow, blue, and gray YN2 livery. However, the horn was moved when the engine was repainted in the blue boxcar logo scheme in 2013. In photos from that year, the prototype's roof instead bears antennas, a GPS dome, and a pair of air conditioners, all of which are absent on the model. The



The NCE Digital Command Control decoder is attached to the top of the split die-cast metal frame.



N scale version also lacks the prototype's ditch lights, m.u. cable, and long-hood-mounted bell. These details could be added by the modeler.

The class lights, which were covered in the prototype's YN2 days, were plated over smooth after the repaint; the covers are visible on the model. Markings under the road number on the model identify the locomotive as an SD50; in the 2013 photos the prototype is lettered SD50-2 under the road number, having been de-rated to 3,000 hp.

**Mechanism.** To take off the body, remove the two coupler mounting screws and pull the couplers and draft-gear boxes out through the pilots. The shell then snaps off. The sills, hood, and cab are separate pieces, so be careful with them.

The motor, dual brass flywheels, and gear towers are secured between the halves of the split die-cast metal frame. The NCE Digital Command Control (DCC) motor decoder is also clamped between the two halves at the top of the frame; the lighting is on this board. In addition to providing heft and a solid feel to the model, the frame conducts electricity from the phosphor-bronze track wipers to the motor and decoder.

All six axles are driven and all wheels pick up electricity. All wheels were in gauge. Likewise, the Accumate couplers were mounted at the correct height.

**Performance.** I first tested the locomotive under direct current. The lights came on and the engine started to move, albeit hesitantly, at 4V. It rolled smoothly at 4.5 scale mph when I got it to 5V.

Atlas has changed the model's drive train since its previous version. While the early model would reach 206 scale mph at 12V under direct current, the new one tops out at a much more prototypical 89 scale mph. A lower top speed means more of the power pack's voltage range will be useful, which also translates to better slow-speed control.

I then switched to Digital Command Control. At first, the engine refused to move until I got to speed step 8. I could then back down to speed step 7 or 6, but could not start the engine from a stop at lower steps. After I programmed the decoder's starting voltage (Vstart, Configuration Variable 2) to a value of 40, the model started and ran at 3.5 scale mph in speed step 1. After this change, the top speed at step 28 was 92 scale

## ▶ Atlas N scale EMD SD50

**Price:** \$129.95 (direct-current model), \$169.95 (Digital Command Control motor decoder)

### Manufacturer

Atlas Model Railroad Co.  
378 Florence Ave.  
Hillside, NJ 07205  
[www.atlasrr.com](http://www.atlasrr.com)

**Era:** 1981 to present;  
2013 to present (as painted)

**Road names (two numbers each):** CSX (dark blue and yellow) and Utah Ry. (gray, red, and yellow). Also available undecorated.

### Features

- Accumate couplers at correct height
- Directional light-emitting-diode lighting (headlights and number boards)
- Five-pole skew-wound motor with dual brass flywheels
- Flexible engineering plastic handrails
- Minimum radius: 9¾"
- Weight: 3.7 ounces

### N scale EMD SD50

<b>Drawbar pull</b>		.8 ounce	
		20 N scale freight cars	
Scale speed (DC)		Scale speed (DCC)	
Volts	Scale mph	Speed step	Scale mph
5	4.5	1	3.5
6	12	7	12
9	44.5	14	29
12	89	28	92

mph, just a bit over the prototype's top speed of 88 mph in its highest available gearing. (The more commonly used 70:17 gearing allowed 70 mph.)

After the test track runs, I ran the locomotive on our Red Oak project railroad. The engine had no problems hauling 20 freight cars through the layout's 13" radius curves and no. 6 turnouts, forward and backward.

Advancements in railroading technology made the prototype SD50 an attractive product for railroads seeking economy and pulling power. Similarly, model railroaders looking for performance and crisp graphics should be pleased with the improvements Atlas has made to its N scale SD50. — *Steven Otte, associate editor*



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## Econami brings new features to SoundTraxx DCC decoder lineup



**Don't mistake the new** SoundTraxx Econami for a watered-down Tsunami. This new line of Digital Command Control (DCC) sound decoders features the same excellent sound quality and almost all of the features of the firm's top-of-the-line Tsunami decoders. The Econami also boasts some all-new effects and more user-friendly programming.

**Multiple options.** Econami decoders are available in three formats. The ECO-100 measures only .197 x .413 x 1.063 inches (5 x 10.5 x 27mm). Featuring a 21-pin socket, the ECO-21P measures .26 x .6 x 1.2 inches (6.5 x 15.5 x 30.5mm). The ECO-400 measures .56 x 1.2 x 2.7 inches (14 x 30.5 x 69mm) and is suitable for larger scales.

Econami decoders are available in steam, diesel, or electric versions. Each version allows multiple options appropriate for a variety of prototypes.

All Econami decoders support the SoundTraxx CurrentKeeper. Sold separately for \$24.95, this set of capacitors provides up to 10 seconds of power for uninterrupted operation and sound over dirty or uneven track.

**DCC performance.** For this review I installed an Econami ECO-100 steam decoder and SoundTraxx 28mm speaker into a Trix HO scale United States Railway Administration light 2-8-2.

[For information on the diesel version of this decoder, check out this month's DCC Corner on page 74. – Ed.]

The Econami features many of my favorite programming options as found on the Tsunami, including a 7-band equalizer. Individual effect volume levels can also be adjusted. Unlike the Tsunami, the decoder doesn't include reverb control, but I didn't miss it.

I programmed and ran the Econami-equipped locomotive with multiple DCC systems and Java Model Railroad Interface DecoderPro software (Version 4.1.2).

The Econami provides excellent back-electromotive-force control, called Hyperdrive2. Without any extra programming, our steam version had the locomotive moving smoothly in speed step 1 at 2 scale mph. The 2-8-2 maintained this pace up a 3 percent grade.

The steam version allows the user to choose between light, medium, heavy, simple or compound articulated, and geared steam engine exhaust.

Unlike with the Tsunami, the Digital Dynamic Exhaust (DDE) responds only to the throttle. The new drift function made the lack of load-responsive DDE less of an issue for me. When the locomotive headed downgrade, I pressed function 5. As on the prototype, the chuffs of working steam disappeared and the clanking of the side rods got louder.

Other new sound effects include the cylinder cocks on function 4, which are prototypically interrupted by the chuffs when the model gets underway, and a grade-crossing signal on function 9.

The Auto-Exhaust feature automatically adjusts the chuffing sound with the operation of the motor. Except for a slip in synchronization during speed changes, the exhaust was a prototypical four chuffs per driver revolution, and I didn't have to install a cam.

For many programming tasks, the decoder relies on indexed CVs, which must be first set to the proper value before entering the appropriate effect CV. Indexed CVs expand available programming options. Their usefulness is especially evident in the Econami's Flex-Map function-mapping feature. Unlike the Tsunami, with which functions can

### ▶ Econami DCC sound decoder

**Price:** \$79.95 (ECO-100 and ECO-21P), \$149.95 (ECO-400)

**Manufacturer**

SoundTraxx  
210 Rock Point Drive  
Durango, CO 81301  
[www.soundtraxx.com](http://www.soundtraxx.com)

**Features**

- 16-bit sound quality
- DCC track voltage: 10V to 22V (ECO-100 and ECO-21P), 10V to 26V (ECO-400)
- Four (ECO-100) or six (ECO-21P and ECO-400) 100mA lighting outputs
- Maximum motor stall current: 1A (ECO-100 and ECO-21P), 4A (ECO-400)

be mapped only to a limited range of keys, the Econami allows any function to be remapped to keys 0 to 28.

For example, I remapped function 11 (brake) to function 7. Like the Tsunami, the Econami also let me add actual brake functionality to the brake button. On the Econami, the "train brake" is activated using CV117.

Extensive user and technical manuals specific to the Econami decoders are available at [www.SoundTraxx.com](http://www.SoundTraxx.com).

**DC operation.** The Econami is dual-mode and operates similarly to the Tsunami on direct-current (DC) layouts. At 7V on our DC test track, I heard the sound of the air pump. As I continued to advance the throttle, the model moved smoothly, with the chuffs in synch with the drivers, but the sounds cut out momentarily whenever I flipped the direction switch. The decoder will work with an analog DC programmer, such as the Model Rectifier Corp. Tech 6.

Although its name implies a value-line product, the Econami is in many ways a new and improved SoundTraxx decoder. Better functionality and gold-standard sound make the Econami a natural choice for steam, diesel, or electric locomotives. – D.K.

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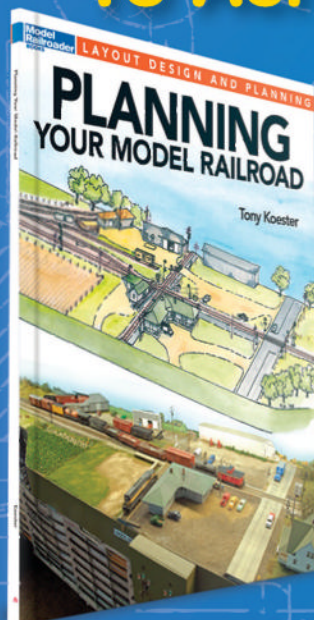
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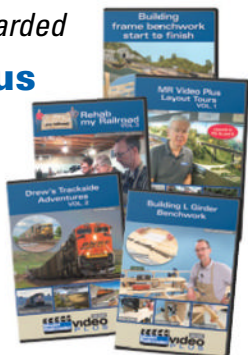


## FIFTH PRIZE – Two awarded

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#### Model Railroader 2016 Sweepstakes - Official Rules

**NO PURCHASE NECESSARY TO ENTER OR CLAIM PRIZE. A PURCHASE WILL NOT INCREASE YOUR CHANCE OF WINNING. VOID WHERE PROHIBITED.**

**1. Eligibility.** The Model Railroader 2016 Sweepstakes (the "Sweepstakes") is open to residents of the United States and Canada (except Quebec) only, who are age 18 years or older and have reached the age of majority in their state/province of residency at the time of entry. Employees (and their dependents and immediate household members) of Kalmbach Publishing Co., ("Sponsor"), and of TrainWorld, WM. K. Walther, Inc., Atlas Model Railroad Co., Soundtraxx, and Micro-Mark, their advertising and promotional agencies and sponsoring companies are not eligible to participate. Void in Quebec and where prohibited by law. Sweepstakes is subject to all applicable federal, state and local laws.

**2. Sweepstakes Period.** The Sweepstakes begins on October 24, 2015 at 10:00:00 a.m. Central Time, and all entries must be transmitted online no later than March 31, 2016 at 11:59:59 p.m. Central Time.

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

**4. Prizes/Approximate Retail Value ("ARV") in U.S. Dollars. One (1) Grand Prize** consisting of \$2,000 gift certificate to TrainWorld. ARV of Grand Prize: \$2,000. **One (1) First Prize** consisting of Walther's Cornerstone® Cruisin' Series Package in HO Scale. ARV of First Prize: \$557.64. **One (1) Second Prize** consisting of HO Scale Sound Locomotive Featuring LokSound (ARV: \$264.95). **One (1) Third Prize** consisting of SoundTraxx Full Train Sound Package (ARV: \$182.25). **Three (3) Fourth Prizes** consisting of \$100 gift certificate to Micro-Mark (ARV: \$100.00 per unit). **Two (2) Fifth Prizes** consisting of MRVP DVD Set (ARV: \$49.95 per unit), and **Eight (8) Sixth Prizes** consisting of Model Railroader subscriptions (ARV: \$42.95 per unit). TOTAL ARV of First Prize: \$2,000.00. TOTAL ARV of all prizes is \$3,748.34.

**5. Drawing/Odds/Notification.** A random drawing for the Grand Prize, First Prize, Second Prize, Third Prize, Fourth Prize, Fifth Prize and Sixth Prize will be held on or around May 30, 2016. Odds of winning depend on the number of entries received. Limit one prize per person. The average total circulation for Model Railroader magazine is 125,875. Winners will be notified by email on or before July 31, 2016.

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

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**8. Winners List.** For a list of winners, see the Model Railroader website ([www.ModelRailroader.com](http://www.ModelRailroader.com)) after August 31, 2016 or send a stamped, self-addressed envelope to: Model Railroader 2016 Sweepstakes Winners List, P.O. Box 1612, Waukesha, WI 53187-1612. (Residents of FL, VT, and WA may send a self-addressed envelope without the stamp.) Requests for Winners List must be received by March 31, 2016.

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## WalthersMainline HO Budd passenger cars

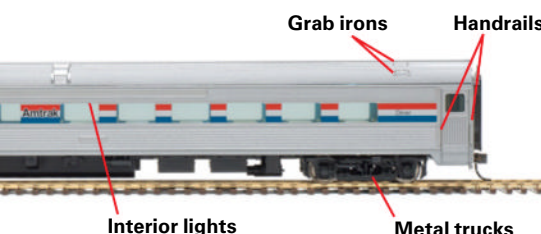
### Everything old is new again.

Walthers is returning to model railroad-ing's roots with a newly tooled line of HO scale passenger cars that, while accurate models of Budd Co. prototypes, are generic enough to act as stand-ins for modelers who want quality, basic cars.

These are well-designed models that leave room for more fastidious modelers to trick them out to their satisfaction using Walthers' light-emitting diode interior lighting kit and accessory detail kit.

**The prototypes.** For the first release, Walthers is offering three New York Central prototypes – a large-window coach; 10-roomette, 6-double-bedroom sleeper; and a diner – and a Wabash-prototype baggage-lounge car. All of the cars were built by the Budd Co. between 1947 and 1949. Many of the cars, including the Wabash baggage-lounge, ended their careers with Amtrak. More cars are planned for early 2016.

**The models.** The passenger cars have a one-piece body and floor casting and a separate roof that includes blue-tinted window glazing. The interiors are molded in tan styrene. Metal couplers are truck-mounted at the correct height. The plastic trucks have free-rolling turned scale 36" metal wheels on plastic axles.



Eric installed an exterior detailing kit and lighting kit on the diner.

Most of the dimensions matched New York Central drawings on the Canada Southern website ([canadasouthern.com](http://canadasouthern.com)). Because the cars share a common floor casting, the truck-to-truck centers vary a little from the prototypes. For example, the coach's trucks are about 8" too far apart, but the dining car's trucks are about 3" too close together, according to drawings on the website.

Window and door locations and sizes matched drawings and photos I found online. Roof vents and name and number boards on the baggage-lounge car differed from a photo of the car in Wabash livery.

Modelers who want more features can opt for Walthers' accessory kits. The interior lighting kit includes everything from a light bar with LEDs, to metal trucks, and body-mount coupler pockets. The detail parts accessory kit includes pre-formed stainless steel wire railings and hand grabs, as well as body-mount coupler pockets. Installation of both kits was straightforward.

The cars were all a bit light for their length, according to National Model Railroad Association recommended practice 20.1, weighing between 5.3 and 5.8 ounces. The 85-foot cars should weigh 7 ounces. With the accessory lighting and detail kits installed, the diner weighed 6.7 ounces.

Paint was smoothly applied and the lettering was crisp and opaque. The models include decal sheets with car numbers and names as appropriate.

**On the layout.** I took the cars to *Model Railroader's* club layout, the Milwaukee, Racine & Troy, for testing. The cars had no trouble negotiating the various curves on the layout, which get as tight as about 24" radius.

### ▶▶ 85-foot Budd passenger cars

**Price:** Large window coach, diner, 10-6 sleeper, baggage-lounge, \$34.98; passenger car exterior detailing kit, \$9.98; passenger car LED interior lighting kit, \$29.98

#### Manufacturer

Wm. K. Walthers Inc.  
5601 W. Florist Ave.  
Milwaukee, WI 53218  
[www.walthers.com](http://www.walthers.com)

**Era:** late 1940s to late 1970s, depending on paint scheme

**Road names:** Amtrak; Atchison, Topeka & Santa Fe Ry.; Canadian Pacific; Chicago, Burlington & Quincy; New York Central; Pennsylvania RR; Southern Pacific; Union Pacific; VIA Rail Canada; undecorated, painted silver

#### Features

- Operates on 18" radius curves
- Correct scale 85-foot length
- Tinted window glazing
- Proto-Max metal couplers at correct height

To further test the models, I took them to an old project layout with 18" radius curves. The three unmodified cars with truck-mounted couplers had no trouble negotiating the layout, though they certainly looked better on the larger radius curves. The couplers reliably coupled on the curves, as well.

For modelers who want passenger cars they can reliably operate on compact layouts, this equipment squarely hits the target. For modelers who want something more, these cars with the accessory kits could be just the ticket. – *Eric White, associate editor*



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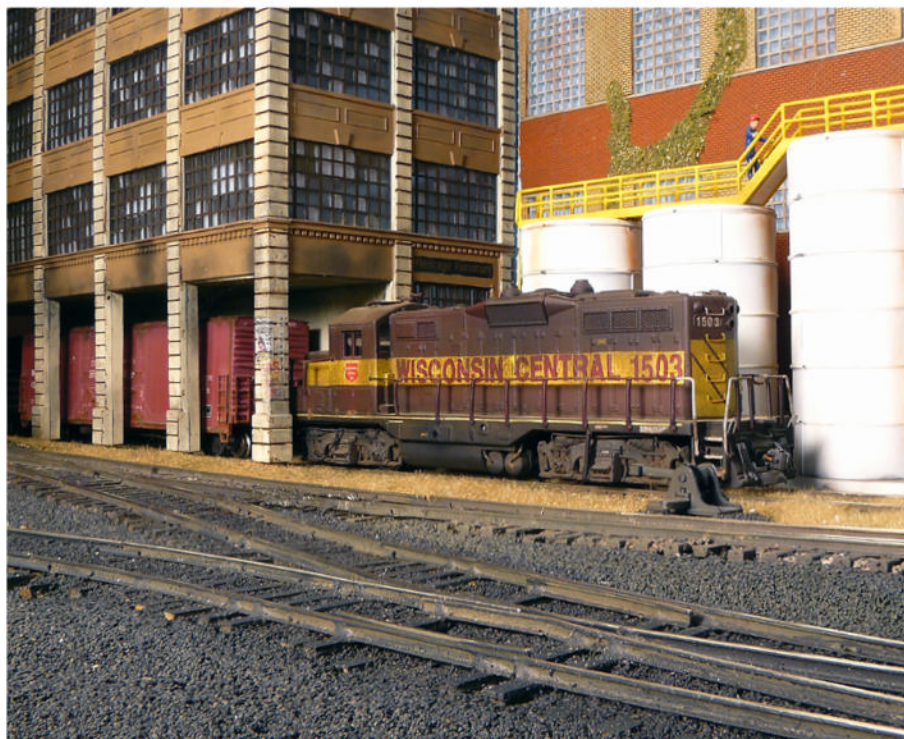


# TRACKSIDE PHOTOS



▲ On a warm spring morning in 1935, Ed West has fired up the track mower and is about to head out to do some trimming on the main and sidings between Strong, Maine, and Kingfield. Lou Sassi shot the photo on his On30 Sandy River & Rangeley Lakes narrow gauge layout. Rich Cobb scratchbuilt the mower from a prototype photo.





## Want to see your work in Trackside Photos?

Trackside Photos is a showcase for the work of *Model Railroader* readers. We encourage contributions. Send your photos (digital images 5 megapixels or better) to: *Model Railroader*, Trackside Photos, P.O. Box 1612, Waukesha, WI 53187-1612; or upload them to <http://fileupload.kalmbach.com/Submission/contribute/>. Include caption information, such as what's going on in the picture; the layout's scale, era, and locale; and information about the rolling stock or structures shown. For a copy of our photo submission guidelines, contact associate editor Steven Otte at 262-796-8776, ext. 370, or [sotte@mrmag.com](mailto:sotte@mrmag.com).

▲ Wisconsin Central Electro-Motive Division GP9M no. 1503 is spotting box-cars at Anthony Papers in Alanville, Wis. The action takes place on the freelanced HO scale Pilar Valley Ry., built by Kenny Ravenscroft of Fremont, Wis. The locomotive is a Walther's Trainline model that Kenny detailed, painted, decaled and weathered. The structures are by Walther's. Kenny also took the photo.



# TRACKSIDE PHOTOS



▲ A pair of Electro-Motive Division F3 diesels runs light through the industrial part of town. Chuck Stewart of Norton Shores, Mich., photographed the scene on an HO scale Monon photo diorama that he built. The locomotives are Athearn Genesis models. The structures include kits from Sierra West, Rail Scale Miniatures, and Fine Scale Miniatures.

► A Burlington Northern train led by Alco RS-11 no. 4190, an ex-Northern Pacific unit, leans into a superelevated curve as it heads out of Livingston, Mont., with a train of empty grain hoppers. The action takes place on Bruce Rogers' HO scale BN layout. Bruce redecorated the locomotives; no. 4190 is an Atlas model. Bruce photographed the scene and used Helicon Focus software to increase the depth of field.







◀ A Pennsylvania RR fast freight high-balls past the tower with a string of colorful perishable reefers in tow, bound for New York. The action takes place on the HO scale Port Jervis, Hancock & Binghamton Branch of the Pennsylvania RR, a freelanced HO scale layout built by Eric Lohwasser of Hancock, N.Y. The Pennsy K4 is a brass Red Ball model Eric upgraded to Digital Command Control. He also decorated the refrigerator cars and took the photo.



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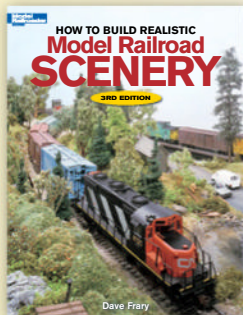
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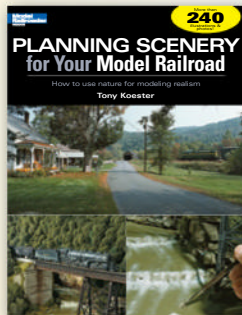
# Make a Scene

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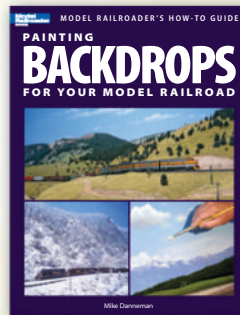
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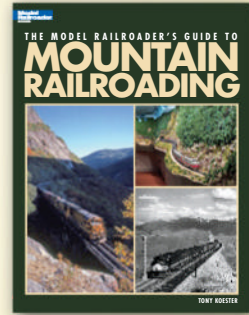
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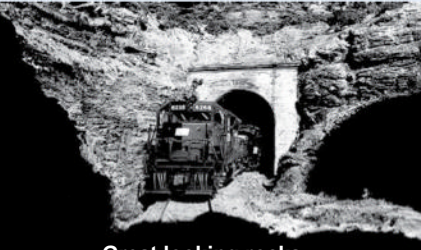
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**CLOSING DATES:** Jan 2016 closes Oct. 19, Feb. closes Nov. 19, March closes Dec. 16, April closes Jan. 19, May closes Feb. 23, June closes Mar. 22, July closes Apr. 25, Aug. closes May 20, Sept. closes June 20, Oct. closes July 25, Nov. closes Aug. 18, Dec. closes Sept. 20.

**Note to Readers:** Show dates, times and locations sometimes change. Confirm the details before driving any distance.

## Schedule of Events

**AL, FOLEY:** Annual Train Show. Sponsors: Caboose Club (Foley RR Museum) and SWARM. Foley Civic Center, 407 E. Loyal Ave. March 12-13, 2016, Saturday 9:00am-5:00pm; Sunday 10:00am-4:00pm. Admission \$4.00, under 10, military, fire, police, FREE. Free parking. Bob Adams, santafebob95@msn.com or Charlie Boyer, 251-914-0893, charlieboy6@att.net

**CO, DENVER:** Rocky Mountain Train Show, Denver Mart, 451 East 58th Avenue. December 12-13, 2015, Saturday 10:00am-5:00pm and Sunday 10:00am-4:00pm. Admission \$9.00, under 12 free, All Scales Show, 600 Tables, 30 Layouts, Parking \$5.00. Sponsored by Rocky Mountain Division-TCA. Information John Gardberg 303-364-0274. Discount coupon [www.RockyMountainTrainShow.com](http://www.RockyMountainTrainShow.com)

**CT, BRANFORD:** 10th Annual Shoreline Train Show at United Methodist Church, 811 E. Main St., Route 1, 203-488-0549. Branford at Guilford Line. Saturday, January 9, 2016, 9:00am-3:00pm. Snow Date: Saturday, January 16, 2016. Adults \$6.00, Seniors \$4.00, under 12 free, Family \$8.00. Vendors, operating layout, food. Pat Steeves, 203-468-7203.

**CT, MANCHESTER:** Manchester Army Navy Club Model Train Show, 1090 Main St. January 10, 2016, 9:00am-2:00pm. Adults \$5.00, children 12 and under free. All Gauges. For info contact: Trainsmore@aol.com or Todd Metcalf at 860-916-5180. Dealer inquiries welcome.

**FL, DELAND:** 54th Florida Railfair. Volusia County Fairgrounds (Tommy Lawrence Arena), January 9-10, 2016, Saturday 9:00am-4:00pm and Sunday 10:00am-3:30pm. Adults: \$8.00 good for both days (under 12 free). Over 300 tables. Large operating layouts. Miller, 3106 N. Rochester St., Arlington, VA 22213, 703-536-2954. E-mail: rrrshows@aol.com

**FL, ENGLEWOOD:** Regal Railways presents Model Railroad Show & Swap Meet. Elks Lodge, 401 N. Indiana Ave. Saturday, January 16, 2016, 9:00am-2:00pm. Adults \$5.00. Vendors, videos and operating layout. Contact Joe @ 727-244-1341 or visit [www.regalrailways.com](http://www.regalrailways.com) for more information.

**FL, LARGO:** TCA Train Show. MinnReg Building, 6340 126th Ave. Saturday, January 23, 2016. 10:00am-3:00pm. Adults: \$5.00, children under 12 free. Displays, layouts, door prizes. Contact for more information or directions: Charles Anyan, 727-345-0288, canyan1@tampabay.rr.com

**FL, ORLANDO:** Central Florida Railroad Modelers Open House, 2500 Silver Star Road, Suite 1700, Zip: 32804. Saturday, January 9, 2016 from Noon-5:00pm. FREE Admission. Spouses & Children Welcome. HO Scale, Fully Scenic Layout in a 2,000 Square Foot Clubhouse. Telephone: 407-417-1096 [www.CentralFloridaRailroadModelers.org](http://www.CentralFloridaRailroadModelers.org) Email: CFRM@Yahoo.com

**FL, PALM BEACH GARDENS:** TCA Train Show. St. Marks Church, 10635 Gardens East Dr. Saturday, February 13, 2016, 10:00am-3:00pm. Directions: Easy access from I-95 and Turnpike. Off Burns Road. Adults: \$5.00, under 12 free. Displays, layouts, scavenger hunt, drag races. Contact: Al Galli, 772-219-7653.

**GA, ATLANTA:** 50th Atlanta Model Train Show. North Atlanta Trade Center, 1700 Jurgens Court (Norcross, GA). Saturday, January 16, 2016, 9:00am-4:00pm. Adults: \$8.00 (under 12 free). Operating layouts. Miller, 3106 N. Rochester St., Arlington, VA 22213. 703-536-2954. E-mail: rrrshows@aol.com

**IL, LOMBARD:** Chicago O Scale Meet (2-Rail), Westin Lombard Yorktown Center, 70 Yorktown Center. We've moved into April for 2016! April 1-3, 2016. Friday dealer set-up, show open to public Saturday 9:00am-5:00pm, Sunday 9:00am-2:00pm. Largest dedicated O Scale show out there. \$20.00 entire weekend. Info: Melissa 630-745-7600 or [www.marchmeet.net](http://www.marchmeet.net)

**IN, FORT WAYNE:** RxR Mania Train Show. Horizon School campus, 2000 N. Wells Street. Saturday, February 6, 2016, 9am-5pm. Adults \$5.00, under 12 free. \$20/dealer table, approx. 150 8' tables. More info: RxRMania.com or call Jim (260) 627-2176.

**IN, MIDDLEBURY:** Essenhaus Train Show. On the Das Dutchman Essenhaus campus, 240 US 20. Saturday, February 20, 2016, 9:00am-2:30pm. Admission \$3.00/person or \$6.00/family. (Children under 7 FREE w/adult). All gauge, operating layouts, repairs, parts dealers, selling and trading. Display tables \$15.00 each. Essenhaus.com or 800-455-9471 (x443).

**IN, NOBLESVILLE:** Central Indiana Division /N/MRA Train Show. Hamilton County 4H Fairgrounds, 2003 Pleasant Street. Sunday, January 31, 2016, 10:00am-3:00pm. Admission \$3.00 or \$5.00 family. Dealers, Portable Train Layouts, Clinics, Door Prizes. Dealer Tables \$12.00. Contact Tom Cain at 317-696-2818.

**IN, WARSAW:** Pierceton Model Train & Toy Show, Kosciusko County Fairgrounds, 1400 E. Smith St. December 12, 2015, 11:00am-3:00pm. Admission \$3.00, 12 and under free. All gauges. Tables \$15.00, free parking, lunch available. Contact: Gabe Fitzsimmons, 574-527-8554 or fitzgj01@gmail.com

**MA, MARLBOROUGH:** New England Train Collectors Association Toy Train Show, Holiday Inn, 265 Lakeside Ave. December 13, 2015, 9:00am-1:00pm. Adults \$5.00, children under 12 free. Contact Dennis Ingalls, 508-285-3963, E-mail: dingalls@comcast.net

**MI, MONROE:** Monroe Model Train Show, MBT Expo Center, 3775 S. Custer Road (M-50) Monroe, MI 48161. Sunday, December 27, 2015, 10:00am-3:00pm. Admission \$6.00, children 12 and under free w/adult. 250+ tables, operating model train displays, kid's play area featuring "riding Thomas". E-mail: monroetrainshow@comcast.net

**NC, NEW BERN:** 21st Annual Train Show, New Bern Riverfront Convention Center, 203 South Front St. February 20-21, 2016, Saturday 10:00am-5:00pm; Sunday 10:00am-4:00pm. Admission \$7.00, under 12 free w/adult. Operating layouts, 25+ vendors, food concession, door prizes. Carolina Coastal Railroaders, Joseph T. Hofmann, 252-474-4153.

**NY, ALBANY:** Annual "Great Train Extravaganza." Empire State Convention Center. Sunday, December 6, 2015, 10:00am-4:00pm. \$7.00 adults, children 12 and under free. Operating layouts. 200+ tables of model trains, train sets, parts, accessories, scenery items, books, videos, DVDs, prints, railroad memorabilia. Large Lego layout. Seminars. [www.gtealbany.com](http://www.gtealbany.com) 518-229-6080, [trains@gtealbany.com](mailto:trains@gtealbany.com)

**NY, LINDENHURST:** Northern Spur Train/Diecast Vehicles/Toy Meet, Firemen's Memorial Park, 555 Heiling Blvd. (north of Hartford St.) January 3, 2016, February 21, 2016, April 10, 2016, September 25, 2016, November 6, 2016. 8:30am-1:00pm. \$4.00 adults, children under 16 free w/adult. Contact: Carmelo Sancetta. PO Box 1286M. Bay Shore, NY 11706. 631-666-6855

**NY, WEST SENECA:** TCA Upstate NY Chapter Train Show. Ismailia Shrine Center, 1600 Southwestern Blvd., Zip Code: 14224. Sunday, January 10, 2016, TCA Members: 9:00am-10:00am. Public: 10:00am-3:00pm. Admission: Adults \$5.00, under 17 free with paid adult. Contact: Chuck 716-390-8216, E-mail: [wyntrainshows.tca@hotmail.com](mailto:wyntrainshows.tca@hotmail.com) or [www.upstate-ny-tca.com](http://www.upstate-ny-tca.com)

**OH, CLEVELAND:** All Gauge Model Train and Toy Show. United Auto Workers Hall, 5615 Chevy Blvd. in Brookpark. Saturday, January 2, 2016, 10:00am-3:00pm. Admission \$6.00, under 10 free. Tables \$25.00. Free parking. Call Ray Diersing, 330-405-1425 for tables or e-mail MACSIR@aol.com Sponsored by Cuyahoga Valley S Gauge Assoc.

**OH, KIRTLAND:** Christmas Train and Toy Show. Lakeland Community College (AFC) Main Gym, 7700 Clocktower Dr., I-90 and Rt. 306. December 20, 2015, 10:00am-3:30pm. Adults \$6.00 each, Children (6-12) \$3.00, Family \$12.00. 440-256-8141, [www.cleveshows.com](http://www.cleveshows.com)

**OH, VERMILION:** Norwalk & Western RR Model Train Show & Swap Meet, German's Villa, 3330 Liberty Avenue (US Rt. 6). Sunday, January 17 2016, 10:00am-3:00pm. Admission: 10 and over \$4.00. Trains all scales, historical items, operating layouts, lunch available, free parking. Information: 419-706-8038, [www.norwalkandwesternrr.com](http://www.norwalkandwesternrr.com)

**PA, COOPERSBURG:** Coopersburg Area Society of Model Engineers (C.A.S.M.E.). Admission: Free - Donations Appreciated. Located in basement of Borough Building, 5 North Main St., Zip: 18036. December 5-6, 12-13, 2015, January 2-3, 2016. Open 12:00-5:00pm. Phone: 215-538-0501. Website: [www.casme.org](http://www.casme.org) Scale: HO

**SC, COLUMBIA:** Columbia Model Train Show. Jamil Temple, 206 Jamil Road. Saturday, December 19, 2015, 9:00am-3:00pm. Admission \$5.00, under 12 FREE. Contact Todd at 843-307-8674, [www.SouthCarolinaTradeShows.com](http://www.SouthCarolinaTradeShows.com)

**WI, LA CROSSE:** The 25th Annual Great Tri-State Rail Sale. La Crosse Center, 2nd & Pearl Streets. January 30, 2016, 9:00am-3:00pm. Admission \$5.00, under 12 free. 280 Tables; All Scales; Model, Toy & Antique Trains & Memorabilia. Information: 4000 Foundation, PO Box 3411, La Crosse, WI 54602, 608-781-9383.

**WI, STEVENS POINT:** CWMR 19th Annual Model Railroad Show. Holiday Inn Convention Center Hotel, 1001 Amber Avenue. January 16-17, 2016, Saturday 9:00am-5:00pm and Sunday 10:00am-4:00pm. Adults \$3.00, kids 11-16 \$2.00. Many layouts, swap/sales tables, vendors. Paul Clasen, 4546 Buckhorn Lane, Stevens Point, WI 54481, 715-341-5253 or [designcentralwi@yahoo.com](mailto:designcentralwi@yahoo.com)

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18. I certify that the information above is true and complete.		
Nicole McGuire, Vice President, Consumer Marketing. Date:		September 29, 2015





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# The professional student



Whether it was details of editing *Model Railroader*, operations, or prototype trains, Andy Sperandio always studied them carefully.

**The model railroading community** has lost one of its strongest advocates and most knowledgeable practitioners with the passing of Andy Sperandio. It was my privilege to have known him for more than three decades, and I can't begin to recall all of the finer points of model railroading that I learned from him. He was, in short, a great teacher.

But I think the greatest compliment to Andy was incidentally paid to him by our mutual friend Jim Long, a former Indiana farm kid who earned a degree in mathematics from Indiana University and went on to become a key player in the early NASA space flights. "Andy was a professional student," Jim commented. "I think he'd still be studying at some university if Kalmbach hadn't lured him away to work for *Model Railroader*."

**Jim described Andy perfectly:** A professional student. That expression has been used in a less-than-kindly manner, but in Andy's case it describes a person who never stopped learning.

Most editors, including Andy and me, enjoy debating the finer points of English grammar. Neither one of us was comfortable being caught off base by misusing a word or expression, although I occasionally find myself doing so today. Learning is an ongoing process.

I got to know Andy in the late 1970s through our mutual friend David Barrow, creator of the Cat Mountain & Santa Fe. He and David were very close, and Andy was a regular at CM&SF sessions. Andy also operated on John Allen's famous Gorre & Daphetid when he was in the U.S. Army in California. He learned from both experiences, and we in turn learned from him through his monthly "The Operators" commentaries.

**Andy was the editor** of *Model Railroader* when I heard a rumor that Kalmbach was investigating the idea of an annual magazine devoted to layout planning. Surveys suggested this was indeed a good idea, and senior editor Jim Kelly was going to edit the new publication.

However, shortly after, Jim was promoted to managing editor and wouldn't have time to handle the new magazine. I happened to call to express my interest at the right time, and I was soon deeply involved in planning for the new publication. During the initial meeting, it was Andy who suggested the title: *Model Railroad Planning*.

Andy was my point of contact at Kalmbach for the first 17 issues of MRP, and this was a huge comfort to me. I knew from hard-won experience that almost nothing slipped past his close scrutiny, and he always noticed something that improved the content or accuracy of the magazine. He had often done the same thing when he reviewed my monthly "Trains of Thought" commentaries, saving me from some embarrassing mistakes.

**Andy was as blunt** as he was knowledgeable. If you screwed up, he made no bones about telling you so. After he retired, I wrote an article on how to weather a steam locomotive using Pan-Pastels in just over seven minutes. What I failed to notice was the rear section of the side rod of the subject locomotive was angled upward due to a cracked sleeve that held the drivers in quarter.

I was aware of the possibility of that defect on these models and should have checked. Failing that, the problem should have leaped out at me as I weathered the model or took the step-by-step photos. Never happened. In fact, I didn't notice it until the article was published and someone(s) called it to my attention.

When I happened to mention this to Andy, he didn't mince words: "I saw it immediately, and I would have made you reshoot the entire article."

Obviously.

**Once word of his passing** got around, which took only a few hours, even on a weekend, the e-mail expressions of sorrow and tribute started pouring in. I received many of them from mutual friends; I cannot imagine how many were sent directly to Kalmbach.

We've lost one of the hobby's most influential personalities. But he left us with a legacy: Pay attention to details and become professional students in the very best sense of the term. **MR**



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