JIM BARRETT COMPLETES A TRESTLE-BUILD PROJECT





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The original USRA (United States Railway Administration) design box cars date from World War I when car designs began to be standardized. The double sheathed version was the first widely accepted 40-foot steel underframe box car placed in service. Some 24,500 cars were delivered to 24 different railroads around the country. Each Atlas replica of this handsome box car is meticulously crafted to achieve realism and authenticity. Head down to your local hobby store and get yours today!











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Why Made in America STILL Works

Those of you who read our open letter published in the various magazines in the past may be skeptical of why products made in America are a better idea. While many of you know that our main competitor, Atlas, has been having little success getting track and switches from their chinese suppliers over the last year and a half (as of Feb 2015) there are other reasons as well. Here at Ross Custom we had a price increase on Jan 1st 2015, our first increase in nearly five years. I noticed that even though Atlas hasn't been available the prices in their online store keep going up and up. I thought I'd show you a comparison of regular retail prices as I write this today, of Ross Custom made in America versus Atlas made in China. Note we use switch machines made by Z-Stuff for Trains on our remotes that are made in Taiwan.

	•	
ROSS MADE IN AMERICA		ATLAS MADE IN CHINA
031 REMOTE	\$89.95	036 REMOTE\$104.95
042 REMOTE	\$89.95	045 REMOTE\$104.95
054 REMOTE	\$89.95	054 REMOTE\$104.95
064 REMOTE	\$89.95	NOT MADE
072 REMOTE	\$89.95	072 REMOTE\$104.95
080 REMOTE	\$94.95	NOT MADE
096 REMOTE	\$99.95	NOT MADE
054/031 CURVED REMOTE	\$99.95	NOT MADE
072/054 CURVED REMOTE	\$89.95	072/054 CURVED REMOTE\$132.95 WOW!
096/072 CURVED REMOTE	\$114.95	NOT MADE
0120/096 CURVED REMOTE	\$134.95	NOT MADE
031 WYE REMOTE	\$94.95	NOT MADE
042 WYE REMOTE	\$94.95	NOT MADE
054 WYE REMOTE	\$94.95	NOT MADE
072 WYE REMOTE	\$94.95	072 REMOTE\$104.95
11 DEGREE WYE REMOTE	\$94.95	NOT MADE
22 DEGREE WYE REMOTE	\$94.95	NOT MADE
#4 REMOTE	\$89.95	NOT MADE
#5 REMOTE	\$89.95	#5 REMOTE\$129.95 WOW!
#6 REMOTE	\$99.95	NOT MADE
#8 REMOTE	\$114.95	#8 REMOTE\$132.95
#10 REMOTE	\$144.95	NOT MADE
THREE WAY REMOTE	\$299.95	NOT MADE
FOUR WAY REMOTE	\$274.95	NOT MADE
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#5 DOUBLE CROSSOVER	\$479.95	NOT MADE
#8 DOUBLE CROSSOVER	\$679.95	NOT MADE
#4 YARD CROSSOVER	\$209.95	NOT MADE
TRACK		
031	\$7.49	027\$7.95
036	\$7.49	036\$6.75
042	.\$7.99	045\$7.95
054	\$6.99	054\$6.75
064	\$6.99	063\$8.95
072	\$6.99	072\$9.95 WOW!
080	\$7.49	081\$11.95 WOW!
084	\$7.99	NOT MADE
092	\$7.99	090\$14.50 WOW!
096	\$8.49	099\$15.95 WOW!
0100	\$8.99	NOT MADE
0104	\$8.99	NOT MADE
0112	\$9.49	0108\$18.95 WOW!
0120		NOT MADE
0128	\$10.00	NOT MADE







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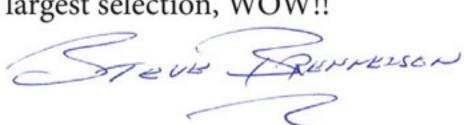
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0128\$10.99

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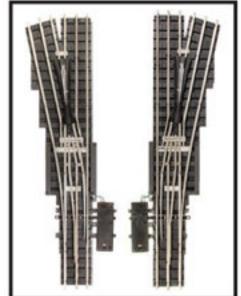
GARGRAVES FLEX TRACK 37"...\$8.95

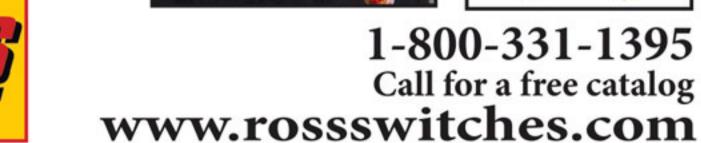




40" FLEX TRACK...\$26.50 WOW REALLY?? YEP!!









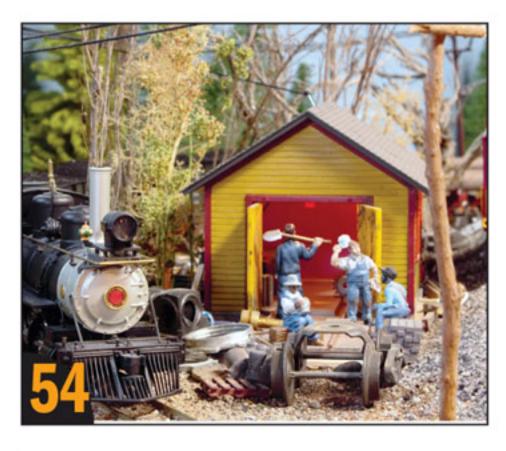
contents











PRODUCT REVIEWS

21 3rd Rail Southern Pacific EMD SD7

MTH Premier N&W 2-6-6-4 Class A

FEATURES

36 O Is a Family Affair: Dad's Layout
Troy Laughman

Kadees Replace Claws
Bob Glorioso

54 O Is a Family Affair: Son's Layout
Joe Laughman

Dynamic Diorama
Joey Ricard

DIVISIONS

Editor's Corner All in the Family	6
Product Showcase New Item Announcements	11
Readers' Rails Your Trains and Layouts	16
Collector's Gallery Sweet Ending for a Colorful Series	71
OGR Bookcase Educational Entertainment	78
Backshop Finishing Your Trestle	83
The Helper Engine Aluminum Superliners	92
Scheduled Meets Shows to Attend	95
Dealer Roundhouse O Gauge Shops	96
Advertiser Index Advertisers in This Issue	98



ON THE COVER

Autumn scenery and vintage steam are seen on Joe Laughman's 3-rail O gauge layout. This MTH Climax locomotive is a favorite with Joe whose Pennsylvania Red Pine RR layout shares space in the Laughman household with one built by his father, Troy (also featured in this issue). Joe's layout will likely be on hold for a while because by the time this issue appears, he will be serving with the U.S. Navy.

Photo by Robert Benscoter



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Editor's Corner

Allan Miller





Troy's Layout

All in the Family

 \mathbf{F} or the first time in my decade-long tenure as editor of OGR, the two layouts selected for feature presentation in this issue belong to members of the same family. I'm not 100% certain this is a "first and only" for the magazine over its many years of publication, but I believe it may well be.

Troy Laughman, the father, and Joe Laughman, his son, both enjoy O gauge and O scale layouts constructed separately in the basement of the same home. And wife/mom, Roxanne, is a contributing member of the team and fully supportive of both of her men. But this family's involvement in model railroading doesn't stop there. Troy's parents, Barb and Robert, live in Hanover, Pennsylvania, and Robert is equally active in the O gauge hobby. His 13' x 12' L-shape layout has two O gauge lines running

MTH motive power and a mix of rolling stock. Rest assured we plan to display Robert's layout in a future issue.

Neither Troy's nor Joe's layouts are particularly large. Troy's measures 25' x 5' and Joe's is 12' x 4'. Track diagrams for each of the layouts are presented with their respective articles inside this issue, but I thought I might provide overall photographic views of the two with this column. Straight-on perspectives weren't possible due to layout width and the limited open area available for a suitable camera position, but I believe these two shots will give you a decent idea of what can be accomplished in a modest space. Beyond the scenic and operating possibilities, another advantage of a wide but shallow layout design is the ability of the builder to more easily reach all areas from front to back

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with a minimum of physical arm extension gyrations or other difficulty. This is definitely a "plus" when one is working on scenery, attending to derailments, cleaning track, or engaged in a variety of other situations.

Once you have had a chance to read the two articles and enjoy the many photos of each, I'm confident you will agree that this father/son team has made very good use of the basement space available to them and, best of all, they have shared, enjoyed, and learned more about the hobby together.

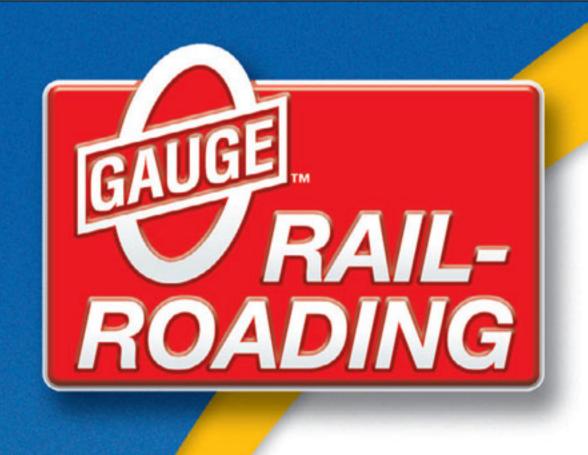
As we approach the Christmas holiday season, I hope there are other grandfathers, fathers, and sons in our ranks who will take up the banner to promote and grow what so many of us regard as the world's greatest hobby. Not all—or perhaps even all that many—will be fortunate enough to have the space to build two separate layouts with separate themes in the same location, but that's perfectly fine. What really counts is the natural bonding that occurs when two or more members of the same family, not to mention members representing two or more generations, become involved. Does it get any better than that?



Joe and Troy



Joe's Layout



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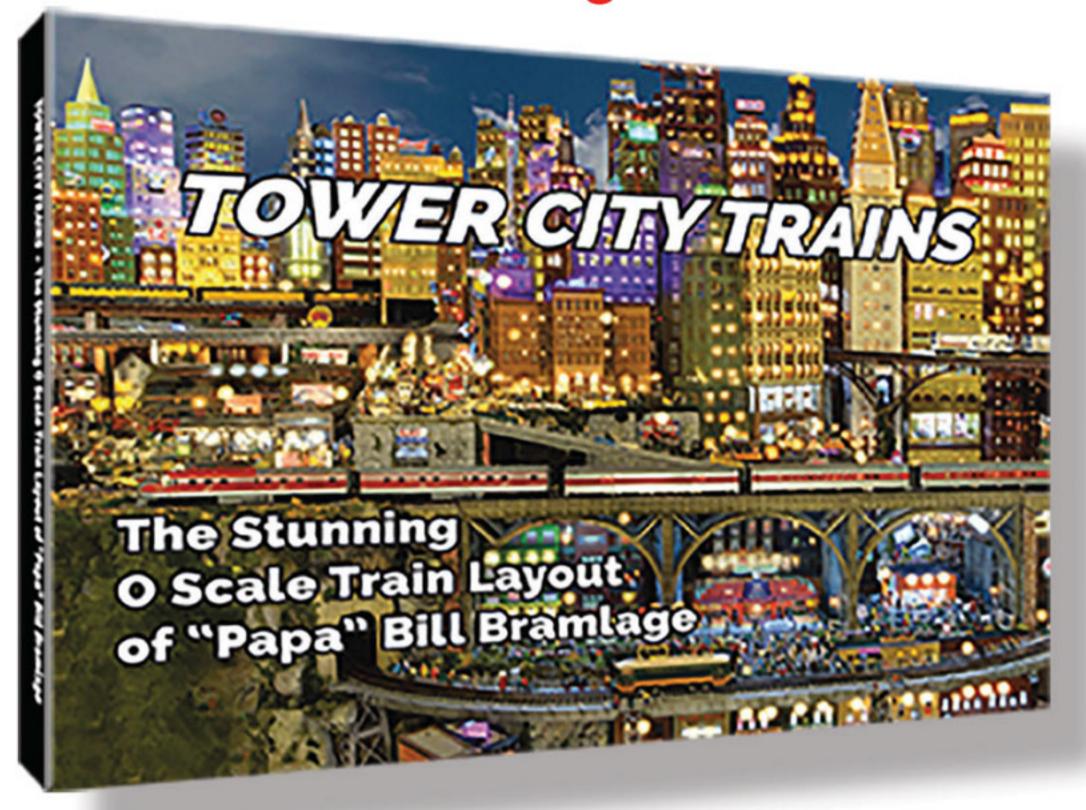
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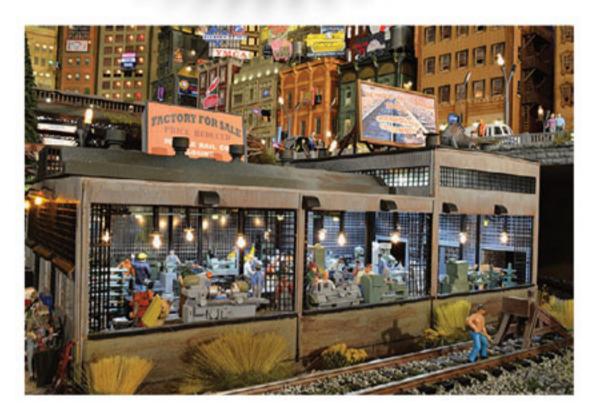
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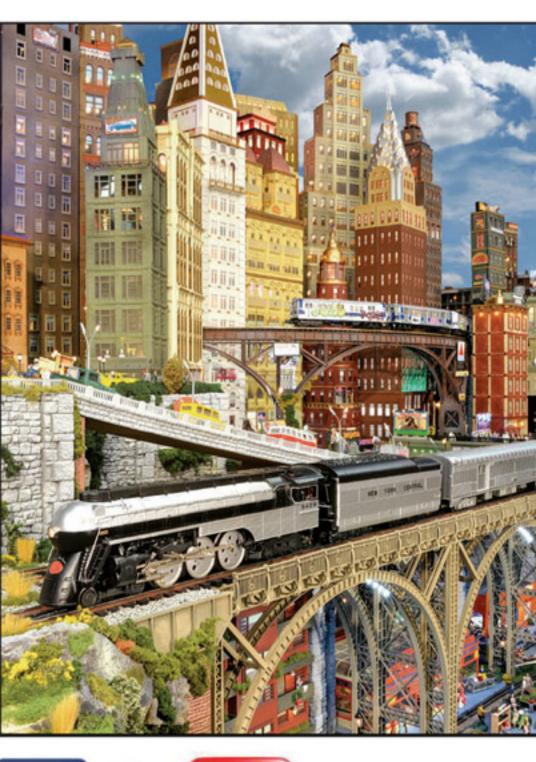
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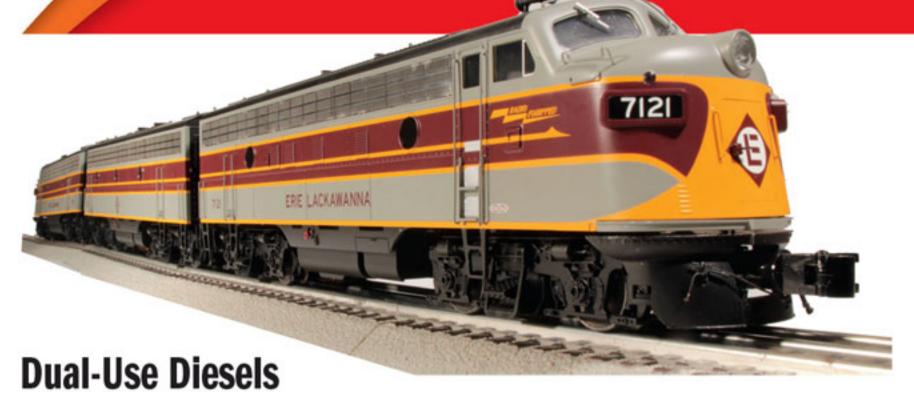
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Product Showcase



Atlas has shipped its O scale Master line F7 Phase 1 "Early" A and B units, in powered and unpowered versions (3-rail and 2-rail) and in six different road names. Originally designed for freight use on the prototype roads in the late 1940s and early 1950s, these locomotives also saw a lot of passenger service. The Atlas roster includes Amtrak, Erie Lackawanna, Pennsylvania (Brunswick Green single stripe), Denver & Rio Grande, Milwaukee Road, and Santa Fe. All Atlas Master F7s have road-specific details, and 3-rail powered models are equipped with Lionel Trainmaster Command Control, Electric Railroad Co. "Cruise Commander" technology, improved RailSounds digital sound, and Legacy compatible 100 speed steps. The 2-rail Gold F7s are sound equipped. MSRP for powered F7 A-B units is \$499.95, and unpowered F7 A-B units cost \$199.95. See them at your Atlas dealer or for more information visit www.atlaso.com.



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New to the On30 narrow gauge rolling stock assortment offered by Bachmann are 18-foot cabooses in two body styles: Logging and Offset Cupola. These are the latest additions to the Bachmann line of shorter 18' freight cars that are particularly attractive to hobbyists operating with tight-radius curves. The cabooses feature metal wheels and Bachmann's E-Z Mate Mark II couplers. The logging version is available in MOW Gray (#26561), Caboose Red (#26562), and Yellow (#26563), and the offset cupola version comes in White Pass & Yukon (#26564), Durango & Silverton (#26565), and Oxide Red (#26566) liveries. Made with new and existing tooling, the suggested price is \$69.00 each in either version. See your Bachmann retailer or visit www.bachmanntrains.com for full details.



Illuminating Our Defenses

A current addition to the ever-expanding line of O gauge military rolling stock from Menards is a Military Generator Car with Swiveling LED Floodlights. This detailed operating car includes two swiveling floodlights equipped with long-lasting LEDs and an imposing generator adorned in olive drab paint scheme with appropriate U.S. military graphics. There also is an O scale engineer aboard the car. The 14-3/4" long generator car rides low and has a real-wood composite deck and die-cast couplers with fully sprung trucks and a swing-type drawbar so navigating O27 curves is no problem. The floodlights are battery operated and illuminate with the addition of two AA batteries (sold separately). Retail price of product #279-3691 is \$39.99. For full details or to order, go to www.menards.com or visit your local Menards retail store.



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The Lionel Collectors Club of America (LCCA) is offering a 2017 LCCA All-American Christmas boxcar that is sure to fill the heart with Christmas cheer. Made in the U.S.A. by Lionel from new tooling and is loaded with features, this limited edition O gauge boxcar is 10-1/2" long and includes die-cast metal sprung trucks, operating couplers, and metal frame. The holiday graphics are a festive red, white and blue. The special car comes packaged in a new, exclusive orange and blue LCCA/ Lionel branded box inspired by classic Lionel packaging. Cars can be ordered for \$74.00 plus \$10 shipping (limit one per member) from the LCCA website at www.lionelcollectors.org or by calling the LCCA business office at 815-223-0115. Deadline for ordering to assure delivery before Christmas is November 30. If you are not a LCCA member, you can join for as little as \$25 per year. Details and order forms for the Christmas car can be found at www.lionelcollectors.org or by calling 815-223-0115.









Bridge the Divide

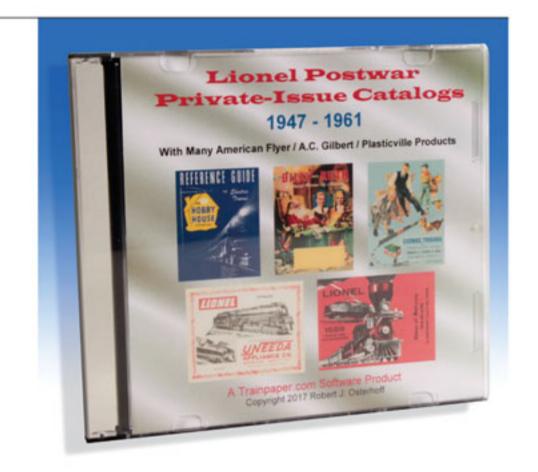
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Exploring Lionel's Past

A new DVD from Bob Osterhoff's Trainpaper.com enterprise titled "Lionel Postwar Private-Issue Catalogs, 1947-1961" includes forty special and not-often-seen Lionel catalogs once used to supplement the firm's iconic postwar consumer catalogs. This is not a video DVD, but each page is viewable as a PDF file that can run on Windows and



Mac-based computers. The disc includes the 40 private issue catalogs in full color, with over 1,150 pages of products from producers including Lionel, A.C. Gilbert/American Flyer, Marx, Plasticville, Colber, Skyline, and AMT. Also includes complete manuals and all-gauge references from the Model Equipment R.R. Corp. and Hobby House, as well as other material. Each page can be printed for hardcopy reference. Available for \$40.00, plus \$2.50 shipping, direct from Bob Osterhoff, 1622 Garden Valley Drive, Wildwood, MO 63038, or online at www.trainpaper.com.

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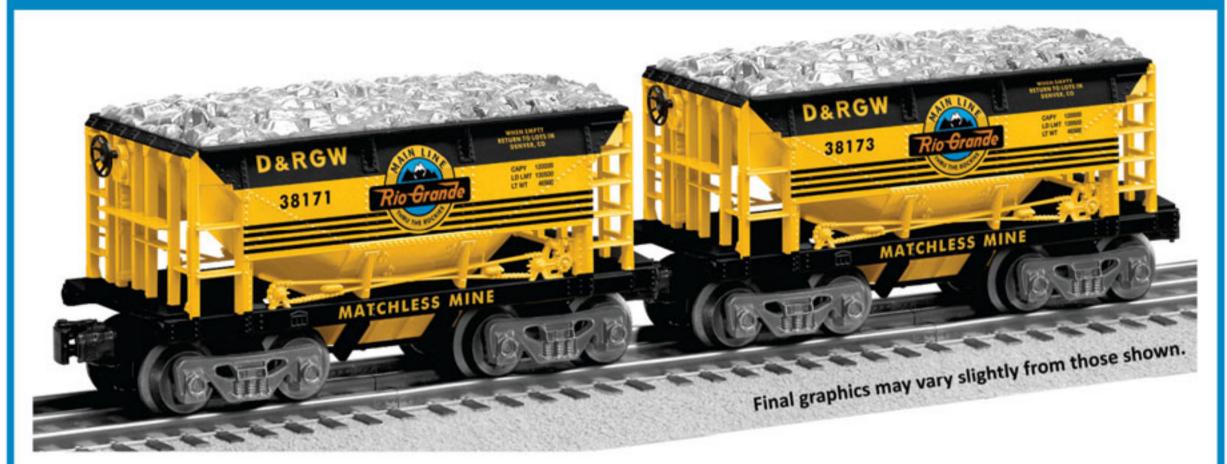
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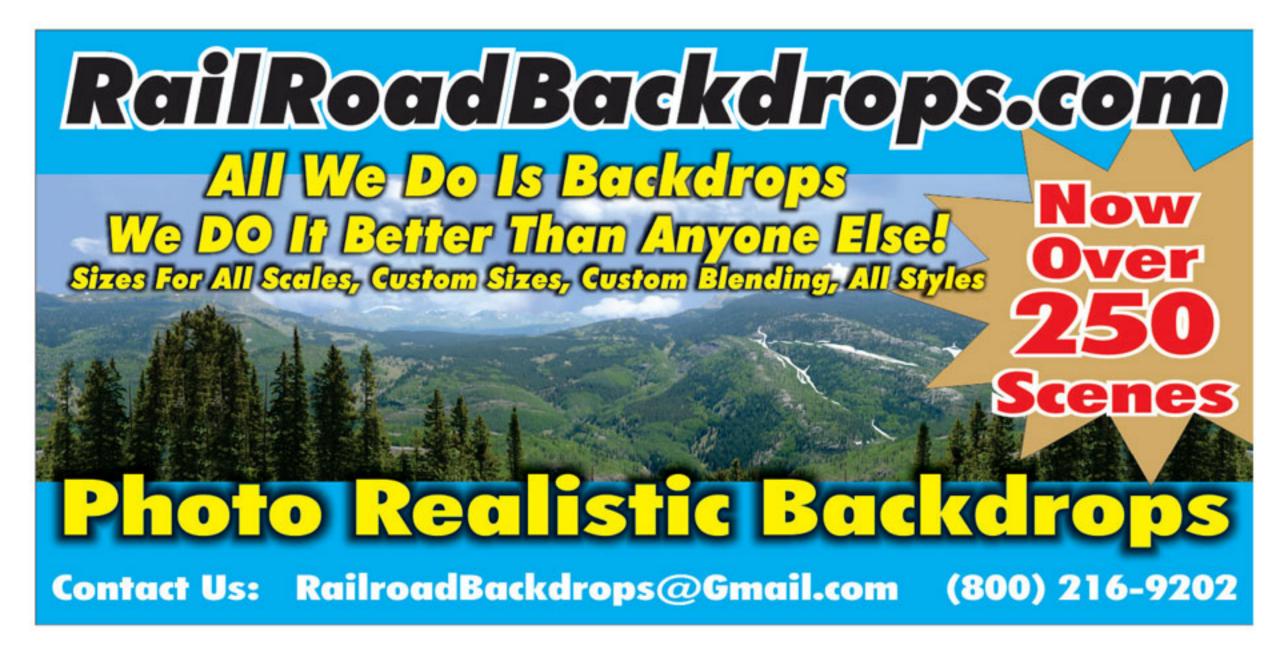
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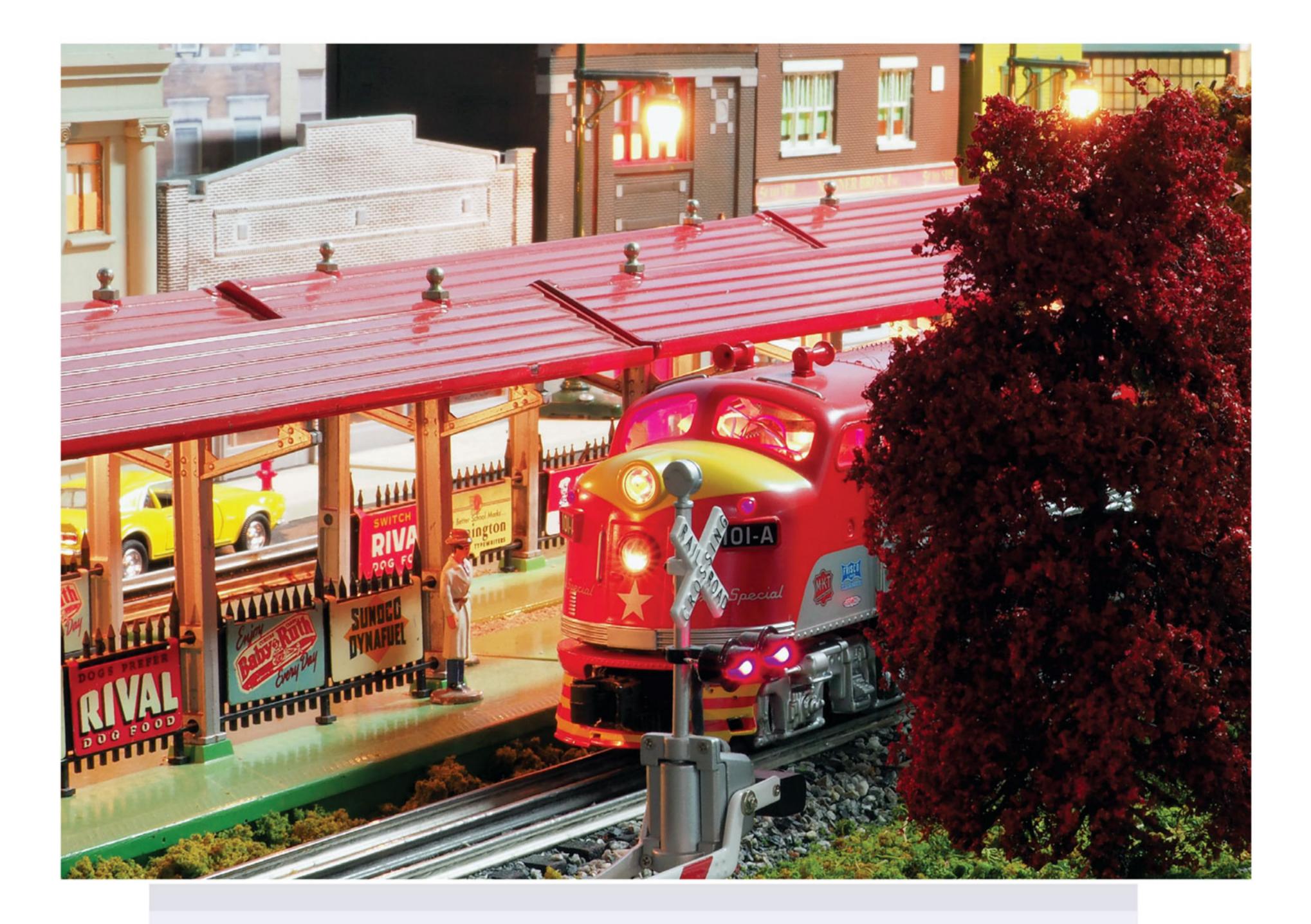
Continued next column

Readers' Rails

How would you like to show your trains and layout to your fellow O gauge railroaders?

You can take your photos using a digital camera capable of at least 3.3 megapixels set to the best JPEG image. Please send only original, unedited JPEG files. Color prints of 4"x 6" or larger are also fine. Be sure to include brief notes about the trains in the photos and any other information you'd like to share, such as the size of your layout, unique scenery, make of track, power supply or control system, and so forth.

We are looking for quality photography with good lighting and clear images; however, on-camera flash photos are generally not acceptable. Send your photo, CD, or prints to Readers' Rails, 33 Sheridan Road, Poland, Ohio 44514-1680. Or you can e-mail your image and text files to editor@ogaugerr.com.



Fall Is Here! Can Winter Be Far Behind?

The platform is nearly empty this crisp fall afternoon as the Texas Special pulls into town on Chuck Dzielawa's 3-rail O gauge layout. Chuck most enjoys modeling the winter season with autumn coming in a close second, and OGR readers will be treated to a full feature devoted to the winter section of his layout in our December issue. This photo was taken by Scott Brenner who is also providing the photo coverage for the upcoming feature.



Small Town U.S.A.

Jeff Littleton wanted to build an O gauge layout that would represent a typical Smalltown U.S.A. and the surrounding area. The layout had to have a town, some industry to support rail line switching activities, and a bit of countryside scenery. The C&O and the Ann Arbor (seen here) were, according to Jeff, ideal candidates for railroads to support this theme. The layout, which will be covered in depth in a future issue, has a single main line with two passing sidings and a few spurs. Jeff believes in creating a convincing scene with the right buildings and scenery rather than jamming in track. Jeff's friend Greg Annett took this photo.

All Aboard!

There's absolutely no doubt that Skip Natoli loves the Christmas season. His layouts with Christmas in New York themes have already been featured in two of our previous December issues, and this year he appears to be shooting for the "triple crown" with a custom-built Polar Express layout. Check our next issue to see this layout in far more detail.







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MTH 30-1683-1 Milwaukee Road 4-6-4 Hiawatha with P3 MTH 30-20164-1 Amtrak Dash-8 with Proto 3.0 MTH 30-20179-1 Conrail E-8 AA with Proto 3.0 MTH 30-20180-3 Florida East Coast Non Powered E-8 B MTH 30-20235-1 CSX SD60 with Proto 3.0 MTH 30-20239-1 Wabash FM with Proto 3.0 MTH 30-20269-1 Santa Fe GP-9 with Proto 3.0 MTH 30-20270-1 Chessie GP-9 with Proto 3.0 MTH 30-20314-1 CSX ES44 with Proto 3.0 MTH 30-20315-1 GE Evolution ES44AC 2010 Proto 3.0 MTH 30-20342-1 Santa Fe Dash-8 with Proto 3.0 MTH 30-20345-1 Providence & Worcester Dash-8 P3 MTH 30-20361-1 Norfolk Southern 9-1-1 P3 with Caboose MTH 30-20363-1 Southern ES44AC with Proto 3.0 MTH 30-20365-1 BNSF ES44AC with Proto 3.0 MTH 30-20380-1 Susquehanna SD-60 Proto 3.0 MTH 30-20414-1 Southern Pacific SD70 P3 Heritage MTH 30-20415-1 Katy SD70ACe Proto 3.0 Heritage	\$409.95\$419.95\$299.95\$309.95\$309.95\$299.95\$299.95\$319.95\$319.95\$319.95\$319.95\$319.95\$319.95\$319.95\$319.95\$319.95
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MTH 30-1683-1 Milwaukee Road 4-6-4 Hiawatha with P3 MTH 30-20164-1 Amtrak Dash-8 with Proto 3.0 MTH 30-20179-1 Conrail E-8 AA with Proto 3.0 MTH 30-20180-3 Florida East Coast Non Powered E-8 B MTH 30-20235-1 CSX SD60 with Proto 3.0 MTH 30-20239-1 Wabash FM with Proto 3.0 MTH 30-20269-1 Santa Fe GP-9 with Proto 3.0 MTH 30-20314-1 CSX ES44 with Proto 3.0 MTH 30-20315-1 GE Evolution ES44AC 2010 Proto 3.0 MTH 30-20342-1 Santa Fe Dash-8 with Proto 3.0 MTH 30-20345-1 Providence & Worcester Dash-8 P3 MTH 30-20361-1 Norfolk Southern 9-1-1 P3 with Caboose MTH 30-20362-1 Norfolk Southern Veterans P3 w/Cab MTH 30-20365-1 BNSF ES44AC with Proto 3.0 MTH 30-20370-1 CNW SD70ACe with Proto 3.0 MTH 30-20380-1 Susquehanna SD-60 Proto 3.0 MTH 30-20414-1 Southern Pacific SD70 P3 Heritage MTH 30-20415-1 Katy SD70ACe Proto 3.0 Heritage MTH 30-2760-3 Blue Q Type 3 Car Non Powered Set MTH 30-67799 Pennsylvania Operating Hand Car MTH 30-67799 Pennsylvania Dome Car (Silver) MTH 30-67761 Southern Pacific Passenger Coach Car MTH 30-67761 Southern Pacific 60' Passenger Coach Car MTH 30-67761 Southern Pacific 60' Passenger Coach Car MTH 30-67761 Southern Pacific 60' Passenger Coach Car MTH 30-67809 New York Central 4 Car Streamlined Pass	\$409.95\$419.95\$299.95\$309.95\$309.95\$309.95\$299.95\$299.95\$319.95
MTH 30-1683-1 Milwaukee Road 4-6-4 Hiawatha with P3 MTH 30-20164-1 Amtrak Dash-8 with Proto 3.0 MTH 30-20179-1 Conrail E-8 AA with Proto 3.0 MTH 30-20180-3 Florida East Coast Non Powered E-8 B MTH 30-20235-1 CSX SD60 with Proto 3.0 MTH 30-20239-1 Wabash FM with Proto 3.0 MTH 30-20269-1 Santa Fe GP-9 with Proto 3.0 MTH 30-20314-1 CSX ES44 with Proto 3.0 MTH 30-20315-1 GE Evolution ES44AC 2010 Proto 3.0 MTH 30-20342-1 Santa Fe Dash-8 with Proto 3.0 MTH 30-20345-1 Providence & Worcester Dash-8 P3 MTH 30-20361-1 Norfolk Southern 9-1-1 P3 with Caboose MTH 30-20363-1 Southern ES44AC with Proto 3.0 MTH 30-20365-1 BNSF ES44AC with Proto 3.0 MTH 30-20370-1 CNW SD70ACe with Proto 3.0 MTH 30-20380-1 Susquehanna SD-60 Proto 3.0 MTH 30-20414-1 Southern Pacific SD70 P3 Heritage MTH 30-20415-1 Katy SD70ACe Proto 3.0 Heritage MTH 30-2760-3 Blue Q Type 3 Car Non Powered Set MTH 30-67599 Pennsylvania Operating Hand Car MTH 30-67761 Southern Pacific Passenger Coach Car MTH 30-67761 Southern Pacific 60' Passenger Coach Car MTH 30-677813 Atlantic Coast Line 4 Car Streamlined Pass MTH 30-67813 Atlantic Coast Line 4 Car Streamlined Pass	\$409.95\$419.95\$299.95\$309.95\$309.95\$309.95\$299.95\$299.95\$319.95
MTH 30-20164-1 Amtrak Dash-8 with Proto 3.0	\$409.95\$419.95\$299.95\$309.95\$309.95\$299.95\$299.95\$219.95\$319.95
MTH 30-1683-1 Milwaukee Road 4-6-4 Hiawatha with P3 MTH 30-20164-1 Amtrak Dash-8 with Proto 3.0 MTH 30-20179-1 Conrail E-8 AA with Proto 3.0 MTH 30-20180-3 Florida East Coast Non Powered E-8 B MTH 30-20235-1 CSX SD60 with Proto 3.0 MTH 30-20239-1 Wabash FM with Proto 3.0 MTH 30-20269-1 Santa Fe GP-9 with Proto 3.0 MTH 30-20314-1 CSX ES44 with Proto 3.0 MTH 30-20315-1 GE Evolution ES44AC 2010 Proto 3.0 MTH 30-20342-1 Santa Fe Dash-8 with Proto 3.0 MTH 30-20345-1 Providence & Worcester Dash-8 P3 MTH 30-20361-1 Norfolk Southern 9-1-1 P3 with Caboose MTH 30-20363-1 Southern ES44AC with Proto 3.0 MTH 30-20365-1 BNSF ES44AC with Proto 3.0 MTH 30-20370-1 CNW SD70ACe with Proto 3.0 MTH 30-20380-1 Susquehanna SD-60 Proto 3.0 MTH 30-20414-1 Southern Pacific SD70 P3 Heritage MTH 30-20415-1 Katy SD70ACe Proto 3.0 Heritage MTH 30-2760-3 Blue Q Type 3 Car Non Powered Set MTH 30-67599 Pennsylvania Operating Hand Car MTH 30-67761 Southern Pacific Passenger Coach Car MTH 30-67761 Southern Pacific 60' Passenger Coach Car MTH 30-677813 Atlantic Coast Line 4 Car Streamlined Pass MTH 30-67813 Atlantic Coast Line 4 Car Streamlined Pass	\$409.95\$419.95\$299.95\$309.95\$309.95\$299.95\$299.95\$219.95\$319.95
MTH 30-20164-1 Amtrak Dash-8 with Proto 3.0	\$409.95\$419.95\$299.95\$309.95\$309.95\$299.95\$299.95\$319.95
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Product Reviews



3rd Rail Southern Pacific EMD SD7

Review and Photos by George Brown

For a number of years, the six-axle SD7 and SD9 road switchers have been among my favorite first-generation diesel locomotives. Those decorated in the conservatively striking Southern Pacific black widow color scheme are particularly favored. So when 3rd Rail President Scott Mann and I talked about his models of the SD7 and SD9, one of his black widow SD7 models quickly became a subject for review. Although this review is of a 3-rail model with Lionel-licensed TMCC and RailSounds, 2-rail models of the SD7 equipped with the QSI Titan DC/DCC control and sound system are also available.

Decorated as SP #5318, the 3rd Rail SD7 represents in 1:48 scale a locomotive that the SP bought for passenger and freight duties primarily on branch lines. Before getting into the details of the SD7 model, let's take a brief look at the real one.

Prototype Notes

Southern Pacific engine crews referred to the Special Duty SD7, and the later SD9, road switchers as Cadillacs. Compared to its GP7 stablemate from EMD, the SD7's new three-axle Flexicoil trucks, 5' longer frame, and over 31 tons heavier weight made it ride like a Cadillac, which was the automotive "Standard of the World" in the early 1950s.

Operating departments also liked the SD7 because of its significantly higher tractive effort over the GP7: 90,800 pounds of starting effort vs. 65,000 pounds; 75,000 pounds of continuous

effort vs. 40,000 pounds. With its greater tractive effort, the 6-axle, 6-motor SD7 could start and accelerate trains considerably faster than the 4-axle, 4-motor sibling from EMD even though both locomotives had the same 1500-horsepower 567B prime mover. The SD7 could also pull a heavier train and climb steeper grades. Because of the better weight distribution across its two additional axles, the SD7 could run on the lighter rails and bridges that characterized branch lines.

As the largest single purchaser of SD7s, the Southern Pacific bought 43 units numbered 5279-5293 and 5308-5335, which were delivered in 1952 and 1953 in lots of 15, 1, 7, and 20. The single delivery was actually the purchase of the EMD #990 demonstrator SD7 in July 1953 and numbering it as SP #5308.

All 43 units were equipped with steam generators for passenger service. Two separate tanks were underneath the locomotive frame, with the front tank holding 1,200 gallons of water. The other tank held the fuel oil. Two groups of the SD7s, numbers 5309–5316 and 5317–5335, were delivered with barrel Mars lights at both ends. The rest of the units had only the usual vertical headlights.

All of the SD7s were factory-painted in the SP's switcher tiger stripe scheme of a black body with orange safety stripes, orange lettering, and silver ends. In late 1953, the railroad began repainting of its road switchers to the black widow paint scheme. Location of the Southern Pacific lettering on the side of the long hood varied from either across the louvers or just below the dynamic brake resistor housings.







Several SD7s remained in service until the Southern Pacific was merged into the Union Pacific in 1996.

Construction and Features

Although the SD7 has the usual molded ABS body, stamped steel frame, and die-cast truck side frames of today's O gauge diesel locomotives, the 3rd Rail model diverges from the mainstream with a number of unique features. The most readily noticeable are the fixed pilots and steps in addition to the fully detailed cab interior. This fully walled interior, painted in industrial apple green, even has a representation of the control stand at the engineer's left side. Additionally, turning the locomotive upside down reveals 3rd Rail's distinctive drive system.

This drive system, which is employed across 3rd Rail's current and upcoming lines of diesel locomotives, does not use today's 3-rail de facto standard of two small DC can motors mounted

vertically on each truck. In fact, one of these vertical motors frequently fills the cab interior, thereby eliminating any possibility for appreciable detailing. Instead, the SD7's drive mechanism is the "tank drive" style employed since the 1940s initially in 2-rail die-cast models of carbody diesel locomotives. This design has

3rd Rail Southern Pacific SD7 Features and Details

- TMCC with RailSounds 4.0
- Cruise Commander motor driver
- RailSounds backup battery installed
- Flywheel-equipped Canon motor
- Tank drive architecture with Quiet Drive
- Sprung truck journals
- Fixed pilots
- Separate air intake screens
- Illuminated and detailed cab interior
- Fan-driven smoke unit
- Directional LED headlights
- Realistic and directional Mars lights
- LED white classification lamps
- Command-controlled coil-operated couplers
- Extra metal pilots for mounting Kadee couplers
- 054 minimum curve



appeared in later brass-bodied models for 2-rail or 3-rail operation and even those models with plastic bodies.

Basically, the tank drive design uses a horizontal motor mounted on the model's frame, a parallel shaft below the frame that drives one or both of the trucks' axles via a worm and gear arrangement, and a chain or belt that connects the motor shaft to the lower drive shaft.

In the 3rd Rail implementation of the tank drive, a Canon motor is mounted horizontally with 3rd Rail's unique Quiet Drive belt system inside the fuel tank area transferring the mechanical power to the lower drive shaft. This shaft drives all six wheelsets on the two trucks via a pair of telescoping metal U-joints and an enclosed metal worm and gear for each axle.



Sunset/3rd Rail's Quiet Drive features nylon pulleys on the motor and drive shafts with a toothed carbon fiber belt connecting them. The belts on my two 3rd Rail locomotives from the mid-1990s, which I still run regularly, have never been replaced and have no signs of deterioration.

The Canon motor is made in Japan specifically for 3rd Rail model locomotives. According to Scott, Lionel has copied this motor with his permission to drive its 1:48 scale steam locomotives from the 2-8-0 to the Allegheny.

I found that the more I looked at the trucks, the more I saw on them. Each sprung axle journal can be removed individually. A small cap strip held by tiny Phillips head screws retains the journal in the side frame. But what can't be seen until a journal is removed are the three low-friction ball bearings pressed into it. Over the past many years in the 3-rail O gauge hobby, I've seen ball bearings in motors and also supporting drive shafts, but never in axle journals. I'm impressed!

Design of the trucks enable them to be equipped and wired for either 3-rail or 2-rail operation. Of course the obligatory center-rail pickup roller is on each 3-rail truck, held by small Phillips head screws. On each side of the truck, copper-alloy strips pick up the appropriate electrical power from the rails, which is the AC common on 3-rail track. Because the wheels are electrically insulated from their axles, the copper-alloy strips wired for 2-rail will pick up the DC plus and minus.

As with all 3rd Rail locomotives, the SD7 is equipped with the Lionel-licensed TMCC receiver and controller, Cruise Commander motor driver, and RailSounds audio electronics from Electric Railroad, a wholly owned Lionel subsidiary. The sound repertoire includes recently recorded and mixed recordings of the EMD 567



in startup as well as "on the road." To me as a railroad locomotive audiophile, these newly revised RailSounds 4.0 recordings are fabulous.

As I expected, the paint and decoration are superb. There are no masking bleeds or voids, and the lettering is crisp. Equally crisp are the molded-in details on the body, such as the louvers, hinges, and handles on the prime mover access doors.

At Trackside

Quiet Drive is an appropriate appellation for the motor and drive mechanism inside the SD7. With the sound muted and my running the engine at slow speeds, the only sound it generated was the whisper of the wheels on the rails. Smooth running at realistically slow and medium speeds was one of several operating attributes. Is the SD7 a speed merchant? No, and neither was its prototype. Nearly 50 scale mph was the model's maximum speed on the editorial Carpet Central Railroad.

Because of the fixed pilots and the clearance for lateral movement in curves of the truck-mounted couplers, O54 is the minimum 3-rail curve. Between its overall length and its three-axle trucks, the SD7 proved to be an attractive locomotive on my layout of Atlas O54 and O72 curves. Negotiating the Atlas O72 turnouts was also fault free.

As an operating tip that is *not* a criticism **Southern Pacific SD7** of the SD7: when using a CAB-1L to control trains and the glorious sounding horn on the SD7 won't work, the CAB-1L may be set for the quilling whistle or horn of a Lionel

Legacy locomotive. To reset the horn control to the standard RailSounds horn, hold the Set button and press the whistle/horn button. Is this the voice of experience? Yup!

Coupled to our standard test freight train, the SD7 put on a great show. Actually, at the point of any freight train including one with models of contemporary railcars, the engine was a great performer and prototypically correct. On the Southern Pacific, the real SDs served until the railroad's merger with the Union Pacific.

For grins, I also coupled the black widow SD7 to a six-car train of two-tone gray Southern Pacific heavyweight passenger cars, which again was prototypically correct as well as attractive.

At the End of the Run

As a long-time supplier noted for its limited-production scale brass locomotives, Sunset/3rd Rail has recently established itself as a manufacturer of 3-rail and 2-rail O gauge diesel motive power, in 1:48 scale of course. It is now on its fifth generation of diesel locomotive projects and, at the time of this writing, just today announced models of the EMD E6 in various liveries. If the SP black widow SD7 is a harbinger of the upcoming E6, I'm anxiously awaiting it.

Retail price: \$669.95 from 3rd Rail

800-373-7245; www.3rdrail.com

3rd Rail SD7 TMCC Performance

(smoke unit: off; sound: on; speed control: on)

16-1/4" over closed couplers Length:

15" between pilots

Distance Between Locomotive Pickup Rollers:

1st and 2nd: 1-3/4"

1st and 3rd: 8-3/4"

1st and 4th: 10-1/2"

Locomotive Weight: 4 lb, 10 oz

Tractive Effort: 2 lb, 8 oz

Minimum Sustained Speed: 2 scale mph

Maximum Tested Speed: 50 scale mph

Maximum Current Draw @ 18 VAC:

1.3 A, 23 W

Track and Switches:

Atlas 21st Century 072, 054; switches 072

Transformer: Lionel ZW-L

Control System: TMCC Base-1L, CAB-1L

Test Train

15-car mixed freight; train weight 13 lb; pull to move train 7 oz; recent-production 0 scale cars from various manufacturers









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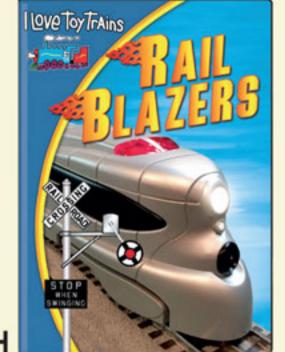
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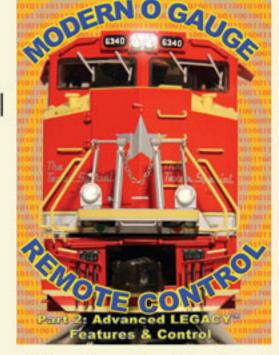


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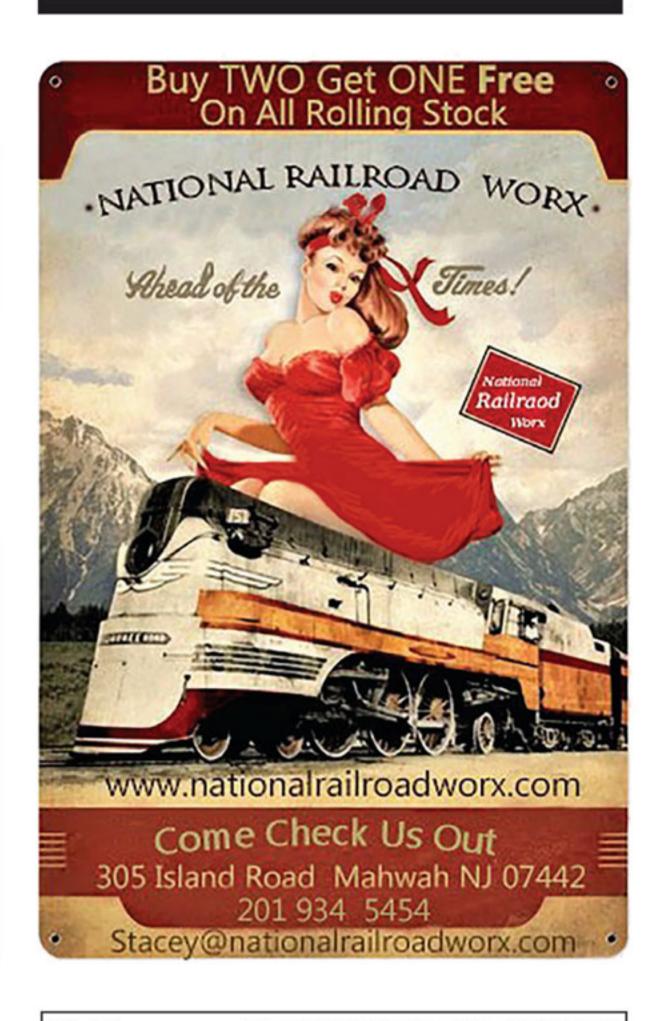
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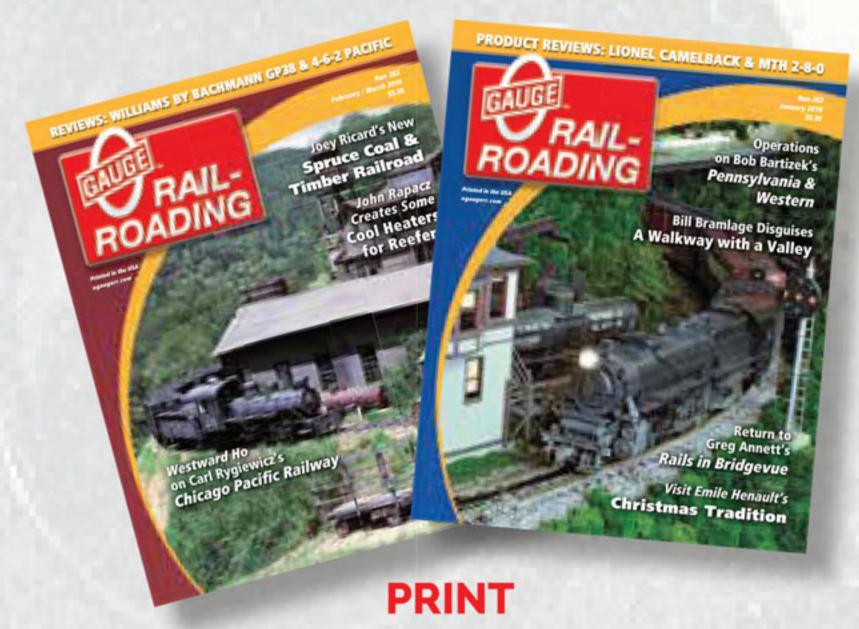
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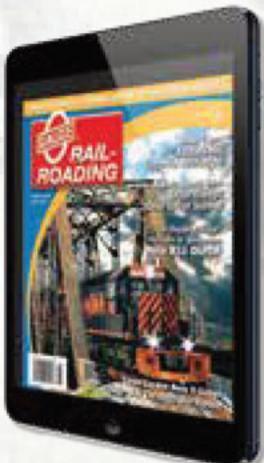
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MTH Premier N&W 2-6-6-4 Class A

Review and Photos by George Brown

What is 31" long overall, weighs 18 pounds, has 30 wheels with 18 under the engine, hauls heavy loads, and is super fun to run? That's right!—an MTH Premier 1:48 scale die-cast model of the Norfolk & Western 2-6-6-4 Class A. Actually, I found the Class A with DCS/Proto-Sound 3.0 to be downright exciting to run as it plied the rails on the editorial Carpet Central Railroad. Regardless of whether the train was a slow-speed coal drag or a mixed consist modeling a mid-1950s' N&W time freight, the big O gauge 2-6-6-4 was on its game.

The cab number on our evaluation sample was N&W #1240 while #1218, #1225, and #1238 were also available at the time of this writing in mid-June. Although our #1240 was equipped with high-rail wheels, models of the Class A riding on scale wheels were also built. Additionally, a die-cast Norfolk & Western auxiliary water tender (product number 20-3620, \$249.95) was also built to couple behind the Class A.

Prototype Notes

By the mid-1930s, the 4-8-2 Mountain-type locomotives that pulled N&W manifest and priority freight trains were no longer up to the task with the ever-increasing train lengths and weights. In 1936 the locomotive architects at the railroad's Roanoke shops designed and erected two single-expansion 2-6-6-4 articulated locomotives designated the Class A. Their boilers emulated the Lima super power design with huge fireboxes that produced sustainable volumes of steam for high-consumption operations. All axles turned in low-friction roller bearings as did the crank pins for all the rods. Eight more of the Class A were erected in Roanoke in 1937.

With 70" drivers and 300 psi boiler pressure, the Class A could sustain up to 70 mph or haul low-speed coal drags. Starting tractive effort was almost 125,900 lb with a continuous effort of 114,000 lb. These engines were assigned primarily to N&W



time-freight service, but on occasion they worked coal drags on the N&W's flatter terrain.

During WWII the fleet-footed articulateds pulled countless troop trains over the N&W's entire system. With the wartime rail traffic demands, 15 more Class As were erected in 1943 plus 10 more in 1944.

The postwar years of 1948 through 1950 saw eight more of the 2-6-6-4s built. A total of 43 numbered 1200-1242 were erected between 1936 and 1950. All but one were retired and scrapped by 1959. Only #1218 was saved and later entered excursion service as part of the railroad's steam program until 1994. Afterwards, #1218 went on display at the Virginia Museum of Transportation in Roanoke.

The 60-minute OGR Big Steam Video titled 18 Wheels of Steel chronicles the excitement of #1218 on excursion runs in the 1980s and is available from the OGR Store for \$14.95.





Construction and Features

Both the engine and tender are predominantly die-cast making for a massive model locomotive, both figuratively and literally. If there's a weak bridge on a layout, the Class A might just point it out. And yes, the plastic roadbed under my Atlas sectional track did creak somewhat as the heavy engine slowly rolled over it.

A single DC motor with a flywheel powers both the rear and front drivers through metal worm and gear mechanisms on both the fixed and articulated frames. An engineering plastic drive shaft with a telescoping universal joint transfers the drive power from the rear engine's gearbox to the gearbox for the front engine. I especially liked that the drivers on the rear and front engines were assembled with the rods nearly 180 degrees out of sync with each other. This made for a fascinating rod action when the locomotive was under way.

Even though the Class A was initially released as a Proto-Sound 2 locomotive in early 2000, all the castings on our evaluation sample were crisp with sharp and clear cast-in rivets and other details. I found no flaws in the major castings or the separate smaller cast details.

MTH N&W Class A Features and Details

- DCS and Proto-Sound 3.0 with DCC decoder
- · Quillable whistle and freight yard Proto-Effects
- Wireless drawbar
- 7-pole DC motor with flywheel and metal drive gears
- Proto-Scale 3-2 conversion capable
- See-through spoke drivers
- Cast driver brake shoe hangers
- · Synchronized fan-driven smoke unit
- Constant brightness LED lighting
- · Rule 17 headlight dimming
- · Illuminated classification lamps and number boards
- Retractable scale front coupler
- Dummy tinplate coupler supplied for owner installation
- · Wire handrails and grab irons
- Cast steam and air appliances
- Satin silver rods and valve gear
- · Full Baker valve gear
- Wire and die-cast pipes and valves
- · Brass-colored whistle, bell, and pop-off valves
- Swinging bell
- Wire whistle and bell lanyards
- Opening cab roof hatches
- Sliding cab windows
- Detailed boiler backhead with firebox glow
- Illuminated cab when engine stationary
- Painted crew figures
- Hinged step plate between cab and tender
- Die-cast tender trucks with all wheels flanged
- Real coal load in tender bunker
- Swing limit chains on tender trucks
- Opening water hatches
- · Directional backup light
- · Rear Proto-Coupler
- Traction tires on all four main drivers
- Bottle of smoke fluid and spare traction tires
- Minimum 072 curve





I particularly liked the representations of springs for the drivers, which were cast into the fixed and articulated frames and are also difficult to see in normal lighting conditions.

Steam pipes between the boiler and the articulated front engine swivel at both ends. A telescoping arrangement in each pipe also allows it to expand or contract its length as the front engine follows the tracks both laterally and vertically.

As to the model of the signature N&W streamlined tender, its castings are also flawless. Of course, the DCS/Proto-Sound 3.0 electronics package rides inside the tender. The MTH wireless drawbar, actually a nearly indestructible printed circuit board, transfers the requisite electrical power and control signals between the engine and tender.

Because the Class A can be easily converted from 3-rail to 2-rail operation, or vice versa, steam functions available under DCC operation are listed in the sidebar. Slide switches on the tender's stamped steel frame set the electronics for either 3-rail or 2-rail operation and also DCS or

DCC Steam Functions

- · FO Head/tail light
- · F1 Bell
- · F2 Horn
- F3 Startup/shutdown
- · F4 PFA
- F5 Lights (except head/tail)
- · F6 Master volume
- F7 Front coupler
- · F8 Rear coupler
- F9 Forward signal
- F10 Reverse signal
- F11 Grade crossing
- F12 Smoke on/off
- · F13 Smoke volume
- · F14 Idle sequence 3
- · F15 Idle sequence 2
- · F16 Idle sequence 1
- F17 Extended startup
- F18 Extended shutdown
- · F19 Labor chuff
- · F20 Drift chuff
- · F21 One shot Doppler
- F22 Coupler slack
- · F23 Coupler close
- F24 Single horn blast
- · F25 Engine sounds
- · F26 Brake sounds
- · F27 Cab chatter
- · F28 Feature reset

DCC. If these switches are set incorrectly, no damage will occur; the locomotive simply won't run. Manual controls for the smoke and sound volumes are under the opening water hatches of the tender.

As with all MTH Proto-Sound 3.0 locomotives, supercapacitors rather than a rechargeable battery provide backup power. This power keeps the electronics



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in operation through momentary interruptions in power and for an orderly shut-down of the on-board microcontroller and software. In conventional transform-er-controlled operation, a delay of up to 15 seconds to charge the supercapacitors will likely occur between applying power to the track and the locomotive being ready to operate. Under DCS control, the locomotive is ready to run immediately on power-up.

Both the satin-finish paint and the lettering on the Class A were flawless, which was as I expected to see on any premium-grade model locomotive that lists for a nickel shy of \$1500.

At Trackside

Out of the box and initially coupled to our standard test freight train of O scale cars, the Class A started smoothly at a scale 2 mph and chugged its way around one loop of the CCRR without missing a beat or stalling. Then I lubricated the locomotive's axles and rods.

At a scale 60 mph, the locomotive hugged the rails through my O72 curves, but I didn't push it any harder. It was obvious higher speeds were attainable, but



to me exploring that range of performance does little more than put an expensive and extremely attractive locomotive at pointless risk, primarily when negotiating a curve.

Just about any O gauge locomotive can run at breakneck speed. But for one to start and run smoothly without stalling or hesitating at under 3 to 5 scale mph, especially one as complex as the 2-6-6-4, means its mechanism and electromechanical drive system were well-designed and assembled. After break-in runs of approximately a cumulative hour at varying speeds and loads, the scale #1240 could tow our standard test freight train around the CCRR at a dead-slow crawl of 1 scale mph without stalling. It's a rare locomotive that can run that slowly without much running time on it, and this particular scale model of the Class A proved itself as a cut above. No matter what weight of train I coupled to the locomotive, it performed as if it was running light.

With 12 drivers and traction tires on four of them, the articulated also proved itself as a heavy hauler in more ways than one. With over 13 pounds on its drivers, the 1:48 scale Class A emulated the real one with a massive tractive effort of nearly five pounds. On level track, I don't believe there's a train that the model of N&W #1240 can't pull.

After the runs for record with the results noted in the performance sidebar, I played with and watched the big 2-6-6-4 pulling several different trains nominally in the 25-35 scale mph speed range. At that speed, the out-of-sync rods were a visual pleasure plus the big articulated was graceful as it glided through the curves and even my O72 crossovers. Additionally and although the Class A is a road locomotive, switching cars in and out of my industrial sidings was fun to watch as the big articulated backed through O72 turnouts.

At the End of the Run

Because the 2-6-6-4 is an articulated, some might remark that it's strictly a big locomotive for a big layout. Yes it is big and it requires O72 or wider curves. But when running on my 10' x 10' floor-borne layout, the engine looked and ran great. Internet mail-order prices for the MTH Class A listed the \$1300 to \$1500 range, depending on the dealer.

MTH N&W Class A DCS Performance

(smoke unit: off; sound: on; speed control: on)

Length: 31" over closed couplers

30-1/4" pilot to tender sill

Distance Between Locomotive Pickup Rollers:

1st and 2nd: 2-5/8"

1st and 3rd: 6-1/8"

1st and 4th: 8-3/8"

Engine Weight: 13 lb, 11 oz

Tender Weight: 4 lb, 5 oz

Tractive Effort: 4 lb, 14 oz

Minimum Sustained Speed: 1 scale mph

Maximum Tested Speed: 60 scale mph

Maximum Current Draw @ 18 VAC: 1.13 A, 20 W

Track and Switches: Atlas 21st Century 072; switches 072

Transformer: Lionel ZW

Control System: MTH DCS; TIU powered by MTH Z-500

Test Train

15-car mixed freight; train weight 13 lb; pull to move train 7 oz; recent-production 0 scale cars from various manufacturers

20-3616-1 N&W Class A 2-6-2-4

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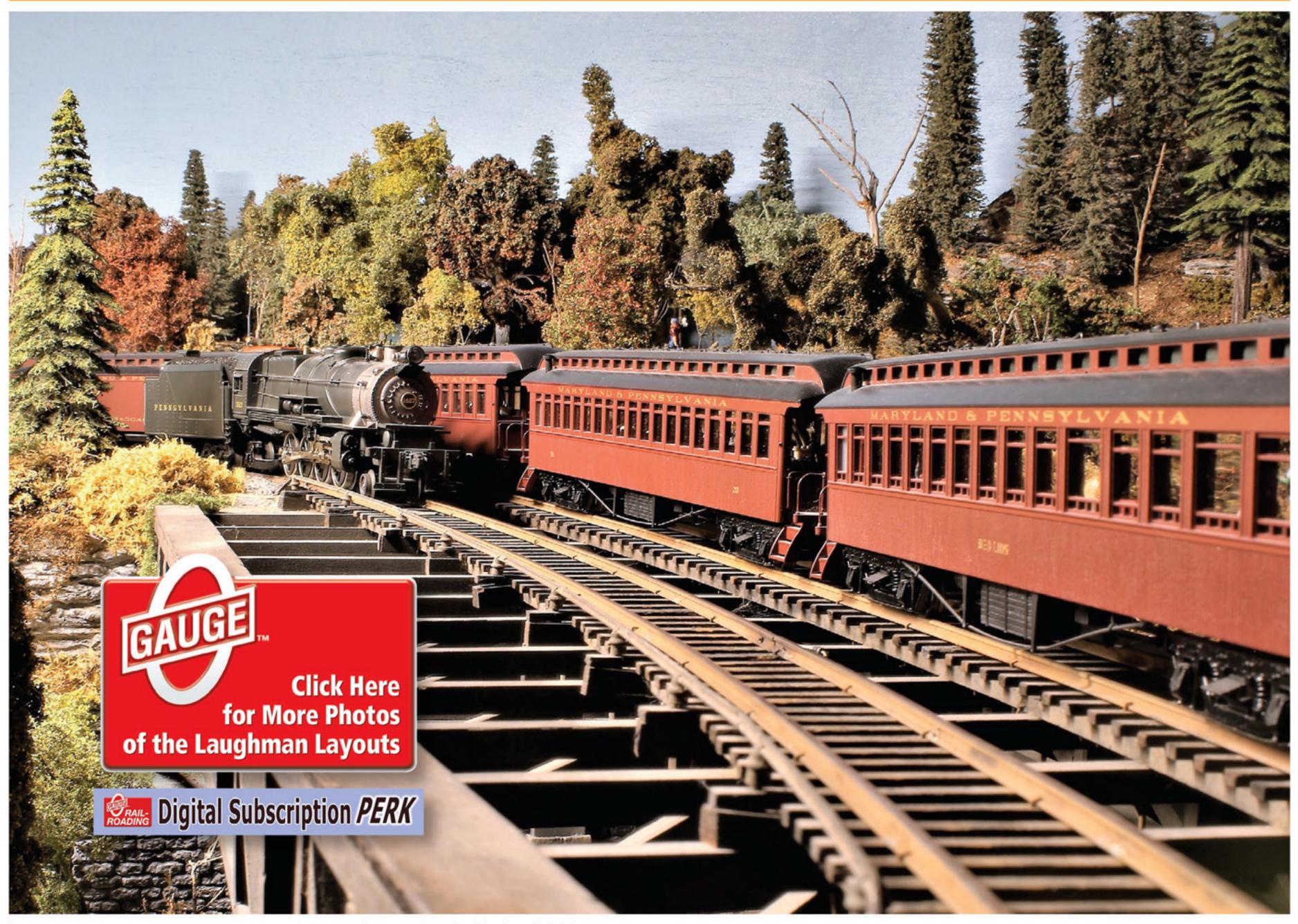
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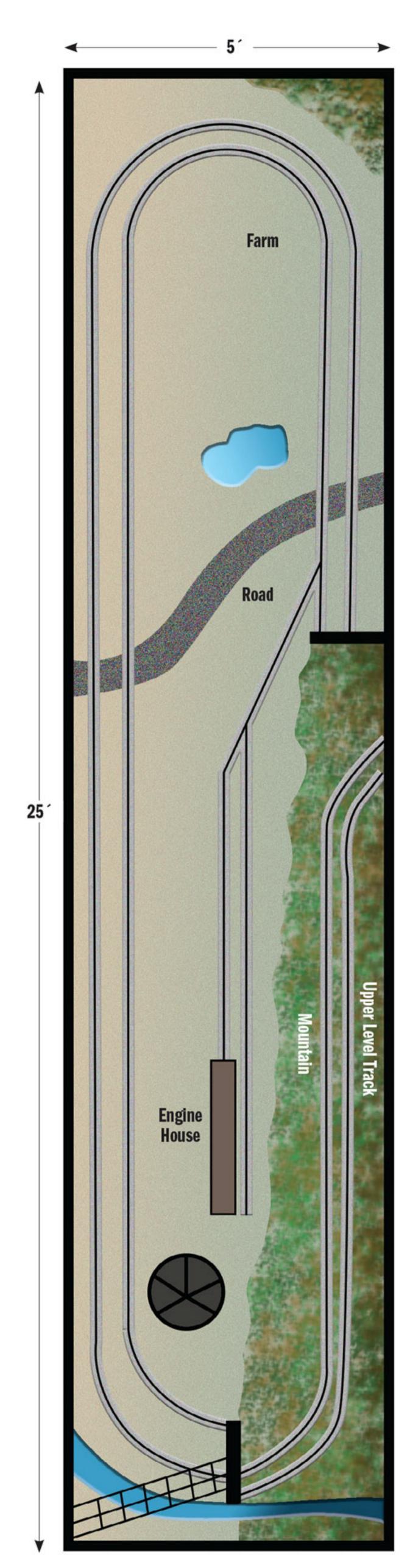
Article by Troy Laughman Photos by Troy Laughman and Robert Benscoter

I can't pinpoint exactly when my interest in trains was sparked. I remember my father often reminisced about the American Flyer set he had as a child. Even as a young kid I thought this was cool. I also remember the route our family would take to and from church. A Western to me when I was about nine years old. It Maryland track crossed the road, and I always hoped a train would be coming. Our family, packed in the back of my grandfather's station wagon that he used

as a work vehicle for his painting business, would also take short day trips to visit the Strasburg railroad, about a ninety-minute drive from our home in Hanover, Pennsylvania.

My first train set and layout was given was a Marx set that we soon had running around on a piece of plywood painted dark hunter gloss green-for grass of course—with the wood knots popped out of the plywood and the holes painted blue to represent ponds. As time went by and I grew older, other things diverted my interest from trains, and they rather quickly became a distant fond memory.

When my son was about seven years old (he's now 18), a G gauge Bachmann Log Hauler caught my eye and it looked like a good thing for Santa Claus to bring my son for Christmas. That gift sparked a venture into a three-tier G gauge layout.





Steam rules the rails on this line.

About three years later, deciding that I really liked the wider availability of engines, rolling stock, and detail parts of O scale, plus with that size of train being just more space appropriate and with a new sense of commitment, I decided to make the switch to O scale. A few years later my wife, son, and I moved into a new home, which fortunately had a perfect basement for a layout. Thus started my latest venture!

When I started my new layout, I had some desired features in mind, but not an exact plan. One of my "must-haves" was 2-rail. My knowing the challenge of finding engines and rolling stock that I wanted just seemed to add to my adventure.

I knew I also wanted to have some height to my layout to add interest. Some of my other must-haves included a farm, a water feature, and a rural early 1950s South Central Pennsylvania feel. Other than that, I was open to where the winds of progress take me.

Things seem to change during the construction of a layout, at least for me. The mind is always working on the next great idea or adding the newest and coolest thing that has been introduced to the model train market. Talking to other modelers in the past, I have heard some say they had a rigid prototypical concept that they wanted to achieve, but along the way they became frustrated. In my approach to model railroading, I have always believed that if it looks good to you and brings you happiness, that is what you go with... regardless of one's skill level. After all, model trains are supposed to be fun. I personally enjoy the construction of the layout as much as the running of the trains.



A weathered and hard-working Western Maryland steamer heads up a long freight.



Early autumn fun! Canoes on the river combined with a bit of railfanning!



It's fall and the cornfield on the near side of the tracks has already been harvested while apple picking continues in the background.

Layout construction started with two end pieces that were recycled from my old layout. I then filled this in with a long middle section. The overall dimension of my layout is 5' x 25'. The frame is made up of 4x4s, 2x3s, and 2x4s. I have always been a firm believer in never having to worry about the strength of my layout. The 4x4 legs sit on metal casters to make it easy to reach all sides. The tallest point of the layout is the mountain, measuring in at 68" above the floor, with table height being 43". The tabletop is made of 1/2" plywood covered with 3/4" rigid insulation board.

Mountain framework is a combination of lumber, plywood, and rigid insulation. The mountains themselves are formed with a combination of plaster cloth, builder's paper coated with Plaster of Paris and Sculptamold. The rocks are hand-carved, and castings are both store bought and ones I made myself out of liquid latex from several master molds. Color is a combination of latex paint and Woodland Scenics Pigments. I tend to use a lot of real dirt in my layout, which in my case is a product known as "tube sand" that can be bought at local home improvement stores and sifted to remove or separate larger stones.

The "water" on my layout is made with Woodland Scenics E-Z Water and Realistic Water products. The base of the pond was painted several colors before the water was poured. The base of the creek is mainly larger material that was separated from the tube sand over a painted plaster base.

Without knowing the exact number, I would estimate at least two dozen different grasses, leaf, and plant materials were used to give the layout a varied and what I feel is a natural look. Scenery and landscape products include those from Woodland



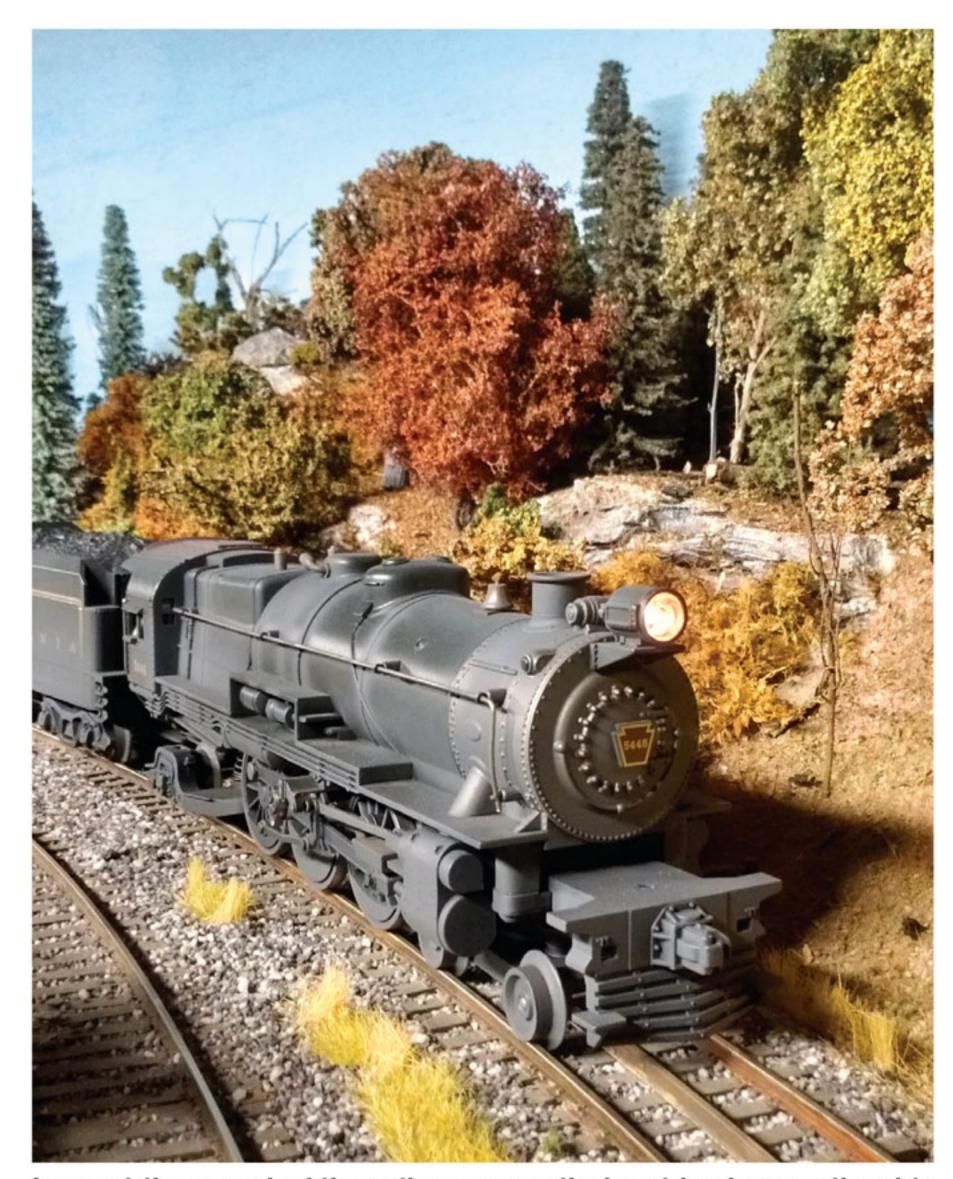
Two kinds of horse power!



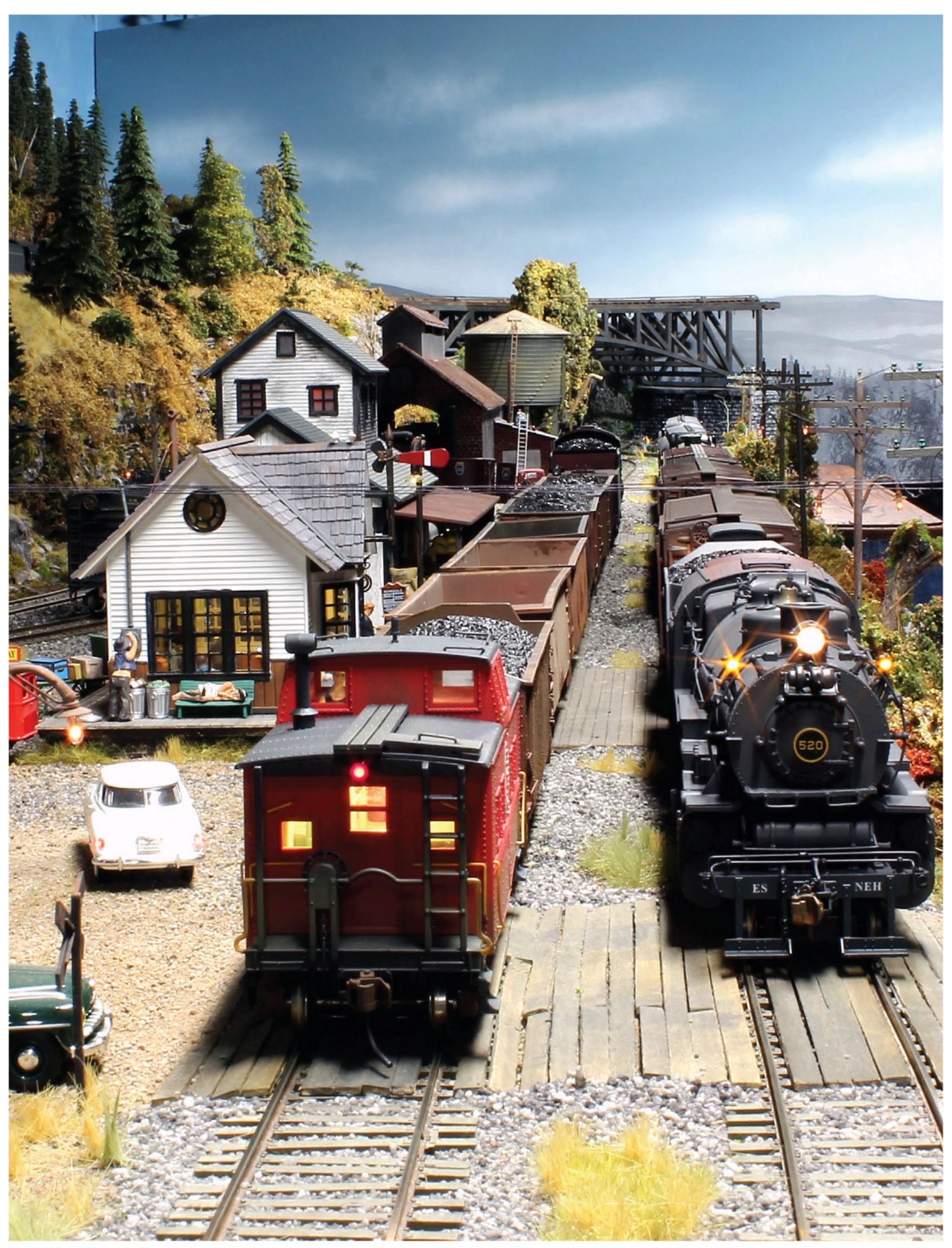
It won't be long before the pond water is too cold for swimming.



Pennsy-style signals help to keep operations smooth and safe.



In recent times, much of the motive power on the layout has been weathered to varying degrees.



Passing freights rumble by a small rural depot.



The fishing is pretty good here despite the noise and vibrations made by passing freights.



As is always the case, details make a difference. The weathered metal roof and rusting equipment box are marks of a structure that has been around for a while.



Rural traffic jam!

Scenics and Scenic Express, with the majority coming from Scenic Express. That firm always has great realistic figures and detail parts available along with a vast choice of scenery products. I tend to layer my scenery material. It seems the more you layer, the more natural it looks. I have also purchased Oger Lighting and added that to my buildings for more of a realistic nighttime look.

Along with the scenery to make my layout more interesting and realistic, I have tried to capture the realistic look of prototype track. My track is Micro Engineering, and switches are Atlas that

are powered by Switch Tender from Micro-Mark. When laying my track, I was not interested in it being arrow straight, which I feel gives it more of an old railroad charm. Once the track was laid, I air-brushed the ties and hand-painted the rails. On my upper mountain ridge I have a short line of 3-rail so, if desired, I can power up and display 3-rail engines and rolling stock. Another line on the upper ridge is 2-rail that I have powered and connected to a reversing unit with a small tank engine to give that upper level some added action.



Apples and pumpkins! Fall is here!



Crew members exchange information alongside No. 175.



His long day of working the fields over, a farmer returns home for his long-awaited bountiful evening meal.



Early night at the loading dock.



Triple-action steam scene.



Consolidation No. 821 makes a water stop.

The two main lines are powered by a Polk's Hobbies PS6 DC power pack and controlled with MTH DCS. Curves range from a 39" minimum diameter to a maximum 48" diameter. The two engines I run on the main lines are an MTH Western Maryland 2-8-0 and an MTH Pennsylvania 2-8-2. Rolling stock and passenger cars are from MTH and Weaver. Buildings and structures are by Woodland Scenics, MTH, American Flyer, and Lionel.

Future plans for the layout include weathering my rolling stock, buildings, and engines, and adding to my landscaping. I never really feel that my layout is "done" because I am always finding myself wanting to "tweak" or add something. I truly enjoy this hobby and the processes involved in layout building. Roxanne

and I both enjoy helping people with the hobby, especially young people who exhibit a lot of enthusiasm for trains and the model railroading hobby. My ultimate future plan would be to have an opportunity to dabble in constructing layouts for others. I currently help my father and son as they both have layouts of their own. You'll see my son's layout featured elsewhere in this issue.



About The Author

Troy Laughman resides in New Salem, Pennsylvania, with his wife, Roxanne, and their son Joe. Troy has been employed in the power tools field since 1992 and currently works for a major power tool company as a repair technician. Along with his wife, he operates a train and antique business in a local antique center and specializes in new and used model trains and accessories and railroad antiques. In his spare time, Troy enjoys model railroading and spending time traveling with his family.

Couplers for improved rolling stock appearance and performance



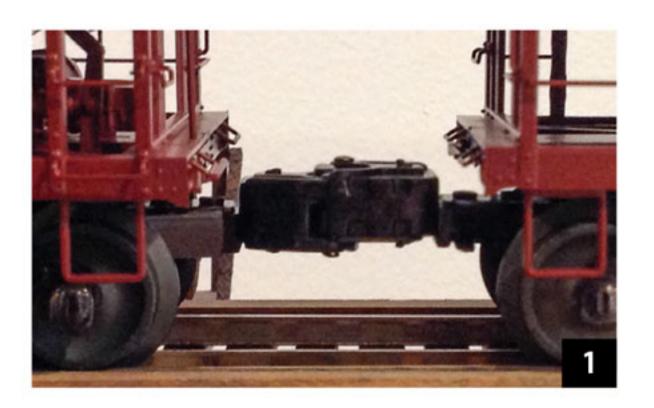
Kadees Replace Claws

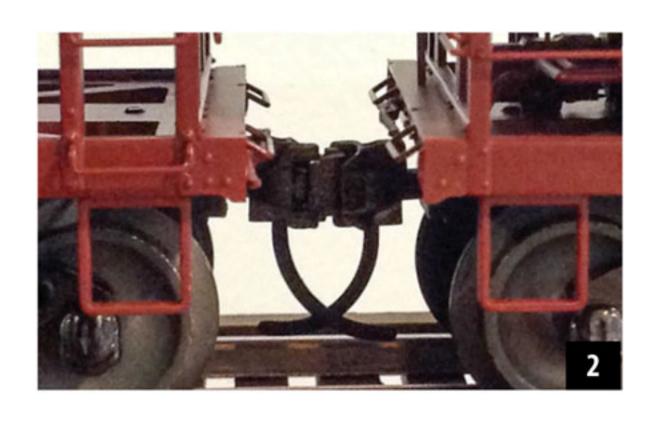
Article and Photos by Bob Glorioso

Over the past decade or so, train manufacturers have responded to a growing marketplace demand for more realistic scale models. Many 3-rail modelers are taking this pursuit of realism one step farther by replacing the large out-of-scale "claw" couplers with scale Kadee couplers. In addition to the significantly improved appearance of the coupler, converting to Kadees can also reduce the gap between cars to a scale distance (Photos 1 and 2). Kadees also couple with minimal force, so there is no need to slam cars together. And with the use of track-mounted magnetic uncouplers, operators can use the delayed action feature of Kadees to more easily spot cars in switching operations.

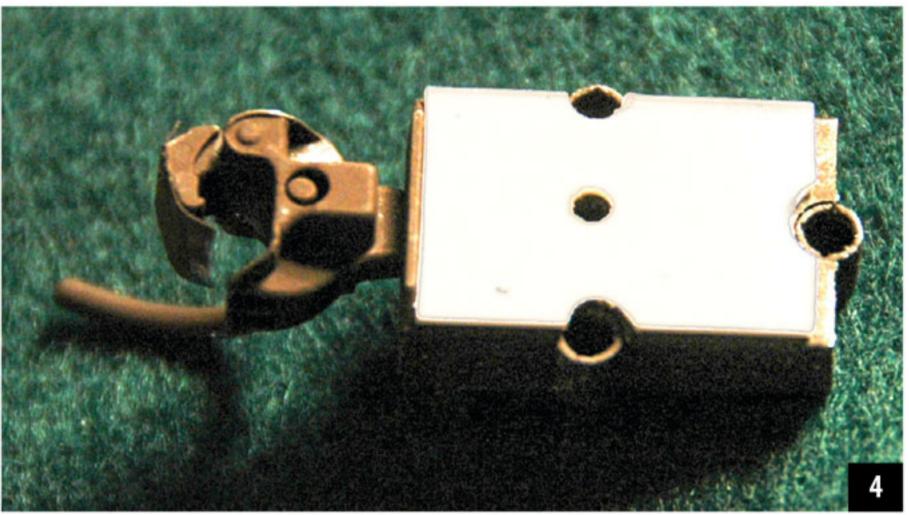
The cost of Kadee conversions is low: about \$3-\$3.50 per car. O-scalers have a choice of two types of available Kadees (Photo 3). The classic 800 series on the left in the photo uses a visible external spring to close the knuckle. The new 740 series on the right has an internal spring and is a more accurate model of the prototype's AAR Type E coupler. Most conversions of rolling stock can be done with the standard shank 805 or 740. Other coupler variations in these series have short, overset, and underset shanks, which I use in some locomotive conversions.

The two series are interchangeable; however, only the 800 series will couple with most traditional claw-type couplers. This is helpful if you are operating a mix of Kadees and claw couplers. Alternatively, you may want to make a few "transition" cars with a





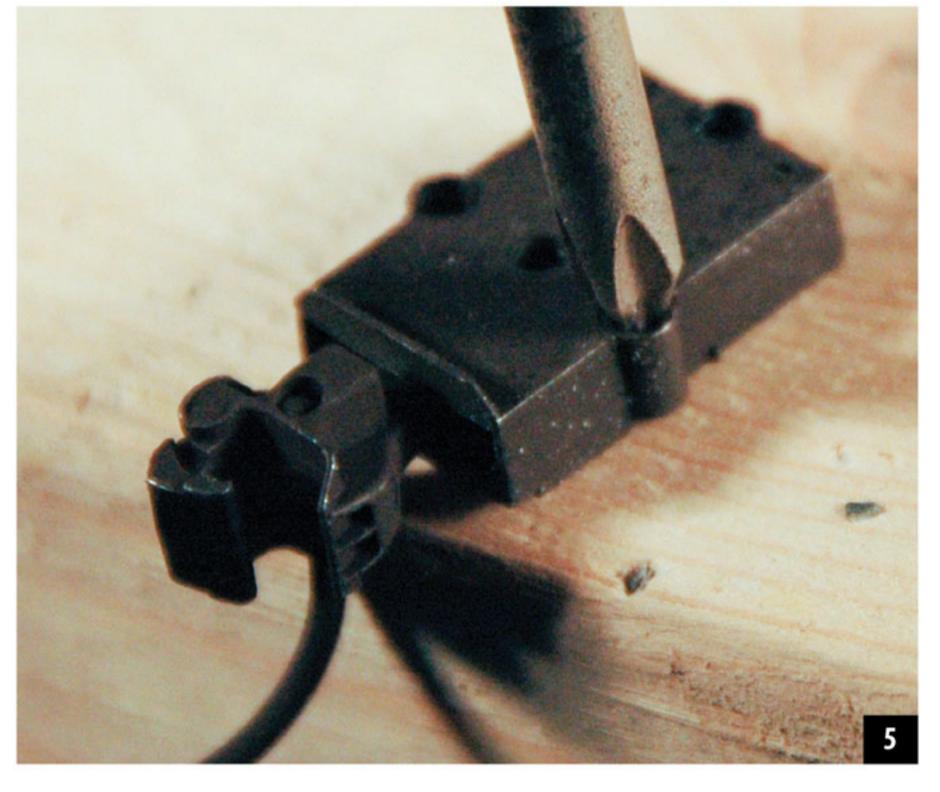




Kadee on one end and a claw coupler on the other. Baggage cars and express reefers are good choices for transition cars, especially if you do not convert your locomotives to Kadee couplers.

Freight cars are the natural starting point for doing Kadee conversions. The shorter 34- to 40-foot cars will operate on most layouts. So how do you know what curve diameters are required for your cars? A good rule of thumb is that the minimum curve in inches is equal to the length of the car. So a 40' car needs an O42 curve, 50' cars will run on O54, and 60' rolling stock can handle O60, etc. The larger 70- to 80-foot passenger cars can run on O72 and O81, but may perform better with truck-mounted Kadees or modification of the draft gearbox to allow additional coupler swing. Other factors that will limit your use of longer cars are the distance from truck to coupler, the smoothness of your track work, and the presence (or not) of short S curves.

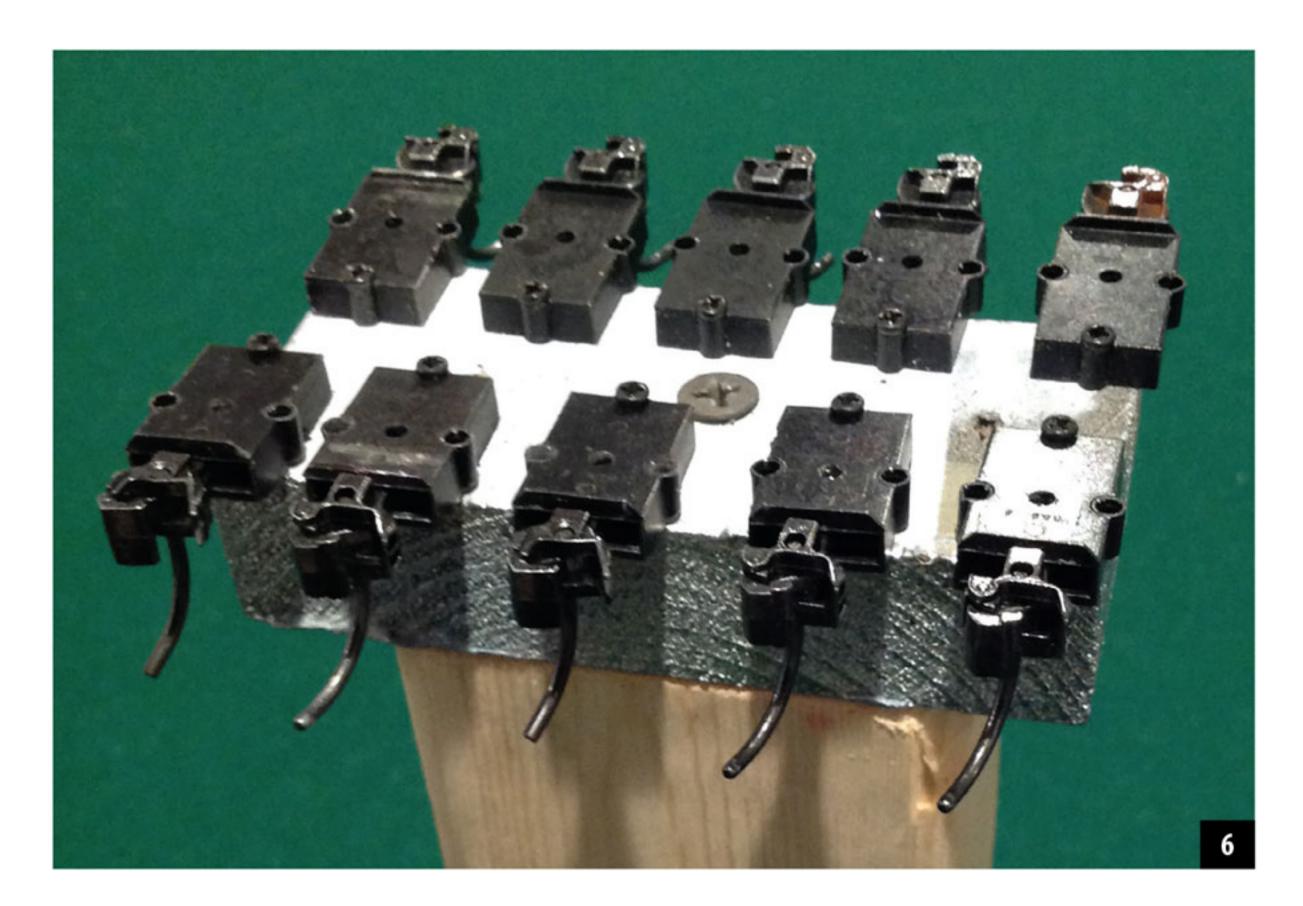
In recent years, some train manufacturers have begun making Kadee conversions easier by including shims and adapters, drilling and tapping the frames for mounting Kadee boxes, and including

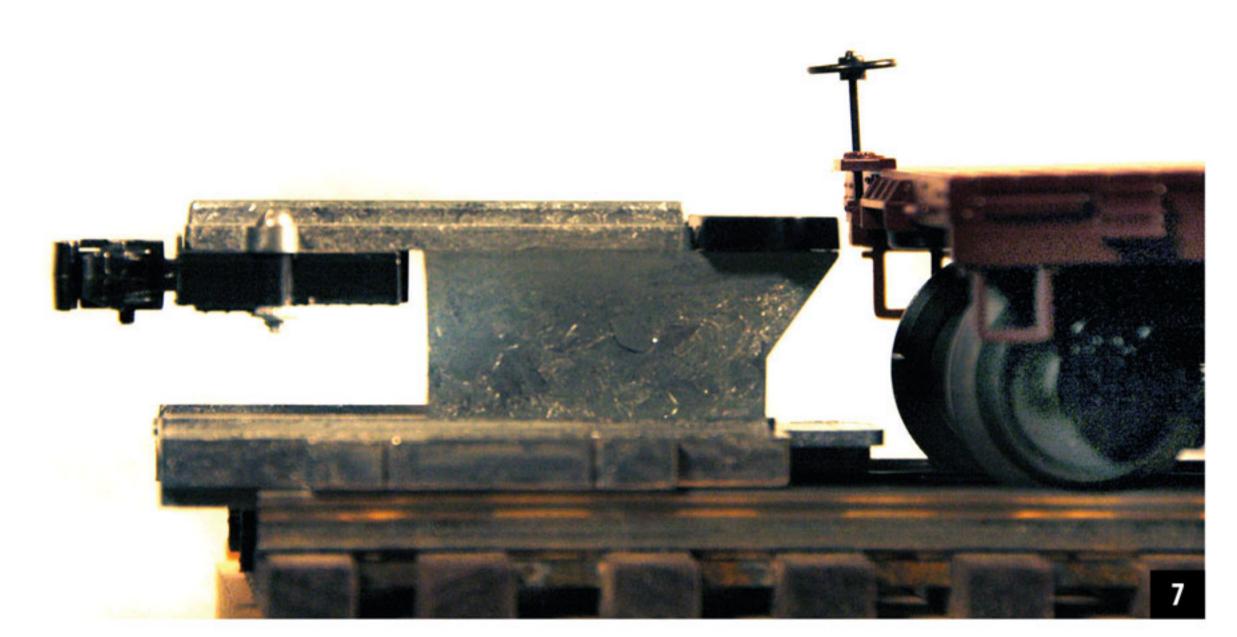


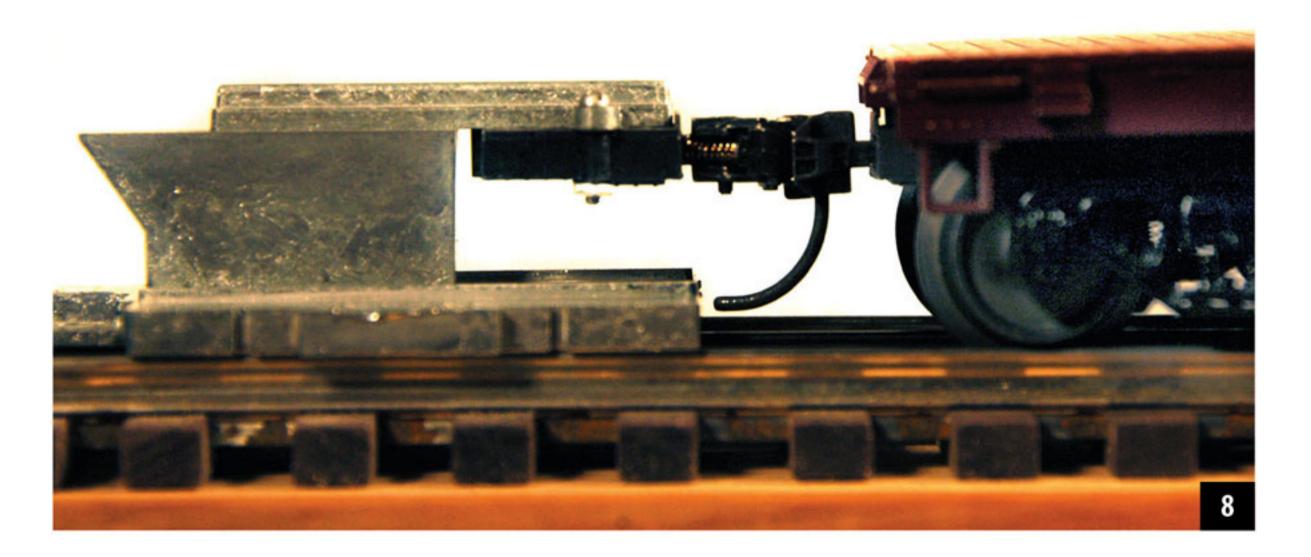
replacement truck bolsters that provide more clearance for the Kadee boxes.

Table 1 lists the tools needed for Kadee coupler conversions. I strongly recommend purchasing a Kadee #812 Height Gauge. In addition to providing a universal standard for coupler mounting height, the gauge also makes it easy to determine how much to shim the coupler box. Needed supplies are listed in Table 2. Having the recommended assortment of screws and shims available will greatly reduce the time needed to do conversions.

To make the shims, use a hobby knife to score lines 1/2" apart on the black styrene sheets and then bend and snap them on the line. Then score and snap lines every 11/16". With the 0.125"







white styrene strips, score lines 11/16" apart, paint the white styrene black and then snap off the pieces. Touch up the ends with black paint. The thicker 0.250" strips can be cut with a razor saw or hobby

power saw and then painted. Drill out center holes matching the Kadee box. Where you are using the side or rear holes, use a round file to notch the edges at the screw holes (Photo 4).

Installation Overview

Installing Kadee couplers involves these basic steps:

- 1. Assemble the Kadee couplers
- 2. Remove the old claw couplers
- 3. Modify the truck to clear the Kadee if needed
- 4. Measure for shims
- 5. Drill (and possibly tap) the frame and mount the coupler
- 6. Reinstall the trucks
- 7. Recheck with Kadee Height Gauge

Assembling the Kadee Couplers

The first step is to prep and assemble the couplers into the draft gearboxes. I prefer the couplers with the metal boxes (805 and 740). The plastic boxes can pinch the coupler if the mounting screws are too tight. I usually assemble six couplers at a time.

Kadee provides detailed instructions to file flash, burnish contact areas of draft box with graphite, and then assemble. Don't skip over the burnishing step! It really does reduce friction, allowing the coupler to self-center and couple more easily. I use the smooth steel handle of a jeweler's file to do the burnishing. Crimp the two side holes and the rear hole with a small hammer and Phillips screwdriver to hold the metal draft gearbox together (Photo 5). For plastic boxes, tack them together with a small amount of ACC cement. At this point I mount six to eight couplers to a block of wood and lightly spray them with Rust-Oleum Camo Brown paint (Photo 6). This is optional, but it gives the couplers a more realistic rust color. Before painting, cover each knuckle surface with a 3/16" square of painter's tape. Any paint on the knuckle surface will create enough friction to prevent the knuckles from sliding to the side, and they won't couple properly.

Removing the Old Claw Couplers

Remove the trucks from the car. For most rolling stock, remove the truck mounting screw. With MTH cars, the car body must be disassembled to access the truck screws. Remove the four to eight screws under the frame and lift off the body. Then remove the truck mounting screws. Remove the couplers from the trucks and modify the trucks as outlined below for each manufacturer.

Measure for Shims

Set the car on its trucks on a level track along with the Kadee Coupler Height Gauge (Photo 7). The gauge should be turned around with the shelf facing the car. Stack shims on the shelf until they are even with the underside of the frame where the Kadee will mount. These shims will give the correct spacing for mounting the Kadee coupler.

Drill, Tap, Mount, and Recheck

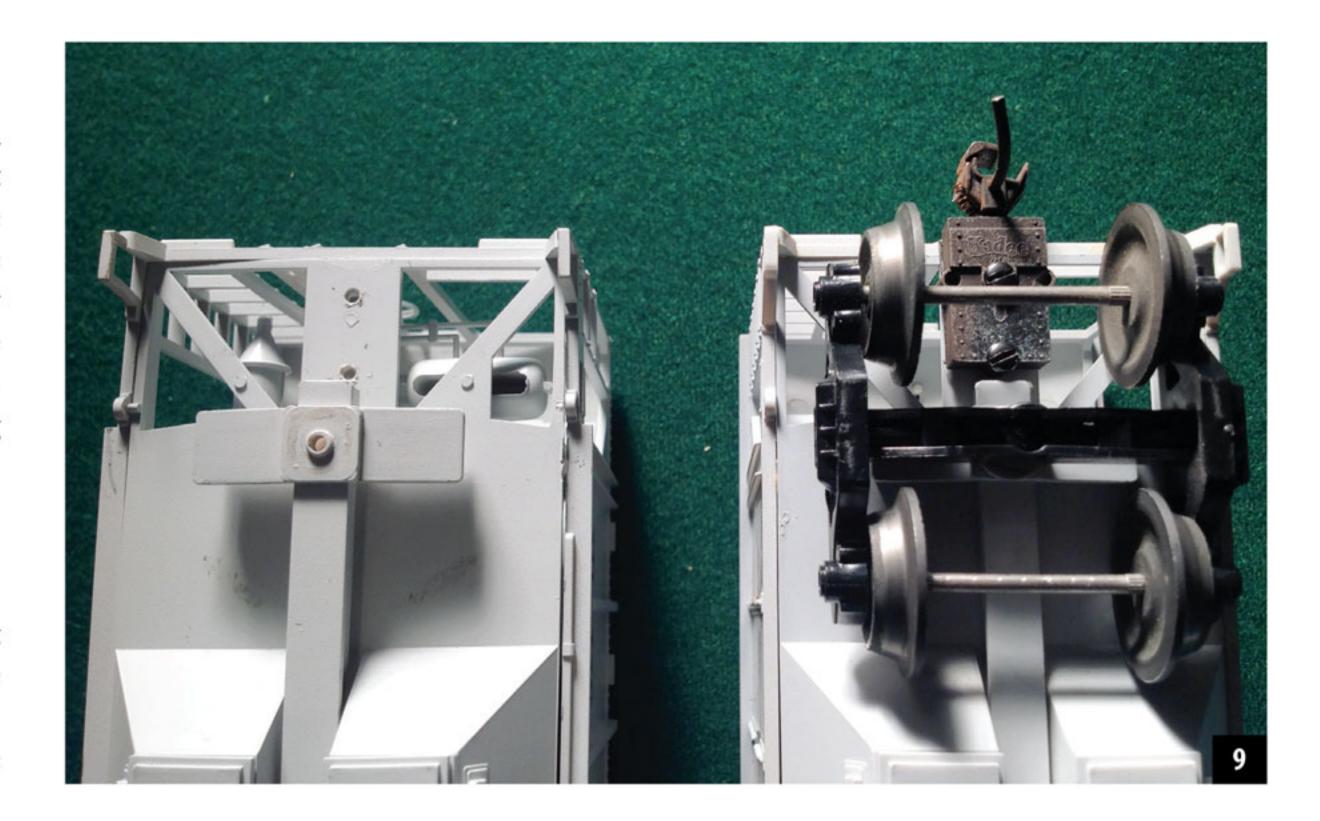
If the car floor or frame does not already have mounting holes, center the coupler box at the edge of the floor with the lip of the box flat against the end of the car. This is the typical position with transition-era and older rolling stock. More modern rolling stock may have the coupler box protruding around 1/8". Mark the location of either the two wing holes or the center and rear hole with a drill bit or small awl. Drill with a 1/16" or #50 drill.

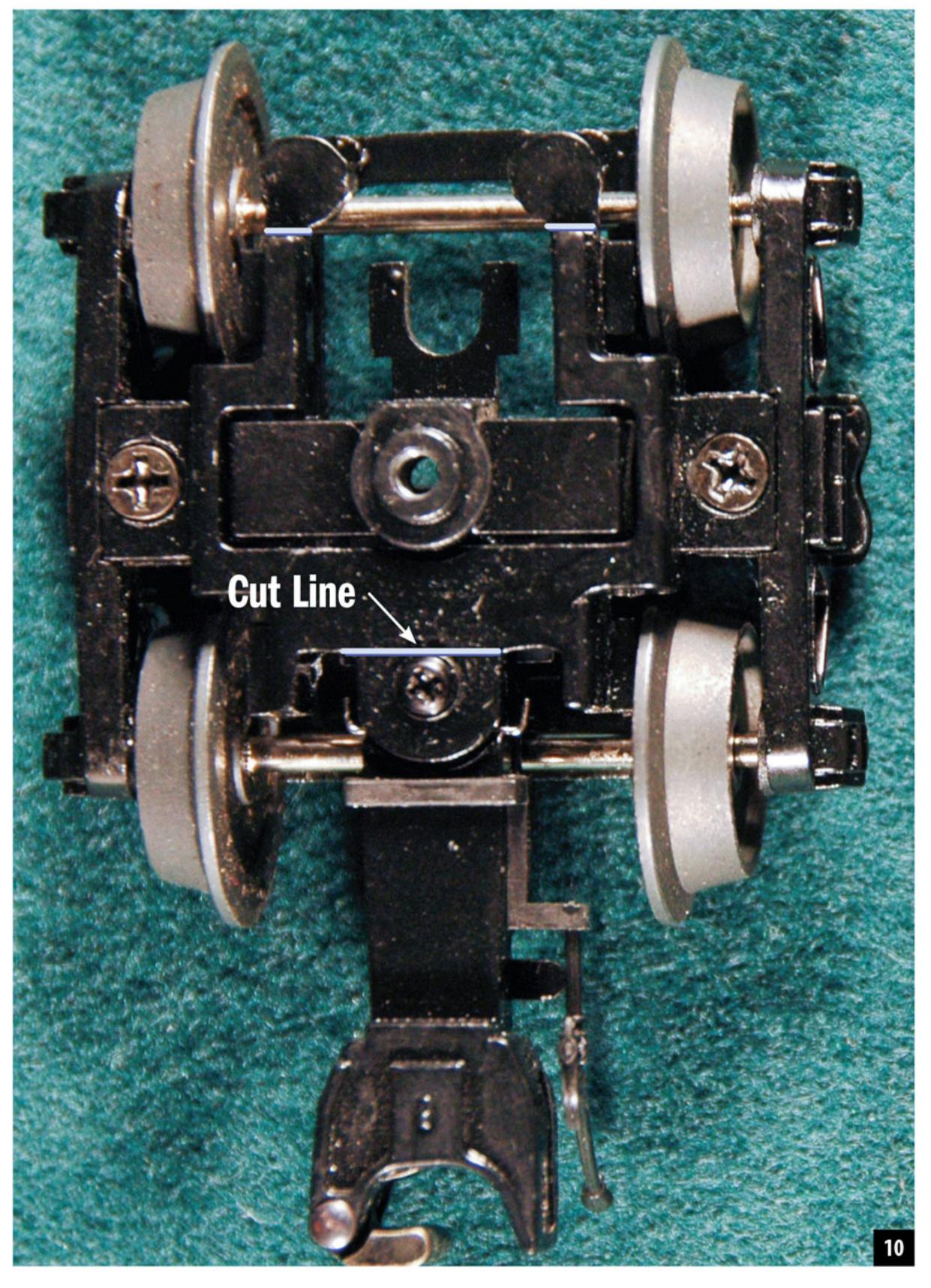
If the floor or frame is metal, tap it with a 2-56 tap. Turn the tap slowly and reverse 1/4 turn to clear material if you meet resistance. Now mount the coupler (and shims) with an appropriate length 2-56 screw. Replace the trucks and recheck with the Kadee gauge (Photo 8). If the coupler height does not match the gauge, adjust the thickness of the shims. Test the coupler with another car. If any couplers fail to engage, re-burnish the knuckle and "thumb" of the coupler with graphite powder. Lastly, dust the coupler with rust-colored weathering powder.

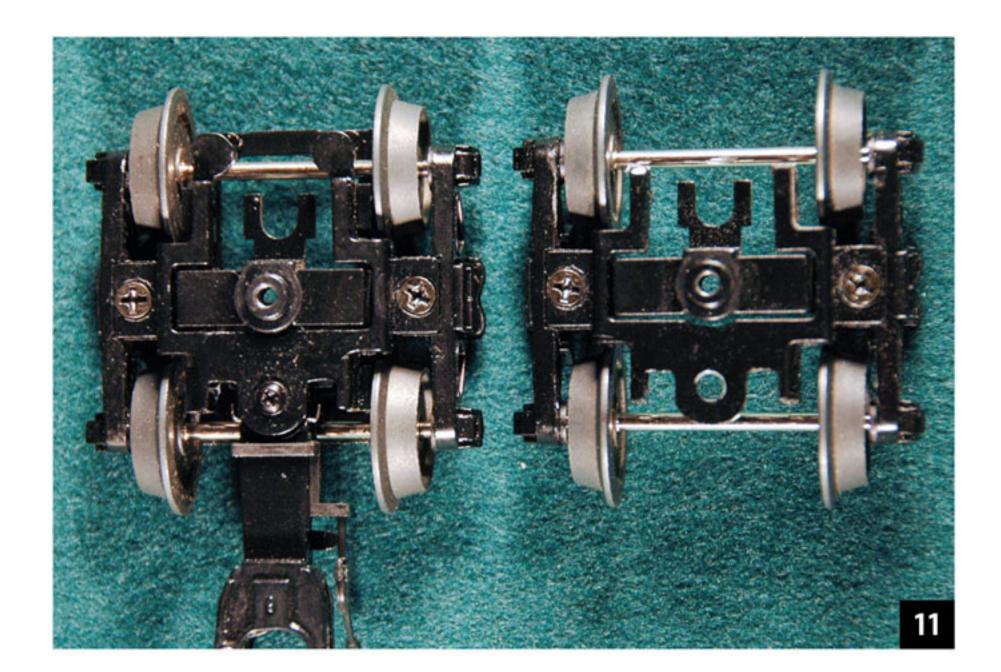
Weaver Rolling Stock

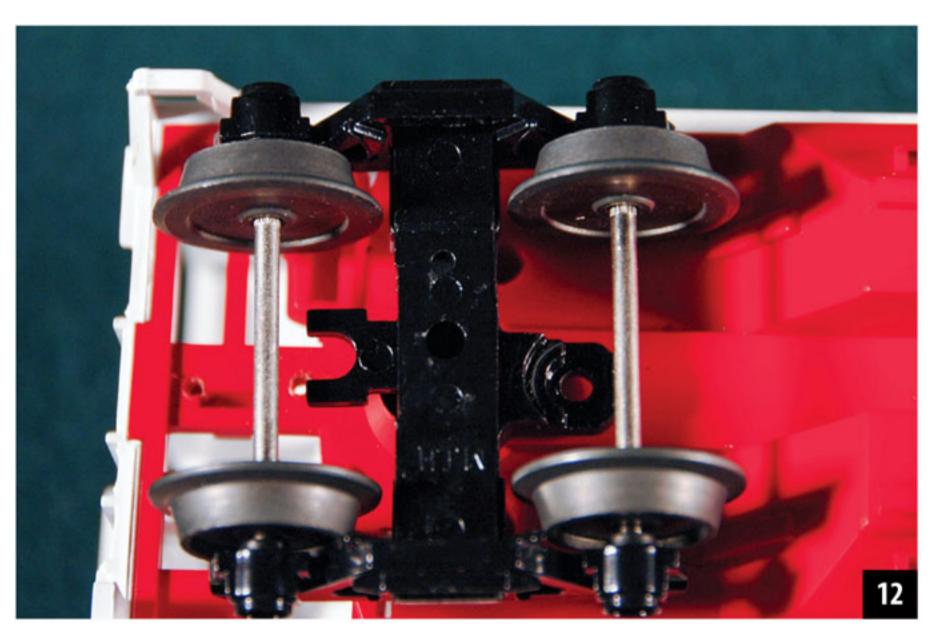
These are the easiest to learn on. Most Weaver cars are underweight and don't track well, so while the car is apart, add weights to bring it up to NMRA standards (5 oz plus 1 oz per inch of car length). Glue down the weights with contact cement.

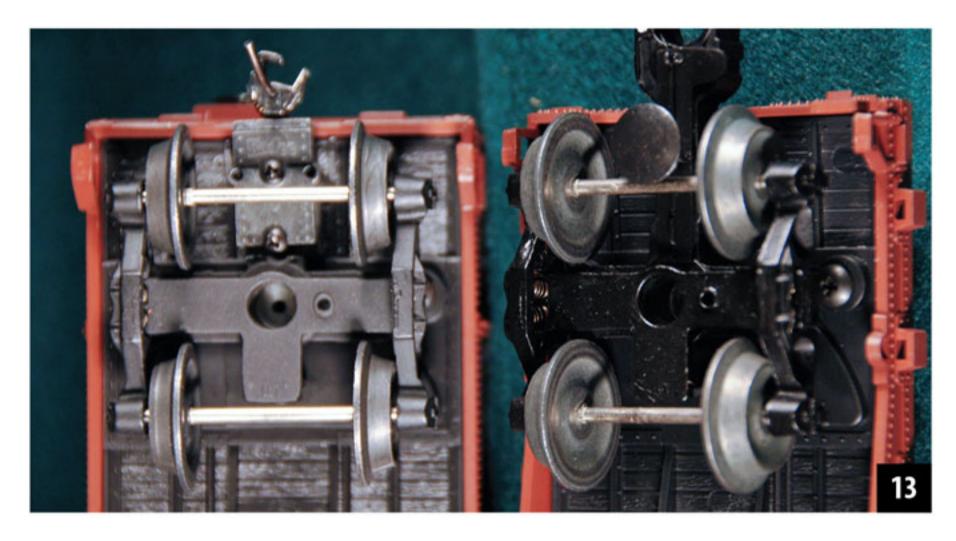
Remove the truck screws and remove the old coupler from the truck. The car will ride lower but more prototypical after removal of the old coupler. Use the existing coupler mounting holes (Photo 9). For my 2-bay covered hoppers, I used a 0.030" shim and mounted the Kadee with 3/8 x 2-56 screws. Remount the trucks with a 3/8" washer between truck and frame to reduce wobble.

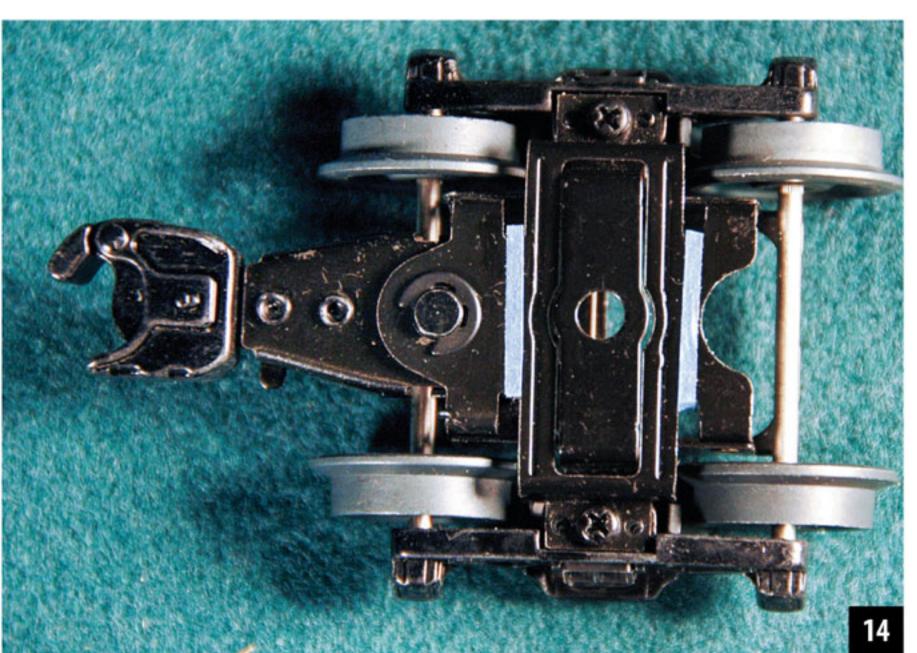












MTH Rolling Stock

Thumbtack-style couplers are integral to the truck bolster, so the coupler arm must be cut off with a Dremel cutoff disc. You can do the same with the modern hidden tab style couplers. Make the cut right behind the pivot screw (Photo 10).

Alternatively, if you want the conversion to be reversible with the hidden-tab-style couplers, you can disassemble the entire truck to remove the coupler (Photo 11). This is a somewhat difficult task requiring near complete disassembly, including removing and then reinstalling three small springs on each side of the truck. It will take 20-45 minutes per truck. When you remount the truck, rotate the truck 180 degrees so the coupler mount does not interfere with the Kadee draft gearbox (Photo 12). You will also need to cut off two round truck protrusions to clear the draft gearbox in Photo 10 or, alternatively, use the Kadee 806, which uses a shorter plastic draft gearbox.

The more recent MTH Premier cars have the car floors already drilled and tapped for 1-72 screws to mount Kadees. If they are not at the correct mounting height, some cars even include spacers. Mount with $1-72 \times 3/8$ " screws.

With tank cars, install the Kadee with two 0.060" shims and a 3/8" 2-56 screw. If the mounting area is recessed, glue in styrene to fill and then drill. With covered hoppers, install the Kadee with a stack of three 0.060" shims and a 1/2" 2-56 screw cut down to 7/16" so it does not protrude in the open frame. Older MTH cars may have a stamped-steel frame that will need to be drilled and tapped. With boxcars, install the Kadee with a 7/32" shim and a 1/2" or 5/8" 2-56 screw.

Lionel Rolling Stock

As with MTH, there are two common coupler styles in modern rolling stock: thumbtack style and hidden tab style. Conversions are generally not reversible. With the thumbtack style, the coupler arm must be cut off from the truck bolster with a Dremel (Photo 13).

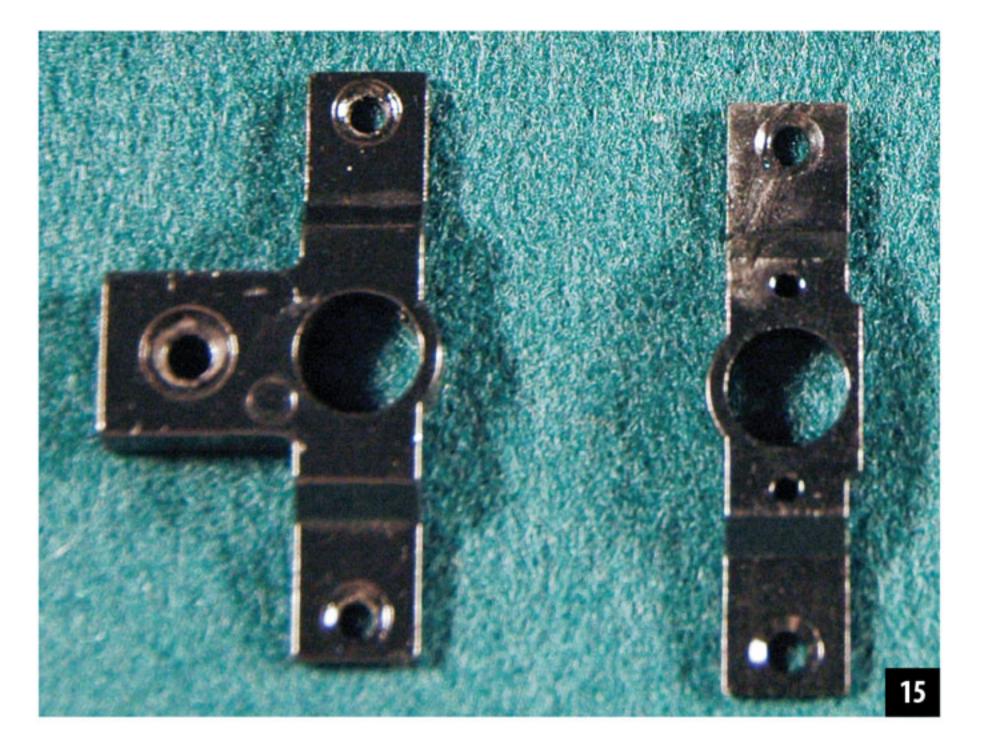
To remove the hidden-tab-type couplers, use a Dremel and cutoff disc to make two cuts into the sheet metal frame on either side of the bolster (Photo 14).

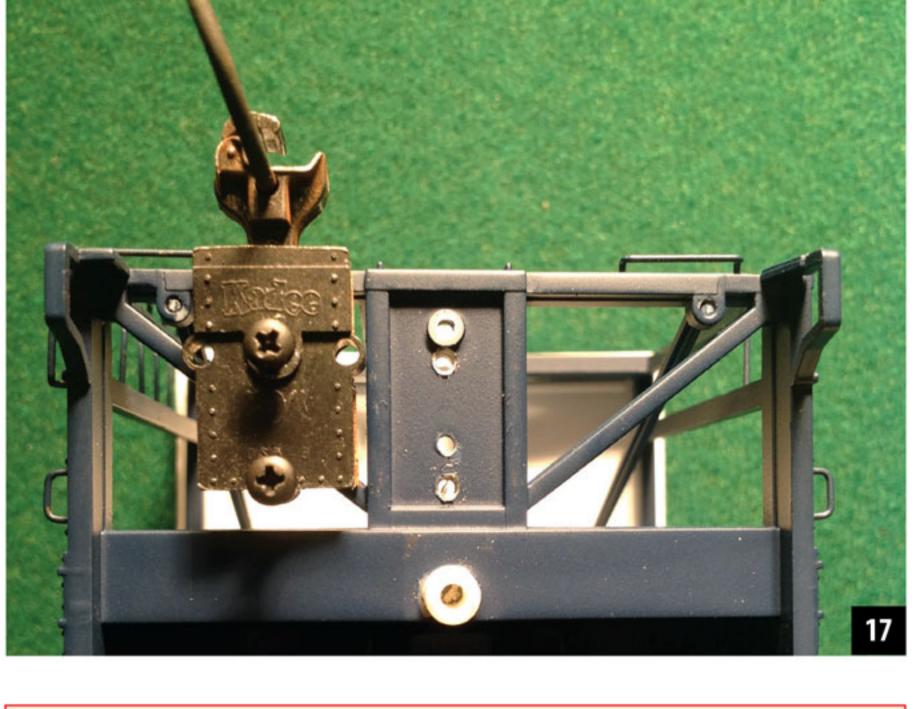
For GLA 2-bay hoppers use one 0.030" shim and 3/8" 2-56 screws. Steel reefers require two 0.030" shims and 1/2" 2-56 screws. A 40" coil car from 1995 needed a 3/16" plus a 0.030" shim and 5/8" 2-56 screws.

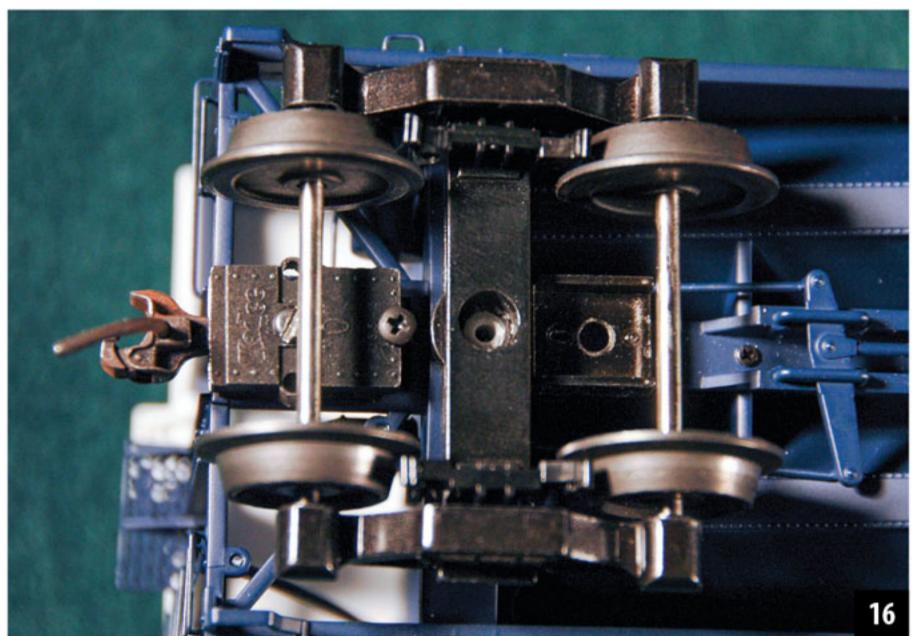
Atlas Rolling Stock

First remove the truck and then remove the T-shaped truck bolster with two screws. If the car includes extra bolsters without the claw coupler mount, simply install this plain bolster (Photo 15). If not, you may be able to simply install the truck rotated 180 degrees in order to clear the mounting site for the Kadee box (Photo 16). Alternatively, you can cut off the short leg of the T and re-install it on the truck.

Atlas cars are already drilled and tapped, but the holes do not quite line up with Kadees. You can use the existing holes by slightly enlarging the center and rear holes in the Kadee draft







gearbox and using 8mm x 2mm screws. Using these holes, the draft gearboxes will usually extend about 1/8" beyond the end of the car. If you want to mount the Kadee flush with the end of the car, drill new holes (Photo 17). Install the coupler with no shim.

K-Line Scale Rolling Stock

Like the MTH and Lionel thumbtack-style coupler, K-Line thumbtack couplers are integral to the truck bolster, so the coupler arm must be cut off with a Dremel cutoff disc.

Often, the floors of K-Line cars are recessed, requiring much taller shims. For boxcars, install the Kadee with a 1/4" shim. Tankers need a 7/32" shim. Use 5/8" 2-56 screws. Some K-Line cars sit way too high above the trucks. With a razor saw, I was able to cut down the truck mount pivot on the underside of a depressed center flatcar to lower it. It looked much better and required a smaller shim.

These recommendations will get you started. You will find that individual cars may require some additional modifications. Once you convert half a dozen cars, you will be able to figure out the rest. Be sure to sit back and admire your work, but don't be surprised when the giant claws on your locomotives start to bother you!

Table 1

Tools

- · 2-56 tap
- · # 50 (3/64") or 1/16" drill bit
- Dremel with cutoff discs
- Drill press (or drill or Dremel)
- · Kadee #812 Height Gauge
- · Fine files
- · Graphite (Kadee Grease'm)

Table 2

Supplies

- · 2-56 black oxide pan head screws (5/16", 3/8", 1/2", 5/8" length)
- 1-72 x 3/8" machine screws (for MTH Premier cars with Kadee mounts)
- · 2-56 hex nuts (for truck mounted Kadees)
- #2 x 3/8" self-tapping screws (can use in place of 2-56 screws in plastic)
- · 2mm x 8mm and 2mm x 10mm M2 metric screws (for Atlas cars) (Sources for screws: www.microfasteners.com, www.kadee.com, eBay seller k4_pacific)
- 3/8 OD 5/32 ID washers (for Weaver cars)
- · Lead weights or large bolts and washers (to increase weight of Weaver cars)
- Evergreen Black Styrene Sheets 0.030" (1/32) and 0.060" (1/16)
- Evergreen 24" White Styrene Strips 0.125" x 0.500" and 0.250" x 0.500"
- · Optional: 0.025" laser cut shims from ScaleCityDesigns on eBay 3D printed Kadee shims and mounts on www.Shapeways.com

Table 3

Kadee Couplers

- · 805 (metal box, external spring)
- 740 (metal box, internal spring, prototypical AAR Type E)
- · 806 or 743 (short shank, for tight clearances

oe Laughman's O gauge Pennsylvania Red Pine RR



There are two track gauges on this layout and Dad's layout as well: On30 narrow gauge and 3-rail O gauge.

O Is a family Affair: Son's Layout

Article by Joe Laughman Photos by Troy Laughman and Robert Benscoter

As far back as I can remember I have loved trains. This love stemmed from my dad and my grandpa's love of trains and model railroading. Growing up, there was always a train layout at Grandpa's house. Many times before Sunday dinner you could find the three of us sitting in the basement just watching that little K-Line steam engine go around and around.

As I got a bit older, I wanted a train of my own, so Santa decided to drop by with a Bachmann Big Hauler set. Dad and I set up our own G gauge layout and ran that for a number of years. Eventually, G just seemed too big, so I tried to determine what gauge or scale might be best for me. For a short time I modeled in every common gauge from the big G down to HO and then finally settled on O gauge. My dad at this point had already been modeling in O gauge for some time using MTH locomotives. I really liked how they sounded and the overall realism, so for Christmas that year I received an MTH Ready-to-Run set in Pennsylvania Railroad livery.

That Pennsy set quickly became a personal favorite. But now that I had a train and track, I really needed a layout of my own. Dad helped me build it from the ground up, and I learned a lot from him. I ran trains on that layout until it was time to move to our new home. Once we were in our new house, I set out to build a new table myself, making it bigger and better than my old table. Some three years and countless days and nights later, my dream became reality in the form of the Pennsylvania Red Pine Railroad.

I built this layout myself with the always helpful guidance of my dad. The table is framed with 2x4s supported by 4x4 legs on swivel casters for easy moving away from the wall for working on the backside of the layout.

A four-foot by twelve-foot piece of 1/2" plywood is nailed and glued to the top of the framework. Inch-thick blue insulation foam was then glued to the top of the plywood to form the top surface of the layout.

The mountain is built with scraps of blue and white foam,



Climax No. 7 is the major workhorse on the Pennsylvania Red Pine line.

which is then covered with Plaster of Paris combined with builder's paper strips to form a mixture that is something like heavy-duty paper mache. I sculpted rocks and ledges into the plaster as it was drying and also used some precast plaster rocks to provide a little variation.

One thing that I knew from the beginning was that I wanted to incorporate some On30 railroading into the layout since I had modeled in that scale earlier and enjoyed the industrial look that it offered. I also knew I could twist and turn the track into the kinds of tight spaces that narrow gauge railroads were famous for. In addition, logging has always fascinated me, and with the availability of some very nice logging equipment in On30, it was just meant to be. I have seen a good number of narrow gauge logging layouts, including a few in O gauge, but have never seen any that combined O and On30 on the same layout. To me, things just started ticking and making sense, and that's when the planning and construction began.

For the O gauge track, I was so impressed with MTH RealTrax from my



A pretty good example of the difference between O scale narrow gauge (On30 in the foreground) and standard 1:48 O scale, as represented by Climax No. 7.



The railroad serves some military customers and both individual members and facilities that house operations related to specific branches.



It's early evening on the Pennsylvania Red Pine RR.

starter set that I continued to use that track for my new layout. Along with really liking the track, I also like the switches because they are easy to wire, fit nicely, and work every time at the flip of a switch. For the outside loop of track I am running O42 curves along with an O42 switch. I also have an O31 switch going onto a siding beside my backshop.

For power and control I run MTH DCS operated with its handheld remote. The locomotive is an MTH Climax received at Christmas a year ago. I always liked Climax locomotives and remembered seeing them at the Railroad Museum of Pennsylvania as a kid with my dad and my grandpa. Rolling stock is primarily MTH and Lionel with some other brands thrown in depending what consist of cars I feel like running.

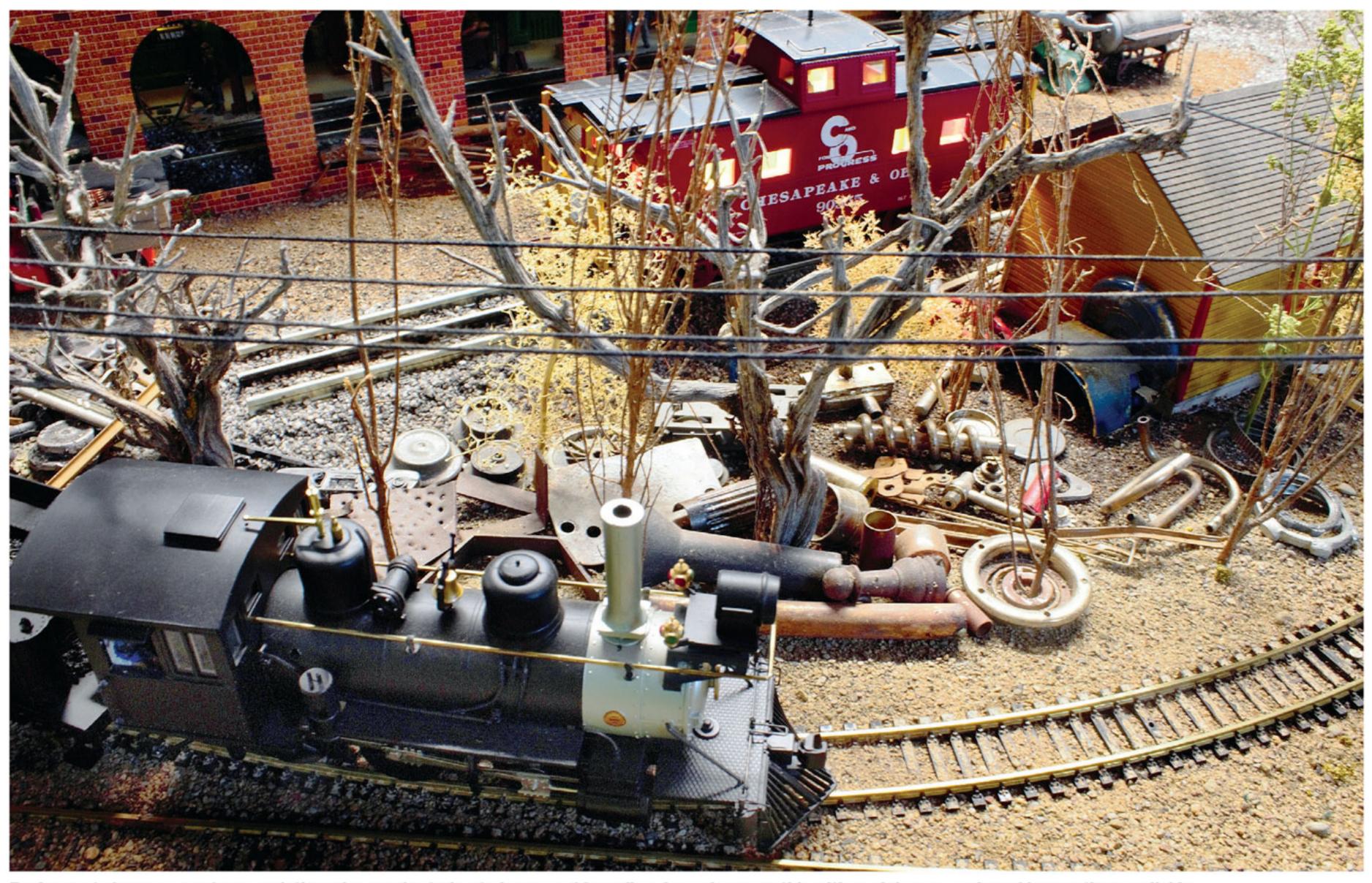
Most of the buildings on the layout were built from kits I assembled and



Logging and timber operations provide a good portion of the rail line's revenue.



Working the log pond.



Engine parts have a way of accumulating when you're trying to keep an older railroad running smoothly with a minimum number of locomotives available.



Just had to include a bit of Halloween humor here since it is that season of the year.

weathered. A large backshop in the middle of the layout was a limited-edition model produced by Lionel in 1998. It is fully lighted inside and has operating shop machines and a sound system that plays engine house working sounds along with the sounds of the machines inside. The other interesting building on the layout is the sawmill produced by K-Line as part of its Collectors Club. The blade on the sawmill spins around, and the building has an operating smoke unit inside. It is by far the coolest sawmill that I have found offered in O gauge.

My layout represents a Pennsylvania mountain town in mid-October of 1945. I chose this time period for two reasons. First, I love the colors that you can see in real life and use in the model world to represent that time of year. You can still have some trees with green on them and use yellows, oranges, and reds to really illustrate the fall season of the year.

The second reason for choosing this time period is that I am a history buff and World War II reenactor, which allowed me to incorporate another one of my hobbies into my railroad. This explains the



Hard to tell this modeled scene from the real thing.



The tower serves both the narrow gauge and standard gauge lines.

touches of World War II on the layout, and specifically the U.S. Navy. I enjoy reenacting so much that I made the decision to join the U.S. Navy, and by the time you are reading this article, I will already be in my basic training. Although I will not be able to take my trains aboard ship, I am confident I will never lose my interest in O gauge model railroading. It has been a very big part of my childhood, and I have

more happy memories of railroading with my dad and my grandpa than I can count. It is a hobby that I was introduced to when I was young and surely plan to continue for many more years to come.



The water tank is being adorned in an attractive shade of green.



No. 7 chuffs through some splendid mountain scenery.



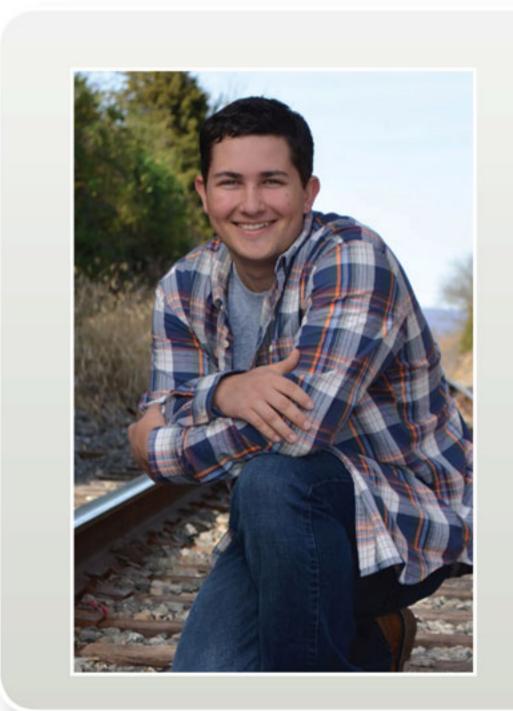
High up on the mountain, a cabin dweller enjoys the brisk autumn air.



An Army jeep is on hand to pick up a new recruit for transport to training.

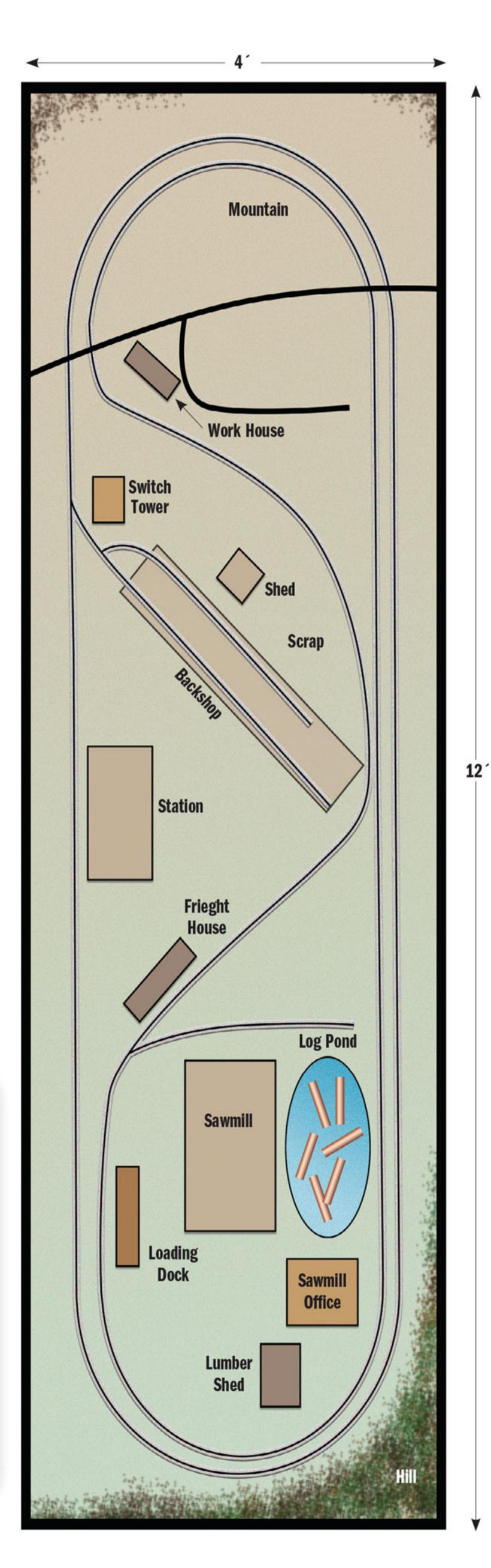


In addition to a fresh coat of paint, the water tank is also receiving some brick mortar repair.



About The Author

Joe Laughman is a recent high school graduate and is enlisted in the U.S. Navy. He has had two years of experience as a steam locomotive fireman and engineer on various small railroads in central Pennsylvania. Along with model railroading, World War II reenacting is his other main interest, and that sparked his interest in a career in the Navy. Joe also enjoys carpentry, welding, and working on small engines.







Our model railroading hobby is truly amazing! You would be hard-pressed to find another more creative leisure activity with such a vast variety of interesting facets that can be enjoyed separately or collectively. There are some in the hobby who simply collect locomotives and rolling stock while others choose to build complete railroad empires in miniature. Then, of course, there is the majority of enthusiasts who find themselves somewhere in between these two extremes. But whether it be a photo shared with others online or trains just sitting on a shelf, it's probably fair to say that at some point even the most casual hobbyist may want to display or share a personal favorite.

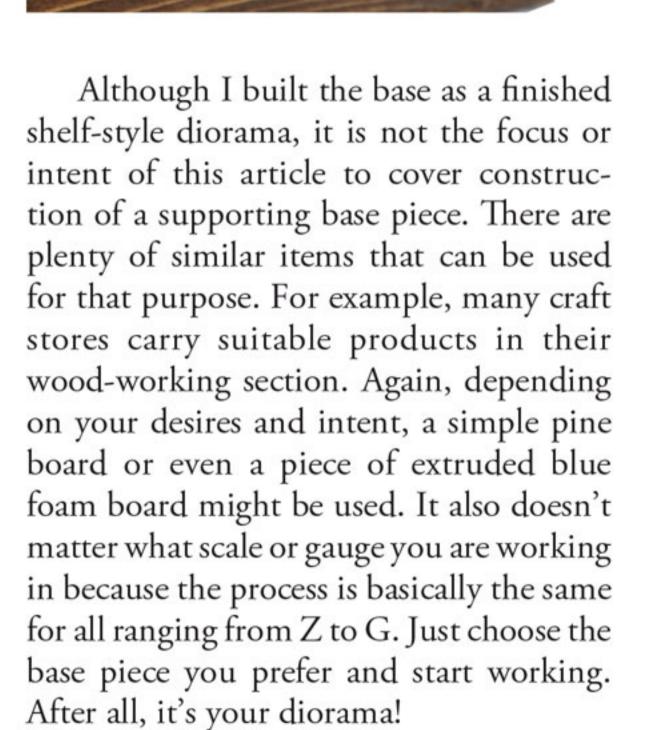
Now let's be real here. Not everyone has the time, space, or money to build the layout of their dreams. Some may not even have much of an interest in tackling such an undertaking. But there is a great "in-between" alternative available that is worthy of consideration: a small display diorama. A diorama is a great way to put a locomotive or piece of rolling stock on prominent display. It may be something as simple as a small shelf or box, or it can easily be taken a step farther by creating and presenting an attractive slice of the world in miniature.

The Basis of It All

If you are familiar with my model-making work seen in my videos (www.youtube.com/tracksidescenery), you know that I always suggest that "there is no right or wrong; it's whatever suits you." With that said, a diorama can be constructed from a variety of materials and, depending on its purpose, it can be in any stage of completion. If your goal is to have a diorama solely for shooting photos, you wouldn't necessarily need finished areas outside the chosen photo angles. On the other hand, if you want to display the diorama for others to view in person, you may want to consider a more finished presentation.

This article covers the latter in the form of a small but detailed shelf-type O scale diorama with lightweight scenery that works in conjunction with a photographic backdrop. The base of this particular diorama is a small 30" wide x 8" deep pine shelf that can be mounted to a wall or placed on a table or desk (Photo 1).

Since this diorama will include three-dimensional scenery along with a photo backdrop, before staining I cut a small 3/8" groove across the back to anchor the backdrop (Photo 2).

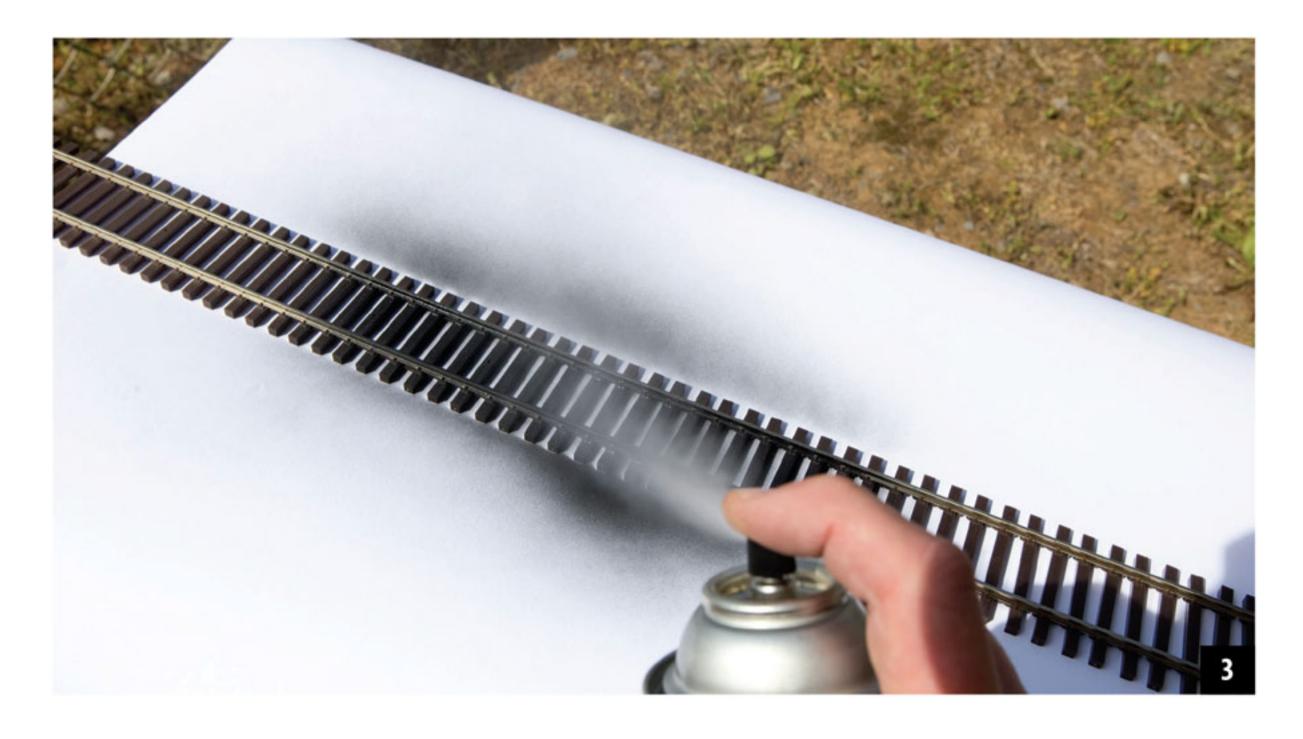


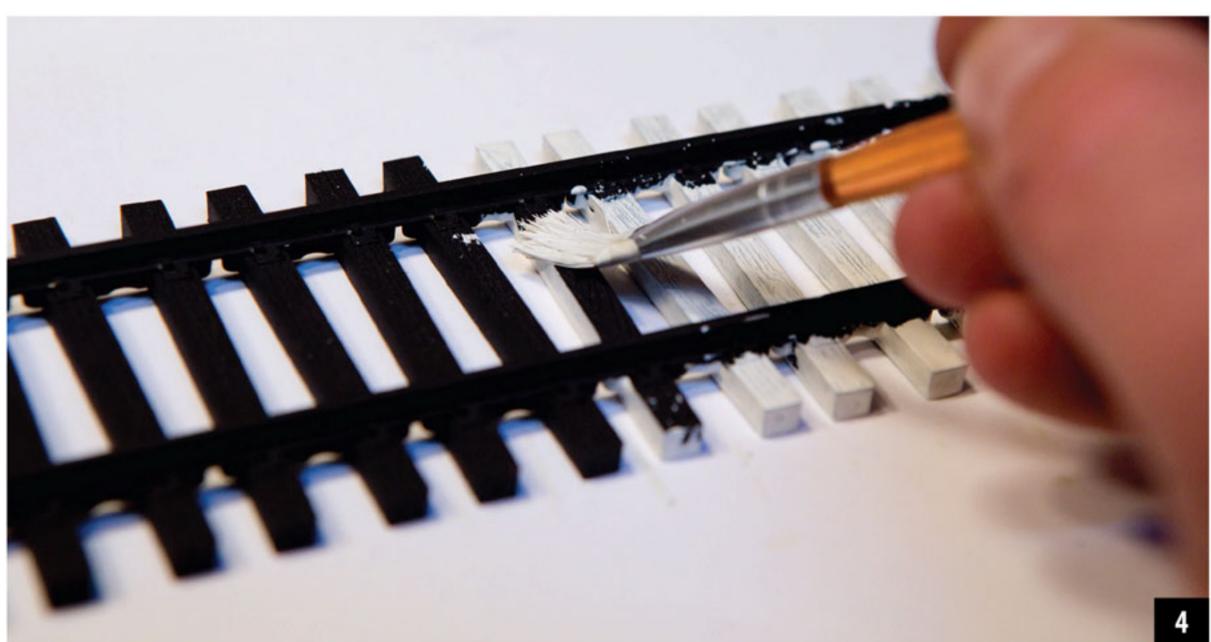
BACKDROP

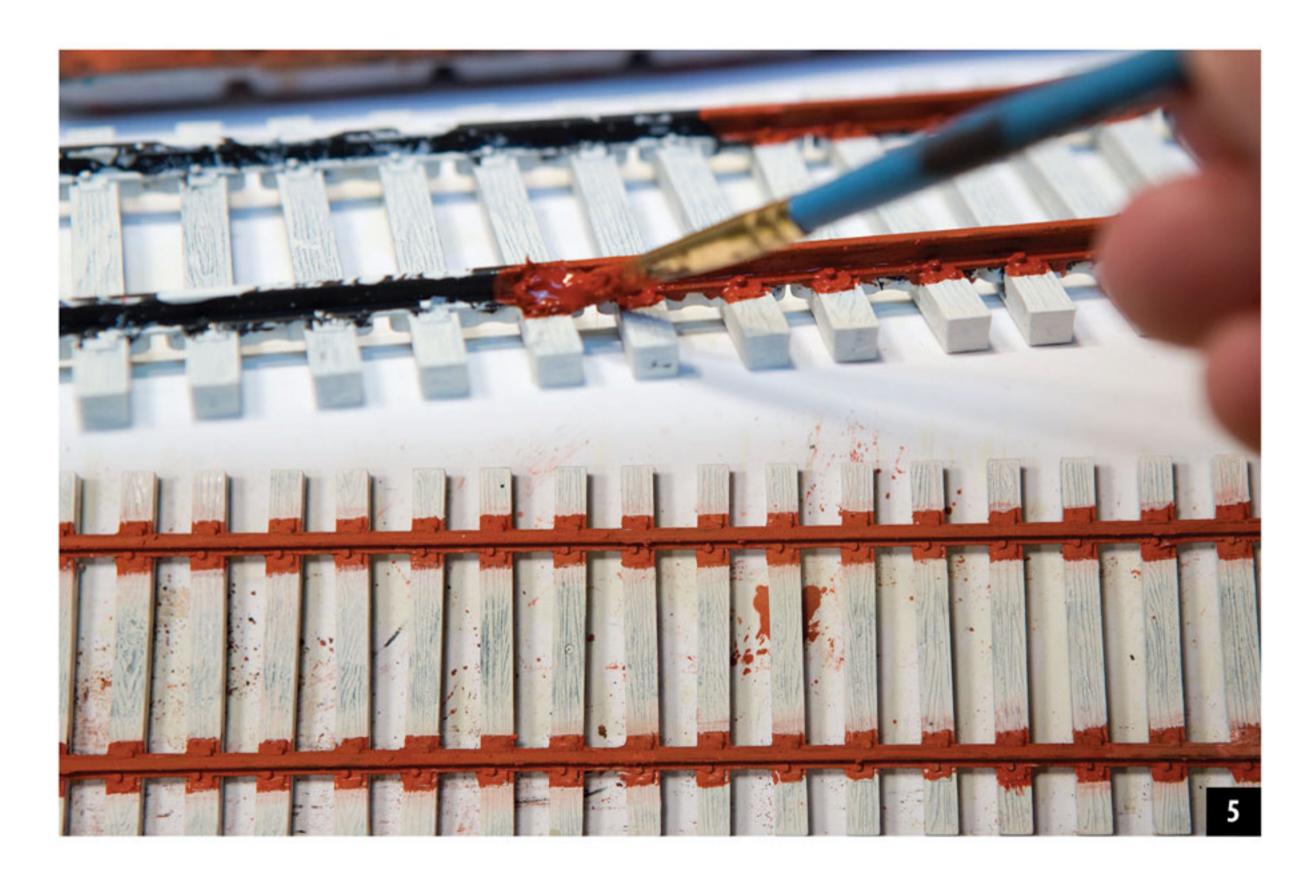
GROOVE

Track Preparation

After the base is selected and ready, I begin adding scenery elements in layers. The first layer in this example will be a section of Atlas 2-rail O scale flex track







cut to fit the length of the diorama. This material under the track. diorama will include some physical scenic features, and I envision the general look to be that of a branch line. That being the case, I chose not to use a raised roadbed

Although you can detail and weather the track after it is installed on the base, I find it much easier to perform this process prior to installation. I start by spray painting the track with cheap flat black enamel that will not only hide the unnatural look of stock out-of-the-box track but will also provide some "bite" for additional layers to grip to, acting as a primer (Photo 3).

My track weathering technique is covered in more depth in a how-to video featured on my YouTube channel. The technique I employ might be considered strange given the initially bright colors used, but when the process is complete, it produces a very realistic effect with visible texture that can be hard to match with paint alone.

For the track ties, I use a mixture of cheap white and tan acrylic paints. This mix will produce a light color that will later be blended and dulled down. I apply a heavy coat of this color mix to all areas of the ties. You don't have to be too careful in this step as it will all be covered and blended-in later in the process (Photo 4).

For the rails I use finely ground bright red chalk mixed with some paint thinner to create a tomato-soup-like mix. This is brushed onto the rails and tie plates. Again, you don't have to be too careful in this step (Photo 5).

With the rails and ties covered, I go back and fine-tune the entire section of track by touching up and blending areas where the tie plates meet the ties.

Final track preparation involves several coats of a black paint wash. This is where those previously applied bright colors are dulled down and the track starts to take on a realistic look. With each successive application of the paint wash, the bright colors will fade into a thing of the past, and the wash will soak into all the assorted cracks and crevasses. The wash mixture is nothing more than several dabs of cheap black enamel mixed with paint thinner. Obviously, the lighter the mixture, the more coats you will need to apply to achieve the look that suits you, but be willing to experiment (Photo 6).

Base Preparation and Track Installation

Before installing track to the base, I apply a coat of dirt-colored latex paint over the entire surface of the base unit. This effectively hides the original stain color under the scenery elements that will be added. As a result, in areas that may receive too little ground cover, the base stain color won't be evident (Photo 7).

When the base surface is dry, the track can be installed by securing it to the base with basic construction adhesive. In the example used here, I positioned the track near the center of the diorama so there will be just enough room on the foreground side of the track to capture scenery elements in photos (Photo 8).

With the track section installed, it's time to add ballast. The ballast used here is Woodland Scenics Medium Gray. I pour this right out of the container, starting between the rails in a left-to-right motion. I then add ballast to the outer tie areas and use a small puffy artist makeup brush to smooth everything out. Once everything has the right look, I apply adhesive to hold it all in place and also help to dull the colors further. The mixture I use is one part white glue mixed with about four parts water with a drop of dishwashing detergent added. I apply this with an inexpensive spray bottle (Photo 9).

Basic Scenery

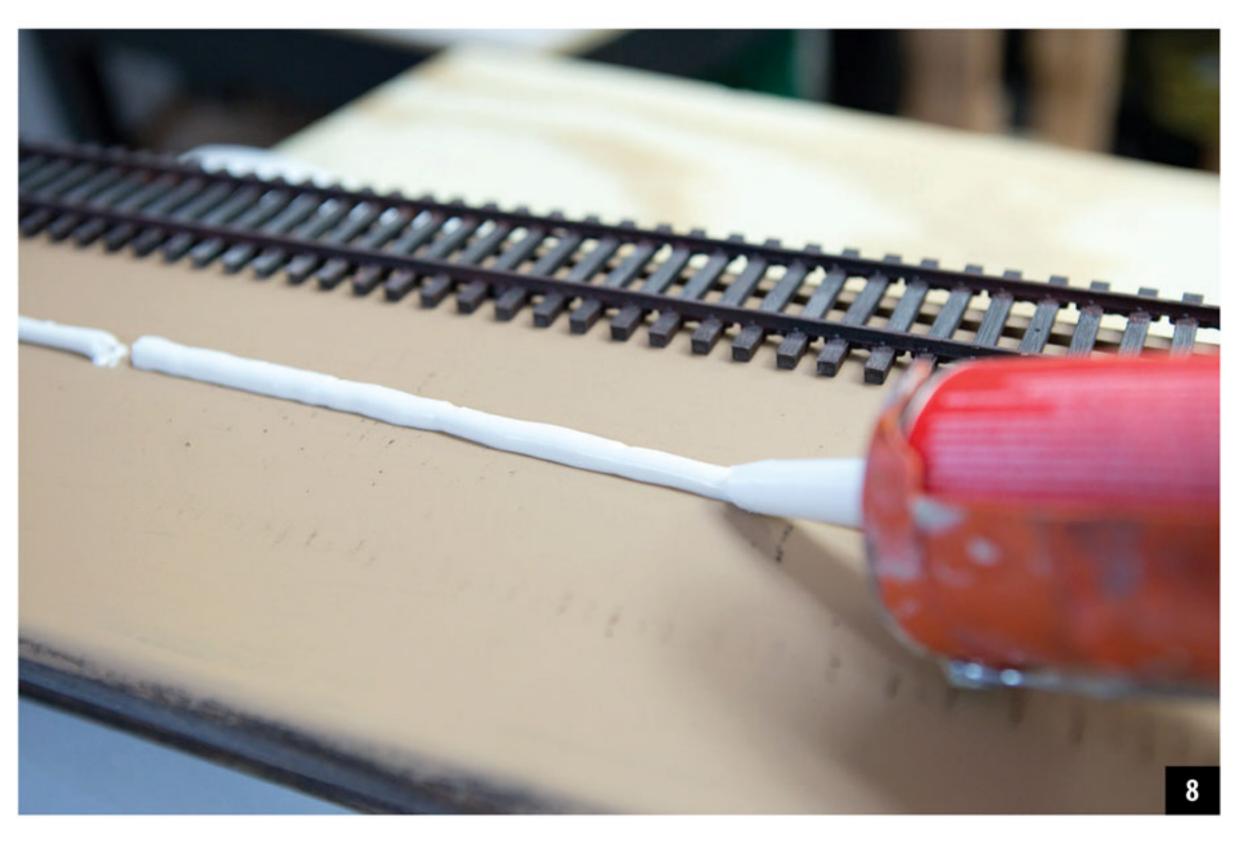
While the scenery-building process for this particular diorama is not the primary focus of this article, the step-by-step processes are covered in a series of how-to videos featured on my Trackside Scenery YouTube channel. Some of these videos include methods for using real dirt and creating believable weeds, vines, bushes, and much more.

You can certainly use any commercially available materials to achieve a realistic look, but for this diorama I used a combination of commercial products with the addition of real dirt that is finely ground and sifted to suit. The dirt is applied after a mixture of dirt-colored latex paint, mixed with a generous amount of white glue, is painted onto the base, being careful not to disturb areas near the ballast. Typically, I cover the track with painter's tape to provide a good level of protection.

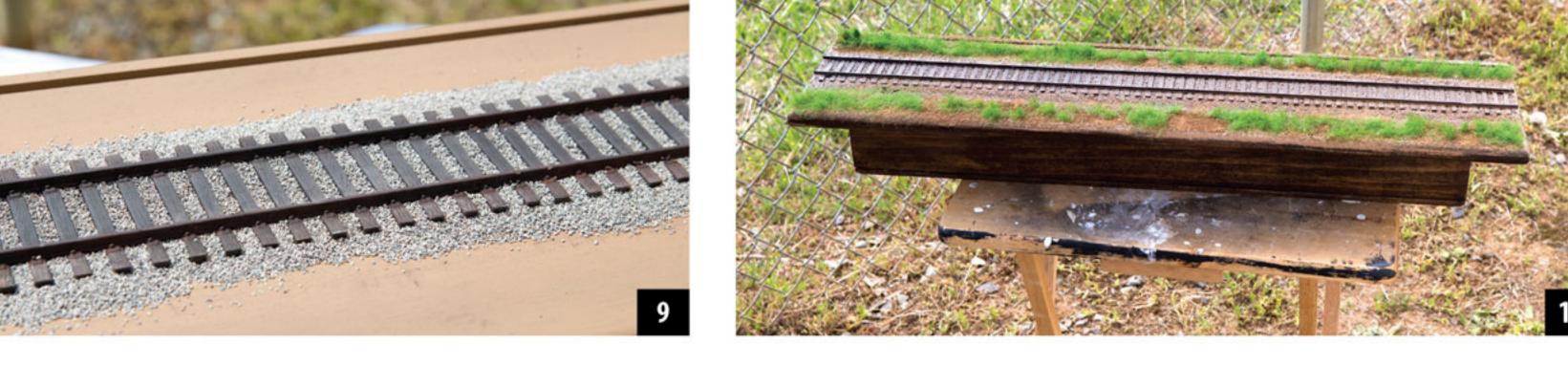
Once the area has been covered with the paint/glue mix, a fine sifter is used to sprinkle on the dirt. Over the dirt, I apply a generous coat of cheap and sticky hairspray. This will harden the dirt and keep it in place. It will also make it possible to use sandpaper to smooth out the dirt and eliminate any unnatural appearing clumps. For any areas that were missed, you can simply sprinkle on some dirt and then shoot it with an overcoat of hairspray.









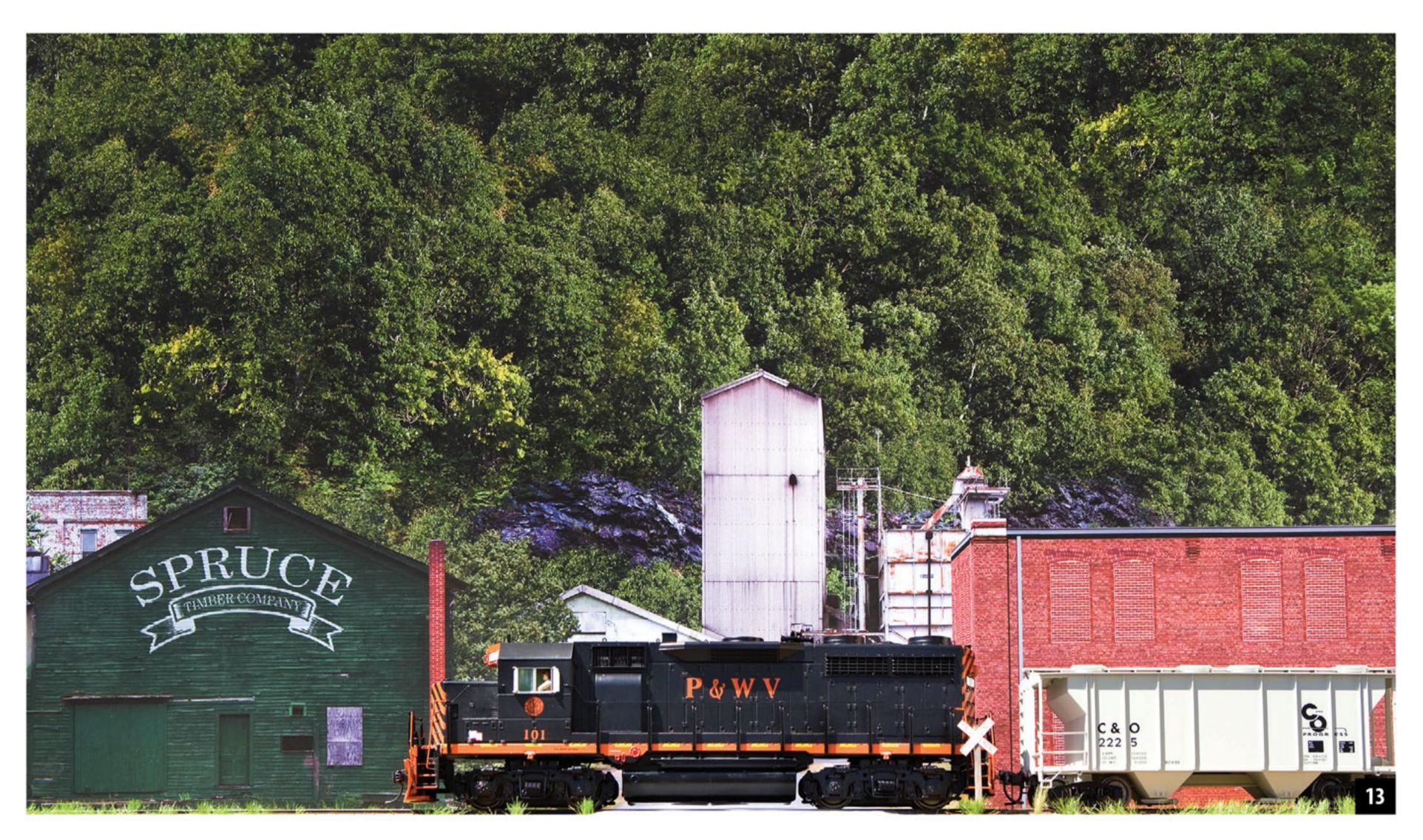




Once the basic ground scenery is complete, I add in some weeds, grasses, and other elements to enhance the realism of the scene (Photo 10).

The photo backdrop was designed to interact with the physical scenery on the diorama, so I added a road to the diorama that matches the dimensions of the road in the backdrop image (Photo 11). This imparts some much needed life beyond the confines of the diorama. The diorama road was created with Plaster of Paris painted with a black enamel wash. This resulted in a base color of medium gray. It was a little too dark to match with the road in the backdrop, so I used several applications of finely ground white and blue chalks worked into the road with a makeup artist brush until the proper color match was achieved.









Summary

There is no way to include every facet of construction and scenery building into a brief magazine article, but I hope I have provided enough of a tempting preview to give you a good idea of what is involved in creating a simple and easy-to-build diorama for displaying your favorite locomotives and rolling stock.

Photos 12 and 13 show the completed diorama with a (easily changeable) photo backdrop in place. Note that the effect of a rural-type crossing has been enhanced with a set of typical rural railroad crossbucks. By the way, the locomotive pictured here is an MTH GP35, and the covered hopper is from Weaver.

As noted earlier, dioramas are appropriate for any scale or gauge. Photo 14 depicts an On30, 2-8-0 deadheading somewhere in the West Virginia mountains during the peak fall





season. A small bridge diorama, also On30, is set up outdoors in Photo 15, and a close-up photo of the scene is presented in Photo 16. I constructed this diorama using the same process and methods described in this article. I love to photograph dioramas, modules, and even complete layouts outdoors in natural light whenever possible. Photo 17 also depicts On30 railroading on dioramas constructed to show off some of the locomotives and rolling stock used on my Spruce Coal & Timber Railroad, which was featured in Run 283, the February 2016 issue.

I invite you to visit my website at www.tracksidescenery.com to see even more detailed examples of the scenery-building techniques I use and to view the results in the hope that you, too, will be inspired to try your hand at creating non-layout layouts.

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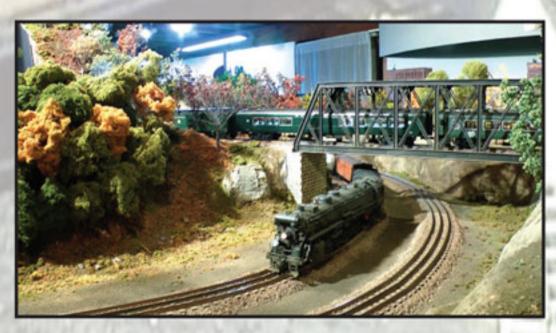


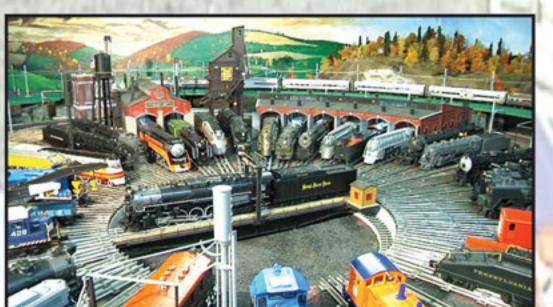
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Collector's Gallery

Ed Boyle





Sweet Ending for a Colorful Series

The Cal Stewart Lifesavers Caboose and Candy Cane Tank Car

In 2013, the last of the Cal Stewart Lifesavers cars was announced. Since 2007, the limited-edition Lionel tank cars produced for the Toy Train Operating Society (TTOS) Southwestern Division and the Nor-Cal Division of TCA had developed a loyal following among hobbyists for these colorfully decorated and very desirable collectibles. In what was planned as a fitting farewell for a striking series, the last car was to be a caboose, but things did not work out that way, much to the joy of dedicated Cal Stewart Lifesavers car collectors (Photos 1 and 2).

The 2013 Bay Window Caboose

The rainbow-striped 6-58548 Five Flavor Lifesavers lighted bay window caboose has an operating smoke unit with an on/off switch, as seen in Photo 3, and it rides on heavy die-cast metal passenger-style trucks. Black paper

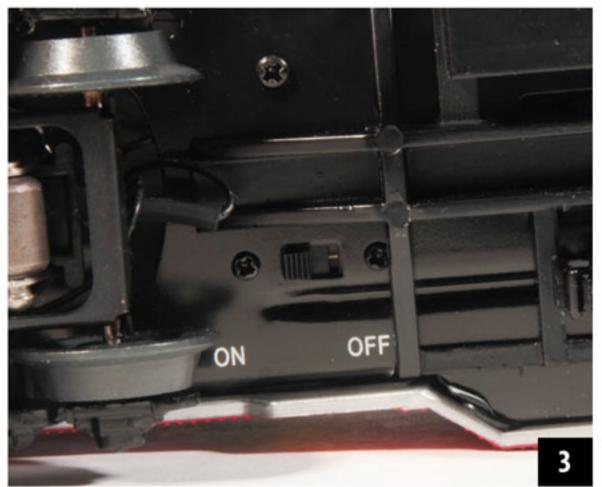
inserts located in the bay windows on both sides of the caboose hide the smoke unit and light bulb. The silver roof and ends round out the painted decoration. Two EXPRESS speed-lettered signs in white on a blue background flank the center bay window and are positioned above the side windows. Below them are smaller signs that read LIFESAVERS in white on a curved blue field with still smaller FIVE FLAVOR signs in red beneath the LIFESAVERS logos. The red bay window itself is adorned with the five flavor lifesavers and the number 58548 in white (Photo 4). All in all this is one good-looking caboose and it has an S gauge counterpart: 6-41004. The Cal Stewart cars were noteworthy for having each car in the series produced in both O gauge and S gauge versions.

A decal set comes with each Lifesavers Bay Window Caboose that reproduces the signage on the sides (Photo 5). The idea here is to use the decals on a suitably colored locomotive to pull the Lifesavers cars. This was a less expensive alternative to offering a Lifesavers engine as part of the series.

The 2014 Candy Cane Tank Car

In 2014, one more Cal Stewart tank car was produced: the 6-58208 Lifesavers Candy Cane tanker (Photo 6). The car used a red and white candy cane design wrapped around its bright metalized body, and the visual effect was spectacular. The candy cane decoration also incorporated two blue-and-white LIFESAVERS signs on either side of the chemical tank car platform. The black chemical tank car platform provided a visual contrast to the colorful red and white candy cane wrapper (Photo 7). The Lifesavers Candy Cane Tank Car was shod with high-end die-cast sprung trucks, completing a very attractive package. The 6-58208 was the final O gauge car in the series, and a great way to end it. There also was an S gauge version, the 6-41018, which was just as colorful as its larger O gauge cousin (Photo 8).





Bruce Lazarus and the Cal Stewart Cars

Bruce Lazarus of the TTOS Southwestern Division quarterbacked the Cal Stewart Lifesavers tank car program. For the better part of seven years he successfully managed the club car process in two very different areas. Bruce persuaded several management groups in succession, who represented the various corporate owners of the William Wrigley Jr. Lifesavers trademarks during the seven-year time frame, to approve each new tank car and caboose design that was submitted. Then he helped make the Lifesavers tank cars a reality by working effectively with Lionel to have them produced.

Bruce should be saluted by his fellow hobbyists for his achievements in navigating the frustrations and pitfalls of licensing approvals and club car production schedules to come up with such a great-looking group of collectible cars (Photos 9 and 10).





5



Cal Stewart 0 Gauge Lionel Lifesavers Tank Cars and Caboose: 2007-2014

- 2007 O Gauge #6-52476 Five Flavor Lifesavers Tank Car
- 2008 O Gauge #6-52515 Wild Cherry Lifesavers Tank Car
- 2009 O Gauge #6-52565 Pep-O-Mint Lifesavers Tank Car
- 2010 O Gauge #6-52569 Butter Rum Lifesavers Tank Car
- 2011 O Gauge #6-52591 Mint-O-Green Lifesavers Tank Car
- 2013 O Gauge #6-58548 Five Flavor Lifesavers Bay Window Caboose
- 2014 O Gauge #6-58208 Candy Cane Lifesavers Tank Car (Seventh and final car in the series)











Lionel 6-84673 Spring 2017 York Meet Boxcar

Lionel gave 50 very lucky attendees at the April 2017 Eastern Division Train Collectors Association Train Meet on the York, Pennsylvania, Fairgrounds the chance to own a genuinely limited-edition boxcar made especially for the occasion. The Spring 2017 York Meet Boxcar was for sale to the first 50 persons who lined up at the Lionel booth in the Orange Hall to buy this attractive, traditionally sized car on a strictly first come, first served, one-toa-customer basis (Photo 11).

This handsome white freight car was decorated with two icons of Lionel postwar locomotive production: the 1953 Santa Fe 2343 F3 diesel in red and silver Warbonnet dress and the 1950, 773 New York Central Hudson clothed in basic black. Prominently printed in blue on the bottom of the operating doors in the middle of the car was Limited Edition and 1 OF ONLY 50 PIECES PRODUCED.



The box art used an image of an American flag to emphasize that the 6-84673 was made in the U.S.A. (Photo 12). The car used both U.S. and imported parts. The die-cast sprung trucks and the operating couplers were sourced in China, but the rest of the car and its decorative elements were created and produced in the U.S. (Photo 13). Dave Siburn was one of the fortunate 50 able to buy the very special 6-84673 boxcar for \$50.00 at the meet. Our thanks to Dave for letting us borrow it for photography. We promise to give it back!

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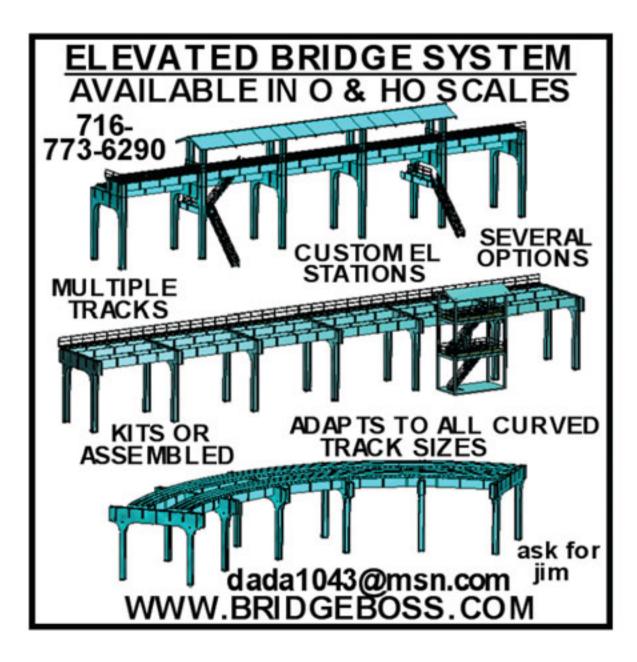
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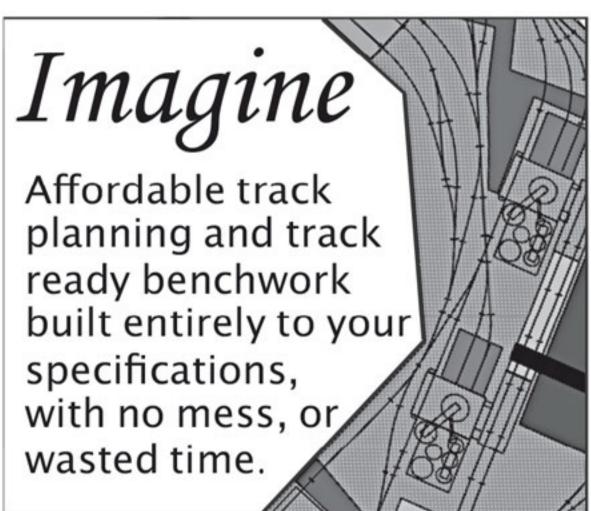
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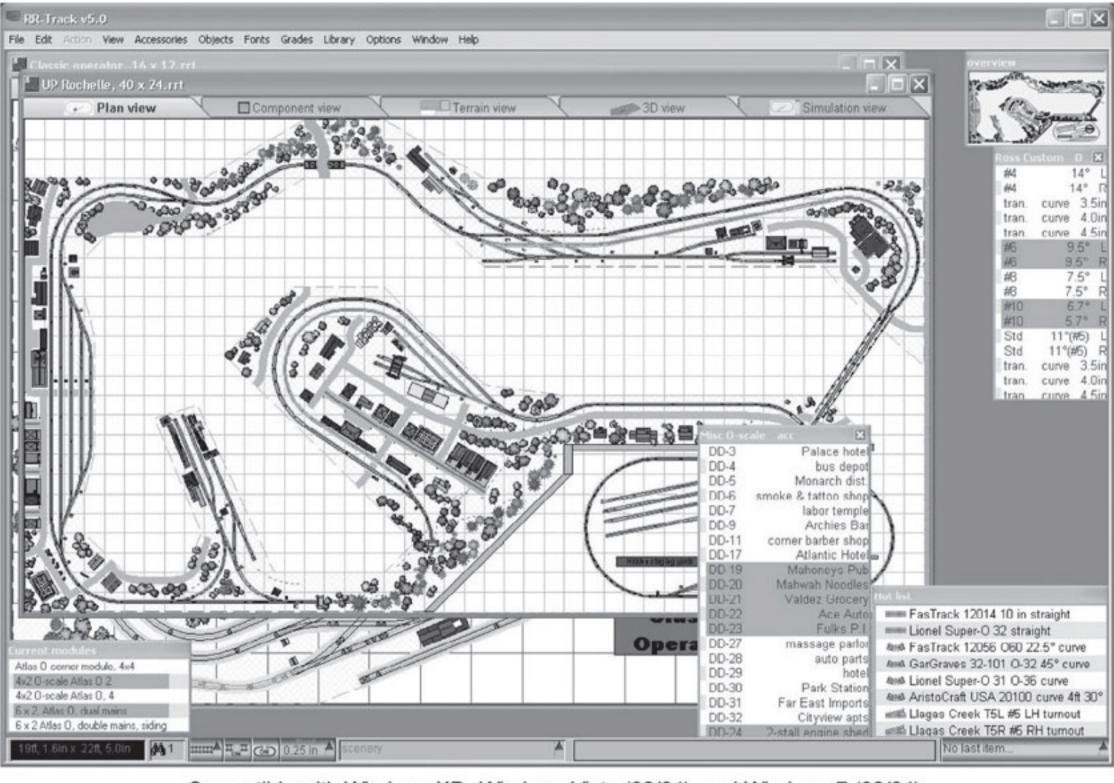






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Union Pacific 4-12-2 9000 Steam Engine

Premier Line O Scale Power

For much of the twentieth century, the Union Pacific had a love affair with massive, bigger-than-life locomotives. Some examples, like the Challenger and Big Boy, were great successes, while others like the gas turbines and DD40AX "Centennial" diesel were noble failures. One of the UP's earliest and most successful big engines was the 9000-class 4-12-2, which boasted the longest rigid wheelbase of any American steam locomotive. Designed for fast freight service, the eighty-eight 9000-class engines were built by Alco in 1926-30, during a period when low-speed "drag" freight service - the norm on American railroads for decades - was being largely supplanted by freight trains running at passenger speeds. The 9000s could haul a mile-long train at 50 mph, twice the speed of the Mallet articulateds they replaced.

Known as a "Union Pacific" type for their wheel arrangement unique to the U.P., the 9000s were also the most successful three-cylinder rod locomotives ever built. The third cylinder was placed between the two outside cylinders and drove a rod connected to the second axle, which was shaped like a crankshaft rather than a straight axle.



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Educational Entertainment

Video Review by Allan Miller

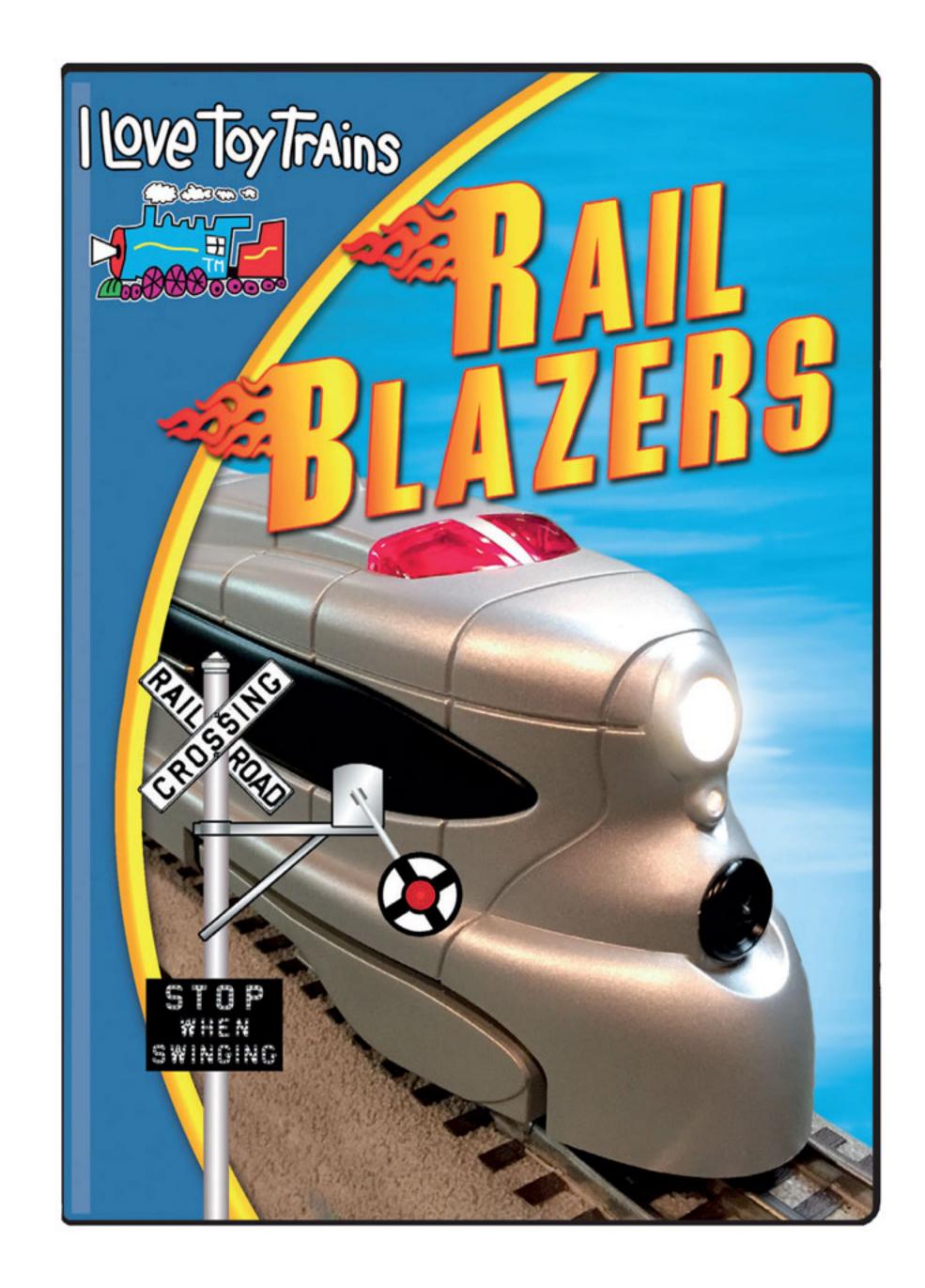
I Love Toy Trains: Rail Blazers

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TM Books and Video (TMBV) continues to expand its menu of entertaining, informative, and educational video fare for train lovers of all ages. The latest release from Tom McComas and the crew is *I Love Toy Trains: Rail Blazers*, a 34-minute DVD continuing the long-standing, highly regarded, and award-winning "I Love Toy Trains" series of videos launched in 1993. Jeff McComas, Tom's son, was two-years-old when he made his premier appearance in that first program. Since then he has narrated the entire "I Love Toy Trains" series and he appears in this current video at the ripe old age of 26.





There is something for just about every interest and age group in this fast-moving, action-packed video. Youngsters, for example, almost always seem to have a fascination with dinosaurs (as well as trains), and this video combines both as viewers ride along on the Dino Express through some rather Jurassic-like scenery populated by various prehistoric reptiles. It's an educational journey as well as entertaining because youngsters learn how to distinguish a Diplodocus from an Iguanodon and an Ankylosaurus from a Brachiosaurus, among others.

There are other educational/entertainment combo segments for the young as well including a tip for easily recalling the colors of the rainbow in proper sequence via the name ROY G BIV. You oldsters out there do already know that one, don't you?

Here's yet another question for the seniors among us who represent the baby-boom and pre-baby-boom generations: When was the last time you saw Lionel's Culvert Loader and Culvert Unloader work flawlessly through their respective cycles? Granted the TMBV videographer may have had the opportunity to do take after take to get these popular accessories to perform properly, viewers can at least appreciate the resulting smooth-operational sequences.

Modern-era hobbyists will enjoy seeing an assortment of bicentennial and American celebration locomotives from Lionel depicted in full operational mode. See the "Spirit of '76" U36b from the Seaboard Coast Line, Bangor & Aroostook's "Jeremiah O'Brien," the Union Pacific's Preamble Express, the American Freedom Train that toured the nation, and Conrail's gorgeous GG1 in all its patriotic splendor. All of these special commemorative trains--prototype and toy--are true eye candy for everyone, train fan or not.

The video also includes the customary assortment of the TMBV visual "tricks" that fans have come to expect. A very short RMT BEEP locomotive enters "Mighty Mac's Loco Works" and emerges as a full-size scale GEEP adorned in the same livery. The same thing happens with an F3 locomotive. "In Scrawny" and "Out Brawny" is Mighty Mac's shop's slogan.

A segment I found to be particularly enjoyable because I have become increasingly operations oriented involves multiple switching moves conducted with the

16W 50

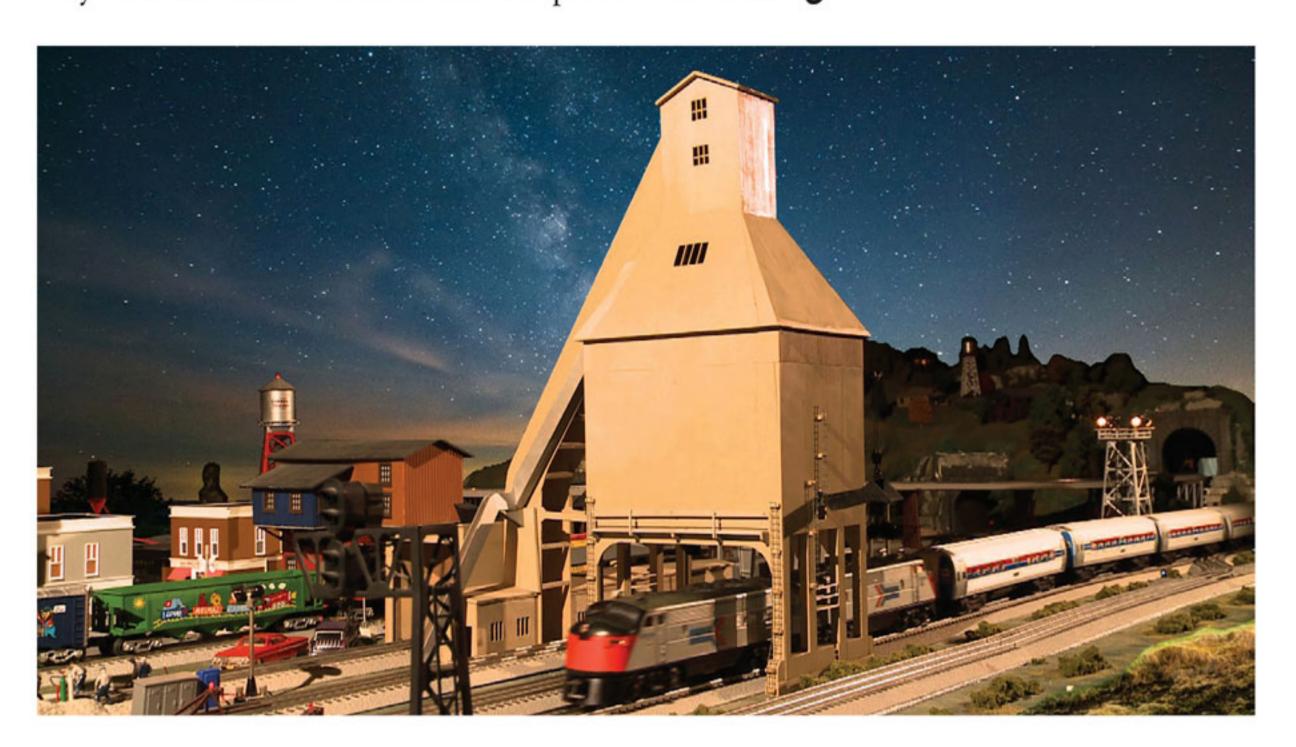
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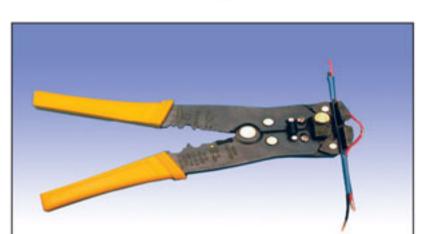
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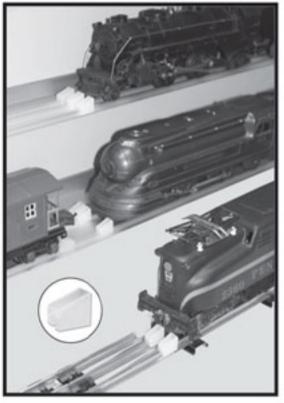


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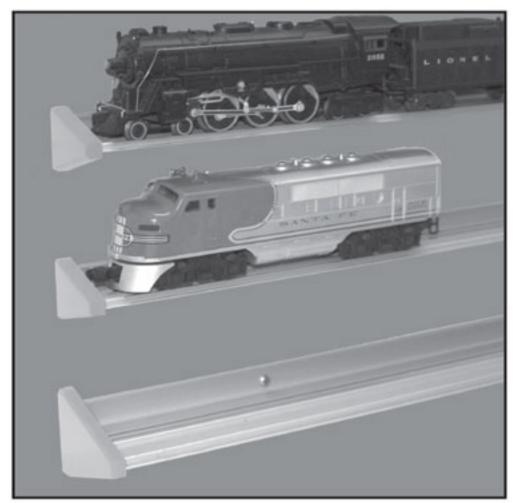
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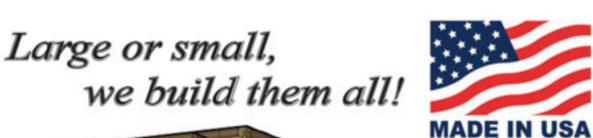




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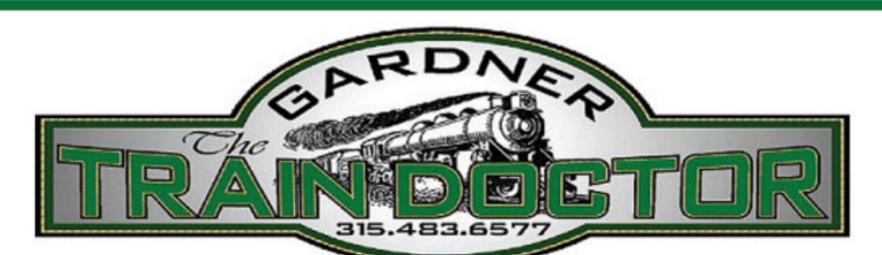
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Backshop

Jim Barrett





Finishing Your Trestle

Our previous "Backshop" (Run 293) ended with building all the vertical supports known as trestle bents you will need for your project. In this issue we'll locate the trestle bents on the valley floor and add cross bracing and horizontal bracing to complete the trestle framework. Finally, we'll add the track to complete a dramatic trestle.

Look again at the two actual-size drawings presented here (Trestle Bent Pattern Side View) and (Trestle Bent Pattern Face View). The one titled Trestle Bent Pattern Side View shows the sides of two trestle bents, the stringers on top of each trestle bent bridging the space from one to the next, and a piece of GarGraves #101 Trestle 3 track. Just a note: GarGraves Trestle 3 track looks like its regular track except it comes with the beautiful 3" wide ties, as shown in Photo 1. Don't mind Lulu, my cat. She's anxiously

awaiting the lower trestle to be completed to her tunnel. Those wide ties come very close to the scale 12- or 13-foot-long ties used by the real railroads for trestles.

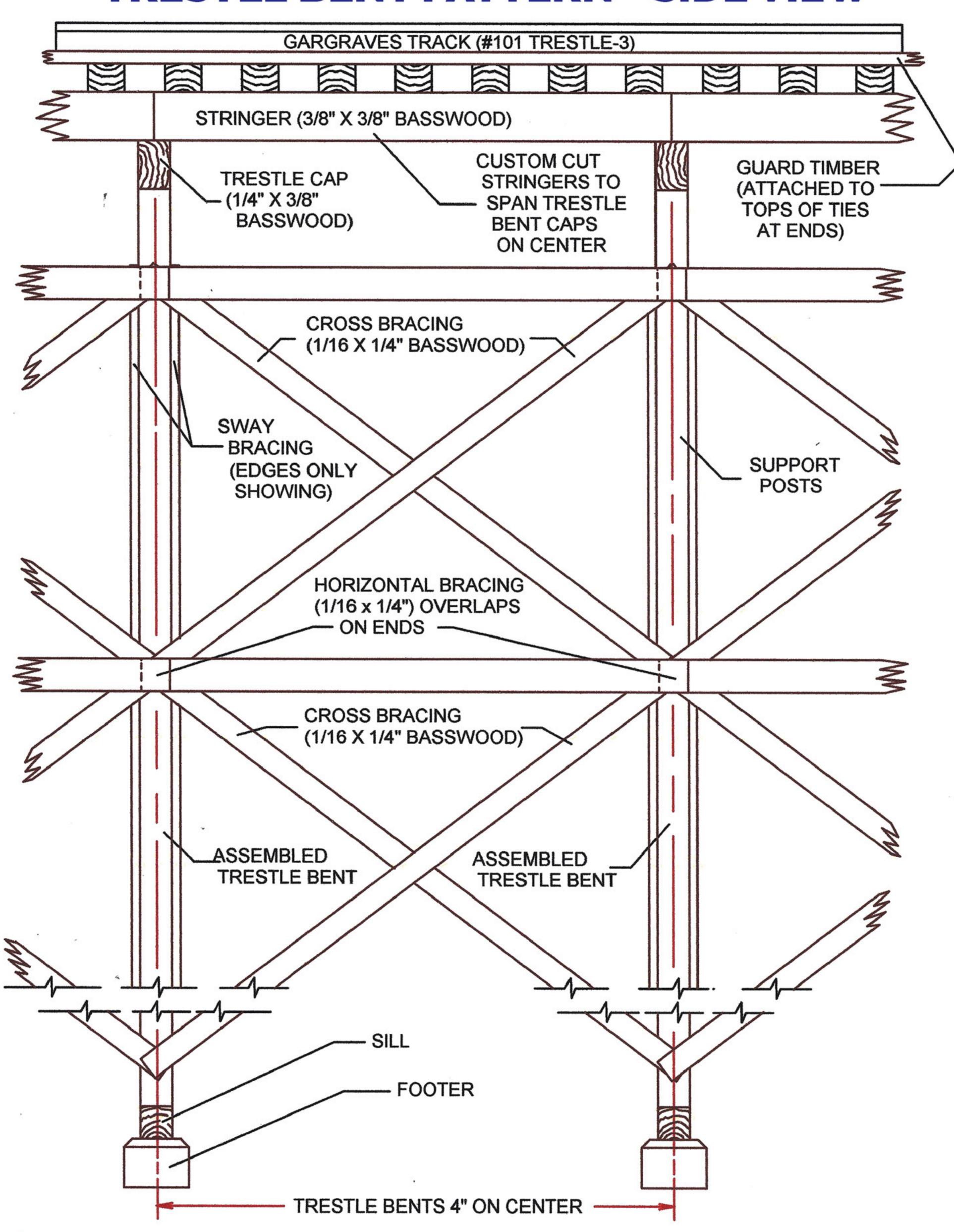
Locate all the trestle bent assemblies along a centerline where the trestle will be placed. I like the 16' spacing (every 4") simply because it looks good. If it is a straight trestle, add some squaredoff lines crossing the centerline at each 4" interval to show exactly where the finished trestle bent footer is to be located. If the trestle is curved, approximate the 4" spacing along the curved centerline by using a guide made from a scrap of wood and mark the centerline for each footer accordingly.

It should be noted that the resulting locations of the trestle bent footers will make the spacing of the inside of the trestle bents closer together than the outside of the trestle bents. That's

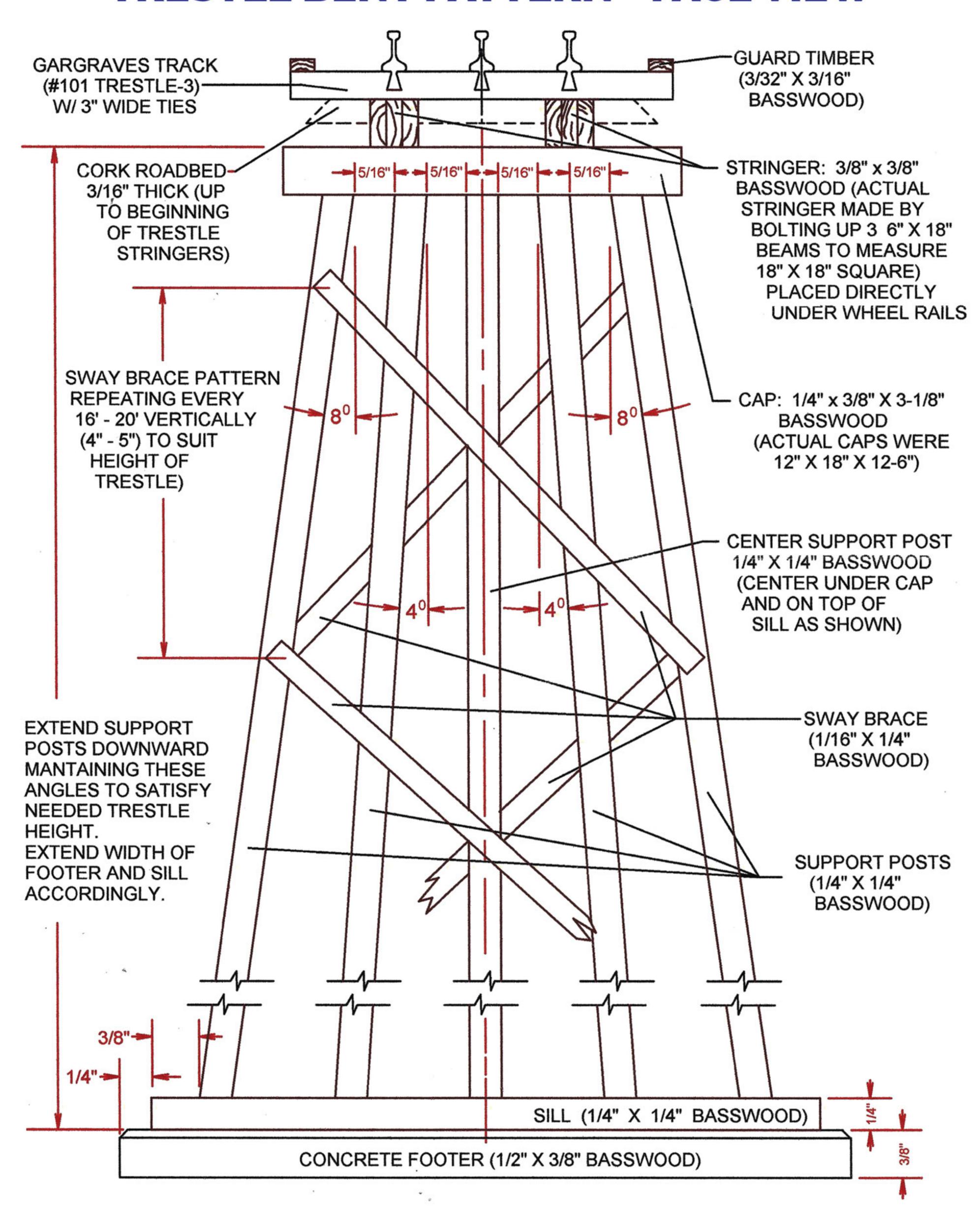
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TRESTLE BENT PATTERN - SIDE VIEW



TRESTLE BENT PATTERN - FACE VIEW







okay. That's the way it worked in the real world, too. If you have a curved trestle centerline and it's time to draw the line for each trestle bent footer, eyeball each trestle bent footer line so the ends of each bent will appear evenly spaced on the inside and the outside of the curved trestle. Photo 2 shows that curve spread of all three sets of footers for my three trestles.

Do a little finish work on the footers before gluing them with CA in place on the valley floor. I filed the top edges and ends of each basswood footer to resemble concrete and then painted it with gray paint to resemble finished concrete. Each footer was then glued to the table surface being careful to center it up on the trestle centerline and to space the ends apart as needed for the curved centerline. Remember, with the slower acting time of the gap filling Insta-Cure glue, you will have plenty of time to accurately locate the footer, hold it in place, and spray the CA accelerator on the base of the footer. I found that it helped to make small pencil marks centered at the ends of the footer pieces to line up with the lines drawn on the valley floor.

Always remember that the end goal is to make each trestle bent perfectly vertical. The taller the trestle, the easier it is to spot any variation from true vertical. There are a number of different ways to do this, but here's mine: I put just a small spot of CA on the bottom of each end of the sill and position the trestle bent on top of the footer by eye as vertically as I can. Remember, the gapfilling CA will not immediately set up without the accelerator, which will work in our favor. Using a carpenter's square, find and hold true vertical on your trestle bent and then spray the CA accelerator at the ends of the sill and wait for a couple of seconds until the CA sets up (Photo 3). Check again to make sure the

trestle bent is truly vertical and add a bead of CA along the outer edges of the sill where it touches the footer. Add a little spray from the CA accelerator, and the trestle bent is now attached to the train table and correctly plumbed to vertical.

I know it's pretty scary-looking and rickety, huh? Don't worry. Adding the stringers bridging the tops of each trestle cap will vastly stabilize the trestle bents. Stringers were the most brutally strong part of the trestle. They were the massive wooden beams placed directly under the wheel rails carrying the load of the whole train and distributing it to the trestle bents. The Southern Pacific design bolted together three wooden beams each 6"x 18". The finished assembly measured 18" square (3/8" square in O gauge).

As much as possible, stringers need to end up directly under the wheel rails of the track that will be placed above them. During this phase of the construction, you have one more chance to check and easily correct any variation from true vertical that you may have ended up with when attaching the trestle bents to the concrete footers.

Since the width of the wheel rails in O gauge is about 1-3/8", this makes each wheel rail 11/16" from the center (rail) of the track. Mark the tops of all the trestle caps 11/16" off each side of the center mark made earlier, and that will be the location of the middle of every stringer. I make pencil marks 11/16" from the center on both sides of every cap. These marks will end up under both the stringers and the rail ties when the trestle is complete. Don't worry, the marks will never be seen from above after the track is attached.

Install your first stringer between your land footing and the first trestle bent. The top of the stringer needs to fit even with the



top of whatever you are using for roadbed. In my case, I used cork roadbed so the ties of my track rest on the cork roadbed until they get to the trestle. At that point, the top of the stringer lines up with the surface of the cork roadbed, so the track ties march smoothly off the earth roadbed and onto the trestle stringers (Photo 4).

The first pair of stringers needs to span from the earth landing of the trestle to the exact middle of the width of the cap on the first trestle bent. Once again, check the top of your first trestle bent for true vertical. If it is still off a hair, determine the small amount the top of your stringer cap needs to move and then measure and cut your first stringer to that dimension. Apply a small amount of CA glue to the bottom of both ends of the stringer. Hold it in place on the earth landing timber and on half the thickness (or width) of the trestle cap. Spray the CA accelerator on each end of the stringer. Be careful not to leave any excess CA glue at the end of the stringer where it rests and attaches to the cap. That must be kept clean for the next stringer. Check again after the second or so the CA needs to set and you will find that the trestle bent is now at true vertical. Repeat the process for the second stringer on the other side of center.

Be sure the stringers only use up half the thickness of the trestle cap beam. That will allow for the next stringer to bridge the gap from the first trestle bent to the next one. Each of these stringer beams must be measured and installed separately. Make all saw cuts as square as possible. There just isn't much room for error on the tops of all the trestle caps. Continue this process all the way to the other side of the trestle where it makes its landfall. A gentle to moderate tug on the trestle assembly will show you how amazingly strong it is even without the cross bracing applied.

In an effort to keep things separate in your mind, sway bracing is what is installed on the faces of each trestle bent to make it rigid from side to side (no sway). Sway bracing is what we dealt with in Run 293 that is shown in the drawing on the Trestle Bent Pattern Face View page.

Cross bracing is what is installed from one trestle bent to the next to make the trestle rigid along its length. Study the two trestle drawings for a few minutes with both types of braces and their locations.

As you look at the Trestle Bent Pattern Side View drawing, beginning at the top end of the sway bracing on one trestle bent, we will start the cross bracing spanning from the top ends of the sway brace pattern of one trestle bent to the bottom of the same sway brace pattern on the next trestle bent. Make the lower end of the cross brace you are about to install meet about in the middle of the trestle bent support post. That will allow you to put the next cross brace continuing down to the next trestle bent end to end with the upper cross brace you just attached.

Complete all the cross braces going in one direction. Don't start the cross braces going in the other direction until you have completed all the cross braces in the first direction. That is necessary to keep the pattern the same throughout the trestle.

Begin the cross braces in the opposing direction by starting at the top of a trestle bent and butting up the new cross brace to the sides of the cross brace you just finished. Cut and fit each new cross brace to meet the side edges of the existing cross bracing from bent to bent.

We're now ready to begin the horizontal bracing. This operation will clean up all the exposed ends of the cross bracing by





laying them directly on top of the joints. Begin the horizontal bracing by spanning the distance from the meeting place for all the cross braces on one trestle bent to the meeting place for all the cross braces on the next trestle bent. Each subsequent horizontal brace begins by overlapping the end of the last horizontal brace until that pattern, too, is complete.

Finish the assembly by carefully going over the whole trestle and dabbing some stain on any openly white wood showing from cuts and scrapes. Also you might need to touch up the concrete appearance on the footers a little. I scarred them up by dropping the square a dozen times at least while building the trestles on my layout. You will not believe how rock hard and sturdy your trestle now is!

If your trestle is curved, pre-bend your GarGraves Trestle track close to the finished curve you will need before you begin attaching the track to the tops of the stringers. That will eliminate stress on your trestle. I pre-bent and then trimmed the rail ends as needed, using a Dremel tool equipped with a fiber cutting disc, to line up with the next section. I've tried several different methods, but I believe the best method for attaching the wooden track ties to the wooden stringers is an occasional small dab of CA glue and a short burst of CA accelerator. All you need is one small dab on each stringer every five inches or so along the trestle. Doing it this way will still allow you a very minor amount of track flexing as you go to closely follow the stringers.

Some final notes: You may find that the support post angles of 4 degrees and 8 degrees I show on my side support posts still won't let you make super tall trestles, if that is what you need to make. On my tall trestle (31" or so) the trestle bent got far too wide at the bottom. If that is the case on your layout, adjust the angle down by a degree or two. I think I ended up with 3 degrees and 6 degrees for all three tall trestles on my layout (Photos 5 and 6). That's the nice thing about trestles...they are so dramatic it's likely that nobody will even notice if you had to cheat a little to get them to fit on your layout.

Yeah, I know, it looks a little scary if you've never done this before. It's more tedious than scary. As long as you follow the pattern I've drawn, you will have fantastic results and a very dramatic effect on your layout.



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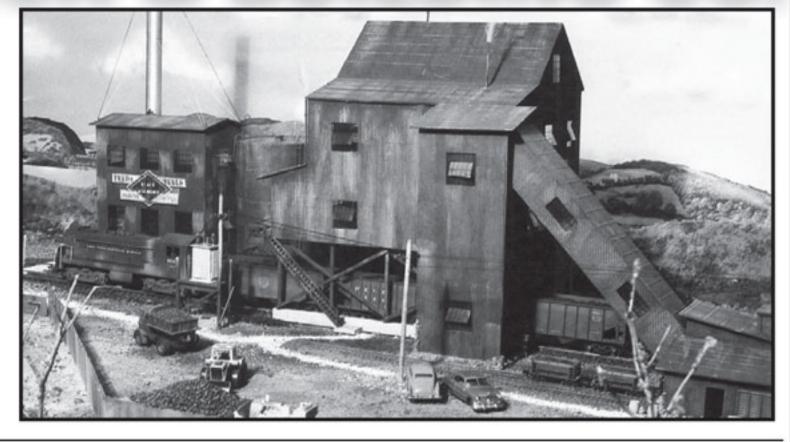
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Aluminum Superliners

When mention of Williams passenger cars occurs, what frequently comes to my mind are the reproductions of the traditional-sized postwar Lionel Madisons and aluminum streamlined cars or possibly even the scale-sized 72′ Madison cars. But rarely is there any connection to the Williams aluminum Amtrak Superliner cars in 60′ or even scale 80′ lengths.

As I understand the limited history behind the aluminum Superliners, Williams produced the 60' and 80' sets in two batches, both in small quantities. Apparently no records were kept as to the number of cars made in either of the production runs. The second batch was manufactured in the mid-1990s with a suggested retail price of \$499.95. At a penny shy of a C-note per 20" aluminum car, that wasn't a bad deal back then.

To be candid, until my conversation several years ago with a train dealer, I'll call him Mark, who I called to order a Williams Alco PA set, I didn't even know the aluminum Superliner cars existed. As I recall the conversation, my ordering the PA set took a couple of minutes, but our chat about the Superliners lasted considerably longer.

Mark had bought the remaining inventory of the 60' and 80'



car sets from Jerry Williams and described to me each of the two sets in detail. The SL60AM six-car set included two coaches and sleepers, a coach-baggage, and a dining car. Its production mate in the form of the SL80AM five-car set also had two sleepers, but only one coach plus a coach-baggage and dining car. As to Mark's price for a set of the 80' cars, it was irresistible. If the cars were highly detailed plastic models, I'd have passed them up without a moment's hesitation. But because they were aluminum—sold! Yes, P. T. Barnum was right—a sucker is born every minute.

Mark also quoted an equally irresistible price for a powered and dummy pair of Williams Amtrak Genesis locomotives in Amtrak Phase III colors to pull the Superliners, which contributed to the willful destruction of my card's available credit for that month. When my new Superliner train arrived complete with locomotives, I was delighted with the cars I had just bought sight unseen. I had seen both the Genesis locomotives and the PAs displayed at train shows, so I knew what I was getting with them.

As I look at the scale 80' representative of the set sitting on my desk, a model of Amtrak Superliner II #32500 Sleeper, its extruded aluminum body is textured, giving it a satin appearance—one of weather-dulled stainless steel. As I would expect from any extruded aluminum passenger car, detail is minimal with the grilles and machinery access doors pad printed in their respective locations. The glossy lettering and stripes follow the Amtrak Phase IV scheme. Passenger doors and car ends are molded plastic with the diaphragms molded into the ends. Incandescent bulbs illuminate the car interiors with traditional silhouettes of passengers printed on the inside surface of the frosted plastic windows.

Underneath each car's stamped steel floor are the standard Williams die-cast trucks used on the company's aluminum streamlined passenger cars. While not the correct trucks, they effectively support the car's weight of over 2-1/2 pounds and also roll freely when properly oiled. Of course they have the contemporary fast

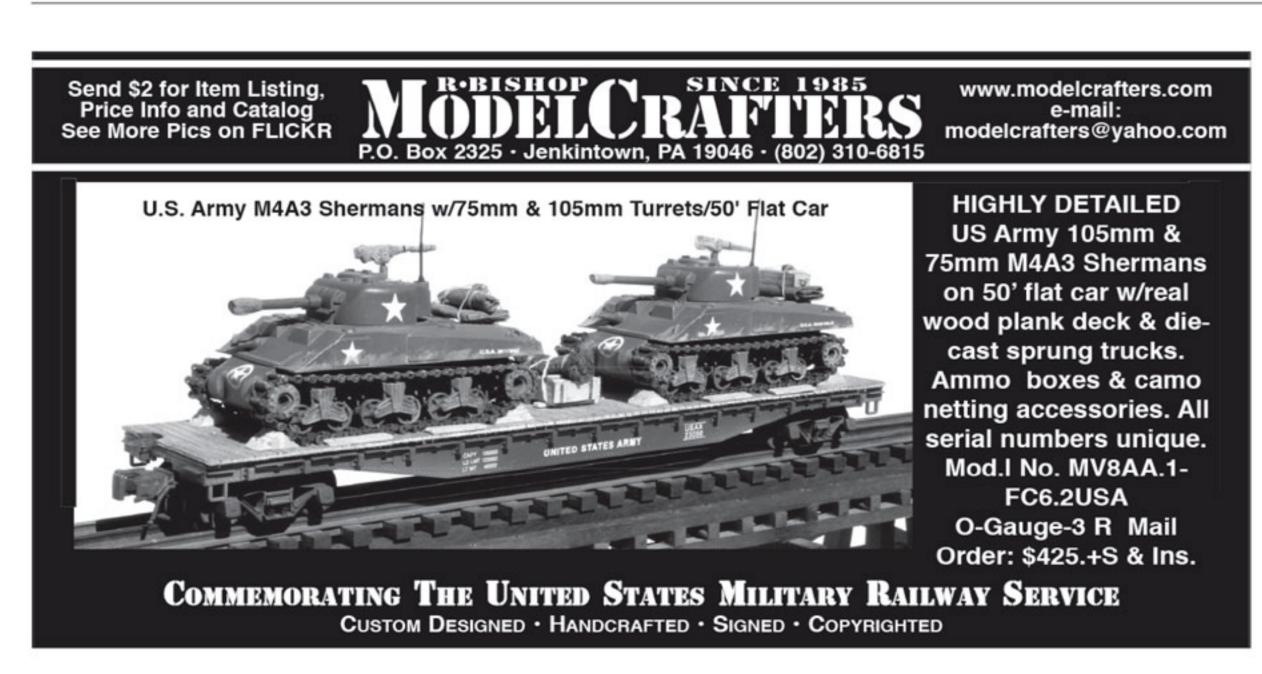
angle wheels and thumbtack-style operating couplers. Also under the car at each corner are stamped steel brakeman's steps.

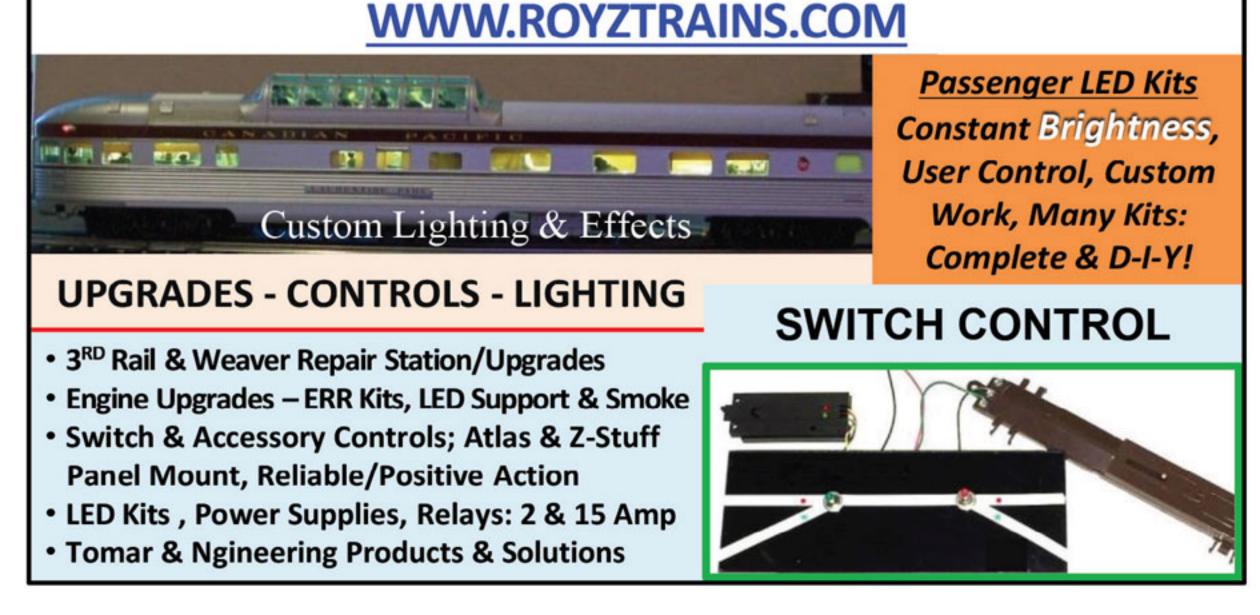
Each end has a pair of red plastic marker light lenses illuminated by the bulbs inside the car. Except for on one end of the coach, I put black tape over the inside of each car's lens so it would be dark. Now only the back end of the last car in the train, the coach, has red marker lights visible. The nighttime view of my Superliner train is most pleasurable as it runs around the O72 loop of the editorial Carpet Central Railroad. The cars will also negotiate my O54 loop, but there is considerable overhang in the curves.

Both the 60' and 80' versions of the Williams Superliners show up periodically on the secondary market, primarily on the Internet and occasionally at train shows and meets. The short cars are more prevalent, but to me they are nowhere near as attractive as the scale-length 80-footers.

When I want to run the Superliners behind a command-equipped locomotive, a Lionel Dash-9 decorated in the Amtrak colorful and colloquially named "Pepsi can" paint scheme provides the power. For a two-unit lashup, the dummy Genesis goes between the Dash 9 and the Superliners. Yes, you're right— Amtrak had General Electric four-axle 8-32BW locomotives, not the six-axle Dash 9s. Regardless of the power, the train of scalelength aluminum Superliner cars models modern passenger travel and is as pretty as it is fun to run.



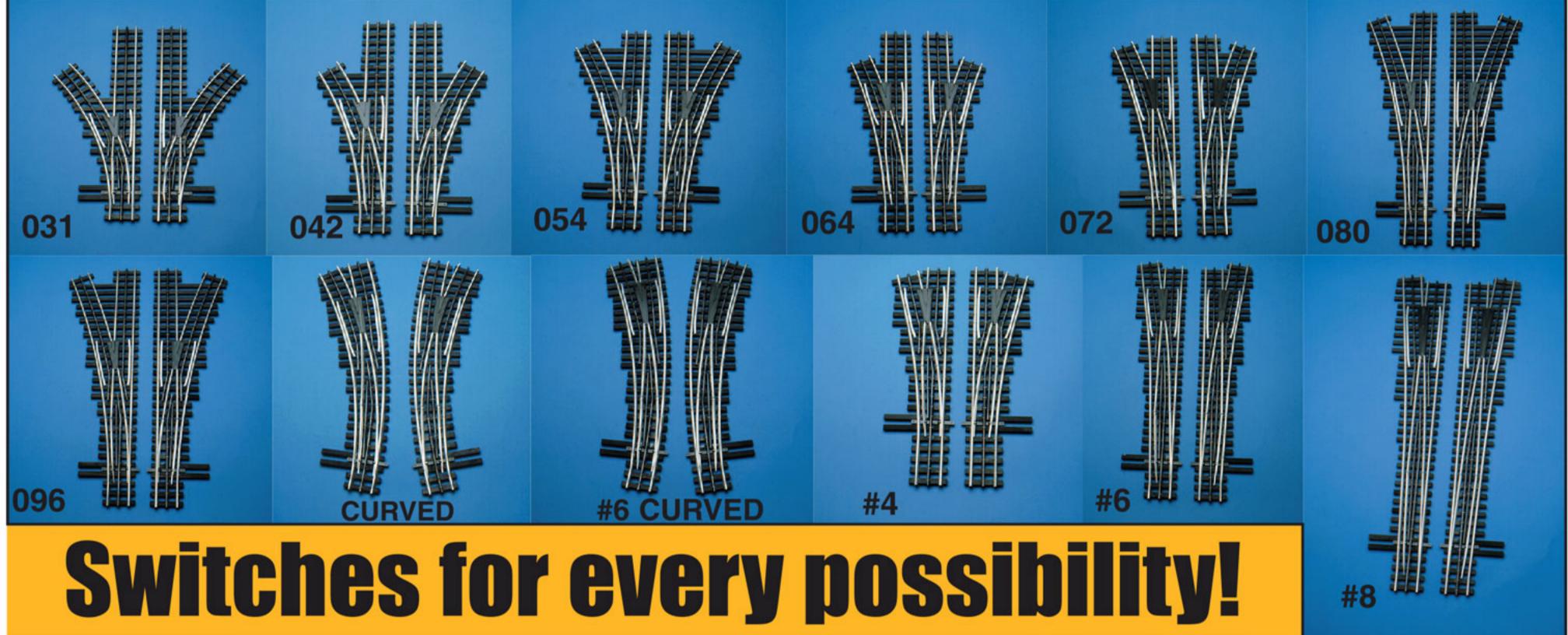




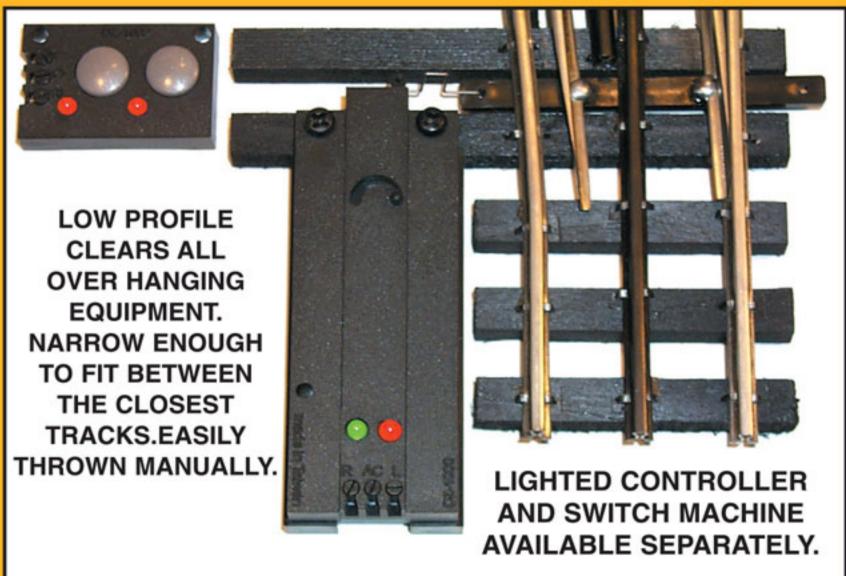


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September 9, 2017

McKINNEY, TX - TCA Annual Train Show, Collin College Central Park Campus Conference Center, 2400 Community Ave. 10a-4p, Adm:\$6, family \$9. Info: Brian Jensen, 972-414-1340, bjensentx@tx.rr.com.

September 16, 2017

NEW HOPE, PA - METCA 2-Hour Fall Train Trip, New Hope to Buckingham Valley, PA, and back, includes buffet. 5 o'clock sharp, Adm: 13 and up \$60, 6 thru 12 \$10, 5 and under free. Purchase tickets online www.METCA.org. Info: Sam Deo, eusdesa@yahoo.com, or 201-757-3507.

September 23-24, 2017

MONROE, WI - Green County Model Railroaders 39th Annual Model Train Show, Stateline Ice and Community Expo, 1632 4th Ave. W. 10a-4p. Swap meet and displays. Info: Kevin Johnson, 608-558-9332.

WICHITA, KS - Annual Model Train Show, Cessna Activity Center, 2744 George Washington Blvd. Sat. 9a-5p, Sun. 10a-3p, Adm: \$8 includes both days. All gauges, vendors, door prizes, train ride, operating layouts. Info: www.WichitaToyTrainMuseum.org.

October 7, 2017

DELAND, FL -Florida 61st Railfair, Volusia County Fairgrounds, Tommy Lawrence Bldg., SR44 and I-4 (Exit 118). Adm: \$7, under 12 free. Info: Charles Miller, 6103 N. Rochester St., Arlington, VA 22213, 703-536-2954, rrshows@aol.com, or www.gserr.com.

October 8, 2017

ALTOONA, PA - Alto Model Museum Association Model Train Swap Meet, Blair County Convention Center, 1 Convention Center Blvd. 9a-2p, Adm: \$5, under 12 free. Info: John Curfman, 814-695-2938, jmcurf@aol.com.

HAWLEY, PA – Hawley Fire Dept. Model Train Show & Sale, 17 Columbus Ave. 9a-3p, Adm: \$3, under 12 free. Info: Bill Delling, 618 Fern St., Hawley, PA 18428, 570-226-3206.



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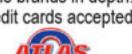
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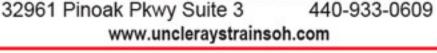
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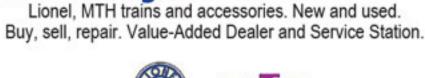
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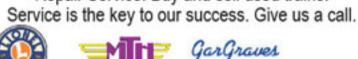
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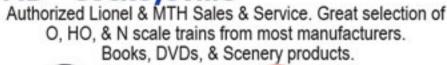
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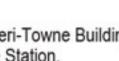


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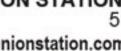




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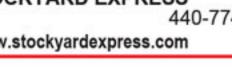
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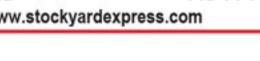


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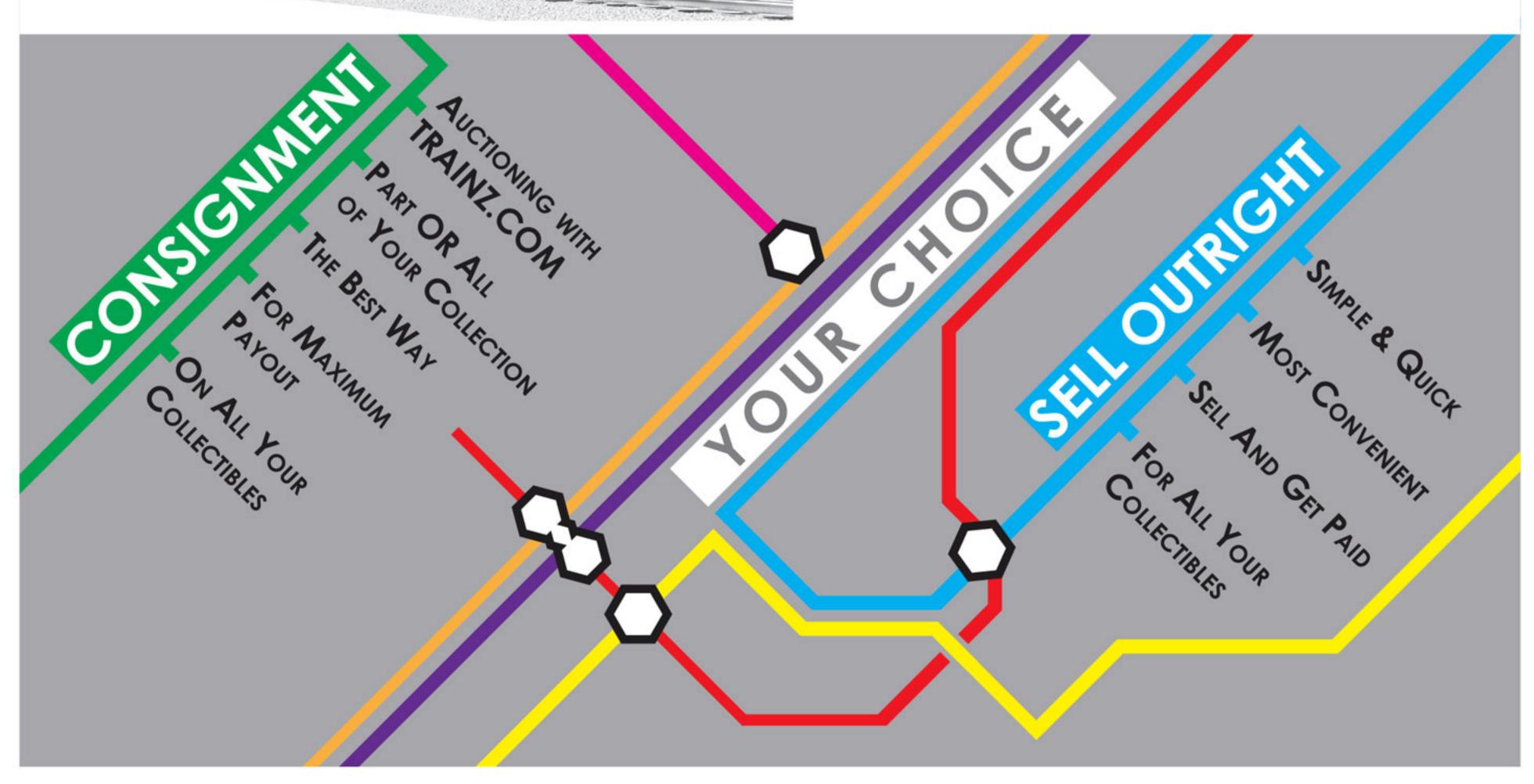




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Angela Trotta Thomas82	Hikel Layouts & Trains34	R & S Enterprises76
Arkansas Traveler Hobbies26	J & A Hobbies25	R. Bishop Model Crafters93
Atlas O, LLC2, 77	J and W Electronics26	Ready to Roll, Inc10
Bart's Pneumatics Corp25	J R Junction Train and Hobby26	Ross Custom Switches
BDR Supply/National Railroad Worx26	J&R Trains32	Roundhouse South20
Birdhouse Holdings/Choo Choo Bob25	JD's Trains, Inc26	Royz Trains, LLC93
Brasseur Electric Trains, Inc12	Just Trains12	S & W Parts Supply89
Brennan's Model Railroad Products25	K & P Brick & Building Company89	Scale City Designs32
Bridge Boss75	L.O.T.S12	Scenic Express82
C T McCormick Hardware26	Legacy Station75	Select Model Railroads89
Caboose Industries26	Lionel Collectors Club of America70	Side Track Hobbies19
Carl's Toy Trains25	Lionel, LLC9, 35	Stockyard Express18
Charles Ro Supply Company15	Mario's Trains18	Sunset Models - 3rd Rail100
Classy Woods LLC12	Mega-Steam / Smoke Fluid80	T-Tracker II12
Coaster Dynamix Inc95	Menards28	TinMan3Rail.com18
Dallee Electronics89	Mercer Junction Train Shoppe34	Tiny Tim's Trains and Toys12
DHS Die-Cast80	Mianne-Foley Woodworking Co80	TM Books & Video25
Die Cast Direct, Inc26	Miller Engineering14	Train City76
Dixie Union Station18	Millhouse River Studios20	Train Collector's Association14
Dunham Studios82	Model Building Services89	Train World81
East Coast Enterprises20	Model Rail Scenes20	Trainz.com99
Eastern Depot12	Model Structures for Model Railroads25	Tru Scale Models12
Evan Designs89	ModelRailroadBenchwork.com75	TW Design - Trainworx89
Flexxbed - Hobby Innovations25	Mr. Muffin's Trains75	Western Depot34
Gardner The Train Doctor80	MTH Electric Trains, Inc77	Z Stuff18
Gargraves Trackage Corporation34	Nassau Hobby Center, Inc90	
Glenn Snyder Display Systems80	Nicholas Smith Trains91	





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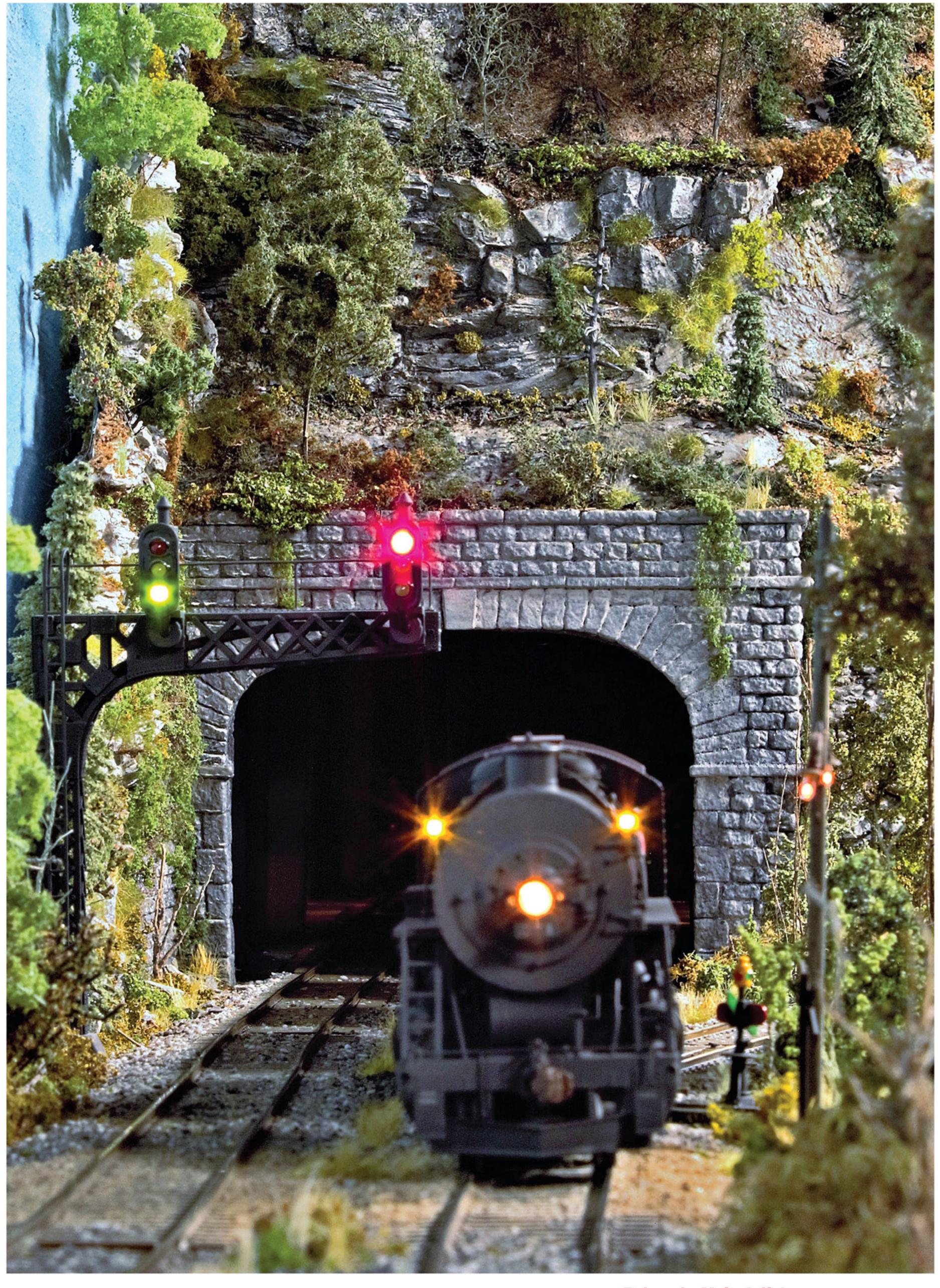


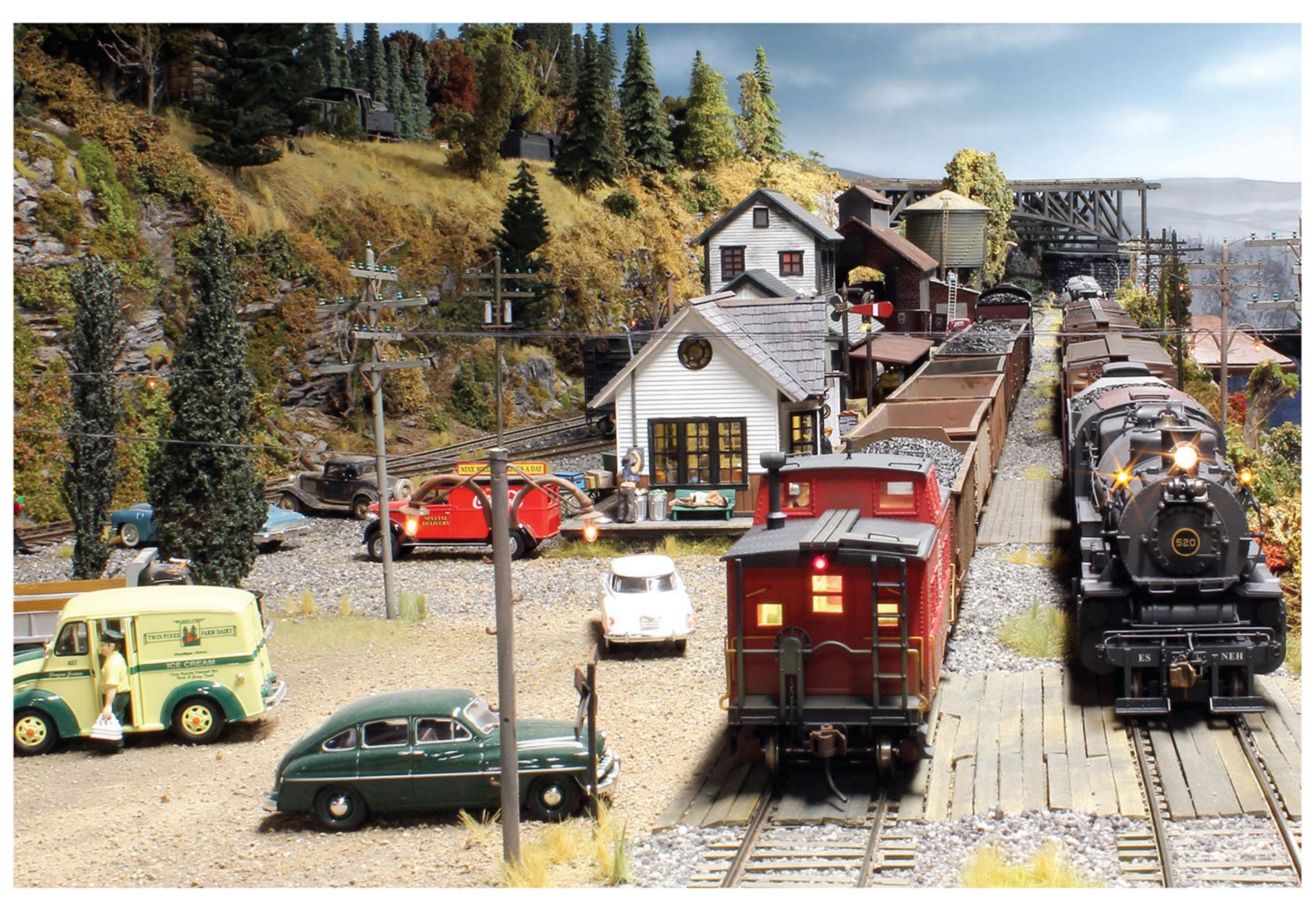
































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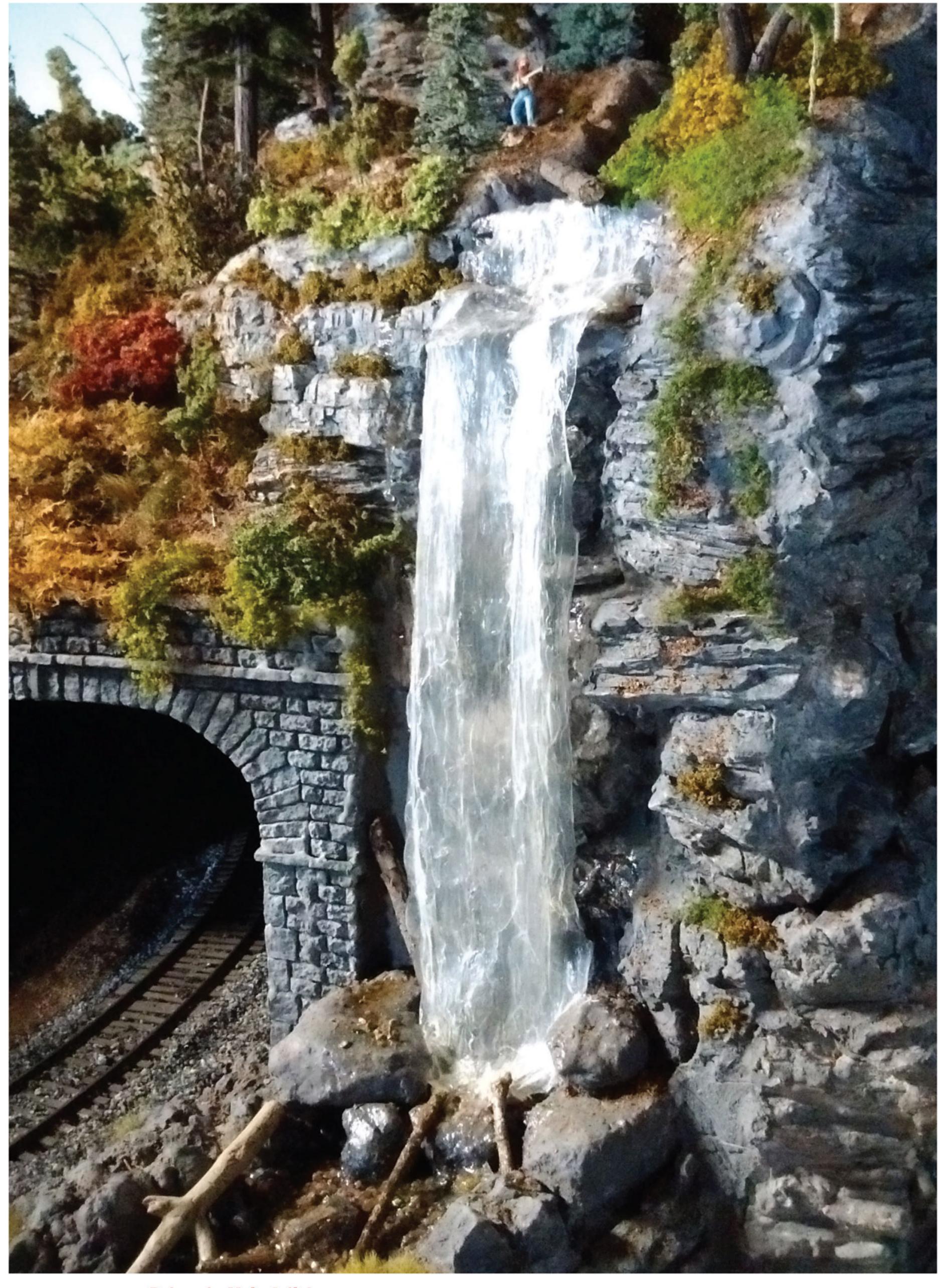




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