

# Model Railroad Hobbyist magazine™

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Edition

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January 2011

**Steve Cavanaugh's**

... follow us on:



**Western Pacific  
mushroom**

**NMRA X2011 West Layout**

**Fun with Talus**

**Improving Bottle  
Brush trees**

**Make your own  
laser leveler**



**PlugIn Signal Bases**  
**Passenger Car Modeling, pt 3**  
**And much more *inside!***





**Front Cover:** Steve Cavanaugh's Western Pacific layout, built using a double-decked mushroom configuration, will be one of the layouts on display this coming summer at the NMRA National Convention in Sacramento, CA. We're pleased to give you a sneak peak of Steve's unique layout in this issue of MRH!

ISSN 2152-7423

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Joe D. Fugate, Publisher  
Charlie Comstock, Layouts and media editor

#### Columnists

Richard Bale, News and events  
John Drye, N scale  
Lew Matt, Narrow gauge and shortlines  
Marty McGuirk, Prototype modeling  
Les Halmos, Modular railroading

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Byron Henderson, Layouts and track planning

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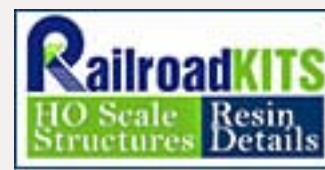
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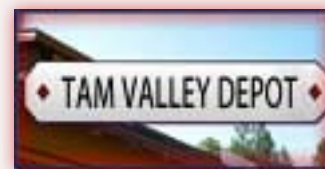
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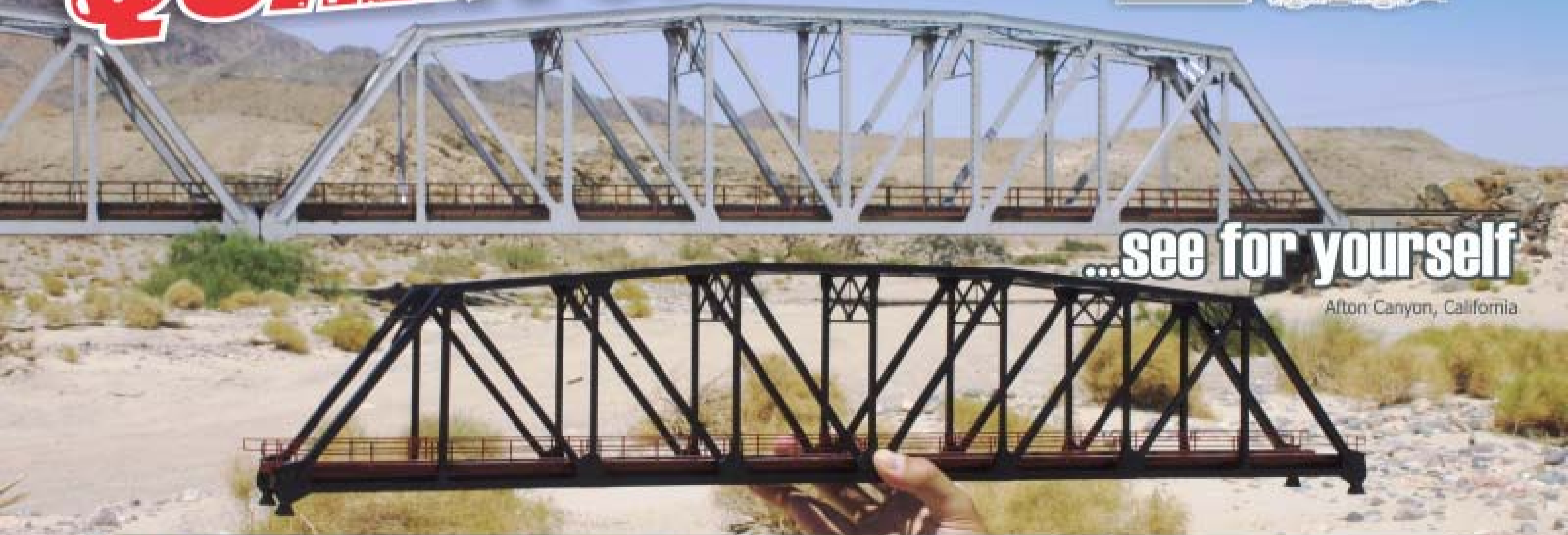
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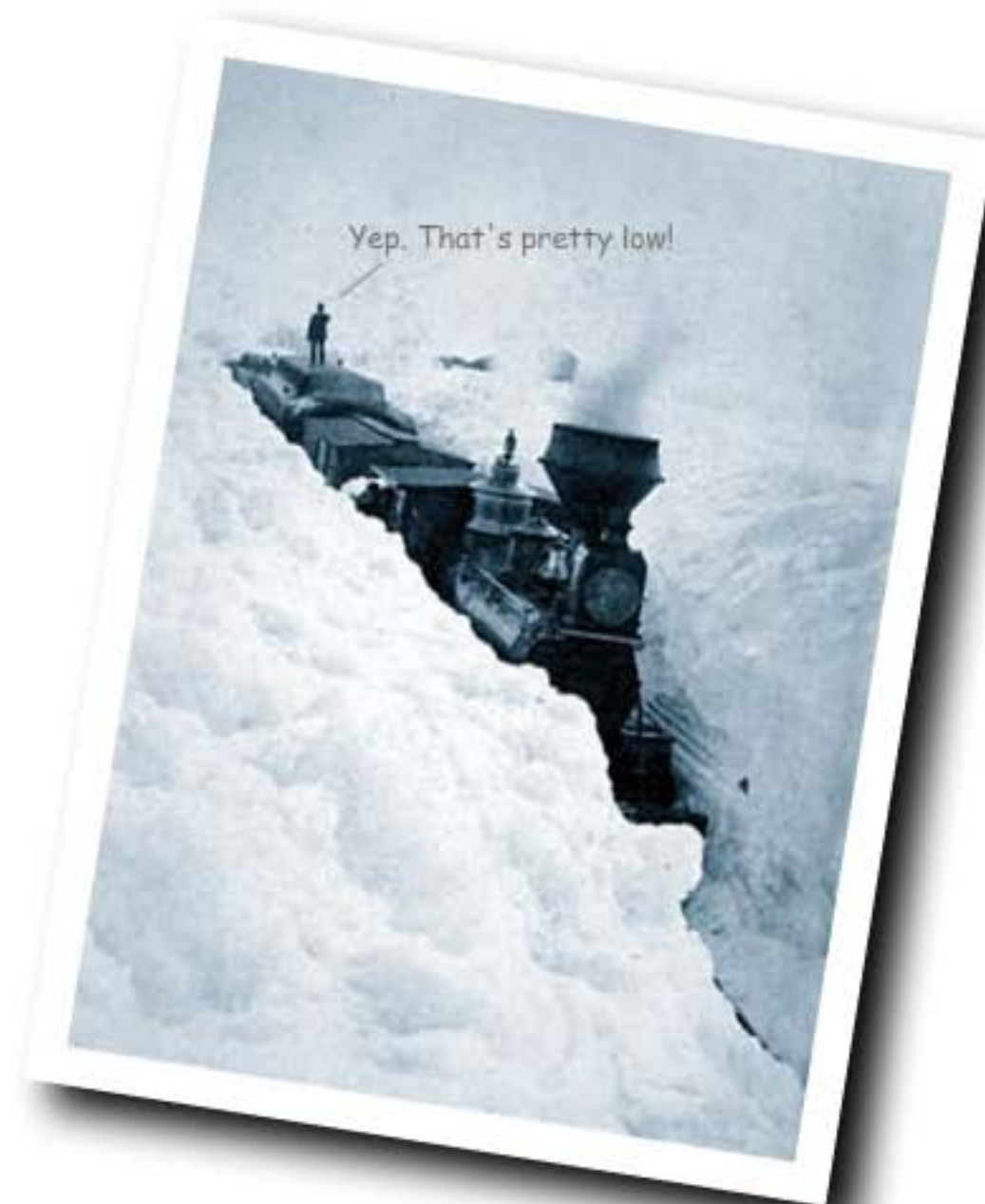
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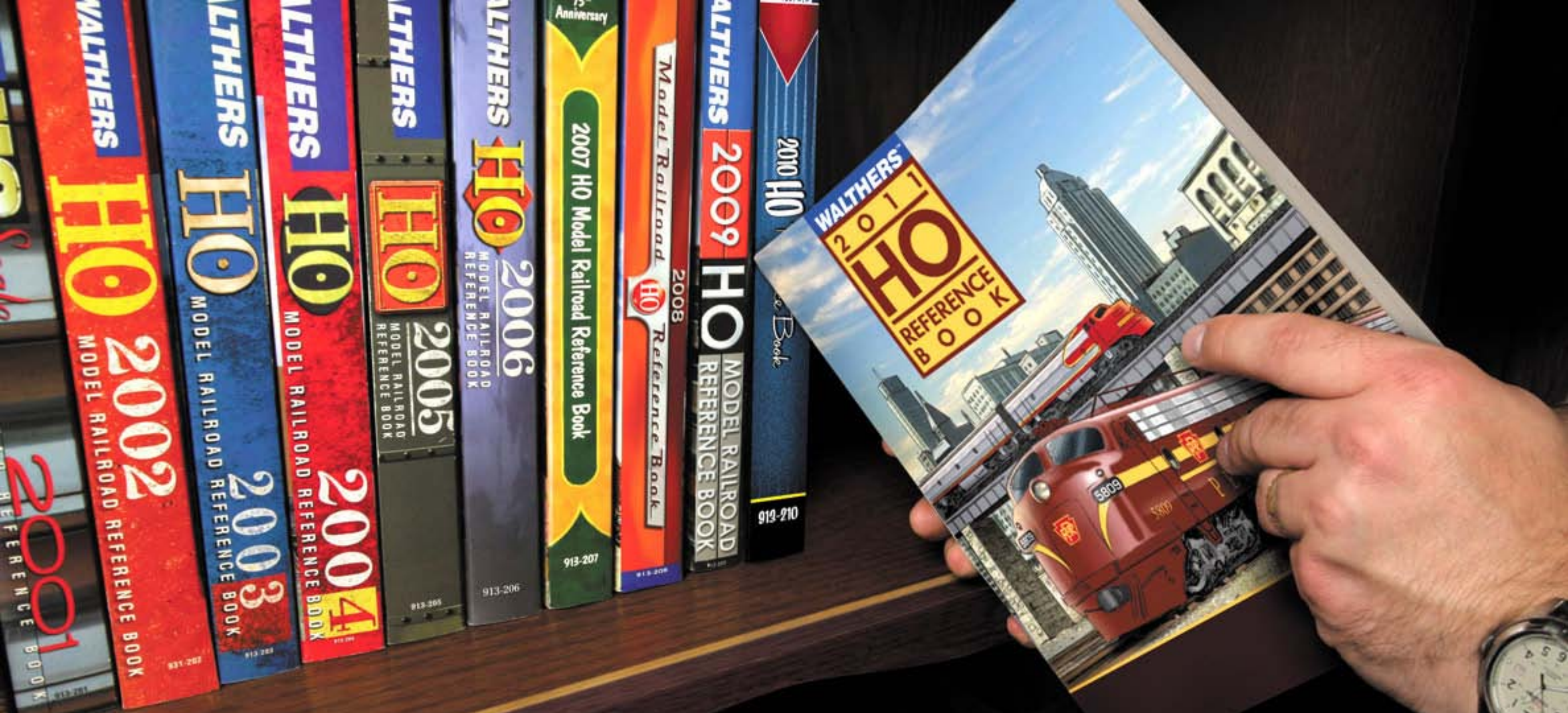


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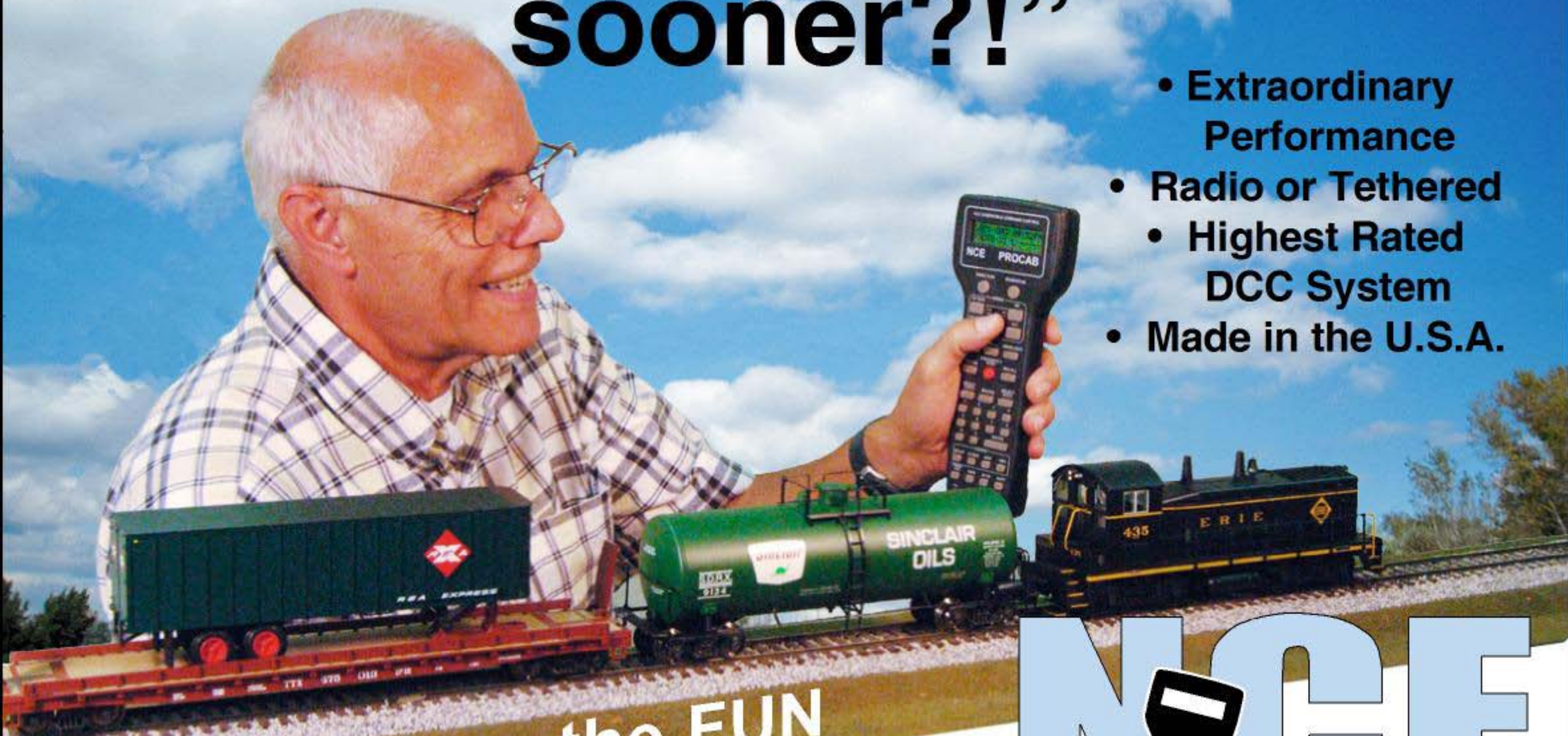
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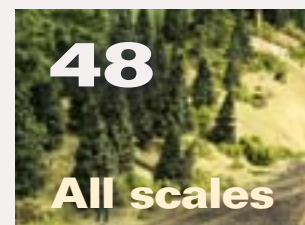




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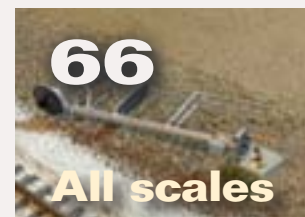
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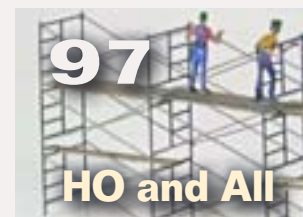
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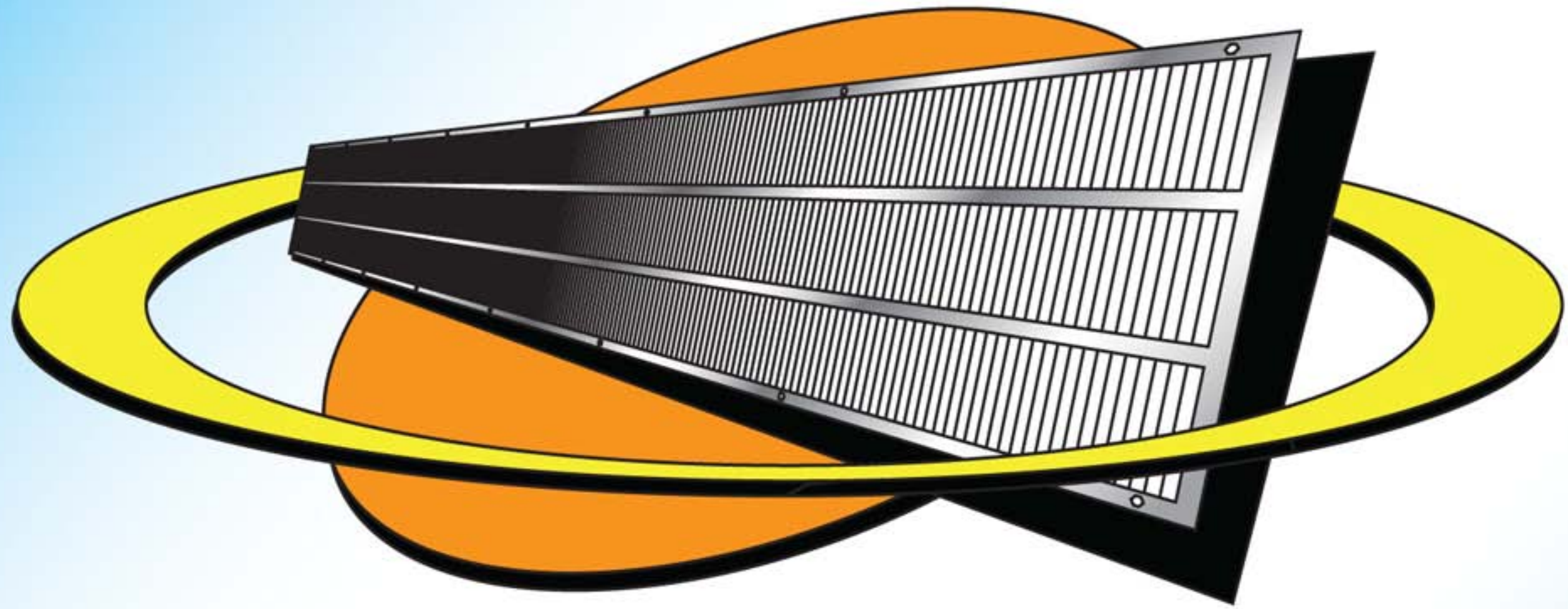
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## About the Publisher



**Joe Fugate** is the featured expert in many [Model-Trains-Video.com](#) videos, and he's also the founder and publisher of **Model Railroad Hobbyist Magazine**.

To learn more about Joe, [click here](#).

# PUBLISHER'S EDITORIAL: 42,675 and counting ...

## Musings from the MRH founder



### While Model Railroad Hobbyist reached an all-time new high last issue — that achievement is worthless if our content isn't serving our readers and our advertisers ...

**A**s we pass the two year mark, we're reflecting on how far we've come and where we expect to go next in year 3 and beyond.

#### Job 1: Content Excellence

We're excited that we set an all-time high in web site traffic and circulation last issue and for that *we want to say thanks*. We could not have done it without *you* – our readers.

While it's easy to focus on our "cool" digital publishing technology, at the end of the day "cool technology" doesn't really matter if our content isn't good. In fact, our content needs to be more than good – it needs to be *excellent*.

That's why our goal from day 1 has been – and remains – to be delivering superb service to our readers and our advertisers through job 1: publishing excellent content.

Our digital technology and free cover price is but a means to an end. The goal we aim for is excellent content that provides powerful inspiration and solid answers to your model railroad-ing needs.

And we work to deliver that content in a way that's entertaining and (we hope) portrays our contagious passion for the hobby.

We can have the most impressive digital publishing technology on the planet, but if our content fails to measure up, we have failed our readers and our advertisers.

#### What's ahead in 2011?

We believe one of the best ways to teach people about the hobby is video.

Expect us to be doing lots more with video media this year.

We're also rolling out a new-and-improved web site this month. Not only does the improved site have many new subscriber features, but it now also includes banner ads.

Don't worry, we're not into creating an "advertising junkyard" site with dancing people and in-your-face

popups. No, we're taking a much classier, more helpful advertising approach.

Many of our readers have told us they like the ads in the magazine, because they're relevant to the hobby, and they put you just one-click away from the advertiser in case you are shopping for hobby product.

#### Bookmarking sponsors

Here's a slick trick you can use when bookmarking a sponsoring advertiser in a way that's super simple *and* will make sure MRH always gets the credit when you visit the sponsor's web site.

Instead of bookmarking or making a favorite in the usual way by selecting bookmark or favorite from the menu when you're on the sponsors web site, instead go to the sponsor logo page on our web site. Then drag and drop the sponsor logo onto your favorite bookmark folder on your browser's nav bar (see the video on demo on the next page).

This trick works in all major browsers and it means MRH will always get the credit for your visit. The browsers I've tested include: Internet Explorer, Firefox, Safari, Google Chrome.

This trick also works for bookmarking anything of interest. Dragging and dropping onto your favorite bookmarks folder is very simple and intuitive. If



# Favorites bookmarking ... the EASY way



## Play video

MRH

Video playback problems? [Click here ...](#)

you didn't realize you could do this drag and drop trick, I've now given you another little tidbit to make your time on the internet just a bit more productive and fun!

### MRH on an iPad or iPhone

Out of those 42,675 people, some 1291 (3%) of them show as using an iPad or iPhone in our tracking stats. We get emails from people who just got an iPad or iPhone asking how to access MRH on their device.

You want to get the **GoodReader** app – it works great for reading MRH.



Use the other download options on our web site to download the Mac Standard Edition to your device, open it in GoodReader, and enjoy!

When you click on ads in GoodReader, it opens the web browser and takes you right to the web site, yet GoodReader remembers your place when you go back to the magazine.

I think the iPad with GoodReader gives a near ideal MRH reading experience, and as shades of things to come as more tablet devices appear in 2011 and beyond.



**Reader Feedback**  
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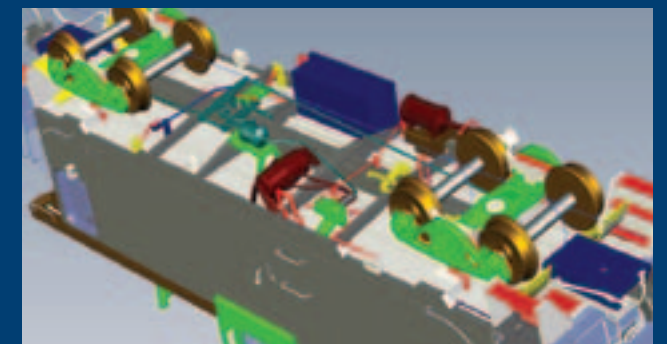
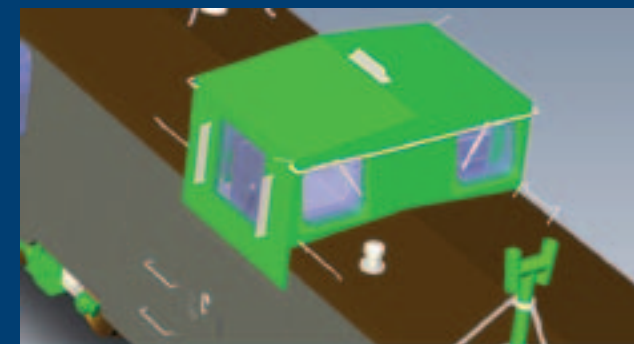
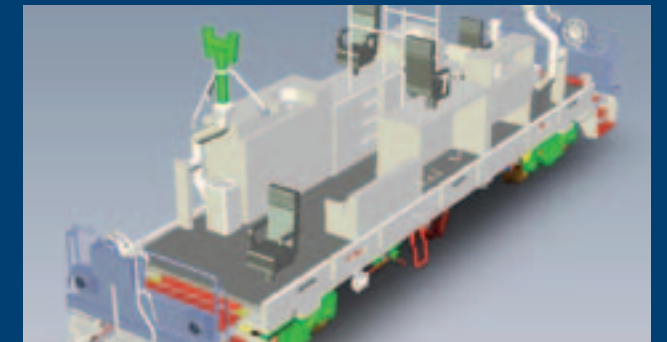


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## Notes from the

# MRH STAFF

Leading articles last issue, our future as monthly, bonus downloads, and more ...



As of last issue, we added 5-star feedback ratings to all our articles in the feedback on the MRH web site. Even if you don't regularly leave feedback, we

encourage you to at least give us your 1 - 5 star rating on articles.



These ratings help us see which topics are the most interesting to our readers. By telling us which articles you like best, we'll work to encourage more of this kind of article.

You can directly influence what kind of articles we pursue by giving us your rating feedback!

Each issue, we'll tell you what the top 5 articles were from the last issue, so you too can get some sense of what our readership likes.

Here's the top 5 articles from last issue:

- 4.7 The Washington Northern Railroad
  - 4.7 Weathering Powders
  - 4.6 Switching the SP Daylight
  - 4.6 Build a Spanish Revival Bungalow
  - 4.5 Rock molds using kitchen caulk
- Nov/Dec Issue overall: 4.8

Not a lot of surprises there - although the total issue package rated quite high. It's interesting to see the total issue out-rated any of its highest rated articles.

We won't just focus on doing highly-rated articles, however. If we did that, then we'd be unlikely to do articles on the minority scales, like S for example.

That's *certainly not* our plan. But if, for example, an article on N scale grade crossings was highly popular, then we might pursue commissioning a similar article on S scale grade crossings.

## Doing MRH monthly

Now that we're monthly, you can look for each issue to be released on the first Monday of every month.

We try to quietly release each issue a few days early on the web site, so that the more dedicated readers

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can help us stamp the last few bugs out of an issue before it goes out for broad release.

Once the issue has “baked in” for a few days, that’s when we send the general broadcast email to subscribers to “come and get it”.

So if you’re eager to get the next issue, hang out on the MRH site the weekend before the first Monday of the month and you’ll probably find the issue is already available.

So what’s our plans for leveraging our new monthly publication schedule?

Longer articles will now tend to be split across issues. We’re also taking a tighter hand on the editing.

We’re looking for more short articles to balance out the 30-page monsters. And we’re likely to split the 30-page monster into two 15-page pieces across two issues since you’ll only have to wait a month for the second part.

This gives us more variety per issue, which helps the circulation.

In order to meet a monthly schedule, we can’t just keep making the issue larger without adding more staff. And we can only grow the staff as we grow the funding from advertising.

## **Content lead time**

We’re also asked what the lead time is for getting content in a given issue?

Even though we’re all electronic and not a paper publication, it still takes time to prepare an issue for publication, and don’t forget the hundreds and hundreds of links in each issue that must be entered and tested.

Basically, we prefer 3 months lead time for content, although we’re willing to cut that down to a month lead time for ads.

## **Issue numbering scheme**

With the move to monthly, we’re changing our issue numbering scheme a bit.

As of this issue, we’re moving to numbering the issue with the year and the month numerically. This makes the issues sort nicely when you do a disk directory.

So it looks like this:

- MRH11-01-Jan2011.pdf
- MRH11-02-Feb2011.pdf
- MRH11-03-Feb2011.pdf
- ... and so on.

Come 2012, then the issues will become:

- MRH12-01-Jan2012.pdf ...

You have to admit, it sorts nicer!

## **It’s the photos**

If you want to up the odds your article submission to us will get

# **Issue 11-01 Premium Extras!**

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accepted, the key is to focus on providing *really good photos*.

We have editors who can make your text sound good – that’s quite doable. It never hurts to get well written text too, don’t get us wrong.

But text that needs work is the least of our worries. Poorly done photos just can’t be easily redone by us. Photoshop is good, but it’s not *that good!*

We can’t take an out-of-focus image, for instance, and make it sharp. We can’t take a poorly lit photo and fix all the lighting problems without major headaches.

Of course, it’s even worse with video. If the audio echoes badly, or the camera shakes constantly, that’s almost impossible to correct and turn into a nice video.

Spend time getting the media you include nailed and if your text is even so-so, there’s still a good chance we’ll be interested in your article.

## **Don’t forget the captions**

We can always tell an author who knows what they’re doing from someone who’s new to writing for publication.



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If the author doesn't include good captions for the photos, we can tell right away they're new to this writing for publication stuff.

Expect us to come back to you and ask for good captions for your images if you don't include them. Yes, for every one.

The job's not done until you can provide us with a two-or-more sentence caption for every photo you include in your submission!

Please don't fade in the home stretch and just send photos with

no captions or with 3 word captions. That just won't do!

So stick it out and finish the job.

### **Scales other than HO, please!**

Nearly 99% of all submissions we get are for HO-based models. Most of the time, the techniques apply in more scales than HO, but still ... we need more submissions in other scales, *especially in N scale.*

If you send us an article and the modeling is a scale other than HO, then immediately your article will move to the top of our review stack!

That's one of those little-known secrets to getting preferred treatment: write an article referencing a scale other than HO!

### **Watch your spam filters**

We have several who have submitted articles to us that we'd like to use but we can't get through their spam filters, and they didn't give us more than one way to contact them.

Always, always, ALWAYS send us your mailing address and phone number in addition to your email address.

We have several authors who keep asking why we're not responding and all we have is their email. When we reply

to their email, it bounces as rejected because their email provider flags our response as spam.

If all you sent us in your submission is an email address, and you're wondering why we have never responded, then shame on you!

Give us your *phone number and mailing address* and we stand a far better chance of getting through. And add us as an email address you let through your spam filters!

So remember - *include your name, e-mail address, mailing address and phone number on all submissions* in multiple places – some submissions fail to include ANY author identification. We have articles in our dead



file that we'd love to publish, but we don't know *who sent them* because there was no name or e-mail address on the submission!

## Give MRH away, please

Since MRH is free, that means we expect you to give it away. Burn copies to CD for your friends - put it on their thumb drives. Print out your favorite articles for friends. Give MRH away every chance you get!

Also, post links to MRH on other forums and in emails to your fellow modelers.

You can even cut and paste content from the magazine on other forums as long as you also include a link back to MRH.

Bet you didn't know that!

## Shows we're doing in 2011

We're going to be present in force at a number of major shows in 2011. Here's the list:

- **Amherst Society Show**  
(Springfield, MA) - Jan 27-31, 2011
- **NMRA National Train Show**  
(Sacramento, CA) - Jul 7-10, 2011
- **National Narrow Gauge Convention**  
(Hickory, NC) - Sep 6-11, 2011
- **Fine Scale MR Expo**  
(Peabody, MA) - Oct 12-16, 2011
- **Naperville RPM Meet**  
(Naperville, IL) - Oct 19-23, 2011

- **Craftsman Structure Convention**  
(Mansfield, MA) - Nov 2-6, 2011
- **Trainfest**  
(Milwaukee, WI) - Nov 11-14, 2011

## Any volunteers?

There are too many shows for MRH staff to attend them all! As always, we're looking for volunteers to help promote MRH at shows.

We're looking for modelers willing to do any (or all) of the following:

- Put flyers and CDs out on the free handouts table.
- Help staff a table.
- Help us get flyers and CDs in the registrant bags (if the event has such a thing)

If you're willing to help staff a table, we'll pay for the table and pay the entry fee for you and for any other reliable volunteers you can get to help you at the table.

We'll also give you an official MRH shirt to wear at the event (yours to keep) and send you promotional materials with guidelines on how to best use them.

Just click here if you're [interested in helping out at a show!](#)



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**(Show hosts)**

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## Model Railroad Hobbyist magazine™

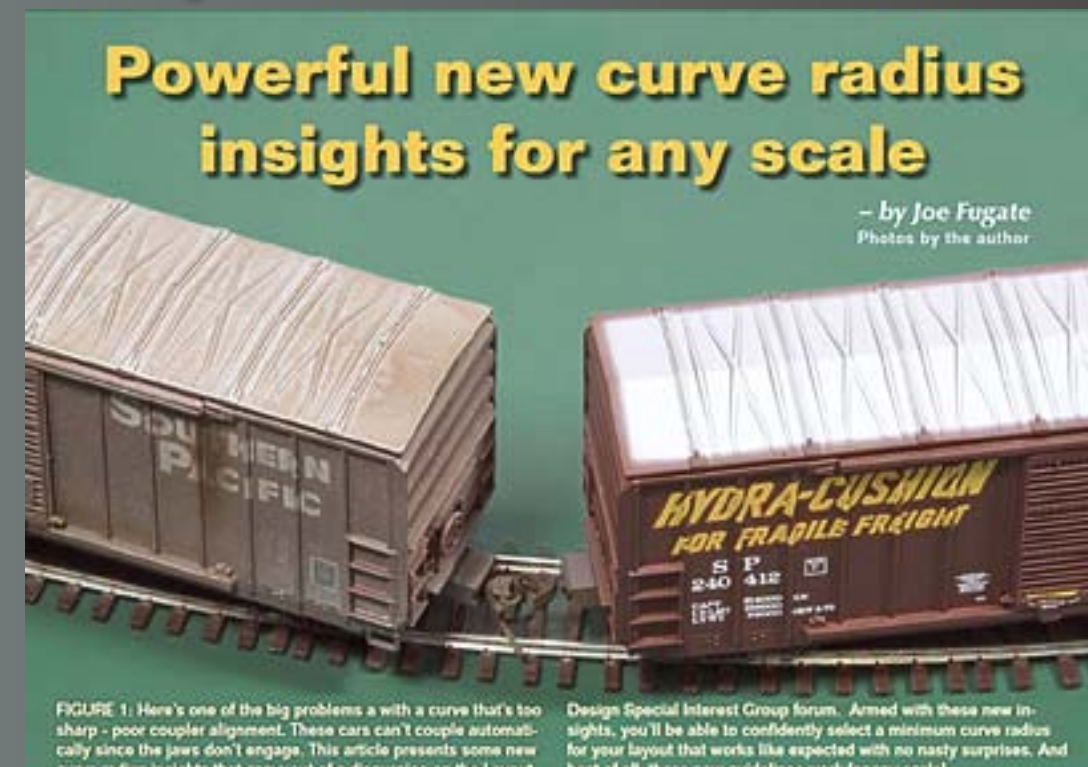
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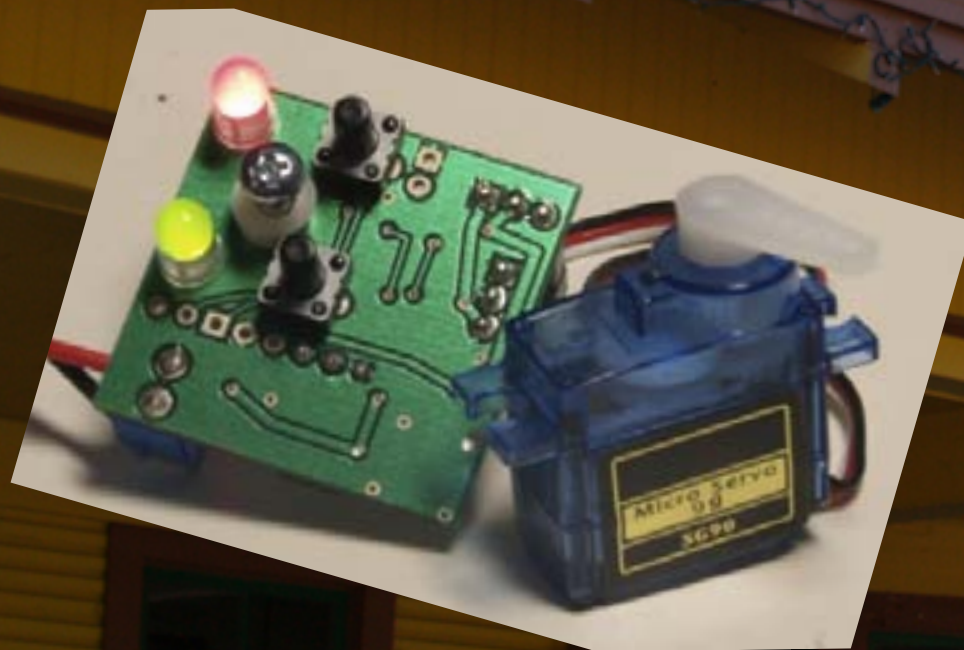


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# Model Railroad Hobbyist newsletter™

January 2011



**Reader Feedback**  
(click here)



*The Old Yardmaster*



## The latest model railroad products news and events

**W**e are encouraged by the compliments we've received from readers and want to continue to bring you news about the latest model railroad products in a concise, easy to read format.

We've changed things around this month and begin our report with products useful to modelers regardless of their preferred scale. This section is followed by products grouped according to scale. We're starting with larger scales and work all the way down to Z scale. We'll continue to wrap things up with Industry News.

Please let us know how you like us grouping the new products by scale.

## PRODUCTS FOR ALL SCALES

**Dave Casdorff** has published two new books about purpose-built coil steel cars. The books are available in conventional print format or a PDF download files printable in high resolution. The new titles are *"The Evolution of Coil*

*Steel Freight Cars: National Steel Car,"* a 48-page publication available in print at \$19.95 or in downloadable format at \$9.99 from [www.lulu.com/product/paperback/the-evolution-of-coil-steel-freight-cars-national-steel-car/13661837](http://www.lulu.com/product/paperback/the-evolution-of-coil-steel-freight-cars-national-steel-car/13661837).

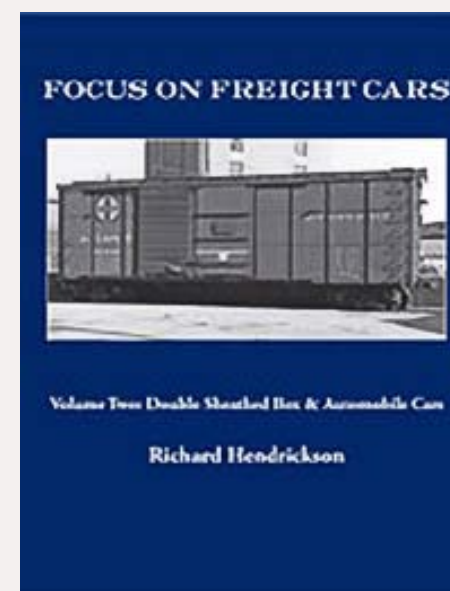
The 388-page *"Coil Car Directory"* is available in print at \$36.95 or downloadable at \$9.99 from [www.lulu.com/product/hardcover/the-coil-car-directory/13661616](http://www.lulu.com/product/hardcover/the-coil-car-directory/13661616).

**Kalmbach Publishing** has released *"Industries Along the Trains - 4."* This is the fourth in author Jeff Wilson's informative series about modeling major industries served by America's railroads. In volume 4, Wilson covers six industries including coal/gas plants, lumber operations, salt mining, brickyards, quarries and waterfront operations.

**RailMaster Hobbies** ([www.railmasterhobbies.com](http://www.railmasterhobbies.com)) has added a new 8-ohm speaker in a ported enclosure to its line. Item DS1436-8 measures 14 x 36 x 10mm and is available now at \$12.50 each.

Although **Speedwitch Media** has been quiet in recent months, we are happy to report that owner Ted Culotta is very much alive and well. Culotta has managed to resolve several issues that delayed work on the development of new products for much of this past year. Ted is inaugurating the New Year with the publication of *"Focus on Freight Cars - Volume Two: Double Sheathed Box and Automobile Cars"* by MRH contributor Richard Hendrickson.

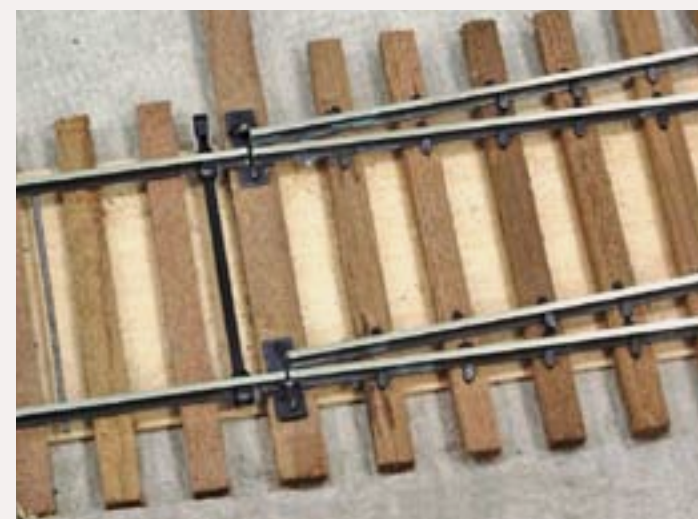
Using a trove of more than 150 detailed photographs of freight cars taken in southern California in the late 1930s into 1940, the author provides captions laden with insightful details of exceptional value to serious model builders. Many of the close-ups were photographed specifically for the purpose of creating authentic prototype models. Priced at \$35, the 84-page book may be ordered directly from the publisher at [www.speedwitch.com](http://www.speedwitch.com).



**Tam Valley Depot** is selling a 3-position mechanical servo controller specifically designed to handle semaphore signals and 3-way stub switches. Designated the Dual 3-Way Servo DCC Accessory Decoder, the device can control two servos



independently with three positions each with the ability to control the speed of movement from very slow to very fast. Additional features include semaphore blade bounce simulation, optional time delay and anti-backlash for stub switch center-position to ensure accurate positioning. The unit can be used with most signaling systems including CMRI or Logic Rail Technologies. For specifications and pricing go to [www.tamvalleydepot.com](http://www.tamvalleydepot.com).



**SMR Trains** ([www.smrtrains.com](http://www.smrtrains.com)) is now selling **O scale #6 stub switches** fabricated from code 100 rail. The custom assembled switches use weathered rail spiked to sawed and pre-stained wood ties. They are suitable for DC operation and are pre-wired for DCC applications. They represent 19<sup>th</sup> century switches that bend the movable rail to the correct position. They are available for either right or left operation at \$92.95 each or \$174.95 for a pair.

## O SCALE PRODUCT NEWS

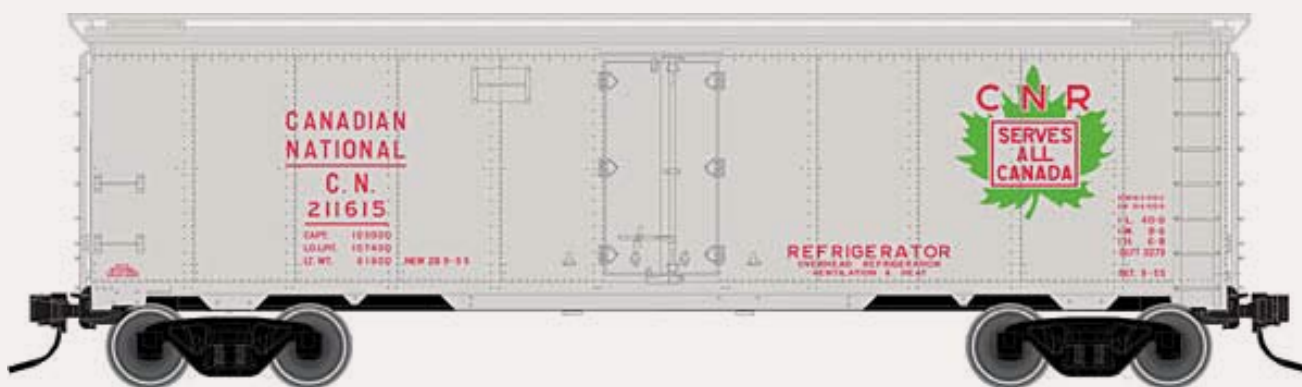


**AMS American Model Supply** ([www.amstrains.americanmainline.com](http://www.amstrains.americanmainline.com)) is offering this handcrafted **On3/ On30 scale** model of D&RGW class C-16 2-8-0 Consolidation at \$599. The On3 version requires a minimum radius of 24" while the On30 model can negotiate 18" curves. The model is constructed of brass and stainless steel and comes DCC ready and sound ready. Features include operating lights, working couplers and interior cab details with lights.



SMR also has an assembled O scale Harp switch stand with positive spring action to hold a stub switch in position. They are made of bronze and come painted ready for installation. The stand sells for \$22.95.

## S SCALE PRODUCT NEWS



**Atlas-O** ([www.atlaso.com](http://www.atlaso.com)) has set a May delivery date for the next release of its **O scale 40' steel refrigerator cars**. The ready-to-run models are based on PFE class R-40-10 reefers. New road numbers will be available for Lackawanna and PFE reefers with entirely new paint schemes available for Canadian National (above), Dubuque Packing, Wilson and Illinois Central. The cars will be available for 3-rail operation at \$69.95 or two-rail at \$74.95.



**American Models** is selling this **S scale MKT Texas Special** that includes two powered EMD E-8 diesel locomotives and four matching Budd cars. The A-A diesel set features a 5-pole motor with flywheel and sprung "Gripton<sup>®</sup>" traction wheels. Options include AC versions with or without sound and DC versions for either high-rail or scale rail operation. For additional information visit [www.americanmodels.com](http://www.americanmodels.com).



Billy Wade of **B.T.S.** says he needs to hear from anyone who may be interested in an interior kit for the **S scale** version of McCabe Saw Mill. Billy isn't asking for money just yet, but he is hard at work on developing the interior kit and would like to get some idea of how many to produce. Availability is targeted for the end of this month or early February and will be priced in the neighborhood of \$350. Photos and detailed information about the O scale version can be reviewed on line at [www.btsrr.com/bts8301.htm](http://www.btsrr.com/bts8301.htm).



**M.L.W. Services** of Etobicoke, Ontario, has a kit for this **S scale** CNR combine composed of etched brass, wood and resin components. The kit comes complete with SHS couplers, resin roof ends, brass underbody and step castings, American Models 6-wheel passenger trucks, appropriate Black Cat decals and a CD with a 30 page construction manual. The kit sells for \$175 (Canadian funds) plus PST for Ontario residents. An optional printed manual is available for an additional \$15. To order visit [www.mlwservices.ca](http://www.mlwservices.ca).



**Rio Grande Models Ltd** ([www.riograndemodels.com](http://www.riograndemodels.com)) has introduced both **S scale** and **HO scale** kits for a heavy Lorain gas-powered shovel. The heart of the kit is a series of nicely detailed soft metal castings and lettering decals. The cabin is composed of a special resin coated paper. RGM owner Eric Bacher recommends rayon thread (not supplied) for the cable rigging. The S scale version sells for \$80. The HO kit is priced at \$70.

## HO SCALE PRODUCT NEWS

New **HO scale** kits released this month by **Accurail** include limited 3-numbered sets for Great Northern 40' wood refrigerator cars at \$42.98 and Virginian 55-ton USRA twin-hopper cars in black with white lettering at \$37.98. New single car kits announced at \$13.98 each include PRR 42' steel gondola, Bangor & Aroostook 70-ton offset-side triple hopper, Monon-Fruit Growers Express RBNX 50' plug-door insulated box car, Canadian Pacific 50' exterior-post steel boxcar and an SP&S 40' single-sheathed wood boxcar. See your dealer or visit [www.accurail.com](http://www.accurail.com).



The company store at the **Amarillo Railroad Museum** is selling three **HO scale** versions of American Refrigerator Transit steel ice refrigerator cars. The trio includes decorating schemes for 1950, 1960 and 1964. The 1950

edition shown here has a black underframe, boxcar red ends and roof, and classic reefer yellow sides with full color heralds for ART, Missouri Pacific and Wabash. The 1964 car features an N&W herald on an orange body. Each model comes with a decal sheet of road numbers, reweigh and build date information that allows modelers to create a unique reefer fleet. The reefers are priced at \$18.95 each. All are available in kit form with the 1960 and 1964 versions also available assembled. For additional information or to place an order visit [www.amarillorailmuseum.com](http://www.amarillorailmuseum.com).



**Athearn** will deliver two versions of EMD's 1500 hp GP15 in March. The GP15-1, seen at the top, will be available for Union Pacific, Frisco and BN. The spotting features of the CSX GP15T in the lower photo include dynamic brakes and turbo exhaust on the roof. Both versions of the Genesis

series **HO scale** model will have dual flywheels, all-wheel drive and electrical pick-up, etched metal radiator intake grilles and top radiator screens, wire grab irons, etched metal lift rings, sand lines, sliding cab windows, etched metal windshield wipers and special underframe details including separately applied air lines. Standard DC models will be priced at \$169.98. Units with DCC and sound will be listed at \$269.98.





After suffering several major production delays, it now looks like **Athearn's** improved **HO scale** SW1500 diesel locomotive will be arriving in June. The upgraded HO scale model will have an operating microbulb headlight, flush window glazing, photo-etched grilles and an upgraded hex drive-

train plus several road specific details including headlights, air horns, bells, spark arrestors and truck sideframes. Road names will be NASA (gray, red and black), Canadian National, Alton & Southern (yellow body, blue cab), Wisconsin Central, Sandersville (white body, red lettering), Montana Rail Link (above), BN (green), Soo, RI (The Rock), Indiana Harbor Belt and Southern Pacific (with peeling paint effect). The DCC-ready model will have an MSRP of \$119.98.



**Athearn** will deliver this **HO scale** UP/Katy SD70ACe in September. Other paint schemes for the Genesis series locomotive are CSX, Ferromex and

Montana Rail Link. Special features include dual flywheels, all-wheel pickup and drive, full cab interior, correctly sized operating ditch lights, MU hoses, coupler lift bars, train line air hoses, safety-tread on walkways, wire grabs and etched see-through grilles.

Other new HO scale items coming from Athearn this summer include a retooled Genesis series 50' PC&F insulated boxcar with 8' + 8' Youngstown doors decorated for Evergreen Freight Corporation and SP-Hydra Cushion at \$37.98.

Also a DCC-ready SD45 from upgraded tooling that will be decorated for Santa Fe, CB&Q and Nacionales de Mexico plus a bloody-nose SP version. New Athearn freight cars under development include a 56' DTTX well car; four versions of a Santa Fe 50' double-door boxcar sporting Chief, El Capitan, Scout and Super Chief slogans; and a wide-vision caboose in maintenance of way livery for C&NW, Rock Island, Seaboard Coast Line and UP.



**Aztec Manufacturing** ([www.aztctrains.com](http://www.aztctrains.com)) has introduced a new track cleaning car that is a companion to Thomas The Tank Engine®. Named **Thomas the Track Star**, the **HO scale car** is equipped with a **Cratex® roller** plus a bar magnet to pickup unwanted ferrous items along

the track. A black anodized aluminum chassis holds the free-rolling Cratex roller at an angle to effectively clean the track. The cleaning system comes installed in a Bachmann "Troublesome Truck" car with couplers that are compatible with Thomas the Tank Engine and Friends®. Part # TS1166 is priced at \$59.95 each.

Here is a decorated engineering sample of the **HO scale** D&RGW class C-19 locomotive coming this spring from **Blackstone Models**. In addition to No. 345 with its Flying Grande Herald seen here, other versions of the C-19 will include Rio Grande Southern No. 40. For additional information on this highly anticipated project see the **June 2010 edition of MRH** or visit [www.blackstonemodels.com](http://www.blackstonemodels.com).



In addition to the Norfolk Southern and Chicago & North Western units shown, **Bowser Manufacturing** ([www.bowser-trains.com](http://www.bowser-trains.com)) will deliver **HO scale** models of the Baldwin-built AS-616 road switcher decorated for Southern Pacific, DSS&A, Pennsylvania and Milwaukee Road this spring. The ready-to-run models are from Bowser's Executive Line and feature a new die cast frame with a new fuel tank, fuel fills, and site glass, brass air and MU hoses, brass windshield wipers, steel coupler lift bars and grab irons, operating headlight, window glass, a can motor, nickel silver wheels and a warm white LED headlight. DCC models with SoundTraxx Tsunami Digital Sound Decoders are priced at \$279.95. Conventional DC models are \$169.95 and are decoder-ready and come with an NMRA DCC plug.



**ExactRail** ([www.exactrail.com](http://www.exactrail.com)) has introduced two **HO scale** versions of a 72' Deck Plate Girder Bridge. The early version of the bridge (right) features a simulated wood walkway and handrails



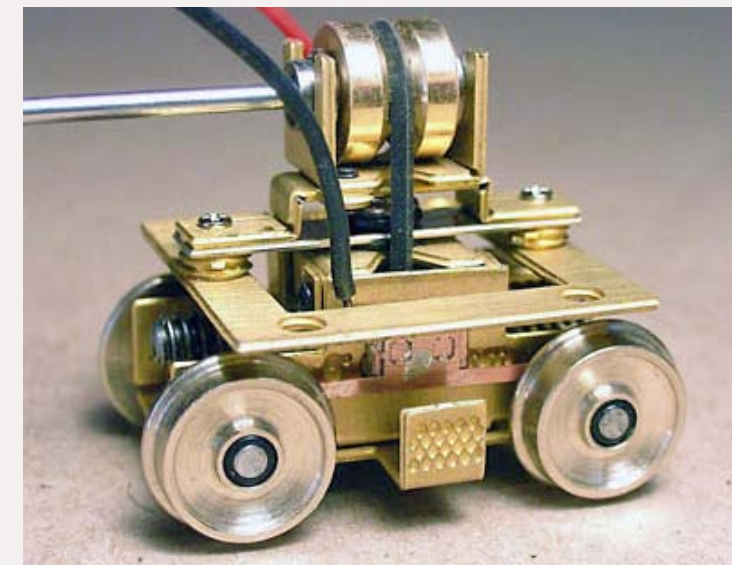


with bolt head and washer detail. It is priced at \$36.95 and is available decorated for ATSF, D&RGW, and NYC. The kit for the late version of the bridge has etched metal walkways and scale cables threaded through handrail stanchions. It is available at \$44.95 decorated for UP, NS and CN. Both the early and late versions are also available undecorated.



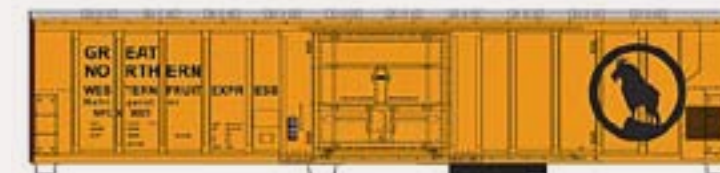
Also new from **ExactRail** is this **HO scale** TLDX- Louis Dreyfus Corporation Pullman-Standard 2CD 4427 covered hopper. Other paint schemes include EL-Erie Lackawanna and SBGX-Scoular. The Platinum series ready-to-run models are priced at \$36.95 each and come with ASF 100-ton ride-control trucks and Kadee® #58 couplers.

complimentary trailing truck. It has an all metal worm drive of 15:1 and can be fitted with any type of motor. One side of the pre-assembled wheels sets are insulated at the hub. The Diablo is available in wheel diameters from 24" to 40" with wheelbases starting at 5' 6" and increasing in incremental steps. Inquiries from locomotive or car body manufacturers are welcome. Additional information is available at ([www.hollywoodfoundry.com/default.htm](http://www.hollywoodfoundry.com/default.htm)). Hollywood Foundry drive systems are available in the US from Elmer McKay at [emckay70@members.afa.org](mailto:emckay70@members.afa.org).



**Fos Scale Limited** ([www.foslimited.com](http://www.foslimited.com)) has released The Garment District, a limited edition **HO scale** craftsman kit that combines four structures – Seckler’s Nylon Stocking Co, Abramson’s Shirtwaist Co, Reynolds Hat & Glove and Elwood’s Diner – into a single complex with a foot print of approximately 18 x 24-inches. The kit can be built as suggested in the photograph or as four distinct structures. A wide range of materials is used in the construction of Garment District including laser-cut clapboard and scribed siding, corrugated metal, Tichy windows and doors, NorthEastern Scale Lumber, metal detail parts, a variety of signage, assembly templates and detailed instructions that includes suggestions for weathering. The four-structure kit is priced at \$325.

For **HO scale** modelers, **InterMountain** has a nice lineup of new items arriving next month that includes an R-70-20 steel refrigerator car decorated for Great Northern –WCFX with large goat as seen here, BNFE (green body), BNFE (yellow body), SPFE (white body with orange lettering) and UPFE (yellow body with small UP shield).



Also coming from IMRC in February are **HO scale** modified 1937 AAR Boxcars for Union Pacific, Western Pacific, Illinois Terminal, Santa Fe, Gulf Mobile & Ohio and Rock Island with Route of the Rockets slogan (right).



**Hollywood Foundry**, a manufacturer of precision drive systems based in Australia, is selling an **HO scale** kit called the Diablo power truck that features a quiet synthetic rubber drive belt. The design is an update of the old spring belt drive with four ball bearings and brass axle bearings for quieter and more reliable operation. The ride height is adjustable on the Diablo as well as the

This classic Savannah & Atlanta 40' PS-1 steel boxcar is available now from **Kadee Quality Products** ([www.kadee.com](http://www.kadee.com)). The **HO scale** car features an 8' Youngstown door and is painted in the 1956 as-new scheme with black ends. The ready-to-run model sells for \$32.95.



Kadee spokesman Sam Clarke reports that although most



current, and all future, **Kadee HO scale** freight cars will come with new two-piece HGC trucks, Kadee's older, fully-sprung trucks are not being discontinued. This will come as good news to those modelers who remain undecided about switching to the HGC trucks and have been expressing their concern about the future availability of the earlier design.



This hefty steel structure load is available now from **LaserKit** ([www.laserkit.com](http://www.laserkit.com)). Although designed for **HO scale** it can be adapted as a flat car load for

any scale. Components of the kit are cut from resin board and feature tab & slot and peel & stick construction. Wood blocking and brass wire for hold down rods are included. LaserKit #206 is priced at \$17.95.



Bill Herbert built this 42' Missouri Pacific side-door drover's caboose from an **HO scale** kit available now from **LaserKit div of American Model Builders** ([www.laserkit.com](http://www.laserkit.com)). Twenty prototype versions of the cars were built for the MP in 1930 by St Louis Car Company. In addition to regular duties as a freight

train caboose, the cars provided seating and sleeping space for the drovers who accompanied live stock in transit. The kit features tab & slot and peel & stick construction. Laser-cut parts include the underframe, end platforms and custom laser-scribed side and end walls.

Other components include ladders, end railing, roof vents, cupola hand grabs, toolbox, cast resin platform steps, white metal smokejack, color window shades, brake stand and brake wheel. Illustrated instructions provide information on painting and lettering and several fixtures to aid in creating handholds and ladders. Although MP decals are not included in the kit, LaserKit recommends the purchase of Oddball Decal set No. 87-284, Tahoe Model Works No. 105 or 205 Barber-Bettendorf swing-motion caboose trucks and Kadee No. 5 couplers with draft gear boxes.

**Microscale Industries** ([www.microscale.com](http://www.microscale.com)) has rerun its **HO and N scale** decal sets for Illinois Central Gulf (ICG) with a darker brown that is expected to do a better job of covering than the earlier printing. Other new sets include a limited edition Urban Grafitti sheet and a variety of Spartan cab window gaskets. Future items now being developed include Ann Arbor locomotives, boxcars and caboose in the "Ship in the fog" scheme. Also D&RGW insulated boxcars as well as 40' and 50' boxcars for Seaboard Coast Line and CNW from the 1944-69 era.

To mark its 60<sup>th</sup> anniversary, the **Marion Model Railroad Club** of Marion, Ohio, is offering a special **HO scale** Ohio & Western AAR 50' single-door welded steel boxcar decorated in mineral red with white lettering. The model was produced by Accurail and is available in three different road numbers. It can be purchased for \$15 plus shipping from [www.marionmodelrailroadclub.org](http://www.marionmodelrailroadclub.org).

**Protowest Models** has introduced this resin kit for a Hart Convertible Ballast Car. The **HO scale** model replicates a standard Hart class CS 36' 40-ton car with 4' high sides and truss rod underframe. Masters for the prototypically accurate kit were developed from drawings created by Jack Burgess who had access to original Hart patent drawings. The body of the model is a single casting except for the floor parts which can be positioned to allow for side dumping or discharging the load between the rails. Decals are provided for Hart data only (no roadnames). The kit includes unique 5' 3" wheelbase arch bar trucks cast in resin with axle bearing inserts and Reboxx wheelsets with .088" treads. Assembly instructions are provided along with a jig for shaping the rods that operate the side doors. The kits are priced at \$50 each plus \$7 shipping. Orders for two or more kits will be shipped prepaid. To order contact Doug Junda at [djunda@protowestmodels.com](mailto:djunda@protowestmodels.com).



**Jim King of Smoky Mountain Model Works** expects to have the upgraded ex-PMSS class I-12 wagon top caboose ready in HO scale later in January. The class I-5 car with wood sides and steel ends should be available shortly thereafter. Jim is targeting a \$60 retail price but much depends on the final cost of etched parts. Stay tuned.

**Railroad Kits** ([www.railroadkits.com](http://www.railroadkits.com)) is now selling Bradford Dye House, an **HO scale** kit originally created by Ed Fulasz. The kit has Hydrocal® castings, strip





wood, special signs, Tichey windows and doors and detailed instructions.

The finished model has a foot print of approximately 6" x 6" and can be assembled with or without the skylights and abutments. Item EF18 is priced at \$69.



This **HO scale Red Caboose** class X-29 steel boxcar will be arriving in March decorated for Seaboard Railroad (above), New York Central, and Maine Central. The ready-

to-run model will come in six different numbers and be available through InterMountain Railway at \$34.95.



**Red Caboose** has made a special run of 42' flat cars decorated for St Louis & San Francisco. Similar to the USRA standard design, the cars were built

by General American in 1928. The **HO scale Frisco** model is decorated in 1950s-era yellow with black lettering and is available in four road numbers. It comes with Kadee® #5 couplers and Accurail Bettendorf-style trucks fitted with InterMountain metal wheel sets. The ready-to-run model sells for \$28.95 and is available exclusively from Texas Western Model Railroad Club at [www.texas-westernmrc.org](http://www.texas-westernmrc.org). An optional wood deck is also available.

**Rio Grande Models Ltd** ([www.riograndemodels.com](http://www.riograndemodels.com)) has introduced both **HO scale and S scale kits** for a Lorain gas-powered shovel. See the listing under S scale for details.

**Roundhouse** ([www.roundhousetrains.com](http://www.roundhousetrains.com)) division of Athearn/Horizon Hobbies, is preparing to bring back a refurbished version of its 40' wood reefer cars. They will be decorated for PFE, SFRD and Swift (both silver and red schemes). The ready-to-run **HO scale** models are due this summer and will be priced at \$19.98 each.



Photograph © Mike Chambers, used with permission.

This two-structure scene, scratch-built by the late Mike Chambers, has been recreated as an **HO scale** kit by **Rusty Stumps Scale Models** which purchased the rights to copy the original. Known as The Tie Hacker's Cabin, the limited edition craftsman-type kit is scheduled for release in mid-January. Both

of the structures are built-up using individual stripwood. Corrugated metal roofing and random shake shingles are applied to roof panels. Ten detailed resin castings are included in the kit along with a chimney and stone foundation cast in Hydrocal® from Chambers original masters. Kit #K4017 is priced at \$127.95 plus shipping and may be ordered at [www.rustystump.com](http://www.rustystump.com).



**Stevens Creek Models**

([www.hon3.com](http://www.hon3.com)) is now selling a craftsman-style kit for this **HOn3 scale** Dolly Varden Ore Car. All components needed to complete the model are included except

trucks, couplers and decals. Documentation includes background information about the prototype along with eight pages of assembly instructions with 30 photos illustrating steps in the construction process. Helpful comments about kit materials, tools, adhesives and painting are also discussed. Kit # DVMR-1 is available direct at \$44.95 plus shipping. Stevens Creek has a limited number of Rio Grande Models Dolly Varden trucks available for purchase with the kit at \$6.00 a pair. If ordered with the car kit, the trucks will be sent without additional shipping cost.



**Sylvan Scale Models** ([www.isp.on.ca/sylvan](http://www.isp.on.ca/sylvan))

has released a group of **HO scale** models of 1951 "Bullet Nose" Studebaker automobiles. Body types available include a Starlight coupe (above), business coupe, two-door sedan, four-door sedan and a convertible.

The unpainted cast resin models sell for \$12.95 each.





**Tangent Scale Models** has announced new paint schemes for its acclaimed **HO scale** Pullman-Standard PS-2CD 4740 covered hopper. The selection includes a sky blue Great Northern in the as-built 1967 scheme (above),

an Illinois Central car in the original gray from 1969 featuring the split-rail IC logo, and TLCX Hubinger Corporation (Keokuk, Iowa) in the as-built yellow/black scheme. The fourth car is a rerun of the popular Milwaukee Road in six new road numbers painted in the 1970 as-built federal yellow scheme including the America's Resourceful Railroad slogan. The ready-to-run cars are priced at \$42.95. Visit [www.tangentscalemodels.com](http://www.tangentscalemodels.com) for details on quantity discounts.



In addition to the Chessie/B&O version shown here, **Walthers** will release this **HO scale** SD9 locomotive decorated for BN, D&RGW and Great

Northern. The release is scheduled for late April or early May and will offer each paint scheme in three different road numbers. Features include several road-specific details such as horn style and placement, correct truck journals and foot board pilots. The power mechanism uses 14:1 helical gears which is said to give quieter, smoother engine running.



Also due from **Walthers** in late January is a rerun of ACF- 21 10,000 gallon insulated tank car with new road numbers for General American-GATX, Texaco-TCX, Sinclair- SDRX (left), and two versions of Magnolia – MPCX in both a

white and black tank body. The **HO scale** Platinum™ line car will be priced at \$34.98 each.



**Walthers** expects to begin delivery of this **HO scale** Platinum™ line 50' double-door box car with new road names in late January. The ready-to-

run car has Youngstown corrugated doors and Dreadnaught 5/5 ends and will be available decorated for ATSF, CB&Q (Chinese red), GTW, NYC (jade green), SOU, SP and UP (with red, white and blue shield) as seen above.

This **HO scale** AAR 52' 6" drop-end mill gondola is scheduled for release by **Walthers** in early February. The Platinum™ Line ready-to-run model features detail on the interior of the car side. Priced at \$27.98, road names include CR, CP Rail (above), DT&I, Elgin Joliet & Eastern, PC and Union Pacific.



**Walthers** has also released shipping information on both **N and HO scale** versions of an Alco RS2 locomotive. See Walthers listing under N scale for details and a photo.

## N SCALE PRODUCT NEWS

**Athearn** ([www.athearn.com](http://www.athearn.com)) has scheduled a July delivery date for a group of 50' PS-1 single-door boxcars. The ready-to-run **N scale** cars will be priced at \$19.98 and come in a new jewel box. Road names will include CP Rail, EJ&E, MKT-Katy (Hydroframe-60) and D&RGW as seen here. Other new N scale cars coming this summer include a 53' GSC flat car decorated for ATSF, BNSF, Pennsylvania, Union Pacific and DTTX-Travel Train.



This **N scale** Chessie System PS-2 twin-bay covered hopper is just one of dozens of old/new inventory recently uncovered in the far reaches of **Atlas's** warehouse. The cars were produced several years ago but never released. The brand new RTR models are packaged in plastic jewel cases and are priced at under \$10 each. Road names still available at press time included Santa Fe, American Potash, Lehigh & New England, Southern Pacific, Rio Grande, New Haven, Union Pacific, Great Northern, Western Pacific, Wisconsin Central, Boraxo, Chicago & North Western, C&NW (with M&StL marks), Clinchfield, Lehigh Valley, Maine Central, Milwaukee road, Northern Pacific, Rock Island, Burlington Northern, Conrail, Delaware & Hudson, Pennsylvania, CSX, Jersey Central and Pittsburgh & Lake Erie. These cars are available direct only at [www.atlasrr.com/GSC/nps2sale.htm](http://www.atlasrr.com/GSC/nps2sale.htm).



Next month, **Deluxe Innovations** will deliver **N scale** models of deep-rib wood chip gondolas decorated for Canadian National, Western Pacific and Southeastern Industrial Enterprise-TREX. The cars will be available in multiple numbers in single, twin and triple packs. DI products are marketed through InterMountain Railway.



For further details see your dealer or visit [www.intermountain-railway.com](http://www.intermountain-railway.com).



**N scale** freight cars coming in February from **InterMountain Railway** include Modified 1937 AAR

Boxcars decorated for Union Pacific, Rock Island with Rocket Freight slogan, Western Pacific, Santa Fe with

and Gulf Mobile & Ohio and Santa Fe with large billboard lettering as shown here. The models will be priced at \$19.95 each.



Also due in February from **InterMountain** are **N scale** cylindrical covered hoppers decorated for North American, Canadian National

(light gray with red lettering), Canadian National Web (CNIX dark gray and CNLX light gray), CP Rail, Procor, Alcan-Chemical (yellow), and Trona – American Potash & Chemical as seen here.



Here is an early look at the **N scale** General Electric P42 'Genesis' Amtrak Phase IV diesel locomotive coming soon from **KatoUSA**. Dealers are taking reservations now for the complete

N scale train set consisting of the P42 locomotive along with five cars including an Amtrak Phase IV baggage car, Amfleet II Amtrak Phase IV coach and coach-café car, and two Viewliner Amtrak Phase IV sleepers. Visit [www.katousa.com](http://www.katousa.com) or see your dealer.

**Microscale Industries** ([www.microscale.com](http://www.microscale.com)) has rerun its **N scale** and **HO scale** decal set for graffiti and Illinois Central Gulf. See the listing under HO scale for details.



**Micro-Trains** ([www.micro-trains.com](http://www.micro-trains.com)) has recently released this **N scale** Santa Fe heavyweight 28-1 Pullman

parlor car. Car number 3010 was owned by the Santa Fe Railroad and displays the Pullman name and road number in metallic gold lettering. It runs on six-wheel passenger trucks and is priced at \$22.70.

Here is a rendering of an **N scale** PS-2 high-side 3-Bay hopper car underdevelopment at **Micro-Trains**. The model will feature detailed undersides with separate bay hatches, detailed sides and ends and laser-cut roof walk. It will come with body-mount Magne-Matic® couplers. Pricing and road names have not been announced.



**Sidetrack Laser** ([www.sidetracklaser.com](http://www.sidetracklaser.com)) has an **N scale** kit for Cal Pak, a commercial fruit packing structure inspired by a prototype facility in Turlock, California. Components in the craftsman structure kit include laser-cut doors,

Grandt Line windows, and peel & stick roofing material. A choice of graphics allows the building to represent



fruit packers for two different parts of the nation. The Cal Pak kit sells for \$78.95 and when assembled has a foot print of 4 x 12 inches.

**Wheels of Time** ([www.wheelsotime.com](http://www.wheelsotime.com)) is working toward a March delivery date for a series of **N scale** bilevel commuter coaches based on an ACF prototype built in 1957. Among the features of the ABS-styrene plastic models will be a full 2-level interior. They will be equipped with Micro-Trains® trucks and couplers. Decorated cars will be priced at \$34.99 and will include C&NW, Alaska Railroad Whittier shuttle service (ex SP bilevels), Caltrain (rainbow scheme), Virginia Railway Express (former C&NW Cor-Ten cars circa 1950s) and Southern Pacific. Undecorated cars will also be available at \$29.99.

**Walthers** ([www.walthers.com](http://www.walthers.com)) will begin shipping both **N scale** and **HO scale** ready-to-run models of this Alco RS2 diesel locomotive this month. Both the HO Proto 1000™

and Proto N™ version will have an MSRP of \$98.98 and come decorated for Green Bay & Western (above), NH, NYC and PRR. *News continues on page 34 ...*







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... Continued from page 32:

## Z SCALE PRODUCT NEWS



**Micro-Trains** ([www.micro-trains.com](http://www.micro-trains.com)) is selling this Z scale 40' steel boxcar with plug-door decorated for the State of Delaware. The design incorporates Delaware's official state

flower (Peach Blossom), bird (Blue Hen Chicken) and flag. Road number 1787 recalls the year Delaware was admitted into the union. The ready-to-run model is priced at \$22.95. It is number 30 of a 50-car series representing each of the states in America.

## INDUSTRY NEWS

**Ashland, Ohio:** Dean Freytag, Master Model Railroader and life member of NMRA passed away December 25, 2010. Mr. Freytag, who was 86, had been in ill health in recent months. He was a pioneer in the use of styrene in modeling and was widely known for his expertise in modeling complex industrial scenes. His models served as the prototype for Walthers series of steel-making structures. Mr. Freytag inspired many through dozens of articles that appeared in various model railroad magazines and through several books he authored including "The History, Making & Modeling of Steel" and "The Cyclopedia of Industrial Modeling."

**Sacramento, California:** David W. Braun, owner of The Back Shop, passed away December 23, 2010. Mr. Braun was the third owner of the firm that specialized in producing detailed O scale parts cast in brass. He acquired The Back Shop several years ago from Jerry Gresham who took over from the late Bruce Bechtold who established the company in 1959. Activity at The Back Shop has been limited in recent months due to Mr. Braun's declining health. He is survived by his wife Marcia.

### DISCLAIMER

The opinions expressed in this column are those of the writer and do not necessarily reflect the opinion of *Model Railroad Hobbyist* or its sponsors. Every effort is made to provide our readers with accurate and responsible news and information, however, neither *Model Railroad Hobbyist* or the writer of this column can be held responsible for any inaccuracies or typographical errors that may inadvertently appear in this column.



## ABOUT OUR NEWS

Other than political junkies, model railroaders are some of the most news-hungry people I know of!

The Internet allows manufacturers to publish press releases to their websites or blogs where *anyone* can see them and/or can send them via e-mail. The online modeler often now sees product announcements at the same time as, or nearly fast as *Model Railroader* or *Railroad Model Craftsman*.

When announcements get posted to model railroading forums or mailing lists they immediately spread throughout all the other model railroading forums and mailing lists. In short order, the products are evaluated, praised, and otherwise dissected by the knowledgeable.

At the train shows where new models get announced and shown, the model railroading press now competes with anyone who has a camera or a cell phone and an Internet connection! The race is on to be the first to get photos posted online about the newest models and products, usually within a few hours of the doors opening.

You might wonder why MRH even needs a news section with all this being available on the internet. We believe it comes down to completeness, organization, and providing a service to the hobby.

If you look at our MRH News, many of the products we show are not from the major manufacturers. Many companies in the hobby are cottage industries, run

by one or two people who can't afford the time needed to set up and manage mailing lists to thousands of people, or even to maintain a website.

What these small firms can do is send out the announcements to a few publishers, including MRH, to announce in an organized fashion. We believe MRH can serve hobby vendors by publicizing manufacturers who otherwise would not be able to announce their products to a wide market as well as serving our readers by alerting them to what new products are coming for them to use.

With electronic publishing, we add new items to our news section up to the last few days prior to publication, making our news as timely as possible.

Unlike the print magazines, with MRH there's no waiting for months to see an product announcement – hopefully you'll see MRH as the first place you can read about it! ■

— Jeff Shultz, MRH Technical Assistant



## Send us your product announcements

If you are a hobby manufacturer with a product announcement, just [click here](#) and submit your announcement to us.

Our web site and free magazine reach continues to grow, so get on board with this new media train that's hard to stop!





## Selected Events

### January 2011

**CALIFORNIA, SANTA CLARA**, Jan 27-29, **O Scale West**, annual gathering of O scale modelers and suppliers includes model contests, layout tours and clinics, Hyatt Regency Hotel. Info at [www.oscalewest.com](http://www.oscalewest.com).

**FLORIDA, COCOA BEACH**, Jan 6-8, **Prototype Rails RPM Meet**, Hilton Hotel, 1550 N. Atlantic Ave. Speakers include Frank Angstead, Tom Bissett, Revis Butler, Jack Burgess, Jon Cagle, Ted Culotta, Bill Darnaby, George Eichelberger, Richard Hendrickson, Steve Hile, Roger Hinman, Bob Karig, Tony Koester, Greg Komar, Larry Kline, Jim Langston III, Tom Madden, Greg Martin, Lance Mindheim, Joe Oates, Steve Orth, Jim Overman, John Roberts, Bill Schaumburg, Bill Schneider, Stan Seeds, Jim Singer, Bruce Smith, Andy Sperandio, Monte Switzer, Tony Thompson, Mark Vaughn and Bill Welch. More info at [www.prototype Rails.com](http://www.prototype Rails.com) or contact host Mike Brock at [brockm@brevard.net](mailto:brockm@brevard.net).

**FLORIDA, DELAND**, Jan 8-9, **34th Florida Rail Fair**, Volusia County Fairgrounds. Info at [www.gserr.com](http://www.gserr.com).

**INDIANA, NOBLESVILLE**, January 30, **NMRA Central Indiana Division Train Show**, features clinics, vendor tables, portable layouts and door prizes. Hamilton County 4H Fairgrounds, 2003 Pleasant Street. Info from Tom Cain at 317-475-7834.

**MASSACHUSETTS, WEST SPRINGFIELD**, Jan 29-30, **Amherst Railroad Society Annual Railroad Hobby Show**, Eastern States Exposition Fairgrounds. One of the largest and most important events in the Northeast with hundreds of vendors, clinics, and manufacturers demonstrations. Info at [www.railroadhobbyshow.com](http://www.railroadhobbyshow.com).

**TEXAS, PLANO**, Jan 15-16, **Dallas Area Train Show**, Plano Centre, 2000 East Spring Creek Parkway. Tentative speakers include Frank Angstead, Chris Atkins, Denny Bullard, Mike Crawford, Allan Gartner, Tom Greco, Jerry Hoverson, Mike Moore, Duane Richardson and Hank Whyte. Info at [www.dfwtrainshows.com](http://www.dfwtrainshows.com).

### February 2011

**CALIFORNIA, MONROVIA**, Feb 17-19, **26th Annual Sn3 Symposium**, includes layout tours. Preliminary list of clinicians include John McKenzie, Lloyd Lehrer and Steve Harris. Double Tree Hotel, 924 W. Huntington Drive. Info at [www.sn3-2011.com](http://www.sn3-2011.com).

**GEORGIA, ATLANTA**, Feb 12-13, **World's Greatest Hobby on Tour**, at Cobb Galleria. Info at [www.wghshow.com](http://www.wghshow.com).

**OREGON, PORTLAND**, Feb 19-20, **Great Train Expo**, Portland Expo Center. Info at [www.greattrainexpo.com](http://www.greattrainexpo.com).

### Future 2011

**CALIFORNIA, SACRAMENTO**, July 3-9, combined conventions of **NMRA National and National Association of S Gaugers**, Sheraton Grand Hotel. Info at [www.x2011west.org](http://www.x2011west.org).

**CALIFORNIA, SACRAMENTO**, July 7-9, **National Train Show**, Sacramento Convention Center. Info at [www.x2011west.org/trainshow.html](http://www.x2011west.org/trainshow.html).

**CALIFORNIA, STOCKTON**, Mar 12, **3rd Annual Railroad Photography Exposition & Railroadiana Show**, Scottish Rite Masonic Center. Info at [www.winterail.com](http://www.winterail.com).

**MASSACHUSETTS, MANSFIELD**, Nov 7-9, **Craftsman Structure Convention**, Holiday Inn. Info at [www.csc11.net](http://www.csc11.net).

**MASSACHUSETTS, PEABODY**, Oct 13-15, **The Fine Scale Model Railroader Expo**, Holiday Inn. Info at [www.modelrailroadexpo.com](http://www.modelrailroadexpo.com).

**NORTH CAROLINA, HICKORY**, Sep 7-10, **33rd National Narrow Gauge Convention**, Hickory Metro Convention Center, featuring layout tours, clinics, vendor displays, prototype events and narrow gauge camaraderie. Headquarters hotel (Crown Plazz) has sold out. Visit web site at [www.tarheelpress.com/ngc/](http://www.tarheelpress.com/ngc/) for information on alternative hotel space.

**OREGON, ELSIE**, Mar 5, 2011 **Pacific Model Loggers' Congress**, Camp 18 Restaurant & Logging Museum. Includes clinics and model contest. Info from [www.pacificmodelloggerscongress.com](http://www.pacificmodelloggerscongress.com).

**PENNSYLVANIA, GREENSBURG**, Mar 25, **Prototype Modeler's Meet**, Sheraton Four Points Hotel. Preliminary speaker list includes Keith Albright, Jim Dalberg, Keith DeVault, Paul Dolkos, Gary Dunmire, Bruce Elliott, Dick Flock, Steve Funaro, Eric Hansmann, Larry Kline, Lance Mindheim, Ramon Rhodes, Steve Ross, Paul Gallick, Jim Ruffing, Mike Schleigh. Additional info from Eric Hansmann at [www.hansmanns.org/rpm\\_east/2011.htm](http://www.hansmanns.org/rpm_east/2011.htm).

**PENNSYLVANIA, HERSHEY**, June 22-26, **National N Scale Convention**. ■



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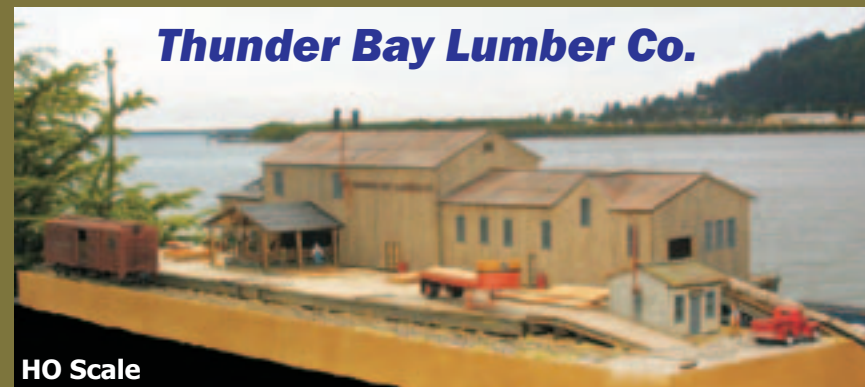
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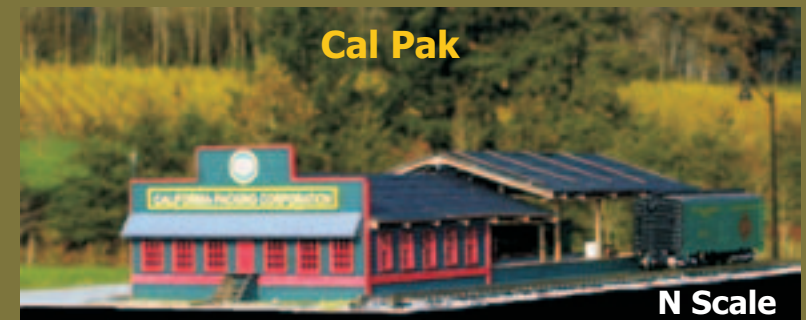
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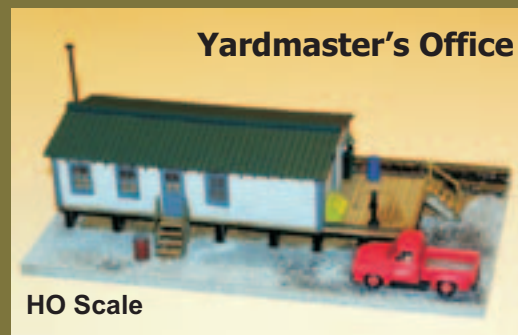
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# MRH

## Questions, Answers and Tips



### QUESTIONS AND ANSWERS

**Q: I want to know if some of my freight cars are the right kind and are numbered correctly for the railroad I model. A guy at the club said to look them up in an ORER. What's that?**

**A:** The *Official Railway Equipment Register* (ORER) is published four times a year by United Business Media. It was originally produced by the National Railway Publication Company.

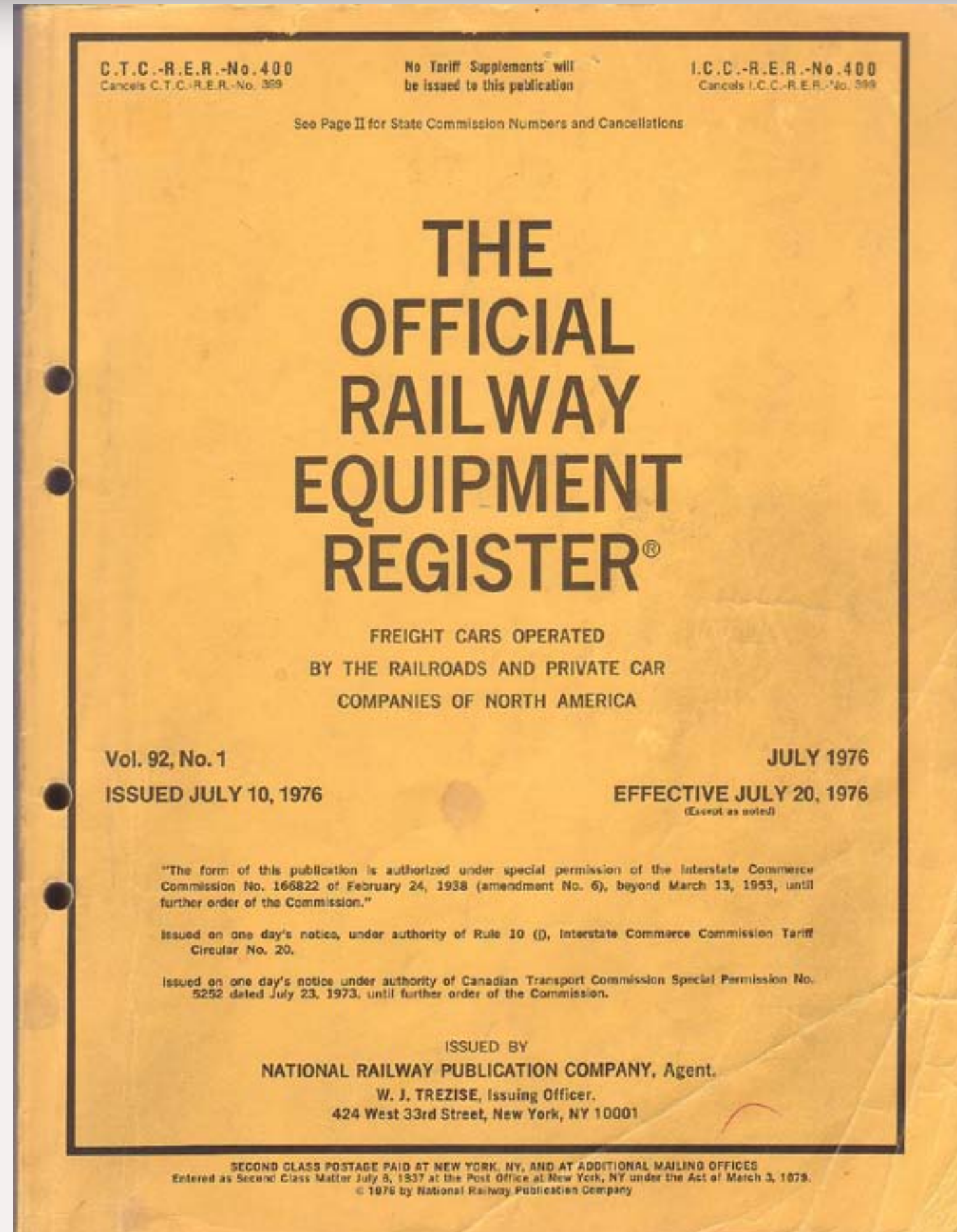
It lists railroads and private car owners, reporting marks, company officers, head offices, connections and junction points and a large amount of useful Association of American Railroads data on car use, car

designations, and clearance diagrams.

The car listings include the AAR mechanical designation for the car type, a general description, the car type code, number series, inside and outside dimensions, door specs, capacity, and the number of cars in the series.

The reporting marks and numbers are always stenciled on the car. Many also show the car type (like XM for box car and FD for a depressed center flat car) and the type code, like G442, for a gondola (GB) 61' or over with a wood floor, sides 36" tall or higher, and drop ends.

What it does *not* include are photos of the cars or the builders. So it's a good tool for the prototype modeler, but not the answer to every question.



**Figure 1: The Official Railway Equipment Register (ORER) lists railroads and private car owners, reporting marks, company officers, head offices, connections and junction points and a large amount of useful Association of American Railroads data on car use, car designations, and clearance diagrams. The cover image shown here is from an edition published in 1976.**



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Miles of road Operated, 79.58

**FREIGHT CONNECTIONS AND JUNCTION POINTS**

<b>Ann Arbor</b> Toledo (Hallett), OH	<b>Chesapeake &amp; Ohio—Southern Region</b> Walbridge, OH	<b>Detroit, Toledo &amp; Inerton</b> Temperance, OH	<b>Penn Central</b> Air Line Jct., OH
<b>Baltimore &amp; Ohio</b> Bates, OH	<b>Detroit &amp; Toledo Shore Line</b> Lang, OH	<b>Norfolk &amp; Western</b> Gould, OH	<b>Starkey, OH</b> Walbridge, OH
<b>Chesapeake &amp; Ohio—Northern Region</b> Walbridge, OH		<b>Toledo (Front St.), OH</b>	<b>Toledo, Angola &amp; Western</b> Hill Ave., Toledo, OH

**TOOLEE VALLEY RAILWAY COMPANY**

Reporting Marks and ACI Nos.—“TOV”—0 782  
Uniform Alphabetic Code and ACI No.—“TOV”—0 782

GENERAL OFFICES: 35 N. Broadway, Tooele, UT 84074

**GENERAL OFFICERS**

D. H. Lee, President & Superintendent	Tooele, UT 84074	D. E. Lombard, Secretary & Treasurer	Tooele, UT 84074
D. E. Salisbury, Vice-President	Salt Lake City, UT	J. Torreyson, Auditor	Tooele, UT 84074

Miles of road Operated, 9.42. Equipment, Locomotives—diesel-electric, 1. Other: Caboose, 2.

Limit of load allowed to pass over this line in excess of marked capacity, 10%.

Freight cars owned are not used in interchange service. Report movements and mileage or per diem to D. H. Lee, President & Superintendent, 35 N. Broadway, Tooele, UT 84074. Make drafts for per diem, interline freight and ticket balances on J. Torreyson, Auditor, through the Continental Bank and Trust Co., Salt Lake City, UT.

Send bills for repairs to cars to J. Torreyson, Auditor, 35 N. Broadway, Tooele, UT 84074. For application of embargoes under Car Hire Rule 18 see Embargo Regulations and instructions issued by Association of American Railroads. Address embargo notices, embargo reclaims and notices of cars held under Car Hire Rules to D. H. Lee, Superintendent, 35 N. Broadway, Tooele, UT 84074.

**FREIGHT CONNECTIONS AND JUNCTION POINTS**

Union Pacific  
Warner, UT

Western Pacific  
Warner, UT

**THE TORONTO, HAMILTON AND BUFFALO RAILWAY COMPANY**

Reporting Marks and ACI Nos.—“THB”—0 774  
Uniform Alphabetic Code and ACI No.—“THB”—0 774

GENERAL OFFICES: Hamilton, ON, Can.

Do not confuse cars of this Railway with those of the Indiana Harbor Belt Railroad Company.

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				Length	Width	Height	Length	Width	Height from Rail	To Ends or Top of Sides or Platform	To Extreme Width	To Ends or Top of Sides or Platform	To Extreme Height				Width of Opening	Height of Opening
See Explanation Pages for Abbreviations & Symbols																		
	“THB”																	
HT	Hop. St.	H250	1200-1249	40 8	10 4	7 5	41 8	10 5	10 5	10 8	10 8	10 8	10 8	10 8	10 8	2773	170	44
LD	Covered Hop., St., Cylindrical, Self-Clearing	L051	1900-1949	41 2	10 7		53 9	9 7	10 8	8 9	14 0	15 1				3050	200	40
FM	Flat, St.	F101	1800-1899	52 6	10 2		53 2	10 3	10 3	3 5	3 5	3 5					132	94
GB	Gond., St., Fixed Ends, Wood Fr., Load Limit 170000 lbs.	G212	2300-2549	52 6	9 6	3 8	57 6		10 4				7 3			1746	165	230
GB	Gond., St., Fixed Ends, Wood Fr., Roller Bearings	G212	2300-2699	52 6	9 6	3 8	57 6		10 4				7 3			1746	200	90
LD	Covered Hop., St., 2 Sliding Doors	L051	2800-2899	26	10 6	10 6	42 6	9 10	10 7	2 3	13 1	13 8				3300	165	89
XM	Box, St., Wood Lined, 25K	B105	3300-3299	40 8	9 2	10 8	41 10	9 11	10 8	13 6	13 11	15 1	8	9 13	3900	132	231	
XM	Box, St., Wood Lined, 50K	B105	3300-3599	40 8	9 2	10 8	41 10	9 11	10 8	13 6	13 11	15 1	8	9 13	3900	132	93	
XM	Box, St., Wood Lined, 60K	B108	3600-3849	40 8	9 2	10 8	41 10	9 11	10 8	13 6	13 11	15 1	8	9 13	3900	132	241	
GBR	Gond., St., Fixed Ends, Wood Fr., 3 Sectional Removable Covers, Load Limit 170000 lbs.	E300	4300-4614	52 6	9 6	3 8	57 6	7 1	10 4	8 4			8 4			1746	165	15
GBR	Gond., St., Fixed Ends, Wood Fr., DF Loaders, 3 Sectional Removable Covers, (Coal St. for Automotive Industry)	E340	4700-4209	52 6	9 6	3 8	57 6		10 4				8 4			1746	180	10
Total																1183		

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CONTINUED ON FOLLOWING PAGE

Figure 2: The Here’s a page from the Official Railway Equipment register showing equipment on the TH&B railway (July 1976).

**For example:** You have a model of Union Pacific covered hopper 13424. Turning to page 643 in the July 1976 ORER, we find it’s an LO – a covered hopper – with a trough loading hatch the full length of the car, part of the number series 13400-13424, 54’6” long and 10’ tall on the inside, and 58’4” long outside. The maximum capacity is 4740 cubic feet or 199,000 pounds. The outside length given is “length between pulling faces of couplers in normal positions (fractions rounded up to next even inch).”

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— Joe Brugger

**Q: What is AAR car classification and how does it work?**

**A:** The AAR car classification is a system of letters and numbers which denote the type and class of both freight and passenger cars by the Association of American Railroads. An excellent source of information on AAR car types can be found on the Operations Special Interest Group (OpSIG website at [opsig.org/pdf/AARFreightCarCodes.pdf](http://opsig.org/pdf/AARFreightCarCodes.pdf).

In the 1970’s, the AAR revised the code from two- or three-letter codes

to include numbers in order to better classify cars in its Universal Machine Language Equipment Roster (UMLER).

Modern codes can be found on the BNSF Railroad’s website at [www.bnsf.com/EquipmentCharacteristics/js/ec/ECCarTypePage.html](http://www.bnsf.com/EquipmentCharacteristics/js/ec/ECCarTypePage.html). Note that the X type (boxcar) is no longer used and passenger cars are now in Class M!

With this information freight agents can request specific cars from yards for the specific need of the local shippers and local agents are not required to make a physical inspection of a car to determine if it will meet the requirements of a local outbound shipper.

— Jim Duncan

**Q: My small switcher loco keeps stalling in my yard, but all my other locos work fine. What could be causing my problem?**

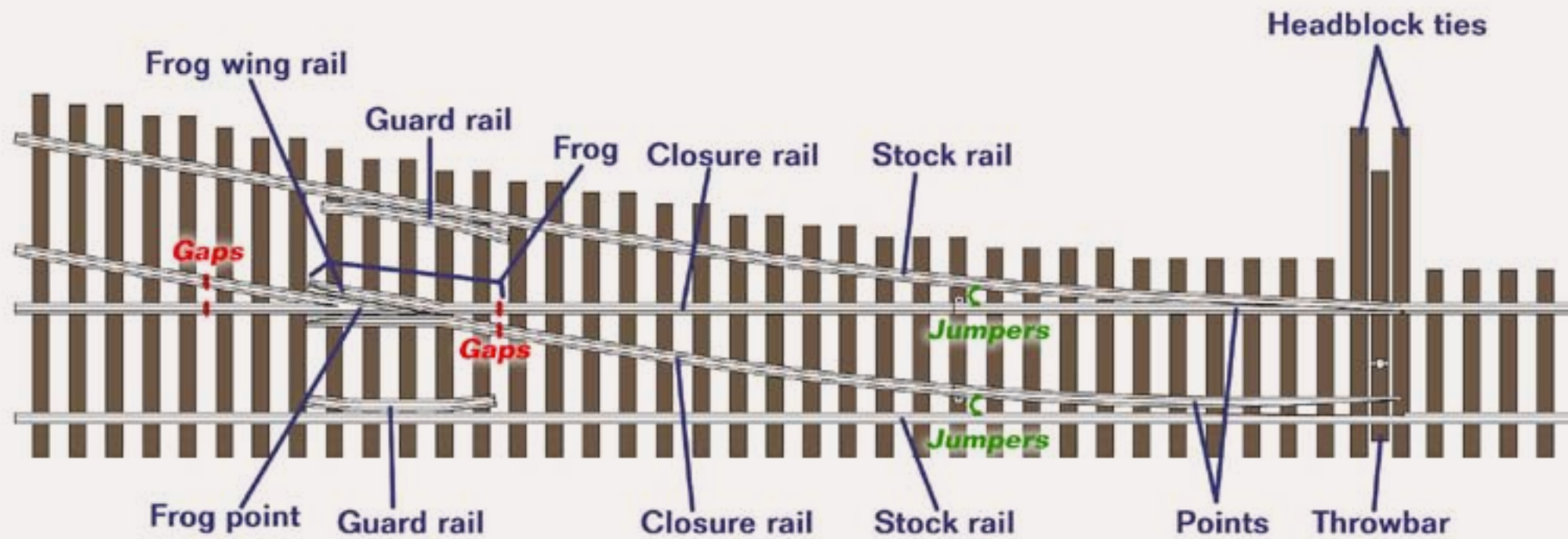
**A:** Short wheelbase locomotives can stall on the frog of a switch which is not powered, as well as stop running on short stretches of dirty track.

Because of the loco’s shorter wheelbase, its lighter weight, and less coasting effect from the motor’s flywheel (less mass because of smaller hood space), small engines can more easily lose contact and run more erratically.

Yard trackage may become neglected when cleaning rails since those tracks



# Model Railroad Turnout terminology



**Figure 3: Model railroad turnouts typically have rail gaps at both ends of the turnout frog to isolate it electrically and prevent a short where the rails cross. A recommended practice is to add small jumper wires between the stock rails and the points to ensure they get power.**

may be occupied by standing cuts of cars. Remember to clean all your yard tracks and to take special care with the switches. This includes cleaning out flangeways and polishing the point rails along where they make contact with the stock rail.

I would encourage you to (carefully) solder feeder wires or jumpers from the stock rails of your switches to the heel of the point rails so electrical continuity doesn't rely solely on the point rails making contact with the stock rails.

You can also minimize the frog-stalling problem by wiring the frogs of your

yard switches for power-routing. The frog must be isolated with gaps, otherwise a short circuit would occur where the rails cross at the frog.

You can select the proper power polarity of the frog a number of ways:

- Use the auxiliary contacts on your switch machine or switch motor of choice;
- Use a slide switch in conjunction with a manual throw rod;
- If you're using DCC, then you can use a frog-juicer from TAM Valley Depot or Fast Tracks (both MRH Sponsors).

- The Blue Point manual switch throw includes contacts for routing power, as does the Fast Tracks Bullfrog and most of popular switch motors (Tortoise, Switchcraft, and so on).

I've found the extra effort to do the "frog fix" to be worth it – resulting in much smoother operation of my yard goats! — *Jim Duncan*

**Q: What's the right number of feeders for my track? I don't like soldering so I want to do only the feeders I really need and no more.**

**A:** This is a tough question and you may not like my answer, unfortunately. If you're using standard DC for control

I've found you can get by with fewer feeders, maybe as little as a single pair of feeders to your track on a very small layout with only a couple of turnouts.

With DCC, however, you need plenty of feeders! The DCC control signal can degrade to the point you can lose control of your locomotives as they get farther away from track feeders.

It's best to get over it: if you want reliable operation of your equipment on a DCC layout, I recommend you feed every 3 foot rail section. You also want feeders on all branches of a turnout, as well as jumpers between the stock and point rails to ensure that the DCC signal and the track current gets to your locos (see my comments in the answer to the loco-stalling question, previously).

I drop feeders at most rail joints on my railroad. I don't want to rely on rail joiners to carry the track current and signal. At first, joiners will work but over time they will oxidize and stop conducting.

My solution is to solder my feeder wires to the bottom of the rail joiner and solder the joint as well as the connection at the same time. I have also found that #22 gauge solid copper such as found in 6- and 8- conductor telephone cabling make good feeders if the length is 18" or less.

In addition, #22 wire is small enough to be slid inside the rail joiner and soldered, solving both problems at once: soldering of feeders and rail joints!



Soldering a rail joint helps keep the rail joint straight and avoids kinks.

*(However, you should leave every other rail joint loose to allow for track expansion: just make sure one end of the rail section has a soldered joint, and leave the other end free to move by leaving at least a business-card's thickness between the rail ends – ed.)*

My practice on my railroad is to drop the feeders at rail joints without soldering to test things first. When I am absolutely certain that the track arrangement is good for the long haul, then I'll come back and solder the joint.

It's much easier to change things while

you're in the initial stages of trial operations when these feeder rail joints aren't yet soldered.

If you plan to operate exclusively by yourself by running one or two locomotives at a time, you can probably get by with less but DCC can be fickle!

If you've gone to great lengths to build a nice model railroad with great scenery, there's nothing that will ruin your dream quicker than having a visually beautiful railroad where the trains run in spurts, stammer and stall frequently, and behave like poorly maintained toys.

Where's the fun in that? — *Jim Duncan*



## TIPS

### Guidelines on proper paint masking:

The following information is from the automotive paint world. It should apply to modeling as well, since physics are physics.

Tape should be removed either immediately after applying paint while the paint film is still almost liquid - OR - after the paint is fully

dried. The worst time to remove tape is when the paint is "somewhat dry". If the tape is removed when the paint is semi-liquid then there is no tearing of the paint film.

If the tape is removed after the paint is fully dried then the paint film is torn by the tape during removal however the paint has developed enough adhesion to the painted object so as to be able to tolerate this. In between these two extremes is where edge sharpness problem during tape removal becomes a problem.

Bleed under tape is caused by insufficient pressure to the tape during

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Figure 4: Green 3M fine-line tape.

application. If the surface is rough then even with adequate pressure there may still be gaps. Using tape for a paint edge works best on smooth surfaces.

Green semi-transparent 3M fine line tape is often preferred since the tape changes from opaque to semi-see through when sufficient pressure has been applied to the PSA backing. The tape also has an extremely well cut sharp edge.

Vinyl tapes (painters blue) make curves better but there is no means of knowing when every bit of the tape is 100% in contact with the protected object leading to unexpected bleed.

*(This tip comes from a post made on the MRH web site. If you're not a regular reader of the MRH web site posts, you're missing out on lots of great tips like this one! - ed.)*

— A. Bailey (aka. LKandO on MRH site)

#### Miniature vacuum to clean up foam:

Not wanting to waste ground foam, I remembered our mini vacuum we use to clean computer keyboards. Not only does it recover all errant material, it collects the particles in a small reservoir, making it easy to save excess foam for reuse.

These vacs range in price from \$15 to \$30. Just use Google and you will find several to chose from. — R. Buchannan



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## Improving Bottle-Brush Trees

More realistic trees using paint and ground foam

by Charlie Comstock



I model the Pacific Northwest and that means lots and lots of conifer trees. There are two alternatives for trees – buy ‘em or make ‘em. Buying good quality trees can be an expensive proposition. Scratch building a forest is time consuming. What’s a modeler to do?

### Upgrading Trees

I noticed that bottle-brush trees are relatively inexpensive. They’re available from Heki and a number of other sources. However, between the plastic shine, plastic ‘branches’, and their near perfect uniformity, they look rather unrealistic straight from the

box. Here’s a quick way to fix them up that can turn out dozens of nice looking trees in an evening.

I used the stuff in figure 2: Heki 2 1/2” and 3 1/2” pine tree assortment #309, flat black spray paint, and Woodland Scenics coarse Conifer Green ground foam.

I start off by randomly snipping away some of the ‘branches’ using tin-snips, so the trees won’t look identical (figure 3). This step is optional.

I didn’t want to hold the trees with my fingers while painting and sprinkling ground foam on them, so I soldered an alligator clip to the end of a piece of 12 gauge wire I salvaged from a left-over piece of house wiring romex. The clip holds the tree nicely (figure 4).

I slowly spin the tree and spray paint it flat black. The black under coat makes the trees realistically dark. Unless you really like obnoxious paint fumes this







Figure 6

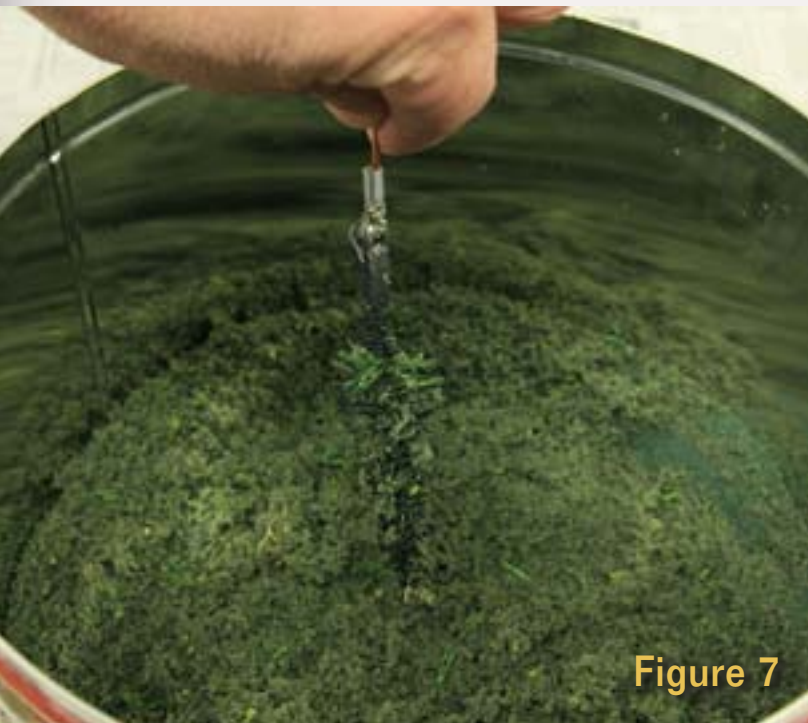


Figure 7



Figure 8

is a good job to do outdoors (figures 5a and 5b). The 12 gauge wire handle is a great way to hold and spin the tree.

I have a large tin can left over from an overdose of Christmas cookies. I keep my ground foam in it to avoid messy spillage (well, mostly avoid). I hold the tree over the can and liberally sprinkle on ground foam while the black paint is still wet and sticky. My primary ground foam is Woodland Scenics coarse Conifer Green but some other flavors of foam have also made their way into the can (figure 6).

Next I hold the newly 'foamed' tree upside down within the large can and give it a vigorous spin to sluff off any loosely attached ground foam (figure 7).

The tree (figure 8) is ready-to-plant. Well perhaps not quite. There's a 'stem' that projects down  $\frac{1}{8}$ " that I usually snip off. I plant the trees using white glue (on flat terrain) or hot glue (on steep terrain). If I'm planting in soft ground (pink foam), I don't snip off the stem, I just poke it into the ground.

Figure 9 shows trees in their before and after states. What a difference!



Figure 9



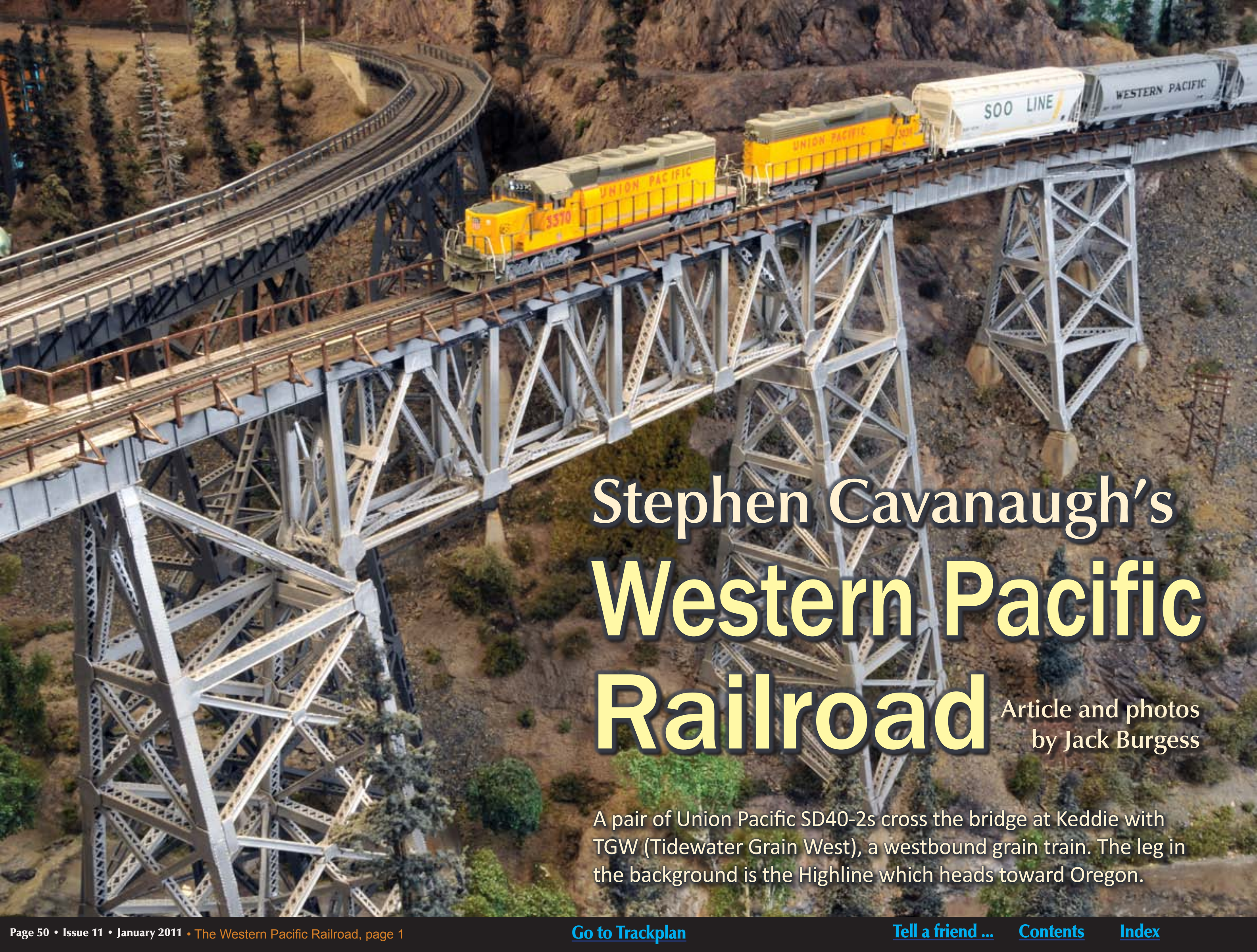
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# Stephen Cavanaugh's Western Pacific Railroad

Article and photos  
by Jack Burgess

A pair of Union Pacific SD40-2s cross the bridge at Keddie with TGW (Tidewater Grain West), a westbound grain train. The leg in the background is the Highline which heads toward Oregon.



Stephen Cavanaugh's Western Pacific Railroad will be one of the many layouts available to attendees of X2011 West, the 2011 NMRA National Convention, in Sacramento July 3 to 9, 2011. Check out [www.x2011west.org](http://www.x2011west.org) for more information.



**Reader Feedback**  
(click here)

continues up to a reversing loop north of the town of Crescent Mills. So, I'm basically modeling the WP from the foothills up through the Feather River Canyon and on up to the desert together with the Highline.

**Jack:** So the main line came up the Feather River from Oroville to the Keddie Wye. Where did these two other legs go on the prototype?

**Stephen:** The Highline went north to Oregon while the other leg went east to Portola and eventually on to Salt Lake City, Utah to interchange with the

Denver and Rio Grande Western and Union Pacific railroads.

**Jack:** So there is staging at the end of each of the three legs connecting at the Keddie Wye?

**Stephen:** There is currently a stub-end staging yard under construction just beyond Oroville, a small staging yard in the reversing loop on the Highline, and staging yard and a reversing loop in the desert east of Reno Junction.

**Jack:** You told me that this is your third WP layout. When were the others built?

**Stephen:** My first layout was built in 1980 and torn down around 1982. The second was started in 1983 and appeared in *Model Railroader* magazine in 1994. This layout was started in about 1997.

## Mushroom Design

**Jack:** You mentioned your mushroom design. Can you explain what that is?

**Figure 2: The westbound TGW rolls past the distinctive railroad offices and twin water tanks at Keddie.**

Stephen Cavanaugh has been model railroading for 40 years or so and is now building his third layout. All have been based on the Western Pacific Railroad. He has been able to fill his layout space with a lot of mainline track without resorting to a non-sincere or spaghetti bowl track plan through some very impressive track planning and engineering.

**Jack:** Stephen, tell me about your layout.

**Stephen:** I'm modeling the Western Pacific Railroad in a 22 by 32-foot, three-car garage. The layout uses a multi-deck-mushroom design which provides me with 320 feet of main line and an additional 108 or so feet on the Highline. It runs from Oroville in the Sacramento Valley through the Keddie Wye and up to Portola. Just beyond Portola is a reversing loop in the eastern desert. From Keddie, the Highline



Figure 2





Figure 3

**Stephen:** A mushroom design is something that Joe Fugate, publisher of Model Railroad Hobbyist, and a few others have done. I know of only 4 or 5 mushroom design layouts and they are pretty rare. Basically, it is a design where you have one scene on a lower level and another scene above which

cantilevers over it but is viewed from the opposite direction. The two scenes thus cannot be viewed from the same location. On a traditional multideck shelf layout, there might be two levels but both face the viewer.

**Jack:** But you do have sections where two adjacent levels face the viewer?

**Stephen:** Yes, but that was just done to gain extra mainline length so mine might be called a “hybrid” mushroom design. In essence, I built another level on top of a mushroom design to get more running room.

**Figure 3:** The caboose of an east-bound train of empty grain cars passes the signals at Quincy Junction. Waiting on the interchange track is Quincy Railroad No. 4, an Alco S1 switcher.



**Jack:** What do you see as the advantages and disadvantages of a mushroom design?

**Stephen:** Well, you certainly get more running room or linear mainline length to the railroad. But you add more complexity and a lot more carpentry.

**Jack:** Since this is your second mushroom design layout, you obviously think it is worth the extra design and construction complexities.

**Stephen:** Yes, it also adds a lot of cost for the decking and so forth. Interestingly, after I built my first mushroom design but before starting over on

this one, I was able to look at it with a clean slate of sorts and ask myself, "What would you do differently?" Basically, this design is very similar to my previous layout but I learned some things on the first one as I built it which were incorporated into this layout.

**Jack:** Did any of your friends have an influence on your layout design?

**Stephen:** Obviously, you get bits and pieces from different people but probably the one person who had the largest influence was Jim Providenza. He continually said "Longer sidings, longer sidings!" He kept stressing to include



Figure 4

**Figure 4: Quincy Railroad No. 4 switches some woodchip cars at the Sierra Pacific Industries mill at Quincy. This mill trackage is reached by a short 5½% downhill grade (the same as the prototype) from Quincy Junction.**



Figure 5

**Figure 5: A westbound work train passes the siding at Sloat.**

longer sidings for operational purposes, even at the expense of curved turnouts, which one should normally avoid.

**Jack:** Did you take his advice?

**Stephen:** Of course! I tried to. Obviously, you want as much input as you can in layout design and I tried to do that as much as possible but, like most layouts, there are trade-offs for what you can do.

**Jack:** Did you completely design everything before you started or did you just have a concept and develop things as you went along?

**Stephen:** Well, I had the benefit of knowing what worked and what didn't work from my second layout which was also a mushroom design. So, I could just expand from that. Basically, the layout was designed around Keddie

to some extent. But I quickly learned that if you built Keddie accurately, with all of the curves bending the right way and the same length as the prototype, with the bridges full-size, and with the complete Keddie yard, it would take up pretty much the entire three-car garage. So I compressed that a bit in order to get more than just the Keddie Wye into the layout. I wanted some of the canyon in too, so that quickly lead to a mushroom design in order to get more running room.

**Jack:** How is your layout lit since you have so many levels?

**Stephen:** One of the trade-offs of a mushroom design is that you need to light it pretty well and incorporate lighting into the design. I'm using 120v incandescent lights with dimmers and with alternating blue and white bulbs.



They are built into the fascia above the scene you are lighting. These bulbs are all installed in porcelain bases for safety reasons since they put out a lot of heat. Basically, I have one 25 watt bulb every 24" if the scene is 24" deep and 24" high. If it is deeper or higher, I might use a 40 watt bulb instead to adjust the intensity of the lighting. The dimmers are 1000 watt for the incandescent bulbs and 600 watt for the blue bulbs which are used to simulate nighttime lighting.

**Jack:** What do you do about the heat buildup from the incandescent lights?

**Stephen:** I've installed an air conditioner system to mitigate that problem. I like incandescent lights since you can dim them – compact fluorescent light bulbs don't dim well. But heat is a concern.

**Jack:** Have you had help building your layout or have you done everything yourself?

**Stephen:** The vast majority was done by myself, roughly 95%.

**Jack:** Many modelers say that a layout is never finished. What major projects do you still have to finish?

**Stephen:** I will be installing a signaling system and I need to finish the staging yard at West Oroville. I also have more buildings to complete. I'll have plenty to do once I retire!

**Jack:** If you had a chance to go back and do things differently now, is there anything you would change?

**Stephen:** While I don't think that I'll have a chance to start over now, we all have our dream layouts. For my dream layout, I would prefer to have a layout space which was taller. One of the trade-offs of a mushroom design is that the layout should be raised high

enough so that you can walk under portions of it. By raising it high, you are of course nearer to the ceiling. That

*Continued on page 57 ...*

**Figure 6:** A westbound work train passes Quincy Junction. A pair of bulkhead flat cars are on the interchange track. Because this scene is directly above Serpentine Canyon, which is open to view from the opposite side of the mushroom, the control panel is on a long tether that allows it to be removed to access it for wiring and repairs.



Figure 6



Stephen Cavanaugh's

# Western Pacific Railroad

## Layout Statistics

Era: 1970s

Locale: Western Pacific's Feather River Canyon route

Style: Prototype

Configuration: Double-decked mushroom

Location: Garage

Scale: HO

Trackplan: Point to (staging) loop

Size: 30' x 22'

Min. Radius: 30"

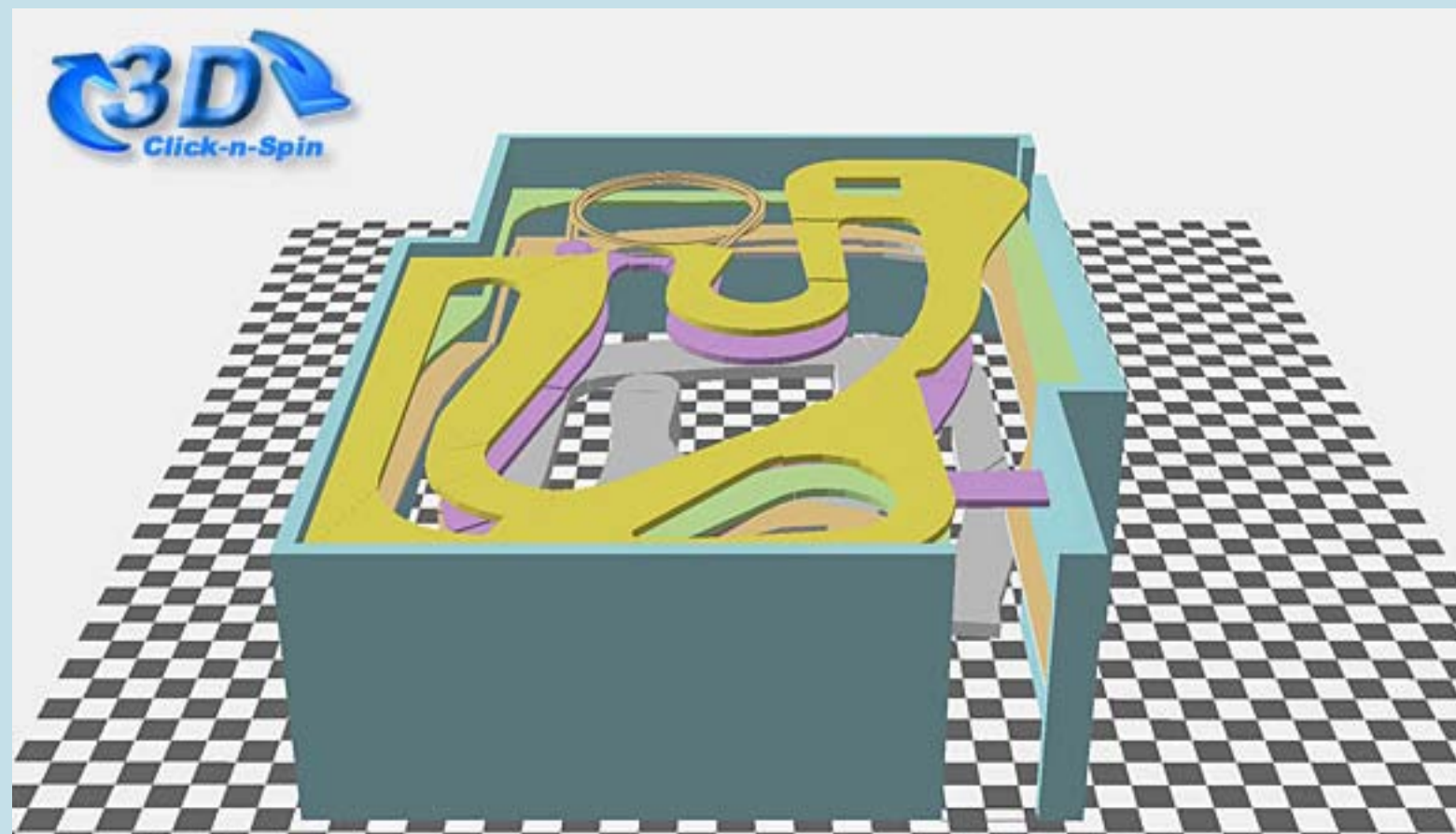
Track: Flex

Turnouts: #4, #5, #6, and #8

Control: DCC - NCE radio

Mushroom layouts are a lot more complicated than a single deck or a traditional multi-deck layout. Stephen's WP layout is a combination of mushroom and multi-deck design, making it difficult to understand. Check out the 3D Click n' Spin computer model of the layout's decks to help get a feel for it.

While squeezing about 15 lbs of layout into his 10 lb garage Stephen made an interesting innovation in the stacking of decks. Note how the photo of Serpentine on the lower level reveals a backdrop sloping forward from back to front. The upper side of this back drop supports the hills behind the tracks at Quincy Jct. on the middle level.



Directly above Serpentine Canyon's sloping backdrop on the left, the hills behind Quincy Junction on the middle level. Note the elevation changes between Grizzly Creek, Serpentine, and Moccasin.

**S**tephen Cavanaugh lives in Tracy, California and works as an alarms electrician for the Lawrence Livermore Lab.

Stephen has been a fan of the Western Pacific since his early years at Chico State University where he often had the chance to visit the nearby Feather River Canyon. Stephen has always had an interest in railroads, particularly the Western Pacific Railroad.



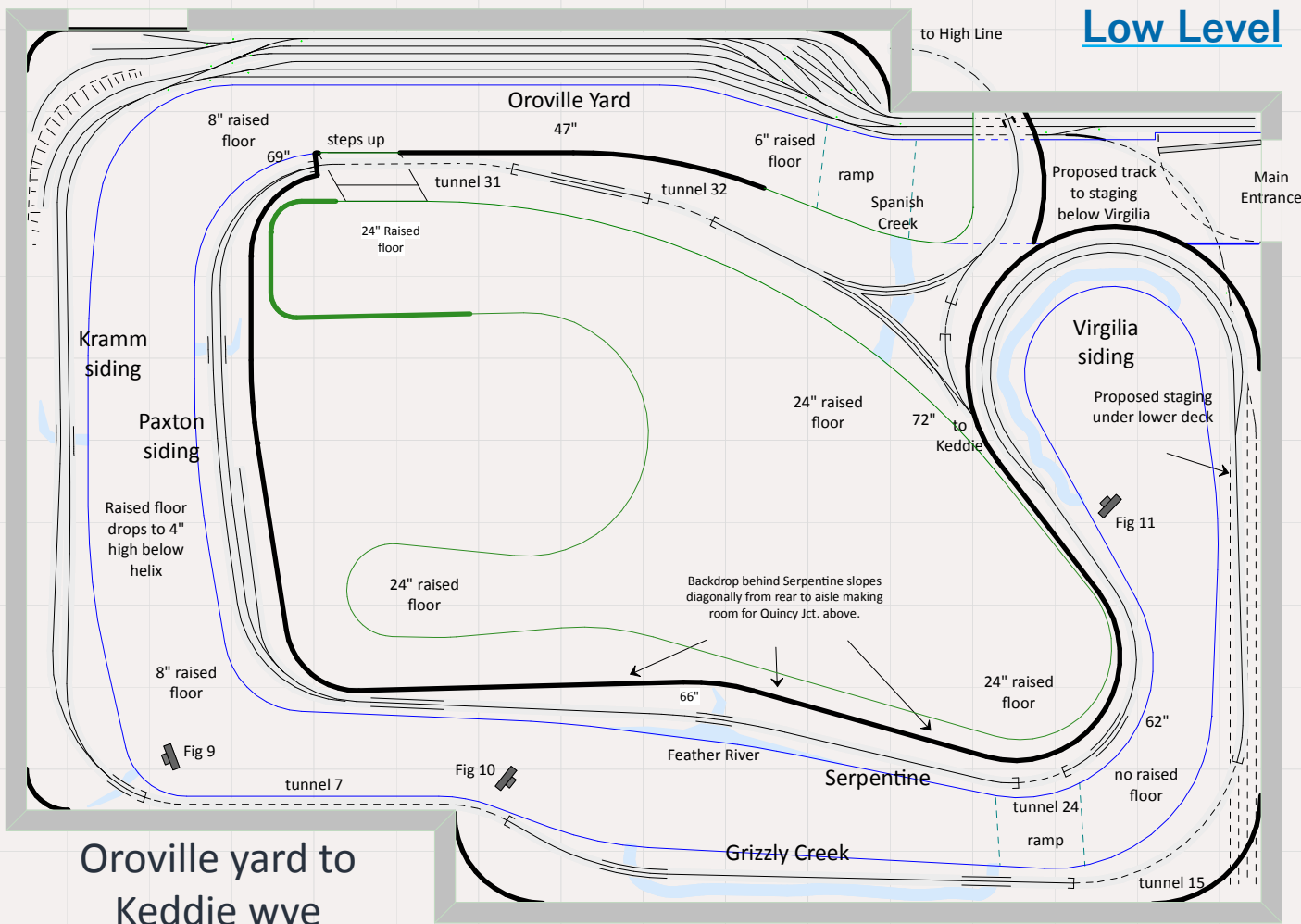
He has two grown children, a daughter, Stephanie, and a son, Scott. This is his third Western Pacific layout.





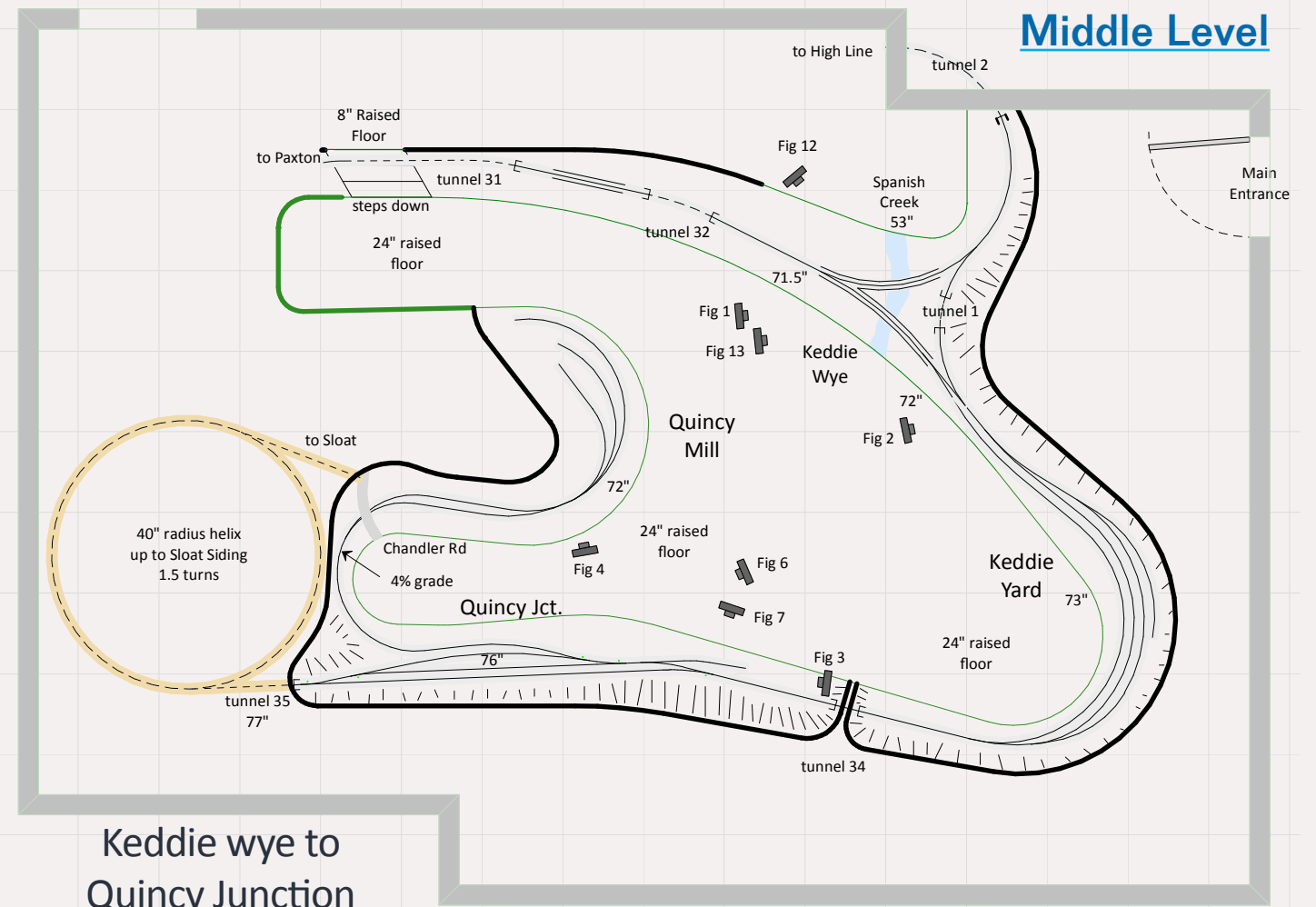
Trackplans for each of four levels – they are zoomable or 'click' their title for a .pdf file of that level

**Low Level**



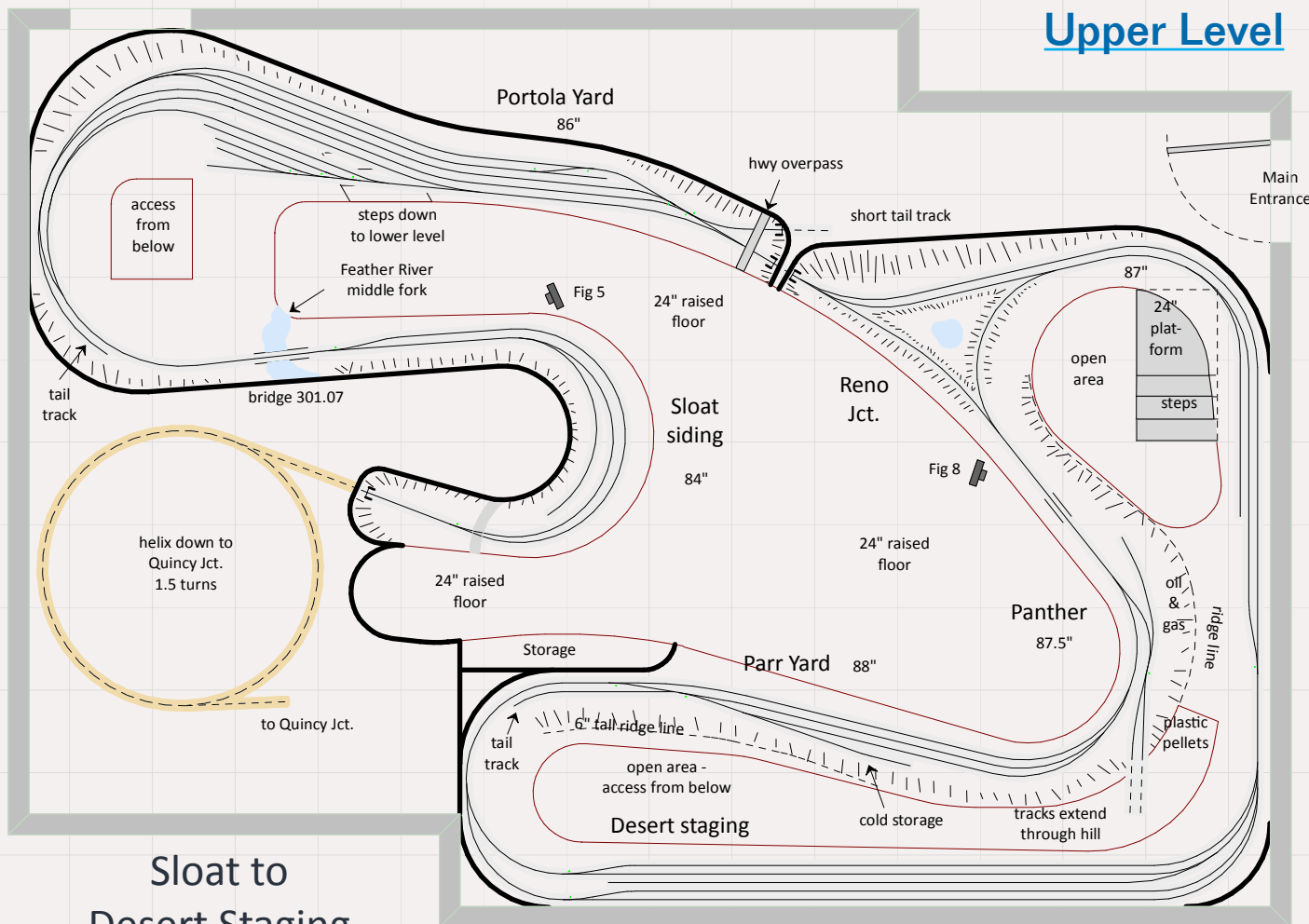
Oroville yard to Keddie wye

**Middle Level**



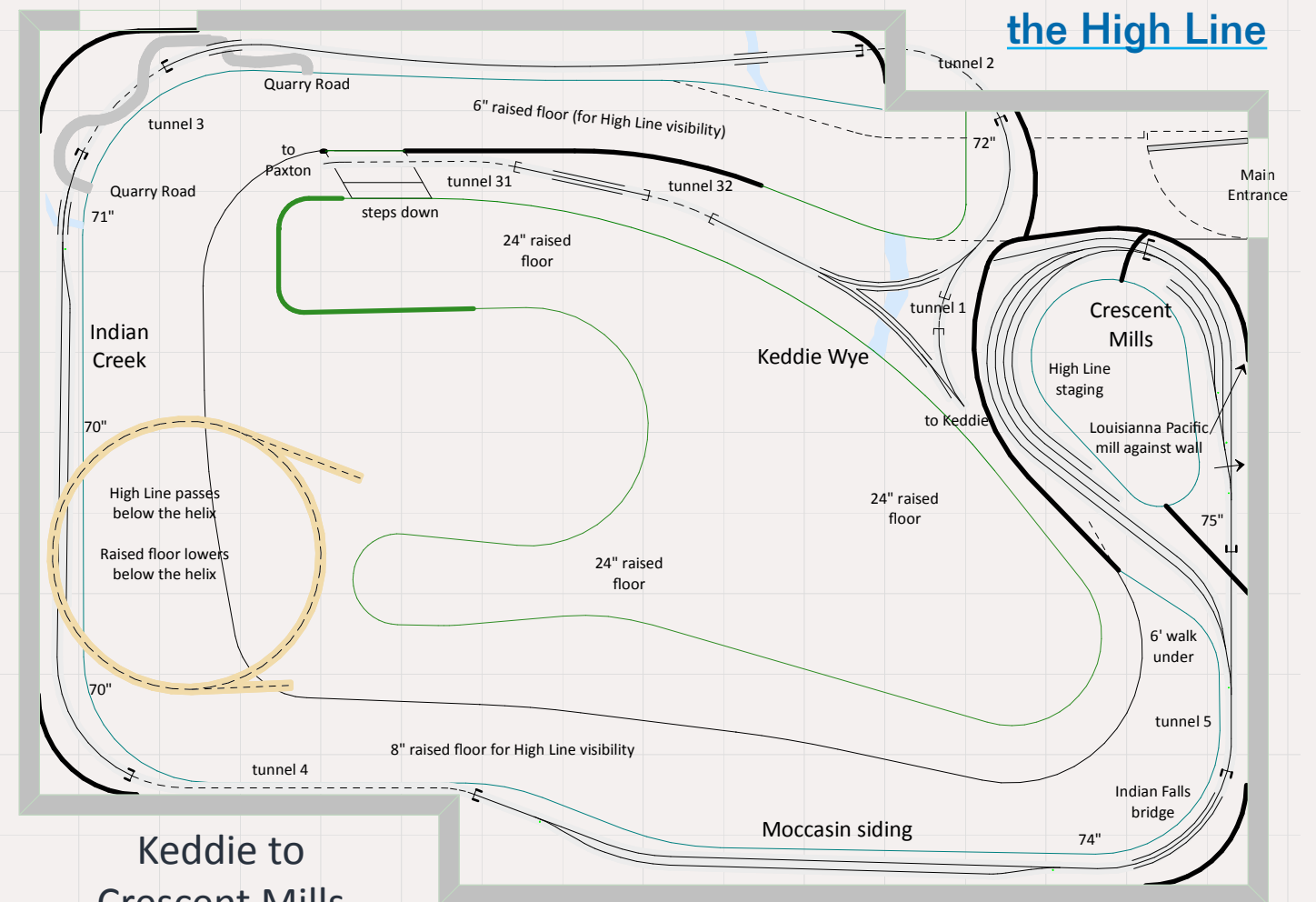
Keddie wye to Quincy Junction

**Upper Level**



Sloat to Desert Staging

**the High Line**



Keddie to Crescent Mills

plans not exact scale



... Continued from page 54

tends to reduce the amount of vertical height you have between levels. If I had more vertical space, I would use that to increase the space between the levels, especially in the lower Feather River Canyon areas in order to show the depth of the canyon itself. That would allow more vertical height for the mountains.

**Jack:** So what are your track elevations from the floor?

**Stephen:** The lowest level at Oroville is about 47" above the floor and track climbs up to the highest point at the desert which is about 40" above that or about 7½ feet above the floor.

**Jack:** So that requires a raised floor in areas so that you can see and operate the layout?

**Stephen:** Yes and no. In places, I raised the elevation of the layout so that

**Figure 7: The lack of access under a deck due to the mushroom design and the fact that another scene might be under this level can make locating switch machines difficult. Thus, the switch machine for the turnout at Quincy Junction is surface-mounted behind the retaining wall. Access is via a lift-out section of scenery; the pine tree was built to form a handle to remove the lift-out.**



Figure 7





Figure 8

**Figure 8: A solitary UP business car trails a Western Pacific GP20 in the old silver and orange paint scheme as they cross an arroyo and head down the Reno branch. While Steve knows that this business car and diesel were never on the railroad at the same time, they still make a striking train.**

people could walk under portions of it, such as the lower level Keddie yard. But in other places, I raised the floor using decks so that visitors and operators could see it at a reasonable level. For example, in the area of Reno Junction, you are standing on a deck which is 24" high. That puts the upper level around chin height.

## Modeling the Western Pacific

**Jack:** So, what attracted you to the Western Pacific Railroad?

**Stephen:** I pretty much grew up in Livermore, California and the WP ran through Livermore. But also, going to school in Chico State, we used to go up to the Feather River Canyon a lot and I always liked that area.

**Jack:** Are you modeling a particular era or year?

**Stephen:** Yes. Basically, it is set for the spring of 1981, mainly because of the orange-nose paint scheme on the WP diesels at the time. I choose spring to have the contrast between the grass dying out and turning yellow in the foothills while the grass in the upper canyon would still be green.



**Jack:** Was it just the mixture of paint schemes that you liked which caused you to pick that year?

**Stephen:** Yes, the WP had three paint schemes including the orange and silver which was used earlier, followed by the green with orange stripes on the nose which they had the last few years before they merged which is the era that I'm modeling. That was followed by the green with orange nose scheme with the block WP initials on it. So both green paint schemes are correct.

**Jack:** I noticed that you have a lot of UP and BN engines. Are those all pool locomotives?

**Stephen:** Yes, both the UP and BN ran through pool units on the WP. In the early 1980s toward the end of the WP, UP power was commonplace as the merger approached. During 1981, BN power would be coming down the Highline while the UP power was coming west from Utah.

## Scenery

**Jack:** What is your main interest in the hobby?

**Stephen:** What do I like doing the most? Scenery.

**Jack:** Your rockwork is impressive and also varies from place to place. Why is that?

**Stephen:** The Feather River Canyon is, as far as scenery goes, pretty spectacular. You have a lot of variety in the types of rocks in the canyon includ-

ing granite, decomposing granite, and loose shale.

**Jack:** How did you do your rock castings?

**Stephen:** This work was spread over nearly a dozen years with different techniques. The original rock castings were done with crumpled up heavy-duty aluminum foil. Then I switched to Bragdon Enterprises rock molds ([www.bragdonent.com](http://www.bragdonent.com)) which are very good. Originally, I'd put the molds on wet.

Later, I'd cast them, let them dry, remove them from the mold and then I'd apply them to the hardshell in a checkerboard pattern using Liquid Nails or glue. One advantage of that method is that you can also stain or paint them while they are flat and also glue loose rock to the crevices in the castings and glue it in place while the casting is still flat.

**Jack:** Do you use stains or paint on the finished rock castings?

**Figure 9:** An eastbound grain train with Burlington Northern pool power pulls out of the siding at Kramm. Kramm is in the foothills east of Oroville yard.

**Stephen:** I've used both paints and dyes and also hair spray.

**Jack:** Hair spray?

**Stephen:** The plaster is pretty porous and will absorb whatever you put on it. After I'd stain or dye a rock casting



Figure 9





Figure 10

Figure 10: A pair of BN units, an SD40-2 and an Alco RS-11, head up the lower Feather River Canyon near Grizzly Creek.





Figure 11



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**Figure 11:** The same grain train continues east toward Keddie and is now passing the siding at Virgilia. It will take the Highline toward Oregon once it reaches the Keddie Wye.

a couple of times, I'd spray it with a coat of hair spray in a spackle pattern so that you have areas which are somewhat sealed by the hair spray and other areas which more porous. After the hair spray is dry, you then put on a second wash on the areas which weren't sealed by the hair spray which gives you a subtle shading effect.

**Jack:** The Keddie Wye bridge is obviously a signature element of modeling the WP in the Feather River Canyon. How did you build it?

**Stephen:** The towers of the main line bridge are made up from Central Valley bridge parts and are correct as far as the design of the prototype and the height of each leg of each tower. The Highline bridge towers are of a different type and were scratch built from styrene. The bridges themselves were built from Micro Engineering horizontal plate girders. Once complete, the bridge was installed and the scenery fitted around the bottoms of the towers.

*Continued on page 63 ...*





Figure 12

Figure 12: Looking down at the Keddie Wye bridge as a westbound work train waits for an Oregon-bound train on the Highline to clear.





Figure 13

... Continued from page 61

**Jack:** I notice that you are running an NCE DCC system. Have you thought about adding sound decoders to your diesels?

**Stephen:** I have a few engines with sound decoders but I think that with a multideck layout, the sound can be distracting, especially if a train is passing by you on another deck.

**Jack:** Thanks for having me over, Steve.

**Figure 13:** A matchup of detouring SP and UP locomotives are on the head end of a train headed north toward Oregon on the Highline bridge which is one leg of the Keddie Wye.

**Stephen:** You're welcome!



Stephen Cavanaugh's Western Pacific Railroad will be one of the many layouts available to attendees of X2011 West, the 2011 NMRA National Convention, in Sacramento, California from July 3 to 9, 2011.

Check out [www.x2011west.org](http://www.x2011west.org) for more information.







## Make Your Own Laser Leveler Getting Level Headed!

by Charlie Comstock

I'm cheap and when I was building the benchwork for the Bear Creek and South Jackson I wanted

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a convenient way of keeping the layout level (or at least close to it). I considered and rejected water levels – clear plastic tubing filled with water. Hard to use when building solo and there's the risk of a flood. I'd seen rotating laser levels used by contractors when installing drop ceilings but investigation showed them to cost upwards of several hundred dollars. I decided to try building a flat table on which I could place (and spin) a regular laser level.

I built a frame of 3/4" plywood and mounted a 12" square granite floor tile,

a flat surface, on top of three leveling screws. I put the assembly on a 2-drawer file cabinet of a convenient height and placed an inexpensive laser level on top of the granite tile and *carefully* adjusted the leveling screws until it was flat and level.

Now I turned the level to face all the walls in my train dungeon, making pencil marks on the walls at the 'standard height' from the floor. I drew a reference height line between the marks using a long straightedge. Then I measured up or down from the reference



Figure 1

Figure 1: My ultra-simple laser-level platform.

Figure 2: The bottom of the frame reveals a tripod base for stability.

Figure 3: A detailed view of the end of each "leg" shows a cork anti-skid foot.

Figure 4: I made leveling adjusters from 6x32 round head machine screws. Because the screw heads are too small for easy gripping I added a hex nut up against the screw base.

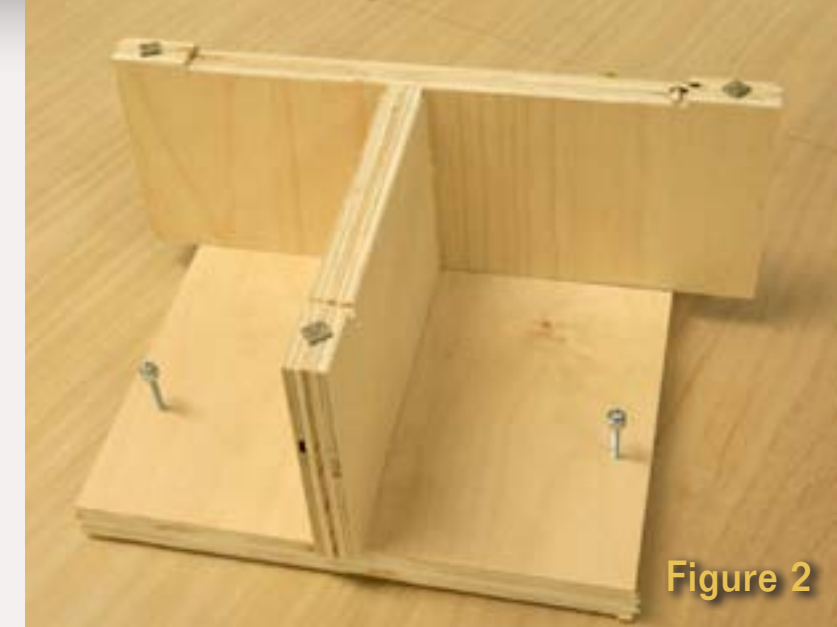


Figure 2

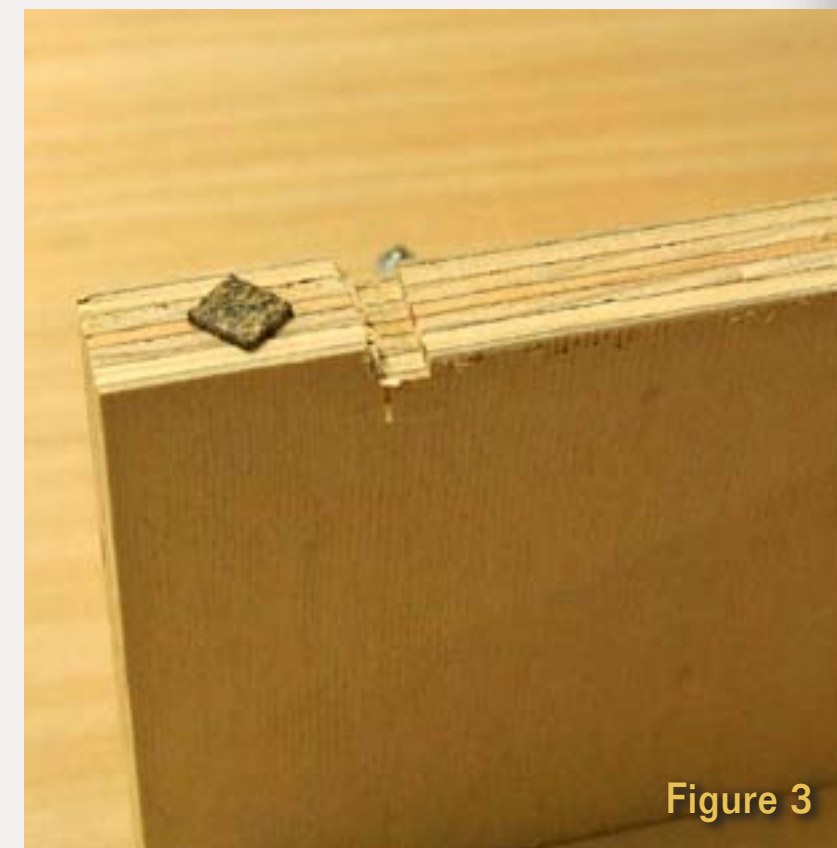


Figure 3

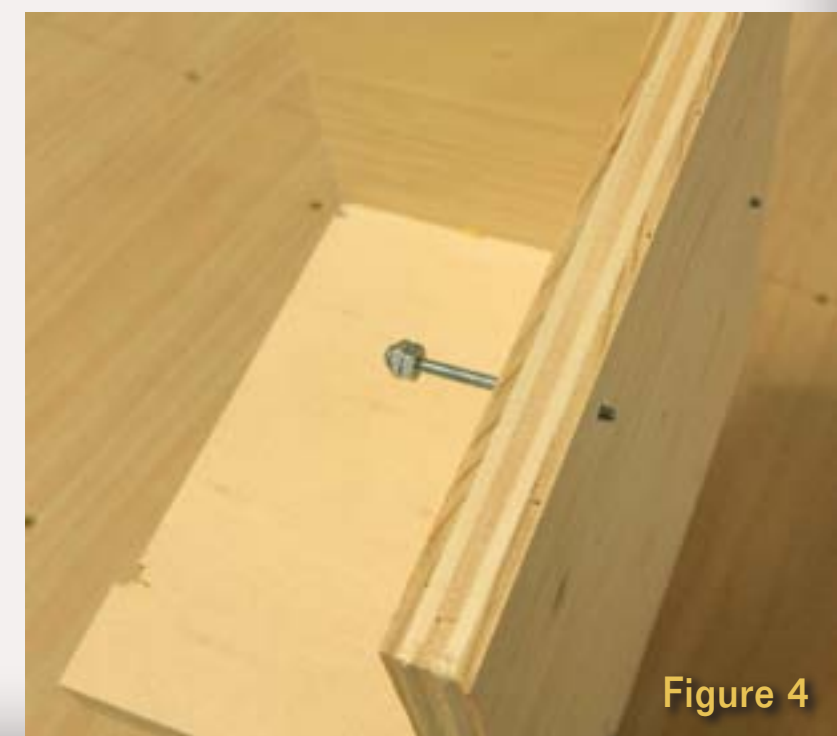


Figure 4





Figure 5



Figure 6a



Figure 6b

line to fix the height of the track rail-head and benchwork.

Does it provide as good a reference line as a pro rotary level? Probably not, but by being careful when picking a granite floor tile, to get one very close to flat and being patient adjusting the leveling screws, it worked well enough for me.

**Figure 5: Adjusting a leveling screw.** The granite tile sits on three of these (red arrows).

**Figures 6a, 6b:** I used the bubble in the top of my laser level to adjust the granite tile until it was flat and level. I moved the laser level to lots of positions to be sure it really was level. Take care with this step!

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# PlugIn Signals

– by Paul Mack  
Photos by the author

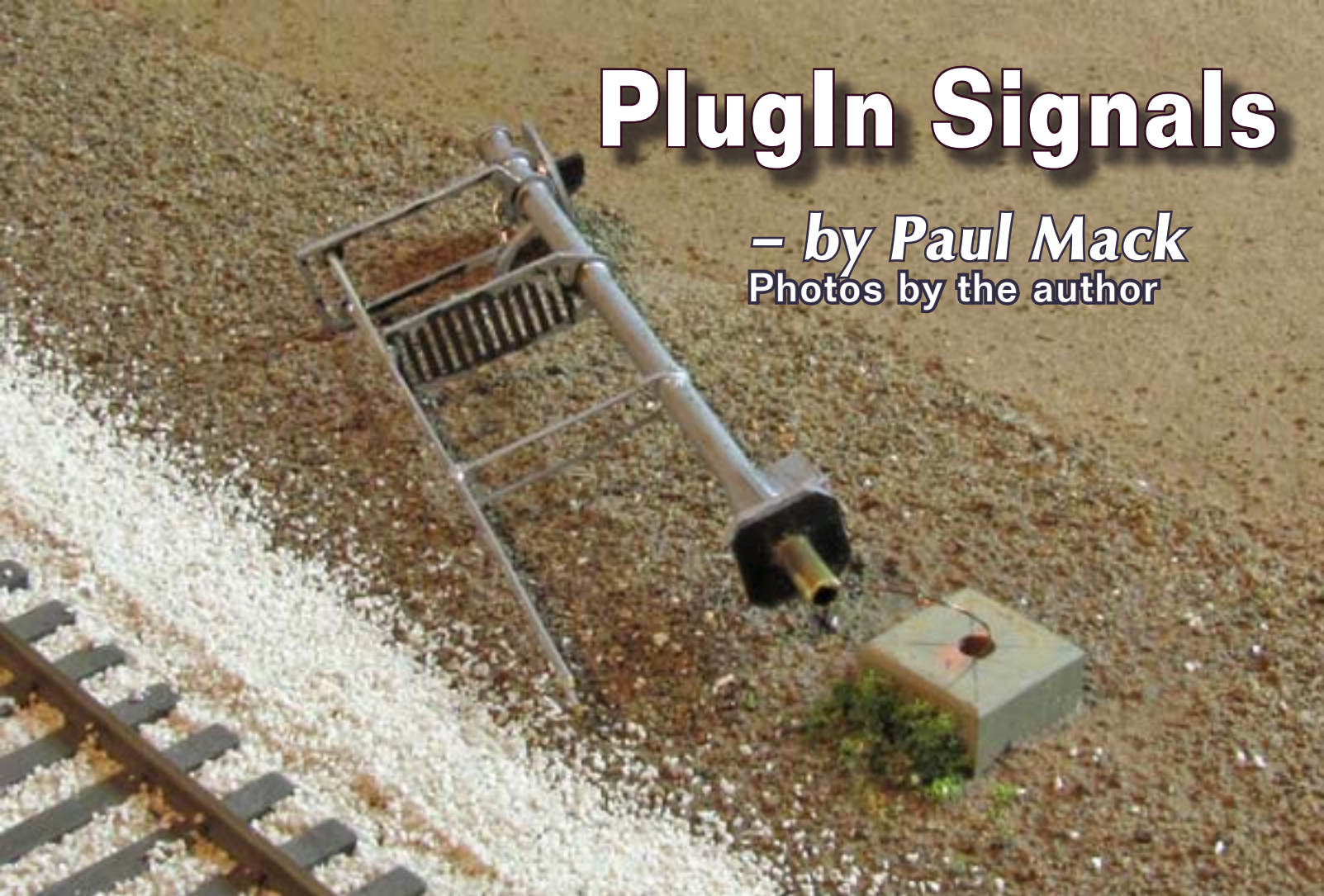


Figure 1: Signal is removed from its base showing the original mounting tube and wires going under the module.

## Maintainable signal mounts made plug and play easy!



While getting ready for a recent Free-mo event I realized I hadn't fixed some things that got broken at the last event, namely one of the signals on my module called Grommit. I didn't have time to fix it before the meet but had time to think about how to fix it. Grommit is a single to double

track transition module, which basically means it has a turnout on it. I use Oregon Rail Supply signals to indicate the turnout position. The main problem is they are somewhat fragile and get in the way when carrying the module to and from the car, in and out of the venue and when installing the fitter rails between the modules. Being the smart guy that I am, I realized if they weren't there when carting the module around they wouldn't get broken, so I came up with a way of making them removable.

I mount the signals on small blocks of RenShape, a high density polyurethane material often found in model

shops. It is similar to medium density fiberboard (MDF) but without the fibrous texture. It sands and takes paint very well without sealing. I cut blocks 0.4 inches square on the table saw and hand sand them. I cut the blocks into one inch lengths, paint them Floquil Concrete and glue them into holes in the polyurethane foam I use for a scenery base. ORS signals use a 3/32 brass tube for a mast. Previously when I installed the signal I drilled a hole for the mast and the wires came down the mast and were hardwired under the module.

This time I made a jig to replace the signal base's cast on bolt detail with .022" brass wire. The jig is

a small piece of .080" styrene with marks indicating the top, bottom and front. It has a 3/32" hole in it that fits over the ORS signal mast. The jig has .0225" holes where the bolts are. I put the base on the jig and drill from the side marked bottom, paying attention to which side is the front. I've modified my bases with a few extra pieces of styrene to look more like the signals the Northern Pacific used. If you use the stock bases, you can skip that part as they are non-directional. Next I put the jig on the RenShape signal block and drill the holes from the side marked top, again paying attention to which way the signal faces. I drilled these holes out to 1/16".

*Continued on page 68 ...*



Figure 2: The signal mast has another Oregon Rail Supply base mounted to it for drilling where the molded on bolts are. The extra base was also used to make the jig in the next photo.





Figure 3: The signal base in photo 02 could be used, but there is room on the jig to indicate front and back so it is easier to keep track of alignment.

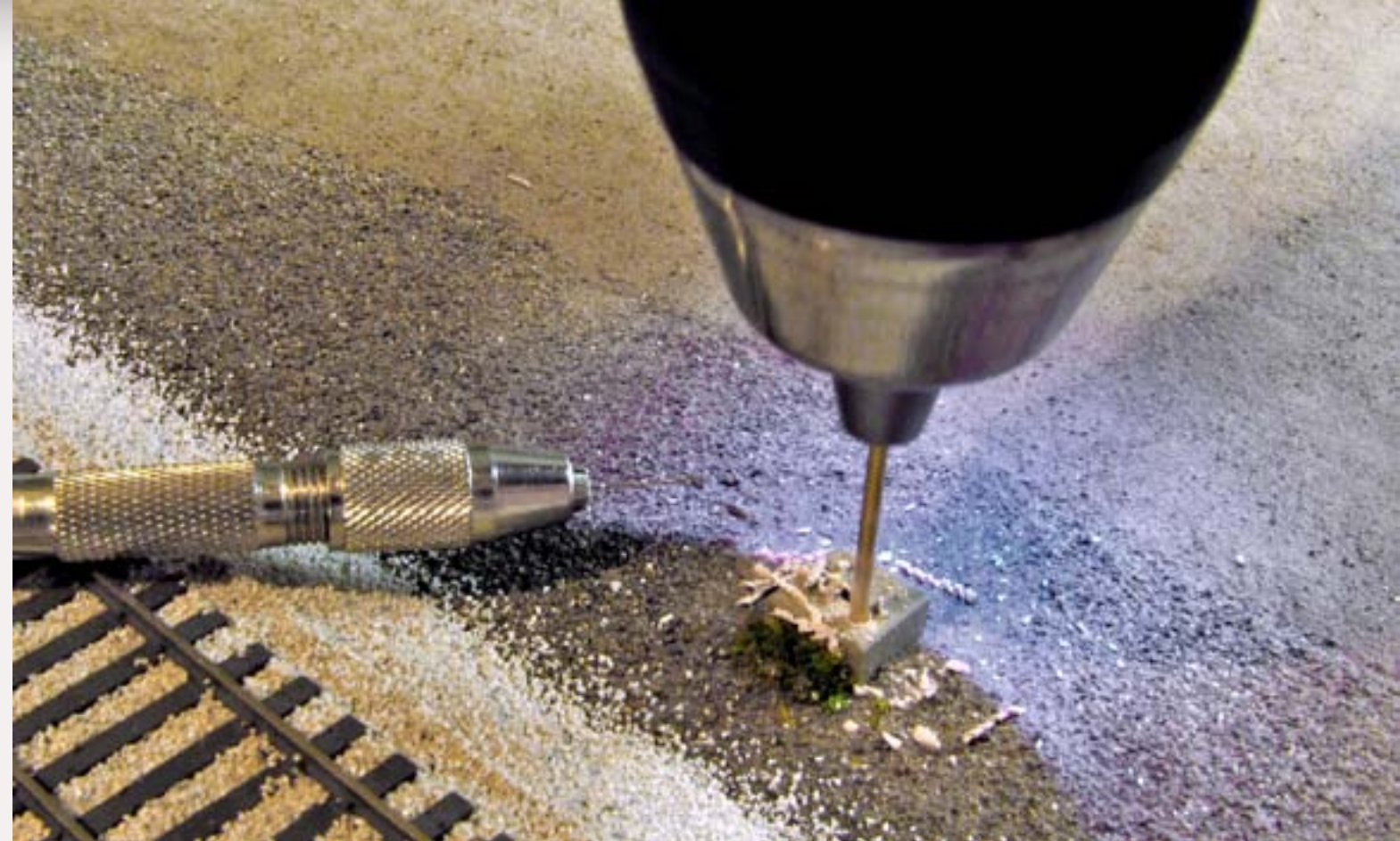


Figure 4: I used a 1/16 drill bit in a cordless drill to drill out the base for the header pins.



Figure 5: The header pin with a wire soldered onto it is ready to be installed.



Figure 6: The wire and pin are threaded into the hole in the base and the pin is pressed just past flush.



I had some header pins in my scrap box. They are similar to the sockets in DCC ready circuit boards found in some locomotives. I pushed them out of their holder and soldered a wire to the pointy end. I fed the wire down the hole in the RenShape and used a punch to push the top of the socket a little past flush so I could carve it out a little to make room for the solder on the wires in the next step.

The next step was the hardest, soldering the magnet wire to the brass pins that get mounted in the signal base. I left the wire long, scraped off the insulation where I wanted to solder it and wrapped it around the brass wire that was held in a third hand. After it was soldered, I trimmed off the extra magnet wire and extra brass wire. I carved a small groove in the signal base to

make room for the wire and solder then carefully pushed the brass wire into the base. Use a drill bit the same size as the wire you are using or it is hard to make it rigid. A drop of super glue secured everything in place and the signal is ready to be plugged in to the block.

I waited until the signal was installed before I wired up the base so I could make sure the signals showed the aspect I wanted relative to the turnout position. Someday I hope I can figure out how to also indicate occupancy since the signals show only the route for which the turnout is lined and display green in both directions but while I'm working on that the signals will remain intact as the module is moved around.



Figure 8: The signal installed and showing all clear.



Figure 7: The signal is ready to be installed. A groove was carved into the RenShape base to make room for the wire and solder on the pins in the signal base.



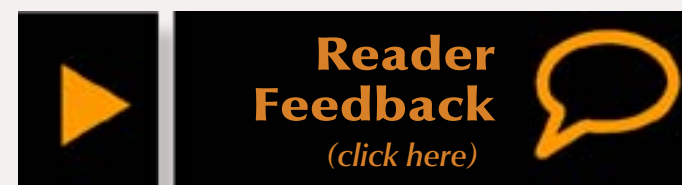
Figure 9: The header pins.



Paul Mack is a professional model maker currently working at a stop motion movie studio. He got his first model making job based on his model railroading experience which now totals 25 years.

He lives in western Oregon with his wife and two daughters who also enjoy watching trains both real and model.

He models the Burlington Northern in 1995. He doesn't currently have a layout but has built several Free-mo modules and enjoys taking them to meets.





# FUN WITH TALUS

By Rob Spangler

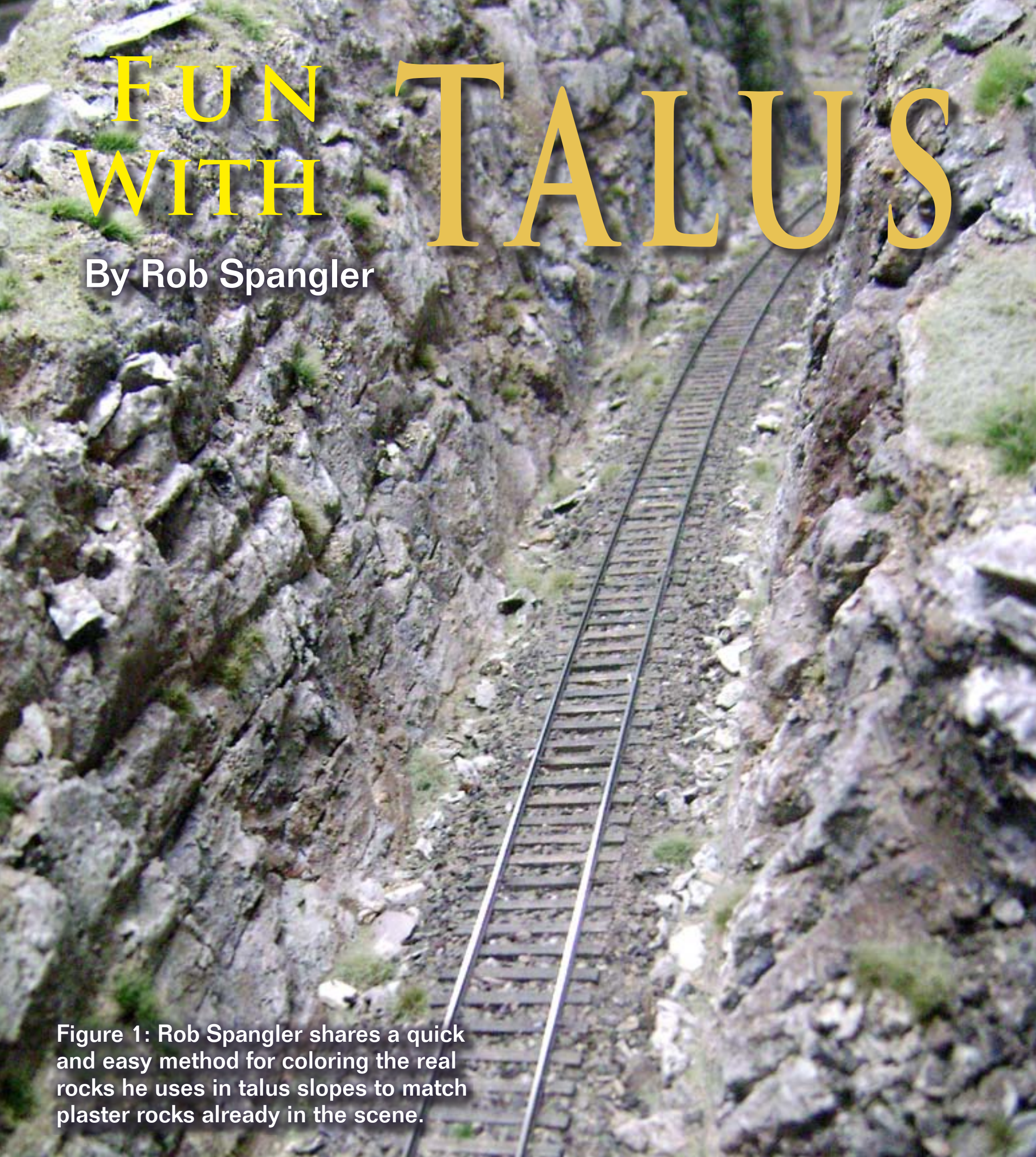


Figure 1: Rob Spangler shares a quick and easy method for coloring the real rocks he uses in talus slopes to match plaster rocks already in the scene.

 **Reader Feedback**  
*(click here)* 

## Tinting Real Rocks to Match Painted Plaster

**I** long ago became an enthusiastic user of natural scenery material – real dirt and rock – I started using them as model railroad ground cover. The benefit of such material is readily apparent – a texture unmatched by anything synthetic such as crushed plaster bits. All of my scenery modeling has focused on areas of the western United States where convincing talus slopes are a necessity – there’s not enough vegetation to hide the ground.

My biggest problem with natural rock is its color. It is difficult to match real rock to the paint and stain colors on the rest of a layout’s scenery, and usually it’s impractical to integrate large rocks into the modeled landscape to represent cliffs and big features. Also,

**Figure 2: Some talus that has just been glued around a finished plaster cliff. The discrepancy between the plaster and real rock (much darker) is readily apparent.**



Figure 2



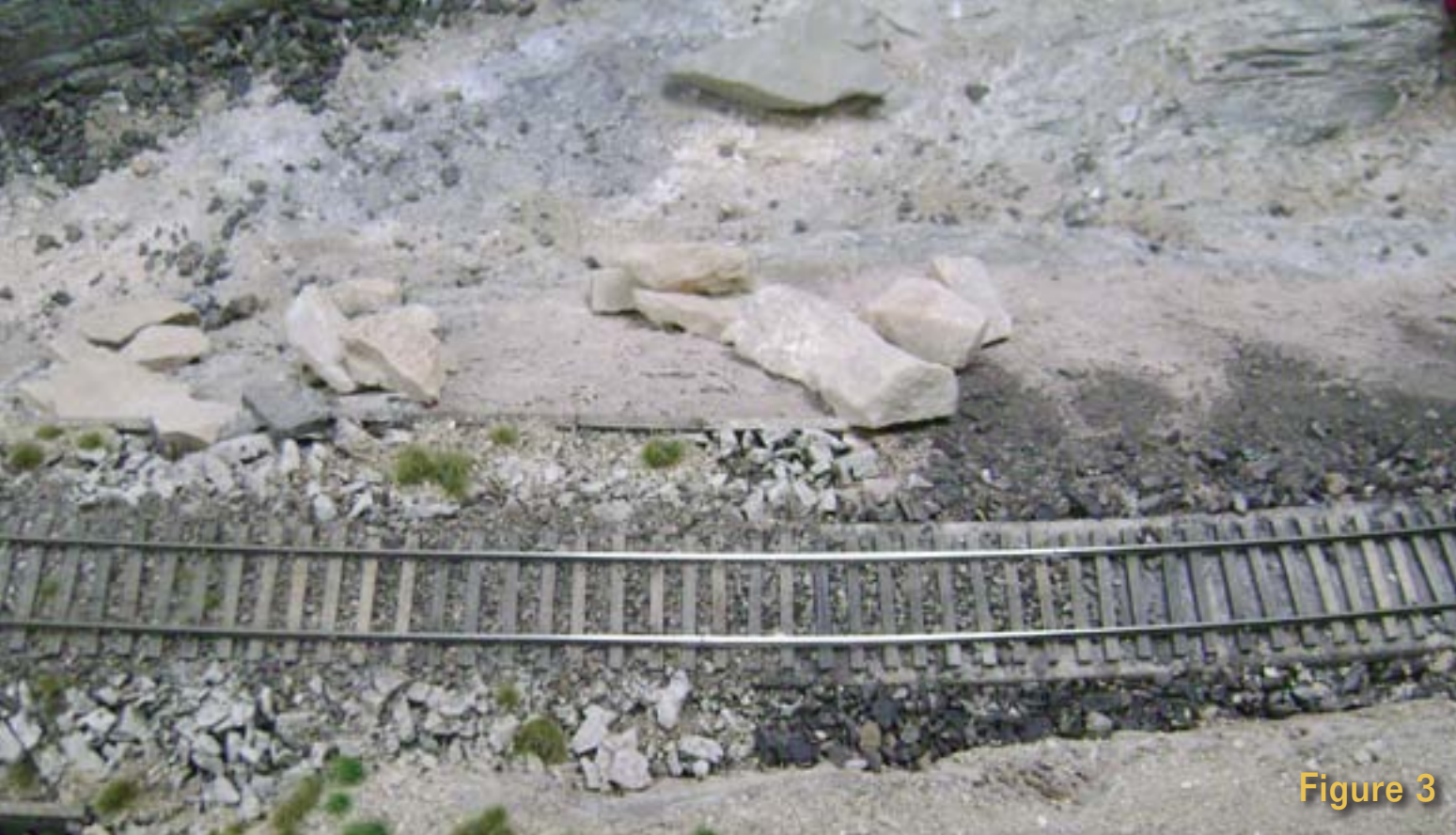


Figure 3

**Figure 3:** The rocks at right show their color after being glued down. This color was too dark for use with the rest of the scenery. The rocks at left have been dry-brushed with the same acrylic paint used as a highlight color on the layout's plaster rock work.

**Figure 4:** This area is adjacent to the scene in figure 3, and shows the final talus color after dry-brushing. It is now much more difficult to distinguish the plaster from the real rocks.

**Figure 5:** A nearly-completed cut illustrates dry-brushed rock combined with "unmodified" rock that has been used for ballast, yielding contrasting colors.

dirt and rocks that may seem perfect to finish a scene often become too dark once their coating of dust is washed away, plus the natural color may change when diluted glue or matte medium is used to secure the material in place.

Until fairly recently I've lived with color mismatches, seeking to minimize them whenever possible through careful coloring of the base plaster work.

However, as I worked on one particular scene, the color discrepancies

bothered me more than usual. I had the rock paints out to finish some newly-carved plaster cliffs, and decided to brush some highlights on the finished talus slopes in an effort to unify the colors in the whole scene. I was amazed by the results – it really worked! Why didn't I try this before?

The process is quick, and can be used on scenery that's already finished, as well as new construction.



Figure 4



Figure 5



The talus needs to be permanently in place first. Start by applying natural dirt and rocks using your normal scenery methods. I spread these around to my satisfaction, spray with “wet” water (my favorite is water with a few drops of isopropyl alcohol to reduce the surface tension) allowing it to soak into the dirt, then I secure it with diluted glue (I like 1 part Elmer’s yellow [wood] glue to 2 parts water). To ensure everything’s secure, I usually make 2 or more passes, allowing the glue to dry between applications.

Now it’s time to break out the paint. Use the same colors that you use to paint plaster (or other) rocks. I start painting plaster rocks with a darker base color, then add 2 or 3 progressively-lighter highlight colors on top of that – I find it’s best to use the highlight colors on the talus.

I use the dry-brush technique. I get some paint on the brush, wipe off the excess so I have only a little paint left, then brush the highlight colors on the talus and dirt. Don’t scrub the colors on – easy does it. That’s basically it! I typically use a medium color for the first pass, then lighter shades for each of the highlights. The lighter the shade, the less paint I want on the dry brush.

The paint colors used aren’t critical, but they do need to be compatible

**Figure 6: Note how the real rocks on the scratch-built rock slide shed’s roof match the color of the plaster rocks in the cliffs.**



Figure 6





Figure 7

Figure 7: Rob used watered-down yellow glue to hold unpainted talus (and some vegetation) in place on Gary Petersen's Salt Lake Southern layout. When the glue dries, he'll dry-brush the talus to match the rocks.

with the color of the nearby scenery. Use care when brushing the colors on the talus to avoid unnatural blobs and brush streaks, but this is no more finicky than when plaster cliffs are being colored.

Once my local round-robin work group started using the dry-brushed talus technique, we found the color of the natural rocks no longer makes a big difference. We used to roam the mountains looking for appropriate rock colors, but have now found that texture is more critical; in other words, look for rocks that approximate the size and shapes appropriate for your scenes, and count on the dry-brushing to blend it all together.

We've used this idea extensively on Steve Blodgett's Bear River RR (in most of the accompanying photos), but now we have essentially given up on searching for just the right shade of rocks. Now the paint does the finishing work. It takes only a few minutes per scene, and makes a huge difference in the end result. Give it a try!

 **Reader Feedback**   
(click here)



Rob Spangler has been an active model railroader since receiving a train set from his Great Aunt Ruth at age six. He lives near Ogden, UT with his wife Talene and daughters Elena and Elizabeth.

Rob is currently at work on a Western Pacific inspired home layout and looks forward to getting to the scenery phase. Two of Rob's previous layouts have been featured in national model train magazines.

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# Lessons in Passenger Car Modeling – Part 3

## Modeling Conrail 24

– by M. R. Snell

Photos by the author

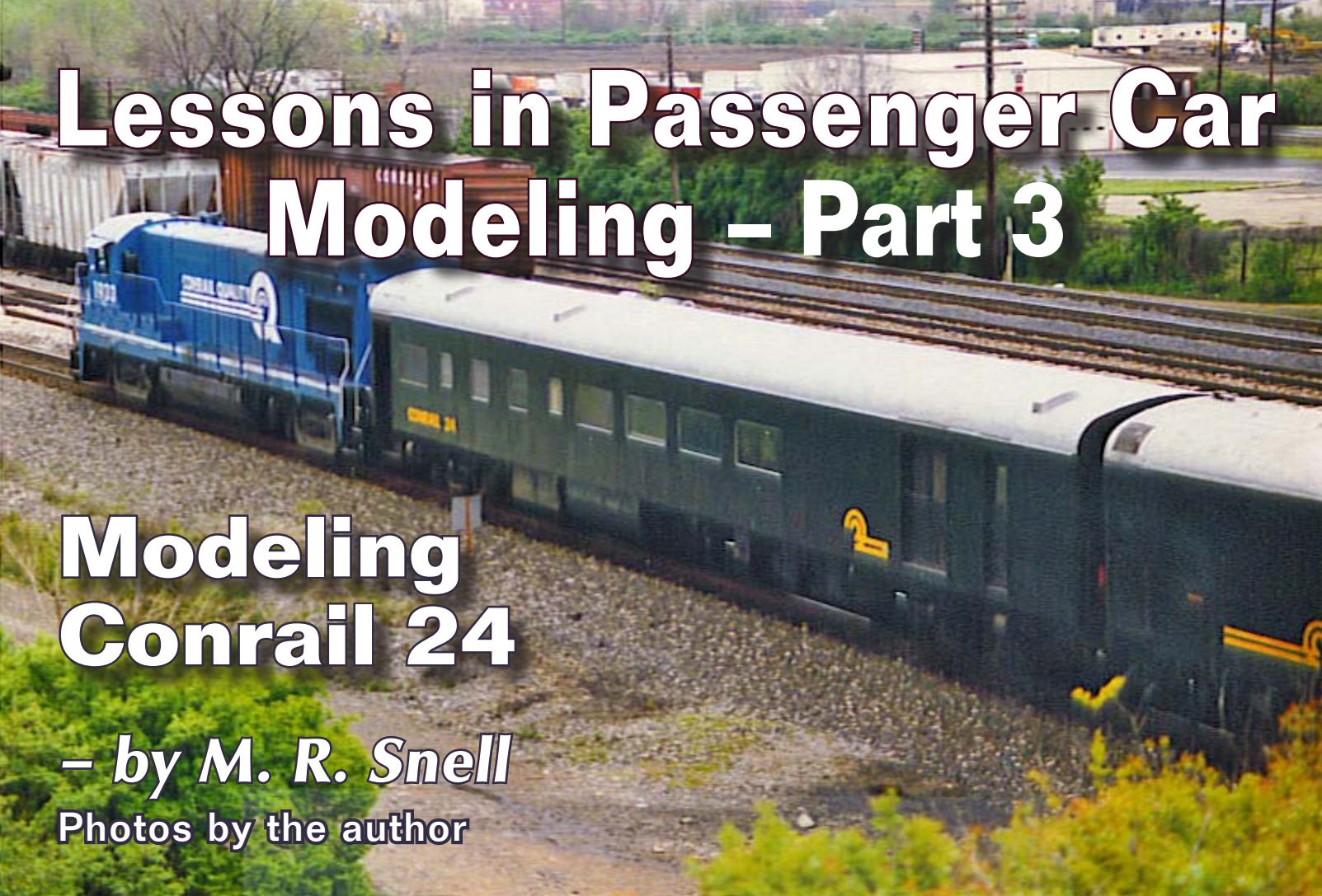


Figure 62. Here's a shot of Conrail 24, a track geometry train support car.

**Learn some great up-to-date techniques for modeling passenger cars from a hobby expert ...**



**W**hen modeling Conrail 21 and 22, I used laser-cut parts to kitbash an existing model – but what if no model lends itself to this kind of modification? One of the “standards” of passenger car modeling has long been the “core

kit”. Designed to accept either brass or styrene sides, the core kit consists of a roof, floor, and ends – the core of the car. It’s expected that the modeler will add the rest of the parts, matched to the specific prototype car they are building.

This was the case when I chose to model Conrail 24, a support car assigned to the Track Geometry Train. Conrail also acquired this car second-hand – it was originally a US Military car constructed in 1952 by the St. Louis Car Company. To model Conrail 24, I elected to use a Train Station Products #807 core kit and full laser-cut sides. However unlike my previous two cars, I don’t need to undertake extensive kit-

bashing in the construction of this car. Instead, building this car is more like assembling a kit (Figures 62-63).

Conrail 24 was constructed by the St. Louis Car Company and thus was equipped with “St. Louis-style” ends, which differ from conventional car ends. Number 24’s ends flare from the outer edges to the center of the car and appear to have a rounded appearance.



Figure 63. In part 3, I describe how I constructed this model of Conrail 24 using a Train Station Products #807 core kit and full laser-cut sides.



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## STEP 1: Construct the Car Ends

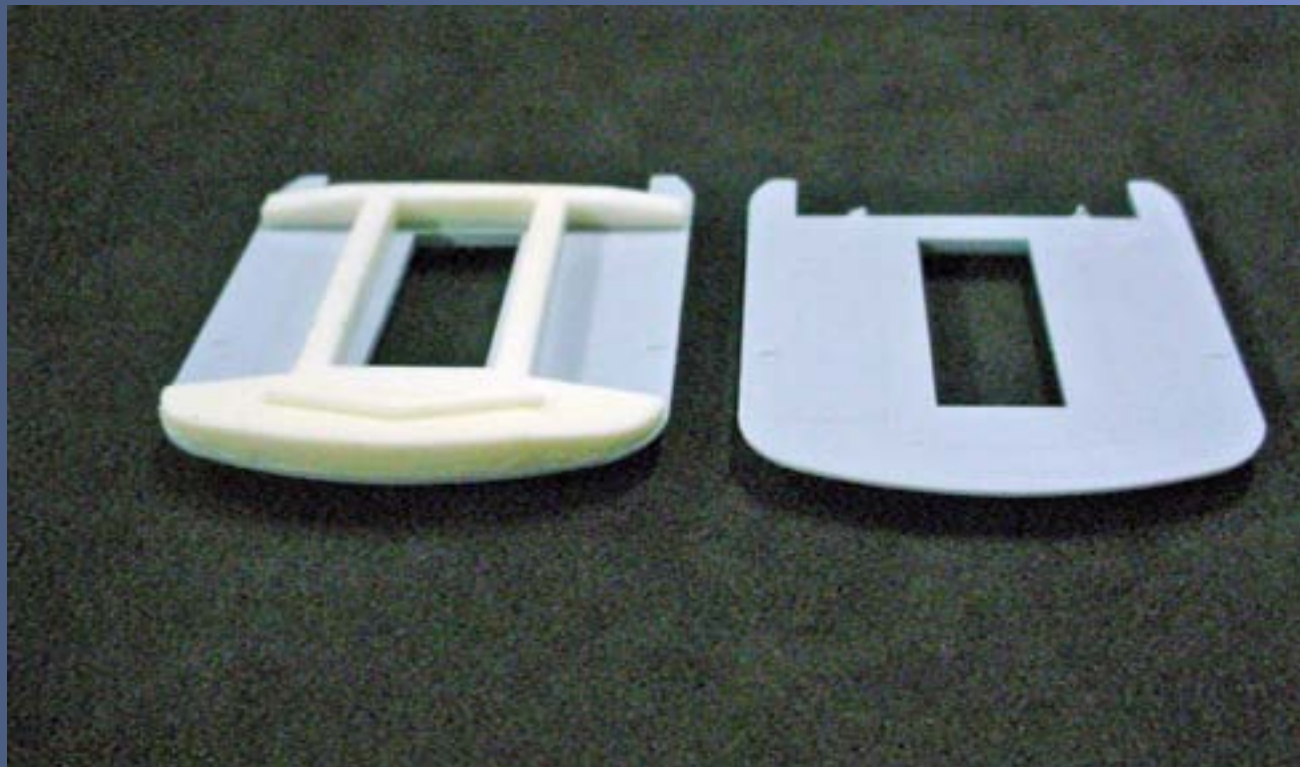


Figure 64.

My first step in building this car is to construct the St. Louis-style ends. I started by adding a styrene layer over a flat car end and filing it so it flares toward the sides. Another option (which I did not do) would be to use the St. Louis ends from Train Station Products, which come flared only at the top and bottom – this leaves the open areas in the center to be filled with styrene, so the entire end is flared (Figure 64).

A third option is to simply build this car with flat ends, as I did. I felt this is a reasonable compromise, especially since this car will be sandwiched into the geometry train where the ends will not be all that visible.

## STEP 2: Assemble the Core of the Car

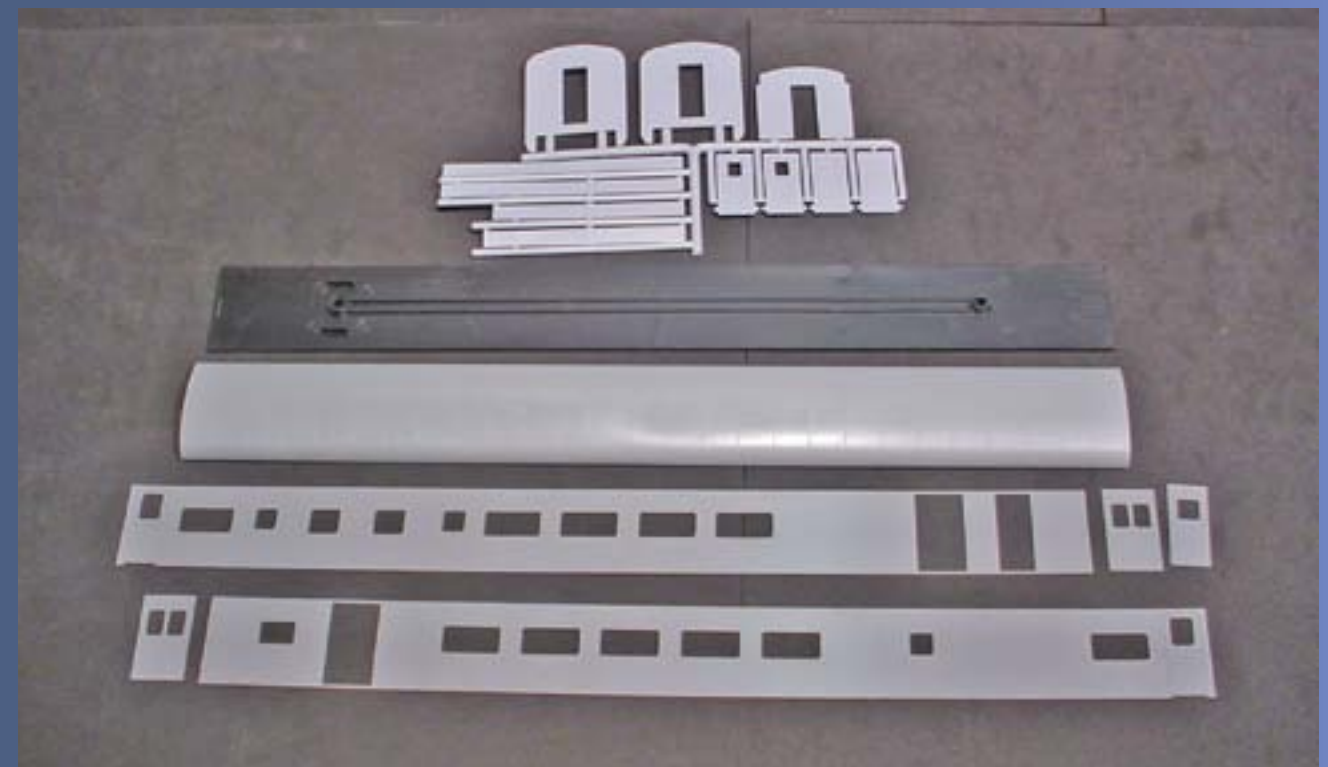


Figure 65.

With the ends worked out, I turned my attention to the basic core kit consisting of the floor, ends, two roofs (riveted and solid), and two styles of end doors. The two roofs and two end doors allow a modeler to build different car variations using this one kit.

The standard method used when constructing a car from a core kit is to use a thick clear styrene insert cemented to the inside of the walls, providing thickness to the walls while also adding window “glass”. This requires painting all the parts prior to assembly. An easier way (for those of us who are “cement challenged” like myself) is to construct a shell which can be painted after it is assembled without any worry of marring the paint (Figure 65)!



## STEP 2: Assemble the Core of the Car *Continued ...*



Figure 66.

To use my “shell method,” I begin constructing the carbody by placing the roof upside down and then I insert (but DO NOT cement) the ends into the recesses at the ends of the roof. I apply a piece of masking tape to the roof and extending over the car ends to help keep everything together. I also support the ends with a book or similar object to keep the ends from leaning outward. Keep in mind I WANT the roof to be removable so I do not cement it to the carbody. Finally, I cement the floor to the car ends, forming the base for the shell (Figure 66).

## STEP 3: Shim Floor and Ends

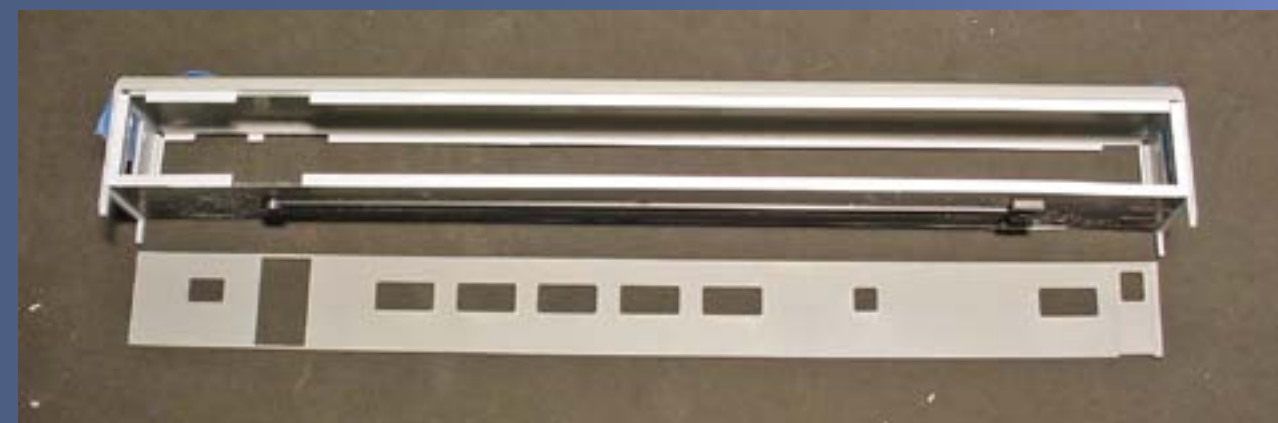


Figure 67.



Figure 68.

Since my shell method means I do not use the thick clear insert, getting proper alignment of the thin laser-cut sides requires that I shim the floor, ends, and roof. I mark the locations of the door openings on the floor and roof, and I shim the edges of the floor and car ends ensuring the car sides will be even with the outer edges of the car ends.

I applied .020 x .125 strip styrene cemented to the mounting tabs on each car end and along the edges of the floor to bring the thin laser-cut sides in line with the car end outer edges. When adding the strip styrene, I make sure and leave gaps in the areas marked for the door openings since the doors will be recessed into the carbody. Without these gaps, the doors will not recess properly, causing the sides to bow outward (Figures 67-68).



## STEP 4: Add Doors to Car Sides



Figure 69.



Figure 70.

The next step is adding the doors to the sides. The doors will recess into the car sides, so lay the sides face-down and place the doors into the door openings, then mark the edges in pencil. Several strips of .040 x .060 strip styrene cemented on the door edge lines you drew will act as guides for the doors and also allow applying cement to the joint of door and strip, keeping cement from flowing through the door openings and onto the front of the car sides. The doors can now be placed into the openings and cemented in place, completing the assembly of the sides (Figures 69-70).

## STEP 5: Add Car Sides



Figure 71.

Next I added the car sides to the floor and ends, forming the carbody shell. I began by placing the roof onto the car and made sure it was square, then applied a piece of tape over the roof and ends to keep everything together. I applied cement along the car end mounting tabs and floor edge, then I added the sides, while still keeping the roof removable.

Once I had put the sides on the car, I added the interior vestibule and end doors by cementing one door to the "blind" (non-vestibule) end. On the other end, I first cemented the second door to the interior vestibule casting before installing it into the car. I cemented a strip of .020 x .125 strip styrene to the roof mounting tab, notching it at the interior vestibule (also at the doors if required). This notching enables a press-fit between the roof and sides, causing the roof to sit tightly against the car sides, held in place by pressure (Figure 71).



## STEP 6: Final Bodywork



Figure 72.

Now that I've constructed the basic shell, I can complete it with a little bodywork. The TSP core kit ends extend below the car sides as designed for cars which have skirting. Since I'm modeling a car which has no skirting, I filled out this end notch by cementing a strip of .040 x .060 styrene into it, and then filed it to match the curvature of the TSP car ends (Figure 72).

## STEP 7: Add Additional Carbody Detail



Figure 73.



Figure 74.

One detail that can stand out in prototype photos is the chain across both large doors on the sides of the car. I added this chain by constructing an assembly from two Detail Associates #2206 eye bolts and A-Line #29216 brass chain. I used a knife blade to slightly open the round "eye" of each eye bolt and then I placed the chain over the eye bolt and crimped the eye closed. I next inserted the eye bolts into #80 holes drilled at each side of the door, allowing the chain to droop across the doorway. I cemented these eye bolts in place from the inside of the shell using superglue (Figures 73-74).



## STEP 7: Add Additional Car Body Detail *Continued ...*



Figure 75.



Figure 76.

Once I had installed the chain, I finished detailing the the car sides using Detail Associates #6601 grabs, and the car ends using a combination of Detail Associates #6601 standard grabs, #2202 drop grabs, #2206 eye bolts, #6504 L-shaped Caboose grabs, and Train Station Products #488 square markers. Each doorway had a small extension allowing travel from car to car, and I added this using a length of Plas-truct #90502 1/16" L-angle cemented to each doorway. This completes the ends (Figures 75-76).

## STEP 8: Detailing the Roof

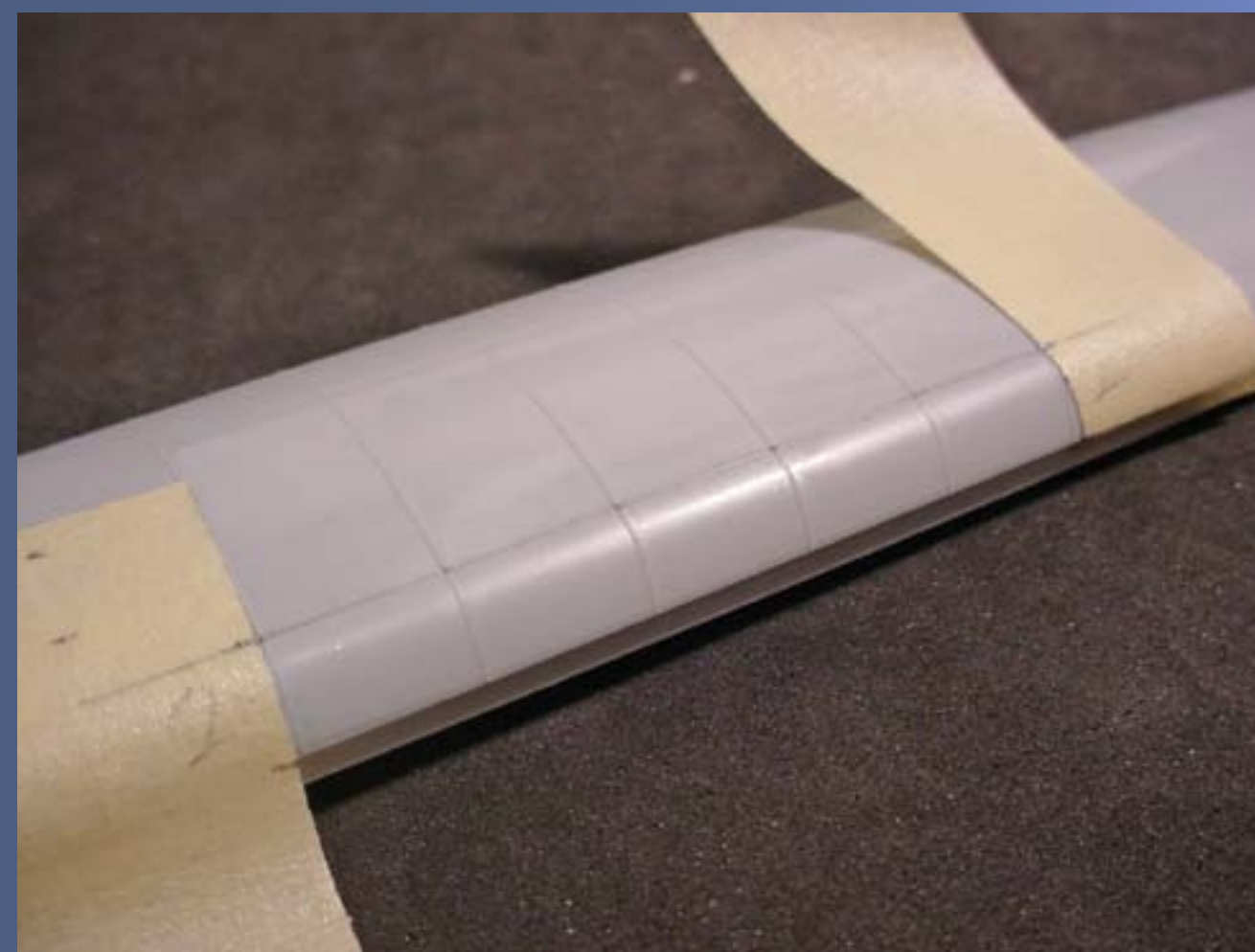


Figure 77.

With the shell complete, I looked to the roof of the car, which requires some detailing using castings, and rain gutters made from strip styrene. I use a line drawn the length of the roof on both sides to help align the detail parts. It's nearly impossible to make accurate measurements on the curved surface of a car roof, so I use a little trick. I mark several pieces of masking tape in 2 scale foot increments and then place these on the roof – this allows me to draw straight lines between the markings on the tape, ensuring that my detail placement will be parallel with the edge of the roof (Figure 77).



## STEP 8: Detailing the Roof *Continued ...*

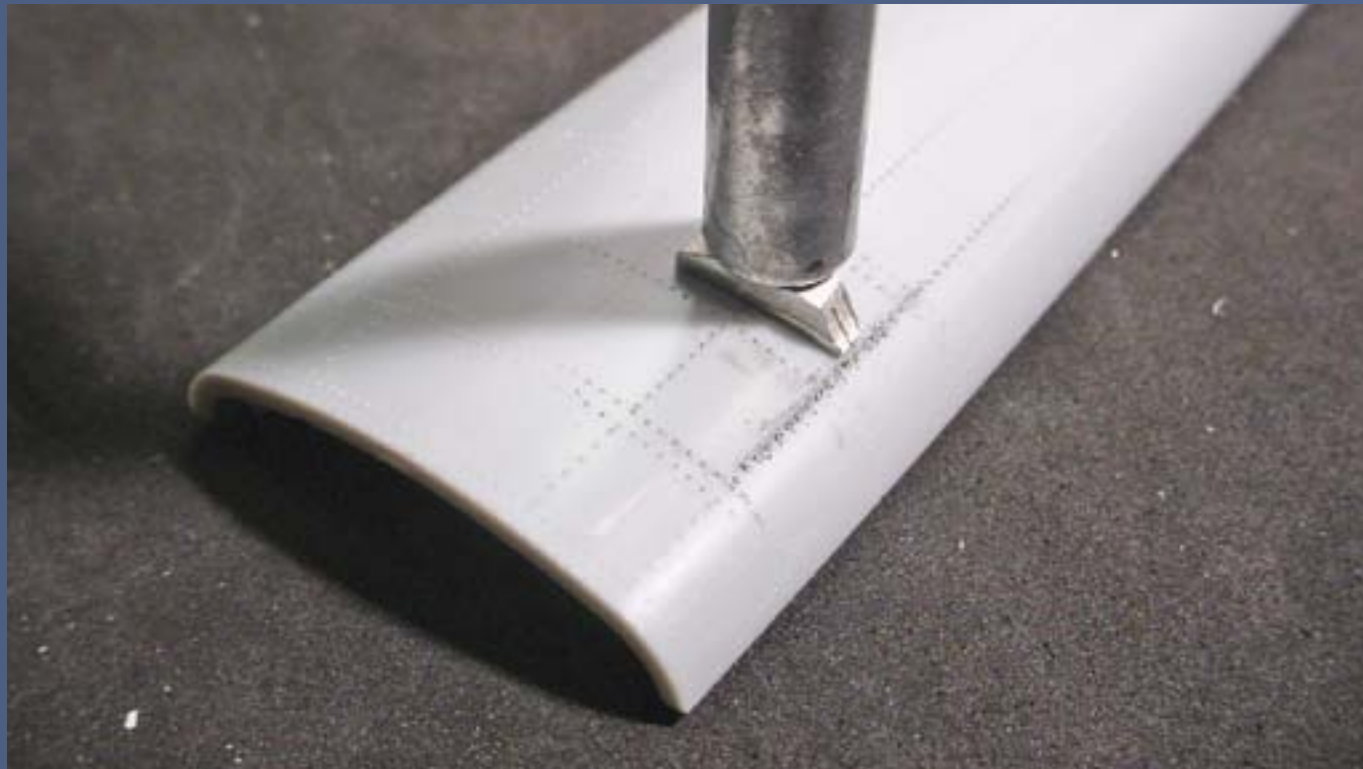


Figure 78.



Figure 79.



Figure 80.

One problem when using detail parts, such as the vent castings required for this roof, is they are cast as if they go onto a flat surface rather than the curved surface presented by this roof. I used Custom Finishing #328 vents – so I placed each metal casting onto the unused roof and then pressed down with the flat end of a knife handle in order to bend the casting to the proper curvature (Figures 78-79).

The Train Station Products #435 vents I used along the roof edge presented a slightly different problem – in this case they are molded for a DIFFERENT curvature. Since these are plastic rather than metal I gently heated each one and carefully bent it until I formed the correct curvature, leaving no gaps between the roof and vent casting (Figure 80).



## STEP 9: Completing the Roof



Figure 81.

To complete the roof, I added Detail Associates #6602 and #6603 grab irons to each side of the roof, then I constructed rain gutters from .010 x .030 styrene strip and added them over each door. To prevent marring the roof from applying cement directly to it, I applied cement to a piece of scrap styrene, held the styrene strip with tweezers and dragged it through the cement, wiping off the excess. I placed one end onto the car and held it in place with a flat-blade screwdriver while placing the rest of the strip onto the car. I held the strip in place with the tweezers for a few moments until the cement had set up (Figures 81-82).



Figure 82.



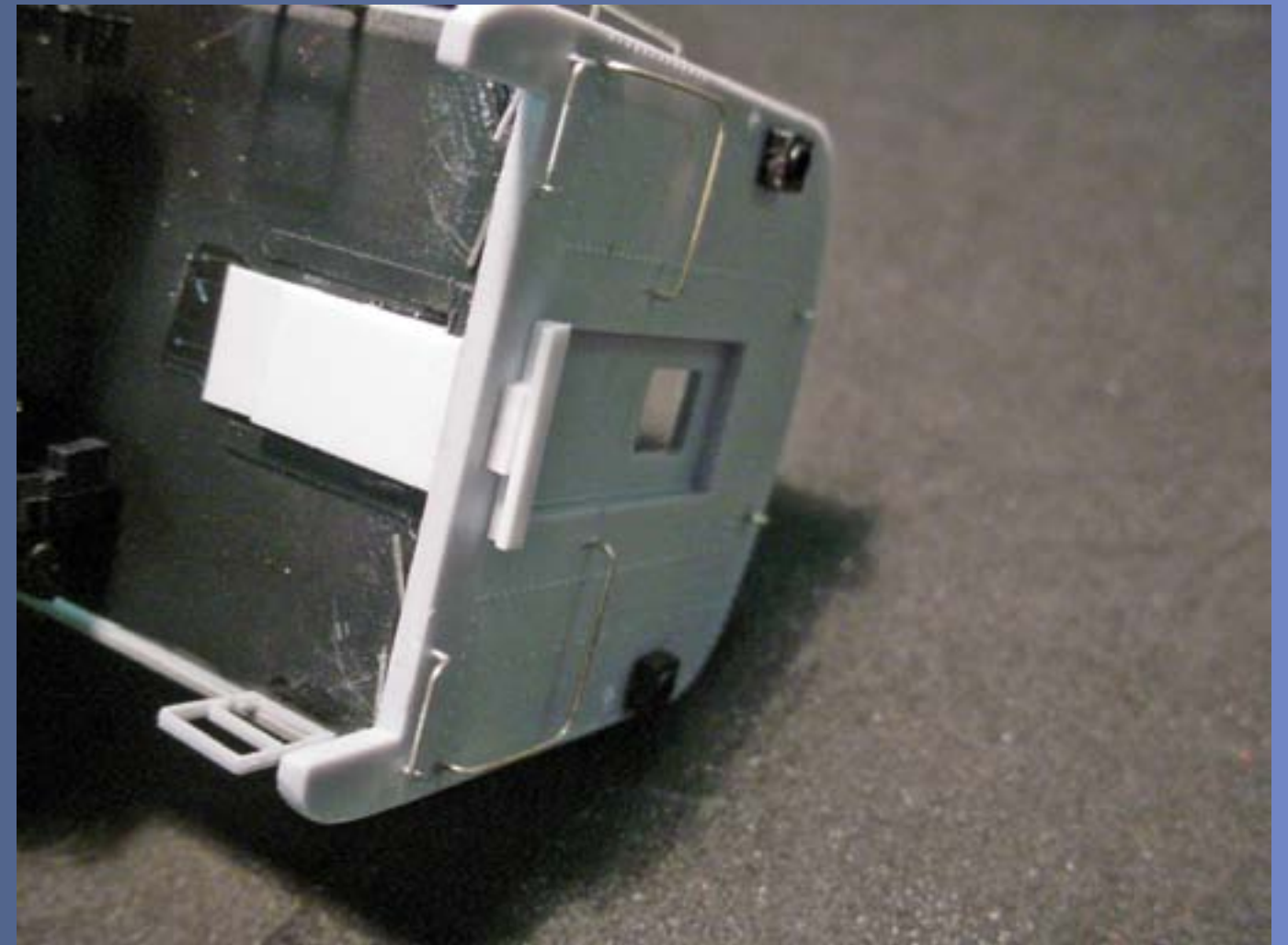
## STEP 10: Moving On to the Car Underframe



**Figure 83.**

The underframe of this car may be the simplest step in construction, given the barren nature of the core kit floor. Undercar detailing requires adding couplers and trucks, constructing a centersill and then simply installing castings on the smooth surface of the floor.

I cemented Bethlehem Car Works Troop Sleeper Steps (#72) to the underside of the floor at each of the vestibule-end side doors. Next I added coupler mounting pads of .040 x .250 styrene strip to the underside. Once these pads were in place, I drilled each to accept a small screw, allowing me to add Kadee couplers using the mounting boxes supplied with the couplers (Figures 83-84).



**Figure 84.**

I installed Train Station Products trucks (#419) prior to adding detail castings to ensure there would be no interference once the detail castings were added.



## STEP 11: Adding Underbody Details



Figure 85.

While most of the underbody details for this car can be added using commercial castings, I had to fashion a few pieces in a similar manner to what I did when constructing Conrail 22.

For the first kitbashed part, I fabricated a large rectangular tank from a Bethlehem Car Works #18 battery box consisting of a solid rectangular block of styrene with a separate door casting. By leaving the door casting off, I was able to drill a small hole into the center for inserting a Detail Associates #1901 Round Air Vent. I made the mounting brackets for each upper corner from .015 thick styrene cut into triangular and square brackets which I then cemented to the edges of the tank (Figure 85). I constructed the second tank in the same fashion, but instead of a round filler, I added a sight gauge instead. I used a strip of .010 x .030 styrene strip mounted vertically to the front of the tank to form a fairly convincing sight glass, completing this component in minutes (Figure 86).

Once I had built the 2 tanks, detailing the rest of the underframe was as simple as adding commercial castings including large water tanks, a medium



Figure 86.

sized battery box, round air tanks, brake valve castings, a Train Station Products control box (#477), a Train Station Products air conditioner (#468), and a Bethlehem Car Works air conditioner (#73).

I added a .100 x .156 styrene strip to complete the basic underframe centersill of the car. I added ribbing made from laminated strips of styrene, extending from the center sill to the car edges. I laminated the strips together and then cemented them to the underframe and filed them to an angle, being careful not to damage the car sides. I elected not to add more detailing, such as the additional air tanks and brake equipment, nor did I add brass wire representing the piping on the underside of the car. Many of these details will never be seen when the car is in operation on a layout (Figure 87).

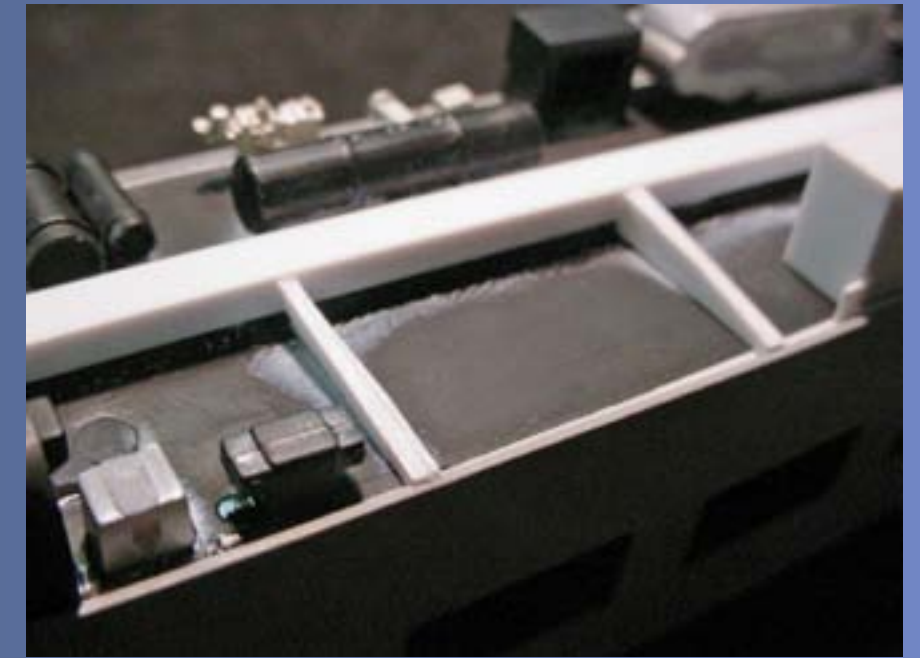


Figure 87.



## STEP 12: Finishing the Car Ends

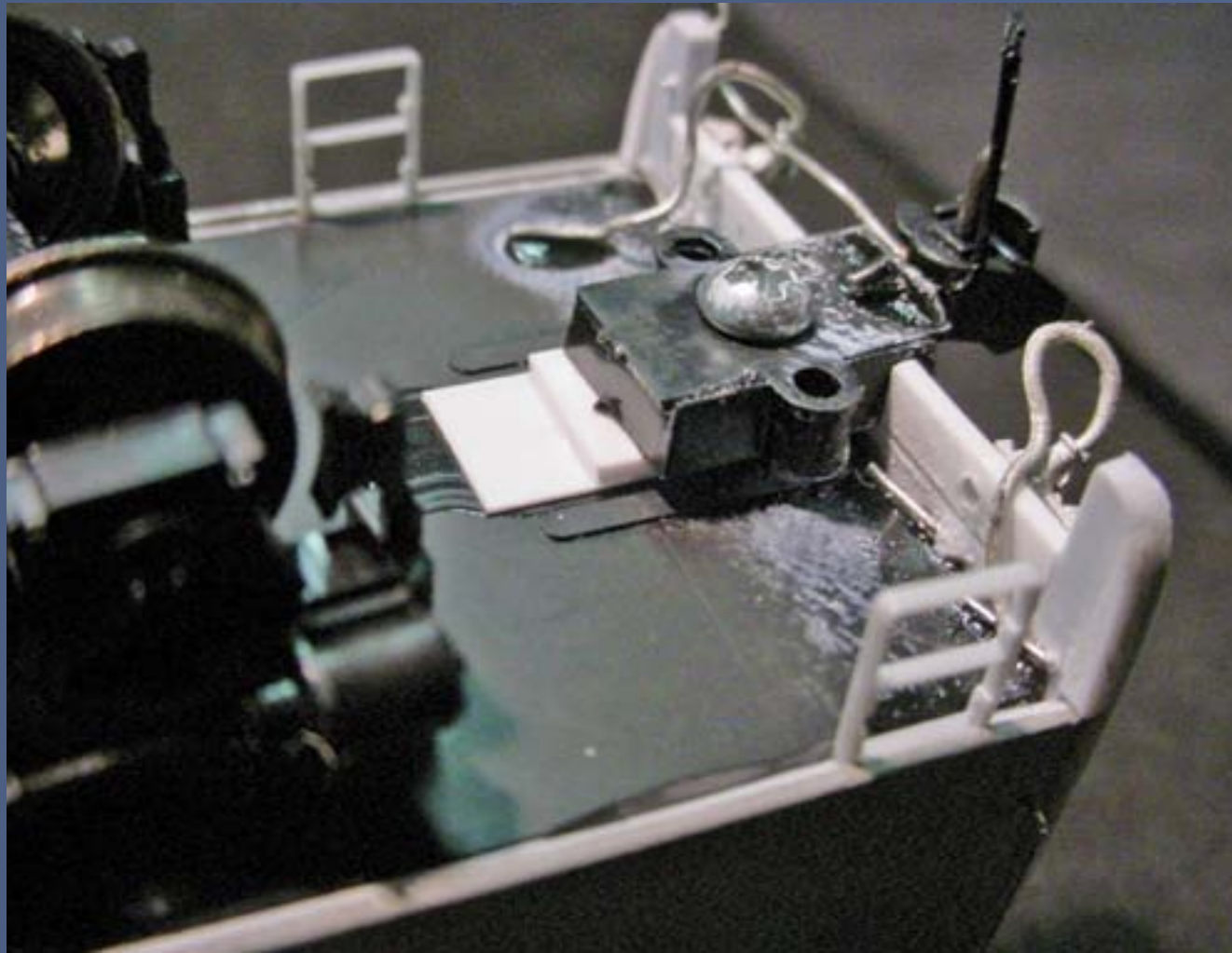


Figure 88. Underbody view of car with details applied.

To finish the undercar detailing I turned to the ends of the car. I installed .040 x .100 styrene filler strips at each car end, between the coupler boxes and the portion of the car ends that extend downward. I mounted Details West #236 MU head and cable castings to these styrene filler strips representing HEP equipment plugs. Finally I added Detail Associates #6215 cut bars, held in place with one end suspended by a Detail Associates #2206 eye bolt and the other end cemented to the bottom of the coupler box (Figures 88-89).



Figure 89. View of car-end details.



## STEP 13: Doing an Interior and Weighting the Car

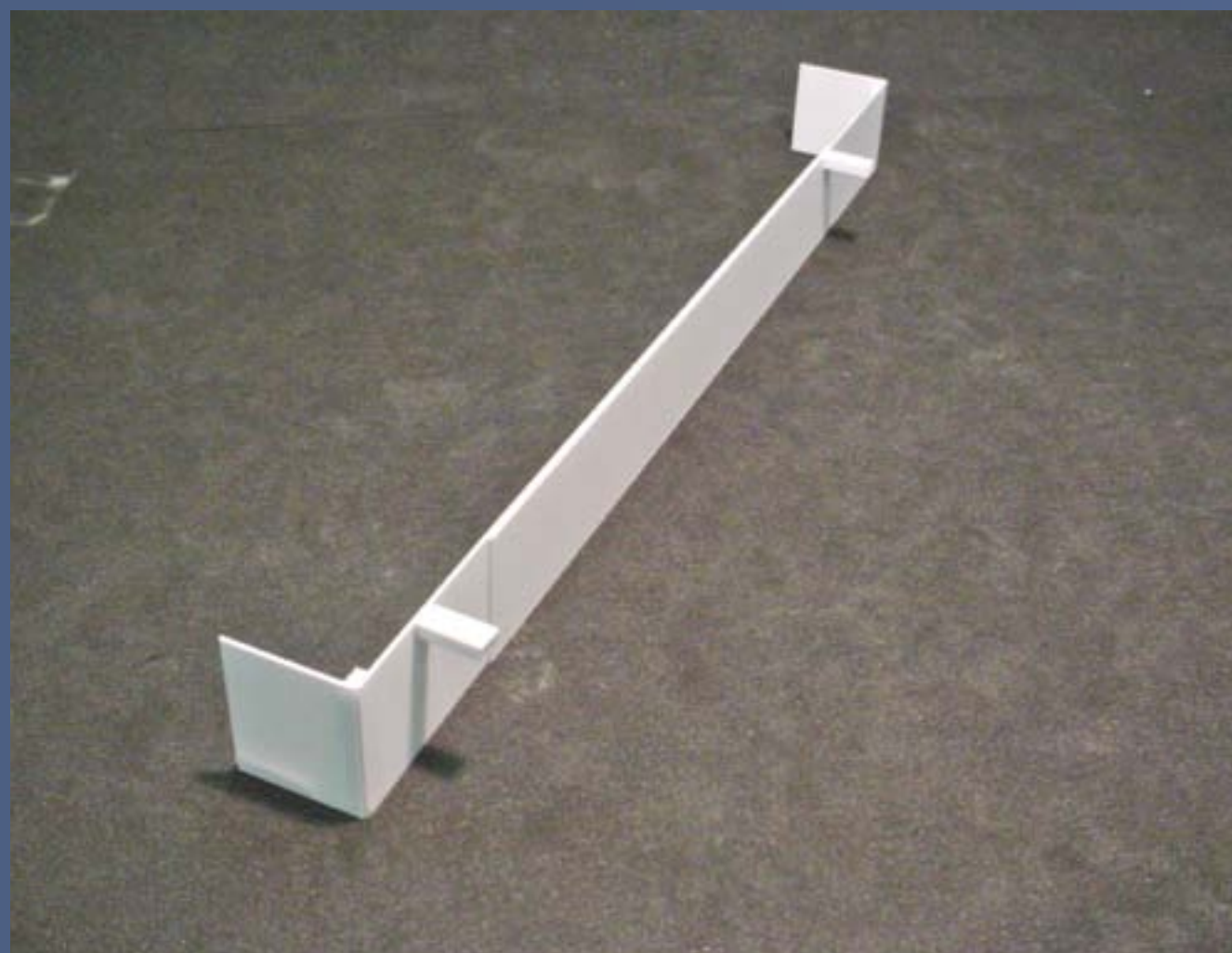


Figure 90.

Unlike the ready-to-run models which I kitbashed previously, a core kit does not provide the weight required for reliable operation, nor does it result in any form of interior for the car. Without an interior, it would result in a truly “see-through” car. When doing the research on this car, I was unable to locate an interior floor plan, so I chose to create a generic divider which could be removed should I later get enough information to construct a correct interior.

I cut .015 thick styrene sheet to the height of the interior walls and built a long center partition, extending to 6 scale feet of both the interior vestibule and the blind end door. I added side walls extending  $\frac{3}{4}$  of the width of the car at each end, creating the illusion of a hallway along one side of the interior.



Figure 91.

To give the assembly strength and to keep it in place I cemented .100 thick styrene strip to each of the right angle joints and added 2 small strips to the floor to prevent the divider from sliding once it was in the car. I kept the assembly upright using two strips of .100 x .100 styrene, cut to fit between the hallway wall and the interior of the car side. Once cemented to the top of the hallway wall, the strips prevent the divider from flopping over or shifting side-to-side. After building the partition, I applied A-Line stick-on weights to the floor, weighting the car to acceptable standards (Figures 90-91).



## STEP 14: Painting and Finishing the Cars



Figure 92. Window glazing applied to the inside of the cars.

I painted all 3 models using Floquil Brunswick Green and Old Silver, and then finished the cars with Microscale decals. I painted the exterior details with a #00 brush, using Railbox yellow to paint the door grabs and cut bar handles. I used Grimy Black on the the HEP cables and painted the marker rims silver.

Once out of the paint shop, I added window glass using .010 clear styrene that I cut into strips and then cemented to the interior of the car. I fashioned inexpensive window shades for Conrail 22 using small sections of white tissue paper (supplied with the clear plastic as sheet protectors) that I cut to varying lengths and cemented to the interior. This is a common passenger car modeler's trick – it allows for adding a realistic sense of life to the car while hiding the undetailed areas of the interior (Figures 92-93).



Figure 93. Window shades add a sense of life to the cars.



## STEP 14: Painting and Finishing the Cars *Continue ...*

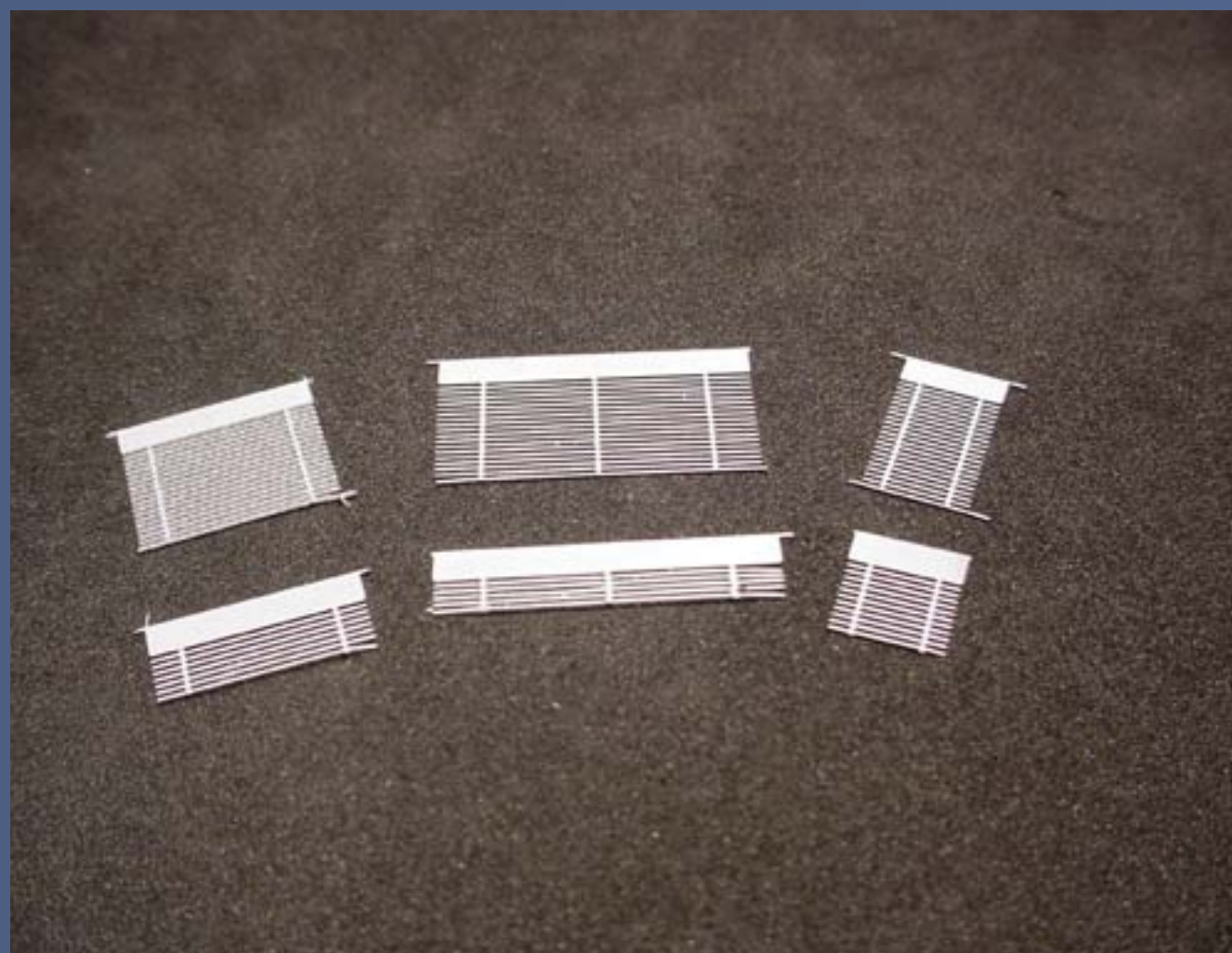


Figure 94. Plano #300 Venetian blinds.

Conrail 21 features Venetian style blinds which I easily added to the model using Plano #300 Venetian blinds. Etched in thin metal, I found these easy to cut, which makes it easy to install closed or open blinds, or any variation in between. Prior to installing, I painted the blinds white, then held each blind in place on the car while I applied superglue to the upper corners with a toothpick. Areas of the car where I wanted to conceal the interior, I made the blinds closed. In areas of the car where I wanted to draw attention, I left the blinds open with just a few of the slats visible in the top of the window (Figures 94-95).



Figure 95. Plano Venetian blinds installed in a car.



## STEP 14: Painting and Finishing the Cars *Continue ...*



Figure 96. Dark brown wood tone interior, with details added.

I detailed the car interior inserts by painting them a dark brown wood tone, and I painted the floors black. I then detailed the interiors following the railroad blueprint and applying detail castings of desks, files, chairs, tables and computer monitors (made from surplus roof vents) (Figures 96-97).



Figure 97. Another view showing interior details.



## STEP 14: Painting and Finishing the Cars *Continue ...*

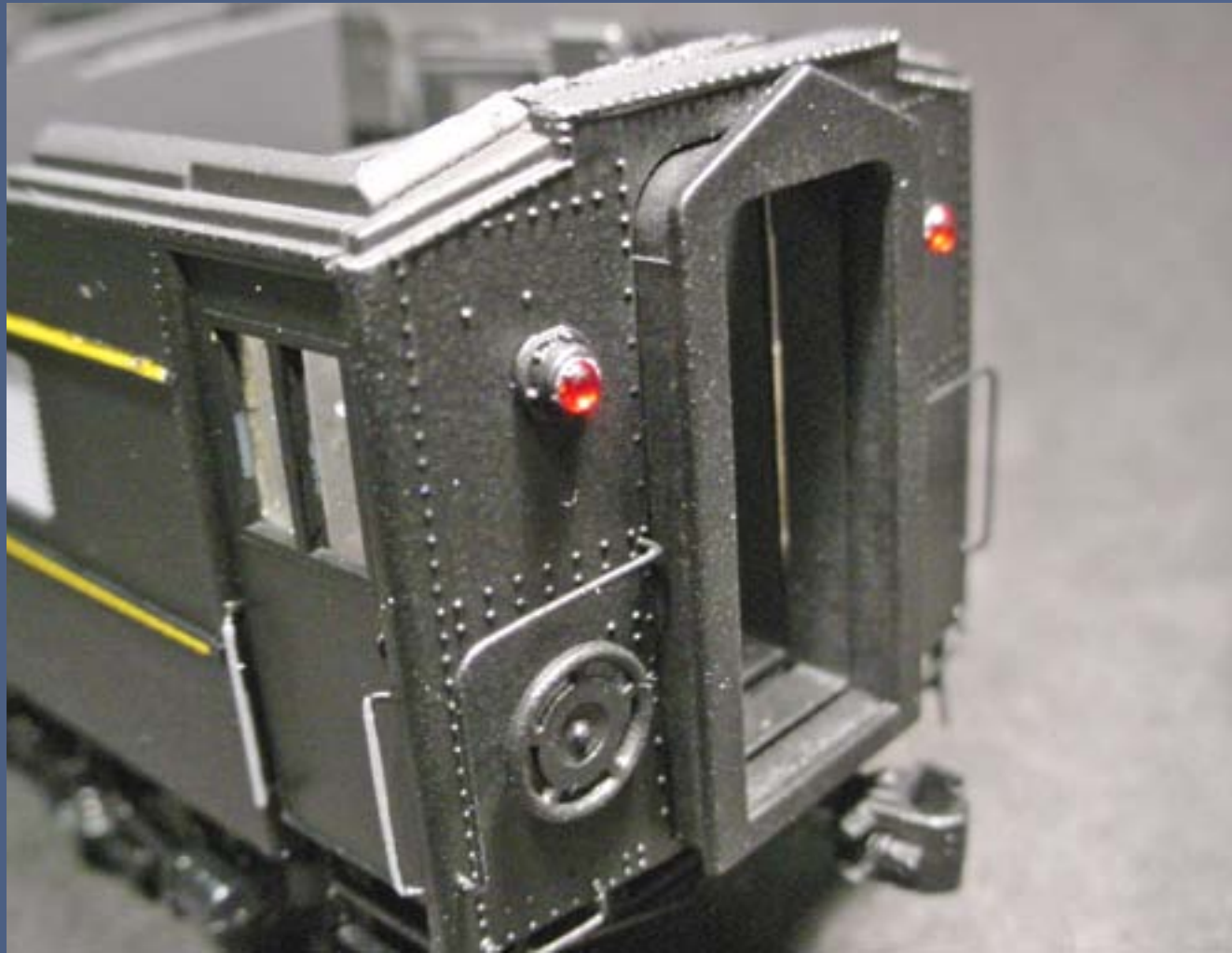


Figure 98. MV lenses installed in the cars' end markers.

I installed MV Lenses in all the markers. I completed Conrail 22 using Train Station Products #732 modern tubular diaphragms by following the prototype practice of cutting the top tube back at an angle. In addition to cutting the top tube, I cut the lower step back to help to prevent derailments in curves due to the addition of the extended static diaphragms (Figures 98-99).

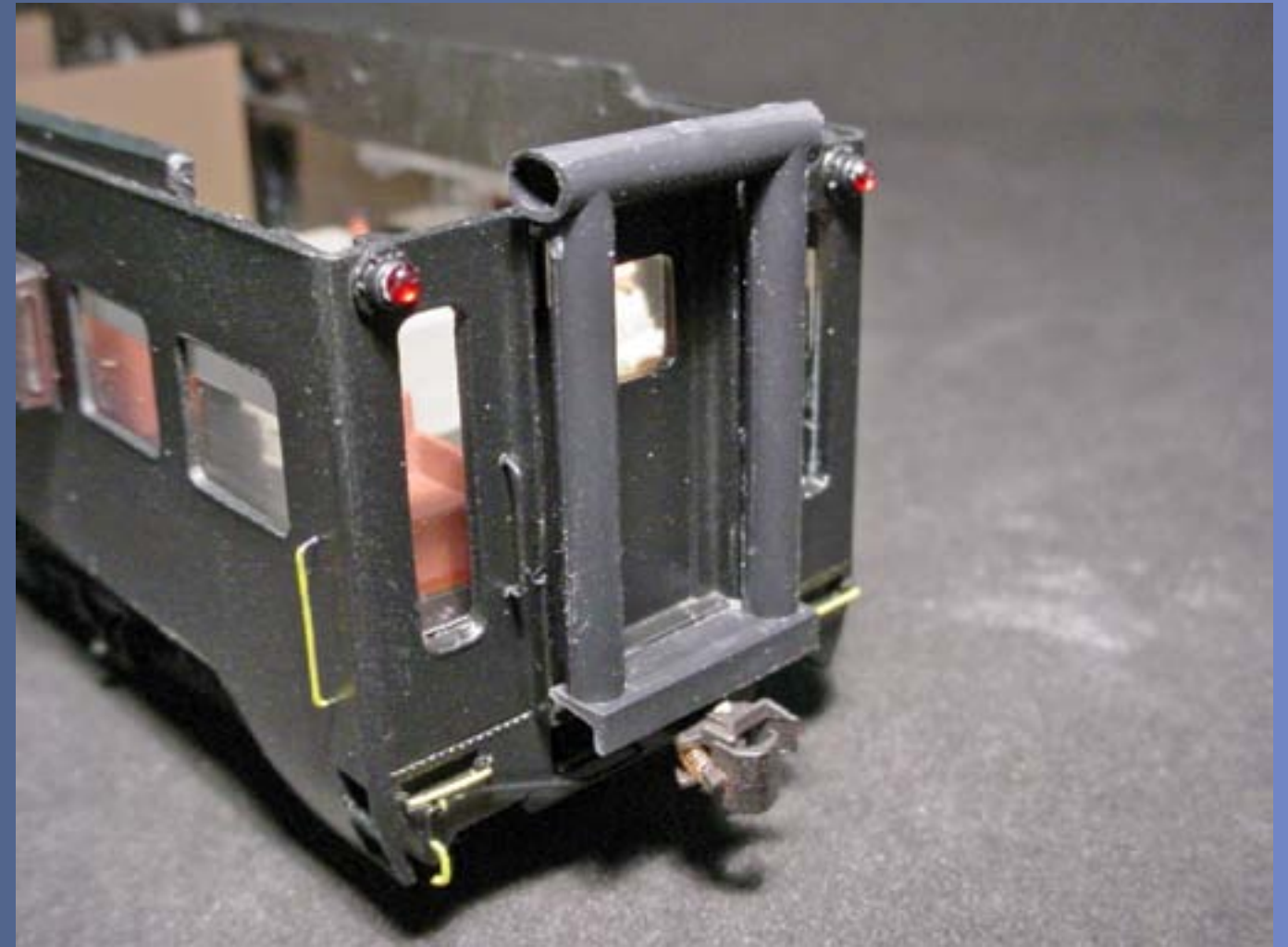


Figure 99. Tubular diaphragms and MV lenses in the marker lights.



This concludes our look at modeling three unique cars in three unique ways, saving both time and money by applying a resource brought to us by modern technology. Gone are the days of carefully cutting and splicing multiple cars together or painstakingly filling windows with styrene and putty. We can now easily change both R-T-R models and kits into what we need by using laser-cut parts, either piecemeal or wholesale.

Entering the arena of passenger car modeling for a diehard freight modeler like myself has truly been a learning experience, one I'd certainly recommend for other freight modelers. Hopefully you can apply some of what I've learned in your own modeling endeavors, whether freight or passenger, freelance or prototype – maybe even constructing your road's research fleet yourself!



M.R. (Matt) Snell has been a model railroader and railfan for 30 years. He lives in Ohio, and he and his wife

Deb share the hobby, modeling the area he grew up in: north-central New Jersey.

Their "Conrail New Jersey Division" layout has been featured in *Great Model Railroads*, *Rail Model Journal*, and in the Allen Keller *Great Model Railroads* DVD series. Matt has had articles in *Railroad Model Craftsman*, *RailModel Journal*, *Scale Rails* and *Model Railroader*, as well as online at [railroad.net](http://railroad.net).



Figure 100. Finished model of Conrail 24 on the layout.



Figure 101. Finished model of Conrail 21 on the layout.



Figure 102. Finished model of Conrail 22 on the layout.





Figure 103. The finished model of Conrail 21. Click the image to rotate it a full 360 degrees.





Figure 104. The finished model of Conrail 22. Click the image to rotate it a full 360 degrees.





Figure 105. The finished model of Conrail 24. Click the image to rotate it a full 360 degrees.



# InterMountain SD40-2W in N scale



– by Joe Fugate



The InterMountain Railway N scale SD40-2W faithfully reproduces the prototype used by the Canadian National Railway since first produced by EMD in 1972.

This model represents the Canadian-market built version of the SD40-2 locomotive, produced by the Diesel Division of General Motors of Canada, Ltd. Between January 1972 and February 1986, more than 3,900 SD40-2 locos were built, and every Class 1 railroad in North America operated this locomotive.

Canadian National acquired 123 of the SD40-2W locomotives, numbered 5241-5363. The major difference between the SD40-2W and a “regular” SD40-2 is the full width, wide-nose, 4-Window Safety Cab, denoted by the ‘W’ in the loco designation.

The N scale model has the 4-window safety cab, the snow shields over the air inlets, the dynamic brake hatch or non-dynamic brake hood, and the distinctive stairwells and handrails of the Canadian National version. The model includes finely molded ditch lights, MU sockets, windshield-



mounted bell, and walkway-mounted hand brake. Grab irons are formed wire, while the fan grilles and sunshades are etched metal. The loco is DCC-ready and uses Micro-Trains® couplers.

The model is available in three different paint schemes: Sergeant Stripes with/without dynamic brakes, CN Continent, and CN CA.

The N scale loco’s MSRP is \$119.95.

Figure 1: This InterMountain N scale loco represents the SD40-2W Canadian National loco delivered with the special wide cab.

Figures 2, 3, and 4 (next page): Closeups showing the cab, end platforms, rear hood and loco underbody.

[www.intermountain-railway.com](http://www.intermountain-railway.com)





Figure 2



Figure 3



Figure 4



# InterMountain HO Procor Pressure Flow Hopper



– by Josh Baakko



**I**ntermountain Railway Company's first release of the Procor 3300 cubic foot pressurized unloading hopper comes decorated in 3 paint schemes.

Stock numbers 48901-01 – 06 feature a Canadian/Canadien National scheme, with gray paint and red lettering (this model is shown here, stock number 48901-03, CN #374537). Also available are six road numbers for British Columbia Railway (green and black with white lettering), stock numbers 48902-01 – 06, and one road number for a Halliburton leased car (light gray and red with white lettering), stock number 48903-01.

The cars are ready-to-run, and come equipped with Kadee #78 couplers, and standard tread (Code 110) 36" wheels. The prototype was equipped with truck mounted brakes, Intermountain included this detail on the trucks.



The roof walks are finely etched metal, as are a number of the details.

These cars have a retail price of \$32.95.

Intermountain announced a second run, due Spring 2011. The second run includes: Stelco (green and black with white lettering); Mountain Minerals (tan with black lettering); Canadian National (white with red lettering); and Procor (gray with black lettering).

**Figure 1:** This InterMountain HO 3300 cubic ft. hopper car represents a Procor prototype built in the early 1970s.

**Figures 2, 3, and 4 (next page):** Closeups showing the see-through end platforms, the car in a train on the layout, and the underbody details.

[www.intermountain-railway.com](http://www.intermountain-railway.com)





Figure 2



Figure 3



Figure 4



# RS LaserKits

# Scaffolding

## First Look

– by Joe Fugate



If you are looking for some fine details for your modeling scenes in any scale, you owe it to yourself to check out RS LaserKit's Scaffolding detail kit.

While this First Look covers RS LaserKit's HO Scaffolding, they also offer this product in N and Z scale.

I assembled this scaffolding using superglue and a fine pipette tip, making it easy to apply a minimum of superglue needed to do the job.

Included in the kit are laser-cut scaffold end sections, bracing, and stripwood planks. The material used for the scaffold sections and bracing is a thin resin-impregnated fiber board, which makes it practical to do this sort

of detailed parts with a laser cutter.

The kit comes with step-by-step instructions that include photos of the construction process. RS LaserKit includes enough material in the kit to build scaffolding up to 60 feet tall and 70 feet in length.

The HO scaffolding's MSRP is \$24.99, N scale scaffolding is \$14.99, and Z scale is \$9.99.



Figure 1: RS LaserKit's scaffolding is a new addition to the available model railroading details market. Here we see the HO scaffolding – RS Laser also sells kits for N scale and Z scale scaffolding.

<http://www.rslaserkits.com>



Figure 2: Here's how RS LaserKit's HO scaffolding looks when placed up against an HO building. From the photos, you can judge how the fine detail of the scaffolding looks for HO.

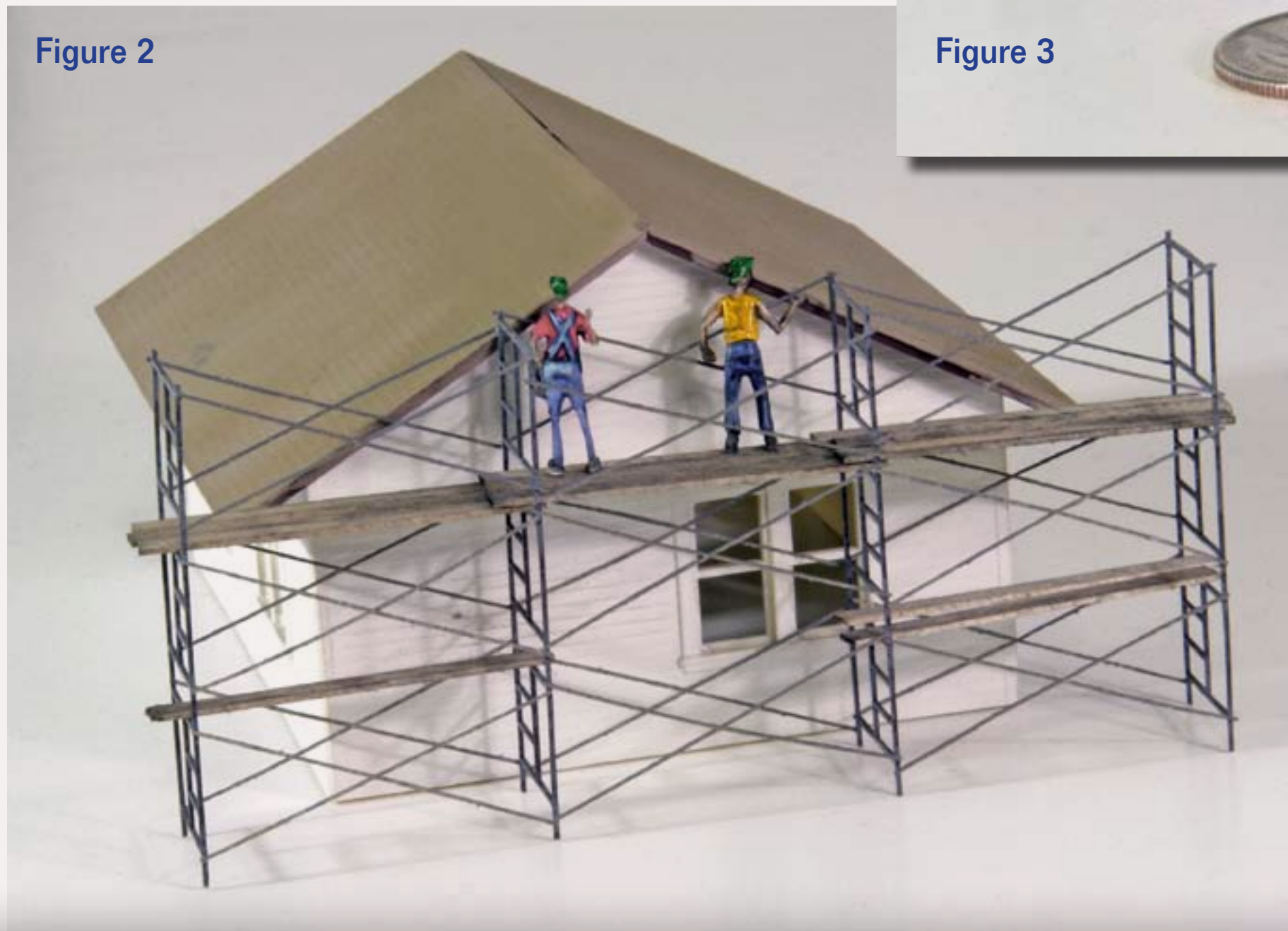
I assembled the scaffolding (minus the planks) using superglue and let it dry overnight. The next day I spray painted the scaffolding framework a light gray to simulate galvanized metal, which matches what I've seen on construction sites over the years.

For the planks, I stained them with an India ink and alcohol solution and glued them in place using white glue thinned 1:1 with water. ▼



Figure 3

Figure 2



▲ Figure 3: To give you a better sense of the scale on this HO scaffolding, I added the HO figures and placed a US 25-cent piece in the photo.

RS LaserKit also sells an N scale and Z scale version of this scaffolding. The scaffolding comes with a 4-page set of instructions with photographs and advice on how to best assemble the delicate model from the laser-cut parts supplied.

Judge the results for yourself. We thought it important to make modelers aware of this kit as an option for adding detail to model scenes in HO, N, or Z scale.



# Jeff Johnston

# How to Paint a Steam Locomotive



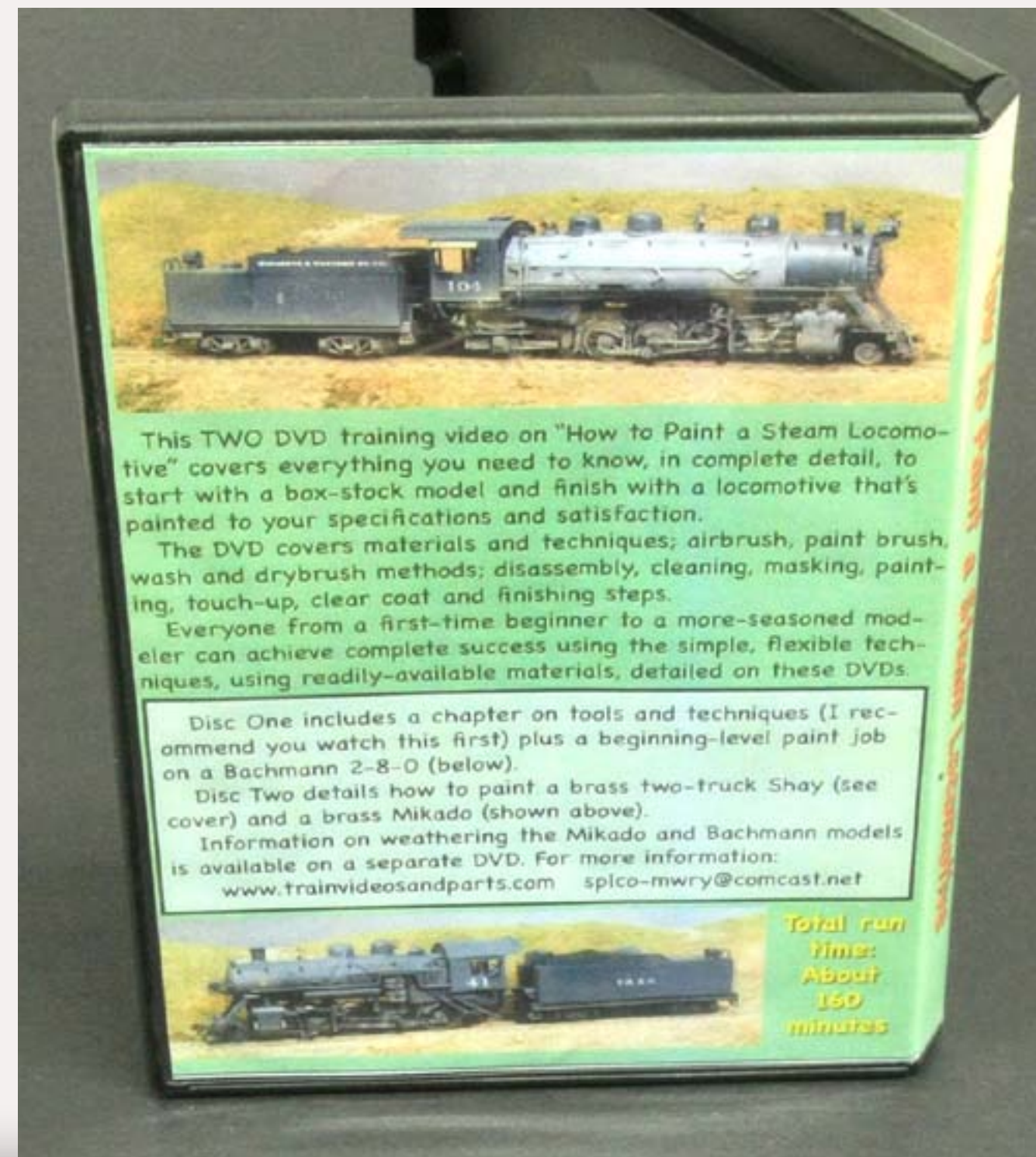
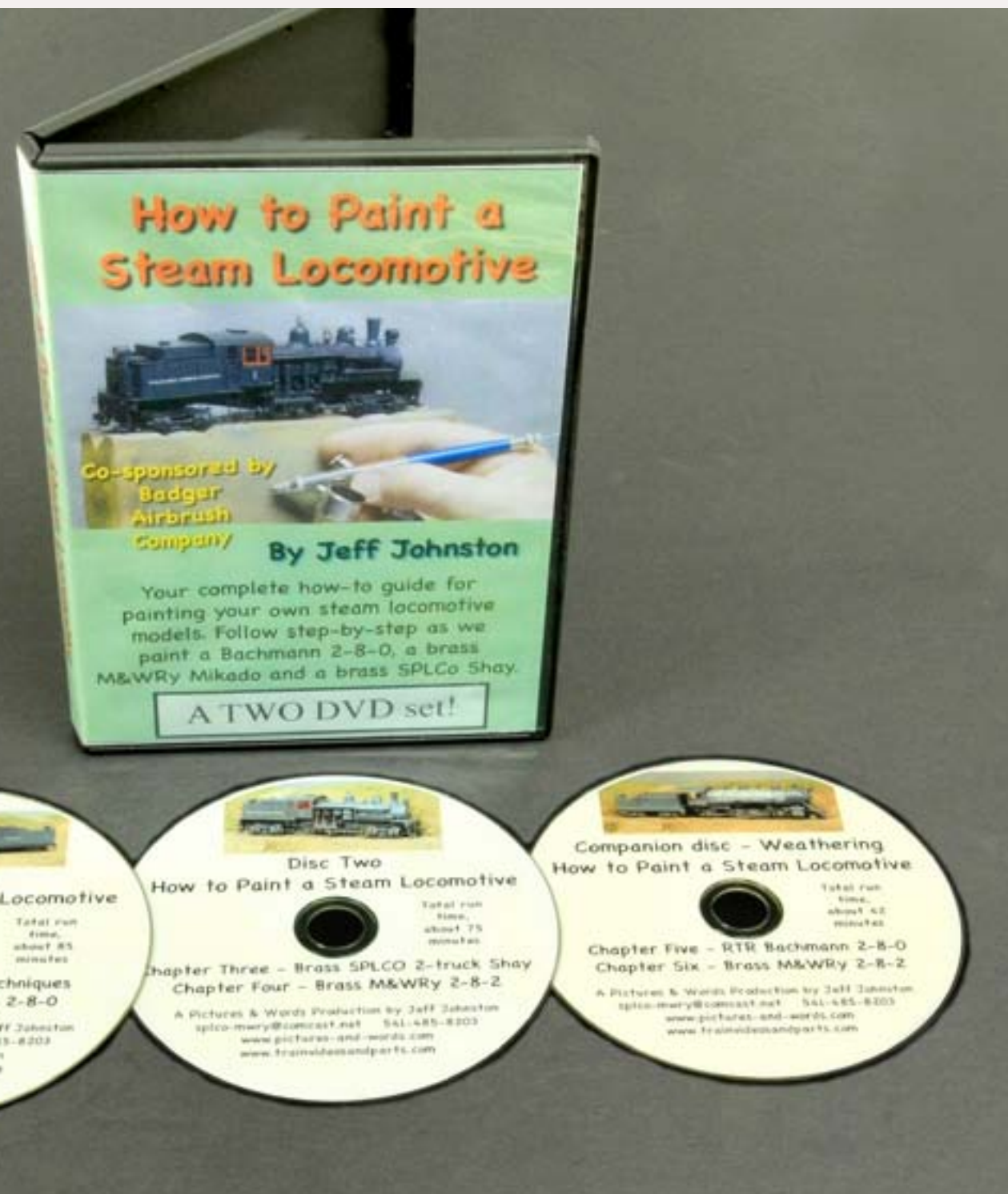
**J**eff Johnston has produced a two DVD set (with a bonus DVD) for his [Pictures and Words](#) series. *How to Paint a Steam Locomotive* covers all facets of the painting process: disassembly, cleaning, prepping, priming, masking, paint, decals, weathering and sealing.

Jeff says if you are intimidated by the thought of painting or weathering a steam locomotive, his DVDs contain all the information needed to do a top-notch job.

Jeff has written a number of books and produced instructional DVDs for the model railroader.



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





Charlie Comstock is ...

## UP THE CREEK: Modeling a Small Creek - part 4

A regular report on the construction of a 1950s-something layout

About our  
layouts  
columnist



Charlie Comstock is our  
layouts editor and columnist.

[Click here](#) to learn more about  
Charlie.



Reader  
Feedback  
*(click here)*



The Sheffield Creek area grows  
some rock castings and gets zip  
texturing ...





**O**akhill, at the summit of the BC&SJ, is again the subject of my column this issue. Oakhill is in a mountainous region and that implies rocks. I'll discuss detailing the rock face beside the road leading uphill from the depot using plaster rocks cast in home-made molds.

## Rock Faces

I had planned some rock faces for the road leading up the hill behind the Oakhill wye. I'd already done extensive masking of the hillside and backdrop in this area prior to spreading spackle and plaster for the roads and creek bed contours. I had, however, left the hillside unmasked where the rock castings would go.

Many years ago when I lived in the San Francisco bay area, I made a large number of rock molds (like those in figure 3). I elected to use these and cast the rocks in plaster instead of hand-carving the rocks in this face (see the *Making Latex Rock Molds* sidebar).

## Plaster

I use US Gypsum No.1 Casting Plaster, but Plaster of Paris will also work. Whatever you use, it should set quickly. Long-setting plasters will cause lots of delays when casting rocks since you can't apply the molds to the hillside until the plaster has begun to set, and you can't peel the molds off the new rocks until the setting process is well under way.

I mix plaster in flexible containers. For large batches I use a plastic bowl and stir with a metal egg whip. For smaller batches I use a 16 oz plastic drinking cup and stir with chop sticks.

Always put the water in the mixing bowl first. THEN add the plaster to the water. If you're going to add any coloring agents (such as powdered tempera pigments) now is the time. I let it sit for minute then start mixing. You'll need to experiment with the exact ratio of water to plaster. I use about 3 parts of water to 4 parts of plaster by volume. If the plaster is too runny after mixing, add a bit more plaster. If it's too stiff, add a bit more water. The mix should have the consistency of thin cake mix.

It's important to thoroughly mix the plaster but don't whip it or you will have lots of bubbles. The bubbles will make the surface of whatever you're casting look as though a bunch of giant termites have been at work on it.

I prop up my molds with an old towel, trying to make the edges of the molds

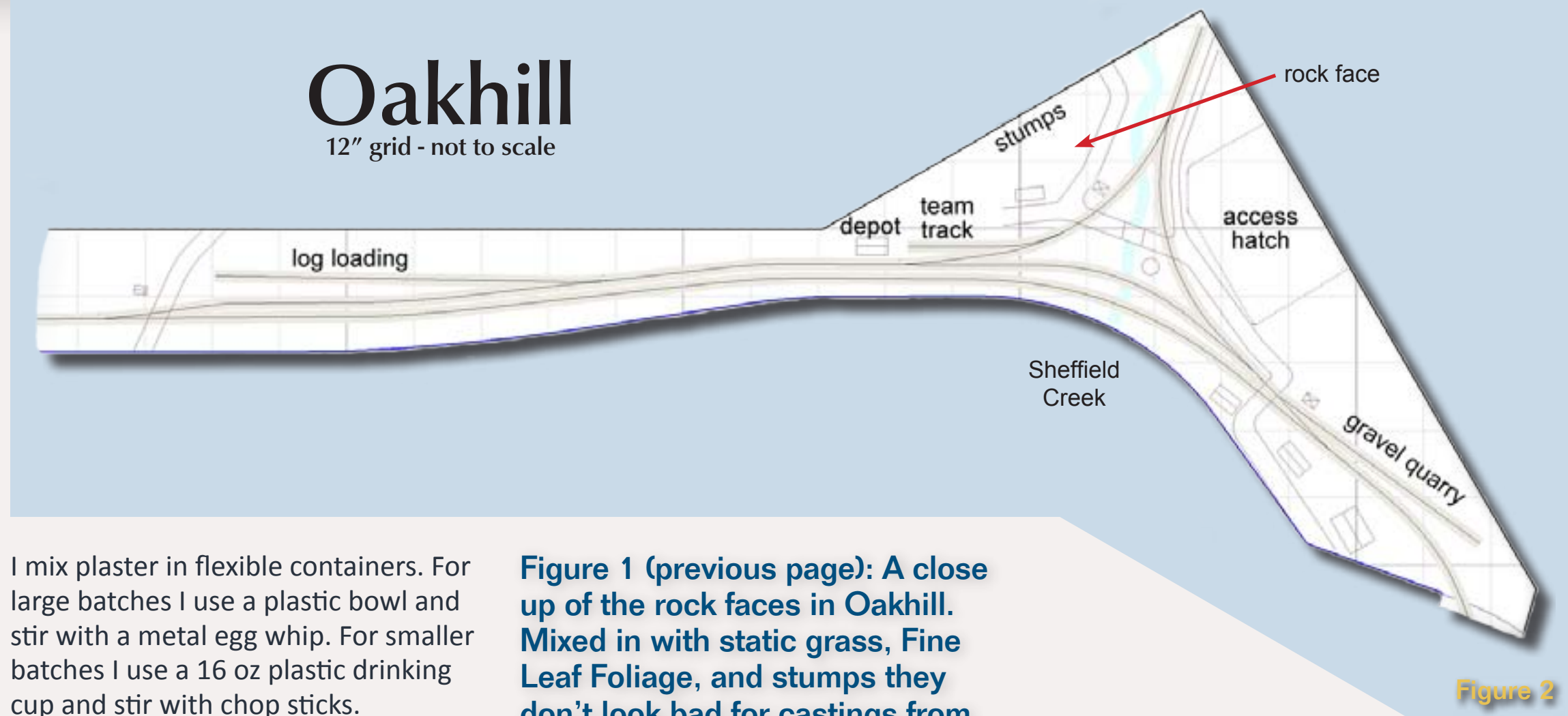


Figure 2

**Figure 1 (previous page):** A close up of the rock faces in Oakhill. Mixed in with static grass, Fine Leaf Foliage, and stumps they don't look bad for castings from 16-year-old molds.

**Figure 2:** The red arrow shows there the road and rock face are located in Oakhill.

**Figure 3:** I made these molds about 15 years ago using Mountains in Minutes blue latex. The plaster residue clinging to them looks a bit like barnacles. Despite their age, they still produce good castings.

**Figure 4:** A flexible plastic bowl and an old metal egg whip I use for mixing plaster. It's important that any container used for mixing plaster is flexible – it makes it much easier to get any chunks of plaster out should I mess up and let them get hard before cleaning ...



Figure 3



Figure 4



## Making Latex Rock Molds

The latex rock molds I made in 1995 are still working for me. Here's how I made them.

- I made a field trip looking for suitable rocks and brought the most promising candidates home with me.
- I cleaned dirt off the rocks by scrubbing them with a stiff, nylon-bristle brush.
- I wet the rocks thoroughly with water mixed with a drop or two of dish washing detergent to cut surface tension so the latex would work its way into the cracks.
- I brushed on the first layer of the mold, using latex from *Mountains in Minutes* and making sure it found its way into any nooks and crannies. [Micro Mark](#) sells latex.
- When the first layer dried, I painted on 3 more layers of latex, letting each dry before adding the next.
- I tore an old pillow case into 1" wide strips, painted on another layer of latex and bedded the linen strips in the still-wet latex. Then I painted on some more latex so the linen strips would become part of the mold. I let this dry completely, then added two more layers of latex. The linen strips give the mold strength, making it difficult to stretch or tear.
- Once dry, I peeled the molds off the rocks. This step taught me to not make the molds too three-dimensional or it's really hard remove them!

Voila! My rock molds were ready!

**NOTE:** Instead of latex you might try [Silicone Caulk](#) for making molds which is less expensive than latex these days.

roughly level so they'll hold the plaster without dribbling. In the [Silicone Rock Molds](#) article in the [Nov/Dec 2010 issue of MRH](#), the author suggests using a bed of foam peanuts to hold the molds while pouring plaster in them.

I pour the plaster into the molds, being careful to avoid spills. Then I gently rock and tap the molds to help release any air bubbles that may be present.

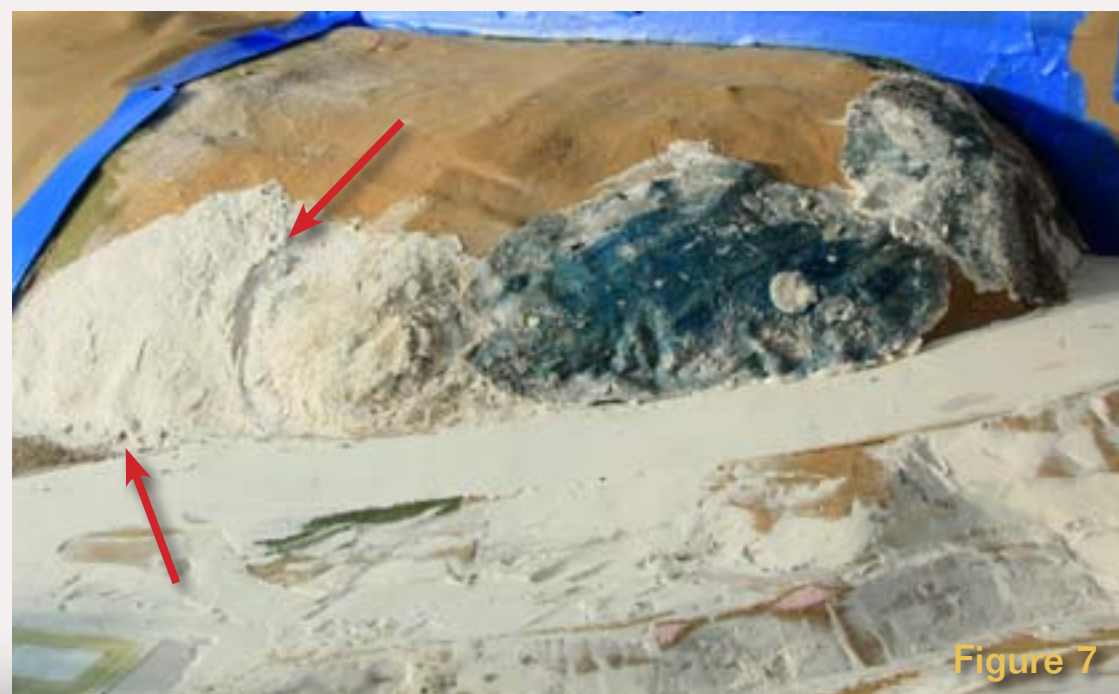
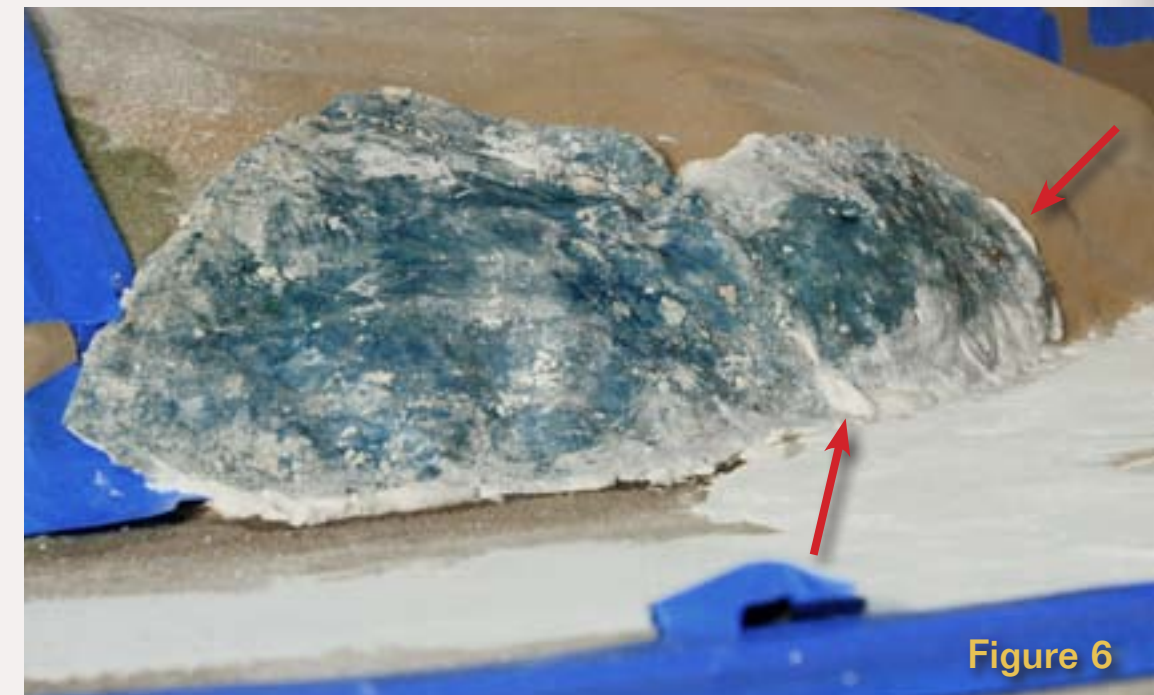
I wait until the plaster is starting to set, still flexible but not runny (figure 5).

**Figure 5:** The plaster in this mold is starting to set. It's not liquid any more but is still flexible. Just right for wet application on a hillside.

**Figure 6:** I misted the hillside with water before sticking the molds in place. The water keeps the new plaster from drying out too quickly and becoming weak. If the plaster is the right consistency, some will ooze out when I press down on the mold edges. You can see a bit of ooze at the red arrows.

**Figure 7:** Two rocks done, two more in progress. I peel off the molds when the plaster starts getting warm. Too soon and the plaster crumbles, too late, and the hardened plaster won't let go of the mold.

**Figure 8:** I paint the rocks with a base coat of gray artists acrylic paint. Once this dries I'll add other colors.





Then I quickly mist water where the rock is going on the layout, and stick it in place (figure 6). Plaster gets hot as it sets, so I wait until the mold is hot to the touch then wait a few minutes longer to be sure the plaster is well-set, before I peel off the molds.

Before the plaster gets too hard, I use an X-acto blade and dental pick to chip away any unnatural or unsightly mold-edge marks or hollow spots in the new rock castings (red arrows in figure 7).

## Rock Painting

I let the rocks cure for a couple of days until the plaster feels dry and not clammy when I put my hand on it. Then I paint the castings with a base coat of artists acrylics to seal it (figure 8), mixing mars black and titanium white into a shade of gray and thinning it a bit with a little water. I don't want the rock base color to be too even, mixing the gray as I use it ensures that. Waiting for the plaster to completely cure before painting avoids 'smearing' the rock's details. If you paint moisture on plaster that isn't fully cured you can wipe away fine details from its surface. The US Gypsum No. 1 casting plaster I use for my rocks takes detail very well, is fairly strong, and doesn't shrink when it cures.

Once the base coat dries, I mix acrylic artist colors: burnt and raw sienna, burnt and raw umber, mars black, titanium white, and prussian blue, adding plenty of water to transform the paint into a wash. I use a 3/4" brush



Figure 9

**Figure 9:** Once the initial gray base coat of paint dried completely, I tinted the rocks with washes of burnt and raw sienna and umber, black, with a hint of blue. I slopped the washes on with a 3/4" brush. I also painted the bare ground and hillside brown with latex house paint, to hide its shameful whiteness and hit the roads with some gray stain (after I finished staining the rocks). I used the plastic container in the left foreground as a palette to mix the washes.

**Figure 10:** The rocks after adding the final tints. They're still not quite dry. I masked the roads and tracks then zip textured over the area, sifting on a mix of plaster and tempera powder then misting with water to give the ground some roughness. Smooth dirt isn't very realistic.

Some zip texturing washed down the hillside and onto the rocks during the water misting. This mimics nature where dirt gets washed onto rocks by the rain.

Read more about zip texturing:

- [Zip Texturing Resurrected](#)
- [Up the Creek - Roadwork](#)



Figure 10



A clipping from the  
**South Jackson Gazette**

## Rockit Science!

Citizens living near Oakhill on the BC&SJ railroad woke up one morning to discover that Hillmovers Construction's rockit scientist had come to the area. With eager anticipation the locals followed him out to depot road where it headed up into the hills.

As he set to work, Mike Angel explained, "Inside every chunk of plaster there lurks a rock face. All I've got to do is find it and let it out!"

With a selection of chisels and jack hammers he began deftly shaping the hillside. If the newly appearing rocks refused to cooperate he used a rock slide to add more mass.

Horace Fithers, a long-term and rather vocal local, gave his view of the affair after Mike had finished and departed. "It's fer-shure that Angel feller knows more'n a thing or two about rocks! In the morning all that were there was some brown painted plaster, but by afternoon the prettiest rocks you ever did see were pushing up next to the road. It were a real thing of beauty. If you ast me, he looked like one of them Renaissance sculptors at work!"

Indeed, by the time the news team arrived the next morning on the passenger local west, a Hillmovers Terra Forming® crew had already black-topped the road and vegetated the area – it was hard to believe the scenery there wasn't hundreds of years old! ❖

\* Enjoy the Gazette? Read more at [bcsjrr.com](http://bcsjrr.com)



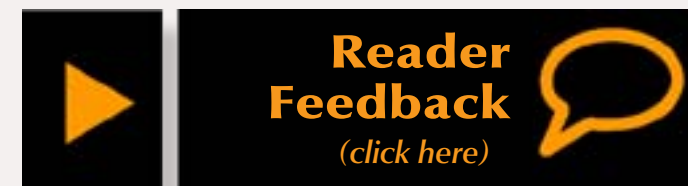
to slop the stain on the rocks until they look about right (figures 9 and 10). Being neat is not a good idea in this process. The rocks appear darker when they are wet and lighten up as they dry. Blue may seem like a strange color to use, but granite or volcanic rocks have a definite blue color component. Go easy with the blue though – a little goes a long way.

### Conclusion

Cast rocks are often more realistic looking than carved ones and require

far less artistic talent. Rubber molds make copying nature easy.

I both carve and cast rocks, picking the method depending on the situation at hand.



**Figure 11: The finished rocks look good next to the road. I used some Fine Leaf Foliage to hide places where the joint between rock and road wasn't terribly aesthetic.**

**The Oakhill townspeople appear to be enjoying their new scenery.**



# MY MODULAR ADVENTURE: Having fun a module at a time

The ongoing story...



**Weathering the roundhouse floor, painting track, trusses, windows and doors ...**

## Introduction

In my last column, MRH issue #9 Sept/Oct 2010, I started prepping and weathering the floor of the roundhouse. There was still a lot of work finishing the weathering, so to highlight the weathering process I used to “Faux Finish” the Roundhouse floor I made a short video.

I was planning on covering the weathering and painting on this module, and adding the brick paper to the walls. I was also planning to detail and install the machine shop walls. However, in this issue I will cover weathering of the floor of the roundhouse, painting the track, trusses, windows and doors. In the March issue I will cover adding the brick paper to the walls and assembling the machine shop and the first five stalls.

Take a look at the short video showing the way I achieved the “Faux Finish” on the roundhouse floor.



*Video playback problems? [Click here ...](#)*



Figure 1

Figure 1: Trial fitting before painting.

## About our Modular columnist



**Les Halmos** has been a model railroader since 1979. He's been involved with setting modular standards for the NMRA since 1981. In 2001, he founded the Free-Modu-Rail Group and has been active in promoting Free-mo module standards.

[Click here](#) to learn more about Les.

Photos and illustrations by the author unless otherwise credited.



## STEP 1: Painting the Track



Figure 2



Figure 3

Figure 2: Final weathered first five stalls on Roundhouse floor.

Figure 3: I started by masking off the edges of the ties, using ½", and 2" masking tape.

Once the floor was finished, the next job was to paint the track. By now you must have noticed that I don't do things like everyone else. This is no different. Here is my method for painting the track.

I use Floquil solvent paints. Tie Brown for Mainline, 25% Grey Primer for the sidings, spurs, and I use Rail Brown for the rail.

**Warning: When using solvent paints, make sure you have adequate ventilation and wear a respirator (with proper filters), and protective glasses.**

I painted the stall rails before installing them. Then I was ready to mask the roundhouse floor, the pit and all other areas I wanted to protect.



Figure 4

Figure 4: I used newspaper and 2" painter's green masking tape to cover the rest.



## STEP 1: Painting the Track *Continued ...*



Figure 5

Figure 5: I sprayed the main Line with Floquil Tie Brown thinned with 25% Dio-Sol.



Figure 6

Figure 6: I wanted to differentiate siding/spur tracks so I changed the formula slightly by adding a little Floquil Grey Primer (I vary the quantity of primer on different batches to get slightly different effects).



## STEP 1: Painting the Track *Continued ...*



Figure 7



Figure 8

Figure 7: Once the ties were painted I masked the edges and the inside of the track leaving only the rail and tie plates visible.

Figure 8: I took special care with the crossing.

Figure 9: It took a little more effort for turnouts. I printed a full size drawing of each turnout, then affixed them with double faced sticky tape, the same tape I used for the yellow safety lines in my previous column.

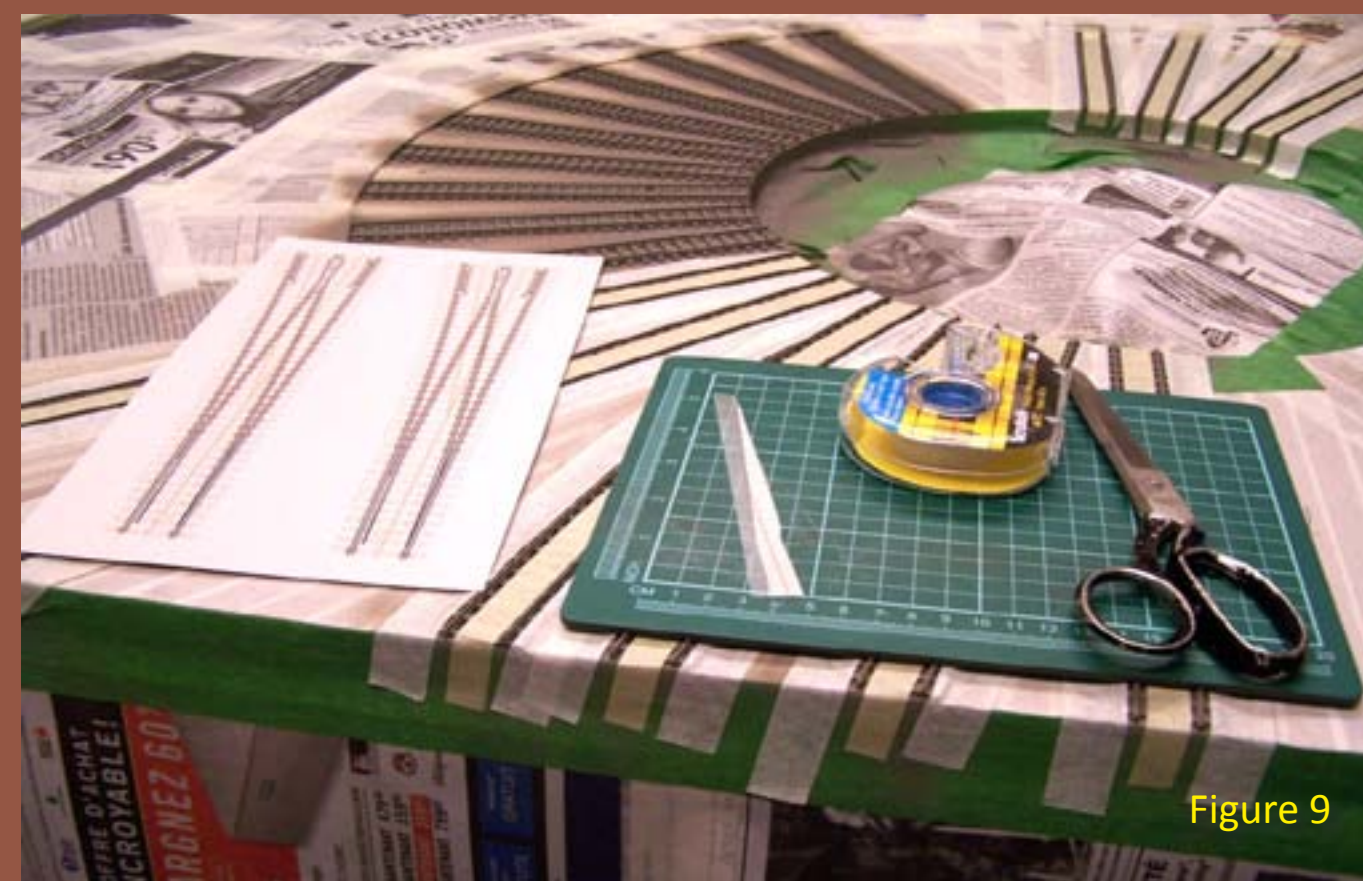


Figure 9



## STEP 1: Painting the Track *Continued ...*



Figure 10



Figure 11

Figure 10: Using the cutouts really simplified masking the turnouts.

I let the paint dry for 24 hours between coats before removing the masking tape. My method may be longer than others, but I really like the effect. When it comes to weathering the rail and ties afterward, the weathering materials stick much better to a spray-painted surface.

Figure 11: I am ready to spray the rail and tie plates with Floquil Rail Brown.



## STEP 2: Removing Masking and Cleaning Railheads



Figure 12

Figure 12: I carefully remove the masking and newspaper to prepare for railhead cleanup.

The next day I double checked all rail for proper coverage. On any missed areas I used a Floquil Paint Pen of the same color for touch up.

Now comes the job of removing the paint from the rail heads. I have tried several ways of doing this, for me the best solution is to use a brush cleaning solution.



Figure 13

Figure 13: I use LePage “Poly Clens” Paint Brush & Roller Cleaner, this product, when used with solvent based paints of any kind, allows soap and water cleanup. I found this out several years ago from a knowledgeable associate in my local hardware store.



## STEP 2: Removing Masking and Cleaning Railheads *Continued ...*



Figure 14



Figure 15

Figure 14: A little sliding back and forth with the Masonite pad loosens the paint enough so that I can pick it with the industrial paper towel.

Figure 15: A few passes on the railhead removes most of the paint. I repeat this until the railhead is thoroughly clean.

I also use pieces of 1/8" Masonite (Hardboard) pads, industrial paper towels and 600 grit waterproof sandpaper taped to the bottom of pads with handles. These handles were cut from continuous Pine moulding and ergonomically shaped for holding by Reynald Lepage (no relation to Poly Clens LePage).

I liberally wet one pad with the Poly Clens and rub the top of the railhead, once I feel the paint coming loose, I use another pad with a piece of industrial paper towel wrapped around it to remove most of it.



## STEP 2: Removing Masking and Cleaning Railheads *Continued ...*

Once these steps are completed, I double check all the railheads to make sure they are clean. Then I apply a coat of Electrosolve Contact Cleaner. This cleans the railheads and removes any residue left by the Poly Clens.

I have tested this method on our Free-Modu-Rail layout. It has proven to enhance contact, and reduces arcing keeping the railhead much cleaner. It leaves no residue, and is safe on plastics.



Figure 16

Figure 16: There are always some stubborn areas where the paint does not come loose. On these I use 600 grit sandpaper which removes any paint very quickly. I also use it on the more delicate areas of turnouts and crossings.

Figure 17: Contact Cleaner sold in most electronic stores.



Figure 17



### STEP 3: Preparing and Painting the Detail Parts

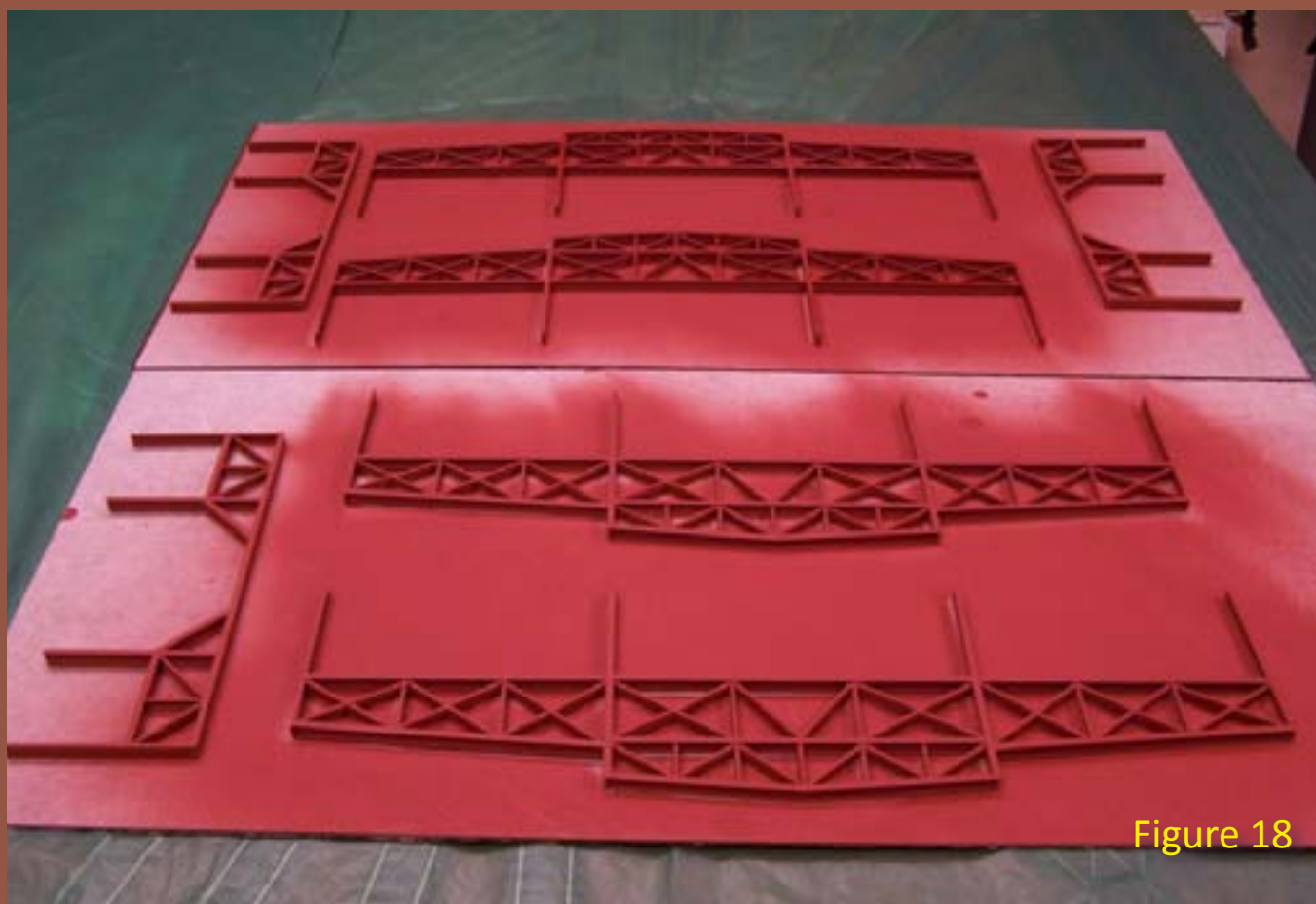


Figure 18: I painted the trusses with red automotive primer. It works extremely well, does not mask details, and dries in about an hour. I painted both sides on the same day.

I assembled all the parts needed for the five stalls and machine shop I am working on. That made a lot of trusses, windows and doors. After painting the trusses, I wanted to paint all the windows, and doors for all 13 stalls. There were so many that I couldn't fit them all on one sheet, so I decided to paint only the ones I needed for the five stalls.



Figure 19: On the Tichy windows and doors, I used True Line Trains acrylic paint, I waited 24 hours before painting the opposite sides. The Tichy castings are grey styrene and do not require any priming.



### STEP 3: Preparing and Painting the Detail Parts *Continued ...*

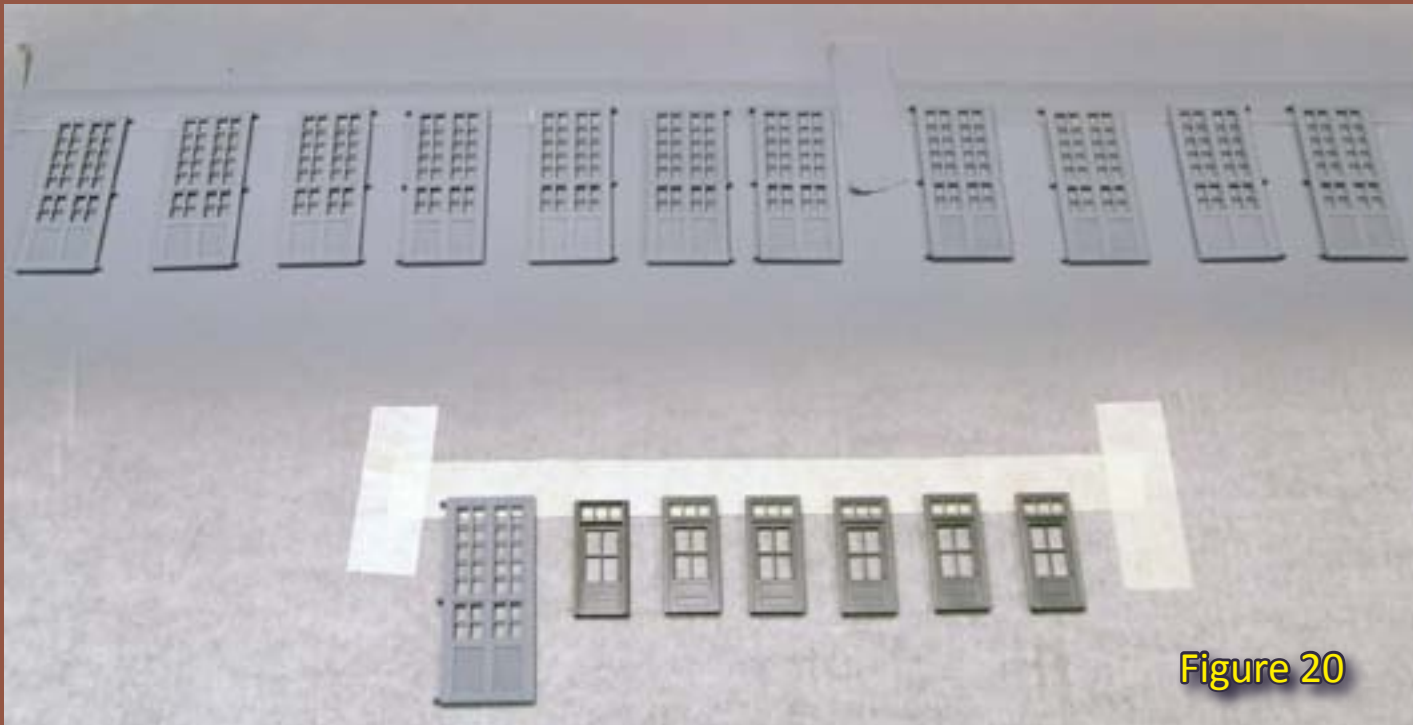


Figure 20



Figure 21

Figure 20: I primed the roundhouse stall doors with gray auto primer directly out of the can before applying the Olive Green paint. I always prime any black styrene piece before spraying the final color. I learned this when I painted a black loco shell yellow, without primer. The result was not what I expected.

Figure 21: True Line Trains Olive Green (CN) #11. I used the paint straight out of the bottle without any thinner. That saved a lot of mess, and cleanup was with soap and water. Although I prefer solvent paints like Floquil, I might get used to Acrylics, especially after trying this product.

#### Conclusion...

It took a long time for me to get to this stage, but every step I take now shows up on the module, and that is very motivating. I can really start to visualize the final product!

The next steps I take will be more motivating as I start assembling the roundhouse itself – something I have been planning for several years now. In my next installment you will see the results in my usual step-by-step method. I will try to add more videos demonstrating my methods of construction.

I hope you are enjoying this series. Please take a minute of your time and click on the “Reader Feedback” button and post any comments or questions. I will try to answer you as soon as possible. Until then, I’m back to modeling. No more time to procrastinate, we are monthly now, and deadlines are a lot shorter. ☑



**Please mention MRH when talking to hobby vendors!**





## About our narrow gauge and branchline columnist



**Lew Matt** is a published writer, photographer, and illustrator whose work has appeared in many model railroad hobby magazines.

[Click here](#) to learn more about Lew.

# THE LITE AND NARROW: Portable Display Train Layouts

## Ramblings on Narrow Gauge and Branchline Modeling



### What makes a portable railroad a memorable one?

I recently attended the Annual National Narrow Gauge Conference (NNGC) in St. Louis, MO, and was extremely impressed by the many portable, modular display railroads on exhibit. This is something I always enjoy seeing. Regional shows and organizational meets are other good places to see exceptional display railroads. The best display railroads are cohesive in their theme and consist of a series of memorable, intricate and highly detailed scenes that reinforce the theme along the right-of-way of the railroad.

Good display railroads are designed to operate trains, have a specific theme guiding the construction and are built to be viewed by an audience for a public showing, not necessarily only for other model railroaders. The selection of a theme for a display railroad should be made considering your personal preferences and with the viewing audience in mind.

A non-railroad audience will probably not recognize a prototype railroad scene unless it is very famous.

However, if the display railroad depicts a series of believable, prototypically based scenes that portray the essence of the theme and reflect typical country side scenery and buildings, along with appropriately lettered engines and rolling stock traveling between the scenes, then the theme will believably come together.

Most display railroads are the continuously operating, round-and-round

style, and serve their purpose best when there is a lot of continuous action. Round-and-round may be the easiest way to achieve this with limited manpower, and has served us well. Other styles, like the loop to loop and point-to-point Free-Mo, require a lot more people to maintain heavy, continuous operation and still answer the inevitable questions from the audience.



**FIGURE 1:** This is a detail scene on the Sundance modular display from the 30th NNGC in St. Louis. Alongside the machine shop is a worker splitting firewood. Note the debris from the log-splitting on the ground, and surrounding the machine shop is a great deal of clutter. This is a lot of eye candy for the viewer.



Whatever the method of construction and assembly of the modular display railroad, it should be operationally foolproof, lightweight and quick and easy to put together and

take apart. Unlike a true modular railroad, a sectional portable display railroad does not necessarily have to be interchangeable, as the railroad may be assembled the same way each

time and tracks can cross the joints between sections at any place on the ends, as needed.

The theme is the factor that combines all the scenes from each section of

the railroad into one cohesive visual family that tells a story in miniature. This theme could be based on prototype railroading, such as Great Lakes Module Group's HOn30 New England,



**FIGURE 2:** A Manchester mini-bunch module photographed at the Mid Atlantic NG Convention, Valley Forge in 1983. Engine Terminals make excellent points of interest and can be loaded with detail like this one built by Steve Fisher. The engine house is a Thomas York plaster kit and the loco is a Grandt Line Porter built and detailed by Garry Cerrone.



**FIGURE 3:** This module was on display at the 30th NNGC in St. Louis. The houses dominate the center of the module with an enormous amount of detail for the viewer to look at. The module is a through track – move from here to there – module with no mechanical activity or switching. The lighting falls off on either side of the houses to keep your interest in the center. The tongue-in-cheek signs on the fence, clothes drying on the porch and kids playing stick ball on the right side give the viewer plenty to see while waiting for the next train. All this in only a few inches of thickness.



Lee Rainey's Sn2 RR, or a whimsical freelance railroad design such as the Sundance group's Fn3 logging line.

Each section or module of the portable display railroad should be more than merely an extension of the track from here to there. The singular feature of each module should be a well-detailed, intricate scene that both enforces the theme, geography and time period, while captivating the audiences' interest. Whatever scene

you are looking at, the more you look and the closer you look, the more you should be able to see.

The photographs accompanying this article depict scenes, mostly from the center of the module, framed by lighting, forests, mountains, or other scenic devices to focus the attention on the highly-detailed scene or focal point of that module, and subsequently diminish the place where the modules join together. Figures and

accessory details are high on the list of items that make the focal point. These accessory details describe the scene and the figures add life.

If the display railroad is designed to be viewed from both sides of the module, then the scenes must be very carefully planned to draw the viewer in from either side. The late Ted Bossert used street crossings on his On3 railroad, with detailed New England town scenes at the crossing

streets to focus attention. The activity on either side of the street encourages the viewer's eye to look at the scene on the other side, too.

The Mid-Atlantic On30" Module Group has a scenic view from either side of their display layout and utilizes this same principal. It is interesting to watch a person quickly walk the whole way around the layout,

*Article continues on page 119 ...*



**FIGURE 4a:** This helicopter view of Lee Rainey's Sn2 locomotive coming around the bend shows how a "deep cut" surrounded by large trees can be effectively used to hide a module joint. The King post truss bridge is the center, focal point of this module. Mid Atlantic NG Guild Meet, 2009.



**FIGURE 4b:** The king post truss bridge is the center, focal point of this module, nestled between two thickly-planted, tall clusters of trees. The forest acts as a frame directing your attention to the bridge. Note carefully that there is a fisherman in the stream, another detail to add interest to the scene when no trains are crossing the bridge. Mid Atlantic NG Guild Meet, 2009.





**FIGURE 5a:** The spot where two modules fit together has always been a scenic problem. The Great Lakes HOn30 group has resolved the scenic issue of the “straight line” in nature. After all, how many hedges can you have on your railroad? This problem has the modular joint in the stream, and the water level is below the level of the connecting end piece. From the Midwestern NG convention, 2008.



**FIGURE 5b:** The excellent bridge across the stream very neatly conceals the joint across the water. Some loose gravel and turf in the foreground and background will hide the less noticeable spots. You can also cover joints with buildings. But that has to be done very well or it looks like an obvious cover-up. From the Midwestern NG convention, 2008.



**FIGURE 6:** The late Ted Bossler’s On3 Wells River New England style freelance RR on display at the Midatlantic NG convention in Wilkes Barre, PA, 1979. Ted used the street crossings in the center of his modules as a focal point for viewing. Ted set up his modules to operate point to point (over 50’ long) on DC block power and the entire layout was detailed to be seen from either side. The small details and figures shown here are now more than 60 years old.




... *article continued from page 117*

just to view the same scene from the other side.

Almost every modeling group is building, or has built, a portable display railroad. Put your design to the test: does it have a solid theme? Does every section have at least one highly detailed scene with lots of interest? Are scenes logically transitioned by scenery or

lighting from section to section? When you look closely, can you see more detail than from arm's length? Is there a lot of activity or train movement through your scene? Are there scale figures to help create the feeling of life in the scene? Does each scene on each section of the railroad relate to adjoining scenes through the length of the railroad? Does everything on display match the theme and time period?

If you can answer yes to all these questions, your portable display railroad is a winner! Take some pictures and share them with Model Railroad Hobbyist magazine. We would love to see what you are doing. If the material you send us matches our publication guidelines, you will definitely hear back from us for more! 



**FIGURE 7:** A Manchester mini-bunch module scene photographed at the Mid Atlantic NG Convention at Valley Forge in 1981. The well-detailed general store sits in the middle of a 2' X 4' module and is detailed for viewing from both sides. The loco is a kitbashed and detailed Rivarossi Heisler, the store is a Thomas York kit. The road bisects the module at a 60 degree angle creating 4 corners that can be separately detailed.



**FIGURE 8:** The fully enclosed water tower on this Sn2 module is a novel structure and commands a great deal of attention. Just across the street, on the close left corner of the road going past the water tower is a truck loading from a store house. Lots of human action in this area. The road crossing the module at an angle is a very effective ploy. This module can be viewed equally well from either side. Mid Atlantic NG Guild Meet, 2008.



# REVERSE RUNNING: The newest Local Hobby Shop — the Internet

Stepping outside the box with a contrary view



ago, neither is the hobby retail business.

While we can wring our hands over what's been lost, I prefer to consider what's been gained.

## Enter the Internet:

It's no secret many businesses are

standing up an internet presence and prospering. But that's not my focus here.

Instead, my interest here is on the *people side* of the move to online.

I'm not so sure we should see the internet as an interloper – rather I think we should ask if the internet might not be a savior.

I'm sure many will quickly point out the internet's just not the same as the LHS. Cyberspace is inferior to really being there.

I agree it's not the same – but is it really worse in all aspects?

I can go online to sites like the eBay auction site and find

thousands of products listed by both individuals and businesses. And that list completely turns over weekly. It's the world's largest continuous swap meet!

And then we have dozens of model railroading forums and blogs, not to mention video sites like YouTube, Vimeo, and Blip.tv.

What's being able to reach out and touch tens of thousands of hobbyists in a matter of minutes on the internet worth?

I can get lots of feedback on just about any hobby topic from around the globe in a matter of hours. (*The MRH staff joke is "you can post a modeling question on the internet and in a matter of hours you will have an answer – and in a few days you will have the **right** answer."* - ed.)

No longer do my modeling buddies need to share my zip code – anyone on the globe with an internet connection can potentially become my model railroading buddy. Thanks to digital cameras, Flickr and YouTube, I can quickly see what others

are doing and I can likewise showcase my work.

Never before has communicating with other modelers been easier.

What we've given up in local direct touch quality, we've gained in an amazing ability to touch *the planet* quickly.

And as already mentioned, the array of products you can find online is something hobby old-timers never dreamt was possible.

To talk model trains, in past decades, I'd go hang out at the LHS – now I can go online and talk to the planet! It's not called the *world wide web* for nothing!

You could call the internet one big LHS on a grand scale never conceived of 40 years ago.

And finally, this big new LHS is what has made MRH possible. Thank you all, our readers, for a great first two years!

(P.S. I love my brick-and-mortar LHS too! Don't let the internet lull you into staying away from them, if you have one nearby. But with the internet now *everyone* has an LHS close at hand!)



— by Joe Fugate

**H**ardly a day goes by that I don't run across someone on the internet wringing their hands over the demise of the local hobby shop, also often called the LHS in internet shorthand.

It's true, the LHS is a shrinking part of the hobby landscape – but the more savvy hobbyshop owners are also hanging out a shingle online, such as on eBay.

Just like real railroads are not the same business they were 40 years



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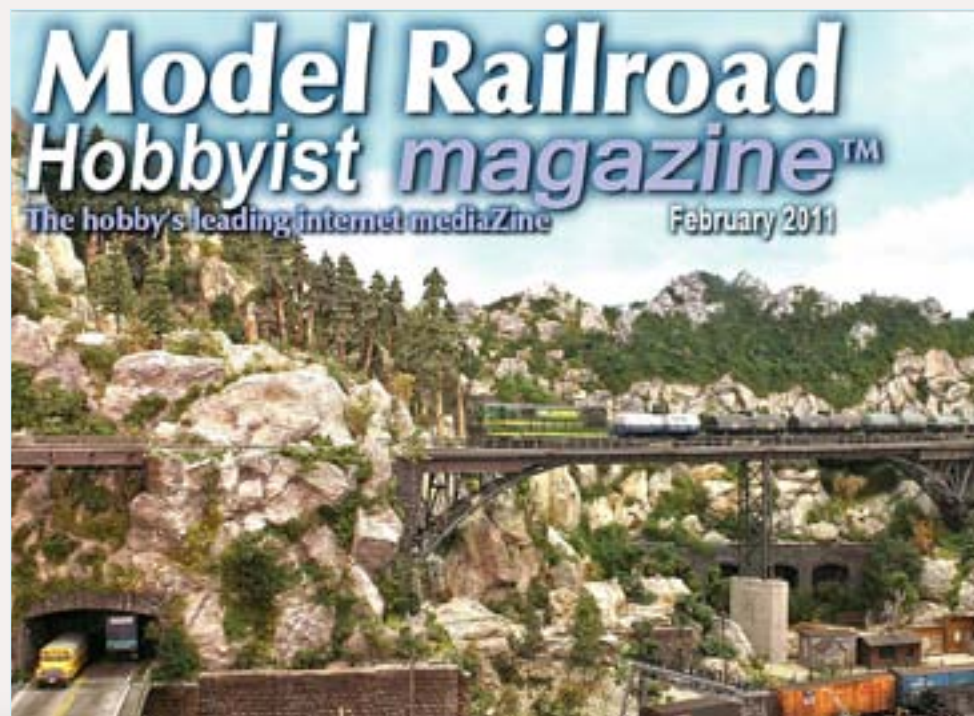
### Coming in the February 2011 issue

- Erik Kalinski's Pacific & Northwestern Railroad
- Manual turnout controls with power routing contacts
- Relaxed and realistic GN track plan in HO
- Tips for getting the most from historical societies
- Realize your model railroading dreams
- Weathering with chalk
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**For the love of model trains**



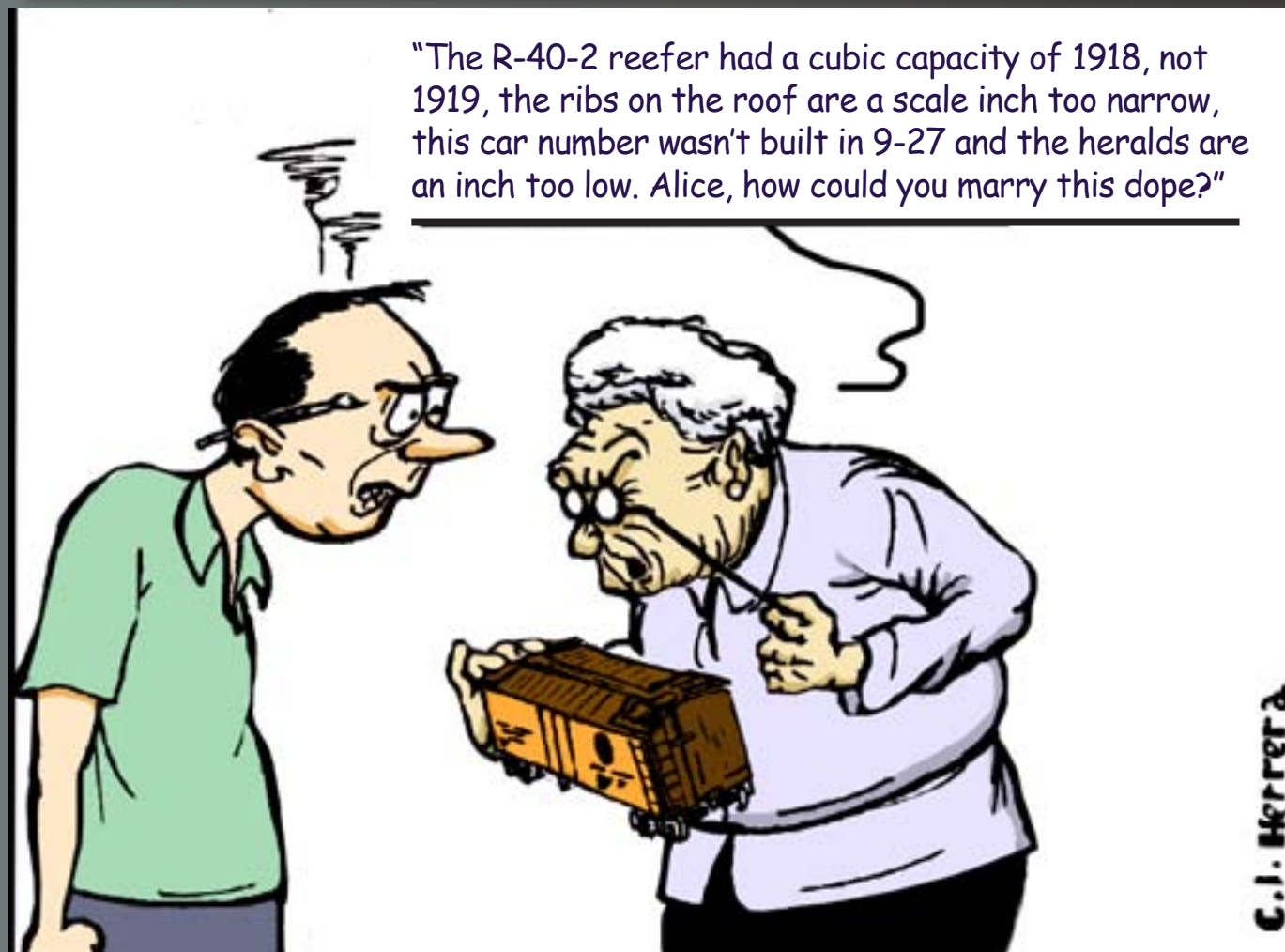
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**Derailments humor  
and Dashboard on  
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# Deraillments

humor (allegedly)



An eastbound train was heading for New York City. An early-boarding passenger told the porter, "I absolutely have to get off at Harrisburg but I'm a heavy sleeper. No matter what I do or say, make sure I get off this train in Harrisburg and it'll be worth a hundred bucks to you ..."

The next morning, that passenger awoke to see the train pulling into Grand Central Station in New York City! He found the porter and royally chewed him out screaming at him, "You've ruined me! You made me miss a vital meeting with my most important client!" The porter just stood there until the passenger ran off to find a train back to Harrisburg.

A different passenger later overheard the first porter talking with another porter. "Yessiree, that guy was pretty nasty all right, but not nearly as bad as the fellow I threw off of the train at Harrisburg!"

Got a good bit of humor? If you're the first to [submit it](#) and we use it, it's worth \$10!

**When talking to hobby vendors, please remember to mention MRH.**