

Easier wiring with suitcase connectors p.62



Model Railroader®

New Walthers
diesel tested p.66

December 2016
www.ModelRailroader.com

Try a change of scenery

Use ground foam and spray paint to give your layout a new look p.32

5 ways to interchange freight cars p.38

HOW TO

- Put industries in small spaces p.52
- Paint and decal an undecorated diesel p.28
- Use Arduino boards for track signals p.42

**BONUS
ONLINE
CONTENT
CODE PG. 4**



MAKING RAILROAD HISTORY WALTHERS MAINLINE® GEVO Locomotive

HO SCALE

SoundTraxx® Sound & DCC \$199.98 Each

Standard DC \$129.98 Each

First look! All new tooling!

April 2017 Delivery

- Based on GE Evolution Series diesels now in service
- Limited edition - one time run of these roadnumbers!
- The most popular prototype diesel in North America
- Thousands in service from 2003 to the present
- Companion power to WaltherMainline SD70ACe
- LED lighting includes:
 - * High or low headlight per prototype
 - * Working front ditch lights
- Three truck styles to match prototypes:
 - * Standard high-adhesion
 - * Steerable
 - * C4 A1A
- Available w/factory-installed SoundTraxx sound for DCC & DC layouts
 - * 16-Bit digital quality sound
 - * Horn and short horn toot
 - * Bell
 - * Prime mover
 - * Three lighting functions



- Same powerful drive as WaltherProto® locos featuring:
 - * Five-pole skew-wound motor
 - * 14:1 gear ratio
 - * Helical-cut gears for quiet operation & easy multiple unit operation
 - * All-wheel drive & electrical pickup
 - * Dual machined brass flywheels
 - * Heavy die-cast metal chassis
 - * Constant & directional lights
- Molded drill starter points for grab irons (sold separately)
- RP-25 metal wheels
- Proto MAX™ metal knuckle couplers



*CAD drawings shown

BNSF Railway™ GE ES44C4

Low headlight
C4 A1A trucks



910-10151 #6677 Standard DC
910-10152 #8004 Standard DC
910-20151 #6753 SoundTraxx Sound & DCC
910-20152 #7972 SoundTraxx Sound & DCC

Canadian National GE ES44AC

Low headlight
Standard high-adhesion trucks



910-10153 #2804 Standard DC
910-10154 #2935 Standard DC
910-20153 #2822 SoundTraxx Sound & DCC
910-20154 #2917 SoundTraxx Sound & DCC

Canadian Pacific GE ES44AC

Low headlight
Standard high-adhesion trucks



910-10155 #8908 Standard DC
910-10156 #9351 Standard DC
910-20155 #8960 SoundTraxx Sound & DCC
910-20156 #9379 SoundTraxx Sound & DCC

CSX® GE ES44AH

Low headlight
Steerable trucks



910-10157 #952 Standard DC
910-10158 #980 Standard DC
910-20157 #971 SoundTraxx Sound & DCC
910-20158 #999 SoundTraxx Sound & DCC

Norfolk Southern GE ES44AC

High headlight
Standard high-adhesion trucks



910-10159 #8024 Standard DC
910-10160 #8041 Standard DC
910-20159 #8035 SoundTraxx Sound & DCC
910-20160 #8048 SoundTraxx Sound & DCC

Union Pacific® GE ES44AH

Low headlight
Standard high-adhesion trucks



910-10161 #7470 Standard DC
910-10162 #7507 Standard DC
910-20161 #7484 SoundTraxx Sound & DCC
910-20162 #7529 SoundTraxx Sound & DCC

WALTHERS

Support your local hobby shop • visit walters.com • call 1-800-4-TRAINS

Delivery date and prices shown were accurate at press time, for updates visit walters.com. Drawings shown for illustration purposes, some details may vary.
**The BNSF marks are licensed marks owned by the BNSF Railway Company. *CSX proprietary marks used by permission of CSX Transportation, Inc. †Union Pacific licensed product. ©2016 Wm. K. Walther, Inc.

Z-Stuff for Trains

creates a signal bridge for HO Scale



Order now: www.zstuffexpress.com
708-352-9105

Dealers or technical
questions: www.z-stuff.net
585-377-0925

Realistic action
with a two wire
installation
(power and ground).

- Modular (2 to 8 tracks)
- Sensors built-in under the deck
- 2.5" modules for track spacing close to that dimension
- Signal heads either side or BOTH sides
- 8 sec. delay between indications
- Delay can be set to be any time from 1 sec. to 60 sec.
- Each track position has an input wire for down track sensing and indication.

Huge Model Train Show



Sat, February 25th 10-4 • Sun, February 26th 10-3

150+ DEALER TABLES & 5 OPERATING EXHIBITS IN 18,000 SQ. FT.

EVERYTHING FOR THE RAILROAD ENTHUSIAST & MODEL RAILROAD HOBBYIST FEATURING CHILDREN'S "HANDS-ON" LAYOUT & THE GREATER FLORIDA "LEGO" TRAIN CLUB.

Open to the Public • Free Parking • Adults \$8

Kids 13 & Under Free with paid adult

DOOR PRIZES

BRADENTON AREA CONVENTION CENTER

1 Haben Blvd., Palmetto
(Intersection of U.S. 41 & Haben Blvd.)

SPONSORED BY REALRAIL- RAILROAD EDUCATION AND LEARNING CENTER OF FLORIDA
A 501 (c)(3) ORGANIZATION



**Buy Tickets Online Now
and Save Money!**

www.TrainShow.com

FOR INFO OR TO EXHIBIT AT A SHOW CONTACT:

280 Carlton Drive, Carol Stream, IL 60188

(630)-290-1962 • Info@TrainShow.com



Great Train Shows
Quality Train Shows
Coast To Coast
Sat & Sun 10am - 4pm

November 5-6 • Shakopee, MN
Canterbury Park Expo Center

November 12-13 • Puyallup, WA
Western Washington Fairgrounds

November 19-20 • Grayslake, IL
Lake County Fairgrounds

November 26-27 • Pleasanton, CA
Alameda County Fairgrounds

November 26-27 • Collinsville, IL
Gateway Center

December 3-4 • Fort Wayne, IN
Allen County War Memorial Coliseum
December 10-11 • West Palm Beach, FL
South Florida Fairgrounds



200 Booths of Manufacturers & Retailers!
Huge Riding Train For Kids—FREE!
HUGE Operating Model Railroads!
Demos, Seminars, New Products and Much More!
See These Major Manufacturers:



Jan. 7-8, 2017 • Atlanta, GA Georgia World Congress Center

Jan. 21-22, 2017 • Puyallup, WA Western Washington Fair.

Feb. 4-5, 2017 • Phoenix, AZ Phoenix Convention Center

Feb. 11-12, 2017 • Pomona, CA Fairplex



DuPage County Fairgrounds 9am-3pm
County Farm & Manchester, Wheaton, IL 60187
Largest Monthly Train Show in the US

Nov 13

Dec 11

Jan 8

Feb 12

Mar 12

Apr 9



Greenberg Shows
America's Premier
Train & Toy Show
Sat & Sun 10am - 4pm

November 5-6 • Harrisburg, PA
Harrisburg Mall

November 12-13 • Monroeville, PA
Monroeville Convention Center

November 19-20 • Wilmington, MA
Shriners Auditorium

November 26-27 • Edison, NJ
New Jersey Expo Center

December 3-4 • Timonium, MD
Maryland State Fairgrounds

December 10-11 • Chantilly, VA
Dulles Expo Center

December 17-18 • Richmond, VA
Richmond Raceway Complex

**VISIT TRAINSHOW.COM FOR
THE LATEST TRAIN SHOW DATES**

MODEL LIKE A "MASTER"!

FREE!

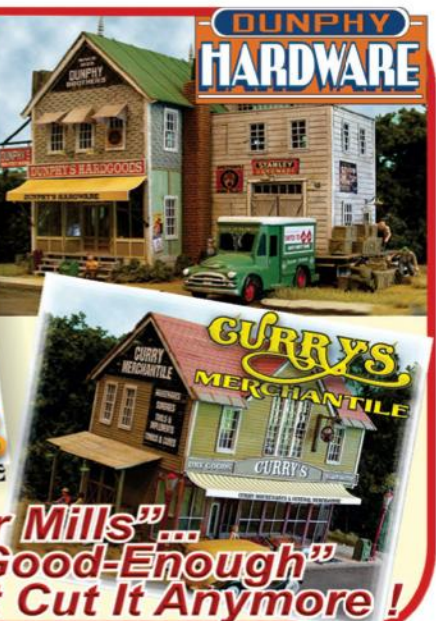
**27-PAGE
DOWNLOADABLE BOOK...**

"CRAFTSMAN KITS "101"

BY JACK ELLIS

AVAILABLE AT:

WWW.BARMILLSMODELS.COM



Online Content Code: MRR1612

Enter this code at: www.ModelRailroader.com/code
to gain access to web-exclusive content

IN THIS ISSUE

28



32 Changing seasons on a finished layout

How to easily convert green summer scenery to autumn color with paint and ground foam
by Brooks Stover

38 5 ways to interchange freight cars

How to move traffic between connecting railroads
by Tony Koester

42 Build a signal system with Arduino micro-controllers

These compact computers are capable of many tasks
by Detlef Kurpanek ▶ Online bonus ModelRailroader.com

46 Four eras over WP's Feather River Route **MREXTRA**

Developing a realistic operating scheme for a great model railroad
by Robert W. Scott ▶ Online bonus ModelRailroader.com

52 Large industries in limited space

Tips for modeling modern rail-served customers from the HO scale Iowa Interstate Grimes Line
by James McNab ▶ Online bonus ModelRailroader.com

56 Mountain railroading, New York style **MREXTRA**

This freelanced 9 x 21-foot N scale layout is set in the Adirondacks
by Sandy Colabufo ▶ Online bonus ModelRailroader.com

76 Trackside Photos

by Steven Otte ▶ Online bonus ModelRailroader.com

NEXT ISSUE



Meet the new Beer Line addition, check out a Conrail and Norfolk & Western track plan, learn how to build benchwork, and more in the January issue of *Model Railroader*!

62

Easier wiring with suitcase connectors p.62

66



32

Try a change of scenery

Use ground foam and spray paint to give your layout a new look p.32

38

5 ways to interchange freight cars

52

Put industries in small spaces

42

Paint and decal an undecorated diesel p.42

Use Arduino boards for track signals p.42

On the cover: Buffalo Creek & Gauley RR 2-8-0 no. 13 rolls through autumn colors that have recently appeared on Brooks Stover's S scale layout. Brooks Stover photo

IN EVERY ISSUE

6 Digital MR

The latest features on our website by Dana Kawala

8 From the Editor

Capacitors: game changer? by Neil Besouloff

10 News & Products

Hobby industry news by Cody Grivno

18 Railway Post Office

Letters from our readers by Hal Miller

20 Ask MR

How should I gap my N scale rails? by Steven Otte

26 Heritage Fleet

Mantua's Belle was a plain Jane by Keith Wills

28 Step by Step

Paint, decal, and weather a locomotive by Cody Grivno

62 DCC Corner

Making the DCC suitcase connection by Larry Puckett

66 Product Reviews **MREXTRA**



HO scale SD45 from Walther's, N scale B36-7 from Atlas, and more by Dana Kawala

74 On Operation

Time traveling via model railroads by Jerry Dziedzic

89 Index of Advertisers and Cartoon

90 Trains of Thought

Here be dragons by Tony Koester

MREXTRA www.ModelRailroader.com subscriber extra
MRVP Video on www.MRVideoPlus.com



GOT TRACK?

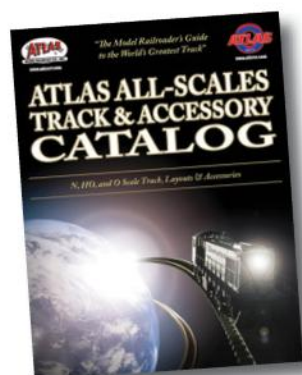
(Don't let your fun get stopped short...)

ATLAS HAS PLENTY!

Whether you're finishing an existing layout, starting a new one, or just giving that trainset loop some extra pieces, Atlas has the 'right track' for you. The rugged plastic construction, nickel silver rail and U.S. prototype detail, assures longevity, maximum conductivity and accurate realism that guarantees your trains look good and keep running smoothly.

Atlas track provides industry leading **quality** at unequalled **value**, and our selection is so large we have an entire catalog devoted to it. HO and N scale track, in a variety of rail sizes, is fully stocked and ready to ship to you and your favorite Atlas authorized dealer now.

For more information, and the dealer nearest you, visit www.atlasrr.com, or call 1-800-872-2521 and request a catalog of your own. And remember...*You're on the right track, (and trains) ...with Atlas!*



HO SCALE TRACK



HO True-Track®



HO Code 83



HO Code 100

N SCALE TRACK



N Code 80



N Code 55



N True-Track®



ATLAS MODEL RAILROAD CO., INC. • 378 Florence Ave., Hillside, NJ 07205 • www.atlasrr.com • www.atlaso.com



New layout videos



See N and HO scale model trains in action

Model Railroader subscribers have access to hundreds of videos that showcase the layouts featured in the magazine. This month check out Jim Pendley's HO scale Western Pacific and Sandy Colabufo's N scale Annaville & Adirondack. Click on the link under Online Extras at ModelRailroader.com.



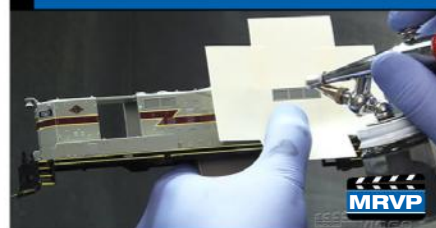
See and hear sound-equipped models



Product review videos

For more than 10 years, the *Model Railroader* staff has provided video demonstrations of the latest sound-equipped locomotive models. This month subscribers can check out the new SoundTraxx Tsunami-equipped HO scale SD45 diesel from Walther's.

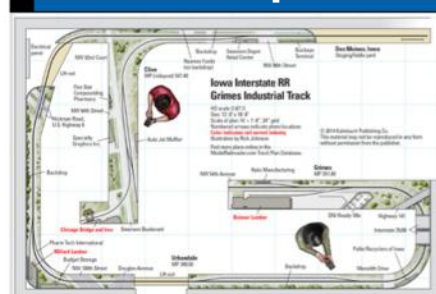
MR Video Plus



Locomotive detailing and weathering with Cody Grivno

Turn to page 28 to learn how associate editor Cody Grivno painted and decaled the diesel locomotives on the MR staff's HO scale Eagle Mountain RR. For a more in-depth look at Cody's diesel detailing techniques, check out his Winston-Salem Southbound diesel locomotive series on Model Railroader Video Plus. Get a sample of the series by clicking on the link under Online Extras at www.ModelRailroader.com.

Bonus track plan



More from the Grimes Line layout

On page 52 of this issue author James McNab provides some valuable tips for modeling modern heavy industries on a narrow shelf railroad. Click on the links under Online Extras to download a PDF of the full Iowa Interstate Grimes Line track plan and watch layout videos shot by James.

MREXTRA

www.ModelRailroader.com
subscriber extra

MRVP

Video on www.MRVideoPlus.com

MAKE MODEL RAILROADING *Come Alive*

— AMTRAK TRAIN SET —



NEW PAINT SCHEMES

FROM VINTAGE TO MODERN ERA, WE HAVE THE RIGHT SET FOR YOU

Athena train sets return in 2016 as part of our new Roundhouse line. A wide variety of eras and railroads will be offered with an emphasis on fun. We are creating products for both beginners and experienced modelers alike.

TRAIN SETS: \$219.99

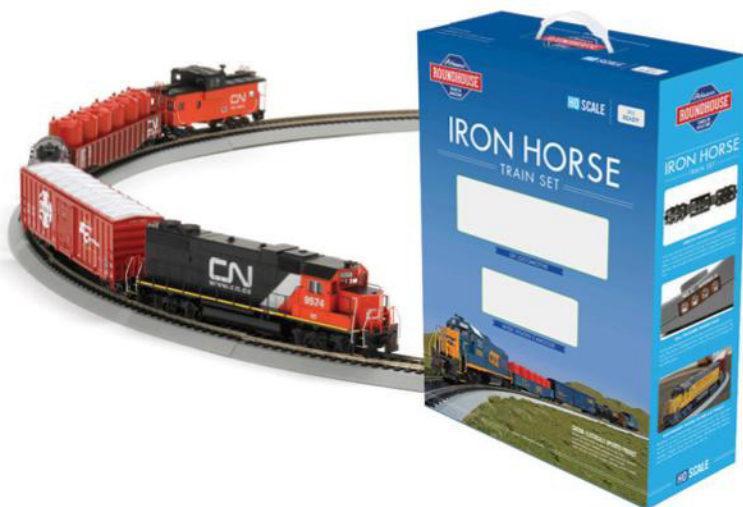
- RND14750 HO Streamliner Train Set, Amtrak
- RND14751 HO Streamliner Train Set, PRR
- RND14262 HO GP38-2 Iron Horse Train Set, CN Web Address
- RND14263 HO GP38-2 Iron Horse Train Set, KCS Retro Belle (New Road Name)
- RND14266 HO GP38-2 Iron Horse Train Set, CSX "How Tomorrow Moves"
- RND14267 HO GP50 Iron Horse Train Set, UP

TRAIN SETS: \$239.99

- RND14265 HO GP50 First Responder Train Set, BNSF Fire Train, Firetruck Included
- RND14264 HO GP38-2 First Responder Train Set, NS Safety Training, Firetruck Included



Visit athearn.com for more details!



HORIZON
H O B B Y

VISIT
Your Local Retailer

CLICK
Athearn.com

CALL
1.800.338.4639

SERIOUS FUN

©2016 Horizon Hobby, LLC. Athena, Genesis, Ready To Roll, Trains in Miniature, Serious Fun and the Horizon Hobby logo are trademarks or registered trademarks of Horizon Hobby, LLC. The Union Pacific mark and other marks owned by Union Pacific are made under trademark license from Union Pacific Railroad Company. All other trademarks, service marks and logos are property of their respective owners. Final models may vary slightly from photos shown. 53595

The next game changer?



Wikipedia, the source of knowledge here in the 21st century, defines a capacitor as “a passive two-terminal electrical component used to temporarily store electrical energy in an electric field.”

Model railroaders might define a capacitor as a game changer.

Capacitor theory came into being way back in the 1700s during electricity experiments. The capacitors we know today were developed in the 1950s. In recent years, “supercapacitors” have been made that briefly store up to 100 times or more energy than traditional capacitors.

A model locomotive equipped with a capacitor wired to its motor can store enough electricity to power the locomotive across an electrically “dead” spot caused by things like dirty track, poor wiring, and plastic turnout frogs.

Locomotives with capacitors don’t jerk and sound systems aren’t interrupted by dead spots in track.

Many of the DCC decoder manufacturers sell capacitors for model railroad applications under names such as CurrentKeeper and Keep-Alive. They are designed to be wired into an existing decoder. Some new locomotives come with built-in capacitors, but some of those capacitors are only to keep the sound system powered as locomotives cross turnouts and other gaps.

Which brings us to the capacitor-equipped Walther’s HO scale Plymouth

switcher. There’s a photo of an engineering sample on page 11.

On www.ModelRailroader.com you can watch a video of this switcher as it smoothly pulls a four-car train across 18 inches of HO track that is insulated by blue masking tape.

The tiny locomotive comes from the factory with a motor DCC decoder and a set of capacitors designed along with the locomotive, specifically to get everything to fit into the tiny body shell. The Plymouth is just too small to also include a sound system.

It’s not the first locomotive we’ve videotaped with a capacitor, but its size drives home the point of how beneficial capacitors are, especially under DCC operation. Ideally, new locomotives would include such motor capacitors, but they will add to the cost of the locomotives and there isn’t always space for them inside the body shells.

Imagine if all of the locomotives on your layout were equipped with capacitors. Instead of time fine-tuning the electrical reliability of your turnouts, you could kill the power to the point rails and frogs on your turnouts. The capacitors would keep the locomotives moving smoothly. Stalling and electrical shorts would go away – forever.

Now that would be a game changer.

We’re continuing to count down to *Model Railroader*’s 1,000th issue, which is April 2017. So far, we’ve published 996 issues since January 1934.

Our staff is already editing special features for the April issue, so be sure to keep your subscription active, and if you buy magazines one at a time, look for the April issue on sale in early March.

NEIL BESOUGLOFF

Model Railroader

Model railroading is fun!

Founder A.C. Kalmbach 1910-1981

Editor Neil Besougloff
Managing Editor Hal Miller
Senior Editor Dana Kawala
Associate Editors Cody Grivno, Steven Otte, Eric White
Contributing Editors Tony Koester, Pelle Søborg, Larry Puckett

Phone 262-796-8776
E-mail mrmag@mrmag.com
Fax 262-796-1142

Model Railroader Art Team

Art Director Thomas G. Danneman
Senior Graphic Designers Scott Krall, Drew Halverson
Lead Illustrator Rick Johnson
Production Coordinator Cindy Bader

Model Railroader Video Plus

Producer A. David Popp
Associate Producer Kent Johnson
Associate Editor Ben Lake
Editorial Assistant Jenny Maaske

Customer Sales and Service

Phone 800-533-6644
Outside U.S. and Canada 813-910-3616

Customer Service
Modelrailroader@customersvc.com
Digital
Modelrailroader.digital@customersvc.com
Back Issues
Modelrailroader.SingleCopy@customersvc.com

Advertising Department

Group Advertising Manager Scott Redmond
Ad Sales Manager Paul Steinhafel
Ad Sales Representative Martha Stanczak
Ad Services Representative Daryl Pagel

To purchase an advertisement

Phone 888-558-1544, ex. 643
E-mail adsales@mrmag.com

Circulation Department

Circulation Manager Catherine Daniels
Single Copy Specialist Kim Redmond

To sell Model Railroader in your store:

Phone 800-558-1544
Outside U.S. and Canada 262-796-8776, ex. 818
E-mail tss@kalmbach.com
Website www.Retailers.Kalmbach.com
Fax 262-798-6592

Kalmbach Publishing Co.

President Charles R. Croft
Senior VP, Sales & Marketing Daniel R. Lance
VP, Content/Editorial Director Stephen C. George
VP, Consumer Marketing Nicole McGuire
Corporate Advertising Director Scott Bong
Corporate Art Director Maureen M. Schimmel
Art and Production Manager Michael Soliday
General Manager Brian J. Schmidt

SUBSCRIPTION RATE: Single copy: \$5.99; U.S.: 1 year (12 issues) \$42.95; 2 years (24 issues) \$67.95; 3 years (36 issues) \$94.95. Canadian: Add \$13.00 postage per year. Canadian price includes GST. BN 12271 3209 RT, payable in U.S. funds. All other international subscriptions: Add \$20.00 postage per year, payable in U.S. funds, drawn on a U.S. bank. ©2016, Kalmbach Publishing Co. Title registered as trademark. All rights reserved.

KALMBACH PUBLISHING CO.



Contributing to Model Railroader

We welcome contributions from readers, including articles, photographs, and drawings. For more information on submitting material, call us at 262-796-8776 and ask for an MR staff member or e-mail us at mrmag@mrmag.com. *Model Railroader* assumes no responsibility for the safe return of unsolicited material. We assume unsolicited material is intended for publication by Kalmbach Publishing Co. unless otherwise noted. We assume letters, questions, news releases, and club news items are contributed gratis.

NEW HO TRAIN SETS EXCLUSIVELY FROM BACHMANN!

INTRODUCING THE BLUE STAR Our First Train Set with an E-Z App®-Equipped Steam Locomotive!

Enjoy wireless touch-screen control of the E-Z App®-equipped Blue Star train set through your smart device for Android™ or Bluetooth® 4-supported Apple® smart device. The Blue Star features an E-Z App®-equipped Alco 2-6-0 steam locomotive, three old-time cars, and 56" x 38" oval of snap-fit nickel silver E-Z Track®. This is one star you will want to find under your tree this Christmas!



NEW

Blue Star Train Set with E-Z App® Train Control
Item No. 01502 • MSRP \$349.00
Shipping Soon!



COASTLINER
Item No. 00734
MSRP \$199.00

**SHIPPING
NOW!**

NEW



HARVEST EXPRESS
Item No. 00735
MSRP \$239.00

NEW



McKINLEY EXPLORER
Item No. 00743
MSRP \$269.00

NEW



Bachmann newest ready-to-run electric train sets offer unique designs that will appeal to a wide range of HO scale modelers. They include everything needed to get started in model railroading: an EMD GP40 locomotive with operating headlight, cars, snap-fit E-Z Track®, power pack, and speed controller. The Coastliner boasts a CSX paint scheme and two flat cars with container loads plus caboose. Our Harvest Express features three colorful Canadian grain hoppers. With two bi-level full-dome passenger cars, the McKinley Explorer treats passengers to breathtaking views of the Alaskan wilderness. Visit your favorite hobby dealer to get on board with these exciting new train sets today!





HO scale 8,500-hp gas turbine electric. After much anticipation, the ScaleTrains.com “Big Blow” is here. The model is decorated for Union Pacific in eight road numbers (four per product line). All of the models have road-number-specific details, separate molded rubber radiator cooling loop hoses between units, and illuminated number boxes. The Museum Quality models also have illuminated class lights and instrument panel,

truck safety chains on the tender, and a spinning turbine blade inside the exhaust hood on the B unit. Models in the Rivet Counter line sell for \$424.99 (direct current) and \$574.99 (with an ESU LokSound sound decoder). Museum Quality models (with an ESU LokSound sound decoder) are priced at \$724.99. Look for a full review of this model in the January 2017 *Model Railroader*. ScaleTrains.com, 844-987-2467, www.scaletrains.com

HO scale locomotives



■ **HO scale General Electric ES44AC diesel locomotive.** New road names: Norfolk Southern heritage (Interstate, Conrail, Monongahela, Norfolk & Western, and Norfolk Southern). One road number per scheme. SoundTraxx Sound Value sound package and working ditch lights. \$319. Bachmann Trains, 215-533-1600, www.bachmanntrains.com

■ **Electro-Motive Division GP15-1 and GP15T diesel locomotives.** GP15-1: Chicago & North Western (as delivered), Conrail (as delivered), CSX (dark blue and yellow), Missouri Pacific. GP15T: Chessie System (Chesapeake & Ohio reporting marks). Four numbers per scheme. Prototype-specific details, detailed cab interior, and wire grab irons. Direct-current model, \$189.98; with SoundTraxx Tsunami2 sound decoder, \$289.98. July 2017. Genesis series. Athearn Trains, 800-338-4639, www.athearn.com

■ **Electro-Motive Division GP38-2 diesel locomotive.** New paint

schemes: Buffalo & Pittsburgh (Genesee & Wyoming scheme, one road number), Canadian Pacific, Florida East Coast, New York & Atlantic, South Carolina Central (G&W scheme), and Norfolk & Western (three numbers). New numbers: Burlington Northern. Two numbers per scheme unless noted; also available undecorated. Separately applied handrails, drill-starter points for grab irons, and die-cast metal underframe. Direct-current model, \$149.95; with dual-mode ESU LokSound Select sound decoder, \$249.95. Second quarter 2017. Trainman line. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com



■ **Morrison-Knudsen Tractive Effort Booster Unit.** Resin and etched-brass kit. Based on Southern Pacific prototype. \$94.99. Cutting Edge Scale Models, www.cescalemodels.com

■ **Electro-Motive Diesel SD70ACe diesel locomotive.** BNSF Ry. (Heri-

tage III, low headlight), Montana Rail Link (low headlight), and Union Pacific (Missouri-Kansas-Texas, Missouri Pacific, and Western Pacific heritage schemes in one road number each; U.S. flag and “Building America” slogan in four numbers). Two numbers per scheme unless noted. Working front ditch lights, die-cast metal underframe, and drill-starter points for grab irons (sold separately). Direct-current model, \$129.98; with dual-mode SoundTraxx sound decoder, \$199.98. January 2017. Walther'sMainline. Wm. K. Walther's Inc., 414-527-0770, www.walthers.com

HO scale freight cars

■ **Assorted freight car kits.** Atchison, Topeka & Santa Fe (“Ship and Travel Santa Fe All the Way” slogan) 50-foot riveted-side double-door boxcar, \$17.98. Bessemer & Lake Erie Pullman-Standard 4,750-cubic-foot-capacity covered hopper, \$19.98. Fort Dodge, Des Moines & Southern 40-foot single-sheathed boxcar with steel doors and ends, \$17.98. Florida East Coast offset twin hopper, \$17.98. Great Northern (Big Sky Blue) 50-foot riveted-side plug-door boxcar, \$17.98. Hormel (NADX reporting marks) 40-foot steel refrigerator car,

Cody Grivno



► Mobile Updates



Scan the code to access *Model Railroader's* website for weekly News & Products updates.



■ **Assorted freight cars.** Chicago & Illinois Midland Pullman-Standard 40-foot PS-1 boxcar (\$38.95) and Reading Co. Pullman-Standard PS-2 two-bay hopper (\$43.95). Kadee scale couplers and two-piece self-centering trucks. Kadee Quality Products Co., 541-826-3883, www.kadee.com

\$18.98. Wheeling & Lake Erie offset triple hopper, \$17.98. Injection-molded plastic kits with plastic wheelsets and Accumate couplers. Accurail, 630-365-6400, www accurail.com

■ **FMC 5,347-cubic-foot-capacity boxcar.** Apalachicola Northern, Bath & Hammondsport RR Co., Helena Southwestern RR, Meridian & Bigbee RR, Port Huron & Detroit, Railbox (1995 scheme), Rahway Valley, Sabine River & Northern, Saratoga & North Creek, and Vermont Ry. (SSI scheme). Three road numbers per scheme. Photo-etched crossover platforms, 33" metal wheelsets, and body-mounted McHenry couplers. \$27.98. July 2017. Ready-to-Roll. Athearn Trains, 800-338-4639, www.athearn.com

■ **Standard- and wide-cupola cabooses.** New paint schemes. Standard cupola: Norfolk Southern (Norfolk & Western and Southern Ry. heritage and horsehead ribbon logo, one road number each). Wide cupola: Belt Ry. of Chicago; Burlington Northern; BNSF Ry. (shoving platform); Delaware & Hudson; Missouri-Kansas-Texas (American Revolution Bicentennial scheme, one number); Milwaukee, Racine & Troy (shoving platform in one number, standard scheme in two numbers). New numbers. Standard cupola: Northern Pacific (green). Wide cupola: Alaska RR and Missouri-Kansas-Texas. Two numbers per scheme unless noted; also available undecorated. Roller-bearing trucks, separate brake cylinder, and running boards as appropriate. \$41.95 (undecorated, \$25.95). First quarter 2017. Master Line. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com



■ **Atchison, Topeka & Santa Fe class GA-123 three-bay hopper.** Cast-resin kit and assembly hardware. Grab irons, ladders, trucks, couplers, and other detail parts not included. Based on prototypes used in unit coal train service in New Mexico. \$24.95 each; three-pack, \$69.99; and six-pack, \$129.99. Concept Models, www.con-sys.com



■ **General American Transportation Corp. 4,180-cubic-foot-capacity Airlide covered hopper.** New paint schemes: Burlington Northern (1972 Cascade Green, four road numbers), General American (1971 original gray), Missouri Pacific (May 1992, May 1994, and June 1994 Union Pacific



HO scale Plymouth ML-8 switcher. This engineering sample of the next Walther's Mainline model recently arrived at MR. The switcher, which will sell for \$99.98 (direct current) and \$149.98 (Digital Command Control with SoundTraxx CurrentKeeper), will feature a die-cast metal hood, a plastic cab, and an etched-metal radiator grill. The model will be offered in three road names and painted but unlettered. Read Dana Kawala's first impressions of the Plymouth and see a video of it in action at www.ModelRailroader.com. Wm. K. Walther's Inc., 414-527-0770, www.walthers.com



Great Northern modernized heavyweight observation cars. These two cars are the latest additions to the Lowell Smith Signature Series Executive Line. The Great Northern modernized heavyweight observation cars are Micro-Trains models with a detailed interior and underbody, body-mounted Magne-Matic couplers, and plastic wheelsets. Car A6 features a riveted

body, and car A12 has a smooth-side body. The cars sell for \$67 each. Lowell Smith Signature Series, www.lowellsmith.net

repaints), Northern Pacific (1967 original gray), St. Louis-San Francisco (1965 original gray), and Southern Ry. (1978 original gray, four numbers). Three numbers per scheme unless noted; also available ready-to-run painted Primer Gray and undecorated kit in 1965-66, 1967-69, and 1970-1980 body styles. See-through etched-metal running boards, 36" metal wheels, and Kadee scale couplers. \$44.95 (quantity discounts on direct orders from manufacturer). Tangent Scale Models, 828-279-6106, www.tangentscalemodels.com



■ **Union Tank Car Co. 23,000-gallon Funnel-Flow tank car.** Archer Daniels Midland (molecule logo), Procor (black and white schemes), and Union Tank Car Co. (blue with EQ logo, black, and white). Two road numbers per scheme. Etched-metal walkways and platforms, factory-installed grab irons, and Proto-Max couplers. \$44.98.

WalthersProto. Wm. K. Walthers Inc., 414-527-0770, www.walthers.com

H0 scale structures



■ **Cundy Cannery.** Laser-cut wood kit with injection-molded windows, non-operating light poles, 3-D printed and cast-resin details, and signs. Footprint is approximately 9" x 12". Limited run of 500 kits. Only available direct from manufacturer. \$159.95. Bar Mills, 207-929-3400, www.barmillsmodels.com



■ **Diesel Enginehouse.** Laser-cut Strong board (thick cardstock) and basswood kit with peel-and-stick laser-cut windows, doors, and trim;

cast-metal lights, smokejacks, roof vents, and fuel tank; and laser-cut floors and interior bracing. Office can be omitted or moved to another position. Based on Chicago & North Western prototype. \$74.95. Monroe Models, 320-250-5610, www.monroemodels.us



■ **Discount Auto Parts.** Milled styrene kit with injection-molded metal siding, self-adhesive window signs, and clear acrylic window glazing. Measures 7 1/4" x 5 3/4" x 2 1/2". \$44.95. Summit USA, 337-436-8481, www.summit-customcuts.com

H0 scale details and accessories

■ **40-foot intermodal container chassis.** Cosco, Evergreen, MOL, OOCL, P&O, and TransAmerica. Mudflaps and rolling vinyl tires. Two-pack, \$29.98. June 2017. Athearn Trains, 800-338-4639, www.athearn.com

■ **Coca-Cola beverage delivery truck.** Detailed cab interior, rolling wheels, and window glazing. Includes stand with display case. \$24.95. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com



HO scale 53-foot corrugated-side gondola. This new Walther's Mainline model is decorated for Great Northern; Atchison, Topeka & Santa Fe (Boxcar Red); Burlington Northern (Cascade Green); Conrail (Boxcar Red); Southern Pacific (Boxcar Red); and Union Pacific (Boxcar Red) in two road numbers per scheme. The gondola has an optional coil steel cradle and bulkheads, 36" metal wheelsets, and Proto-Max couplers. The car is priced at \$24.98. Wm. K. Walther's Inc., 414-527-0770, www.walthers.com

N scale locomotives



■ General Electric Dash 8-40B and Dash 8-40BW diesel locomotives.

New paint schemes. Dash 8-40B: Milwaukee, Racine & Troy (Conrail Blue with white face and dark blue with Operation Lifesaver logo, one road number each); CSX (dark blue and yellow with boxcar herald); Minnesota Commercial; and Saratoga & North Creek (one number). Dash 8-40BW: Arkansas-Oklahoma; Milwaukee, Racine & Troy (Conrail Blue with *Andrew P. Sperandio* under cab window, one number); and Providence & Worcester. New numbers. Dash 8-40B: Union Pacific (three numbers). Dash 8-40BW: BNSF Ry. (Heritage II, three numbers). Two numbers per scheme unless noted; also available undecorated. Blackened metal wheels, Scale Speed motor, and directional golden-white light-emitting-diode headlights. Direct-current model, \$129.95; with motor decoder, \$169.95. Second quarter 2017. Master Line. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com

N scale freight cars

■ **50-foot boxcar.** Atchison, Topeka & Santa Fe ("Shock Control" slogan); Bangor & Aroostook ("State of Maine Products" slogan); Chesapeake & Ohio (blue and yellow with "The Chessie Route" lettering); Northern Pacific; Peoria & Eastern

(New York Central scheme); Southern Pacific; Union Pacific ("Ship and Travel the Automated Railway" slogan); and Western Pacific. Three road numbers per scheme. See-through metal running board, solid- or roller-bearing trucks as appropriate, and screw-mounted trucks. \$21.98. June 2017. AthearnN. Athearn, 800-338-4639, www.athearn.com

■ **FMC 5,347-cubic-foot-capacity boxcar.** Apalachicola Northern, Bath & Hammondsport RR Co., Helena Southwestern RR, Meridian & Bigbee RR, Port Huron & Detroit, Railbox (1995 scheme), Rahway Valley, Saratoga & North Creek, Sabine River & Northern, and Vermont Ry. (SSI scheme). Three road numbers per scheme. Screw-mounted roller-bearing trucks, metal wheels, and McHenry couplers. \$21.98. July 2017. AthearnN. Athearn Trains, 800-338-4639, www.athearn.com



■ **Wide-cupola caboose.** New paint schemes: Milwaukee, Racine & Troy (shoving platform in one number, standard scheme in two numbers); Belt Ry. of Chicago; Burlington Northern; BNSF Ry. (shoving platform); Delaware & Hudson; and Missouri-Kansas-Texas (American Revolution Bicentennial scheme, one number). New numbers: Alaska RR and Missouri-Kansas-Texas. Two numbers per scheme unless noted; also available undecorated. Roller-bearing

SHOWCASE-EXPRESS

Wall to Wall Expandable Display Case

Case Size Available: Z, N, HO, S, O, G, #1 & Standard Gauge



Lighting Kits and Backgrounds Available

Join Top to Bottom
or End to End

714-842-0672

www.SHOWCASE-EXPRESS.COM

NICHOLAS SMITH TRAINS

Model Railroading For All Seasons®

VISIT OUR WEBSITE, OR GIVE US A CALL

For orders only: 1-800-848-9119

Product Info (610) 353-8585 • Fax (610) 359-9846

USA Shipping - \$0.00-\$500.00 - \$13.00; \$500.01-\$1200.00 - \$17.00

MINIMUM ORDER: \$30.00 • 15% Restocking Fee on Returns

No P.O. Boxes Please; PA Residents Add 6% Sales Tax

Atlas N Locomotives

Multiple Road Number Available

ATL40000660 Lehigh Valley U23B DCC Ready	\$69.99
ATL40000663 Penn Eastern U23B DCC Ready	\$69.99
ATL40000746 Reading GP25 DCC Ready	\$69.99
ATL40000750 Western Maryland GP35 DC	\$69.99
ATL40001789 BNSF GP15-1 DCC Ready	\$74.99
ATL40001795 Apalachicola Nthm GP15 DCC Rdy	\$74.99
ATL40001829 B&O SD-9 DC	\$89.99
ATL40001857 NH FM H16-44 DCC Ready	\$94.99
ATL40001860 NYC H16-44 DCC Ready	\$94.99
ATL40001880 NH FM H16-44 DCC	\$119.99
ATL40001884 NYC FM H16-44 DCC	\$119.99
ATL40001902 CN GP40 DCC Ready	\$84.99
ATL40001920 CSX GP40-2 DCC Ready	\$89.99
ATL40001944 SOO Line GP40 DCC	\$111.99
ATL40001947 The Rock GP40 DCC	\$111.99
ATL40001949 CSX GP40-2 DCC	\$111.99
ATL40002131 Lehigh Valley S2 DC	\$89.99
ATL40002167 Amtrak GP7 DCC Ready	\$81.99
ATL40002289 Conrail GP38-2 DCC	\$109.99
ATL40002299 Ontario Northern GP38-2 DCC	\$109.99
ATL40002310 NS GP38-2 DCC Ready	\$89.99
ATL40002472 Reading & Northern GP30 DCC	\$109.99
ATL49075 Susquehanna SD-60 DC	\$89.99
ATL49077 Canadian Pacific SD-60 DC	\$89.99
ATL49488 N&W SD35 Short hood DCC	\$114.99
ATL49601 Erie Lackawanna Trainmaster DCC	\$119.99
ATL49631 CNJ Trainmaster DCC	\$119.99
ATL49706 Santa Fe B23-7 DC	\$79.99

Bachmann N Rolling Stock & Accessories

BAC13751 SF 72' Coach w. Lights	\$44.99
BAC13752 PRR 72' Coach w. Lights	\$44.99
BAC13753 B&O 72' Coach w. Lights	\$44.99
BAC13754 NYC 72' Coach w. Lights	\$44.99
BAC13755 UP 72' Coach w. Lights	\$44.99
BAC14156 Amtrak Amfleet Phase II Coach	\$12.00
BAC14160 Amtrak Amfleet Phase II Café	\$10.00
BAC14161 Amtrak Amfleet Phase III Café	\$10.00
BAC14162 Amtrak Amfleet Phase IV Café	\$10.00
BAC14163 Amtrak Amfleet Phase Acela Café	\$10.00
BAC14551 SF 85' Observation w. Lights	\$33.99
BAC14552 PRR 85' Observation w. Lights	\$33.99
BAC14553 B&O 85' Observation w. Lights	\$33.99
BAC14554 Unlettered 85' Observation w. Lights	\$33.99
BAC14751 SF 85' Coach w. Lights	\$34.99
BAC14752 PRR 85' Coach w. Lights	\$34.99
BAC14753 B&O 85' Coach w. Lights	\$34.99
BAC14754 Unlettered 85' Coach w. Lights	\$34.99
BAC17553 KCS 56' 4 Bay Center Flow Hopper	\$17.99
BAC17554 CSX 56' 4 Bay Center Flow Hopper	\$17.99
BAC17555 CP Rail 56' 4 Bay Center Flow Hopper	\$17.99
BAC17601 PRR 40' Quad Hopper	\$13.99
BAC19657 Montana Rail Link 50' Boxcar	\$16.99
BAC19658 NS 50' Outside Braced Boxcar	\$16.99
BAC19661 MC 50'6" ACF Boxcar	\$17.99
BAC19662 PC 50'6" ACF Boxcar	\$17.99
BAC39002 N Scale Ballast Spreader	\$15.99
BAC39009 Snap & Glue Magnetic Square Clamps	\$39.99
BAC39011 Snap & Fix Magnetic Adjustable Clamps	\$39.99

Broadway Limited N Locomotives

BRO3201 SF Warbonnet PA/PB DCC & Sound	\$189.99
BRO3202 UP PA/PB DCC & Sound	\$189.99
BRO32XX 09/10 NH PA DCC & Sound	\$159.99
BRO3211 PRR PA DCC & Sound	\$159.99
BRO3217 UP PA DCC & Sound	\$159.99
BRO3218 UP PB DCC & Sound	\$159.99

Hours: M,W,F 10-9 • T & Th 10-7 • Sat 10-5 •

Sun 10-5 (Nov. 1st-Dec. 24th)

2343 West Chester Pike • Broomall, PA 19008

(610) 353-8585 • ESTABLISHED 1909

Prices Subject to Change Without Notice; Not Responsible For Typographical Errors

www.nicholassmithtrains.com

Model Railroader December 2016



N scale FMC 5,077-cubic-foot-capacity boxcar. Now in hobby shops are these new 50-foot boxcars from Atlas. The FMC single-door car is decorated for Port Huron & Detroit; Burlington Northern; Atlanta & St. Andrews Bay; Atlantic & Western; Cadiz RR; Escanaba & Lake Superior; Lake Erie, Franklin & Clarion; and Railbox. The boxcars are offered in three road numbers per scheme and feature an X-panel roof and Accumate couplers. The boxcars sell for \$23.95 each. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com

trucks, separate brake cylinder, and running boards as appropriate. \$28.95 (undecorated, \$15.95). First quarter 2017. Atlas Model Railroad Co., 908-687-0880, www.atlasrr.com



■ **30'-6" two-bay panel-side hopper.** Pittsburgh & Lake Erie; Ann Arbor (single car and two-pack); Cleveland, Cincinnati, Chicago & St. Louis (single car and two-pack); Canadian National; Chesapeake & Ohio; Grand Trunk Western (single car and two-pack); and St. Louis-San Francisco (Frisco). Six road numbers per scheme unless noted. Die-cast metal slope sheet, hopper bays, and center sill assembly; injection-molded plastic sides, ends, and hopper doors; and Fox Valley Models metal wheels. Single car, \$23.95; two-pack, \$47.90; and three-pack, \$71.85. Second quarter 2017. Bluford Shops, 618-822-6833, www.bluford-shops.com

N scale passenger cars

■ **72-foot heavyweight coach.** Atchison, Topeka & Santa Fe; Baltimore & Ohio; New York Central; Pennsylvania RR; and Union Pacific. Detailed interior and light-emitting diode interior lighting.

\$79. Bachmann Trains, 215-533-1600, www.bachmanntrains.com

■ **85-foot fluted-side coach.** Atchison, Topeka & Santa Fe; Baltimore & Ohio; and Pennsylvania RR. One road number per scheme; also available painted aluminum but unlettered. Cars feature detailed, illuminated interior.

\$59. Bachmann Trains, 215-533-1600, www.bachmanntrains.com



■ **85-foot fluted-side observation car.** Pennsylvania RR; Atchison, Topeka & Santa Fe; and Baltimore & Ohio. One road number per scheme; also available painted aluminum but unlettered. Detailed underframe; metal wheels; body-mounted E-Z Mate Mark II couplers; and lighted, detailed interior. \$59. Bachmann Trains, 215-533-1600, www.bachmanntrains.com



■ **Norfolk Southern Office Car Special modernized heavyweight observation car Research 32.** Micro-Trains smooth-side business car

with clerestory roof, detailed interior and underbody, body-mounted Magne-Matic couplers, and plastic wheelsets. \$62. Lowell Smith Signature Series, www.lowellsmith.net

N scale structures

■ **130-foot brick diesel house.** Injection-molded plastic kit with slotted base for popular rail sizes. \$59.98. Cornerstone Series. Wm. K. Walthers Inc., 414-527-0770, www.walthers.com

N scale details and accessories

■ **Assorted signals.** Illuminated kits with fine-scale etched-brass ladders and prototypical color matching. Single head, \$7.99; dual head (tall and standard), \$9.99 each; triple head, \$11.99; dwarf signal heads (two-pack), \$8.99; and searchlight signal heads (two-pack), \$8.99. Platform-style ladder can be modeled in left- or right-hand configuration. Designed from Erie Lackawanna and Chesapeake & Ohio drawings. Cutting Edge Scale Models, www.cescalemodels.com

O scale freight cars

■ **United States Railroad Administration 40-foot double-sheathed boxcar.** New paint schemes: Chicago, Burlington & Quincy; New York Central; and Northern Pacific. New road numbers: Duluth, Missabe & Iron Range; Great Northern; and Quana, Acme & Pacific. Two road numbers per scheme. Die-cast metal chassis; sprung, die-cast metal Andrews trucks; and 33" metal wheelsets. \$69.95. First quarter 2017. Atlas O, 908-687-9590, www.atlaso.com

S scale structures



■ **Chesapeake & Ohio late-1800s passenger station.** Kit features 1/32" plywood subwalls, 1/64" laser-engraved self-adhesive exterior wall panels, scribed subroof, stripwood trim, interior walls, cast-resin chimney, and laser-cut windows and doors. Building base measures

7 $\frac{3}{8}$ " x 4 $\frac{7}{8}$ "; platform measures 9" x 7 $\frac{1}{2}$ "
\$69.95. Rusty Stumps Scale Models,
317-595-9489, www.rustystumps.com



■ **Chicago Engine 42 firehouse.** Kit features styrene walls with partially engraved brick detail, laser-cut basswood peel-and-stick windows, laser-cut rear fire escape, and facade. Measures 11" x 8 $\frac{1}{2}$ " x 5 $\frac{1}{4}$ ". \$92.95. Twin Whistle Sign & Kit Co., 828-329-0924, www.twinwhistle.com

Z scale locomotives



■ **Electro-Motive Division SD45 diesel locomotive.** New paint scheme: Burlington Northern. Four road numbers. Can motor with dual flywheels, traction tires, and AutoLatch couplers. American Z Line, 614-764-1703, www.americanzline.com

■ **Electro-Motive Diesel SD70ACe and SD70M-2 diesel locomotives.** SD70ACe: Union Pacific (George H.W. Bush Presidential Library and Museum, one road number). SD70M-2: CIT Group (blue, white, and black paint scheme, two road numbers). Digital Command Control-ready models with can motor, dual flywheels, traction tires, directional light-emitting-diode headlights, optional pilot and plow, and AutoLatch couplers. American Z Line, 614-764-1703, www.americanzline.com

Call **TODAY** to order! 1-800-466-3131

Storage Boxes

Foam Lined
Self Closing
Fully Assembled



HO Scale
Holds 16 Cars - \$25.95
N Scale
Holds 48 Cars - \$25.95
Tote Bags
\$31.95
Plus S&H

AXIAN TECHNOLOGY

623-580-0800

fax: 623-580-8008

21622 N. 14th Ave. • Phoenix, AZ 85027-2806

www.axiantech.com

ZYCON MODELS

Production Limited
To Only 250 Models



**International
7600
Vacuum Truck**

NOW AVAILABLE! 1/87th (HO) Scale!

4 Versions Available

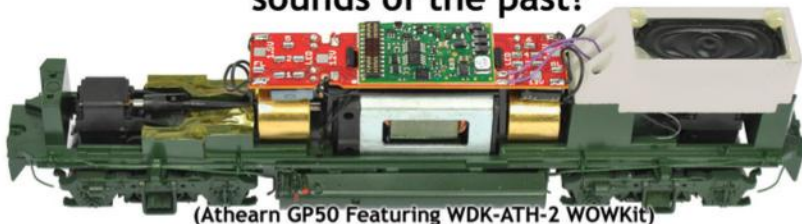


Fully Assembled
& Factory
Painted

Website: www.zyconmodels.com

Vacuum trucks can be found working at construction projects, agricultural, **railway MOW**, mining operations and a wide variety of industrial plant projects. Most larger municipal water works and many FD & emergency service departments own these types of vehicles.

Tired of the same worn out, low quality,
sounds of the past?



(Athearn GP50 Featuring WDK-ATH-2 WOWKit)

Awesome WOWSound Awaits

Get a WOWKit with everything included
to upgrade to WOWSound

www.TCSDCC.com



Smith Southwest Model Rail

"Powering your historical layouts with
our modern innovations"

The SSMR Intelligent Layout System

◆ Crossing Gate Pkg ◆ Manifest Pkg
◆ Smart Switch Pkg ◆ Derail Detector

toll free: **866-496-2831**

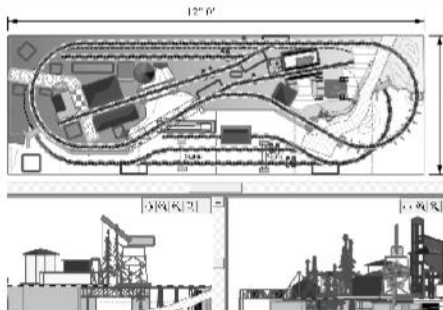
smithsouthwestmodelrail.com or
ssmr.global

CADeal

**THE RAILROAD
DESIGN PROGRAM**

Advanced
Layout
Design

Cadrail.com



Sandia Software

104 Pequeno NW
Abq., NM 87107
505-821-0014

Internet DL \$89.95, Parcel Post with manual & CD \$129.95
US add \$8.00 S&H, all others add \$15.00 S&H.
Visa, MC, Dis, Am Ex, M.O., CK. Prices subject to change.



N scale Amtrak Amfleet I four-car bookcase set. Expand your passenger fleet with this four-car set from Kato. The set (\$125) includes three Amfleet I coaches and one Amfleet I cafe. The models are decorated in Amtrak's

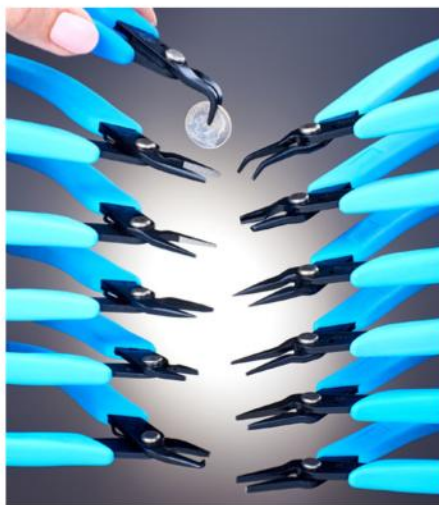


phase 1 scheme and feature detailed interiors, tinted window glazing, and modeler-installed trip pins. The foam-lined bookcase (not shown) includes seven slots. Kato USA, 847-781-9574, www.katousa.com

Z scale freight cars

■ **Pullman-Standard 4,750-cubic-foot-capacity covered hopper.** New paint scheme: CSX. Two single cars and four-pack. Metal wheelsets and Auto-Latch couplers. American Z Line, 614-764-1703, www.americanzline.com

Tools

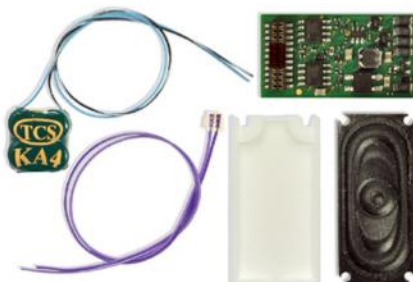


■ **Precision Pliers.** Twelve head styles designed for bending, forming, holding, positioning, and reaching into confined spaces. Heat-treated high carbon steel construction with Light-Touch return springs and Xuro-Rubber cushioned hand grips. Prices start at \$15.50. Xuron Corp., 207-283-1401, www.xuron.com

Scenery

■ **Stucco material.** Powdered material for adding stucco texture to wood, plastic, mat board, and other materials. 9-ounce bag, \$5. Arizona Rock & Mineral Co., 928-636-9275, www.rrscenery.com

Electronics/controls



■ **WOWKit for Bowser HO scale Baldwin DS 4-4-1000 and Alco C-636 diesel locomotives.** Includes one each WOW121 diesel decoder, KA4 Keep-Alive device, IB-SH1 WOWSpeaker housing, 35mm x 16mm WOWSpeaker, and two-pin JT speaker connector. \$129.95. Train Control Systems, 215-453-9145, www.tcsdcc.com

Decals

■ **Assorted decals.** Archer Daniels Midland tank cars. Covers carbon dioxide, corn syrup, and Uni-Temp cars. N scale, \$6.75; HO, \$8.25; and O, \$12.95. Canadian National Executive Heritage E9A diesel locomotives. Covers locomotives 102 and 103. HO scale, \$8.25; N scale, \$6.75. Microscale Industries, 714-593-1422, www.microscale.com

Books

■ **Railways in the Landscape.** By Gordon Biddle. Examines how railways brought about physical changes to towns, the country, and coast in Britain. Also includes illustrations comparing the early main line in 1838 with its appearance today. Hardcover with 216 pages and 150 color and black-and-white photos. \$39.95. Published by Pen & Sword,

Club offerings



■ **St. Louis Refrigerator Car Co. 40-foot double-sheathed refrigerator car.** Accurail HO scale cars produced for the Mid-Continent Region of the National Model Railroad Association. Six road numbers. One car, \$25; two cars, \$24.50 each; four cars, \$24 each; and six cars, \$23 each. Shipping is United States Postal Service flat rate based on number of cars ordered. To order, contact sales@mcpr-nmra.org

■ **New York Central General Electric U25B diesel locomotive.** Bowser HO scale locomotive custom-decorated for the Lake Shore Ry. Historical Society. One road number. Direct-current model with 21-pin socket for Digital Command Control decoder, \$199.95; with ESU Lok-Sound Select sound decoder, \$299.95. March 2017. Lake Shore Ry. Historical Society, 31 Wall St., P.O. Box 571, North East, PA 16428; 814-720-7462

available from Casemate, 610-853-9131, www.casematepublishers.com

Great Model Railroads correction

■ **In Great Model Railroads 2017,** the story on the Scale Rails of Southwest Florida club (p. 84) has an incorrect byline. The story was written by Bob McLaughlin. Lou Sassi took the photographs.

Holiday Product Guide



Battery-Power your locomotive with the New RailLinX 2.4 App. This is the first Class 1 Bluetooth Digital Application that gives you Direct (Point-to-Point) Communications with your locomotive, without a WiFi connection.

RCS America

www.remotecontrolsystems.com

www.SBS4DCC.COM



SOUNDTRAXX **MRT**
Tsunami 2 ACCUTRACK II SPEEDOMETER
WOWSound
DCC concepts
DCC Specialties
TCS
TAM VALLEY DEPOT
SPROG DCC
TEAM DIGITAL

IN STOCK - OPEN 24-7

Good Deals DCC
"THE PROGRAMMER"
PORTABLE TEST TRACKS

HOME OF THE "SUGAR CUBE"

MRRHQ VINTAGE
MODEL STEAM LOCOMOTIVE WORKS

SHOP
our huge selection of
HO SCALE
MINT VINTAGE
STEAM LOCOMOTIVES!

10% OFF
SITEWIDE
use code
VINTAGE



Offer Expires 12/1/16

bit.ly/vintage trains
ModelRailRoadHQ.com

"Spice up your holiday traditions with Mega-Steam"

IT'S MEGA-STEAM
Smoke Fluid 50 PREMIUM SCENTS AVAILABLE!!!



Holiday Scents:
Christmas Pine
Hot Chocolate
Bayberry Holiday
Candy Cane
Christmas Berry
Gingerbread

\$5.00 per
2oz dropper bottle
\$16 per 8oz refill bottle
Shipping charges as
posted on our
website or call for
current rates.

- Superior smoke output
- Quick dissipation -- does not fog up your trainroom
- Safe in ALL manufacturer's smoke units
- Proudly Made in the U.S.A. by train hobbyists
- Using only the purest & finest ingredients under strict quality control
- Celebrating 12 years of service to the hobby

For Visa / MC orders and info: **www.megasteam.com**
(434) 589-2660 • 10am to 6pm EST
MEGA-STEAM • 11 Out of Bounds Road
Palmyra, VA 22963 • email: jkmegasteam@aol.com

KAM KONNECT

Make Your Modular Dream a Reality
with Kam Connect!



www.kamconnect.com
info@kamconnect.com 832.707.9499

It's not just a model, it's a piece of history.

**OVER 500
HO PEWTER
CASTINGS**

- A couple of HO Craftsman Structure Kits
- Over 500 HO Pewter Detail Castings
- All just \$4.95 / package
- Over 200 Styles/colors of Peel-and-stick
shingles in N, HO, and O Scale
- Free catalogs by request

Bollinger Edgerly Scale Trains **BEST**

375 Bean Hill Road • Belmont, NH 03220
603.267.1818 • www.besttrains.com

Over 30,000 products in-stock?
Check.
Real-time inventory?
Check.
Great Prices?
Check.
Why shop anywhere else?



modeltrainstuff.com (888)-410-2672

RAIL-LYNX

**CORDLESS INFRARED
COMMAND CONTROL**

- Control loco directly -- no signal in rails
- No Plug-in jacks or black boxes to buy
- Headlight, Rear Lights & aux lighting
- Requires only 12VDC in the rails
- Rotary knob speed control
- 255 channels -- No programming track
- Momentum with braking
- Repeaters for hidden tracks
- Easy to use -- simple 8-page manual

Additional Products
• Light-Lynx Layout Lighting Controls
• Time-Lynx Programmable Fast Clock



Rail-Lynx Operates simultaneously and independently with most other command control systems

This is a true command control system requiring a receiver in each locomotive

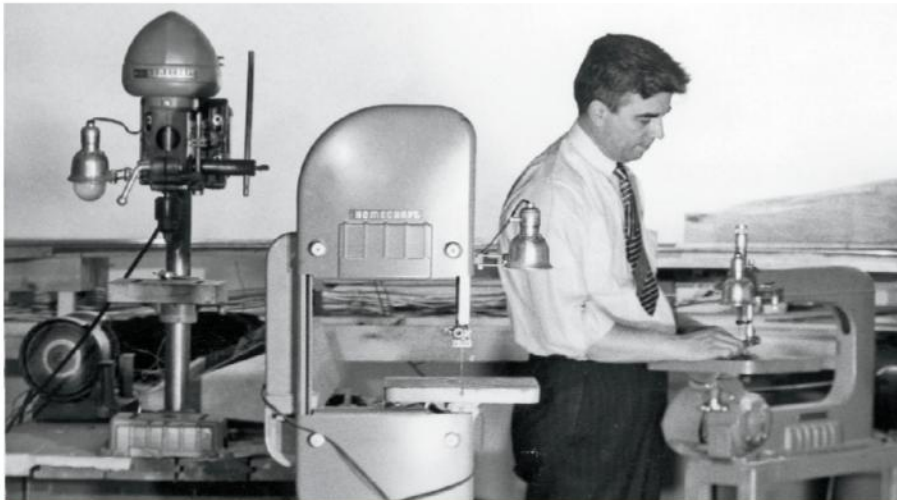
84 Belcher Rd. • Blairstown, NJ 07825
(908) 362-1139
www.rail-lynx.com e-mail: info@rail-lynx.com



Model Train Control Professionals

- DCC Sales
- Support on product purchases
- Professional Decoder Installations
- System Design Assistance

1-888-339-TRAIN (8724)
www.TraintekLLC.com
39 Emerson Rd., Suite 203, Waltham, MA 02451



Yes, it was the style of the day, but neckwear could get you hurt.

Necktie was stylish, but unsafe in the workshop

I enjoyed Neil Besougloff's October editorial about keeping old and valuable tools. I also agree with you about replacing cordless drills – they are essentially disposable items after a few years.

Something struck me as odd with the photo of the 1952 *Model Railroader* test workshop. The gentleman is wearing a necktie around all those shop tools. I hope this was a posed photo and that he didn't actually operate the tools with a dangling necktie!

Jim Holt, Buford, Ga.

You're right, Mr. Holt, the tie is a safety hazard. To our knowledge, it was posed and nobody was harmed in the making of the photo. – Ed.

LED strings: check the voltage

Thanks to Douglas Kirkpatrick for bringing light-emitting diode (LED) string lights to my attention in the October issue. I was trying to find an easy solution to light up the interior of the roundhouse being built on my layout, and this looks to be a perfect solution. I immediately searched for them on Amazon and up they came.

Douglas mentioned using a 12VDC power supply. On reading the details on the MineTom string lights, they specify that it comes with either a 3.6V or 5V power adapter. It might be wise to forewarn others interested in using these that a 12V supply could potentially cause the lights to fail.

Ken Olsen, Poplar Grove, Ill.

Two cents on Dollar Cars

I found the comment in the September editorial to the effect that today's model railroaders are better than in the

past to be both arrogant and demeaning to those modelers of the past.

I agree today's models are better than in the past, but not because today's modelers are better. It's because today's tools, materials, parts, techniques and knowledge are better.

I design half-million-pound-takeoff-weight airliners not because I'm a better engineer than those who designed the much smaller airliners of 50 years ago, but because I can build upon the things they developed then, just as 50 years from now those engineers will build upon what we do now.

Likewise, our models are better today because we build upon the knowledge and techniques developed by those modelers of the past.

Mark Pruitt, Goose Creek, S.C.

I'm guessing by now you've received some feedback regarding the assertion that a modern version of the old "Dollar

Model" could equal \$41.59 in today's dollars. I think that's a stretch.

The thought behind the "Dollar Model" was to build something on the cheap (OK, frugal). That's where Dave Nelson comes in as he writes as The Frugal Modeler column in the *Waybill*, the newsletter of the National Model Railroad Association's Midwest Region.

However, I couldn't help notice some costs: \$6.10 for a set of archbar trucks seems high. The mid-point of the cited truck cost would be \$5.37, that's -\$0.73. But I have some archbar pairs in my spare truck container. It could be \$0.

The last pack of Kadee no. 5 couplers I bought was \$4.27 (vs \$4.05), \$0.22 more, but the package included the draft gear boxes and springs – so eliminate the \$3.08 for boxes and the \$2.97 for springs, totaling -\$6.05.

Then \$3.51 for 2-56 screws also seems high. I buy from a local source at 100 screws $\frac{3}{8}$ " long for \$3.99, so \$0.04 each: \$0.16 for 4. That's \$3.35 less.

I won't dispute the cost of the other items, but just a cursory glance and I save about \$10 making frugal choices.

Dave would be pleased.

Mike Hirvela, Waukegan, Ill.

Ah, Dollar Cars! I still have a copy of *Easy-To-Build Model Railroad Freight Cars* minus the cover and I've built one or more copies of eight of the cars in it.

I'll leave it up to others to judge matters of quality and so forth. I just know that I had a ball building them, and whether they cost \$1.92 or \$41.59 doesn't matter. They're all priceless to me.

Terry Mitchell, St. Thomas, Ont.

Insight on blind drivers

The review of the Broadway Limited N scale Pennsylvania RR M1 locomotive in the September issue states that, unlike the prototype, the center four drivers are blind. Surprisingly, they were also blind on the prototype. Hopefully another reader will also be able to tell us why.

Jerry Mooney, Cinnaminson, N.J.

You are correct, Mr. Mooney. The center pairs were blind (flangeless) on the prototype, as well as on the model, for the same reason: it helps them get around curves more easily. – Ed.

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

Micro-Mark®

THE SMALL TOOL SPECIALISTS

FREE SHIPPING!

on ANY Online Order Over \$75
with Promo Code 4270*

To receive **FREE SHIPPING**, go to
micromark.com/4270

Our MicroMake™
Ultimate Airbrush Outfit
is one of over **120 NEW ITEMS**
you'll find in the latest
Micro-Mark catalog and online
at **www.micromark.com/4270**

*Offer applies to standard shipping to the 48 contiguous United States ONLY. Cannot be combined with any other offer. Pre-Order items excluded from this offer. Offer ends 12/31/16.



#86790
List \$381.65
Our Price
\$249.95

See What Else is New at Micro-Mark®



#86787

MicroMake™ Weathering Essentials Set
List \$155.20 ... Our Price **\$114.95**



#86791

MicroMake Complete Inkjet Decal-Making Set ... List \$72.89 ... Our Price **\$59.95**



#86789

MicroMake Resin Exploration Set
List \$117.55 ... Our Price **\$94.95**



#86788

MicroMake Soldering Starter Set
List \$143.35 ... Our Price **\$99.95**



#86728

HO Scale
Camera Car
Captures the
Action on Your
Layout

Value \$249.95
Our Price **\$199.95**



#83231

Excel Super Deluxe Knife Set
List \$71.41 ... Our Price **\$59.95**



#86774

MicroLux Roto-Buffer Cleans, Polishes and
Smooths with Ease ... Our Price **\$24.95**



#86594

#86595

Table Top Paint Holder Modules
List \$20.95 each ... Our Price **\$15.95 each**



#86794

Professional 10"
Variable Speed
Disk Sander

List
\$325.00
Our Price
\$289.95



#86612

HO, O & N Scale Foam Cradles Protect
Models ... **As Low As \$5.95 each**



#86694

#86698

#86694 MicroLux Micro Rotary Tool **\$69.95**
#86698 MicroLux Mini Rotary Tool **\$89.95**



#86716

Swiss+Tech Micro-Plus EX 9-in-1 Tool Kit
Our Price **\$18.95**



Kinks like these, seen on former *Model Railroader* managing editor Jim Kelly's N scale layout, can arise if you don't leave room for benchwork expansion and contraction in your rails. Jim Kelly photo

How should I gap my N scale rails?

Q I'm using Atlas N Scale code 55 sectional track. I know I have to solder each section before painting the rails and ballasting. I'm concerned that the rails will warp due to expansion. Is it wise to cut gaps in the rails? How far apart should they be? Has this happened on your layout?

John Streppone, Woodhaven, N.Y.

A Yes, it's important to gap rails to allow for benchwork expansion and contraction due to changes in humidity. The gaps don't have to be big. Space them every two or three lengths of flextrack (6-10 feet). In most cases, you won't actually have to cut a gap; simply leaving a rail joint slightly loose and unsoldered will do it. Cutting gaps is something you will probably only need to do if your track is already butted together tightly or soldered throughout. Read Jim Kelly's N Scale Insight column "Sidewinders, squeezers, and crushers" in our January 2012 issue for more.

Q I'd like to run two Atlas C-420 diesels back-to-back with Digital Command Control. Are there any settings I need to program, or do I just put them on the track and run them both under the same address?

Richard Harris, Brandon, Fla.

A Assigning both locomotives to the same DCC address, a technique called "basic consist" or "address consist," is one way of getting them to run together. While it's the simplest means of consist of DCC-equipped locomotives, there are some drawbacks: both locomotives will respond to all commands, including sound effects and lighting commands, even though on the prototype only the lead locomotive would respond.

There are other ways to program your DCC locomotives to run together, called "universal consist" and "advanced consist." To find out about those methods, read Larry Puckett's "DCC Corner" column in our July 2016 issue.

But no matter which method of consist you choose, if you want to run your engines back-to-back, the one(s) that will run backwards have to be programmed to do so. If you're basic consist, add 1 to the value of CV29 to reverse the normal direction of travel. If advance consist, add 128 to the consist address in CV19. If universal consist, follow your DCC system's directions.

Q Our local commuter rail uses a locomotive to pull 6 to 8 unpowered coaches out of Boston, but

doesn't turn the locomotive around for the return trip (there are no facilities to do so at the far end). Instead, the engine pushes the coaches. How do they avoid jackknifing, especially when starting or running on curves? It seems to me it should be a frequent occurrence, but it just doesn't happen, even though it certainly does on a model layout.

Bill Schweber, Sharon, Mass.

A There's no special trick to it; prototype trains are proportionally a lot heavier than models, and therefore less likely to jump the track when pushed around curves that are proportionally much broader than those on our layouts. The prototype also accelerates much more gently than the typical model locomotive. And the prototype cars use Tightlock couplers, which have less slack action than model couplers, keeping the shoving forces more under control.

Q Since oriented strand board (OSB) has the same structural integrity as plywood, is there any reason to prefer one over the other when using it as a tabletop? The cost of OSB is less than plywood. Is there any experience with using the smooth side vs. the rough side?

Jim Pickell, Champaign, Ill.

A Kent Johnson of Model Railroader Video Plus (a fellow Champaign native) has an answer for you:

"I used OSB on part of my [O scale] Canadian Pacific layout ... and regretted it! It's tough to cut and drill, and it splinters something fierce. Even if you use the smooth side on top, you're still faced with working wiring along the rough underside. Stick with plywood or extruded-foam insulation board."

Others on the MR staff concur that OSB is heavy and hard to drill, cut, and screw/nail into. Plywood may cost more, but it's worth it.

Q I would like to build a bridge abutment and pier using styrene. I would like to use Noch embossed cut stone paper to cover it. Can you suggest a good adhesive to use?

Bob Devine, via e-mail

A You don't want to use a thin adhesive, as that would likely penetrate and discolor the paper. I'd suggest using

From first train set to railroad empire...



PHOTO COURTESY RON STACY'S RONDEMONT & WEST SHORE

You're in control with an NCE Pro Cab!

*Our complete line of DCC products
grows with you. Rediscover the fun!*

- Designed and manufactured in the U.S.A.
- Preferred for ease of use and ergonomic design
- Unlimited scalability for any size model railroad
- Plug-and-play means more time running trains
- Great customer service and excellent support



**NCE PRO CAB
#5240010**

Rediscover the fun with a Pro Cab from NCE! Our deluxe Pro Cab™ provides the most user-friendly access to all DCC system features. You'll spend less time pushing buttons and more time running trains! Simple menus on the easy-to-read backlit LCD display will guide you through the most advanced operations with no fuss. Carefully placed controls make controlling speed and functions feel like second nature.



See your dealer or visit ncedcc.com

NCE CORPORATION • 82 EAST MAIN ST. • WEBSTER, NY 14580 • 585.265.0230



Steven Otte modeled the arc of the wipers on this car's grimy windshield by masking off the area with masking tape, then spraying with Testor's Dullcote. The same technique could be used on locomotive windows. Steven Otte photo

contact cement. And though I've not tried it personally, other modelers have reported good experience with Aleene's Tacky Glue, available at craft stores.

Q The standard for weighting HO scale freight cars is 1 ounce plus ½ ounce per inch of car length. What is the standard for passenger cars?

Donald Storm, Sierra Vista, Ariz.

A The same. National Model Railroad Association Recommended Practice RP-20.1 is titled "Car Weight," not "Freight Car Weight." A car is a car, whether it's carrying imaginary auto parts or imaginary passengers. You can download NMRA Standards and Recommended Practice documents from www.nmra.org/index-nmra-standards-and-recommended-practices/

Q I just purchased a set of 85-foot Budd baggage and passenger cars. They weigh 5.5 ounces each. What is the recommend weight of a car at this length? I'm having issues with two trucks. Could this be a weight issue or my track?

Clinton Jones, London, Ont.

A As mentioned in the previous question, the NMRA's formula for recommended car weight for HO scale is 1 ounce plus ½ ounce per inch of car

body length. An 85-foot HO scale passenger car is almost 10" long, so the weight should be $1 + (10 \div 2) = 6$ ounces. Your cars are underweight, but not by an amount that should significantly affect their performance. If you're having trouble with two particular trucks, get out your NMRA standards gauge and check that the wheels are in gauge. If they aren't, you can adjust them by removing the wheelsets and gently twisting and pulling/pushing them into gauge.

Q I have to cut in a new crossover on my main line. What's the best way to cut the track in order to insert the crossover? My concern is that while cutting the rails I'll rip the track out of the ties.

Frank Donohoe, Malvern, Pa.

A That would be a risk if you used a conventional razor saw. However, there are better ways. Rail nippers would make short work of cutting the track where you want, but they might slightly crush the base of the rail, making it hard to slip on rail joiners afterward. If you have a flat jeweler's file thin enough to work in under the rails and file off any burrs formed, this method could work for you. Just be sure to face the flat side of the nippers' jaws toward the end of the track you want to keep, and be careful not to cut off too much material.

Another option is a cutting disk in a motor tool, like a Dremel. Hold the tool as close to perpendicular to the track as you can, and be careful to take into account the thickness of the disk and involuntary hand movements so you don't remove too much rail. Cut out slightly less than you want to remove, and file the remaining rail to fit.

Once the rail has been cut by either method, soak the ballast with isopropyl alcohol to soften the adhesive, then work a thin putty knife in under the unwanted ties to lift them off the roadbed.

Q How do those guys who model scale automobiles and armor model the windshield wiper arc sweep on the glass? Is it a template? I'd like to try to replicate it on my locomotives.

Donald Pratt III, Lansing, Mich.

A I did the same thing on an HO scale sedan for our 2011 Bay Junction project layout. I simply cut a shape representing the windshield wiper arc out of masking tape and applied it to the car's windshield before spraying the car with Testor's Dullcote. After I removed the tape, the surrounding window glazing looks realistically hazy.

Q I've read about people using code 100 track on their main line and code 83 on sidings and branch lines. Is there a transition piece available, or do people simply grind down the code 100 rail to make a smooth transition?

Doug Coates, Brooks, Calif.

A If your local hobby store doesn't carry transition rail joiners, slide a regular metal joiner onto the larger rail, use a pair of smooth-jawed pliers to flatten the open end of the joiner, then solder the smaller track on top of the resulting tab. If the railheads aren't even, a little work with a file will smooth them out. If you subscribe to Model Railroader Video Plus, David Popp demonstrated this technique back in September's episode of "Ask MRVP," the video equivalent of this column. Log in or sign up today at www.MRVideoPlus.com.

And speaking of rail joiners ...

Q How can you make metal rail joiners have a snug fit? Is there a tool for adjusting them?

Michael Reiss, Crestview, Fla.

FIND
MORE
FREE
MAGAZINES

[HTTP://SOEK.IN](http://soek.in)

MAKING RAILROAD HISTORY
WALTHERSPROTO[®]

55' Trinity 30,145-Gallon Tank Car HO SCALE

Your Source for Contemporary HO Tank Cars

\$44.98 Each



- Back by popular demand – two new car series
- Limited edition - one time run of these roadnumbers!
- In service early 2000s to the present
- Currently used in ethanol, gasoline & crude oil service
- See-through etched-metal walkways & end platforms
- Factory-installed grab irons
- Prototypical modern end rails
- Highly detailed underbody
- Ultra-smooth rolling metal axles & 36" wheelsets
- Proto MAX[™] metal knuckle couplers



November 2016 Delivery

Bunge North American
920-100601 BRCX #10132
920-100602 BRCX #10214

CIT Group
920-100603 CTCX #731262
920-100604 CTCX #730772

GATX Corporation
920-100605 GATX #203516
920-100606 GATX #203629

North American Tank Line
920-100607 NATX #302636
920-100608 NATX #302813

Trinity Industries Leasing
920-100609 TILX #190641
920-100610 TILX #198989

December 2016 Delivery

Archer Daniels Midland
920-100611 ADMX #30702
920-100612 ADMX #30717

GATX Corporation
920-100613 GATX #203692
920-100614 GATX #203698

General American - Canada
920-100615 CGTX #30701
920-100616 CGTX #30736

Global Ethanol
920-100617 TILX #192178
920-100618 TILX #192236

Trinity Industries Leasing
920-100619 TILX #319504
920-100620 TILX #319462

WALTHERS

Support your local hobby shop • visit walters.com • call 1-800-4-TRAINS

Delivery dates and prices shown were accurate at press time; for updates, please visit walters.com.
Preproduction models shown, some details and colors may vary. ©2016 Wm. K. Walther, Inc.

CUSTOM MODEL RAILROADS

Construction of Fine Scale Model Railroads
Private Layouts - Museum Exhibits - Custom Structures
Let us build the Model Railroad of your Dreams



Quality built layouts since 1991

www.custommodelrailroads.com

SUBSTATION No 9

NEW SUBSTATION KITS FROM CMR



NEW HO & N SCALE

410-889-0010

Visit our website to see these and more kits from CMR
www.custommodelrailroads.com

TRAIN COLLECTORS ASSOCIATION™

JOIN TCA!

Friendships that Last a Lifetime!

Here are just a few great TCA benefits:

- TCA Train Meets (including York, PA!)
- *3* Publications: The Train Collectors Quarterly, National Headquarters News & TCA E-Train, our online magazine
- TCA x-change (online marketplace)
- National Toy Train Museum
- Toy Train Reference Library



Call or visit us online for your application today!

717.687.8623

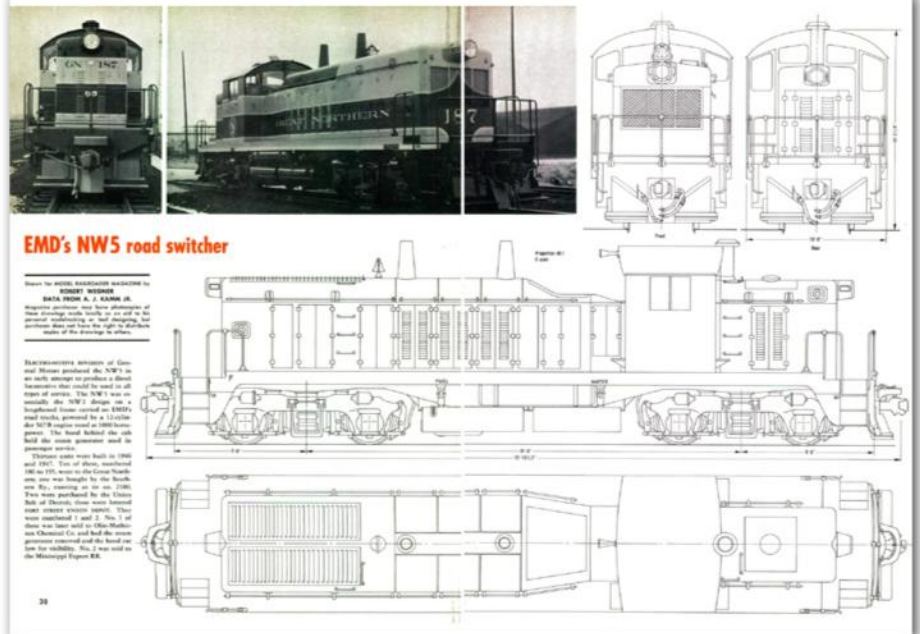
www.tcamembers.org

ASKMR

► More Q&A



For more questions and answers, watch the video series "Ask MRVP" at www.ModelRailroaderVideoPlus.com.



Model Railroader published scale drawings of Electro-Motive Division's NW5 switcher in June 1968. The issue is available in our All-Access Archive.

A If your rail joiners are too loose, no special tool is needed – a gentle squeeze with a pair of pliers should do it. But if they're too tight, you can easily make a tool for the job. Take a short scrap of rail and taper the sides and bottom of the rail base slightly with a file. Push the tapered rail into a metal rail joiner to widen it. To save your hands from gouges, you may want to make a handle by drilling a hole just big enough for the rail in the end of a dowel.

Q On the layouts depicted in your magazine, there are measurements in inches scattered around the layout. I haven't been able to determine what they represent. Yes, I'm new to the hobby.

Jack Duffy, Hudson, N.H.

A You'll generally find those on or next to a track centerline. They represent the track elevation above the floor (or, in some cases, above an arbitrary zero-point on the layout). They tell you where track is at different heights relative to each other for the purpose of determining grades, crossovers, and the like.

Q Has MR ever published scale drawings of Electro-Motive Division's NW5? They were built from December 1946 to February 1947. If MR

has published such drawings, where are they available?

Richard Kort, Freeport, Ill.

A Yes, we published drawings of that switch engine in our June 1968 issue. If you don't have that back issue in your archive, you can find it online by subscribing to our All-Access Archive at www.modelrailroader.com/AllAccess.

Q I'm close to retirement and thinking about building my first layout. I remember a track plan from the 1950s that was a shelf layout, perhaps 1 x 12 feet, with a trestle going over an inlet in a coastal city. I'd really like to find that track plan again!

William Reinhart, Solon, Ohio

A I think the track plan you're thinking of is the Port Ogden & Northern RR, a 1 x 16-foot shelf design that's plan no. 8 in Linn Westcott's classic book *101 Track Plans for Model Railroaders*. It features a pier and a coal dock over a lake at one end, a yard and a coal mine at the other end, and lots of switching in between. First published in 1956, *101 Track Plans* is still available on our website, www.KalmbachHobbyStore.com.

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

WOODLAND SCENICS®

Landscape for any scene from the world leader in model scenery.



NEW JUST PLUG® VEHICLES

Whether modeling a backcountry drive or a busy downtown scene these Vehicles instantly add light and interest to any layout. Each Vehicle includes a driver and LED headlights and taillights. Simply plug it into a Light Hub Port. Available in both N scale and HO scale.



Green Pickup



Midnight Ride



City Classic



Police Car



Cool Convertible



Heavy Hauler



Comfy Cruise



Station Wagon



Work Truck



Blue Coupe



Fancy Fins



Downtown Drive



NEW BUILT-&-READY®

Landmark Structures® available in N, HO and O scales.



Tin Shack

N BR4946 HO BR5056 O BR5856



Work Shed

N BR4947 HO BR5057 O BR5857



Wood Shack

N BR4948 HO BR5058 O BR5858

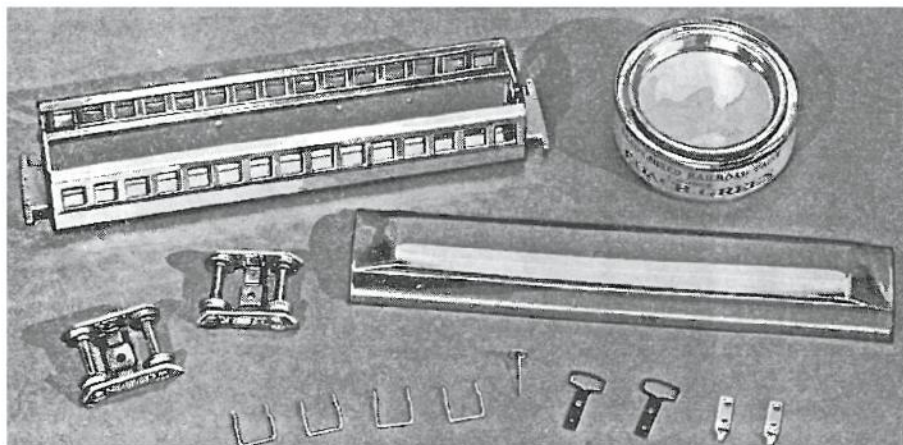


woodlandscenics.com

Purchase at your local hobby store.

WOODLAND SCENICS®

Mantua's 4-4-0 Belle was a plain Jane



Mantua Metal Products Co. was one of the first manufacturers to focus on HO scale products. The kits included all the parts necessary, including trucks and Mantua's popular hook-and-loop couplers.

The 1930s represented primitive growth in our hobby, more so for HO than O scale. Longer established and larger, O scale models offered better castings with more applied details. HO, a development of the 1920s, grew out of imported 4mm Bing OO gauge toy trains on HO gauge track. The new scale arrived in the late-1920s to early-1930s, and was considered small and fiddly. It took a while for manufacturers to produce HO models after the dust settled over what it was to be, a slightly smaller scale than OO, seeking its own hobby niche.

By 1937, two companies of note had emerged, Varney and Mantua Metal Products Co. Varney chose to die-cast its locomotives with soldered and hand-applied details, while Mantua opted for formed brass and cast-detail based on Reading Co. prototypes. Its models were more generic and less detailed compared to Varney's.

By 1940-41, Mantua introduced two simple, generic, easy-to-assemble kit locomotives, a 4-4-0 "Belle of the Eighties" and the "Eight-Ball" 2-6-0 Mogul, both of which continued into the 1950s as "craftsman kits," along with a line of die-cast metal locomotives. To accompany the pair, Mantua offered three screwdriver-assembly "old time" passenger car kits: baggage, combine, and coach.

One could call the cars tinplate for the simplicity of their stampings. Catalog

copy makes interesting reading: one of the Mantua locomotives “dragging a line of ‘old time varnish’ sets your railroad back fifty years and produces an entirely new effect.

“These cars are built entirely of sheet metal and die-castings. All parts finished, ready to screw and fasten in place. Roof entirely finished – a masterpiece! It snaps on and off – for lighting, etc. So designed that the rankest amateur can finish a professional looking job.”

Of course, the kits included Mantua couplers, which were for many a *de facto* standard after World War II. Kits were \$3.50 each, not bad considering we were coming slowly out of the Depression and had a bit more discretionary income. Nostalgia was an important selling point, plus ease of assembly.

Like the plain Belle and Eight-Ball, the cars were equally bereft of period details other than their proportions and outline. Images in Mantua's catalog reveal just how plain they were; as naive modelers, we lacked information to know or want better, and Mantua was quite prepared to produce period rolling stock unavailable elsewhere on the market.

The partially assembled kit photo reveals a tin of Coach Green paint, though

the cars could've been painted another color reflecting a specific road. The models were carried over into the postwar era.

There were five companies listed making old-time passenger cars in the HO section of a 1950 all-scales Model R.R. Equipment Corp. catalog: Central Lines, with embossed copper sides; Red Ball, with stamped and scribed cardboard sides; Super Scale, offering etched copper sides; Walthers, with stamped tin sides; and Mantua, with its stamped brass sides, which wasn't illustrated. They appeared in the 1953 HO-only catalog with a belt line and scribed sides, later replaced with injection-molded plastic versions and period freight cars.

Mantua's owner, John N. Tyler, was partnered with James P. Thomas. After the war, about 1948, Thomas left and formed his own company producing a plain O scale B&O C-16 0-4-0 switcher.

It was available in two-rail DC and inside third-rail AC for the same price, and sign some postwar manufacturers were prepared to cater to those still with pre-war outside third-rail O scale to which the C-16 could be adapted. Direct current layout conversion was considered far too costly. The model also acknowledged the growing Hi-rail scale-tinplate market.

In 1954, Thomas cataloged a \$29.95 ready-to-run, sheet steel and die-cast metal locomotive “with plenty of shiny brass fittings: plus red and green trim.” Initially offered in three-rail O gauge tinplate, it was later sold for two-rail O scale. It was Thomas’ 1870-1880 era 4-4-0 “Shawnee Express” balloon-stack locomotive, and remarkably akin to Mantua’s HO “Belle of the Eighties” 4-4-0. Coincidence? Probably not, any more than a bobber caboose in his O gauge line was a larger version of the one he designed for Mantua’s prewar HO line.

It's certainly possible Thomas had a hand designing Mantua's "Belle" and Mogul as well. My sense is he did, but I have no proof to back it up, other than seeing the remarkable similarities between the 1940 HO "Belle" and 1954 scale/tinplate *Shawnee Express*. 



www.ModelTrainSoftware.com 

Add GREAT DETAIL to Your Layout

Light Up your models

with Super Bright Cool Running Long Lasting LEDs

All Scales Z to G

with our easy software & your home printer

Create Buildings Advertising Road/Rail Billboards

EVAN Designs
PO Box 2044
Broomfield CO 80020
303-410-1118

COODER'S PLAZA
BAIT
GROCERIES
ICE

FRANK'S WEENIES
WHITE GASOLINE
BARBERSHOP
WASHING CENTER

STOP
45-40

...and

White White Red Green Yellow Blue Orange

HAWKINS RAIL
38 YEARS OF SERVICE

- GRAIN IS MOVING AT HAWKINS RAIL! -

See 130 car unit grain train running on the in-store layout. Many out of production items from estates. Providing same day shipment for 38 years! Call Jack Hawkins at 765-742-5577

See You at the UPHS Convention
3501 Union St., Suite 6. Everything for the serious modeler.
Hours: Mon-Fri 12-5, Sat 10-5
Closed Sun. Evenings by appointment.
ALL MODELS SUBJECT TO PRIOR SALE.

WE DO NOT HAVE A CATALOG. We ask that you call us or send us your want list with SSAE. We will advise you of the price, availability, and shipping charges. International shipments made only to countries accepting insured mail. We have no minimum order. Personal check orders are held 4 weeks. MASTERCARD and VISA accepted. Sorry, collect calls are not accepted, but feel free to call with your railroad questions, model or prototype.

HAWKINS RAIL SERVICES

Mail to:
P.O. BOX 6008
LAFAYETTE, IN 47903
PHONE: 765-742-5577

microAIRWIRE® Wireless Battery Operation For HO

From the acknowledged experts in wireless, battery powered model railroading, comes a new series of AIRWIRE decoders small enough for HO scale. Imagine no layout wiring, no reverse loop nightmares, and no track or wheel cleaning. The first two members of the microAIRWIRE series offer slim designs suitable for narrow hood diesels. Use our award winning T5000 Wireless Throttle for operating or programming the microAirWire Booster or Motion Decoder - it can program any DCC configuration variable (CV). Plenty of expansion with 17 unique frequencies and 9999 addresses per frequency. Expect long running times with high capacity lithium batteries. Higher amperage versions coming soon!

uAW M15 - 1.5 Amp Motion Decoder

- ✓ 1.5 Amp Fully Protected Motor Driver
- ✓ 10V to 18V Battery Range
- ✓ Precision Motor Control with Cruise
- ✓ FWD/REV Headlights with Special Effects
- ✓ 4 LED Drivers with Special Effects
- ✓ Easy Programming with AIRWIRE Throttle



Only 0.6 x 2.4 x 0.25 inches

Download user manuals and information brochure from the CVP website - www.cvpusa.com

uAW B15 - 1.5 Amp DCC Booster

- ✓ For TCS-WOW & Soundtrax HO Decoders
- ✓ 1.5A Continuous, 5A Peak, Fully Protected
- ✓ Stuck Horn Protection
- ✓ AIRWIRE Throttle Programs Decoders
- ✓ 10V to 18V Battery Range
- ✓ Easy and Simple To Setup And Use

CVP Products POB 835772 Richardson, Tx 75083 www.cvpusa.com

PREBUILT & PRELIT HO & O BUILDINGS FROM MENARDS®

For more information and to order, visit www.menards.com/trains.

LIT BY OVER 20 LED LIGHTS!



American Power & Light

HO Gauge (279-5008)	\$69.99
O Gauge (279-3388)	\$99.99

PRELIT HERMAN'S SAUERKRAUT SIGN!



Herman's Sauerkraut Factory

HO Gauge (279-5003)	\$69.99
O Gauge (279-3073)	\$99.99

SCENE LIT BY MULTIPLE LED PORCH LIGHTS!



Grandpa's House

HO Gauge (279-5007)	\$59.99
O Gauge (279-3390)	\$69.99

ANIMATED EXHAUST FAN!



Farm Supply Building

HO Gauge (279-5005)	\$59.99
O Gauge (279-3389)	\$69.99

FINISHED INTERIOR & 2 PRELIT SIGNS!



Menards® Hobby Shop

HO Gauge (279-5001)	\$59.99
O Gauge (279-2677)	Sold Out

PRELIT SHERWIN WILLIAMS® SIGN!



Dakota™ Cabinet Factory

HO Gauge (279-5002)	\$69.99
O Gauge (279-2678) Limited Quantity	\$109

MENARDS® While supplies last. First come first serve. Shipping and handling charges will be calculated based on your order total during the checkout process.



A pair of Kaiser Steel U30Bs are hard at work on the HO scale Eagle Mountain project layout. Cody Grivno explains how he painted, decal, and weathered the undecorated models. Bill Zuback photos

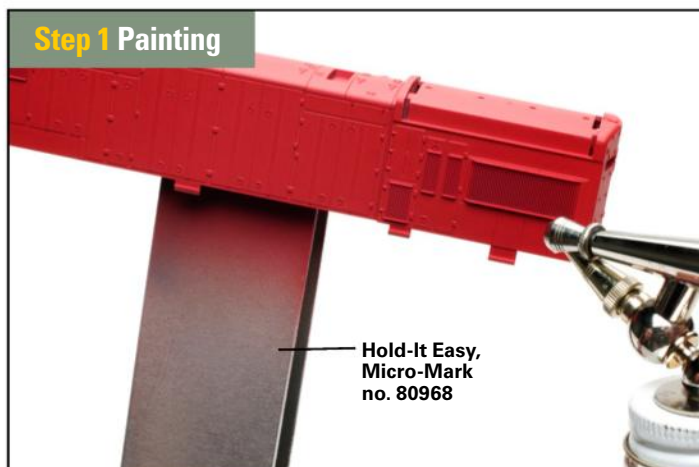
Paint, decal, and weather a locomotive

When it came time to add locomotives to our HO scale Eagle Mountain layout, we knew we'd have to compromise. The prototype operated five General Electric U30C diesel locomotives, numbered 1030 through 1034. Models were produced by Athearn and Atlas, but there was no way the six-axle units would look good negotiating the layout's 19" radius curves. It was on to plan B.

Fortunately, Atlas also produces the four-axle cousin of the U30C, the U30B. Though shorter and with different truck sideframes, the U30B still has the characteristic U-boat appearance and would look right at home pulling Southern Pacific 26-foot ore cars (read more about those cars in the August 2016 issue of *Model Railroader*) through the California desert.

With a pair of undecorated models in hand, I set to work decorating them for Kaiser Steel, which owned the Eagle Mountain RR. I numbered the locomotives 1037 and 1038, just above the U30Cs. Even if you don't need a pair of Kaiser Steel locomotives, you can use these techniques to paint, decal, and weather locomotives for your favorite railroad in any scale.

Step 1 Painting



Hold-It Easy,
Micro-Mark
no. 80968

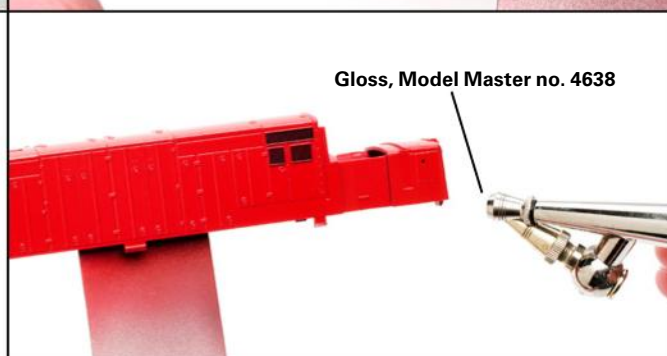


Black Model Wash,
Acrylicos Vallejo
no. 76518

After disassembling the model, I washed the parts in warm water with dish soap added. This removes any impurities that might affect paint adhesion. I let all of the parts air dry.

I typically apply a primer coat to models before spraying the final colors. However, this undecorated model was molded in gray plastic, so I skipped the primer. I airbrushed the U30B with Model Master no. 4880 Caboose Red, as seen above.

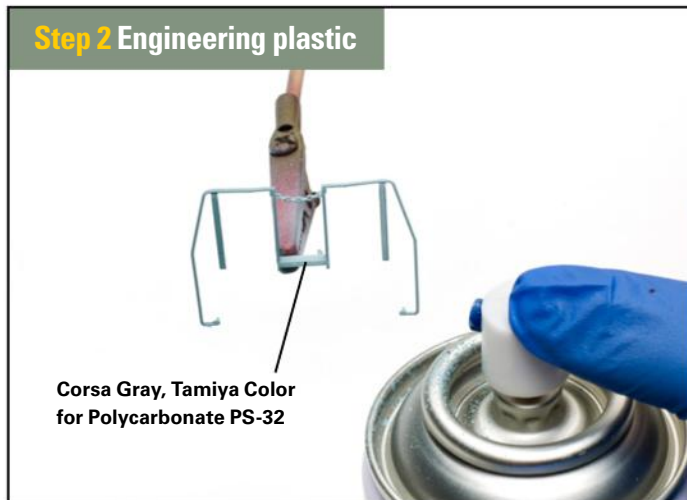
The Atlas model features molded grill detail for the equipment blower (behind the cab) and radiator (at the rear of the long hood). To help the grill detail stand out, I applied Acrylicos Vallejo Black Model Wash no. 76518 with a paintbrush. The factory-mixed wash settled into the recesses, leaving the red paint on the raised detail visible, as seen in the upper right image. I laid the model on its side and let the wash dry before applying it to the other side of the long hood.



Gloss, Model Master no. 4638

I let the paint and wash dry completely. Typically 24 hours is sufficient, but I like to wait until there is no discernible paint odor. Then I airbrushed the model with Model Master no. 4638 Gloss, as shown above. A glossy surface is necessary for decal application, covered in **Step 3**.

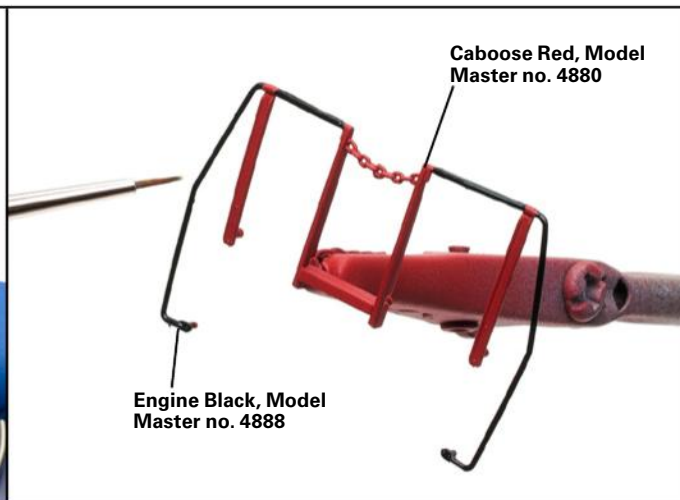
Step 2 Engineering plastic



Corsa Gray, Tamiya Color
for Polycarbonate PS-32

Engineering, or acetal, plastic is widely used on today's models. The plastic is great for capturing fine details, such as on handrails and trucks. However, hobby paint doesn't stick to it very well.

To remedy that, I primed the handrails, m.u. cables, uncoupling levers, and trucks with Tamiya Color for Polycarbonate PS-32 Corsa Gray, as seen above. The



Caboose Red, Model
Master no. 4880

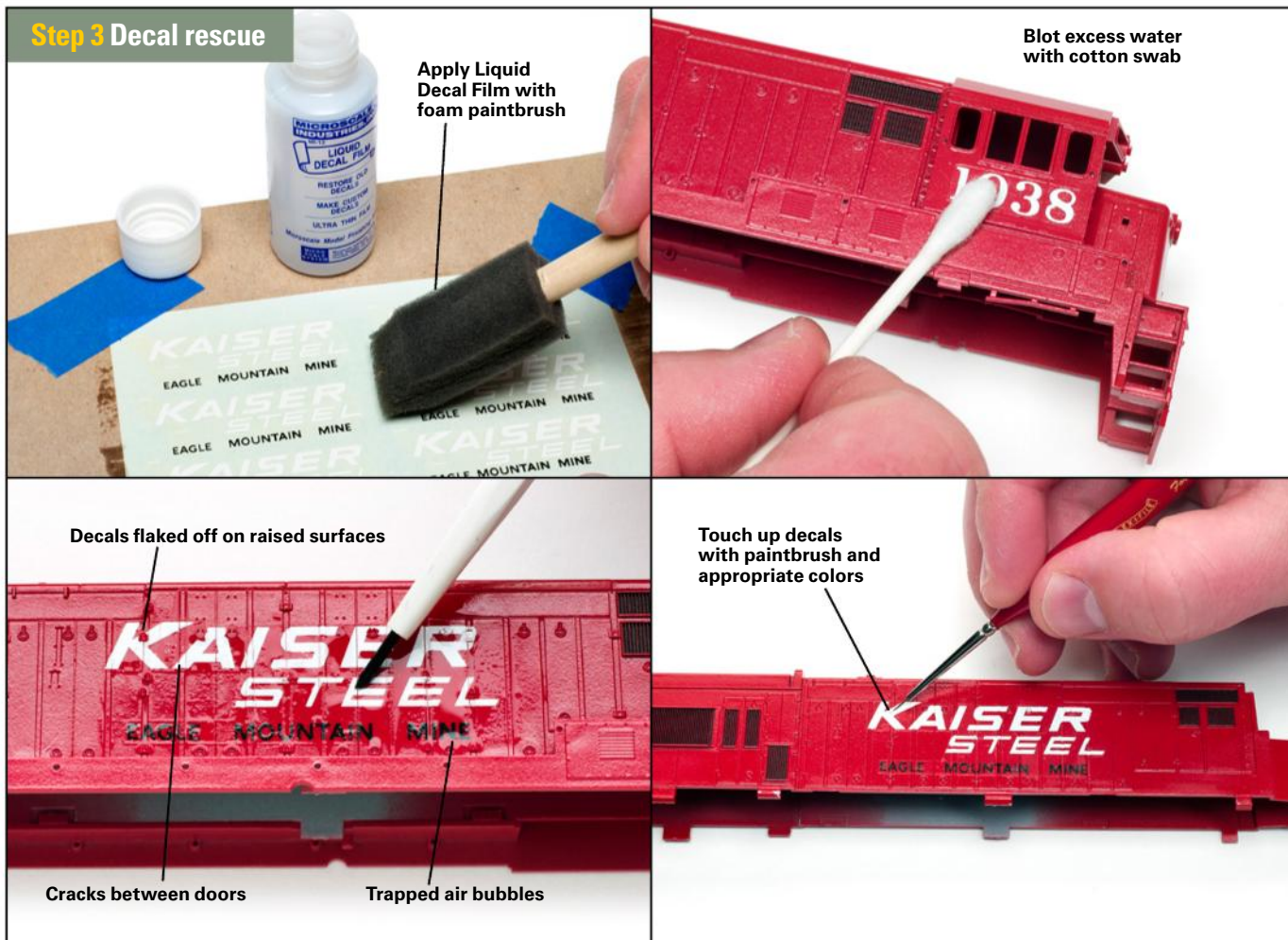
Engine Black, Model
Master no. 4888

spray paint is designed for remote-controlled vehicle bodies, but I've found it to be an effective primer for acetal parts.

With the Corsa Gray dry, I airbrushed the handrail assemblies Caboose Red. Once that dried, I brush-painted the handrails with the same company's no. 4888 Engine Black, as shown directly above.

STEPBYSTEP

Step 3 Decal rescue



I used Microscale set no. 87-209, designed for Kaiser Steel and Trona Ry. diesel locomotives. However, the only decals I could acquire were old, and the film around the lettering had yellowed.

Using a trick from my friends down the hall at *FineScale Modeler* magazine, I put the decal sheet in a sealed, clear plastic bag and taped the bag to a west-facing window for about two weeks. The ultraviolet rays from the sun reversed most of the yellowing. The yellowing would have been completely reversed if I left them in the sun longer, but I didn't have time to wait.

A few side notes about this technique. Make sure the window is in a room with low humidity (not a bathroom or kitchen). Also make sure the window doesn't have condensation on it. Even though the decals are in a plastic bag, you don't want to risk moisture ruining the decals.

Before using the decals, I coated the sheet with Microscale Liquid Decal Film. This is an important step, as older decals tend to break apart when soaked in water.

I cut the decals as close to the lettering as possible using a combination of a no. 11 blade, a single-edge razor blade, and scissors. Then I soaked the decals in distilled water until they slid freely from the paper.

I wet the area where the decals would be applied with Micro Set, carefully positioned the decals, and blotted off the excess water and decal solution with a cotton swab.

Once I'd applied all the decals, I let them set overnight. Then I applied Micro Sol, a decal setting solution that helps the decals conform to the uneven surfaces, such as door handles and hinges. As you can see in the lower left photo, the decals cracked between the doors and flaked off on some of the raised details.

There were also some trapped air bubbles under the decals. To fix that, I used the tip of a fresh no. 11 blade to pop the bubbles and reapplied the Micro Sol. I repeated this process until all of the bubbles were eliminated.

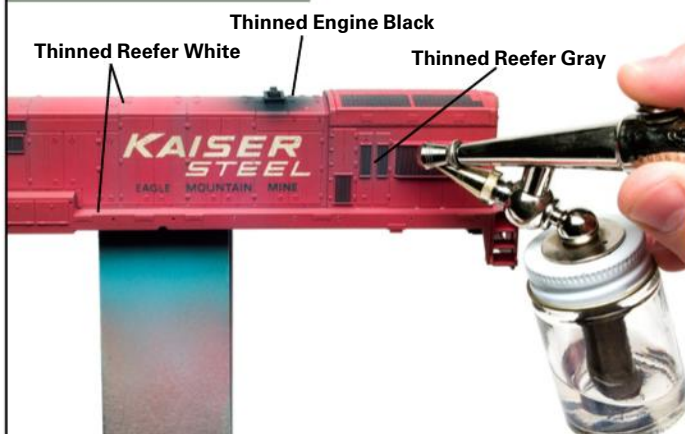
With the decals in place, I gently wiped the model with a cotton swab and distilled water. This removes any residue from the decal setting solution.

Then I touched up the decals using Model Master no. 4873 Reefer White, Engine Black, and Caboose Red and a fine paintbrush. Take your time on the touch up. It's easy to miss the mark and put paint where you don't want it – a lesson I learned the hard way.



Watch Cody paint, decal, and weather an HO scale Electro-Motive Division GP9 at www.MRVideoPlus.com.

Step 4 Weathering



Before weathering the locomotive, I sprayed the entire model with two coats of thinned Gloss. This seals the decals, preventing the weathering colors from wicking behind the decal film.

I sprayed the model with thinned (1 part paint, 9 parts 70 percent isopropyl alcohol) Reefer White. I applied four coats to the roof and walkways, which would take the brunt of the desert sun. The sides received two coats.

I followed that up with similarly thinned Engine Black around the exhaust stack and no. 4886 Reefer Gray around the radiator grills.

A palm-to-forehead moment occurred when it came time to install the metal grab irons. I forgot to paint and weather them with the model, and matching the weathered color would be difficult at best. Fortunately, I found Model Master no. 2073 Luftwaffe Red (a gloss enamel), which was a close match. After the red dried, I brush-painted the grab irons with a flat clear coat.

Then I secured the grab irons to the model with medium viscosity cyanoacrylate adhesive. I used a strip of .030" x .156" styrene to ensure the grab irons stood off the model at a prototypical distance.

The wheels are chemically blackened, but look better painted. After wiping the wheels with a cotton swab dipped in 70 percent isopropyl alcohol to remove any residue from the manufacturing process, I painted them



Railroad Tie Brown with a Microbrush, as shown in the photo above.

I airbrushed the trucks and fuel tank Model Master no. 4887 Grimy Black. Then I brush-painted the truck springs Railroad Tie Brown and airbrushed the sideframes and fuel tank with thinned Reefer Gray.

I wrapped up the project by airbrushing the model with a clear flat finish. I then reassembled the model and put it into service moving ore cars. **MR**





CHANGING SEASONS on a finished layout

How to easily convert green summer scenery to autumn color

By Brooks Stover • Photos by the author

My S scale Buffalo Creek & Gauley RR (BC&G) is set in West Virginia in the summer of 1958. The rolling green landscape features hundreds of trees, as I described in my article “How to make

tree-covered hills” in the November 2012 *Model Railroader*. This existing scenery became a concern recently when I decided to change the setting from the greenery of summer to the orange and yellow hues of autumn. I dreaded having to tear out finished trees and ground cover. Through some experimentation I found methods for adjusting the finished scenery to reflect a colorful

autumn setting without having to start all over.

Inspiration for change

I’ve been researching and modeling the BC&G for more than 40 years. The coal-hauling short line was owned by the Elk River Coal & Lumber Co. (ERC&L) and operated in central West Virginia from 1904 until 1965. Over that



An autumn train ride on the Cass Scenic RR (above) inspired Brooks Stover to change the setting of his S scale Buffalo Creek & Gauley (shown at left). Follow along as Brooks describes how he added fall color to his finished model railroad.

time the BC&G, along with the ERC&L logging operation, hauled millions of tons of coal and seemingly endless board-feet of lumber out of the Appalachian Mountains.

I started my 25 x 44-foot layout depicting the two railroads in 1998. By 2010 it was completely operational and fully scenicked. Over the next few years I enjoyed hosting operating sessions and building models of locomotives and rolling stock, but I did little work on the layout other than routine maintenance.

Then in the fall of 2012 my wife and I took a trip to West Virginia and rode on five tourist railroads. These included the Cass Scenic RR and the *Durbin Rocket*, which was led by Climax no. 3, a geared locomotive similar to the Climax that ran on the ERC&L. All five excursions ran through spectacular autumn foliage.

My wife and I both commented that it would be fun to some day model similar foliage on my S scale layout. That day came in fall 2015 when I was inspired by the exceptional autumn color display of trees around our southeastern Michigan home and decided to convert a portion of my BC&G from summer to fall.

Planning the project

To get started I looked at how other modelers have represented autumn. I read several articles and studied layout photos featuring fall scenery in back issues of *Model Railroader*. I also visited some friends' railroads that had fall foliage, including Greg Rich's HO scale New Baltimore & Fair Haven, featured in the June 2016 MR, and Roger Nulton's S scale Monon. I discovered that every modeler approaches the task differently, so I experimented with techniques I was comfortable with until I could get a result close to what I saw in nature.



Fig. 1 Still a lot of green. As shown in this photo of his backyard, Brooks noticed that fall trees retain some green foliage well into the color-change process. This meant he could modify rather than replace most of his model trees to represent the autumn season.



Fig. 2 Basic supplies. Brooks used Woodland Scenics ground foam products in autumn colors combined with household and hobby spray paints. The autumn color was applied over his existing trees.

Observing real trees in early autumn, I noticed that even when fall colors start to appear, there's still a lot of visible green foliage in the overall scene, as shown in **fig. 1**. Some trees remain fully green in the first weeks of autumn, while others that have started to show fall color still have green hues in their interiors and on the leaves of lower branches. If I modeled early autumn, I could convert

some of my existing summer foliage without having to completely start over with new trees.

The prototype BC&G ran upgrade from its origin near the confluence of the Elk River and Buffalo Creek to the town of Widen, where the rail-served Rich Run Mine was located. Instead of converting the entire layout to autumn, I would have the autumn color begin



Fig. 3 Fall color blends. Brooks mixed four blends of Woodlands Scenics turf and foliage. These are (clockwise from upper left): Fall Yellow and Fall Rust, Fall Orange and Burnt Grass, Fall Orange and Fall Rust, and Fall Rust and Burnt Grass.

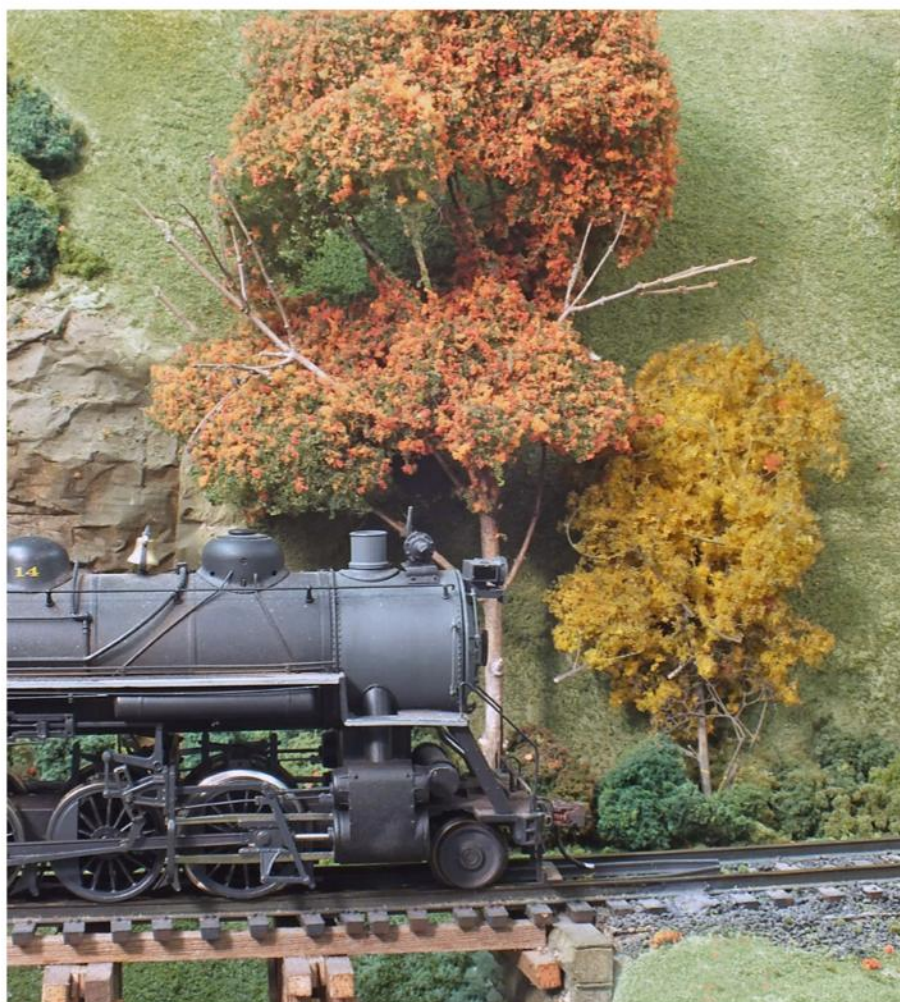


Fig. 4 Fall foliage. Brooks used hairspray to fix fall-colored foliage to the existing poly fiber of his green foreground trees. He then used olive-green spray paint to tone down the color to better blend with the existing scenery. A few bare branches help break up the hard outline of the tree's crown.

halfway up the mountain, getting more intense as the railroad gained elevation with the most vibrant colors at the summit. The contrast between summer and fall would provide visual interest and also make the project more manageable.

Modeling fall color

It's often said of autumn foliage that there's every color imaginable in the trees. While this may be true in real life, I've found that one of the keys to successfully modeling autumn foliage is to keep the number of different hues to a minimum and maintain harmony between selected colors. Too many different colors can look too visually "busy."

Care must be taken not to make the colors so intense that they overpower the rest of the scenery. While a vibrant orange or yellow tree in bright sunlight is breathtaking in nature, that intensity can look artificial on model scenery where colors need to be more subdued to look realistic. In addition, more understated colors ensure that the trees remain as a background for the trains, rather than competing with them for attention.

I've used Woodland Scenics products almost exclusively on my layout. While there are many excellent products from other manufacturers, I prefer to stick with one company's products. I think the colors and textures between various foliage and ground cover from a single manufacturer are more consistent and harmonious. For my autumn conversion I used primarily Woodland Scenics Fall Yellow, Fall Orange, and Fall Rust colors of both Coarse Turf and Fine-Leaf Foliage. My basic supplies, including various spray paints, are shown in **fig. 2** on the previous page. I found the firm's Fall Red looked too pink, so I didn't use that color.

I developed a technique that models a tree that hasn't fully changed to autumn color by adding blends of Woodland Scenics Coarse Turf in fall colors on top of the green summer foliage of my existing scenery. To keep the colors in harmony, I settled on four blends of turf. Each blend is a different mixture of the autumn colors noted above with a touch of medium- or light-green turf added. See **fig. 3** for an example of each blend.

As I mixed the blends together with my fingers, the colors melded together into a single hue with some realistic variation as some of the individual colors remained visible. As I made more of each blend over time, I didn't worry about the exact proportions of each color. This provided more variety and ensured that no two of my trees are exactly alike.

Foreground trees

I'd made most of my foreground trees by stretching poly fiber over natural twig armatures, and then coated the fiber with coarse ground foam. For my existing summer trees, I'd used various shades of green foliage. I'd installed these trees on my layout by drilling holes in the Homasote or plaster scenery base, then inserting the tree trunks into the holes without any glue. This made it very easy to remove the trees I wanted to re-color.

I took each tree into my workshop, sprayed the existing green foliage with cheap, extra-hold hairspray, and sprinkled on one of my four blends of autumn foliage. Then I applied another coat of hairspray to secure the new layer. Once the hairspray dried, I re-installed the tree on the layout.

From the first trees I modified, it was clear that even though I blended the colors, the resulting foliage was still too intense, especially on those trees located directly under overhead ceiling lights. To tone down the colors, I took the trees back to the workshop and applied a light mist of camouflage olive-green spray paint. In some cases it took several trips back and forth between the workshop and layout to adjust the color so it looked realistic under the lighting. It never ceased to amaze me how much I had to mute the fall colors to make them look correct or how much slight variations in layout lighting affected a tree's appearance. A finished tree is shown in **fig. 4**.

In some cases, the spray paint started to eliminate the subtle variations in color that I liked. In those cases, I finished the tree by adding a small amount of fall foliage over the tree. This resulted in just enough intense color.

This process took some trial and error, but wasn't as tedious as it may seem. The hair spray and spray paint dry almost immediately, so I could add autumn foliage to a tree and adjust the final color to its specific layout location in only a few minutes.

The trees' crowns revealed another concern. When green, the shape of a foreground tree's crown wasn't particularly noticeable because it was set against the green background trees and other layout scenery. But once I changed the tree's foliage color, the crown's shape was easily seen and gave the foliage an unrealistically hard outline. I solved this problem by inserting pieces of twigs into the foliage to represent bare branches, as I did to the tree in **fig. 4**. This simple addition broke up the hard edge of the colored form and added the impression that some leaves had already fallen.

I made four other variations of foreground trees. First, a few trees are made of Woodland Scenics plastic armatures with the firm's green Clump-Foliage glued in place. I applied my autumn foliage to these trees using the same process as with my natural armature/poly fiber trees. I modeled other trees to depict different stages of the season.

Simply applying a light mist of yellow spray paint to a green summer tree made its foliage look like that of early autumn right before the leaves start changing color. For these trees, I sprayed the foliage from the top down and varied the amount of paint, so the trees didn't look the same. It didn't take much yellow to get the desired effect. I unsuccessfully tried a similar technique with orange and red spray paint, but these colors turned the foliage a muddy brown color I didn't like.



Fig. 5 Late fall tree. To model a tree branch that had dropped most of its leaves, Brooks sprinkled fall foliage directly onto the armature without adding poly fiber. He also installed some armatures without any foliage to represent bare trees.

I installed some natural tree armatures without adding poly fiber. On some of these armatures I sprinkled autumn foliage directly onto the branches and sealed it with hairspray. Shown in **fig. 5**, these models depict trees with only a few leaves remaining. I also left some of the armatures completely bare to model trees that had dropped all of their leaves.

Background trees

I use poly fiber "puff balls" covered with green ground foam for background trees. I cut each puff ball in half, which

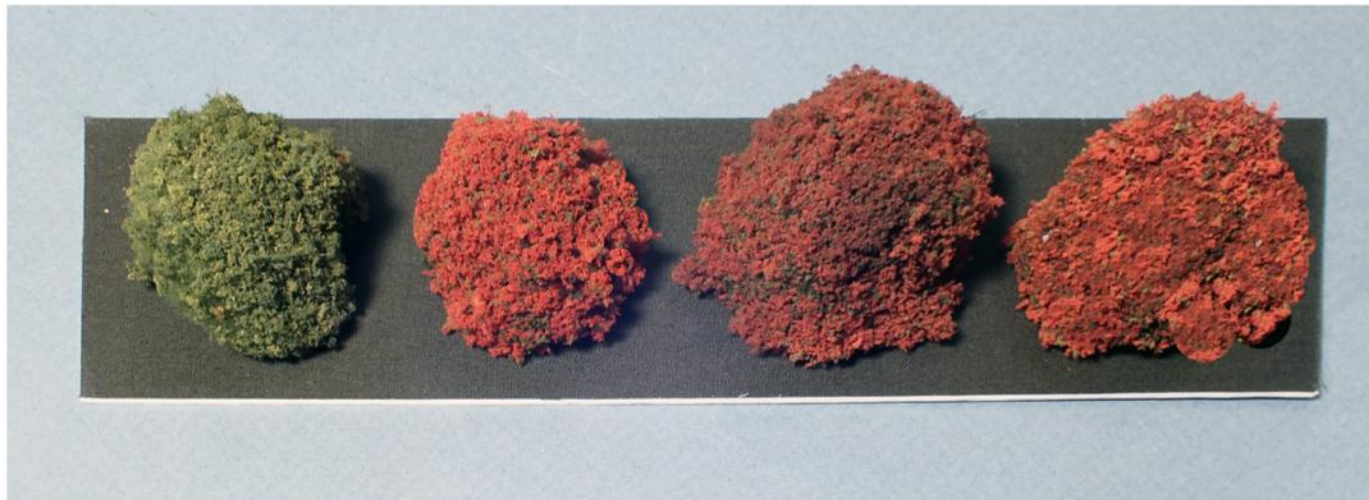


Fig. 6 Fall puffball trees. On the left is an example of one of the green poly fiber puffballs used as background trees. At the right are three examples where Brooks has added fall color to the trees using foliage blends and spray paint.



Fig. 7 Blending background trees. To make the autumn trees stand out less, Brooks planted several autumn colored trees together. He also used orange and yellow hobby spray paint to add some color to trees without removing them.



Fig. 8 Ground cover. Shrubs and other low vegetation also got a fall makeover. A light application of yellow hobby spray paint with even lighter applications of red or orange gave Woodland Scenics green clump foliage an autumn look.

doubled the area that I could cover.

I attached these hemispheres directly to the scenery base with spray adhesive.

For my autumn scenery, I removed some of the background trees and added fall color using the same process as with my foreground trees. See **fig. 6** on the previous page. I applied a fall foliage blend, sealed with hairspray, compared the tree to the scenery, and muted the color with a mist of spray paint.

I discovered that a single, fall-colored background tree stuck out like a sore thumb among green summer trees. I got a more realistic-looking result by grouping several autumn trees together.

Wanting to integrate the autumn trees more fully, I colored some of the puff ball trees without removing them, as shown in **fig. 7**. I used hobby spray paint in yellow and orange shades. I found the smaller cans designed for model builders had a tighter spray pattern than the household spray paint cans. This allowed me to more accurately apply the paint. A light mist of yellow or orange over yellow made a smoother transition between the summer green and autumn colors. [Be sure that there's adequate ventilation in your train room before using spray paint. – Ed.]

Finishing touches

Made from Woodland Scenics Clump-Foliage, some green shrubs and bushes on my layout got an autumn makeover. I misted the green foliage with yellow spray paint followed by an even lighter application of orange or red. **Figure 8** shows how I interspersed this autumn vegetation with the green scenery. I also used Woodland Scenics Fine-Leaf Foliage in fall colors as shrubs. As with the foreground trees, I muted the colors with olive-green spray paint.

Adding autumn color has been a satisfying project. Over the years, I've photographed most of the scenes on my layout multiple times. Now that I've introduced fall colors, I'm pleased to photograph new images of otherwise familiar scenes. The change of season adds a sense of the passage of time to the photographic record of my BC&G.

I've read that we model railroaders shouldn't be afraid to make changes to our layouts. Bringing autumn to the Buffalo Creek & Gauley, I discovered first-hand the truth in that saying. **MR**

Brooks Stover has written several articles for Model Railroader. His S scale Buffalo Creek & Gauley was featured in Great Model Railroads 2011.

**Prices Subject to Change Without Notice. 12/16K
Quantities Limited All Rights Reserved.**

5

ways to interchange freight cars

Where one railroad crosses another at grade – here the Chicago & Eastern Illinois and the Nickel Plate Road in Cayuga, Ind., on Tony Koester's HO scale railroad – there's usually an interchange. The NKP local is picking up cars from the C&EI before setting off an empty hopper for the C&EI GP7 on the Mill Track to retrieve.

How to move traffic between connecting railroads

By Tony Koester • Photos by the author except where noted

The term “standard gauge,” meaning the rails are spaced 4'-8½" apart, isn't just a convenient benchmark but a critical aspect of the continental rail network's viability. It means that equipment operating over one railroad will operate over the railroads that connect to it. This allows a car loaded on one coast to travel to the other coast, or anywhere in between.

Cars are delivered from one railroad to the next via interchange. This may be by transfer runs between yards in urban areas or cars left on rusty, weedy tracks in remote locations. Since any type or quantity of car can be exchanged on interchange tracks, in model railroad terms, we call them “universal industries.” As such, interchanges often assume major roles on model railroads built with realistic operation in mind.

Flatlands railroading

There are more scenically majestic areas of North America than the Great Plains. But where model railroad operations are concerned, the flatlands have an equally important attribute: numerous interchanges. In the horse-drawn wagon days, grain elevators were located at intervals that allowed a farmer to

deliver a load of grain and get back home by dark, which worked out to about 10 miles. This affected the location not only of elevators but also of depots, passing tracks, and junctions.

The Midwestern setting of my multi-deck HO scale Nickel Plate Road (December 2014 *Model Railroader*) allows me to take advantage of these universal industries. My friend and noted model railroader Frank Hodina and I were able to locate two division-point yards and seven small towns – six of them with interchanges – along the railroad's main line. The two division points have another three interchanges. In those nine towns are four different types of interchanges.

Big return on the investment

The payoff ranged from a handful of extra cars set out and picked up each day to a seemingly endless stream of cars going to and coming from connecting railroads. In two cases, a new operating job was created. In two other cases, simple off-the-shelf detection circuits automated the set-out task.

In all cases, the scope of the railroad was thus extended to include connections with the North American rail network. That's an excellent return on a modest investment.

1 Stub interchange tracks



When only a few cars are interchanged each day, as is the case at the NKP–Peoria & Eastern interchange in Veedersburg, Ind., a track that stubs into the wall or is truncated by the fascia suffices.

According to records for 1953, the year prior to the one I’m modeling, the interchanges in five of those towns weren’t all that busy. Loaded cars received by the NKP ranged from 328 to 1,722; and 50 to 988 loads were delivered to connecting railroads. I modeled these interchanges with

short stub-ended tracks running from a turnout to the backdrop.

There are two types of stub interchanges: single-use and dual-use. The Monon at Frankfort, the Peoria & Eastern at Veedersburg, the Pennsylvania at Oakland, and the Big Four (New York Central) at

Charleston all deliver and receive so few cars per day that a single track suffices. Cars spotted there for the NKP are picked up and cars for the foreign road are set out once per operating session. Between sessions, I cycle the waybills of cars delivered to the connecting road so they become loaded

or empty cars being delivered to the NKP.

The PRR interchange at Frankfort was busy enough to have separate to-NKP and from-NKP tracks; both are legs of a wye. Between sessions, I move the to-PRR cars to the now-empty from-PRR track by hand and cycle the waybills.

2 Automated interchanges



An infrared sensor circuit with a built-in timer from Iowa Scaled Engineering is dormant as long as a to-NKP car covers the sensor. After the NKP picks up a cut of 7 or 8 cars, thus uncovering the sensor, 23 minutes later another cut is shoved into view. This continues until all 30 cars have been delivered to the NKP and the foreign road’s units cover the sensor.

Two of my interchanges – with the Milwaukee Road at Humrick, Ill., and with the Monon at Linden, Ind. – are very busy. In 1953, the NKP delivered 7,365 loads to the

MILW and received 4,202 loads from it. A similar number of empties were also interchanged.

At Linden, the NKP delivered 4,895 loaded cars

to the Monon and received 6,874 loaded cars from it, again about 60 loaded and empty cars per day. It would be hard to find another “industry,” especially in a

small town, that offers that much productivity.

I recently installed Automated Interchange kits from Iowa Scaled Engineering (www.iascaled.com) at

2 Automated interchanges (cont.)

Humrick and Linden. On the from-Milwaukee Road interchange track at Humrick, I located the infrared (IR) sensor about a foot from the mainline turnout. The interchange track has one rail gapped near the sensor so its power can be automatically switched on when no to-NKP car is detected, causing the Milwaukee to shove more cars into view, and off when the sensor is covered.

That track can hold a pair of Milwaukee Fairbanks-Morse C-Liners and 30 freight cars. Every 7 to 8 cars, I slip a plastic truck-mounting pin borrowed

from an Accurail freight-car kit into the knuckle of the last car of each cut. This simulates up to four separate interchange deliveries from passing Milwaukee Road freights.

As each operating session begins, the first car of the first cut covers the sensor. When an NKP through freight picks up that cut of cars, it uncovers the sensor, activating a time-delay circuit. The Nickel Plate crew removes the knuckle-opening pin, couples the interchange cut to its train, and leaves town.

When the time delay (it's variable from instant up to

23 minutes; I use the latter setting) expires, the interchange track is activated, and the hidden C-Liners shove another cut of cars into view, thus covering the sensor and shutting off the interchange track. When another NKP freight picks up the new cut of cars from the Milwaukee Road, the process begins again. Finally, when all to-NKP cars have been picked up, the C-Liners roll out into view, cover the sensor, and shut themselves off.

A toggle switch on the fascia allows me to switch the time delay to the shortest interval so I can

move the C-Liners back to the far end of the hidden interchange track.

I described a similar optical-detector circuit made from Circuitron components in September 2006 *Model Railroader*, but it lacked the time-delay feature. Note: In that story, I mentioned using plain direct-current (DC) to power the locomotive on the interchange track of my otherwise Digital Command Control (DCC)-powered railroad. That was a bad idea, as a metal wheel could bridge the gap between flavors of power and cause major problems.

3 Crew-operated interchanges



Two towns on Tony's NKP layout have interchanges that are both operated by a designated crew. The foreign-road local – here the Baltimore & Ohio at Metcalf, Ill. – comes out of hidden staging, works the interchange and any online industries, and either returns to staging or endlessly waits for its home signal to clear.

I have a general freight agent who checks each industry to see how many empties it will need that day. After he gives his report to the yardmaster, he's free for other duties, including

operating the Baltimore & Ohio interchange at Metcalf, Ill., and the Chicago & Eastern Illinois interchange at Cayuga, Ind.

At Metcalf in 1953, the NKP delivered 95 loads to

the B&O and received 413 loads from it. At Cayuga, the NKP delivered 910 loads and received 3,514 from the C&E.I. Again assuming a similar number of empties were interchanged, that's

about 3 cars per day at Metcalf and 24 at Cayuga.

In both locations, I had room to extend the foreign-road main lines and interchange tracks behind the backdrop. This created a new job: The freight agent switches those interchanges by posing as those railroads' local freight crews.

I have enough mainline and interchange track length to operate a local in each direction on each road between the fascia and staging tracks. The operating session could begin with a local blocking the NKP main, doing its work, and then heading into staging.

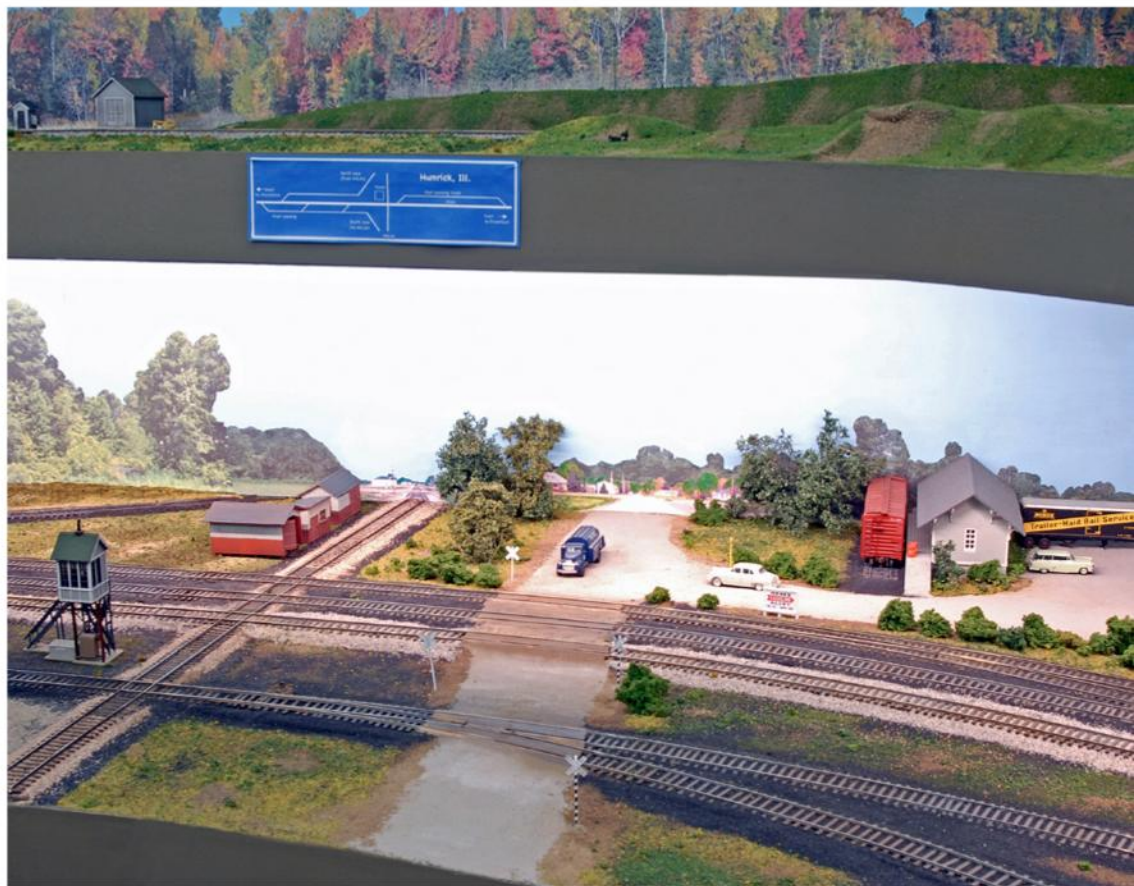
Later, a local headed in the opposite direction could work the interchange and then back up beyond the home signal – which would never clear. Nickel Plate crews wouldn't notice an endlessly waiting local until they passed through town on NKP trains, at which time it would make sense that the local was waiting for the NKP to clear the interlocking plant.

4 Virtual interchanges

For scenic purposes,

I constructed a “dummy” (not connected to any active track) house track alongside the Monon RR freight house and a dummy siding inside the Kramer Bros. lumberyard at Frankfort, Ind., that was switched by the Pennsylvania RR. Then it dawned on me that I could actually bill cars to those dummy tracks, have them delivered to either the Monon or the Pennsylvania interchange track, and move the consigned cars to (and later from) the dummy tracks by hand between operating sessions.

It therefore requires at least four operating sessions for a car to leave the Nickel Plate and be picked up again. I can probably add another operating session or two for the car to arrive from staging in Frankfort and later return to staging on a train out of Frankfort. That’s a lot of “play value” for a foot or two of unconnected sidetrack!



Cars billed to the Monon freight house in Frankfort are moved from the Monon interchange track (visible at left) to the house track (at right) by hand. Between sessions, the car’s waybill is cycled, and the car is set back on the interchange track for the NKP to pick up.

5 Yard transfer runs

Where the yards of more than one railroad are located in close proximity, as is the case in any metropolitan area, cars are often moved between railroads in transfer runs. This is easily modeling by having a classification yard located next to a staging yard with two tracks dedicated to transfer runs.

Why two tracks? Work rules typically required the cars to be delivered only by the originating railroad, so the locomotive(s) used for such runs would return to home rails without cars. Cars to be delivered to that railroad would be handled by a transfer crew from the other railroad.

Jim Senese of Tulsa, Okla., models yards serving five of the 14 railroads in the Kansas City area as they were on Nov. 15, 1980: Missouri-Kansas-Texas; Kansas City Southern; Frisco; Missouri Pacific; and the Atchison, Topeka & Santa Fe [See *Model Railroad Planning* 1999; Jim’s Kansas City Terminal layout is also featured in the current *Great Model Railroads* 2017 special issue – Ed.] Operating sessions include transfer runs between their yards. Each yard crew is given a list of characteristics that his or her railroad typically exhibited during the workday. **MR**



A Katy transfer run headed by Electro-Motive Division MP15ACs enters Missouri Pacific’s Neff Yard on Jim Senese’s HO scale Kansas City Terminal RR. Jim Senese photo



Build a signal system with Arduino microcontrollers

These compact computers are capable of many tasks

By Detlef Kurpanek • Photos by the author

The project started innocently enough: I wanted a signaling system that didn't require a personal computer. I wanted to flip on the power to the layout and not only have the Digital Command Control (DCC) system come on, but the signals as well. I also wanted the signals to be true absolute block signals (ABS) or absolute permissive block (APB) signals, not just

dummy signals or signals tied into switch positions and maybe some diodes or a timer. I wanted true track detection, logic, and signaling. And of course, I wanted this at a cost less than using a computer-based system.

Recently, I came across the Arduino. These devices are low-cost, microcontroller-based computers on a small printed-circuit (PC) board

(see **fig. 1** on page 44). The basic unit, called an Uno, offers 19 input/output (I/O) points on a board that's approximately 2 x 2¾ inches.

Expanded versions, called a Mega (**fig. 2**), have more than 50 I/O on a board not much bigger, all for a price well below \$50. Clones can be bought for less than \$20.

These are fully programmable microcontrollers, capa-

ble of analog and digital control. It occurred to me their basic functionality and low cost offer an option to automate elements of model railroads such as signaling.

The other half of the equation came together when I found RR-CirKits' BOD-8 occupancy detector board. The BOD-8 uses current sensing to determine if a block is occupied. A coil of wire is



A signal cycles from green to red on the approach of a Santa Fe freight on Detlef Kurpanek's HO scale Great Northwestern layout. Detlef used Arduino microcontrollers to operate his signal system.



placed somewhere on the wiring to a detection block. If the coil detects more than some minimum current, the detector changes the state of the output, indicating occupancy.

Part of what made the BOD-8 suitable for this project was it produces output signals that match the Arduino's inputs. I'm sure there are other detection boards out there that operate similarly. So with these two pieces, I had the components needed to achieve my goal.

About the Arduino

The Arduino Uno has a USB and power supply connection along one of the short sides, with I/O set up on 0.1"-spaced pins along the two longer sides. Inputs and outputs on the Arduino use a simple form of logic called transistor-transistor logic (TTL) and operate at 5VDC.

A unique feature of the Arduino is the inputs and outputs are configurable; that

is, any I/O point can be configured as an input or an output. Inputs are all "high impedance," meaning they'll detect voltage at essentially no current flow. As such, they can easily pick up even a finger touching a wire or induced current from an adjacent wire.

The outputs can be configured to either "sink" or "source" the 5 volts. In this way, logic "on" can be either zero volts or 5 volts, depending on how you want to use the output.

The small size of the board makes it relatively difficult to get all the I/O connected in a way that easily allows access and changes. Arduino users have developed what are called "shields" that are set up with

matching connectors on the same spacing as the Arduino.

These shields, shown in **fig. 3** on the next page, are plugged in over the Arduino board, providing an easier way to connect wiring without needing to solder or make connections on the microprocessor board itself. Shields can be stacked as deep as desired. Shield kits aren't very expensive, and can generally be purchased at the same online shops that sell Arduino boards.

Arduinos are programmed with their own programming language using an integrated development environment (IDE), which is downloaded to your personal computer. The IDE provides an interface between the computer and

the Arduino to load code written in a form of C or C++ programming. I'd never used C++, but with a background in BASIC and Fortran computer languages from high school, I found it fairly easy to learn.

Additionally, many of the subroutines needed to do just about any logic can be found on the Arduino homepage (www.arduino.cc) or user group sites. Once the program is developed, the IDE software will check the programming for errors, and a second step compiles and downloads the program onto the Arduino via the USB port.

Power, inputs and outputs

Both the Arduino and the BOD-8 boards use 5VDC to

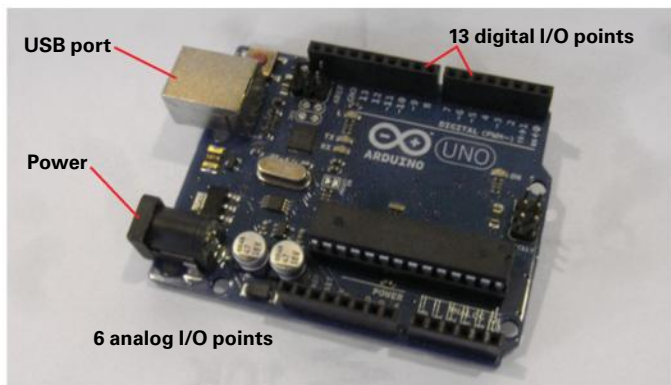


Fig. 1 Basic board. This is an Arduino Uno. This board has 19 input/output (I/O) points for controlling various devices.

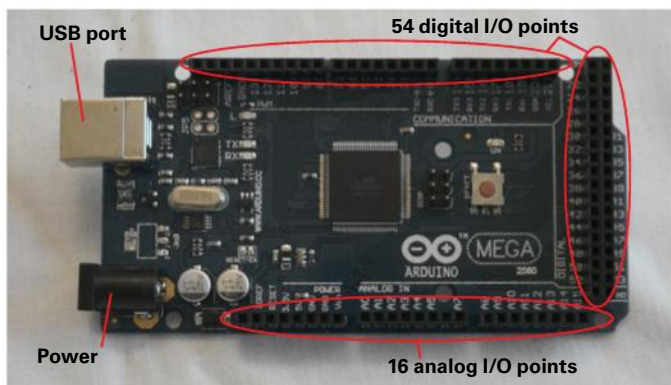


Fig. 2 Big board. The Arduino Mega, with 54 I/O, is the big brother of the Uno. Other versions are available.

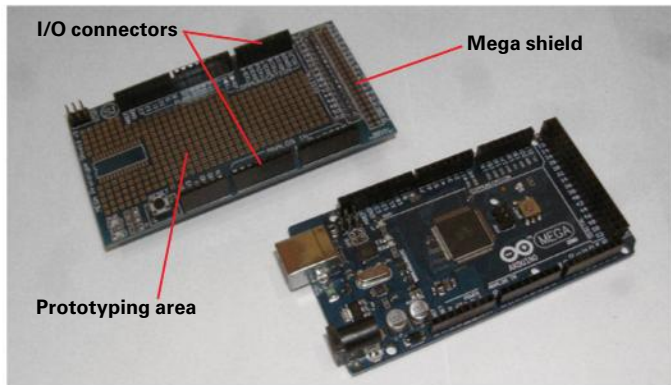


Fig. 3 Shields up. The Arduino Mega is shown with a Mega shield. The connectors line up between boards, allowing stacking of shields.

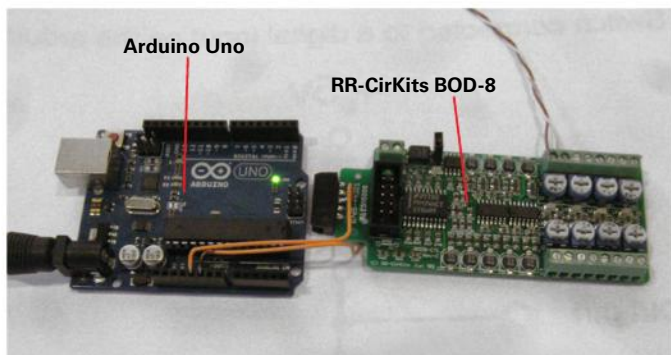


Fig. 4 Connecting the detector. An Uno is shown with a RR-CirKits BOD-8 detector. Since both boards use the same operating voltage, they can be directly connected.

power their electronics. Conveniently, the Arduino includes a 5-volt regulator to power the controller with any power supply ranging from 5 to 24 volts. In my stash of “wall-wart” and lap-top power supplies I found a 1 amp, 12VDC unit to power the project. I tapped a lead from the output of the Arduino power supply to feed 5VDC to the BOD-8. The Arduino has plenty of power to supply the few milliamps needed by the BOD-8. Tying the common grounds together completed powering both boards.

The inputs are all high impedance. It’s easy to get a logical “on” at an input. To prevent erroneous signals from triggering an input, each input needs to have a “pull-down” resistor added. This is a way to drain off any small current from the inputs until a “real” signal is present.

The BOD-8’s outputs match the same 5VDC TTL levels as used by the Arduino, so the two can be directly connected. Hardwiring the BOD-8’s outputs directly to the desired Arduino inputs finished the connection, as shown in **fig. 4**. Additional inputs from turnout position switches and tower control panels were fed by the same 5VDC source and routed through the switch contacts to the respective Arduino inputs, as seen in **fig. 5** on the next page.

Arduino outputs are limited to 40mA. This isn’t much for driving motors or even relays, but it’s plenty for a light-emitting diode (LED). Most modern LEDs operate around 15-20mA, and with the new super high-efficiency LEDs, they can be run at an acceptable brightness with quite a bit less.

To supply more than 40mA, a driver circuit will need to be added to take the relatively low output power of the Arduino and amplify it to something more substantial for motors or relays.

Signals and their drivers

In developing the project, I wanted the option to drive multiple LEDs, and I wanted to separate the Arduino outputs from the layout wiring. Arduinos are extremely sensitive to external voltages and overloads, and can be damaged if ratings are exceeded.

I used searchlight signals on the layout. I wanted not only the conventional green-yellow-red signals, but also red-lunar white signals. The bi-color and multicolor LEDs used both common cathode and common anode wiring within the LED. This meant I had to have a common ground for some signals and a common +12VDC for others (see **fig. 6**).

Through the help of some folks on the Model Railroad Electronics Yahoo Group, I was able to develop a couple different driver circuits that would be able to power up to 200mA at 12 volts, both for common anode (+) and common cathode (-) LEDs. The circuit is shown in **fig. 7**.

The Arduino website showed some basic schematics for managing the high impedance inputs. I built these onto a couple shield boards, complete with micro-terminal strips so I could connect wiring on the shields without soldering (see **fig. 8**). All the parts were bought from eBay sellers around the globe, which kept prices reasonable.

Pulling it all together

I bought a few shields and built up the boards. Developing the actual wiring was fairly straightforward. One of the keys to this step was documenting each pin connection and how it’s wired out. There’s a lot of repetition in the work, and it’s hard to backtrack and find problems if no records are kept, so be sure to document everything.

Once each board was done, it was tested without being connected to the Arduino. There was certainly a level of anticipation as the

shields were plugged into the Arduino the first time.

Next I connected the Arduino to my computer via a USB cable to start the programming. I was very methodical in testing each input and output. I wired a test signal with leads and tried all the outputs. I also tested the inputs coming from the BOD-8 at my workbench using a coil with the lead to a test track.

Once I was satisfied the physical wiring was good, I installed the components on the layout in a safe place (see **fig. 9**). I wired the signals to the I/O one at a time, again testing each one as it was connected to the board. At this point, I was getting pretty fast with compiling and uploading code.

With the system installed and the I/O wired to the signals, I started coding the logic. It's outside the scope of this article to go into the details of the logic, but it came together fairly quickly. [Detlef's code can be found on *Model Railroader's* website, www.ModelRailroader.com. – Ed.]

The results

Overall, I'm thrilled with the results. The Arduino powers up and is executing its code before the DCC system powers up. The signals are live as soon as I flip the switch. I set up the logic to run as absolute block signals or absolute permissive block, which it does flawlessly. Scan time is extremely fast. Total cost for controlling a half dozen signals and about the same number of detectors was about \$100.

Note that this system is entirely standalone. It doesn't tie into the DCC system. Depending on your needs, this could be an advantage or disadvantage. I wanted truly independent signal control, so it met my needs. It did take

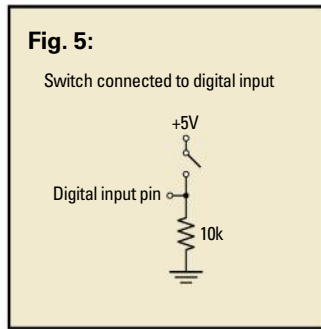


Fig. 5 Switch wiring. The Arduino also accepts inputs from turnout position switches and control panel switches.

more time than I expected to complete the project, but much of that was doing research and ordering parts. Future installations should take quite a bit less time.

Now that it's installed and operating, other opportunities for this little board are showing up everywhere. For one thing, the Arduino comes with several analog outputs besides the discrete on/off outputs. These could be used to drive servo motors for semaphore signals.

Besides signal controls, with the low cost per I/O point, a single Arduino could be used to drive the logic for several crossing signals as well as control the gates. It doesn't take much imagination to realize these controllers could operate all kinds of accessories and lighting. If you've been looking for something like this, I'd encourage you to give it a try. **MR**

Detlef and his wife, Nancy, live in Aurora, Colo., where he models the Great Northwestern, set in the 1970s. When they aren't model railroading or homeschooling their six kids, they enjoy sailing and traveling. Detlef is a senior project engineer in the energy industry. This is Detlef's third article published in Model Railroader.

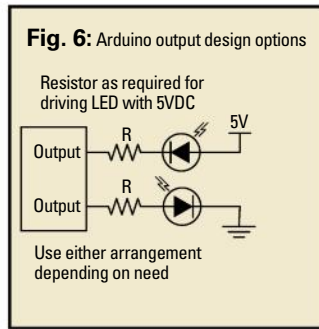


Fig. 6 LED options. Detlef had signals on his layout with LEDs that used both common cathode and common anode wiring.

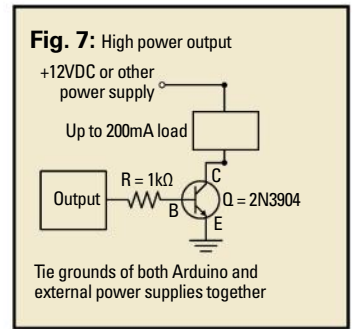


Fig. 7 More power. Detlef wanted more voltage for some applications than the Arduino could supply, so he added this circuit.

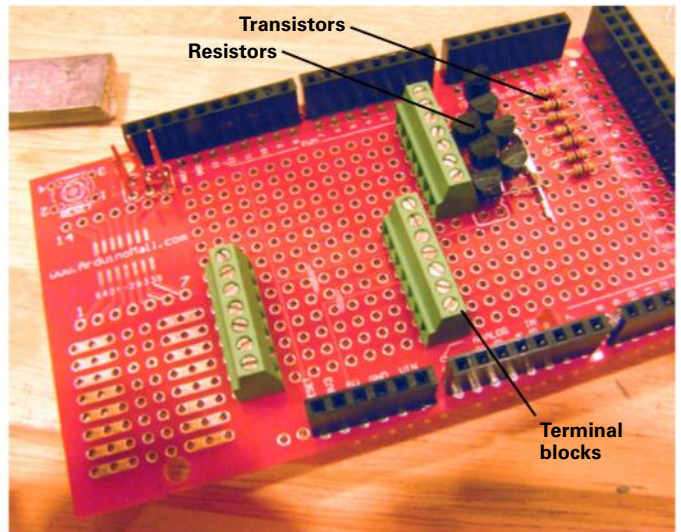


Fig. 8 Building a shield. Transistors, resistors, and terminal blocks fit into the prototyping area on a Mega shield. All fit on the standard .1" pad spacing.

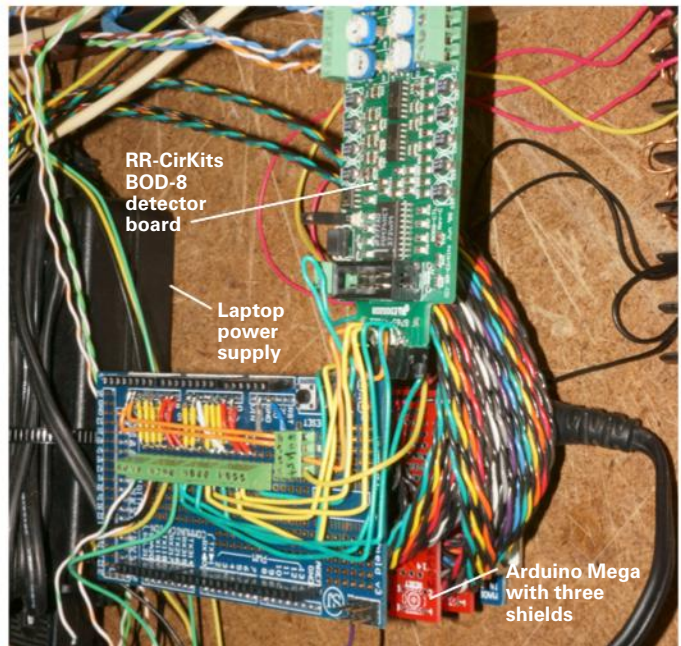


Fig. 9 Final installation. The Arduino Mega has three shields for interconnecting I/O to the BOD-8 detector. A laptop power supply is to the left.

Now on ModelRailroader.com

You can see and copy Detlef's code on our website at www.ModelRailroader.com.

FOUR ERAS OVER WP'S FEATHER



1. A string of Western Pacific diesels, aided by leased power from the Burlington Northern, pulls a train over Clear Creek Bridge on Jim Pendley's HO scale Western Pacific RR. This train embodies the post-1970 era, one of four Jim models on his layout.

RIVER ROUTE



Developing a realistic operating scheme for a great model railroad

By Robert W. Scott • Photos by Scott Brons

Many modelers have a theme and era in mind for the layout they want to model and usually stay fairly close to that prototype. Some layouts push the envelope to represent more than one time period. The Western Pacific Feather River Route layout by Jim Pendley is one of those. Featured in *Great Model Railroads 2009*, Jim's dramatic scenery shows what railroading was like within the deep canyons of the Feather River in Northern California.

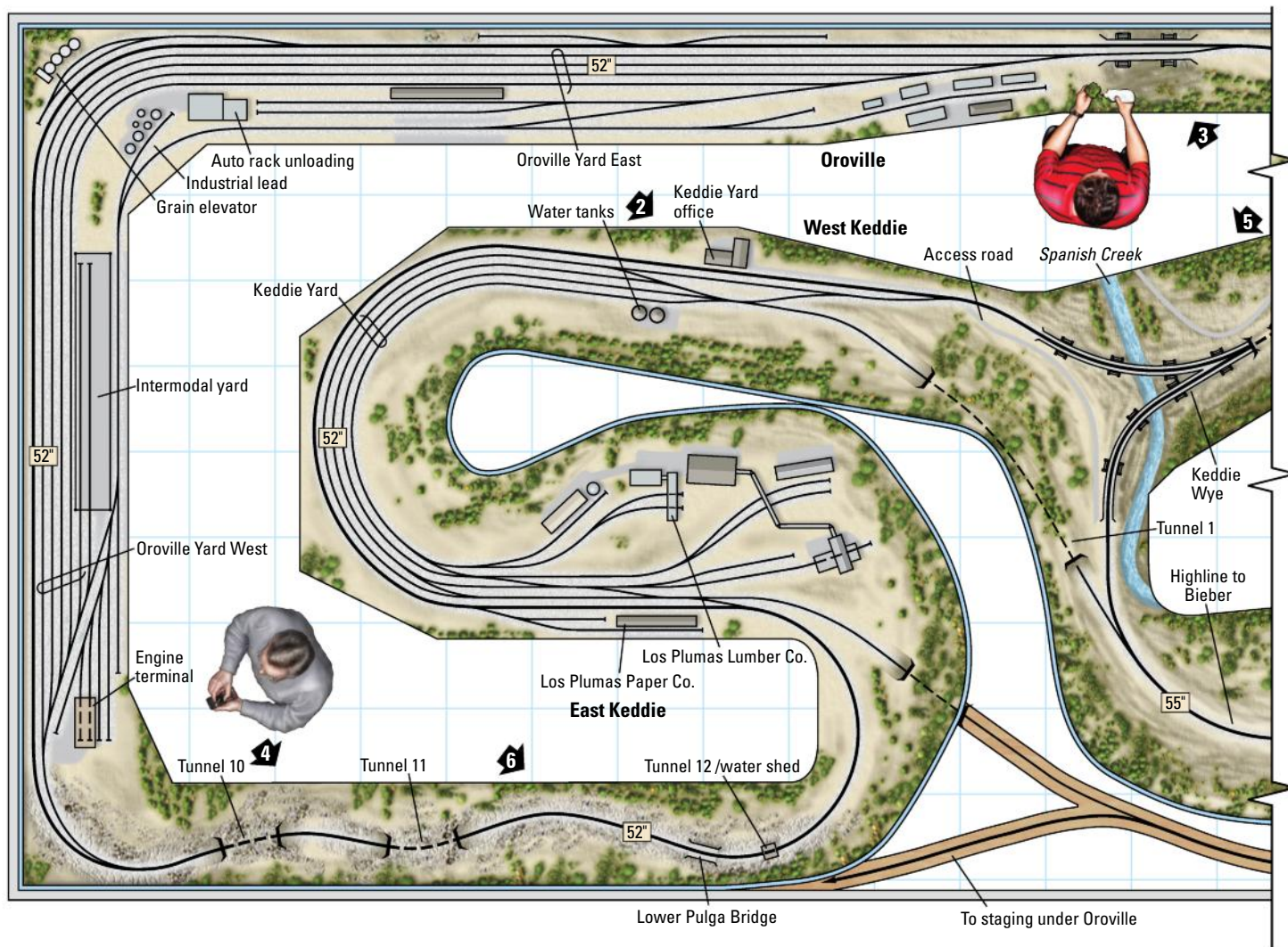
Picking a prototype

Jim's interest in the Western Pacific stems from 1985, when he was employed as a maintenance-of-way electrician for the Union Pacific between California's Bay Area and Winnemucca, Nev. When the job ended and he returned to his home in Washington State, he realized he missed the rugged Feather River Canyon. He wanted to build a re-creation of the area he enjoyed working and spending time in.

To establish a home for his layout, he built a 20 x 55-foot addition to his barn. Jim completed the track plan prior to construction, since space for the famous Keddie



2. Eastbound *California Zephyr* No. 18 prepares to stop at Keddie while SWG (Santa Fe-Western Pacific-Great Northern freight) departs. The orange-and-silver diesels mark this scene as the pre-1970 time period.



3. The latest period Jim models is the time after the 1982 merger of Western Pacific into the Union Pacific. After 1984, yellow and gray UP diesels dominated the former WP rails.

Wye bridge was vital for the layout. He built the wye first, and completed other scenes afterward.

In the years since the layout was featured in GMR, Jim has finished scenery in several other areas and added more industries to expand operations. Local traffic can now originate and terminate in locations other than the staging yard at Bieber. Staging represents the north, west, and east ends of the railroad and lets numerous trains operate in a prototypical way.

Four different times

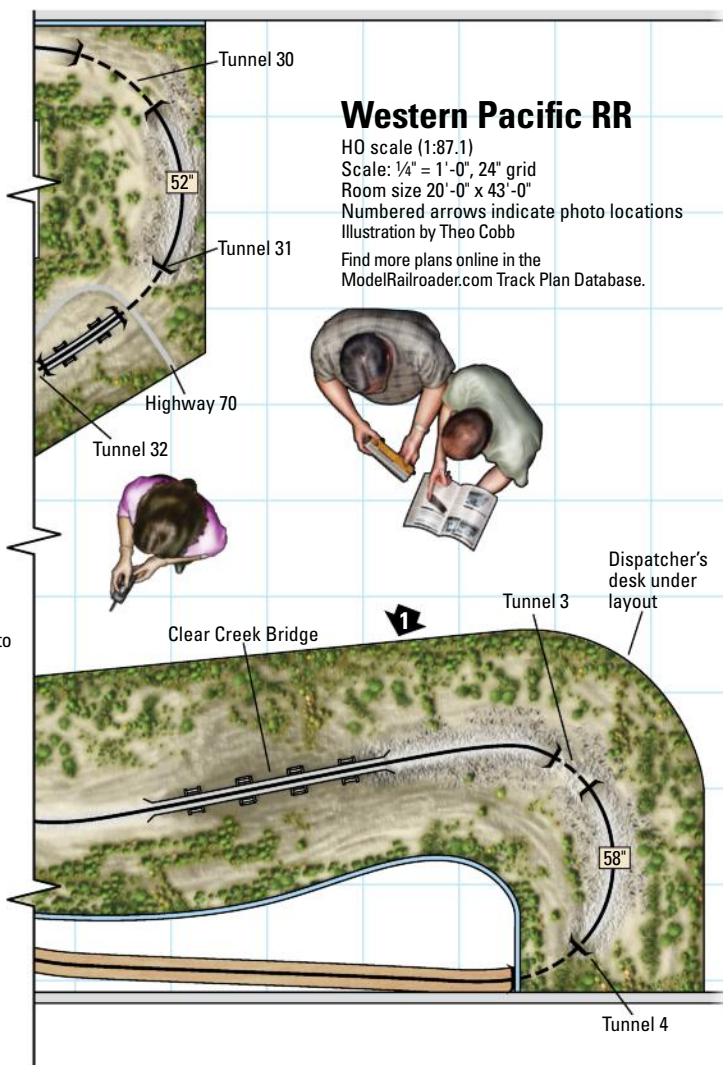
The modeled portion of the WP represents both the east-west main line connecting California to Nevada, plus the connection to the Pacific Northwest known as the "High Line." As the years passed, the look and operation of these lines changed, as did the importance of the High Line.

Jim has an interest in modeling the Western Pacific during four distinctive times in its history: before 1970, just after 1970, the "new image" period just before the 1982 merger with the Union Pacific, and the post-merger era. Each time period has a significant impact and interest to Jim, and the results can be seen in the operational scheme for his layout. Modeling different periods also allows Jim and his friends to use different rolling stock and motive power depending on the session.

The major operational difference between the time periods is the use of helpers at Keddle. If enough operators are present, the helpers are added in all times. Otherwise, the hostler at Oroville will double as a helper crew only in the pre-1970 time.

Pre-1970: Orange-and-silver diesels are definitely the rule of this time period. This was the official premier paint scheme from 1949. Connections with the Great Northern from the north saw consists mixed with Omaha Orange and Pullman Green. Western Pacific F7s, F3s, GP20s, GP35s, and GP7s were abundant. Helpers at Keddle were usually an F7 and a GP7.

An operating session set in this period would begin with the GWS (Great Northern-Western Pacific-Santa Fe) freight rolling down the High Line and into Keddle Yard to set out



Western Pacific RR

HO scale (1:87.1)

Scale: 1/4" = 1'-0", 24" grid

Room size 20'-0" x 43'-0"

Numbered arrows indicate photo locations

Illustration by Theo Cobb

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



4. Led by a Burlington Northern "rainbow consist" typical of the post-1970 period, a freight emerges from Tunnel 11. Slide fences were common along the rugged route.

The layout at a glance

Name: Western Pacific RR

Scale: HO (1:87.1)

Size: 20 x 46 feet

Prototype: Western Pacific

Locale: California's Sierra Nevada

Time periods: 1960s, early 1970s, early 1980s, mid-1980s

Style: walkaround

Mainline run: 220 feet

Minimum radius: 30"

Minimum turnout: no. 8 (main), no. 6 (yards)

Maximum grade: 1.5 percent

Benchwork: L-girder and open grid

Height: 52" to 58"

Roadbed: spline, Homasote, and foam board

Track: handlaid code 83 with Shinohara turnouts

Scenery: hardshell

Backdrop: painted on tempered hardboard

Control: Digitrax Digital Command Control

and pick up. This train would have cars on it from the North-west and Yakima (cars added at Bieber staging).

Meanwhile, switchers at Oroville begin building outbound trains like the WPE (Western Pacific East), APRG (Auto Parts Rio Grande), and SWG (Santa Fe-WP-GN). At the east end of the yard that represents eastern staging, switch crews build trains like the FF (Ford Fast), WPW (WP West), and WPF (WP Forwarder).

The engine hostler readies power for trains No. 17 and No. 18, the *California Zephyr*.

Upon arrival at Keddie, the SWG will set out and pick up traffic for the PNW and also add helpers for the trip up the High Line. Often the helpers are added to the rear behind the caboose and cut off while in motion.

Other trains for the High Line are the Keddie-Greenville turn and the Westwood turn, which operates between Keddie and staging. On average, six to eight through freights are run. All industries are switched at least once per session.

Post 1970: In 1970, the merger of the GN; NP; Chicago, Burlington & Quincy; and Spokane, Portland & Seattle created the Burlington Northern. This period is just about everyone's favorite, featuring a virtual rainbow of diesels. Throw in an SP reroute, and almost no one is left out.

Beginning this session would be BN train 171, with traffic from Pasco and Yakima, Wash., to Stockton, Calif., descending the High Line. After arriving at Keddie Yard, this train sets out and picks up and may reduce power before heading on to

Oroville. At Oroville, the power is serviced and the train is switched out for local industries. Meanwhile the switcher at Keddie classifies cars from 171 and then switches out the Los Plumas Lumber Mill and paper company.

Switchers at the east end of Oroville build outbound trains such as APRG, WPE, TOF (Trailer On Flatcar intermodal), and through freights Nos. 138, 140, and 170. At the west end of the layout, switchers build westbound trains such as Nos. 171, 139, 137, and FF.

New image WP: The time just a few years before WP's acquisition by the UP was marked by yet another locomotive paint scheme, which was a darker green punctuated by orange noses. Traffic patterns during this time were similar to the post-1970 period.

Train operations also closely match those of the previous period. A few new train symbols appeared, but more UP yellow began to emerge on the head end of trains as well as on the rear with cabooses. Burlington Northern trains sported more Cascade Green on point and fewer "rainbow" consists.

Post-merger: The most noticeable change from the previous time period would be the addition of the "Big Jacks," otherwise known as Union Pacific's large DDA40X "Centennial" units. Many more UP and CNW SD40-2s and cabooses are seen, along with Missouri Pacific GP38s. After 1984, the WP colors disappeared except for a few New Image Red cabooses left over for local service. The BN wasn't happy with the UP/WP merger, as interchange traffic fell to almost nothing.



5. Keddie Wye is the visual and operational focal point of the layout. Jim scratchbuilt the trestles from Plastruct structural styrene parts, added wood ties, and handlaid code 83 rail.

Dramatic trestles and landscapes

The Keddie Wye is the focal point of Jim's layout and is the first thing seen when entering the layout room. This scratch-built trestle closely models the actual bridge in the Feather River Canyon adjacent to Keddie. This is where the track from the main east-west route between California and the Midwest heads north.

Off the north leg of the wye is the equally spectacular Clear Creek bridge, which also was scratchbuilt by Jim. The newly completed area from Tunnel 10 and East Keddie closely models the rugged terrain through which the prototype operated. Rock-lined tunnels, slide fences, and a water/rock shed were re-created based on prototype photographs. Forests have been an ongoing challenge for Jim, who is constantly working on building trees for addition to the layout. In some locations, the scenery reaches from 3 feet above the floor to the ceiling.

Planning for operations

Members of the Yakima Valley Model RR Club are frequent visitors to the operating sessions. They bring with them era-specific equipment to run as well as their own Digitrax Digital Command Control throttles. This allows for collaboration between model railroaders from the region to learn about operations and share equipment during the operating sessions.

Previous operating sessions have provided great insight. Members of the club have assisted in determining the traffic patterns on the layout and how the layout can be operated in an efficient manner.

The operating sessions for each time period begin in the same way. A briefing is held prior to the beginning of each session, at which a list of trains to be run are handed out to the crew members. When their departure time is approaching, the train crews contact the dispatcher for movement authority. The switcher crews get lists of the outbound trains to be built as well as industries to spot and pull for the session.

Train operation on the layout is governed by a dispatcher, a trainmaster (who establishes the list of trains to be run), a yardmaster at Keddie, and a yardmaster at Oroville. Three to four road train crews are used. Two switch crews are assigned at Oroville and one at Keddie. No fast clock is used; the session lasts until all trains are completed.

Now on ModelRailroader.com

Magazine subscribers can watch video of trains running on Jim Pendley's Western Pacific layout. Look under Online Extras on our website, www.ModelRailroader.com.



6. A few orange-and-silver diesels lasted into the post-1970 period of this mixed freight. At top left is Tunnel 12, not actually a tunnel but a water shed, designed to prevent track washouts.

A simplified track warrant system is used. Warrants are issued by the dispatcher via radio headset and repeated for accuracy. The dispatcher controls mainline turnouts on both ends of Oroville and Keddie. Trains terminating at the yard turn their cars over to the switch crews for classification. Engine hostlers will ready power at the engine facility by consisting power from an engine list, then delivering each set of power to the appropriate track when the yardmaster calls for it.

All four periods use cabooses. Car cards are only used by switch crews for cars that are spotted or pulled from local industries. All other cars are identified on switch lists and/or inbound/outbound wheel reports with the origin and destination. When a train arrives at its intended terminal, the wheel report or set-out list is handed to the yardmaster, who then marks each car for spotting instructions.

Eastbound and westbound trains (to and from Salt Lake City) switch their train symbols to the opposite symbol upon arrival at Keddie, for example, WPW becomes WPE and OMW becomes OME. That way, the train symbols match the direction the train covers in a loop around the layout. Trains inbound to Keddie from both directions are eastbound trains, and all outbound trains from Keddie are westbound.

The most visual change in rolling stock between time periods would be open auto racks and running boards in the three early eras. Post-1982 would see more enclosed auto racks and fewer running boards. Trailers on flatcars would be silver in the early era, giving way to white in the later years.

Being in the operations department as a locomotive engineer for BN/BNSF, Jim wants to incorporate as much realism as possible to help pass on the feel of how a railroad actually operates. Some crew members will learn things they never realized, putting how and why things happen in day-to-day railroad operations in perspective.

The future

Jim plans a few more changes to the car-card system for freight cars and switch list system for operations. He also plans to install a Centralized Traffic Control signal system to enhance operations. Additional on-line industries are being constructed, with Jim recently completing the expansive lumber mill at East Keddie. Working closely with the Yakima Valley Model RR Club, Jim plans to set up a program to physically interchange cars between layouts. Jim is also slowly “growing” more trees for the layout, with an estimated 800 left to go.

Jim is thankful for all of his model railroader friends who helped with the construction of his layout and the development of an operating plan. When the plan is complete, it will be a way for Jim and his friends to easily represent train operations that occurred in four different railroading time periods. **MR**

Robert Scott is a member of the Puget Sound Model RR Engineers club and models the Portland Terminal RR in HO scale at home. He lives with his wife, Arline, in Rochester, Wash., where he is a fire chief. His first publication in Model Railroader was a letter to Student Fare in 1984.

▶▶ Meet Jim Pendley

Jim has been a model railroader for more than 37 years. This is his third HO scale layout. Jim is a locomotive engineer who has been with the Burlington Northern and BNSF Ry. for more than 25 years. He lives with his wife, Lisa, and daughter, Katelyn, on a farm near Yakima, Wash., where they raise horses and Nigerian dwarf goats.



LARGE INDUSTRIES IN LIMITED SPACE

Tips for modeling modern rail-served customers from the HO scale
Iowa Interstate Grimes Line

By **James McNab** • Photos by the author



A GP38-2 pulls a flatcar from the Chicago Bridge & Iron spur on James McNab's Iowa Interstate Grimes Line. The HO shelf layout features several large industries.

Representing modern industries on a model railroad is a unique challenge. Today's railroads have traded in the smaller, local customers for larger, multinational industrial behemoths, capable of loading and serving dozens of rail cars at once. The size, scale, and scope of a modern rail-served customer is more than most layouts can handle.

Layout designers can get around these limitations by modeling only the parts of the industry that directly interact with the railroad. Others selectively compress larger industries to fit the available space. Many great designs may feature only one industry on the entire layout. Depending on the industry, it's possible to get by without modeling any of the main structure. On my Iowa Interstate Grimes Industrial Track layout, featured in *Great Model Railroads 2015*, I have several large industries. In these locations, I either modeled specific portions of the structure or compressed the main building to fit the available space. In each

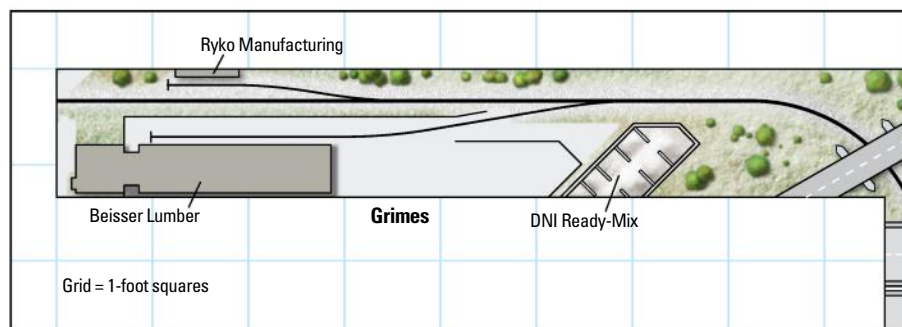


Fig. 1 Beisser Lumber. In terms of carloads, Beisser Lumber is the largest industry on the Grimes Line. Working the rail-served industry is a near-daily activity for Iowa Interstate train crews.



Fig. 2 Selective compression. James modeled the structure close to its scale length, but narrowed the warehouse to fit the benchwork. However, he kept the overall length to width ratio consistent, so that the building still looked correct.

case, the operational value of the customer was the top priority, not the modeling potential. That means some of the industries are nothing more than a simple flat model against the backdrop, but each adds to my layout's operating scheme and is still recognizable as a larger customer.

A basic building at Beisser

In terms of carloads, Beisser Lumber, shown in the **fig. 1** plan above, is the largest modeled industry served on the Grimes Line. Located on the north end of the line, the company specializes in millwork for residential and commercial applications. Shipments arrive via rail car and are sent out by truck. Working Beisser is almost a daily task for crews on the Grimes Line, as demonstrated by the two loaded boxcars in **fig. 2**.

Since Beisser was such an important part of the Grimes Line's traffic base, I modeled the industry in full. The

lumber company features a large central warehouse surrounded by a concrete lot, along with an office building and several support structures. The spur runs the full length of the main warehouse, and can hold numerous boxcars and center-beam flat cars.

Making such a large and visible industry fit in a limited space led me to selectively compress the main building. I had the space to model the warehouse's total length close to scale size, but needed to narrow the width to fit. The secret was to keep the overall ratios consistent so that the building looked correct.

Now on ModelRailroader.com

Visit our website to see the entire Iowa Interstate Grimes Line track plan as well as videos of operations on the layout. Click on the links at www.ModelRailroader.com.



Fig. 3 Backdrop flat. Limited space led James to model Millard Lumber as a backdrop flat. Modeled details, such as the awning, mounted to prototype photos on the backdrop add depth to the structure.

I shortened the warehouse to keep it in proportion to the width. Even with the shorter length, the warehouse is still long enough to support several car spots on the spur.

The overall scene at Beisser Lumber works because I didn't crowd it with additional industries or structures. I dedicated almost eight linear feet to the customer, trying to match the openness of the prototype scene.

Millard minimalism

On the opposite end of the spectrum from Beisser is Millard Lumber in Urbandale, Iowa, shown in **figs. 3 and 4**. Millard specializes in roof trusses, and is about half the size of Beisser. Just like Beisser, it receives raw materials by rail and ships out finished products by truck. But it moves about a third of the volume that Beisser does.

Despite it being a smaller customer, Millard still takes up considerable space on the layout, as you can see in the plan at right. Due to the shape and configuration of the basement and the location of Millard in the middle of the prototype branch, I had to fit the industry in a corner of the room. The narrowness of the scene, combined with leaving enough space for the spur, left a space less than two inches deep to model Millard.

As seen in **fig. 3**, I constructed a hyper-narrow flat of the main building to fit the available space. I laminated photos of the prototype structure to

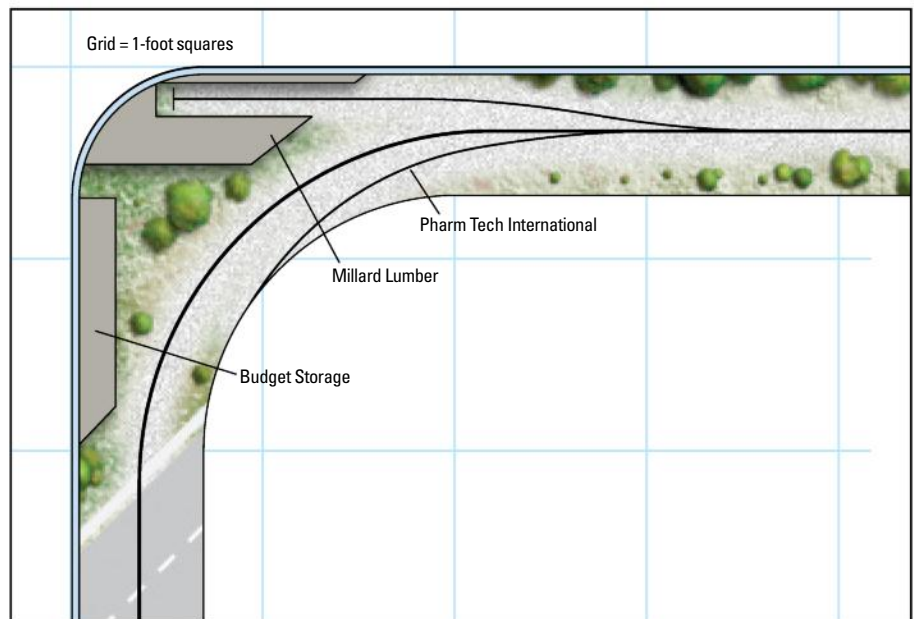


Fig. 4 Millard Lumber. This industry is half the size of Beisser Lumber, and its traffic volume is about a third of the larger industry. Both Millard and Beisser receive raw materials by rail.

styrene sheets, and then added standoff details to give the flat a sense of depth. The rest of the industry is represented by photomurals on the backdrop, since those buildings are not part of the operating scheme on the layout.

On the prototype, Millard Lumber is surrounded by a dense greenbelt. The trees work as a view block to help mask the shallow depth of the building flat, while giving the sense of a larger building just beyond the tree line.

The key parts of CB&I

No other industry on the Grimes Line has as much visual presence as Chicago Bridge & Iron (CB&I), shown in **figs. 5 and 6** on the next page. The massive steel plant specializes in constructing water tanks, ranging from installations in commercial and industrial buildings to the massive 100,000-gallon versions used in towns across the nation. With more than a million square feet of space, the plant is a significant sight.



Fig. 5 Focus on rail-served structures. Modeling the Chicago Bridge & Iron plant close to scale size would overwhelm the layout. Instead James focused on the plant's southern spur, including the overhead crane and tool warehouse.

Modeling CB&I in anything close to its scale size would overwhelm the narrow shelves of my layout – not to mention the basement. There was no way I could compress the plant to fit in the available space. Originally I planned to build several “thick” building flats, similar to the ones I made for Millard Lumber but with more stand-off details. However, a quick mock-up of the planned design showed me that it wouldn't give the sense of mass of the prototype industry, and looked toy-like due to the severe compression needed to make the structure fit.

After trying several alternate arrangements, I eliminated the plant structure itself and focused on the support structures. As seen in **fig. 6**, the main feature is the large overhead crane used for loading and unloading steel plates and finished water tank segments. This, along with several support buildings, gives the impression of a larger industry without having to model the steel plant.

Yes, I wish I had more space to model the plant's main building. But the main goal for my layout is to simulate the procedures on the prototype Grimes Line, not to serve as a scenic diorama for the structures. Regardless of what part of the plant I model, the operations are the same. Cars are spotted on the far end of the spur at CB&I for unloading, then pulled back toward the entrance to the plant for pickup by train DMSW.

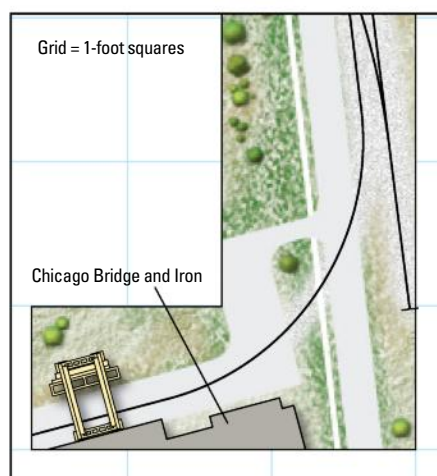


Fig. 6 Chicago Bridge & Iron. On the Grimes line operating potential is the primary focus. This scene shows that by modeling only the railroad-related features, even the largest industry can fit into a narrow space.

Making it fit

The variety of industries on the Grimes Line led to unique techniques for modeling them successfully on my layout. I designed each industry to fit the available space while ensuring that the operational requirements were met. In the end, I made viable versions of these large, modern industries. **MR**

In addition to GMR 2015, James McNab's HO scale Grimes Line was featured in Model Railroad Planning 2014.

RAPIDO BUS

VISIT RAPIDOTRAINS.COM

CALL TODAY
to place your ad

888-558-1544
ext. 588 or ext. 643

N-Scale

NOVEMBER/DECEMBER 2016

N-Scale is a bi-monthly magazine devoted exclusively to N scale modeling, layouts, scenery, Nn3 and more.

www.nscalemagazine.com

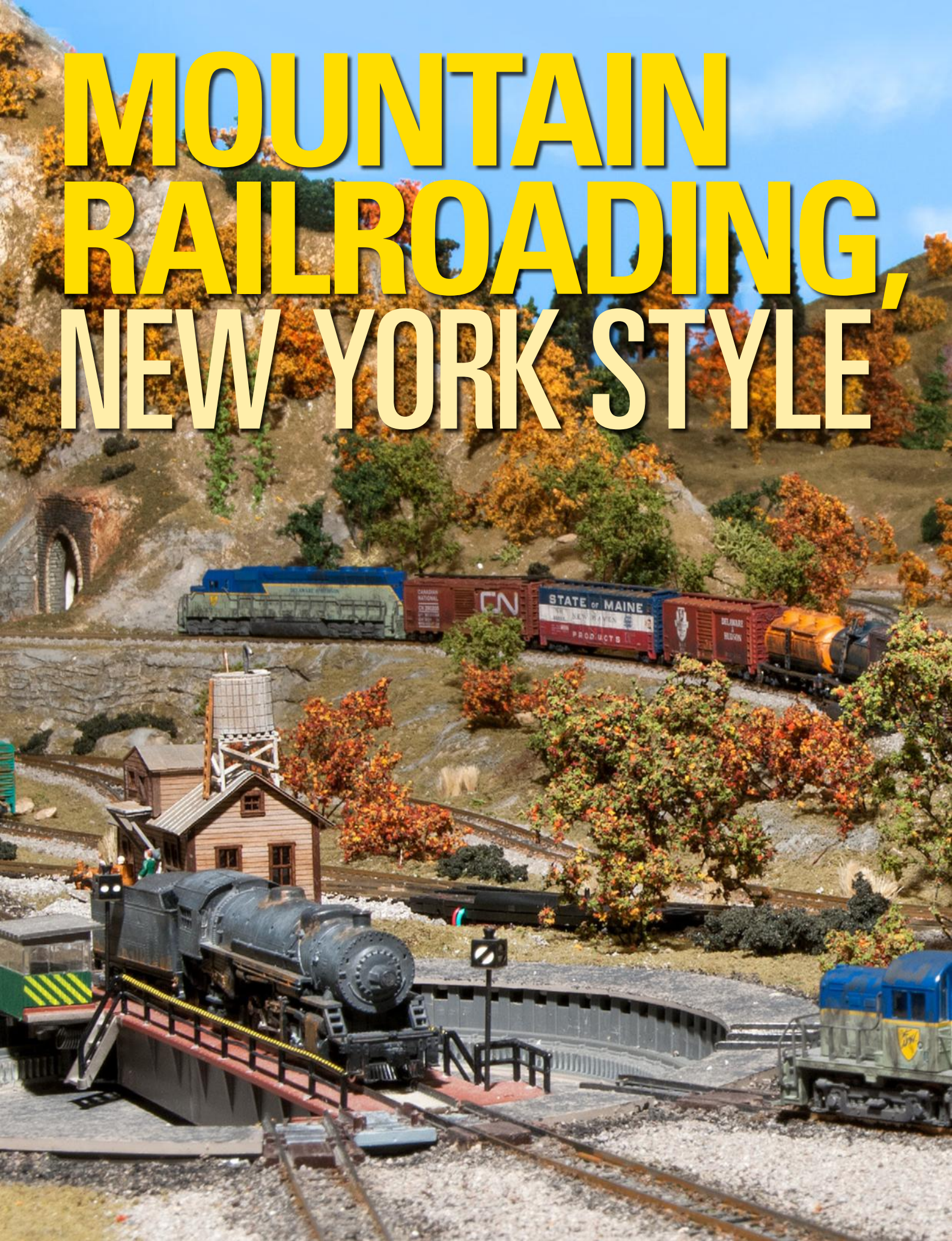
Annual Sub. \$36.00 year
Canada: \$50.00 yr • Foreign: \$70.00 yr

25 Years of N-Scale Magazine on CD Now Available.

PLATINUM RAIL
PUBLICATIONS

5811 75th Avenue NE
Marysville, WA 98270
360-658-2485

MOUNTAIN RAILROADING, NEW YORK STYLE



This freelanced 9 x 21-foot N scale layout is set in the Adirondacks

By **Sandy Colabufo** • Photos by Lou Sassi

1. Steam and diesel locomotives share the engine terminal at Annville as a freight passes in the background. The action takes place on Sandy Colabufo's 9 x 21-foot N scale Annville & Adirondack RR.





2. This overall view shows the layout, which occupies part of a basement room. An angled control panel is to the left.

My journey to model railroading isn't your typical one. Yes, I had an American Flyer train set as a kid. But I was never a fan of prototype trains, and I know very little about railroad history or operations. You're probably thinking, "Why is Sandy into model railroading?"

It all started when I was working in a hobby shop during college. The more I talked to model railroad customers, the

more interested I became in the hobby. I was fascinated by the diversity and the three-dimensional creativity model railroading offered.

Marriage, young children, and a demanding career postponed the construction of a model railroad for many years, but building a layout always remained a goal for me.

Room to grow

I started the N scale Annville & Adirondack RR in our previous house more than a quarter century ago. My model railroad contacts were limited at the time. I learned different facets of the hobby by reading how-to books, attending local train shows, and visiting hobby shops.

The layout moved with us to our current home in 1992. At the time, the Annville & Adirondack was a modest 4 x 8 feet with partially finished scenery and track. In the following years, I expanded the model railroad to its current size, 9 x 21 feet. Before the expansion, I installed drywall, electrical outlets, and track lighting in the basement.

The model railroad is supported by freestanding L-girder benchwork. I constructed a backdrop frame from 1 x 2 lumber and attached it to the benchwork. Between the benchwork and backdrop frame are tempered hardboard slots positioned every 3 feet.

I used three 2 x 8-foot styrene sheets for the backdrop. The styrene sheets aren't attached to the backdrop frame. Instead, they slide into the tempered hardboard slots. The frame keeps the styrene sheets secure and rigid. This method lets me change the backdrop with ease.

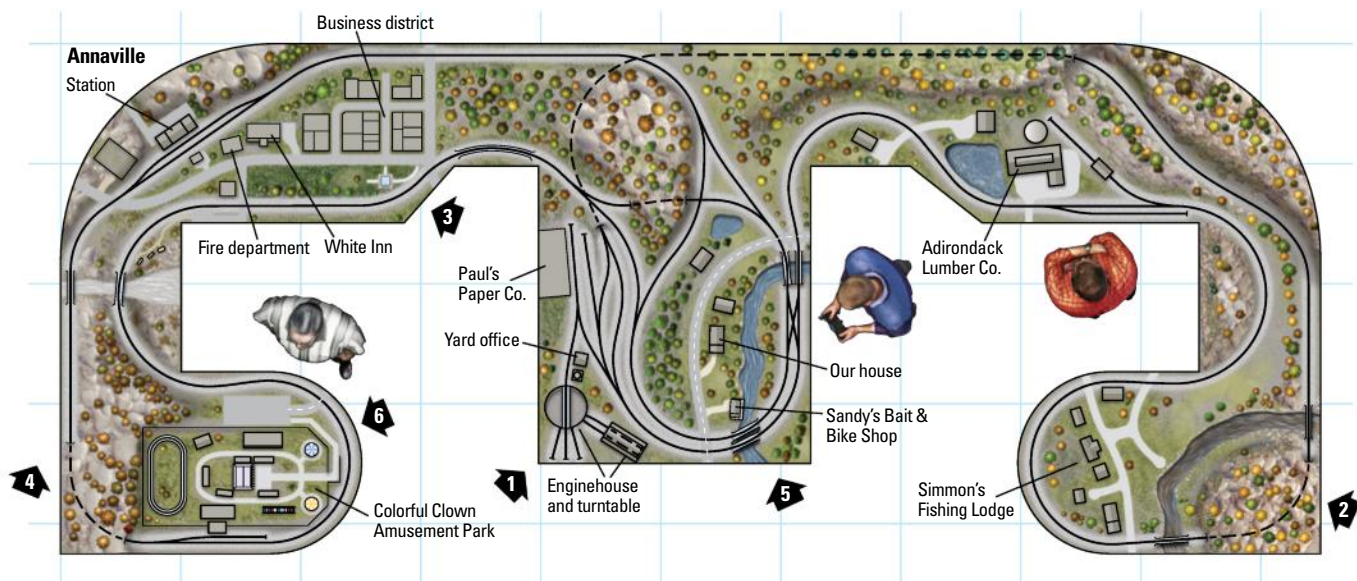
An Adirondack adventure

The Annville & Adirondack runs through upstate New York. My goal was to re-create the feeling of the Adirondack region of the Empire State using water, mountains, small towns, rural industries, and countless trees. I visualized the layout as having a strong scenic theme, and I think I was successful in capturing most of my objectives.

I added an amusement park [See "Colorful Clown Amusement Park" on



3. A New York Central RS-2 rumbles past the park in downtown Annville with a manifest freight.



Annville & Adirondack

N scale (1:160)

Layout size: 8'-6" x 21'-0"

Room size: 24'-3" x 26'-3"

Scale of plan: 5/16" = 1'-0", 24" grid

Numbered arrows indicate photo locations

Illustration by Rick Johnson and Roen Kelly

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

page 60. – Ed.] because the Adirondack region is well-known for places like the Enchanted Forest Water Safari in Old Forge, N.Y., and the Great Escape in Lake George, N.Y. The physical space I had to work with wasn't as large as my imagination.

Track and control

The track plan is an original design. If I had to do it over again, I would have given more thought to operations. I used Atlas code 80 flextrack and no. 6 remote turnouts on the mainline and no. 4 remote turnouts on sidings. The roadbed is cork laid over Homasote.

I wired the layout for direct current (DC) cab control utilizing two Model Rectifier Corp. (MRC) power packs and two Varipulse wired remote throttles. The layout is divided into 23 blocks.

One of my future projects may be converting to Digital Command Control (DCC). Until I make the switch, I use MRC's Digital Symphony 77 sound generator device for railroad audio effects.

Mountain scenery

Scenery is my favorite aspect of model railroading. The scenery base is Hydrocal-soaked paper towels over newspaper. Once that dried, I added Sculptamold. I carved rock formations in the papier-mache-like scenery material

The layout at a glance

Name: Annville & Adirondack

Scale: N (1:160)

Size: 9 x 21 feet

Prototype: Freelanced, inspired by Delaware & Hudson

Locale: upstate New York (Adirondack region)

Era: 1950 to late 1960s

Style: walkaround

Mainline run: 104 feet

Minimum radius: 15"

Minimum turnout: no. 6 (mainline), no. 4 (sidings and yards)

Maximum grade: 2 percent

Benchwork: L-girder

Height: 46"

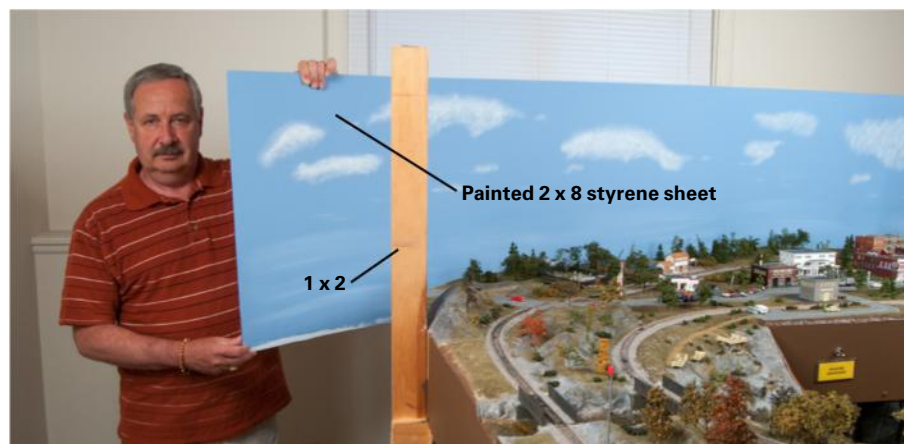
Roadbed: cork on Homasote

Track: code 80 flextrack

Scenery: Hydrocal-soaked paper towels over newspaper, Sculptamold

Backdrop: hand-painted on styrene

Control: direct current dual cab control

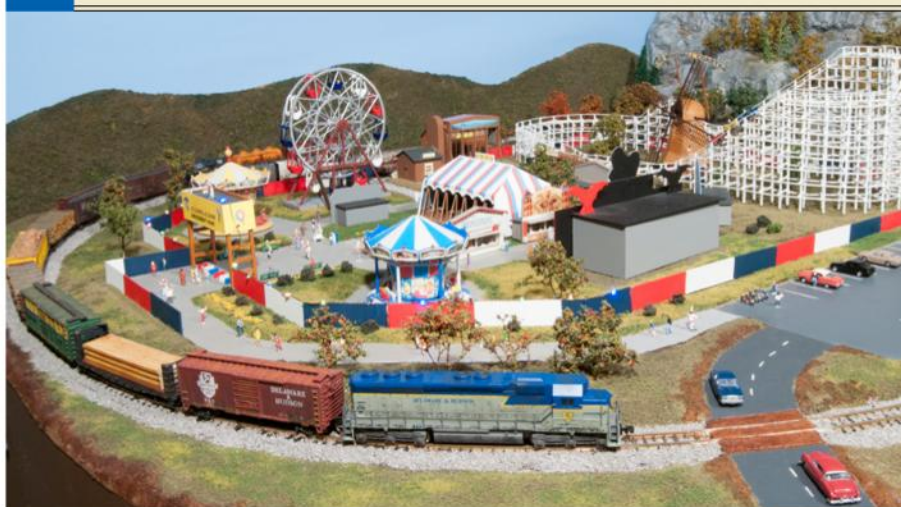


4. Sandy used three 2 x 8-foot styrene sheets for the backdrop. The backdrops are supported by a frame attached to the benchwork.



5. Scenery is one of Sandy's favorite aspect of model railroading. The layout features more than 1,200 trees from a variety of sources. He modeled this river scenes using Woodland Scenics E-Z Water and Realistic Water.

Colorful Clown Amusement Park



6. A scratchbuilt roller coaster and motorized rides are just some of the highlights of the Colorful Clown Amusement Park. Sandy built the scene on a piece of foam board at his workbench.

I built the town of Annaville and the Colorful Clown Amusement Park at my workbench on a 22" x 28" piece of foam board. First, I sketched the location of streets and structures on the board. I then cut and glued styrene to the foam board to create streets, sidewalks, and parking lots. I painted the styrene and then installed the structures. I finished the town and amusement park scenes by adding figures, benches, signs, trees, and ground cover.

I installed the completed scenes on the layout and landscaped the perimeter, making it a seamless part of the layout. The benefit of this technique is being able to work comfortably at the workbench. – S.C.

with a hobby knife. This was time consuming, but the effect was worth it. I also made a number of rocks using light-weight Hydrocal plaster.

I stained the rock formations with earth-colored pigments and acrylics, drybrushing the raised details to help them stand out. There are four mountain areas on the layout, and I tried to use different colors on each for variety.

The layout has two rivers and a waterfall. I used Woodland Scenics E-Z Water pellets for one river and the same company's Realistic Water on the other. I applied both materials after painting the riverbeds to simulate depth. I touched a soldering gun to the surface of the heat-activated E-Z Water to create waves.

I modeled the waterfall using Woodland Scenics Water Effects. I squeezed the flexible material onto a piece of waxed paper and used a toothbrush to create the linear effect of falling water. While the Water Effects material was still wet,

Now on ModelRailroader.com

Model Railroader magazine subscribers can see video of Sandy Colabufo's N scale layout in action on our website, www.ModelRailroader.com.

I sprinkled in Woodland Scenics snow to simulate the look of foamy water.

After the Water Effects material dried, I peeled it from the waxed paper and installed it on the layout. I landscaped around the waterfall to complete the scene, called Rock Canyon Falls.

There are plenty of trees and shrubs – more than 1,200 and counting – which are necessary to capture the flavor of the Adirondack region. I used various tree-making techniques for variety. I'm a big fan of Scenic Express SuperTrees. I think they look great and are dainty enough for N scale. The layout is set in autumn, so I used various yellow and red blends on the trees to suggest leaves changing color.

The backdrop is painted with sky blue latex paint, lightening the color with white paint near the horizon line. I used a sponge and white and gray paints to add clouds.

Structure variety

The structures are a mix of kit built and scratchbuilt. The kits are from Bar Mills, Design Preservation Models, Fallner, and Vollmer. Most of the rides in the Colorful Clown Amusement Park are motorized. The buildings in Annville are named after family members.

I used wood, styrene, or a combination of both to scratchbuild structures. There are three structures I'm particularly proud of. I built the roller coaster in the amusement park from scale lumber using a circa 1950 prototype photo as a guide.

There's also a scale replica of the house we live in today. I utilized the original house plans and painted the model with the same paint as the prototype.

The third structure is a "Haunted Graveyard" which was inspired by my love of Halloween and scary movies. It looks like a normal cemetery scene until you activate a toggle switch. Then figures start rising from graves.

Most of the structures on the layout have interior lighting, and Main Street in Annville is lined with illuminated street lamps. There's also a burning house scene with flashing yellow light-emitting diodes to simulate a structure on fire.

Locomotives and freight cars

Three of the diesel locomotives on the layout, two Alco RS-2s and an Electro-Motive Division SD45, are painted for the Delaware & Hudson. I chose the D&H because the railroad ran in the Northeast and I liked the blue-and-gray color scheme. The fourth diesel is a New York Central (NYC) RS-2.

Easy access



A sliding 5 x 7-inch styrene panel provides access to hidden track under a mountain scene on Sandy's layout.

To make it easy to reach trains in the tunnels under the two mountain scenes, I cut 5 x 7-inch openings in the fascia. This lets me reach in to rerail cars or make minor track repairs.

I covered the openings with styrene sliding panels. For fun, I put a small label on the panel that reads, "Beware of what lives within the benchwork." Visitors are always curious and can't help but take a peek. Not only are the panels functional, but they're entertaining. – S.C.

I also have a NYC 2-8-2 steam locomotive that I purchased in 1969 when I was working at the hobby shop [See the photo on page 56. – Ed.] It mainly sits on the turntable. For sentimental reasons, I occasionally use it to pull mainline freights.

Most of the rolling stock and locomotives are weathered. I used various paint washes to dull the surface, including grimy black, rust, and light and dark browns. I also used powdered pastels, sealed with Testor's Dullcote, to age some equipment.

Operations

The railroad originates in the small Adirondack town of Annville and terminates at Simmons Fishing Lodge in Ontario, Canada. Along the way, the main lines loop around mountains, cut through tunnels, and cross rocky ravines and a waterfall.

I know a lot more about model railroading then when I started and plan on developing an operating scheme for the layout. I also want to add staging yards at both ends of the layout.

Give the hobby a try

Constructing the Annville & Adirondack has been rewarding project. Though I'm not a typical model railroader in

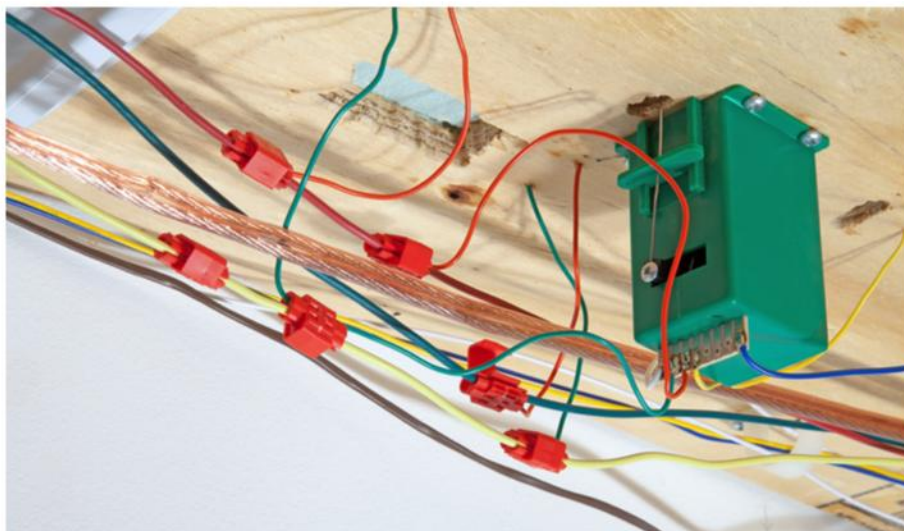
terms of hobby knowledge or skills, I do possess a creative mind and an eye for detail. What's held my interest is the hobby's diverse and various elements. I hope my story encourages others who are thinking about getting started in the hobby but feel they don't have the skills or prototype knowledge to give model railroading a try. **MR**



Meet Sandy Colabufo

Sandy is a retired insurance executive who lives in Syracuse, N.Y., with his wife, Pat. They have two grown children, Paul and Andrea. Sandy is also an avid cyclist. He'd like to thank Dave Martini, who visited his layout in 2012, for bringing attention to the Annville & Adirondack.

Making the DCC suitcase connection



Larry made good use of suitcase connectors to attach track feeders to the power buses in Charlottesville Yard on his HO scale Piedmont Southern layout. This month he shows you how to choose the correct connectors for your applications.

It seems every time the *Model Railroader* staff mentions using suitcase connectors on a project layout we get questions from readers about them. So let's take a look at suitcase and other types of similar connectors, when to use them, which ones to use, and why they can be an important part of wiring your Digital Command Control (DCC) layout.

In the April and May 2015 *Model Railroader* issues, I discussed wiring and why it's important for reliable DCC operations. A big part of wiring is providing a secure electrical connection between the various DCC system components, the wiring buses, and the track.

For decades, the traditional method for making most connections was soldering, but that can be difficult in some situations, and time consuming. So when I was introduced about 20 years ago to the 3M insulation displacement connector (IDC), also known as suitcase connectors, I was hooked.

The suitcase connector has a metal blade with two small slits in it (shown on the right in **fig. 1**) mounted in a plastic case. When the metal blade is pressed down over a wire, it cuts through the insulation on the wire and grips the metal conductor (left in **fig. 1**).

The strong physical contact of the metal blade gripping the wire makes a good electrical connection, and if done correctly, will give years of trouble-free

operation. However, there are ways to do it and ways not to do it, and the devil's in the details.

First, the little slits in the metal blade are designed to work with different wire diameters. Consequently, if you use the wrong connector with the wrong wire diameter, you can get unreliable results. If you use too small a connector you may weaken the wire or even cut through it, leading to future breakage. If you use too large a connector, it may not cut through enough insulation to touch the wire, metal-to-metal.

With DCC wiring I recommend 16-14AWG power buses for HO and S scales and 18-16AWG for N and Z scales.

For each I would use 22-18AWG feeders. So, which suitcase connectors would be correct for these combinations? The most useful to model railroaders is the 3M no. 905 IDC (**fig. 2**).

The 3M no. 905 was designed to be used in automobile applications with voltage less than about 32V, which is well within the voltage range of DCC systems. The no. 905 is sized for 18-14AWG runs and 22-18AWG taps. These ranges fit my recommended sizes for power bus runs and feeders for S, HO, N, and Z scales. Consequently, this is the IDC I use and recommend for most DCC power bus applications.

I've also seen articles and videos showing the use of 3M no. 567 connectors (**fig. 2**). Folks seem to like these because they have two blades that in theory make an unbreakable electrical connection. Unfortunately, these are made to be used with 12-10AWG runs and 18-14AWG taps. Wires that size may be good for O scale and larger, but are overkill for HO. Keep in mind that the larger number indicates a smaller wire size.

So what happens when you use a no. 567 connector with wires sized for HO scale wiring? You'll end up with loose fitting, unreliable electrical connections prone to intermittent power losses that can be very difficult to troubleshoot.

The 3M no. 558 connector is similar in having two blades, but is limited to connecting 22-18AWG wires. This makes it suitable for use on N and Z scale layouts or for connecting two wires of similar size to one another. All Electronics

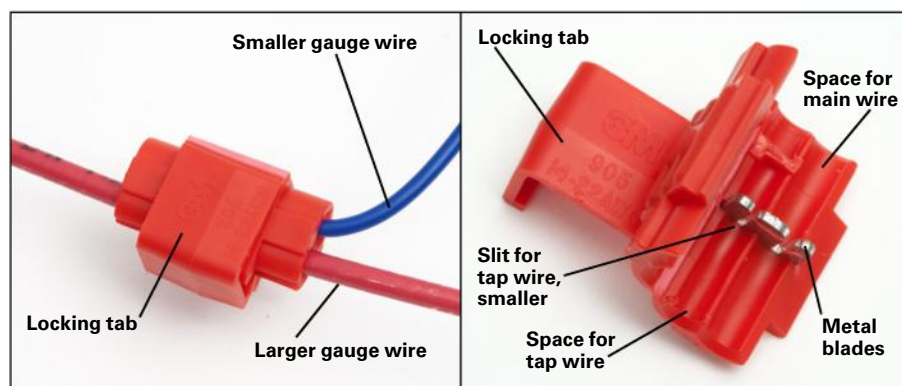


Fig. 1 Suitcase anatomy. The suitcase connector works by having a metal blade with two small slits in it mounted in a plastic case (right). When the metal blade is pressed down over a wire, it cuts through the insulation on the wire and grips the metal conductor. The plastic case is then clipped shut (left), producing a neat and tight electrical connection.

(www.allelectronics.com) sells three similar versions they call a quick splice connector that have only one blade (**fig. 2**).

The no. 7300 is designed for use with 12-10AWG wires, the no. 7200 with 16-14AWG wires, and the no. 7100 with 22-18AWG wires. Like the 3M no. 558, these are great for splicing similar-sized wires, but wouldn't be suitable for most power buses using smaller gauge feeders. They are useful for a wide variety of other wiring applications.

Another type of IDC that I only recently discovered are T-tap connectors (**fig. 3**). Like the IDCs I discussed above, T-taps are available in a range of sizes. The 3M no. 951 is for use with 22-18AWG wire, no. 952 with 18-14AWG wire, and no. 953 with 12-10AWG wire. Also, like those above, a metal blade with a single slit closes down over the wire, making the electrical connection with the metal conductor inside.

The difference with the T-tap is it has a horizontal slot on the metal blade where a male quick connect terminal can be inserted. This creates an electrically sound connection that can be disconnected when necessary. These or the smaller no. 951 can be used to run feeders to layout accessories off a 12V power bus (**fig. 3**). All Electronics sells a nearly identical version of these in the same size range, and All Electronics is a good source for the crimp-on male quick connect terminals to use with them.

The secret to getting good, tight connections with all these types of IDCs is getting square downward pressure when forcing the metal blade over the wire(s). Companies like Micro-Mark offer special compression pliers just for this purpose. I've found a pair of Irwin Vise-Grip GrooveLock pliers [also known as Channellock or slip-joint pliers – Ed.] will also work and are readily found in hardware stores (**fig. 4**). Also, with the tap-and-run type IDCs, make sure that the tap wire is inserted fully into its channel before clamping down.

Finding the IDCs might be a challenge unless you know the right places to go. Micro-Mark sells some of these in convenient quantities. Some home centers also sell IDCs in small quantities. They're usually in the electrical connectors aisle. Other sources in addition to

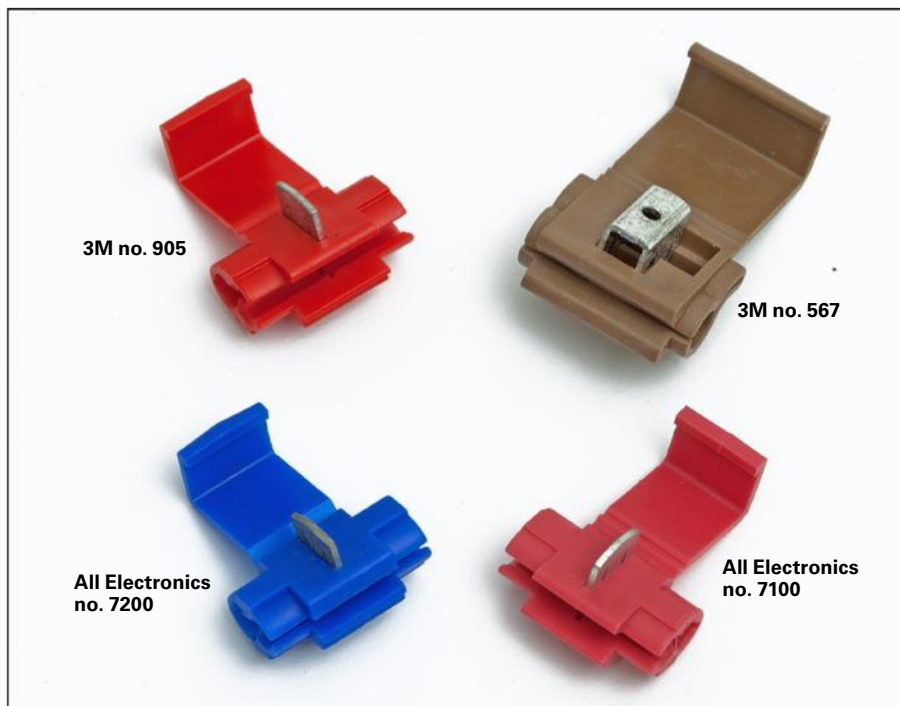


Fig. 2 Useful sizes. The most useful to model railroaders are the 3M no. 567 and no. 905 IDCs. All Electronics sells similar versions they call quick splice connectors that have only one blade.

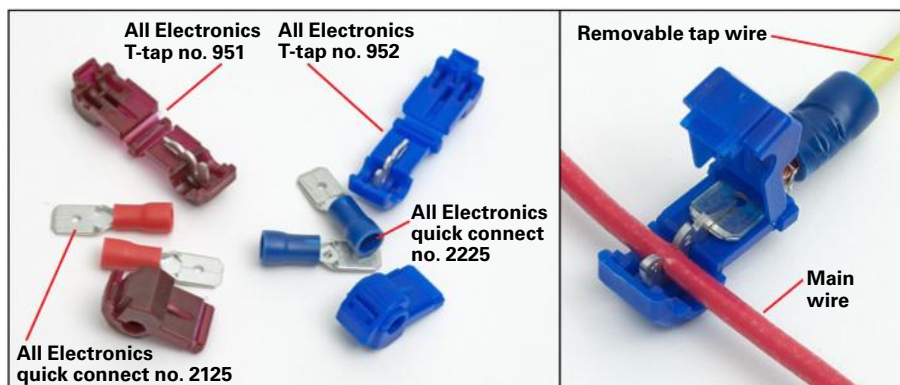



Fig. 3 Tapping in. Another IDC that Larry recently learned about are T-tap connectors. These are the All Electronics version shown with male quick connect terminals (left). Larry uses the T-taps, shown in place with a tap wire at right, for connecting accessories to their power buses.

All Electronics are either Digikey (www.digikey.com) or Mouser (www.mouser.com), which sell IDCs in bulk quantities. Search for "Scotchlok," "terminals wire splice," or "terminals idc." Sometimes it takes a couple tries just to find the right keywords to suit a retailer's search engine.

For more on suitcase connectors and other wiring topics, see my book *Wiring Your Model Railroad* (Kalmbach Books, 2015), available at hobby shops and KalmbachHobbyStore.com, and drop by my website, www.dccguy.com. 

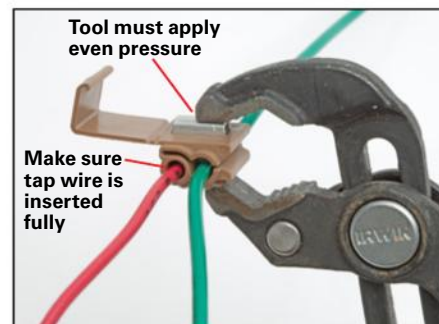


Fig. 4 Give it the pinch. Larry's found a pair of Irwin Vise-Grip GrooveLock pliers will do a good job of crimping the suitcase connectors.



\$375.00 MSRP

Introducing **DCS240** LocoNet® Advanced Command Station



- **400 Loco Addresses**
- **400 Throttle Support**
- **5 or 8 Amps of Power**
- **For Serious Operation!**

Find out more at:

www.digitrax.com

WORLD'S LARGEST MODEL TRAIN DISPLAY 25,000 SQ. FT.

- Train Journey
- Imagination Junction
- American Railroad Museum
- Expo Center
- A-Maze-N Funhouse
- Coney Island Replica
- Hobby/Toy Shop
- Gift Shop

AMERICA'S MOST AMAZING FAMILY ATTRACTION!

- "Certificate of Excellence" - *Trip Advisor*
- "Travel Gem" - *AAA*
- "Standout in Ohio Tourism" - *Ohio Traveler*
- "Best Family Fun Day" - *Best of Ohio*



ENTERTRAINMENT JUNCTION

www.EnterTrainmentJunction.com

7379 Squire Court
West Chester, OH 45069
(513) 898-8000






LARGEST VARIETY OF PLASTIC MODEL PARTS, BEST PRICES, SINGLE SOURCE CONVENIENCE

Use the Model Materials Preferred by Professionals and Award Winning Modelers

- Strip & Rod
- Structural Shapes
- Tubing & Fittings
- Plain & Patterned Sheet

Visit Our Website: www.plastruct.com

To order our 144 page VOL 10 Catalog of over 4500 different scale model parts, send \$5.00 to:



Plastruct
1020 S. Wallace Place, Dept. MRR • City of Industry, CA 91748
(626) 912-7016 • (800) 666-7015

Your Dream, Our Ambition!



www.anemodel.com

Tsunami²

SoundTraxx continues our legacy of innovative products with Tsunami2, a brand new line of digital sound decoders that have more sounds, smoother operation and some completely new ways to do more with your trains. The operative word is "operation", with three prototypical braking methods, the best-ever Dynamic Digital Exhaust™ for both Steam and Diesel versions and oodles (yes, oodles!) of amazing new sounds and effects. From the first DCC sound decoder, to the first Functional Brake, Equalizer - and a whole lot more - SoundTraxx has been leading the way in sound for your railroad for over 25 years.

SOUNDTRAXX[®]
141 Burnett Drive, Durango, Colorado 81301
(970) 259-0690 Fax: (970) 259-0691 Website: www.soundtraxx.com

Tsunami2 Features:

- 32-Bit Processor capable of 16 simultaneous sound channels
- Flex-Map technology allows mapping any function to any function key
- Hyperdrive2 motor control
- Adjustable reverb
- Built in Equalizer
- 20+ Different Lighting Effects
- Steam, diesel and electric versions with multiple selections in each decoder
- Over 60 whistles, over 40 horns, multiple prime movers, chuffs, bells and more!

Think you've heard it all? Visit our website today! We've got something to make you giggle!

Tortoise[™] 

For 25 Years, Simply...
The BEST!
Slow Motion Switch Machine

MADE IN THE USA

800-6000 \$21.95
6006 6-PACK \$126.00
6012 12-PACK \$245.00

- Enclosed Gear Drive Mechanism (NOT a Screw-Drive Machine!)
- Simple Mounting - All Linkage Included!
- 2 Sets SPDT Auxiliary Contacts

AT YOUR LOCAL HOBBY SHOP OR DIRECT
INCLUDE \$8.00 FOR SHIPPING & HANDLING

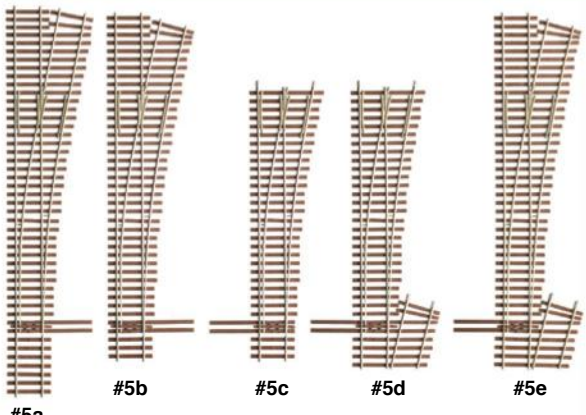
Send SSAE for more info or \$8.00 for complete 60 page Catalog & Application Book to:

CIRCUITRON
211 RocBaar Dr., Romeoville, IL 60446-1163


The Ladder Track System

A Unique Concept for Compact HO Yards


The new Micro Engineering Ladder Track System is a series of five different **HO Code 83 # 5 turn-outs** that can be used in various combinations to allow up to 30% more yard in the same layout space. Information .pdf's and turnout templates are available for download at our web site. See the Ladder Track System at your dealer or order direct.




#5a




#5b



#5c



#5d



#5e


#5a Standard Turnout

#5b Curved Diverging Track Turnout

#5c Lead Ladder

#5d Intermediate Ladder

#5e Last Ladder




Micro Engineering Company

1120 Eagle Road
Fenton, MO 63026
Phone 800-462-6975
Fax 636-349-1180

Made in the USA

www.microengineering.com
service@microengineering.com

PENNSYLVANIA RAILROAD
FLEET OF MODERNISM



HO Scale

The Coach Yard
Committed to Excellence
www.thecoachyard.com



Detailed SD45 from Walthers rumbles to life in HO scale with SoundTraxx DCC

From its flared radiators to its Flexicoil trucks, the HO scale SD45 from WalthersProto captures the look of this second-generation diesel. All the versions offered also feature roadname- and era-specific detailing. I tested a Wisconsin Central Ry. version that came equipped with a SoundTraxx Tsunami decoder.

The prototype. With its 20-cylinder 645E3 turbocharged diesel engine, the SD45 was the first North American diesel to have an engine larger than 16 cylinders. General Motors Electro-Motive Division sold 1,260 SD45s to U.S. railroads.

The 3,600 hp loco-

motive was produced from 1965 to 1971 before being replaced by the SD45-2 in EMD's product line.

Many of the big six-axle diesels moved on to second and third careers after the 1980s on regional and short lines, as the Class 1 railroads that bought the SD45s started retiring them. A few are still in use today.

Among those second-hand owners was the Wisconsin Central, which had more than 100 SD45s on its roster by the time the Canadian National acquired the WC in the early 2000s. The prototype for our review sample was built in 1971 and started its career as Burlington Northern no. 6530 before being purchased by the WC in 1994. The Walthers model depicts the prototype after it was renumbered from WC 6530 to 7517 in the late 1990s.

the model are a scale foot farther inboard than those of the prototype. The placement of the well-defined molded engine access doors, air-intake grills, and other details match the drawing and prototype photos.

All the separate detail parts are factory applied, including the three-chime Leslie air horn, firecracker antenna, and windshield wipers. All the grab irons are scale-profile wire parts. The handrails are made of flexible acetal plastic that resists breaking.

The rooftop fans look especially realistic. They are modeled as separate parts underneath see-through grills.

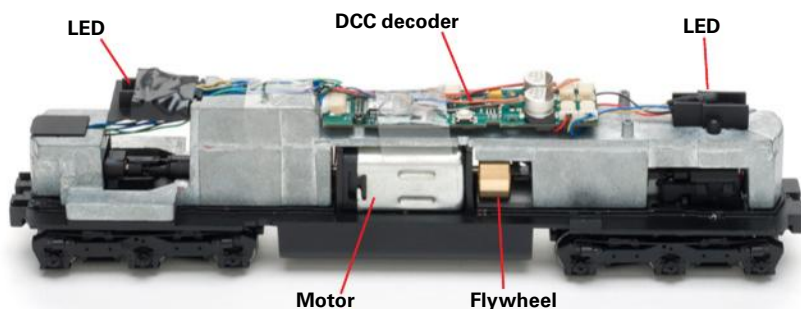
Other WC-specific details include the winterization hatch on the roof, a brake wheel mounted on the rear engineer's side of the long hood, and modern-era uncoupling levers. The model doesn't have the all-weather engineer's cab window found on the prototype, but this could be easily added by the modeler as HO scale all-weather cab windows are available from Detail Associates among other firms.

The maroon-and-gold paint scheme on the model is correct for no. 7517 as it appeared in the late 1990s. There's sharp color separation, and all the lettering is



An accurate paint job and factory-applied details, including see-through vent grills, make the SD45 worth a look.

The model. Most of the model's dimensions match those of a drawing in the *Model Railroader Cyclopedia: Vol. 2, Diesel Locomotives* (Kalmbach Publishing Co., out of print). The ditch lights on



The SoundTraxx Tsunami decoder is mounted atop a die-cast metal weight that runs the length of the locomotive.

crisp and straight. Walthers correctly modeled the mismatched font of the prototype road number.

Mechanism. After removing both coupler boxes and a screw in front of the fuel tank, I carefully removed the locomotive's body shell. A die-cast metal weight runs the length of the chassis. Openings in the weight reveal truck-mounted gear-boxes and the brass-flywheel-equipped can motor.

The SoundTraxx decoder is attached to the top of the weight. A vertically mounted speaker is behind the cab. Wires run to light-emitting diodes (LEDs) at the front and rear of the locomotive.

Performance. Out of the box, the SD45 proved a smooth operator. In speed step 1 it crept along at 2 scale mph and reached a prototypical top speed of 75 scale mph in speed step 28. For finer control, the decoder supports 128 speed steps and features user-loadable and 13 preset speed curves. I added some acceleration and deceleration momentum, using configuration variables (CVs) 3 and 4, and then proceeded to our layout for some test running.

The SD45 smoothly ran through the no. 5 turnouts in a yard ladder as well as various crossovers without so much as a headlight flicker. The model also easily negotiated an 18" radius curve.

During a hill-climb test, the locomotive rolled steadily up a curved 1.5 percent grade then, up a 3 percent grade, with 13 HO freight cars in tow. The

model's drawbar pull measured 2.6 ounces on our force meter, which is the equivalent of 36 free-rolling HO freight cars on straight and level track. The locomotive's metal knuckle couplers also held tightly throughout testing.

User-triggered functions on the model include the headlights, long and short whistle blasts, and a dynamic brake fan. I could also dim the headlights and turn on the ditch lights. When I blew the horn the ditch lights flashed alternately, which is correct for the prototype.

Unlike the latest SoundTraxx decoders, function mapping is limited to specific ranges of button/function combinations. However, I was happy to find that one of my favorite features, the SoundTraxx train brake, is factory programmed on function 9 of the SD45. With this feature I could stop and start the train independently from the throttle setting. I find the independent brake provides a more realistic experience when running trains.

I easily advance consisted the SD45 for m.u. operations. In addition to CV19, the decoder also supports CVs 21 and 22, which allowed me to access certain functions, such as the horn, using the consist address. A paper quick start sheet is included with the model, but much more Tsunami programming information can be found in the online instruction manual at www.soundtraxx.com.

Direct-current operation. Like any dual-mode sound decoder operated on a DC layout, the Tsunami requires a lot of voltage to get going, which limits DC operation to a range from 7.5 to 12 volts. However, the model ran smoothly without hesitation at 3 scale mph and accelerated smoothly to 75 scale mph. The headlights automatically switched on or off according to the locomotive's direction.

The diesel engine sound revs up or down with the DC throttle setting. A

▶▶ HO scale SD45 diesel

Price: \$299.98 (DCC and sound), \$199.98 (DC, no sound)

Manufacturer

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

Era: 1965 to present

Road names (multiple numbers each): Wisconsin Central; Atchison, Topeka & Santa Fe; Canadian Pacific; Conrail; Seaboard System

Features

- All-wheel drive and electrical pickup
- Blackened metal RP-25 contour wheels in gauge
- Five-pole skew-wound motor with brass flywheel
- Light-emitting diode (LED) headlights
- Metal Proto-Max knuckle couplers at correct height
- Minimum radius: 18"
- SoundTraxx Tsunami dual-mode decoder (DCC version only)
- Weight: 1 pound 4.1 ounces

Walthers HO SD45

Drawbar pull		2.6 ounces	
		36 HO scale freight cars	
Scale speed (DC)		Scale speed (DCC)	
Volts	Scale mph	Speed step	Scale mph
7.5 (start)	3	1	2
9	30	7	20
10	48	14	43
12	75	21	75

quick decrease of the throttle causes a brake squeal. Other automatic effects are factory-programmed, including a bell that comes on at speeds under 10 scale mph. I also heard forward (two toots) and reverse (three toots) horn signals when I flipped the direction switch. These effects can be turned off or adjusted. However, to do so requires either a DCC system or a DC sound controller, such as the MRC Tech 6.

With its excellent sound, accurate details, and spot-on WC paint job, the WalthersProto HO scale SD45 looked right at home hauling freight through the upper Midwest scenery of our staff layout, the Milwaukee, Racine & Troy. — Dana Kawala, senior editor

Now on ModelRailroader.com

Don't miss a demo of this DCC-and-sound-equipped HO diesel on the *Model Railroader* staff's Milwaukee, Racine & Troy layout. Click on the link at www.ModelRailroader.com.





New paint schemes for smooth-running Atlas N scale General Electric B36-7

Packing 3,600 hp under its hood, the General Electric B36-7 was just what Seaboard System wanted when it placed an order for 120 units in 1985, more than doubling the production total of the locomotive. Now, Atlas Model Railroad Co. has re-released its line of B-B truck Dash-7s in new paint schemes, including the B36-7 in Seaboard System and successor CSX paint schemes.

The prototype. The B36-7 was the last of the four axle, or B-B truck, locomotives offered in the Dash-7 line. Introduced in 1976 to replace its Universal

line of road-freight locomotives, GE's Dash-7 line differed from its predecessors by having a bumped-out radiator compartment. The widened section starts just ahead of the exhaust stack.

Externally identical to the predecessor 3,000 hp B30-7, and riding on General Electric's FB2 floating bolster trucks, the new locomotive developed its 3,600 hp from a GE 7FDL16 diesel engine. The eight tall doors in the middle of the hood indicate a 16-cylinder engine sits inside instead of a 12-cylinder engine.

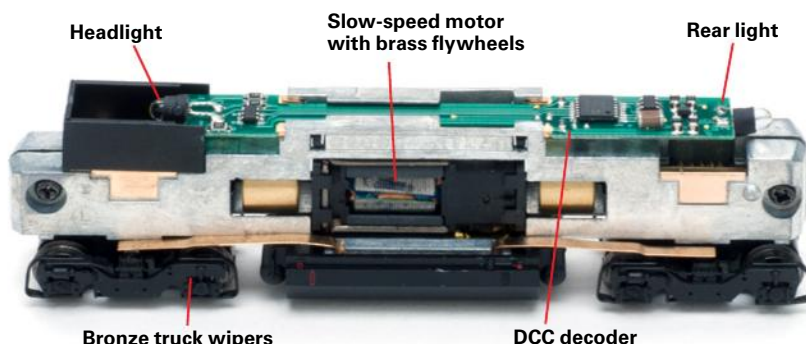
General Electric's Erie, Pa., plant sent 230 B36-7s out the door. Seaboard's

locomotives later saw service on CSX, which retired its Dash-7s by the end of 2010. Conrail had the next-largest order, at 60 units. The remaining 50 units were split between Atchison, Topeka & Santa Fe; Southern Pacific/St. Louis Southwestern; Southern Ry.; and eight units to the Carrejon coal project in Colombia.

Though out of Class 1 railroad service, there are photos online of B36-7s working on regional and shortline railroads as recently as December 2015.

The model. Atlas' B36-7 measures out to within a few scale inches of GE drawings reproduced in *General Electric Advanced Generation Diesel-Electric and Electric Locomotives* by James W. Kerr (Delta Publication Associates, 1989). The models have plastic shells with molded-on grab irons and pilot details. The horn, silencer exhaust stack, radiator grills, brake wheel, cab sunshades, snowplows, and drop steps are separately applied. The one-piece molded trucks include brake cylinder, snubber, and sand line details.

Flexible plastic handrails are painted to match the carbody on our two gray examples, Seaboard 5808 and CSX 5811.



The Atlas B36-7's slow-speed motor provides smooth acceleration. Digital Command Control models have an Atlas/NCE motor decoder.

The paint on both samples was smooth and opaque, with sharp separations between colors. The electrical equipment cabinet warnings were all legible under magnification.

All of the photos I could find of our sample Seaboard System and CSX locomotives showed the horns located above the headlight on the cab roof, rather than over the control compartment behind the cab as it is on the model.

Under the hood. I used a small screwdriver to coax the body shell from the die-cast metal underframe. This chassis design, with a split frame claspings the motor, trucks, and Digital Command Control (DCC) circuit board, has graced many Atlas diesels.

All wheels are powered through driveshafts attached to brass flywheels on both ends of the motor. Power is transferred from the wheels through bronze wipers that ride on the trucks and energize the frame halves. Directional golden-white light-emitting diodes (LEDs) illuminate the headlight, rear light, and number boxes.

On the test track. I started testing the Atlas B36-7 with an NCE Digital Command Control (DCC) Powercab. Out of the box, the locomotives didn't start moving until speed step 10. One model also had a click in its gait, the result of an errant bit of plastic in the rear truck's gearbox. A little cleaning with a toothpick had it operating smoothly.

To get the locomotive to move in speed step 1, I adjusted Configuration Variable (CV) 2, starting voltage, in the NCE/Atlas AN12A0 decoder. The decoder user's manual is available on the Atlas website (www.atlasrr.com/pdf/AN12A0.pdf). By setting the value on the Seaboard locomotive at 52, I got the locomotive to move in speed step 1 at a scale 2.5 mph. The CSX locomotive responded well with CV2 set at 39.

While I was at it, I added momentum using CV3 (acceleration momentum) and CV4 (deceleration momentum) and changed the addresses of the locomotives to match their road numbers. The modifications were quick and easy. The adjusted locomotives reached a top speed of 82 scale mph at speed step 28.

Our drawbar test showed the locomotive capable of pulling a 15-car train of free-rolling N scale freight cars on straight and level track, but I found the

▶▶ N scale B36-7 diesel

Price: \$124.95, DC; \$159.95, DCC

Manufacturer

Atlas Model Railroad Co. Inc.

378 Florence Ave.

Hillside, NJ 07295

www.atlasrr.com

Era: 1980 to 2010 (as decorated)

Road names (Three road numbers each): CSX, Seaboard Systems. Undecorated version also available.

Features:

- AccuMate magnetic knuckle couplers at correct height
- Metal wheels in gauge
- NCE motor decoder (DCC-equipped models only)
- Slow-speed motor with dual brass flywheels
- Directional lighting with golden-white light-emitting diodes
- Weight: 2.6 ounces

Atlas N B36-7

Drawbar pull .64 ounce
15 N scale freight cars

Scale speed (DC)		Scale speed (DCC)	
Volts	Scale mph	Speed step	Scale mph
3 (start)	<1	10 (start)	5
6	16	14	14
9	60	21	42
12	104	28	86

Atlas B36-7 could pull 21 cars around our 2014 Red Oak N scale project layout. While the track is level, it curves around both ends of the layout. With the adjustments to the CVs, it was easy to couple to the train and accelerate from rest.

On direct current (DC), the locomotives ran great without changing the factory settings. I tested the locomotives on DC to determine if the problems with starting speed were mechanical or electronic. The headlight came on and the locomotive started moving at a barely perceptible crawl at 3V. At 12V, the engine reached 104 scale mph – considerably higher than the prototype, but also much slower than the traditional top speed of many N scale locomotives.

Atlas has a solid performer on its hands, and the added paint schemes for the B36-7, and its cousins B23-7 and B30-7, make this fine locomotive appealing to a broader audience. – *Eric White, associate editor*

HALFPRICEHOBBY.COM

100's of HO and N Scale specials at 50% off of M.S.R.P. at

www.halfpricehobby.com

Regular Stock items always discounted from 20 to 50% off with low flat rate shipping of \$8.99

Featuring products from Athearn and other quality brands

Special orders and pre-orders accepted at regular discounted prices.

Please email service@halfpricehobby.com for pricing and availability.

BENCHWORK in a HURRY



Use Our Simple Modular System

You Design Any Size Layout
For Any Gauge Track
We do the Woodworking
Easy to Assemble

Sievers

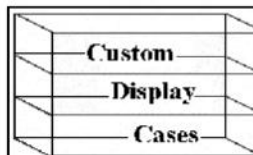
BENCHWORK

PO Box 100

Washington Island, WI 54246

920-847-2264

www.sieversbenchwork.com



Don't just sit your valuable trains on a shelf. Protect them **IN** a

Museum Quality Acrylic Display



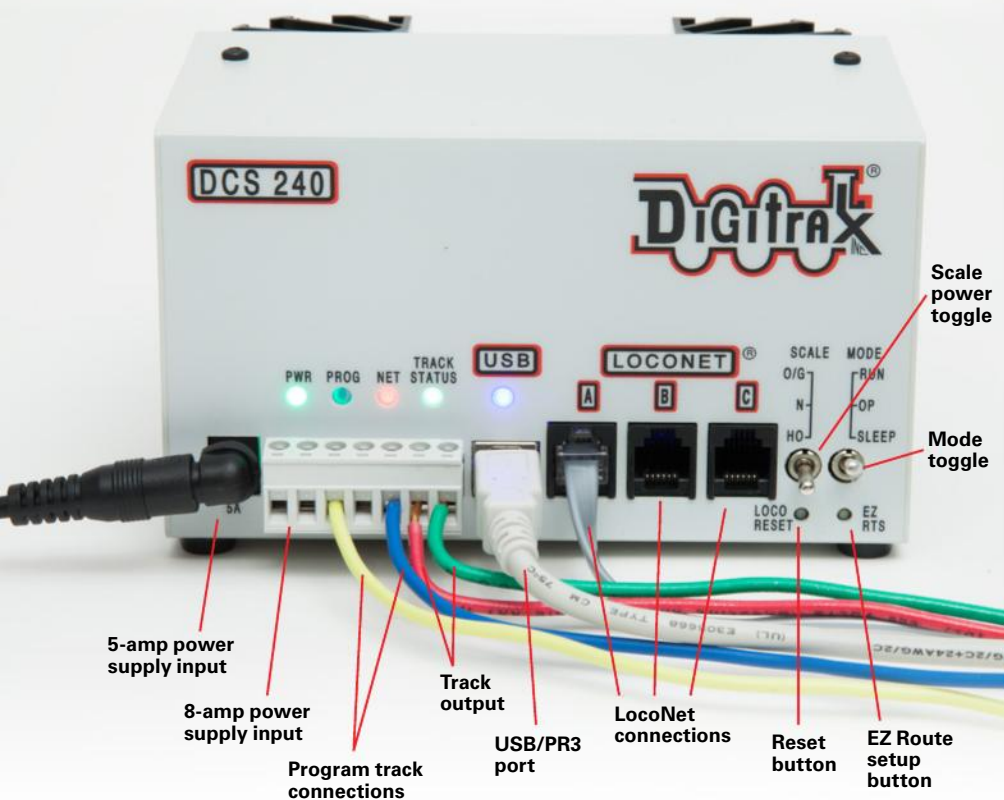
24" High 8 Shelf "HO" pictured
Standard Lengths 24" to 72" available
HO, O, S, N, & Custom size cases

Free Brochure

(717)246-0137

www.customdisplaycases.com

info@customdisplaycases.com



Digitrax DCS240 advanced command station provides more power and upgrades

It isn't often that a DCC manufacturer releases a new command station, so the new Digitrax DCS240 has drawn interest. After all, their DCS100 and DCS200 command stations have been around for 20 and 16 years, respectively. The big attention grabber is the statement the unit can “run up to 400 locos and supports up to 400 throttles”. Although this increased capacity isn't just advertising hype (prior units were limited to 120 slots), the real advantage is for large clubs and modular groups where a lot of different locomotives and throttles are used during operating sessions and meets.

Expanded capacity. Having 400 address slots means you can enter a lot of addresses without filling all the available slots. This is an important consideration, since the primary way to clear out the

slots is to reset address and consist information using the option switch (OpSw) settings. OpSw settings allow you to customize various command station settings. In addition to OpSw 36 that completely clears the roster, a new “soft clear” OpSw command (38) sets all the speeds to 0 and turns functions off while leaving the roster and consist info intact.

The DCS240 introduces a recessed reset button on the face of the unit. The downside to this approach is it also wipes out all universal consists. Another option is to release individual slots using the slot manager tool in DecoderPro, part of the Java Model Railroad Interface software available as a free download at jmri.sourceforge.net.

To access these expanded slots you must have a DT402 throttle with firmware version 2.0 or later. DT402 throttles with earlier firmware can be upgraded

using the DigiIPL program. This allows these advanced throttles to use the additional slots while freeing the others for use by older “legacy” throttles.

Computer interface. The combined USB port/PR3 computer interface allows quick updating of firmware and interfacing with computer programs. This means new Digitrax features can be added by simply updating firmware in much the same way that we update our cell phones, tablets, and personal computers. For example, during the review I was able to update our test DCS240 to clear up an issue with some legacy throttles. If you purchased a DCS240 before mid-September 2016 and experience any issues when using legacy throttles, you should consider downloading and installing the latest firmware version (www.digitrax.com/downloads).

The built-in PR3/USB interface also has other benefits. Digitrax provides a free software package on its website that includes the SoundLoader program for installing sound projects in sound decoders and the DigiIPL program for updating Digitrax firmware. In addition, the current version of DecoderPro (4.5.3) supports the DCS240, providing, among other things, the ability to change OpSw settings with a point-and-click interface.

Power supply and EZ Routes.

Another big change introduced with the DCS240 is the requirement for a direct-current (DC)-only power supply. The power supply can be either 5 or 8 amps and should only be 1-3 volts higher than the desired track voltage. If more than 3 volts, the unit will enter safe mode and proportionally limit the maximum current. Digitrax and various others offer DC power supplies with 5 and 8 amp ratings. I used a 15VDC 8A unit. In addition to using a three-position scale-selector toggle on the front of the unit, you can fine tune track voltage using a throttle. This is much simpler than the old method that required removing the unit's case and turning an adjustment potentiometer.

Another feature is the ability to create EZ Routes controlling several turnouts using accessory decoders. By sending a command to a single address, all the decoder-controlled turnouts in a route are thrown to the desired position. The DCS240 supports up to 64 routes with as many as 17 turnout addresses each. In

► DCS240 Command Station

Price: \$375

Manufacturer

Digitrax, Inc.
2443 Transmitter Road
Panama City, FL USA 32404
www.digitrax.com

Features

- Easy track voltage setting using throttle
- EZ Routes setup button
- Improved programming track output with higher voltage
- Non-volatile flash memory – no internal batteries required
- PR3 interface
- Reset button for clearing mobile decoder information
- "Soft clear" feature
- Support for either 5- or 8-amp output depending on power supply used
- Up to 400 locomotives and 400 throttles
- USB port
- User-updatable firmware

addition, routes themselves can be nested to control up to 120 turnouts at a time. They can be activated using either a throttle or computer program. To make route creation easier, the unit has a button on the front that initiates the creation process.

Who should consider the DCS240? Although developed with an eye toward large clubs and modular groups, the DCS240 offers a lot of advantages over other Digitrax command stations. The ability to update the firmware is an important new capability that will allow new features to be added.

The dual power rating gives you the flexibility of operating with either a 5A or 8A power supply. Also, changes to the programming track output result in more reliable programming without the need for a programming track booster. The combined PR3/USB interface is another strong point. As a matter of fact, when you factor in the costs of a PR3 and a programming track booster along with a DCS100 or DCS200, the DCS240 is actually cheaper.

The powerful DCS240 is chock full of upgrades that will please Digitrax DCC fans. – *Larry Puckett, contributing editor*



Xuron® – Precision Tools You Can Trust

Made in the  **USA**

Supporting the industry since 1989

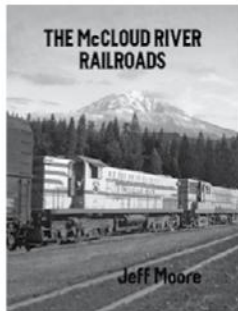
Trusted by model railroad enthusiasts worldwide

Purchase from your favorite hobby retailer.

Subscribe to the Xuron Blog to be automatically enrolled in frequent product giveaways.

xuron.me/modelrr





An Excellent New Book!

The McCloud River Railroads

by Jeff Moore

A detailed history of the railroad built for McCloud country logging, 1894 to 2016, with rosters, service history, and thorough photo coverage. 368 pages, 385 photos, 41 maps & drawings.

Price: \$70

California residents add \$5.60 sales tax.

Free shipping, domestic individual orders; \$40 foreign (\$30 Canada)


Order direct: 11508 Green Rd., Wilton, CA 95693
• Visa & Mastercard orders: 1-800-305-7942 •
www.signaturepress.com • DEALER INQUIRIES INVITED

SIGNATURE PRESS

Start your next layout on the right track!

Subscribe to *Model Railroader* today!

Go to <http://subscribe.trains.com/help>



STATIC GRASS

Creative scenic landscaping is now easier with the new Peco Scene Static Grass system

Use the Pro Grass Micro Applicator to apply layers of static grass fibers, blending the different shades and colours to create realistic terrain on your railroad.

Static Grass - Choice of heights and types to suit your landscape. Includes: Spring, Summer, Autumn, Winter, Patchy, Dead and Pasture Grass, Hay Field, Straw, Golden Wheat & Wild Meadow.

Grass Tufts - Self-adhesive tufts add even more texture and shape to your scene. 3 types available.

visit: www.peco-uk.com



PECO SCENE

NEW

AVAILABLE FROM ALL GOOD DEALERS
ALONG WITH THE NEW PECO CATALOG!

PRODUCTREVIEWS

QUICKLOOK

Moloco HO General American 50-foot insulated boxcar

Price: \$49.99

Manufacturer

Moloco

302-5025 Harvard Rd.

Mississauga, ON L5M 0W6 Canada

www.molocotrains.com

Road names: Conrail, Milwaukee Road (Hydra-Cushion), Missouri Pacific, Rock Island, and Wabash. Four road numbers per scheme.

Era: 1987 to late 1990s (as decorated)

Comments: Moloco has released a new run of highly detailed HO scale General American 50-foot insulated boxcars. But these aren't just rehashes of the cars I reviewed in the March 2015 issue. The models in this run have a new sill (style 1), and the Conrail and Rock Island boxcars feature firsts for Moloco: Third arms on the plug door as well as running board brackets with no running boards to depict modernized cars.

The ready-to-run insulated boxcar has an injection-molded plastic body with a separately applied roof, factory-



installed plastic and metal detail parts, and Barber S-2 70-ton trucks. A metal weight is secured to the floor from the inside. The underbody features many freestanding parts, including brake appliances, levers, and hangers.

Our sample is decorated as Conrail no. 364319, a class BE55B insulated boxcar. The prototype was originally built for Erie Lackawanna in the mid-1960s before going to Conrail when it started operations in 1976. The model's dimensions closely match data from other cars in the BE55B class published in the July 1985 *Official Railway Equipment Register*.

The paint and lettering match prototype photos of similar cars from the same class. Like the full-size modernized cars, the model has seven-rung ladders on the side and end closest to the high-mounted

brakewheel. All other side and end ladders have four rungs.

The boxcar weighs 4.2 ounces, which is .3 ounce too light per National Model Railroad Association Recommended Practice 20.1. The 33" metal wheelsets were correctly gauged. The scale couplers were mounted at the correct height, but the trip pins were low. This was an easy fix with a pair of Kadee trip pin pliers.

I ran the boxcar in a train on our HO scale Wisconsin & Southern project layout. The car operated without incident while being pushed and pulled through the no. 5 turnouts.

Moloco is known for producing well-detailed ready-to-run freight cars, and the latest run of General American 50-foot insulated boxcars doesn't disappoint. — *Cody Grivno, associate editor*

QUICKLOOK

TCS WOWSound Steam Version 4 DCC sound decoder

Price: \$129.95 (decoder with Keep-Alive), \$109.95 (decoder only)

Manufacturer

Train Control Systems

P.O. Box 341

Blooming Glen, PA 18911

www.tcsdcc.com

Comments: The WOWSound steam decoder, first reviewed in the October 2014 *Model Railroader*, is now better than ever with this Version 4 release. Our test sample included the firm's Keep-Alive (KA) capacitors. I wired the decoder to a TCS 28mm 8Ω 1W WOWSpeaker (sold separately for \$19.95) and installed everything into an HO scale 2-8-2 USRA light Mikado.

As with the earlier release, the KA-equipped decoder kept the locomotive's wheels turning and sounds chuffing through dead turnout frogs and over dirty track.

Mainline/switching momentum is a new feature. Function 15 toggled the locomotive momentum between switching (less) and mainline (more) momentum settings.

The biggest improvement with Version 4 is the Calibrated Proto Chuff feature. Using the decoder's telephone-directory style Audio Assist menu I easily calibrated the decoder for prototype mode operation. After that, when the locomotive went uphill or started with a train, the chuffs got louder and heavier. When the locomotive headed down a steep grade, the chuffs trailed off to barely audible hisses, while the rod clanks got louder. I could manually control the

chuff intensity using the Johnson bar up or down functions.

Version 4 also features new prototype recordings taken from both standard and narrow gauge prototypes. The decoder has a total of 60 whistles, 40 bells, and 9 exhaust chuff options.

Version 4 is also available for the 21-pin and 5A large-scale WOWSound boards. TCS will update previous versions of the WOWSound decoders with the new firmware for \$20.

— *D.K.*

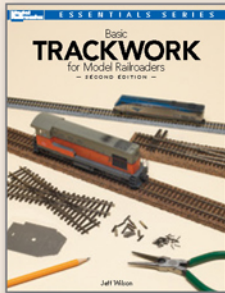


Now on ModelRailroader.com

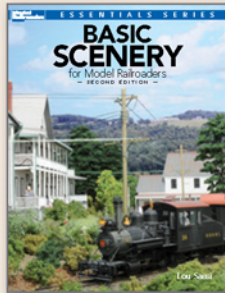
Subscribers can watch a video demo of the new WOWSound decoder at www.ModelRailroader.com.

Master the Essentials of Model Railroading

The books in our Essentials Series are excellent reference guides to help you achieve greater skill as a modeler. Each book is loaded with colorful imagery, tools, lists of materials, the latest trends, and more! The series helps you get started with a simple track plan, build better benchwork, lay solid trackwork, and convey realism with painting and weathering techniques.



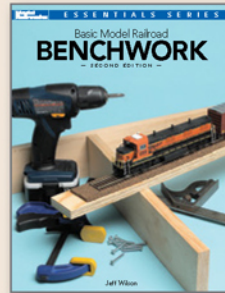
#12479 • \$19.99



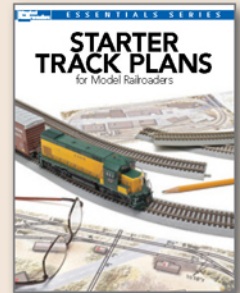
#12482 • \$19.99



#12484 • \$19.99



#12469 • \$19.95



#12466 • \$16.95

Buy now from your local hobby shop!
Shop at KalmbachHobbyStore.com



2BKMR

“How Can I Build That?”

Model Railroader Has the Answers!

For the past 80 years, *Model Railroader* magazine has been the go-to authority on how to build a better model railroad. Whether you're new to the hobby or an experienced modeler, every issue offers expert advice and inspiration to help you build, operate, and enjoy your model railroad.

Subscribe today and get started with:

- » Step-by-step how-to projects.
- » Detailed color photos.
- » Expert tips and techniques.
- » The latest product reviews.

PLUS, exclusive online benefits: 500+ track plans, 1,000+ product reviews, and 500+ videos.



Available
in DIGITAL!

SUBSCRIBE TODAY!

ModelRailroader.com
800-533-6644

Outside the U.S. and Canada, please call 813-910-3616.

Time traveling via model railroads

The home signal at Holliday, Kan., stubbornly refused to clear no matter how hard I stared at it. It was near 1 in the morning. I was short on rest, and fatigue was washing over me in waves. I kept jerking awake, heart pounding, wondering if the dispatcher would know I'd fallen asleep because I didn't take the signal. I rustled around in the seat, determined to whistle off the instant the signal flashed green. I dozed again.

This is my fondest memory of Chuck Hitchcock's old Santa Fe Argentine Division layout. He captured the feel of the Santa Fe during the early 1950s, when the railroad scheduled 32 passenger trains through Kansas City each day. Railroad time was near 1 a.m., but it was probably 10 p.m. actual time that night. Chuck's session was one of a series during an op-til-you-drop weekend. The fatigue was real.

That night, I was marked up for No. 28, *The Antelope*. It was a Dodge City-Kansas City train over the First District, the original main line that joined the newer Second District main at Holliday. The heavyweight consist included a 10-section, 1-drawing-room sleeper bound for Chicago that connected to the *Grand Canyon*, No. 24.

Chuck's careful research of the prototype succeeded. My stool had become the seat box of one of the 3400-class Pacifics typically assigned. How could a sleepy engineer keep his eyes open, gently warmed by the boiler, listening to the dynamo's soft lullaby?

Sleep was completely out of the question in John King's dispatcher's office. A wintry November front had shrieked over Catoctin Mountain, whistling through the windows, rattling the door violently. And there was no heat in that part of John's basement. I pulled on a sweater and then shivered into a heavy jacket and gloves. I punched up WB Tower, listened to the relays chatter as if they were also shivering, and dictated an order. The block line quieted down.

John had created an authentic dispatcher's office for his late-1940s B&O Shenandoah Subdivision. A large phone relay case occupies a prominent place on the wall on my right. A broad desk in front of me presents the train sheet. A vintage mouthpiece on a gate arm is



Orders await a westbound to the First District at Santa Fe's tower in Holliday, Kan. An eastbound such as *The Antelope* would cross over here and join the Second District main to reach Kansas City. Harold Schupp photo

ready to swing into use. The phone switchboard with which to code up stations on the line sits on my left. A standard clock tick-tocks reassuringly. A Prince Albert can to amplify the telegraph sounder details the scene.

"OS, Winchester." I answered, "OS." Winchester continued: "Second 97 arrived ten-oh-two and departed 10:14." "Second 97, two and fourteen," I repeated. "OK, all right." My pen scratched across the sheet, inking the information satisfyingly. It looked like the meet I ordered was setting up well. I reached up and cupped my hands around the lightbulb to warm them.

John and I like to laugh about that day. The front caught us both by surprise, so much so it was a considerable challenge for him to light charcoal to grill burgers for the crew. The experience took me back to a long-ago February night visiting the operator in the cabin at Williamsport, the Western Maryland helper station west of Hagerstown. One detail of that cabin remains to be added to John's office: the cheery coal stove the operator and I enjoyed.

Warmth was never lacking during one of George Berisso's Spokane, Portland & Seattle operating sessions, set in 1967. George was a gracious host who always welcomed newcomers to the hobby.


George played the role of trainmaster well. He quietly observed crews at their work, usually with a nod of approval; sometimes, delivering a gentle jab with a smile. This night, he spent more time than usual following Joe Taylor and No. 103, the Oregon Trunk mixed freight.

Joe dutifully worked Redmond, a town with a lot of switching. He put the train back together, dropped the waybills into the bill box, and departed, finally tying up in Bend.

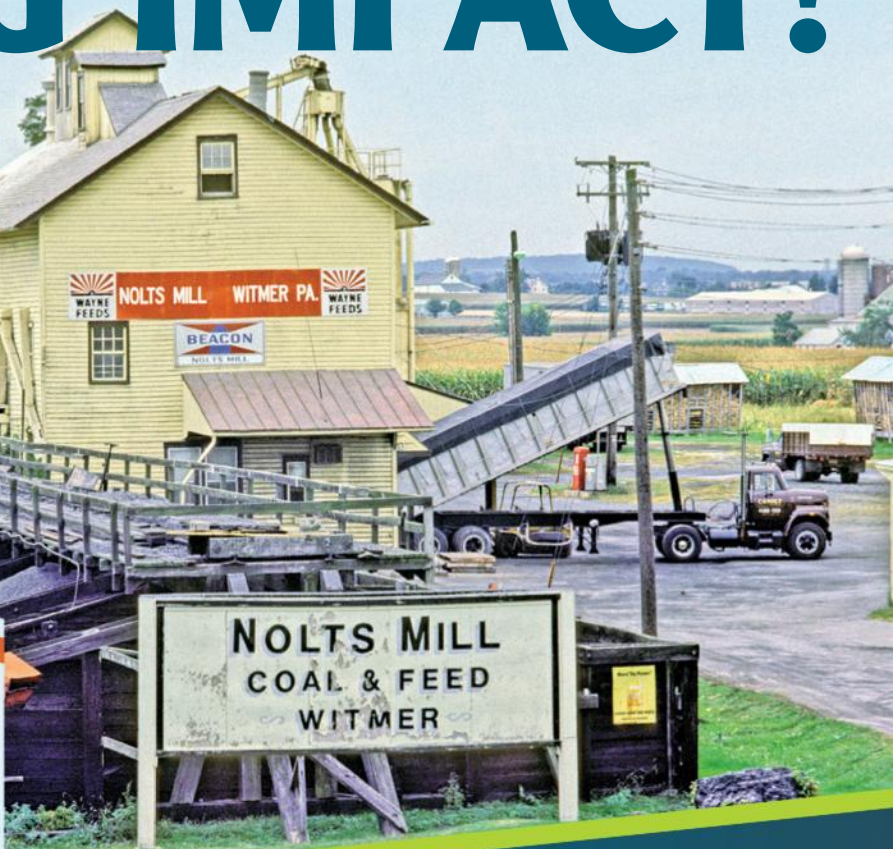
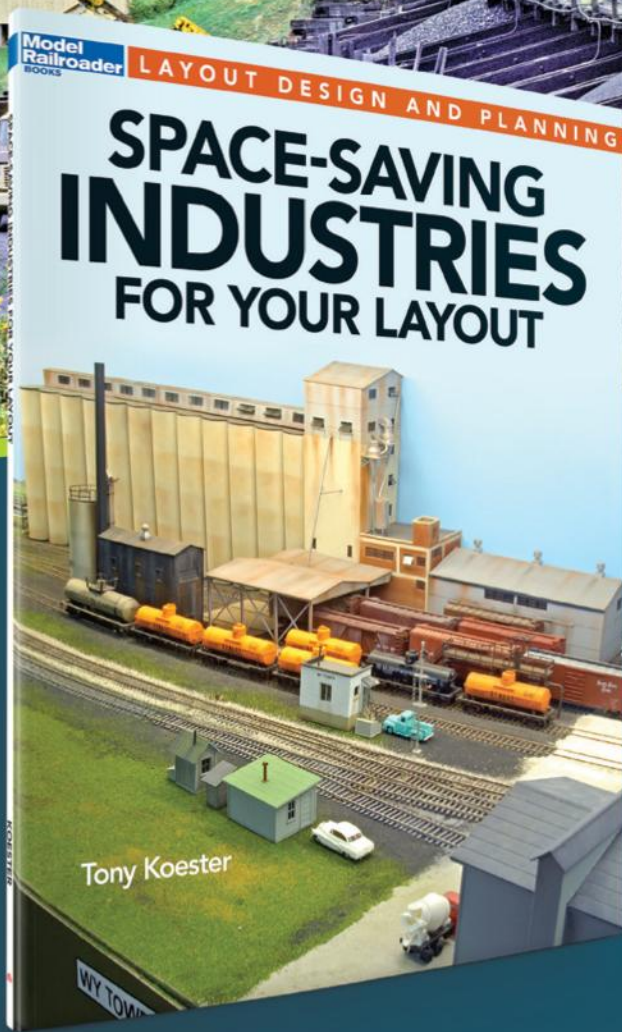
George quickly cornered him, asking why he hadn't set out one particular car at Redmond. Joe, surprised but defenseless, took the scolding amiably. George persisted: "That was a hot load. They really needed the car. We'll lose the business over poor service like that."

Joe stared back and gave a reply that still makes me laugh: "George, if they needed it that bad, they wouldn't have shipped it on the railroad."

I never saw the Santa Fe, the B&O, or the Oregon Trunk of these periods. Like many other modelers, I can only dream of professional railroading. But operating sessions like these are the next best thing. Such layouts convey time and place convincingly, and I enjoy playing the roles that make them come alive.

Indeed, I didn't take the signal at Holliday until Chuck woke me. 

Add Small Industries FOR BIG IMPACT!



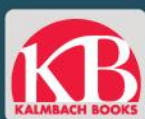
In this all-new book, ***Space-Saving Industries for Your Layout***, expert Tony Koester shows you how small- to medium-sized industries and traffic can add a lot of interest to your layout - whether you're in the planning stage or making additions to your existing railroad.

The book includes:

- Photos, modeling tips, and techniques.
- Ideas on adding smaller individual businesses along your railroad.
- Advice for modeling salvage yards, freight houses, and more!

With many examples to get you started, this special book will inspire your modeling for years to come.

#12806 • \$21.99



Buy now from your local hobby shop!
Shop at KalmbachHobbyStore.com

Sales tax where applicable.

TRACKSIDE PHOTOS

► Snow has melted along the right-of-way, making the roads muddy, on this bright April day in Maine as Forney engine no. 9, with Ed West at the throttle, passes South Strong station. Lou Sassi, a frequent contributor to *Model Railroader*, built and photographed the On30 module inspired by a photo in Jerry DeVos' book *The Sandy River & Rangeley Lakes RR and Predecessors Vol. 1* (self-published, 2007).

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.

Now on ModelRailroader.com

Lou Sassi's photo of his On30 Sandy River & Rangeley Lakes diorama, seen at right, is this month's free computer wallpaper. Download it at www.ModelRailroader.com.





TRACKSIDE PHOTOS



▲ A Baltimore & Ohio NW2 pulls a few hoppers along Prall's Creek on its way to the Con Edison plant on Staten Island, N.Y. Marc Pitanza of Old Bridge, N.J., built and photographed the N scale diorama of B&O's Travis Branch. The marsh is made from Heki and Busch grass mats; the water is high-gloss acrylic craft varnish poured over a painted base.

► The sound of the Deschutes River is drowned out by the engine's roar as the local makes its way toward the lumber mill. Tyler Whitcomb of Tacoma, Wash., photographed the scene on his freelanced N scale Tenino Western RR. The General Electric U25B is a custom painted Atlas product.





◀ Weeds and vines are taking over the abandoned house at trackside, but the Oregon Coast RR is still going strong, as evidenced by the LCL freight waiting for pickup on the platform. Mat Thompson photographed the scene on his HO scale freelanced layout, which follows the course of the Columbia River. The GP9 is an Athearn Genesis model.

▼ As a Wonderful RR switcher idles nearby, the crew of the scrapyards works to strip brake gear and piping from a derelict tank car. The scene is part of the freelanced HO scale layout built by Carl West of Itasca, Texas. The 15 x 35-foot layout occupies a barn and models Texas' industry, agriculture, and limestone-bluffed countryside. Carl shot the photo.



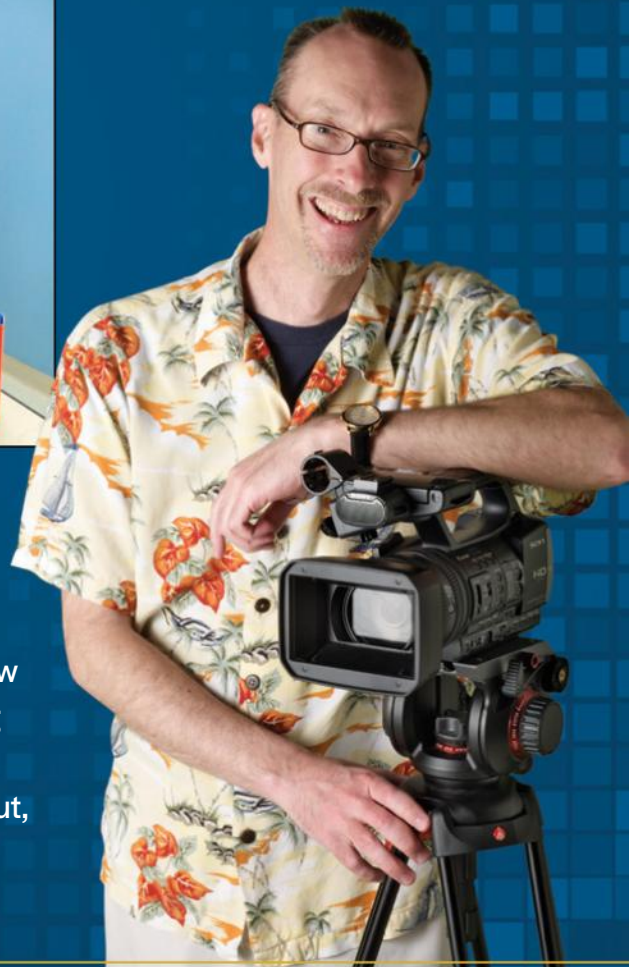
DCC IS EASY

WITH MR VIDEO PLUS



Want to know more about wiring a model railroad for Digital Command Control?

In an all-new video series, **MR Video Plus** makes it easy for layout builders to take control of this topic! Watch as we show you, step-by-step, just how simple it is to install a DCC wiring bus, add walk-around throttles, create power districts, and more! Follow along as we work on our Beer Line project layout, and your model railroad will also improve with more power, more trains, more operators, and more *fun* too!



Subscribe now at MRVideoPlus.com/intro

Original programming | Interactive viewing experience | Non-stop model railroading entertainment

A Year of Scenic Railroads

Our NEW 2017 calendars feature beautiful photography, easy-to-read page grids, and special bonus features. A perfect planning tool for model railroaders and train enthusiasts alike.

Model
Railroader
MAGAZINE.COM

Scenic Layouts 2017

12
Months of
Inspiration!



October



P29023



Buy now from your local hobby shop!
Shop at KalmbachHobbyStore.com

Sales tax where applicable.

Scenic Layouts 2017

This 2017 edition highlights recently showcased layouts in *Model Railroader* magazine and *Great Model Railroads* and includes:

- Inspiring layouts and modeling tips.
- A variety of scales, locations, and trains.
- Bonus how-to feature on building the Red Oak layout.

#68184 • \$12.99



Trains Across America

This calendar showcases spectacular photos from *Trains* magazine and features a variety of trains in action around the country. A bonus spread covers the restoration of Norfolk & Western's No. 611.

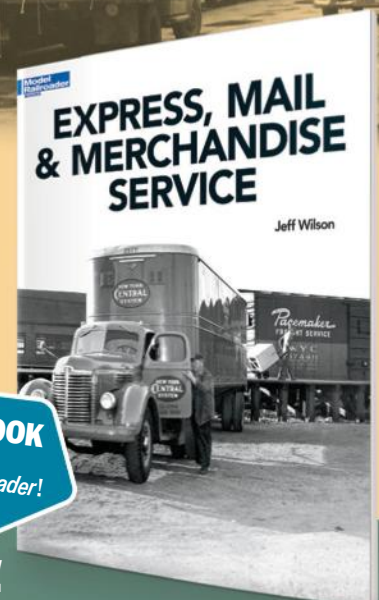
#68185 • \$12.99

SPECIAL DELIVERY — EXPRESS, MAIL & MERCHANDISE SERVICE

The new book, *Express, Mail and Merchandise Service*, is a prototype guide that describes rail express service and merchandise traffic on railroads from the early 1900s through 1960s when railroad personnel handled packages and delivered them to their final destination. This special book covers:

- Ideas for modeling layouts, whether large or small.
- Train operation and car movement.
- Dedicated trains, special cars, and delivery vehicles.
- And much more!

**NEW BOOK
FROM
Model Railroader!**



Buy now from your local hobby shop!
Shop at KalmbachHobbyStore.com

#12802 • \$21.99

Sales tax where applicable.

ROBERTS BRICK MORTAR
FOR THE REAL LOOK
OF BRICK & STONE
**IT'S SO
EASY!**
robertsbrickmortar.com

EIC **East Coast Circuits**
Innovating Your Model Railroad Layout
P.O. Box 25412 • Providence, RI 02905
Lighted Circuits For Your Layout
• Random Lighting Circuit • Burning Fire Circuit and more!
• Traffic Light Circuit • Custom Lighted Vehicles
Eastcoastcircuits.com Eastcoastcircuits@gmail.com

Valley Trains N Hobbies
Specializing in N scale, locomotives, rolling stock,
scenery, DCC & decoders! We also have HO!
See us at Greenberg Shows in Edison, NJ.
www.valleytrainsnhobbies.com

ALLEGHENY SCALE MODELS
BRASS LOCOMOTIVES AND ROLLING STOCK
HO, O, S, N, and Large Scale Out of Production Models
Sales, Consignments, Estates, Appraisals
www.alleghenyscale.com
phone: 908-684-2070 470 Schooley's Mtn. Rd.
fax: 908-684-8911 Suite 8-117
oscale@alleghenyscale.com Hackensack, NJ 07840

HO/N/O signs, billboards,
laser-cut structures
and much more from:
Blair Line, LLC
PO Box 1136, Carthage, MO 64836
www.blairline.com

Litchfield STATION
Econami DCC
Junomi LOKSOUND
Tam Valley Frog Juicers.
Hex Frog Juicer
\$59.95!
623-298-7355
www.LitchfieldStation.com

BPL BRASSWORKS
The first stop for those with distinctive taste.
Fine scale brass models, both old and new.
WWW.RAILMODEL.COM
BUYING? Outstanding support • trades, reservation
management, multiple payment options, one-
on-one service, daily updates, latest projects!
SELLING? A single model or extensive collection,
experience and robust resources bring you
comfort and confidence • consigning or selling
Email: info@railmodel.com
Phone: 262 375-1107 Fax: 866 719-7977
10936 N Port Washington Suite 240
Mequon, WI 53092

Pennsylvania (PA) Model RR Supply
Model Trains carried in G, HO, N, OO, O, Z,
Atlas, Bowser, MTL, Walther's and more.
British Trains and Die-cast Imported and Stocked!
Dapol, Hornby, Oxford Die-cast, PECO and more.
570-287-4288 **www.pamodelrrsupply.com**
Great prices & service!

JASON'S HOBBY DEPOT
Specializing in HO & N Scale
Trains: Accurail, Atlas, Bachmann,
InterMountain & Digitrax
Check us out! 660-646-4411
www.jasonshobbydepot.com

GOODDEALSdcc
www.gooddealsdcc.com
HOME OF THE PROGRAMMER TEST TRACK SYSTEMS
DC & DCC Compatible
All Scales Available
Custom Orders
Dealer Inquiries Welcome
Gary Cohn
106 Center Street
Fox River Grove, IL 60021
gary@gooddealsdcc.com

railroadbooks.biz
has 1,800 plus new titles,
all at discount!
Domestic shipping FREE over \$50.00
E-mail for free printable
PDF list.
chuck@railroadbooks.biz
www.railroadbooks.biz
ORDERS:
U.S. (800) 554-7463
**BUSINESS &
INTERNATIONAL:**
+01 (812) 391-2664
SEND:
\$2.00 for paper
book list.
International
Service.
Book Search.
PO Box 4, Bloomington, IN, 47402-0004 U.S.A.

AVAILABLE FROM THE C&NW HISTORICAL SOCIETY
2017 Calendar contains 13
spectacular photos of C&NW and
predecessor roads. \$13.50 postpaid.
IL residents add \$1.15 tax.
C&NWHs-M, PO Box 1068,
North Riverside, IL 60546.
www.cnwhs.org

Metro Trains & Hobbies
12951 Metro Parkway, Suite 8
Fort Myers, FL 33966
(239) 332-0422
Find Us on Facebook! **f**
**AUTHORIZED
LIONEL
SINCE 1900
VALUE ADDED DEALER**
**THE
ELECTRIC TRAINS
Williams
BY BACHMANN**

ENGLER LUBRICANTS
1/2oz OILERS
ULTRA LITE—LIGHT—MEDIUM—HEAVY
GEAR—NLGI 2 / PTFE GREASE
NLGI 1 GREASE
PTFE POWDER—BEARING
RAIL CONDITIONER—2oz OIL—MOTOR CLEANERS—OIL KITS...
ASK FOR IT AT YOUR LOCAL HOBBY SHOP
phoenixul@phoenixul.comcastbiz.net

Roger's Railroad Junction
Z-N-HO-HOn3-On30-027-G
www.rogersrailroadjunction.com
See Website for Virtual Tour
105 S Sacramento St, Lodi, CA 95240
209-334-5623 • Toll Free 888-346-9777

Rusty Stumps Scale Models
Manufacturer of quality
craftsman kits and detail
items; shingles, doors and
windows, siding sheets
and fine detail castings.
See it all at...
www.rustystumps.com

www.TamValleyDepot.com
Model Railroad Electronics
Frog Juicers Automatic DCC polarity reversers
for frogs on turnouts and crossings.
Dead Rail System Servo Switch
Radio controlled Machines
Battery Power Small and
Trains powerful

WIG-WAG, LLC
Now With
Secure On-Line Ordering @:
www.wig-wag-trains-cart.com
1-505-298-7177
We've also
added HO!

**Model Scenery
& Structure**
WINSTON SALEM, NC
Call anytime 24/7
336-924-0285
custom layouts
design build install
www.modelsceneryandstructure.com

Ron's Books
The largest railroad book seller with
over 4,500 titles and over 400 DVDs
& Blu-rays! Free shipping on orders over
\$25 in the U.S. Send \$3 for a catalog.
P.O. Box 714
Harrison, NY 10528
914-967-7541
ronsbooks@aol.com
Online catalog at
ronsbooks.com

GREAT LOOKING ROCKS...
...in less than a million years!
RUBBER ROCKS
www.cripplebush.net

PRINTED ROAD SIGNS

Details – Fences – 55 Gal Drums

Custom Decals

All scales.

Catalog call 336-329-9038

www.TICHYTRAINGROUP.com

Say you saw their ad in
Model Railroader magazine!

**Model
Railroader**

TrainSetsOnly.com

✓ Competitive Pricing ✓ 1000's of Items In-Stock
✓ Quick Shipping ✓ Great Service
✓ N, HO, O, and G Scales

Locos • Rolling Stock • Track • Power • Structures • Scenery



CHOOCH
Great
Scenery

www.ChoochEnterprises.com



**Jamestown
Train Depot**

Quality New &
Used Train Sales

www.JTTrains.com

Lowest Price Guarantee

Service, Repair & Upgrades for most manufacturers
We Also Buy Train Collections, 540-878-0397



www.RiverPointStation.com

River Point Station Division of ITI
115 Maple Street, Warwick, RI 02888-2130 USA
Tel. (401) 467-6907 rps-info@riverpointstation.com
Available Worldwide at Hobby Stores
Dealers may order from RPS or through Walthers

**Custom
Layout
Building**



Layout Design

By Lance Mindheim

www.shelflayouts.com
301-404-8164

Model Railroad Electronics: Ready-to-use or Kits by

Circuits4Tracks

Basic signaling made easy with
The Signal Animator

6% discount off all orders (12% if over \$100) with
coupon code **MRR2016DEC** until January 14, 2017

Inquiries: 905-787-1203 • circuits@daxack.ca

<http://circuits4tracks.daxack.ca>



The Traverser:
Automated Operation on
a straight track or circle

BACKDROPS
HO, O, N Scales
WWW.TRAINJUNKIES.COM
----- 10 Feet Long -----

ELS Train Service 612-396-5583

Decoder installation, Sound Systems,
Re-motoring, Programming

DC and DCC repairs • All decoder types
Loksound & Tsunami sound systems

dennis@elstrainservice.com

ELStrainservice.com

Brass
is my
specialty

Touch Toggles Elegant

Run track circuits, Tortoises, twin-coils,
servo motors, and more with a touch!



See our website for
a video introduction

Made in the USA

www.berretthillshop.com

SPRING MILLS DEPOT

WWW.SMD.CC

Affordable storage systems for HO and N scale. High
quality extremely limited custom run HO scale cars.



ARRIVING FALL 2016!!!

B&O N-34 Wagontop Covered Hopper

★ 6 Schemes with 8 numbers Each! ★

BETTER-THAN-BRASS DETAILING!!!



**WE BUY & SELL
BRASS**

VISIT US ONLINE

WWW.DONBLACK.COM

HUNDREDS OF PICTURED
MODELS TO CHOOSE FROM

Don Black 119A Bernhurst Rd New Bern NC 28560
Toll Free 1-866 HO BRASS



THE TRAINMASTER, LLC

Detailed Craftsman Kits

www.TheTrainMaster.com

Pursuing
Excellence

Need Track?

Walthers, Digitrax & Cobalt Dealer
Full line of On30, HO, N Scale Peco/Atlas track
Micro-Engineering & Caboose Industries.
Handlaying supplies, ties, rail spikes, etc.
Full line of Kadee couplers, Tortoise and more!

WWW.BILLSTRAINS.COM

For Questions and Non-Computer Users, CALL ME!

phone: (813) 653-3322 • e-mail: billstrains@aol.com

Most
Everything
over 30% off
list price!

**"YARD HOUSE
& STORAGE"**
"N-HO
-S-O"
RAIL
ROAD
LINE MODELS
RAILROADLINEMODELS.COM

**ALL
ELECTRONICS**
CORPORATION

Electronic Parts
and Supplies
for Your Project.

www.allelectronics.com



Phone 740-633-6607

HO, N, O & G Trains, Track, Scenery,
Accessories and Much More!

We have Walthers, Athearn, Spectrum,
Branchline and many others!

Visit us on line for great savings!

www.tandkhobby.com

AffordableModelRailroads.com
GETTING YOUR DREAMS ON TRACK

Professional Layout Design & Construction

We Complete Unfinished And In Progress Layouts.
Design, Build, Fix And Complete Any Size or Scale!



We Can Build On Your Site or In Our Shop

MR@AffordableModelRailroads.com

(800) 216-9202

After You've Looked at the Others...



MUSEUM QUALITY - CUSTOM
**LAYOUT
MODELING
SERVICE**

**WHAT CAN WE
BUILD FOR YOU?**

WWW.PROGRESSIVEMODELDESIGN.COM

211 RocBear Drive, Romeoville, IL 60446

(815) 886-9010 FAX: (815) 886-9076

ULTIMATE MODEL MAGIC™

Altoona Model Works
 Railroad Track Side Structures in O & HO scale
 • Model Making Services • Laser Cutting • Resin Castings
 • Museum Quality Workmanship
 Website: WWW.ALTOONAMODELWORKS.NET
 In HO Soon!!! 814-793-7016

Announcing the Fusee Pro/M
 The /M means it's **Mobile!**
 Track-powered; move it wherever you need it!
LOGIC RAIL™ TECHNOLOGIES "Sophisticated Model Railroad Electronics"
 21175 Tomball Pkwy Phone: 281-251-5813
 Suite 287 <http://www.logicrailtech.com>
 Houston, TX 77070 info@logicrailtech.com

Railroad Art-Prints, Caps, Jackets, Shirts and More ...
 Jackets starting at \$79.95
www.jelsma.com
 1-904-221-3513 • Jacksonville, FL

Rix Products Pikestuff
 Web site: www.rixproducts.com
 Send LSASE for new 20 page catalog.
 3747 Hogue Rd. Evansville, IN 47712
 Phone (812)426-1RIX FAX (812)423-3174
 Model Railroad Structures & Accessories

Scenery Solutions
NEW FusionFiber™
 Scenery Base Material Easy To Use!
SATISFACTION GUARANTEED!
www.scenerymadeeasy.com

INSTANT TRACTION TIRES
 Get a Grip! **BULLFROG** it's and green
 SNOT = SAND BULLFROG Easy
 IT WILL CHANGE THE WAY YOU RUN YOUR TRAINS SNOT Plastic
WWW.BULLFROGSNOT.COM

YardSaleTrains.com
 Hard to Find Near New Exclusive N Scale
 Kato • Atlas • MTL • Kadec • DC or DCC • Scenery
 Track • Buildings • Details • Bridges • Tools
www.yardsaletrains.com
 (720)840-7274

FIFER HOBBY SUPPLY LLC
 Your Local Internet N Scale Hobby Shop
WWW.FIFERHOBBY.COM

"For God so loves everyone, that He gave His only Son, that if anyone believes in Him, he will not die, but will have eternal life" John 3:16
SS LTD Merry Christmas!
www.scale-structures.com

Timberline Scenery
 All Timberline trees & tree kits are **BOTTLE BRUSH TREES!**
 Check out our trees • ground cover
 paints • stains • rocks & more at...
www.TimberlineScenery.com

HO & N Scale Model Train Manufacturer
SCALE TRAINS .COM
WWW.SCALETRAINS.COM

Classified Advertising

Schedule of Events Rate: \$35 per issue (45 word maximum). Ads will contain the following information about the event: state, city, sponsoring organization and name of event, meet, auction or show, dates, location, times, admission fee, name and/or telephone number and/or email of person to contact for information. Name, daytime telephone number and street address of the person providing the information is also required but need not be included in the ad. Unless otherwise requested, ads will be published in the issue month that the event occurs in. Additional months are available at the \$35 per issue fee. Please specify issue date(s).

Word Ad Rates; per issue: 1 insertion — \$2.03 per word, 6 insertions — \$1.89 per word, 12 insertions — \$1.77 per word. \$30.00 MINIMUM per ad. To receive the discount you must order and prepay for all ads at one time. Count all initials, single numbers, groups of numbers (i.e. 4-6-0 or K-27), names, address number, street number, street name, city, state, zip, phone numbers each as one word. Example: John A. Jones, 2102 South Post St., Waukesha, WI 53187 would count as 10 words.

For MR's private records, please furnish: a telephone number and, when using a P.O. Box in your ad, a street address. *Model Railroader* reserves the right to refuse listing.

All Copy: Set in standard 6 point type. First several words only set in bold face. If possible, ads should be sent typewritten and categorized to ensure accuracy.

Send your submissions to: *Model Railroader* — Classifieds 21027 Crossroads Circle, P.O. Box 1612 Waukesha, WI 53187-1612 Toll-free (888) 558-1544 Ext. 815 Fax: 1-262-796-0126 E-mail: onlineclassads@kalmbach.com

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

CLOSING DATES: Jan 2017 closes Oct. 21, Feb. closes Nov. 14, March closes Dec. 21, April closes Jan. 24, May closes Feb. 21, June closes Mar. 21, July closes Apr. 24, Aug. closes May 19, Sept. closes June 19, Oct. closes July 24, Nov. closes Aug. 21, Dec. closes Sept. 26.

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

Schedule of Events

AL, BIRMINGHAM: Smokey City Rails & Magic Valley TCA Train Show. Helena Sports Center Complex, Helena, AL 35124. Saturday, December 10, 2016, 9:00am-3:00pm. Admission 6.00 adults; 8-12 \$1.00, under 8 free. Contact Darryl 205-665-5572, alexander1069@bellsouth.net or Richard 205-706-2657, meadowoodone@aol.com

CT, WALLINGFORD: Classic Shows, LLC will hold a Train and Toy Show on Sunday, November 6, 2016, 9:00am-2:00pm, Zandri's Stillwood Inn, 1074 South Colony Road, (U.S. Route 5), exit 13 on Interstate 91. Admission \$6.00, children 12 and under free with adult. For information 203-926-1327 or www.ClassicShowsLLC.com

FL, LARGO: TCA Train Show. MinnReg Building, 6340 126th Ave. Saturday, January 28, 2017, 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, PALM BEACH GARDENS: 8th Annual Toy and Train Show. Saint Marks School Gymnasium, 3395 Burns Road, December 3-4, 2016, Saturday, 9:00am-3:00pm and Sunday 11:00-3:00. Adults \$7.00, Family \$12.00, under 12 free. Operating layouts, demonstrations, food, door prizes. Information www.derrickwagnerfoundation.com or Will Wagner, 561-373-9603, wwainc@comcast.net

FL, PINELLAS PARK: Regal Railways Presents a Toy Train, Collectible and Hobby Show/Sale. 7177 58th St. North, Saturday, December 3, 2016, 9:00am-2:00pm. Adults \$5.00. Vendors, videos & operating layout. Serving lunch items. Contact Joe: 727-244-1341 or visit www.regalrailways.com for more information.

FL, TAMPA: 16th Tampa Model Train Show. Florida State Fairgrounds (Special Events Center). December 17-18, 2016, Saturday 9:00am-5:00pm and Sunday 10:00am-4:00pm. Adults: \$9.00, good for both days (under 12 free). Large award-winning operating layouts. Miller, 3106 N. Rochester St., Arlington, VA 22213. 703-536-2954, www.gserr.com

GA, SAVANNAH: Coastal Rail Buffs 28th Annual Model RR Train Show. National Guard Armory, 1248 Eisenhower Drive, Zip: 31406. January 21-22, 2017, Saturday 10:00am-5:00pm, Sunday 10:00am-4:00pm. Adults 2 day \$7.00; Students/Seniors \$5.00, Active Duty Military/under 12 FREE. Dealer tables, operating layouts in O, HO, N. See www.coastalrailbuffs.org

IA, AMES: Kate Shelley Division, NMRA, 25th Annual Train Show, United Community School, Highway 30, 5 miles west of Ames. Saturday, November 5, 2016, 9:00am-3:00pm. \$5.00 admission, children under 12 free. 90 dealer tables, silent auction, model contest, door prizes. Contact Joe at 641-757-1845 or joegliem@gmail.com

IL, CHICAGO: Lakeshore Model Railroad Association Annual Open House. December 3 and 4, 2016, 11am-4pm. Free Admission. Calumet Park Fieldhouse, 9801 South Avenue G, 40' x 88' layout with working block signals and raffle. Contact Bob at ndtower101@yahoo.com for more information.

IL, JOLIET: Will County Model Railroad Club Swap Meet & Open House. Stone City VW. 124 Stone City Drive. Saturday, December 3, 2016, 9:00am-2:00pm. Admission \$3.00 per person, children under 12 free. Dealers Welcome. Contact: Mike at 708-308-9036 or visit: www.wcmrra.org

IN, AUBURN: RxR Mania Train Show. Kruse WWII Museum, (National Military History Center), 5634 County Road, 11-A. From Interstate 69, Exit 326; Saturday, February 4, 2017, 9am-3pm. Adults \$5.00, Under 12 free. \$20/table, 5+ tables \$15 each. Info: www.RxRMania.com or call Jim (260) 627-2176.

IN, DANVILLE: Central Indiana Division- NMRA Annual Train Show, Hendricks County 4H Fair Grounds. Saturday, November 19, 2016, 10:00am-3:00pm. Admission \$3.00 adult, \$5.00 family. Operating layouts, clinics, food, dealer tables 8' at \$16.00 Info: gtwfan@bluemarble.net or 812-876-6799. CID website: <http://cid.railfan.net>

IN, INDIANAPOLIS: The Indianapolis Model Railroad Show and Open House. Manual High School Gymnasium, Saturday, December 10, 2016, 10:00am-3:00pm. Admission \$5.00, children 12 & under free. Boy Scouts in uniform free. Free parking. Naptown & White River Model Railroad Club. Contact: Steve Handy, 317-786-8627, E-mail: naptownmrr@gmail.com

IN, MICHIGAN CITY: Duneland Model RR Club Train Show and Swap Meet. IBEW Building, 301 East 8th St. Sunday, November 20, 2016, 9:30am-2:00pm (Chicago time). Adults \$3.00, youths 6-13 \$1.00, 5 and under free. Contact: Dave Novak at trains86@frontier.com or 219-778-1186.

IN, WARSAW: Warsaw Model Train & Toy Show, Kosciusko County Fairgrounds, 1400 E. Smith St. December 10, 2016, 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 fitzgl01@gmail.com

MA, MARLBOROUGH: Hub Division NER/NMRA. Royal Plaza Trade Center, 181 Boston Post Road West (Rte. 20). December 3-4, 2016, Saturday 10:00am-5:00pm and Sunday 10:00am-4:00pm. Admission \$10.00; Children under 12 and Scouts in Uniform FREE. Admission good both days. Information: Mark 508-528-8587; E-mail TE.info@hubdiv.org; Website: www.hubdiv.org

MI, EAST LANSING: Lansing Model Railroad Club Show and Sale. Michigan State University Pavilion. Sunday, November 13, 2016, 10:00am-4:00pm. Admission \$6.00, under 12 free. Michigan's largest show: layouts, demonstrations and 500+ tables. Free parking. Flyer, table forms and map www.lmrc.org or call Nathan Carver 517-449-0370.

MO, JOPLIN: Museum Complex Train Show and Swap Meet. In Schifferdecker Park, 7th Street & Schifferdecker between the golf course and pool. Saturday, November 26, 2016, 9:00am-3:00pm. \$3.00 adult, under 12 free. Rick Gardner, 11486 County Ln. 214, Oronogo, MO 64855; 417-673-4888 or e-mail rickgardner449@gmail.com

NM, ALBUQUERQUE: Rails Along the Rio Grande Model Train Show, Sid Cutter Pilot's Pavilion, Balloon Fiesta Park, 9401 Balloon Museum Drive NE, north of Alameda Blvd. (Highway 528). November 19-20, 2016, Saturday 9:00am-5:00pm and Sunday 9:00-4:00pm. Admission \$5.00/person, under 12-FREE. Operating layouts, new/used model trains, accessories. Contact: Pat Hepburn, 505-891-9796, phepburnsr@aol.com www.railsalongtheriogrande.org

NY, ALBANY: "Great Train Extravaganza." Empire State Convention Center. December 4, 2016, 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. Educational displays. Clinics. www.gtealbany.com 518-668-9892, trains@gtealbany.com

NY, ELBRIDGE: CNY Model RR Club & Historical Society Open House, 4986 Jordan Rd. off NY 5 west of Syracuse. November 19-20, 2016, Saturday 11:00am-4:00pm; Sunday 12:00pm-4:00pm. Last chance to see current HO layout; new layout in 2017. Free admission. Donations appreciated. New members welcome. www.cnymrrc.com

NY, SYRACUSE: Upstate NY Chapter TCA Train Show. American Legion Post 787, 5575 Legionnaire Dr., Cicero, NY 13039. Sunday, December 4, 2016, 10:00am-3:00pm. Adults \$5.00, under 17 free with paid adult. Contact: Chuck 716-390-8216, E-mail: usny2015@gmail.com Web Site: www.upstate-ny-tca.com

OH, CLEVELAND: Thirtieth annual Snow Dogs Train and Toy Show, UAW Hall, 5615 Chevrolet Blvd., Parma. Saturday, January 7, 2017, 10:00am-3:00pm. Adults \$6.00, under 10 free. Free parking. All gauges, layouts. For tables or info, call 440-526-9864 or MACSIR@aol.com Ask for Lee.

OH, COLUMBUS: 60th Buckeye Model Trains & Railroad Artifacts Show. Ohio Expo Center (Lausche Bldg.), 717 East 17th Ave. Saturday, December 10, 2016, 9:00am-4:00pm. Adults: \$7.00 (under 12 free). Operating layouts. 300+ tables. Milelr, 3106 N. Rochester St., Arlington, VA 22213. 703-536-2954, rshows@aol.com or www.gserr.com

OH, FREMONT: Norwalk & Western Model RR Train Show. Fremont Community Recreation Complex, 600 St. Joseph St. Sunday, November 13, 2016, 10:00am-3:00pm. Admission: 10 and over \$5.00. All scale models, toys, books, Thomas items, free parking, lunch available. Contact: Tony, 419-706-8038, www.norwalkandwesternrr.com

OH, MASSILLON: CJ Trains Winter Massillon Train and Toy Show. Knights of Columbus Hall, 988 Cherry Road NW, 44647. Sunday, December 11, 2016, 10:00am-3:00pm. \$5.00 admission, 12 and under free. \$25.00/dealer table, 150 - 8' dealer tables. Jon Ulbright, 941 Buchholz Drive, Wooster, OH 44691, 330-262-7488, cathijon@sssn.net or www.cjtrains.com

OH, SPRINGFIELD: Springfield Area Model Railroaders Model Train Show and Flea Market. Clark County Fairgrounds, I-70, Exit 59. December 4, 2016, 11:00am-4:00pm. \$5.00, under 12 free. Robert D. Chaffin, Jr., 2706 Lagonda Ave., Springfield, OH 45503, 937-399-6647

OH, VANDALIA: Crossroads Railroad Club Annual Open House, 304 N. Dixie Drive, Zip Code: 45377. November 12-13, 2016, Saturday 11:00am-5:00pm and Sunday noon-4:00pm. Admission: Free! Refreshments. Contact: Ralph Daniels, 937-439-4083, E-mail: ralphdaniels@woh.rr.com

PA, HORSHAM: 11th Annual Main Street Hatboro Train Show. Keith Valley Middle School, 227 Meetinghouse Rd. Saturday, December 3, 2016, 9:00am-3:00pm. \$5.00 adults, under 12 free. 145+ vendor tables in cafeteria and gym. Contact Al Zollers, azollers06@verizon.net or Joe Lutz J040440@verizon.net or www.hatborotrainshow.org

PA, KITTANNING: Train Show, Kittanning Township Volunteer Firehall, Rt. 422 East of Kittanning. Sunday, November 27, 2016, 10:00am-4:00pm. Adults \$4.00, children 12 & under FREE. David Campbell, 734 Freeport Rd., Butler, PA 16002, (724) 352-1113.

PA, MONACA: Beaver County Model RR Fall Train Show & Sale. NEW LOCATION: Monaca Turners, 1700 Old Brodhead Road. Sunday, November 20, 10:00am-3:00pm. Adults \$5.00, under 12 free. Sponsored by Beaver County Model RR & Historical Society. Contact: Walt Steiner 724-843-3783 or www.bcmrr.railfan.net or beavercitymrr@gmail.com

SC, CHARLESTON: Charleston Area Model Railroad Club Annual Train Show. Danny Jones Armory Park, 5000 Lackawanna Blvd., North Charleston, SC. November 19-20, 2016, Saturday 9:00am-5:00pm and Sunday 10:00am-4:00pm. Adults \$5.00, kids 12 and under free. For table information contact the club at trainshow@chamrc.com or www.chamrc.com

SC, COLUMBIA: South Carolina Trade Shows. Jamil Temple, 206 Jamil Road, Zip: 29210. Saturday, December 10, 2016, 9:00am-3:00pm. Admission \$5.00, under 12 FREE. Over 250 tables of Model Trains. Contact Todd Fletcher, 843-307-8674, www.SouthCarolinaTradeShows.com

VA, YORKTOWN: Chesapeake Bay & Western Model Railroad Club Fall Open House and White Elephant Table. 110-F Dare Rd., Zip: 23692. November 19-20, 2016, Saturday 10:00am-4:00pm and Sunday 12:00pm-4:00pm. Free admission. See the largest HO scale layout in the state of Virginia. <http://www.cbw-mrc.com> or <http://www.Facebook.com/CBWRailroadClub>

WA, KENT: Boeing Employees Model Railroad Club Annual Swap Meet, 525 4th Avenue North, Kent Commons. November 12, 2016, 9:30am-4:00pm. \$8.00 admission, under 16 free. Ed Sherry, 550 SW Colewood Lane, Normandy Park, WA 98166; 206-244-3884; swapmeet@bemrrc.com

WI, GREEN BAY: 7th Annual New O-Gauger's Train Show & Swap Meet. Riverside Ballroom, 1560 Main Street. Sunday, November 27, 2016, 9:00am-3:00pm. Adults \$3.00, 12 and under free. Over 100 tables, operating layouts, train races, door prizes, food/beverages. Information: info@riversideballroom.org

Classifieds

Wanted-N Scale

#1 ESTATE BUYER OF N SCALE COLLECTIONS!

We buy all makes and types - including Brass & European! Even Nn3! Call us TOLL FREE: 1-866-462-7277. Don Black 119 Bernhurst Road, New Bern, NC 28560. E-mail: don@donblack.com

A FAMILY-OWNED COMPANY, Irek's Toys and Trains, purchases trains of all types from brass to plastic. We also offer a competitive consignment option. No collection too small or large. Estate specialists. A leader in model train sales. Fast, Easy, Professional and Friendly service guaranteed. Willing to travel. Call, write, fax or e-mail. Ask for Chris, 972-675-8697. Fax: 972-767-4785. E-mail: thetrainguys@gmail.com or write to 120 East FM 544, Suite 72 #328, Murphy, TX 75094.

ALWAYS BUYING N Scale Collections- Kato, Atlas, Micro-Trains, Custom Painted, Brass or Plastic. Quality Items Wanted- Over \$1,000,000 Available. Please call Dan Toll-Free at: 1-877-227-5557 or 352-292-4116. Mail your list to: Dan Glasure, PO Box 755, Ocklawaha, FL 32183 or E-Mail: Dan@DansTrainDepot.com

BUYING N scale train collections, large or small. Call Tom 630-443-9137.

CANADIAN TRAIN COLLECTIONS AND ESTATES: Buying entire collections anywhere in Canada or the USA. Brass, plastic, engines, cars, buildings, memorabilia - everything! Call Don toll-free 1-877-955-7245. E-mail: trainsandsuch@telus.net

For Sale-HO Scale

15 X 24 HO LAYOUT with DCC. Includes locos, cars, everything! Send SASE to Robert Bale, 1302 Bay Breeze Court, Leland, NC 28451, E-mail: rbale2@ec.rr.com

HAG, MÄRKLIN, TRIX, FLEISCHMANN and other European brands at very competitive prices. World class repair facility. E-Shopping fast, convenient, secure, reliable! Please visit us on the web at www.helmuthshobbies.com Helmut Hobby Specialties, 83 Brookshire Dr., Warrenton, VA 20186. 540-349-4910.

MARKLIN (incl.) Ontario Northlander, HAG, Kato, Proto. DIECAST VEHICLES (larger scales). Solido, Corgy, Dinky, Britains, Ertl. 817-656-3394.

PREOWNED TRAINS.COM For preowned and used model trains. Large selection, all scales. World wide shipping.

For Sale-HO & N Scale

GOT DIRTY TRACK? HO & N scale track cleaners. Made in USA. Dealer inquiries welcome. www.StealthTrackCleaner.com 616-784-4104

WWW.AZTECTRAINS.COM Track cleaning cars from Z to G. Phone: 775-883-3327; Fax: 775-883-3357

Wanted-HO Scale

#1 A+ ESTATE BUYER OF ALL TRAIN ESTATES- Brass Pieces & Collections wants your material. Including all types of Brass, old trains, kits, plastic, diecast, buildings, etc. - we buy it all. Buildings and estates included. We seek better items for personal collections. Call us before you sell for our offer as we pay the highest prices. Call Don Black toll free 1-866-462-7277. Don Black, 119 Bernhurst Road, New Bern, NC 28560. E-mail don@donblack.com

\$1,000,000 CASH AVAILABLE- For your collection! Brass, Plastic, Memorabilia, we buy it all. Call us 352-292-4116 or mail your list to: BRASSTRAINS.COM, 10515 SE 115th Ave., Ocala, FL 34472. E-mail: dan@brasstrains.com

A FAMILY-OWNED COMPANY, Irek's Toys and Trains, purchases trains of all types from brass to plastic. We also offer a competitive consignment option. No collection too small or large. Estate specialists. A leader in model train sales. Fast, Easy, Professional and Friendly service guaranteed. Willing to travel. Call, write, fax or e-mail. Ask for Chris, 972-675-8697. Fax: 972-767-4785. E-mail: thetrainguys@gmail.com or write to 120 East FM 544, Suite 72 #328, Murphy, TX 75094.

A FATHER & SON TEAM are looking for large high-quality Brass & Plastic Collections. We buy your entire collection, not just the cream. Over \$1,000,000 Available. Many items bought are used for personal layout. Call Dan Toll-free at: 1-877-227-5557 or 352-292-4116 or Mail a List to: Dan Glasure, 10515 SE 115th Ave., Ocala, FL 34472 or E-Mail: Dan@DansTrainDepot.com

BRASS PASSENGER CARS: Craftsman's kits; LJRR brass and plastic. Challenger Broadway Limited and Challenger NP Cars. Please call Bob 212-874-6569 or e-mail grandt7@yahoo.com

BUYING HO train collections, large or small. Also brass. Call Tom 630-443-9137.

CANADIAN TRAIN COLLECTIONS AND

ESTATES: Buying entire collections anywhere in Canada or the USA. Brass, plastic, engines, cars, buildings, memorabilia - everything! Call Don toll-free 1-877-955-7245. E-mail: trainsandsuch@telus.net

Wanted-O Tinplate

BUYING O and Standard gauge collections. Lionel, Flyer and all others. Call Tom 630-443-9137

For Sale-Large Scale

MARKLIN 1 GAUGE ALL-METAL, mint/original boxes-cars, set/track, locos. Photos: email: i_pill@bellsouth.net Tel: 904-396-7371 M-F Steve

For Sale - Miscellaneous

EMBROIDERED RAILROAD PATCHES, 1,000 designs. Catalog \$5.00. The Patch King, PO Box 145, York Harbor, ME 03911.

TREES! Unique Evergreen Trees and Kits. Realistic and Fun. Save Time & Money. Handcrafted in Oregon. www.coastmans.com Mr. Rasmussen 360-820-3553.

Wanted - Miscellaneous

ALL TRAIN COLLECTORS & MODELERS- We need more trains to supply our ever expanding group of interested buyers. We buy HO & N Scale Trains - Brass, Marklin, Rivarossi, Atlas, Kato, MicroTrains, etc. as well as better trains in all scales. We also purchase store inventories. We also can auction your trains with rates starting as low as 15%. We travel extensively all over the US and Canada. Send us your list today or for more information see www.trainz.com/sell Trainz, 2740 Faith Industrial Dr., Buford, GA 30518. 866-285-5840, Scott@trainz.com Fax: 866-935-9504

MODEL AUTOMOBILE AND TRUCK KITS

WANTED- unbuilt or built, any size collection. Fred Sterns, 48 Standish, Buffalo, NY 14216. 716-838-6797. email: fsterns@aol.com

Custom Painting & Building

CUSTOM BUILDING & PAINTING, kit building, kit-bashing & scratchbuilding. Locomotives, rolling stock, structures & more. 12 Penny Lane, Newark, DE 19702, 302-229-6010, www.tmbcustommodels.com

CUSTOM LAYOUT BUILDING. Fine scale custom layout building. Specializing in prototype modeling. Layout Design. The Shelf Layouts Company, Inc. www.shelflayouts.com 301-404-8164.

CUSTOM PAINTING DIESELS, steam, rolling stock. All gauges N-G. Over 25 years experience. Your equipment or ours. Call for prices! 716-649-4686 or bobscustoms2@verizon.net

LAYOUT DESIGN SERVICE. Have a case of designers block? I can help. Completed packages include CAD drawings, track quantities, dimensions, specifications, and follow up support during construction. www.shelflayouts.com 301-404-8164

Lodging

GO BEYOND MODEL TRAINS Our B&B has antique Pullman train cars as your guest suite. All cars with modern amenities. Central Minnesota, 800-328-6315, www.whistlestopbedandbreakfast.com

Books and Magazines

MODEL RAILROAD HOW TO BOOKS. TRACK

PLAN BOOKS. How To Build A Switching Layout. How To Design A Switching Layout. 8 Realistic Track Plans For Switching Layouts. Details at www.shelflayouts.com

Business Opportunities

HELP WANTED Hiring experienced model railroad builder for contract work. Must be willing to travel out of state 3-4 times per year for 10-17 days per trip. Compensation is allowance for hotel, meals and gas plus \$15-\$25 per hour based on skill and EFFICIENCY. No professional experience needed, personal or club experience acceptable. Must have a passion for building model railroads, honest, ethical and hard working. Send contact info and skill level to MikeShampine@gmail.com

HELP WANTED I have almost 200 HO freight cars that need decals applied for my "home road." I don't have time to do it myself. For detailed information, proposed arrangements, etc. contact Dave Phelps on dareph76@gmail.com. Serious responses only please.

LEADING MODEL RETAILERS

Retail Directory sales are sold on a year's basis at \$654 per year (payable in advance) or at \$60 per month (billed to established accounts for one year minimum); also for six months at \$353 (payable in advance). Ads will be set in standard listing typography. All insertions must be consecutive and may be invoiced if you have credit established with us. No mention of mail order business permitted. CLOSING DATES are listed in the "Schedule of Events" section. For more information call 1-888-558-1544, ext. 815.

ALABAMA • Anniston
Northeast Alabama's Largest!
All Scales - All Major Brands
Tues - Fri 10-6; Sat 9-3
E-mail: modelcitymodels@nti.net
www.modelcitymodels.com
MODEL CITY MODELS
2750 Pelham Rd. South #9 256-435-0095

ALABAMA • Enterprise
Southern Alabama's largest train store.
MTH & Lionel authorized dealer. N, HO, HO3, O & G scales. Tues - Sat 10am to 4pm
highcountryhobbies@gmail.com
www.highcountryhobbies.com
HIGH COUNTRY HOBBIES
206 South Main St. 334-489-4558

ALASKA • Anchorage
www.anchoragehouseofhobbies.com
Alaska's best hobby supplier since 1964.
Two stories, 6,300sf, 1st floor all R/C,
2nd floor general hobbies, plastics, trains,
slot cars, telescopes & more!
ANCHORAGE HOUSE OF HOBBIES
2803 Spenard Rd. 907-277-7778

ARIZONA • Apache Junction
New Store! Arizona's premier hobby shop.
Full scale, all service hobby shop. Trains,
planes, cars, boats and R/C. Special orders.
Open Mon - Sat
OBIES TRAINS
2114 West Apache Trail #11 480-203-1796

ARIZONA • Avondale
DCC Systems, Decoders, Layout Supplies
Professional Installations G to Z scales
Mon - Fri 8:00-5:00, Sat 8:00-Noon
Online Store: LitchfieldStation.com
E-mail: Sales@LitchfieldStation.com
LITCHFIELD STATION
1412 N. Central Ave., Ste. D 623-298-7355

ARIZONA • Phoenix
Come and see our NEW store!
Tues - Fri 10-5:30, Sat 9-5, Sun 1-4
Shop online at www.aawtrains.com
AN AFFAIR WITH TRAINS
301 W. Deer Valley Road 623-434-6778

ARIZONA • Phoenix
Narrow gauge almost exclusively.
On3 - Sn3 - HO3 - On30.
Kits, parts, brass & books.
Mon-Fri 8-12, 1-5, Sat 8-12.
CORONADO SCALE MODELS
1544 E. Cypress St. 602-254-9656

ARIZONA • Tempe
Family owned, full service. Special orders
welcomed. Athearn, Lionel, Bachmann,
Digitrax & Soundtraxx dealer. Plastic models,
books, magazines, paints, building materials,
scenery, & more. Free classes and clinics.
HOBBY DEPOT
216 W. Southern Ave. 480-968-1880

ARKANSAS • Jacksonville
Headquarters for scale hobbies. Models;
N-HO-O trains; tools; paint, etc.
Discounts & special orders.
Open 10-6, closed Sundays and Wednesdays.
www.railandspruehobbies.com
RAIL & SPRUE HOBBIES
1200 John Harden Dr. 501-982-6836

CALIFORNIA • Atascadero
All scales G to Z. Special orders welcome.
Midway LA SF. US 101-US 41, easy access.
Open Tuesday, Friday 10-6, Saturday 10-5
E-mail Anita at: cctrains@hotmail.com
Web site: www.centralcoasttrains.com
CENTRAL COAST TRAINS
7600 El Camino Real # 3 805-466-1391

CALIFORNIA • Bellflower
Friendly Hobby Store! We carry N, HO, HO3,
S, Sn3, RailMaster, Athearn, Scaletrains.com
and more. DCC Soundtraxx, LokSound,
Digitrax dealer. Special Orders Welcomed!
www.railmasterhobbies.com
RAILMASTER HOBBIES
9812 Belmont St. 562-867-5627

CALIFORNIA • Burbank
All scales G through N, collectibles old & new.
Authorized LGB, Lionel, MTH & Märklin dealer.
One of the most complete train stores in
So. Calif. UPS worldwide shipper.
Visit our website at www.trainshack.com
THE TRAIN SHACK
1030 N. Hollywood Way 800-572-9929

CALIFORNIA • Concord
Largest selection in the East Bay. 93 foot HO
layout. Buy - sell - trade - consign - repairs -
detail parts in all scales. Lionel,
Discount prices & friendly service.
Website: www.just-trains.com
JUST TRAINS
5650 Imhoff Dr. 925-685-6566

CALIFORNIA • Costa Mesa
Lionel, AF, LGB, HO, N, & Z Gauge.
New, used, & collectibles.
Buy, sell, trade & repair.
Tue - Fri 12-7, Sat 9-5, Sun 11-3.
THE TRAIN CROSSING
1089-C Baker Street 714-549-1596

CALIFORNIA • Hemet
We carry Lionel, MTH, HO, N, Atlas, Walther's,
Ross switches, Gargraves & Peco.
45' long in-store layout. Open 7 days.
www.dynamichobbies.net
DYNAMIC HOBBIES
811 East Florida Avenue 951-925-9331

CALIFORNIA • Hollister
Model planes, car, ships & figures. Model train
scales: Z, N, HO, O & G. Paints, tools. R/C &
parts, incl. service. Craft & educational kits,
supplies, products. ESU Lok Sound Dealer -
clinics available. Tue - Sat 11-6; Sun 12-4
B.C.T. HOBBY & CRAFTS
201-C McCray St. 831-635-0537

CALIFORNIA • Lodi
Z - N - HO - HO3 - O27 - On30
Locos - Rolling Stock - Digital - Structures
Landscaping Material & more.
www.Rogersrailroadjunction.com
See website for virtual tour.
ROGER'S RAILROAD JUNCTION
105 S. Sacramento St. 209-334-5623

CALIFORNIA • Pasadena
Model rail specialists since 1951.
LGB, Lionel, O, S, On3, HO, HO3, N, Z.
Complete stock of brass imports, new & used.
Books, tools, structures, detail parts.
Open 7 days. www.thewhistlestopinc.com
THE ORIGINAL WHISTLE STOP INC
2490 E. Colorado Blvd. 626-796-7791

CALIFORNIA • Roseville (Sacramento)
Exclusively model trains since 1989.
Athearn, Kato, MDC, Lionel, Atlas, LGB,
Märklin, Brass Imports, books, detail parts.
Everyday low prices. Open 7 days.
www.rhobbies.com
RAILROAD HOBBIES
119 Vernon St. 916-782-6067

CALIFORNIA • San Diego (La Mesa)
Exclusively trains. Craft kits,
detail parts, scratch supplies, books.
Ride the trolley to Reed's.
Open Mon through Sat 10-6; Sun 12-4
www.reeds-hobbies.com
REED'S HOBBY SHOP
8039 La Mesa Blvd. 619-464-1672

CALIFORNIA • San Mateo
Lionel, Märklin, HO scale
Domestic and imported trains
Mon - Sat 9:30-6; Sun 11-5
www.talbotstoyland.com
TALBOT'S HOBBIES
445 South "B" Street 650-931-8110

CALIFORNIA • Santa Clara
100% trains. Discount prices. Super selection.
Monday 9:30am-3:00pm
Tuesday - Saturday 9:30am-6:00pm
Closed Sunday
Dennis Cole E-mail: dcole4449@att.net
THE TRAIN SHOP
1829 Pruneridge Ave. 408-296-1050

CALIFORNIA • Santa Rosa
HO and N Scale is our specialty. We sell new
and vintage. Factory-trained DCC installation.
Model trains is all we do.
Mon - Fri 10-6, Sat 10-4
POGGIES TRAINS
100 Foley Street 707-545-7643

CALIFORNIA • Tehachapi
Visit us and the Tehachapi Loop
Mon, Wed, Thur 9:30-4 (closed Tues),
Fri - Sat 9:30-5 and Sun 11-4
www.trainsetc.biz or trainsetc@sbcglobal.net
TRAINS, ETC.
114 W. Tehachapi Blvd. 661-822-7777

CALIFORNIA • Westminster (Orange Co.)
World Famous
Model/Toy Trains Only
7,000 sq. ft. Super Center
www.arniestrains.com
ARNIE'S MODEL TRAINS
6452 Industry Way 714-893-1015

CALIFORNIA • Yuba City
A full service model train store. Large
inventory, HO, N, O & O27 Tintplate.
Books, videos, dealer & gift items.
Repair service. We buy old toy trains.
www.westerndepot.com
THE WESTERN DEPOT
1650 Sierra Ave. #203 530-673-6776

COLORADO • Colorado Springs
New and used brass, Southern Colorado's
oldest, largest, and most complete train store.
All gauges. Authorized Lionel
and MTH sales and service.
www.CustomRailwaySupply.com
CUSTOM RAILWAY SUPPLY
1015 Garden of the Gods Rd., #150 719-634-4616

CONNECTICUT • Canaan
Mainly model railroading.
All scales.
www.berkshirehillshobby.com
Tues - Fri 11-6, Sat & Sun 10-5.
BERKSHIRE HILLS HOBBY SUPPLY
93 Main St. (Rt. 44) 860-824-0527

CONNECTICUT • Cos Cob
HO, N, Lionel, Lionel authorized dealer
& repair. Plastic, wood kits, rockets,
tools, structural & diorama supplies.
Special orders welcome.
ANN'S HOBBY CENTER
405 E. Putnam Avenue 203-869-0969

CONNECTICUT • Manchester
All scales Z, N, HO, O, O-27, G, #1, MTH,
Lionel, Märklin, LGB, Walther's, Aristo, Trix, etc.
Digital Sales-Install. Large operating layouts.
Mon-Wed 10-6 Th-Fri 10-9 Sat-Sun 10-6
www.time-machine-hobby.com
Time Machine Hobby - New England Hobby Supply
71 Hilliard St. 860-646-0610/Fax-645-0504

CONNECTICUT • Winsted
A hobby shop for modelers by modelers.
From hard to find to latest & greatest.
Free classes & clinics / multi scales.
Large store of quality products @ fair prices.
Friendly service: www.rhobbiesupply.com
RR MODEL & HOBBY SUPPLY
100 Whiting Street 860-379-3383

CONNECTICUT • Wolcott
Exclusively brass models. One of the
largest selections in the country. All scales.
Buy, consign, trade - entire collections bought.
Mon - Fri 9 - 4
www.thecaboose.com
THE CABOOSE
5 Mohawk Drive 203-879-9797

DELAWARE • Ocean View
No sales tax at the Delaware seashore.
Lionel new & used . . . also Atlas, Bachmann,
MTH. We buy used trains. Auth. Lionel repairs.
Large inventory of used HO trains.
Open Tues - Sat 11-4:30, Closed Sun & Mon
SEASIDE HOBBIES
15 Daisey Ave. 302-539-1601

FLORIDA • Cape Canaveral
Lionel, American Flyer, MTH
Trains bought and sold
www.traincity.com
www.choochooauctions.com
TRAIN CITY, INC. - CHARLES SIEGEL
387 Imperial Blvd., Ste. 2 321-799-4005

FLORIDA • Ft. Myers
N, HO, O, G scale model railroading.
Paint, tools, scenery, accessories,
& plastic models.
Mon - Sat 10:00am-6:00pm; Closed Sun
www.metrotrainsandhobbies.com
METRO TRAINS & HOBBIES
12951 Metro Parkway 239-332-0422

FLORIDA • Lantana (West Palm area)
Full line Hobby Shop specializing in Trains.
Mon - Fri 10-6, Sat 10-4, Sun 12-4
www.depotohobbyshop.com
1/2 mile east of I-95 exit #61.
THE DEPOT HOBBY SHOP
518 W. Lantana Rd. 561-585-1982

FLORIDA • Melbourne
The Space Coast's Model Train Shop.
Z thru G scales. N scale our specialty!
Digitrax, Kato, Lionel & Walther's Dealer.
Atlas, IM, BWL, Piko, LGB & Rokuhan.
Mon-Sat 10am-5pm Email: trftrains@cfl.rr.com
TRF TRAINS & MNT HOBBIES
2715 N. Harbor City Blvd., #12 321-241-4997

FLORIDA • Miami
Shop "Warehouse Style" for Z to G,
MTH, Lionel, Kato, LGB, Broadway Ltd.,
Atlas, Peco, Walther's at discount prices.
Open Tues - Sat 10-4, Closed Sun & Mon
READY TO ROLL
831 N.W. 143rd Street 305-688-8868

FLORIDA • Ocala
HO, N trains & accessories
Visa, MC, AX, Discover
Open Mon - Fri 10-5:30, Sat 9-4
Call for Sunday hours.
ROB'S HOBBY WORLD
8585 SW Hwy. 200 352-854-2799

FLORIDA • Orlando
One of Florida's largest model train & hobby
shops. All scales.
Authorized Lionel & MTH service station. Mon-
Thu 9-7:30, Fri 9-9, Sat 9-6.
20 min. from Disney.
COLONIAL PHOTO & HOBBY, INC.
634 North Mills 407-841-1485

FLORIDA • Pensacola
Competitive prices, friendly service.
All makes & models, trains & accessories
Z - G. Lionel, Micro-Train, MTH Dealer
www.trainsofjohnson.com
Old Palafax St. at 10 Mile Rd.
TRAINS BY JOHNSON
10412 N. Palafax Hwy. 850-478-8584

FLORIDA • Port Charlotte
Full line hobby shop specializing in trains of all
scales new and used. Name brand dealer.
Large selection of model kits and diecast also.
We buy train collections. Open Mon - Sat
Email: kandktrains@gmail.com
K & K TRAINS
3271-E Tamiami Trail 941-883-6931

FLORIDA • Port Orange (Daytona Beach)
Your Southern Connection for Quality
Products! Featuring O, HO, N, Woodland
Scenics, MTH MegaStation & National Service
Center, Breyer Horses. Mon - Fri 9:30-5;
Sat 9:30-4; www.roundhousesouth.com
ROUNDHOUSE SOUTH
4611 S. Ridgewood Ave. 386-304-7003

FLORIDA • Sarasota
Trains, trains, trains.
Model railroading at its best.
Visit us in the store or
on the Web at www.gcmr.com
Open Mon - Fri 10-6, Sat 10-5
GULF COAST MODEL RAILROAD, INC.
3222 Clark Rd. 941-923-9303

FLORIDA • Tampa Bay - Pinellas Park
2600 sq. ft. Showroom. Lionel & MTH Dealer
NEW, USED, BUY/SELL * All Gauges Z thru G
Over 6,000 Parts. Repair Services. Trains,
Track, Sets, Scenic Supplies. Tues - Sat 10-6
www.zitrnitrains.com
ZITNIK TRAINS
5193 73rd Ave. N. 727-201-9668

FLORIDA • Tampa/St. Pete/Clearwater/PP
The last decent place in Florida not
endorsed by Mickey Mouse. Huge inventory
in all gauges. Great store, come see!
Daily 10-6, Sat 10-6, Sun 11-5
www.hrrtrains.com
H & R TRAINS
6901 US Hwy. 19, N. Pinellas Park 727-526-4682

GEORGIA • Atlanta (Liburn)
HO, Atlas, Bachmann, MTH
Complete scenery supplies.
Operating HO layout and 400 sq. ft. layout.
HUGE selection in a 11,000 sq. ft. store.
www.legacystation.com 800-964-8724
LEGACY STATION TRAINS
4153 Lawrenceville Hwy., #12 770-339-7780

GEORGIA • Atlanta (Riverdale)
Atlanta's Finest Shop for serious modelers!
Quality items in all scales at fair prices.
Service - Repairs. Over 34 years of quality
service. Close to all Interstate Hwys.
8-min. from Atlanta Airport. Tue-Sat 10-5:30
RIVERDALE STATION
6632 Hwy. 85, Riverdale Plaza 770-991-6085

GEORGIA • Braselton
Bargains Galore!
Located 1/2 mile off I-85 exit 129.
Featuring HO, O, toys and die cast items from
Trainz.com
Hours: Mon - Sat 10-6, Sun 1-5
ANTIQUE MALL TRAINS
5134 Georgia 53 706-654-3693

GEORGIA • Buford (Atlanta)
Quality. Selection & Service.
Discount pricing in all scales.
Mon - Sat 11-6, Sun 1-6
Across from NS Mainline in Downtown Buford
Web store at: www.trainmastermodels.com
TRAINMASTER MODELS
601 East Main St. 678-546-3600

ILLINOIS • Burbank
Specializing in HO.
One of the most complete exclusive model
railroad shops in the midwest.
THE GOLDEN SPIKE TRAIN SHOP
6357 W. 79th Street 708-598-3114

ILLINOIS • Des Plaines
N, HO, S, O, G Scale & Narrow gauge too.
Lots of scratchbuilding parts and stuff too.
Brass, books & DVDs. Close to O'Hare,
M, T, W, F 10-6; Th 10-8; Sat 9:30-5; Sun 11-5
Web Store: www.desplaineshobbies.com
DES PLAINES HOBBIES
1524 Lee St. (Mannheim Rd.) 847-297-2118

ILLINOIS • Downers Grove
HO and N Scale Model Trains and Accessories
Two Blocks South of Metra Station
at Maple Ave.
www.timberlinetrainshop.com
TIMBERLINE TRAIN SHOP, LTD.
5228 Main St. 630-324-6136

ILLINOIS • Elgin
HO & N Scale
Scratch building supplies, paints, tools and
much more. We special order. Digitrax dealer.
www.bgtrainworld.com
B & G TRAIN WORLD
829 Walnut Ave. 847-888-2646

ILLINOIS • Geneseo
Scale Trains, Models & Hobby Supplies
Specializing in Midwest Roads
Visit our website at GHobbies.com
or call for directions and hours.
GREEN RIVER HOBBIES
119 W. Exchange St. 309-944-2620

ILLINOIS • Marion
Full-Line Hobby Shop.
HO & N scale locomotives, scenery,
plastic models, R/C, tools, paints, and more.
Open Tue - Fri 1:30-6:30pm, Sat 10am-4pm
CHUCK'S DEPOT
1913 W. Rendelman St. P/F 618-993-9179

ILLINOIS • Maryville
Large 60' x 70' customer operated DCC HO
layout. Located 17 miles from St. Louis near
I-70/I-55 exit 153. For shop hours/maps
pictures, layout construction times, train
running see www.k-10smodeltrains.com
K-10'S MODEL TRAINS
19 Schiber Court 618-288-9720

ILLINOIS • Mundelein
Specializing in trains, HO, N, O, G, Lionel.
Books and videos. Northern IL railfan
headquarters. Closed Monday. Please call for
other hours. Fax 847-949-8687.
ronhobby@aol.com
RON'S MUNDELEIN HOBBIES
431 N. Lake St. (Rt. 45) 847-949-8680

ILLINOIS • Springfield

HO / G / N.
Special orders / discount prices.
Display layout / advice assistance.
Call for hours.

CASTLE TRAINS & TREASURES

4782 Old Jacksonville Rd. 217-793-0407

INDIANA • Bremen

Small town. Large shop, O, HO & N scales.
Discounts. Three operating O, HO & N layouts.
Large selection. Since 1961.
Mon., Tues., Thur., Fri. 10-6; Sat 10-4.

BREMEN HOBBIES

308 N. Bowen Ave., SR 331 574-546-3807

INDIANA • Indianapolis

Bachmann- HO-50+ new engines/500+ rolling stock including Thomas- N scale/50+ new engines/300+ rolling stock- On30/70+ engines 100+ rolling stock- 400+ used O27 pieces- 1,000+ acc. Open every day but Xmas, 11-6
SANFORD & SON TRAIN YARD
3444 North Shadeland Ave. 317-748-3337

INDIANA • Lafayette

New location. You have to see it to believe it.
Color photos, rolling stock, structures, detail parts, HO, HO/N, O, N scales.
Monday - Friday 12-5; Sat 10-5.
Evenings by appointment.

HAWKINS RAIL SERVICES

3501 Union St., Suite 6 765-742-5577

IOWA • Urbandale

N HO, & O
Lionel, MTH, Atlas
Exit #129 I-80/I-35, 2 miles south
Iowa's premier Model Railroad store
Open 7 days a week.

HOBBY HAVEN

2575 86th Street 515-276-8785

KANSAS • Overland Park (KC Area)

O, S, HO, N, Z & G Scale
Lionel, MTH, A/F, Marklin, LGB & more!
New, Used & Vintage. Extensive scenery line.
Repair, custom work & layouts.
www.fredtrainshop.com

FRED'S TRAIN SHOP

7327 West 80th St. 913-383-3500

MAINE • Yarmouth

Specializing in HO trains. Custom weathering, painting, DCC, scenery, diorama building, structure building. Between Falmouth and Freeport on Route 1. Tues - Sat 10am-6pm (Call ahead Mon) www.mainemodelworks.com

MAINE MODELWORKS

374 US Route One, Unit 2 207-781-8300

MAINE • York

Model trains & slot cars. Most scales available.
Accessories & services. New, pre-owned & vintage. Working layout! Open 7 days 10-5
www.yorkvillagemarketplace.com

YORK VILLAGE MARKETPLACE

891 U.S. Route 1 207-363-4830

MARYLAND • Annapolis

If we don't have it, we'll get it! LGB, Woodland Scenics, Walthers Dealer, Aristo, Deltora, Pola, Lionel, Bachmann, Spectrum, Proto 2000. Mon - Sat 10-6. Full line Kalmbach! trains. things@yahoo.com

STAR HOBBY

1564 Whitehall Rd. 410-349-4290/4291

MARYLAND • Baltimore/Cockeysville

Model RR headquarters since 1913.
Excellent selection HO & N equipment & accessories. Lionel, All at disc. prices.
Mon - Fri 9:30-5; Sat 9-5.
www.modeltrainstuff.com

M.B. KLEIN

243 Cockeysville Rd., Ste. A 410-229-9995

MARYLAND • Sykesville

Central Maryland's best kept secret - a family friendly model train shop that specializes in HO & N Scale at very generous discounts.
Please call for hours or visit us at
www.themoosecaboose.com

THE MOOSE CABOOSE

1341 W. Liberty Rd. 410-795-4610

MASSACHUSETTS • Ashburnham

Specializing in New England road names, HO/N Scale. Micro-Trains, Walthers, Horizon. Special orders discounted. Tu - Th 10-4, Wed & Fri 11-6. Sat 10-6 www.halfpricehobby.com service@halfpricehobby.com

SHEPAUG RAILROAD COMPANY

23 Westminster St. 978-537-2277

MASSACHUSETTS • Duxbury

G - 1 - O - S - HO - N - Z
Buy - Sell - Trade - New - Used - Repairs
Marklin Dealer
Wednesday - Sunday 11-6

DUXBURY GREEN, INC.

382 Kingstown Way (Rt. 53) 781-585-2164

MICHIGAN • Bridgeport

Scales Z to G. All at discount prices.
Am. Models, Aristo, Athearn, Atlas, Bachmann, Con-Cor, IHC, USA, Kadee, Kato, K-Line, Lionel, MTH, Walthers, LGB, HLW.
www.vrrailroad.com

JUNCTION VALLEY RR HOBBY SHOP

7065 Dixie Hwy. 989-777-3480

MICHIGAN • Flint

G (LGB & 1:20.3), O (Lionel & MTH), On30, HO, N, & Z. Locos, cars, figures, buildings, track, kits, scenery supplies, details, books & videos.
Digitrax Dealer. Repair service. VISA/MC.
Mon-Fri 10-8; Sat 10-6; Sun 12-5

RIDERS HOBBY SHOP

2061 S Linden Rd 810-720-2500

MICHIGAN • Fraser

Full line hobby shop.
Open Mon - Fri 10-8, Sat 10-6, Sun 12-5
www.pdhobbyshop.com

P & D HOBBY SHOP

31280 Groesbeck Hwy. 586-296-6116

MICHIGAN • Grand Rapids

LGB, O (Lionel, MTH & Scale), HO, N & Z
Locos, cars, figures, buildings, track, tools, kits, scenery supplies, details, books, videos.
Digitrax Dealer. Repair service VISA/MC
Open Mon - Fri 10-8 & Sat 10-7

RIDER'S HOBBY SHOP

2055 28th Street SE 616-247-9933

MICHIGAN • Leslie

Michigan's Largest N Scale Dealer
Tue - Thur 1-9, Fri & Sat 1-5
*Closed Saturdays Memorial to Labor Day
We also carry Z, HO & G Scales.
www.gjtrains.com

G&G TRAINS

1800 Baseline Road 517-589-5977

MICHIGAN • Saginaw

Personalized Customer Service!
Trains & Accessories N to G
Authorized Lionel/K-Line, MTH, DIGITRAX
Sales & Service - over 12,000 parts
www.traindoctor.com

BRASSEUR ELECTRIC TRAINS

410 Court St. 989-793-4753

MICHIGAN • Traverse City

Let your imagination run wild!
Z to G, Lionel, scenery, tools, structures, scratchbuilding supplies, special orders, ships, armor, cars, more...

TRAINS & THINGS HOBBIES

210 East Front St. 231-947-1353

MICHIGAN • Troy

FORMERLY MERRI-SEVEN • NEW LOCATION
All scales Z thru G, new and used
Complete selection of RR equipment/supplies
BUY • SELL • REPAIR • PARTS
Tues - Fri 11-7, Sat. 11-6

EMPIRE TRAINS & HOBBIES

3278 Rochester Rd. 248-680-6500

MICHIGAN • Wyoming

HO, N and Marx bought and sold
American Flyer and Lionel also
Tuesday thru Friday 12-6, Saturday 10-5
Other hours available by appt. Please call.

HOBBY RECYCLING

2313 Lee St. SW 616-257-7155

MISSOURI • Branson/Hollister

The Ozarks' full-line hobby center
N-G scale trains & building accessories
Mon - Sat 9am-5pm, Closed Sun
E-mail: bransanhobbyctr@aol.com
www.bransanhobbycenter.com

BRANSON HOBBY CENTER

251 Saint James St. 417-335-6624

MONTANA • Billings

Model railroading headquarters for the Northern Rockies. HO, HO/N & N scale. Kits, parts, tools, books. Tues-Fri 10-5:30; Sat 10-4. Closed Sun & Mon. trains28@bresnan.net
www.jimsjunction.com

JIM'S JUNCTION

811-B 16th St. West 406-259-5354

NEBRASKA • Deshler

Largest HO/N scale inventory from Denver to Chicago. Stop in and say WOW! All major brands plus books, videos, tools & scenery.
Mon-Fri 10-6, Weekend hours vary - call ahead! www.springcreekmodeltrains.com

SPRING CREEK MODEL TRAINS.

304 E. Brydon Ave. 402-365-7628

NEBRASKA • Omaha

Trains & supplies for all scales Z-G. We are DCC ready & installation service available.
Service work, repairs, technical support.
Family owned since 1938. Mon-Fri 8:00-5:30; and Sat 10:00-5:00 www.houseoftrains.com

HOUSE OF TRAINS

8106 Maple St. 402-934-RAIL (7245)

NEVADA • Las Vegas

While in Las Vegas, check out our train selection.
Close to the Las Vegas strip.
Hours: Mon - Fri 10-7; Sat 10-6, Sun Noon-5.

HOBBYTOWN USA

4590 W. Sahara Ave., #103 702-889-9554

NEVADA • Las Vegas

Electric trains & accessories
N, HO, S, O
Lionel/American Flyer Dealer

TRAIN EXCHANGE

6008 Boulder Hwy. 702-456-8766

NEVADA • Las Vegas

Big selection of HO, N and Lionel O Gauge trains. Only 7 miles west of the Las Vegas strip. www.westsidetrainslv.com

WESTSIDE TRAINS

2960 S. Durango #117 702-254-9475

NEW HAMPSHIRE • Hampton Falls

HO - N - O & accessories
Serving Atlas, Athearn, MTH, RailKing, Lionel, Williams
Open 7 days a week 10-5

BRENTWOOD ANTIQUES

106 Lafayette Rd. (Rt. 1) 603-929-1441

NEW JERSEY • Kenil

Full service hobbies, a full line of HO, N, 3-Rail, military, cars, boats, planes, dollhouses, scratchbuilding supplies, plus details-details-details!

KENVIL HOBBIES

590 Rt. 46 973-584-1188

NEW JERSEY • Mountain Lakes

One of northern NJ's largest train stores. Auth. Lionel sales, service, and parts. Old Lionel trains bought and sold. LGB, Atlas, Life-Like, MDC, Auth. Walthers dealer.

THE TRAIN STATION

Romaine Road 973-263-1979

NEW JERSEY • Piscataway

Serving hobbyists since 1933.
Large selection of HO, N, S & O scale Railroad books - complete repair service
Mon., Tues. & Thurs. 10am-6pm,
Sat. 10am-5pm, Wed. & Fri. 10am-9pm.

THE MODEL RAILROAD SHOP, INC.

Vail Ave. & New Market Rd. 732-968-5696

NEW JERSEY • Point Pleasant Beach

A Complete Model Railroad Store • Over 600 Engines in Stock • HO • O DCC/DCS/TMCC
Authorized MTH & LIONEL Dealer. Walthers • Atlas • Atlas O. Sun - Thur 10-6, Fri - Sat 10-8
www.thetrainroomnj.com

THE TRAIN ROOM

715 Arnold Ave. 732-892-5145

NEW JERSEY • Somerville

Full line all scales N thru G.
Specializing in service.
Tues to Fri 11 am - 7 pm;
Sat 11 am - 5 pm; Sun 12 pm - 4 pm
www.biglittle.com Fax # 908-685-8894

THE BIG LITTLE RAILROAD SHOP

63 W. Main St. 908-685-8892

NEW JERSEY • Westmont

Athearn, Atlas, Bowser, Walthers.
Structures, books.
Exclusively trains since 1955.
HO and N.

SATTLEER'S HOBBY SHOP

14 Haddon Ave. 856-854-7136

NEW YORK • Mineola L.I.

Since 1949. Long Island's largest full-line hobby superstore. 10,000 sq. ft. Featuring MTH, Lionel, Marklin HO and Z, HO and N scales. Books, detail parts and much more.
www.villishobbies.com

WILLIS HOBBIES INC

300 Willis Ave. 516-746-3944

NEW YORK • Smithtown

O, HO, & N gauges.
All major lines carried.
We are model railroaders.

3 GUY'S HOBBIES

10 Lawrence Ave. 631-265-8303

NEW YORK • Syracuse (East)

100% scale model railroading. HO, S, O, N. Northeastern, New England, Canadian specialists. Exclusive; Northeast Modeler, West Shore Line kits. Closed Mon. Call for free map & hours. www.centralhobby.com

CENTRAL HOBBY SUPPLY

102 Walter Dr. 315-437-6630

NEW YORK • Wellsville

O, HO & N. Weaver, Atlas, Athearn, MDC & Walthers. Start-to-finish railroad supplies.
Magazines, Craftsman kits & Kadee. Old local lines like W.A.G., Erie & E.L.

EAST DYKE DEPOT

332 E. Dyke St.(Rt. 417E) 585-593-0005

NORTH CAROLINA • Arden

HO, N, Model Trains and accessories.
Broadway Limited, Kato, Walthers, Digitrax, Atlas, Athearn and more.
Mon - Fri 9:00am-5:00pm Order by phone 24 hours. www.factorydirecttrains.com

FACTORY DIRECT TRAINS

7 Glenn Bridge Rd., Ste. B 800-990-3381

NORTH CAROLINA • Raleigh/Wake Forest

Authorized Digitrax, Soundtraxx, Walthers, Bowser dealer. DCC experts. Installation & Service. Computerized customer order tracking. "Sharing the joy of model railroading"
www.trainbuddy.com

TRAIN BUDDY™ PRODUCTS

1200 Jenkins Rd. 919-562-4378

NORTH CAROLINA • Spencer

Across from NC Trans Museum. Big selection of trains in all scales. Digitrax Dealer. RR videos/books & children's toys Tue-Sat: 10-5:30. www.littlechoochoo.com or info@littlechoochoo.com

LITTLE CHOO CHOO SHOP, INC.

500 S. Salisbury Ave. 704-637-8717/800-334-2466

NORTH CAROLINA • Wilson

Complete stock HO, N, O, G. Discounts. HO layout display. I-95 Exit 119, east on US 264, 4 miles to exit 42, right on Downing Street and go to first light.
Tues. - Sat. 10 a.m. - 6 p.m.

THE ANTIQUE BARN TRAIN SHOP

2810 Forest Hills Rd. SW 252-237-6778

OHIO • Alliance

New and used trains of all scales. Custom painting, full service repair department.
Tue, Thu, Fri 12-8pm; Sat 10-3pm.
www.allianceinc.com/robstrains

ROB'S TRAINS

333 E. Main St. 330-823-7222

OHIO • Columbus

All scales: N, HO, LGB
www.hobbylandstores.com

HOBBYLAND

206 Graceland Blvd. 614-888-7500

OHIO • Columbus

Exclusively trains.
LGB, Lionel, O, HO, N scales.
Books, Thomas, videos.
Mon - Thur 10-6, Fri 10-8, Sat 10-6, Sun 12-5
www.trainstationohio.com

THE TRAIN STATION

4430 Indianola Ave. 614-262-9056

OHIO • Mansfield

Full line hobby shop since 1977.
Z through G scales.
Authorized Lionel service station.
Thomas the Tank and Brio.
Open Mon-Sat 10-5; Fri 11-6:30.

JOHN'S HOBBY SHOP

15 N. Main St. (on the Square) 419-526-4426

OREGON • Beaverton

Complete full line service hobby shop.
Z, N, HO, O, Lionel, and LGB.
Open Mon - Fri 10-8, Sat 10-5, Sun 12-5.

TAMMIE'S HOBBIES

12024 SW Canyon Rd. 503-644-4535

OREGON • Eugene

Complete HO & N for beginners, experts. O-27 and G top. We carry all major brands. Scratchbuilding supplies, books, tools.
Open Mon - Sat 9-6. Friday to 7
www.eugenetoyandhobby.com

EUGENE TOY & HOBBY

32 East 11th Ave. 541-344-2117

OREGON • Portland

HO, N, Z, Lionel, DCC, brass
Reservation discounts, new, used, consignments, 16 minutes from Airport
www.hobbysmith.com

THE HOBBY SMITH

1809 NE Cesar Chavez Blvd. 503-284-1912

OREGON • Portland

Your complete model railroad store.
Scales through G.
Mon - Fri 10-6; Sat 10-5, Closed Sunday
www.wsor.com

WHISTLE STOP TRAINS

11724 SE Division St. 503-761-1822

PENNSYLVANIA • Blue Ridge Summit

The Exclusive model railroad store.
From N to G, we stock it all.
OPEN 7 days a week.
Only minutes from Frederick, MD.
www.mainlinehobby.net

MAINLINE HOBBY SUPPLY

15066 Buchanan Trail E. 717-794-2860

PENNSYLVANIA • Bristol

PENNSYLVANIA • Philadelphia (Feasterville)

Lionel, American Flyer, LGB, MTH, Marklin, Bachmann, Williams, HO, N & Z. We buy, sell & repair. Mon-Fri 12-8; Sat 10-5
www.JoesTrainStation.com

JOE'S TRAIN STATION
21 East Street Rd. 215-322-5182

PENNSYLVANIA • Strasburg

From trains to dioramas, scenery, everything for the layout builder. Open 7 days a week. N, HO, O, Lionel, LGB. Buy, sell, trade used trains. Located adjacent to the Choo Choo Barn. www.etrainshop.com

STRASBURG TRAIN SHOP
226 Gap Road 717-887-0464

RHODE ISLAND • Warwick

HO trains & acces. detail parts, plastic & craftsperson kits. Hobby supplies, tools. Tue - Fri 12-8; Sat 10-6, Sun (Nov - Dec) 12-4 1/2 mile west of airport
E-mail: aahobbies@gmail.com

A. A. HOBBIES, INC.
655 Jefferson Blvd. 401-737-7111

SOUTH CAROLINA • Greenville

Model Trains Only - ALL AT DISCOUNT PRICES! 140,000+ items in all scales available online 24/7 at: www.BlueRidgeHobbies.com Retail Store features HO and O. Open Tue, Wed & Fri 9:00am-1:00pm

BLUE RIDGE HOBBIES
2327 N. Pleasantburg Dr., Ste. H 800-988-2125

SOUTH CAROLINA • West Columbia

All scales, all major brands of model railroad equipment. We buy & sell used Lionel trains. Open daily 10-6. Closed Sun.

NEW BROOKLAND RR & HOBBY SHOP
405 State Street 803-791-3958

TENNESSEE • Knoxville

Located in Knoxville's premier shopping destination. We are the area's most diverse hobby store with a large selection of HO, N, and O. Open 7 days a week. Turkey Creek Area.

HOBBYTOWN USA
11145 Turkey Dr. 865-675-1975

TENNESSEE • Wartrace

Located next to CSX Nashville-Chattanooga mainline 10 min. off I-24 exit #97. Model railroad supplies, operating HO, O & N scale trains, railroaddiana, collectibles. Wed-Fri 10-5; Sat 9-6, www.dixieflyertrains.com

THE DIXIE FLYER
98 Main St. 1-800-465-0448

TEXAS • Athens

Specializing in HO, HO-N3 & Brass Blackstone, Tsunami, InterMountain, Kadex Digitrax Dealer • Walther's • Coach Yard Decoder installs & custom painting.

HARRIS HOBBIES
9323 CR 1127 903-489-2646

TEXAS • Corpus Christi/Portland

HO, N, O and G scale. New and used trains. Radio control planes, boats and cars. Plastic kits, rockets - all at discount prices. Thu & Fri 3pm - Sat noon-6pm, Sun 2-5pm and also by appointment.

JIM'S HOBBIES
207 7th St. (Portland) 361-229-0229

TEXAS • Dallas

Official Lionel Layout Builder Since 2001 Traingineer shop/showroom includes: Custom Layouts, Modulars, Model Stations, Bridge Kits, come see, there's always something new!!! www.TrainWorkStore.com

TW TRAINWORX
2808 McGowan St. 877-881-4997

TEXAS • Dallas (Addison)

Great discounts on thousands of G to Z scale items. NCE & Digitrax dealer. Monday - Saturday 10-6

DISCOUNT MODEL TRAINS
4641 Ratliff Lane 972-931-8135

TEXAS • Houston

HO & N, Lionel trains. Complete line of plastic kits, military and architecture supplies. Open Mon - Fri 11am-6pm, Sat 10am-5pm
www.gandgmodelshop.com

G & G MODEL SHOP
2522 Times Blvd. 713-529-7752

TEXAS • Houston

All trains, all scales. Magazines, Books, Videos, Repairs, Brass, Consignments, Discount program, will ship. papabenstrains@aol.com M,Tu,Th & F 10-6; W 10-7; Sat 10-5; Sun 12-5 Major Credit Cards. www.papabens.com

PAPA BEN'S TRAIN PLACE
4007-E Bellaire Blvd. 713-523-5600

TEXAS • Irving (Dallas Area)

U/C and R/C planes, HO, N trains. RR & aviation magazines and books. Scale plastic kits, balsa wood. Mon 1-6, Tue-Wed 12-6, Thur-Fri 10:30-7, Sat 10:30-6. www.malhoobby.com

M-A-L HOBBY SHOP
108 S. Lee Street 972-438-9233

TEXAS • San Antonio

Model railroading our specialty. Marklin, G, HO, N, O, Z. Superdetailing parts galore. Books, structures, figures and tools. Tuesday - Saturday 10am-6pm

DIBBLE'S HOBBIES
1029 Donaldson Ave. 210-735-7721

VERMONT • Rutland

Exclusively Model Railroading. Most major lines. Brass, custom painted models. Competitive prices. Personal service. Open by appt. Eves 6-10, Sat 10-10.

THE STEAM SHACK
14 Engrem Avenue 802-775-2736

VIRGINIA • Ashland (Richmond)

OPEN 7 DAYS MON-SAT: 10-7; SUN: 11-4 Authorized Dealer Most Brands G, O, HO, N New & Vintage, Repairs, Spec. Order, Layaway RAILFANS!!! 60 trains pass our store daily. -95 Exit 92B West 1.2 mi to Tracks

TINY TIM'S TOYS & TRAINS
104 S. Railroad Ave. 804-368-0063

VIRGINIA • Midlothian (Richmond)

HO, N, Lionel & MTH Trains Brass, DCC, Repairs & Installations Digitrax Dealer Located in the Village Market Place Open Mon - Thur 10-6; Fri 10-8, Sat 10-4

TODD'S HOBBIES
13140 Midlothian Turnpike 804-464-4900

VIRGINIA • Roanoke

Lionel, LGB, G, AF, HO, N & MTH Buy, sell, trade, repair. Mon-Fri 10-6; Sat 10-5 Two minutes off Exit 146 on I-81.

RAIL YARD HOBBY SHOP
7547 Williamson Rd. 540-362-1714

VIRGINIA/MARYLAND • Chantilly, VA

Full service storefront & online store. All makes & scales. New/used trains sales, service, repair & upgrades. Retail Store - www.traindepot.biz Authorized Lionel Service Station & Digitrax dealer. Online Sales Visit www.JTTrains.com

TRAIN DEPOT
13944 Willard Rd., Suite 1 703-953-3767

WASHINGTON • Burien (Seattle)

New location - downtown Burien. Close to SEA-TAC airport - short drive from downtown Seattle. New & vintage electric trains in all scales. Tue-Sat 11-6
www.electrictrainshop.com

THE ELECTRIC TRAIN SHOP
625 SW 152nd St. 206-244-7077

WASHINGTON • Kirkland

Lionel, American Flyer, LGB, HO, N. Buy, sell, and repair. Supplying all your railroading needs. Open Mon-Sat.
www.eastsidehobby.com

EASTSIDE TRAINS, INC.
217 Central Way 425-828-4098

WASHINGTON • Spokane

100% trains. Open Monday-Friday 10am - 6pm. Always open Saturday 10 - 5. Closed Sunday & holidays.

SUNSET JUNCTION MODEL TRAINS
419 E. Sprague Ave 888-838-2379

WASHINGTON • Tacoma

Lionel, LGB, HO, N, G Athearn, Bachmann, Walther's, Micro-Trains Books, paints, supplies, Thomas See our website! www.tacoma-trains.com Mon - Sat 10-6 (Sun 11-4 Nov-Jan)

TACOMA TRAINS
3813 North 26th St. 253-756-7517

WISCONSIN • Bay View (Milwaukee)

Specializing in HO, N, Books, DVD's, DCC. Special Orders Welcome. Discount Prices. Tue-Wed 11-5, Thur 11-6, Fri 11-5, Sat 9:30-3
www.southsidetrains.com

SOUTH SIDE TRAINS
3979 S. Howell Ave. 414-482-1566

WISCONSIN • Green Bay

Exclusively trains, specializing in DCC, N, G, & HO. DCC installation and award winning custom painting and building available.
WWW.ENGINEHOUSESERVICES.COM

ENGINEHOUSE SERVICES, LLC
2737 N. Packerland Dr. 2H 920-490-4839

WISCONSIN • Milwaukee

Exclusively Model Railroading since 1932. One-stop shopping from Z to G. 800-487-2467 walthers.com

WALTHERS SHOWROOM
5619 W. Florist Avenue 414-461-1050

WISCONSIN • Monroe

N & HO scale trains & accessories, plastic kits, Books, videos & tools. Summer hours: Tues - Sat 10-5 Winters: Add Sun 12-4 Call ahead to be sure we're open!

THE HOBBY DEPOT
835 17th St. 608-325-5107

WISCONSIN • Waukesha (Pewaukee)

Marklin • Lionel • MTH • AF • LGB • Z to G • buildings • scenery • detail parts • books • scratchbuilding supplies • special orders • NMRA discounts • Mon - Fri 11-8 • Sat 10-5 Sun 12-5. www.hiawathahobbies.com

JETCO'S HIAWATHA HOBBIES
2026 Silvernail Rd. 262-544-4131

CANADA-BC • Kamloops

Model trains in G, O, S, HO, N, Z Old toy trains, railway antiques, art, books, DVDs, souvenirs and Thomas too. Canadian road names a specialty.

KELLY'S KABOOSE, THE RAILWAY STORE
634 Victoria Street 250-377-8510

CANADA-BC • Langley (VAN)

Specializing in European Model Trains, Märklin, Roco, LGB, Carrera, Brawa, Fleischmann & more. Huge selection of trains, kits, & acces. HO-N-Z, I-G, S scales. Mon-Fri 9-4:30, Sat 10-2. www.EuroRailHobbies.com

EURO RAIL HOBBIES & MORE INC
1526 232nd St. 866-799-6098

CANADA-BC • Vancouver

Large selection of model RR supplies including Min. by Eric, Athearn/MDC, Atlas, Peco, Shinohara, Rapido, Soundtraxx, brass, etc. Special orders. www.central-hobbies.com Open 11-6 Friday til 9. Closed Sundays.

CENTRAL HOBBIES
2825 Grandview Hwy. 604-431-0771

CANADA-ON • Dundas

Your full line hobby shop. Open 7 days a week. N, HO, AF, Lionel, LGB. Scenery and scratchbuilding supplies. Walther's dealer. Kato products. Special orders welcome! E-mail us at: sales@dundasvalleyhobby.ca

DUNDAS VALLEY HOBBY
15 Cootes Dr. 905-628-9156

CANADA-ON • Fergus

Model Trains for Beginners to the Experts. Buy, Sell, Trade, Repair. HO, N, O/O27, S, G. Come See Our Trains. www.2bintrains.on.ca

2B IN TRAINS
6168 Road 29 519-787-3280

CANADA-ON • London

Complete Canadian trains & more N, HO, G, Athearn, Hornby, Peco, Walther's. Special orders, plastics, parts, supplies, books, DVD's. Mon - Fri 10-6, Sat 9-5. sales@rrhobby.ca www.rrhobby.ca

BROUGHDALE HOBBY
1444 Glenora Drive 519-434-0600

CANADA-ON • Mississauga

6,000 sq. ft. All Trains! Premier Selection & Service! In store clinics and layouts! Railfan Headquarters! Quick special orders! www.cvrco.com

CREDIT VALLEY RAILWAY COMPANY, LTD
2900 Argenta Rd. Unit #24 1-800-464-1730

CANADA-ON • Mount Forest

45 Min North of Guelph. Fax# 519-323-3809. Authorized Lionel value added dealer. One of Canada's largest Lionel retailers MTH, K-Line & more. Full line HO dealer. www.tctrainscanada.com Closed Monday.

THE TRAIN CELLAR
130 Main Street North 519-323-3935

CANADA-ON • Ottawa (Vanier)

One of Canada's leading model shops. Complete selection of HO & N gauge. Friendly knowledgeable staff. Free Parking. On parle Français.

HOBBY HOUSE, LTD.
80 Montreal Road 613-749-5245

CANADA-ON • Paris

Full line hobby shop. Large stock N, HO. Special orders weekly, all scales. All accessories, scenery and supplies. www.parisjunctionhobbies.com

PARIS JUNCTION HOBBIES
300 Grand River St. N. 519-442-5800

CANADA-ON • Toronto (Markham)

North American Train Specialists since 1962 HO, N, O, G and DCC Railfanning beside CNR Mainline Closed Mondays www.georgestrains.com

GEORGE'S TRAINS LTD.
550 Alden Rd., Unit 101 905-470-6200

CANADA-ON • Windsor

Model Railroading since 1970. Operational in-store layout. HO & N trains, bits & pieces. "Simplified Wiring & Trackwork" by Fred Stainer.

WINDSOR HOBBIES LTD.
3895 Tecumseh Rd. East 519-945-5471

GERMANY • Kaarst

Europe's best known address for US Railroads. We carry N, HO & G scale for all road names. Atlas to Walther's. Mon - Fri 10-6:30, Sat 10-2 Overseas orders with VS & MC

ALL AMERICAN TRAINS
www.aat-net.de E-mail: info@aat-net.de

Run your Retail Directory
ad in the next issue of
Model Railroader!

Call 888-558-1544, ext. 815
for more information.

**Model
Railroader**

Explore MR Video Plus on DVD!

JUST \$12.99 EACH!*

Watch your favorite videos on your TV or any other DVD-capable device. These DVD installments are the perfect way to learn new model railroading skills and discover quick tips that the experts use. In our extensive DVD collection, you'll find hours of coverage on the most practical topics.

**Purchase today at
KalmbachHobbyStore.com/MRVPDVD**

*Shipping price not included. Sales tax where applicable.

**QUANTITIES
ARE
LIMITED!**



Model Railroader MAGAZINE



NEXT ISSUE

Another round on the Beer Line

Model Railroader's 2017 project layout brings new industries to our popular 2009 Beer Line layout! We add a 4 x 5-foot extension to the layout, with a concrete company and several other businesses to serve. That means new scenery and new track, too.

Scratchbuild a diesel shell from styrene

Frequent MR author Brooks Stover shares how he built a Whitcomb 65-ton diesel locomotive in S scale. The model is based on a shortline prototype.

Plus more:

- Visit a Santa Fe shelf layout
- Model a diesel servicing facility
- How to model a Quonset hut

Subscribe today!

1-800-533-6644

www.ModelRailroader.com

DISPLAYADINDEX

We believe that our readers are as important as our advertisers. If you do not receive your merchandise or a reply from an advertiser within a reasonable period, please contact us. Provide details about what you ordered and the amount you paid. If no action is obtained after we forward your complaint to the advertiser, we will not accept further advertising from them. *Model Railroader* magazine, 21027 Crossroads Circle, Waukesha, WI 53187

Affordable Model Railroads.....83	Halfpricehobby.com.....69	Ron's Books.....82
All Electronics Corp.....83	Hawkins Rail Services.....27	Rusty Stumps Scale Models...82
Allegheny Scale Models.....82	Jamestown Trains.....83	SBS4DCC.com.....17
Altoona Model Works.....84	Jason's Hobby Depot.....82	Scale Structures Ltd.....84
ANE Model Co., Ltd.....65	Jelsma Graphics.....84	ScaleTrains.com.....84
Athearn.....7	JT's Mega Stream.....17	Scenery Solutions.....84
Atlas Model Railroad Co., Inc.....5	Kam Konnect.....17	Shelf Layouts Company.....83
Axian Technology.....15	Kato USA, Inc.....91	Showcase Express.....13
Bachmann Industries, Inc.....9	Litchfield Station.....82	Sievers Benchwork.....69
Bar Mills Scale Model Works...3	Logic Rail Technologies.....84	Signature Press.....71
Berrett Hill Trains.....83	MB Klein.....17	Smith Southwest Model Rail...15
Bill's Trains and Track.....83	Menard, Inc.....27	SoundTraxx.....65
Blair Line, LLC.....82	Metro Trains & Hobbies.....82	Spring Mills Depot.....83
Bollinger Edgerly Scale Trains..17	Micro Engineering.....65	Tam Valley Depot.....82
BPL.....82	Micro-Mark.....19	Tichy Train Group.....83
Broadway Limited Imports.....92	Miniature Amusements.....17	Timberline Scenery Co.....84
Bullfrog Snot.....84	Model Railroader Books 73, 75, 81	Train Collector's Association...24
C&NW Historical Society.....82	Model Railroader magazine.....73	Train Control Systems.....15
Cadrail / Sandia Software.....15	Model Railroader Video Plus...80	Train Junkies.....83
Calendars.....81	Model Scenery & Structure.....82	Train World.....37
Chooch Enterprises.....83	N Scale Magazine.....55	Trainsetonly.com.....83
Circuitron.....65	NCE Corp.....21	Trainmaster, The.....83
Circuits4tracks.....83	Nicholas Smith Trains.....13	Traintek LLC.....17
Cripplebush Valley Models.....82	PA Model Railroad Supply.....82	Valley Trains N Hobbies.....82
Custom Display Cases.....69	PECO Products.....71	Wig Wag Trains.....82
Custom Model Railroads.....24	Phoenix Unlimited Ltd.....82	Wm. K. Walther, Inc.....2, 23
CVP Products.....27	Plastruc, Inc.....65	Woodland Scenics.....25
Digitrax.....64	PROGRESSIVE MODEL DESIGN...83	Xuron Corporation.....71
Don Black Brass Trains.....83	Rail-Lynx.....17	Yardsaletrains.com LLC.....84
East Coast Circuits.....82	Railroad Line Models.....83	Z Stuff for Trains.....3
Engineered Layout Systems.....83	Railroadbooks.biz.....82	Zycon Models.....15
EnterTRAINment Junction.....64	Rapido Trains.....55	
Evan Designs.....27	RCS America.....17	
Fifer Hobby Supply.....84	Realrail Model Railroading.....3	
Good Deals DCC.....82	River Point Station.....83	
Great Midwest Train Show.....3	RIX Products.....84	
Great Train Expo.....3	Robert's Products Co.....82	
Greenberg Shows.....3	Roger's Railroad Junction.....82	

The Display Advertiser Index is provided as a service to *Model Railroader* magazine readers. The magazine is not responsible for omissions or for typographical errors in names or page numbers.

Here be dragons!

At this remote juncture in history, it's easy to laugh at early marine maps showing ill-defined oceans with the notation, "Here be dragons!" But back then, who knew for sure? Months at sea with no certainty of reaching land, rotting food, scurvy, no medical care, dehydration – and maybe dragons? A menial desk job must have looked mighty appealing.

But think about how many of us have a similar view of the path ahead as we contemplate building model railroads. We come up with every possible excuse in the book for not vacating our comfy chairs: No room. Don't know how to wire. Can't solder. Don't have an airbrush. Digital Command Control looks complicated. Don't know how to do scenery. What's all this nonsense about staging? Too expensive. How big a hammer do I need to tap a hole? My pinky finger is really sore. There be dragons here!

Some of us are just really, really good at formulating excuses. I discovered this when I was on the National Model Railroad Association's board of directors. We invariably discussed coming up with a new and improved way of planning and running our annual national conventions. We'd make it shorter! Well, no, then it would simply be another regional convention. We'd hold it in "econobox" hotels and have the National Train Show at the fairgrounds a few miles out of town. Well, would the folks who regularly attend the national conventions still come? And would the folks who complain about the downtown hotel rates simply find another excuse not to attend, leaving the local convention team holding the financial bag? There be dragons here!

I often hear comments to the effect that today's models are simply too expensive. "No one" can afford them any more. The complainers apparently yearn for the good ol' days when they could buy a plastic kit for 5 bucks and a locomotive for 25 small ones.

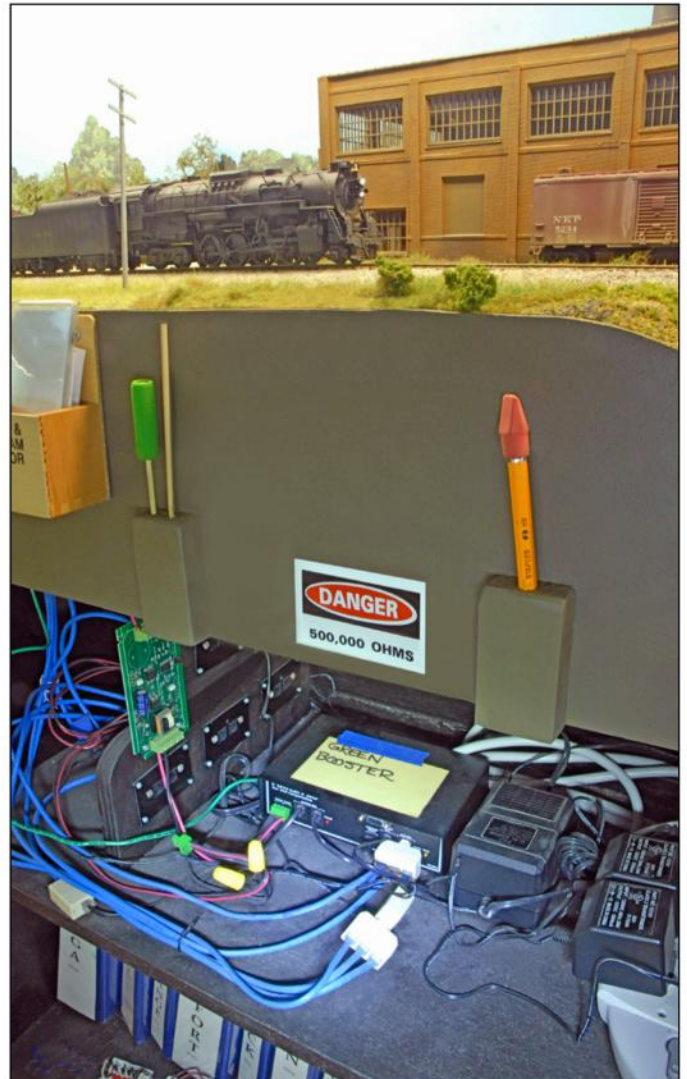
They still can at swap meets, but meanwhile, the quality of the models we are offered has leapfrogged so far ahead that my best efforts at detailing one of the products of Good Ol' Models Inc., come up short. I can buy ready-to-run models – what we used to think of as cheap train set stuff – of superb quality, albeit at substantially higher prices.

The time saved, I figure, is better spent on improving the appearance and operation of my railroad. The total "cost" is the same – more time and less money or more money and less time per model. You pay your money and make your choice.

The real problem isn't time or money or quality or difficulty. It's inertia. Most of the grouching is simply an attempt to convince others, or maybe ourselves, that there are valid reasons why we aren't building a model railroad. There be dragons here, too.

But, as the Air Force ROTC commandant of cadets when I attended Purdue University used to say when someone complained: "Son, you need an attitude check!"

I'll wager that you cannot name a single problem faced by most model railroaders that hasn't been exhaustively covered in this magazine – not just over its lifetime but in the past decade. But then many of those who have a list of perceived



Like the "Here be dragons" warnings on ancient maps, too often we let our reluctance to learn new things scare us off. Don't let a few hundred thousand ohms scare you away.

Tony Koester photo


deal-breakers have given up on hobby magazines. "They're just aimed at the beginner anymore."

That's odd. I still get quite a bit of useful information from them, and I started reading them in 1954.

But they're "too expensive." Odd again; I can't recall eating out at any place above a fast-food emporium for less than what an entire year of a print magazine costs. If nothing else, that's pretty inexpensive entertainment.

This is starting to circle back to the find-any-excuse-not-to-push-ahead argument, isn't it?

The MR team is here to help every modeler – you! – forge ahead. But we need your help to do that. Keep an open mind, and don't allow yourself to think that participating in and truly enjoying our hobby is a really hard thing to accomplish.

Together, maybe we can slay some of those dragons. 

N
Scale



N UNION PACIFIC FEF-3 "FREIGHT" VERSION #838



AVAILABLE NOW!

The Union Pacific FEF (Four Eight Four), along with the GS-4 is easily one of the most recognizable US steam prototypes still in operation today. The FEF-3 series of steam locomotives was delivered in 1944 and were the last, and some of the largest, steam locomotives delivered for use by the Union Pacific. Operated solely by the Union Pacific, the FEF's were intended primarily to be passenger locomotives but the UP's large fleet of available diesels meant that the FEF's were put to work in secondary passenger and fast freight service.

This 2016 Product run will re-issue the Excursion version FEF-3 #844 along with a brand new paint variation - the Freight #838, which has matte paint, a darker smokebox, and blackened wheels!

Available w/ DCC + Sound by request, contact your local hobby shop!

NEW 2016 RELEASE OF KATO'S REVOLUTIONARY 4-8-4 LOCOMOTIVE!

#126-0401	UNION PACIFIC FEF-3 "EXCURSION" #844	275.00
#126-0402	UNION PACIFIC FEF-3 "FREIGHT" #838	275.00

AVAILABLE ROLLING STOCK TO ACCOMPANY THE FEF-3

#106-085	UNION PACIFIC WATER TENDER 2-CAR SET	79.00
#106-086	UNION PACIFIC EXCURSION TRAIN 8-CAR SET	250.00
#106-6275	MIXED FREIGHT CAR SET W/ 6 ASSORTED CARS	90.00

KATO
PRECISION RAILROAD MODELS

100 Remington Road Schaumburg, IL 60173 (847)-781-9500
www.katousa.com



n scale water tower

with motorized spout, water fill and engineer sounds. Available decorated in ATSF, GN, NYC, PRR, UP, WP, Barn Red and Unlettered.



n scale alco pa/pb

with Paragon2 sound and control system for DCC and DC. Available decorated in ATSF, D&RGW, PRR, SP, UP, Erie, GE Exhibition, Mopac, SSW, Unlettered.

I N S T O R E S N O W .



milwaukee S3, HO

back by popular demand! This die cast behemoth was crafted in conjunction with the Milwaukee experts and the sounds are authentic - recorded from the actual #261. Available in 261, 265, 260, 263, 267, 268. Paragon3 with Rolling Thunder™ transmitter equipped.



ge c30-7, HO

Equipped with Paragon3 and Rolling Thunder™ transmitter. Available in all new road names as well as some old favorites including: ATSF Yellow Bonnet, ATSF Kodachrome, BC Rail, CSX, Ferromex, NS, UP, BN Bicentennial, USDOT.



WWW.BROADWAY-LIMITED.COM