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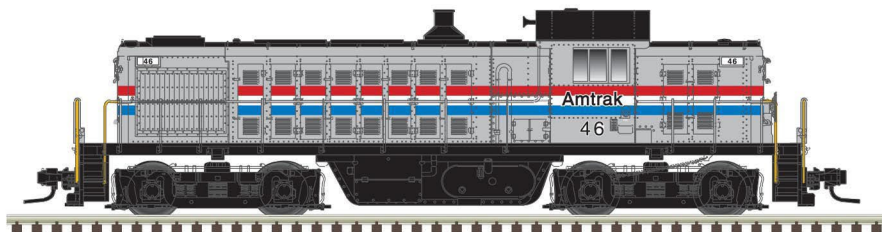


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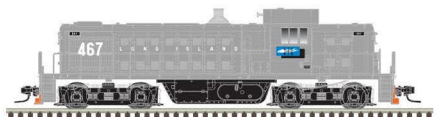
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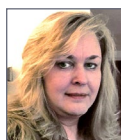
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ISSN 2152-7423

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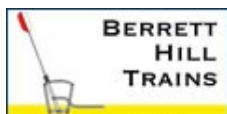
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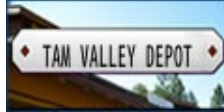
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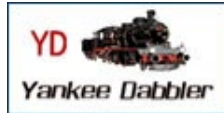
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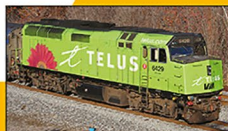
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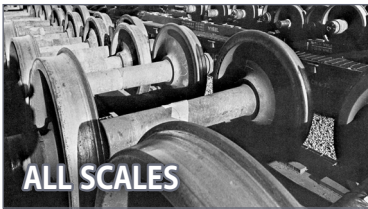


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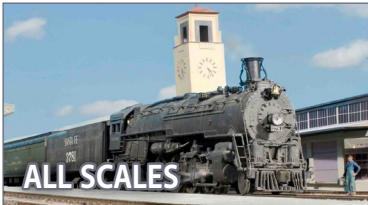
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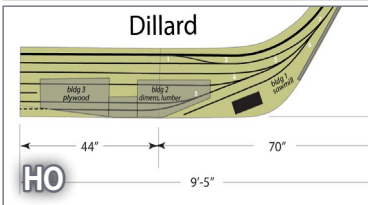
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Freight trucks of 20th Century
RICHARD BALE



LA Union Passenger Station
V.S. ROSEMAN



Siskiyou Line 2 progress update
JOE FUGATE

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MRH Q-A-T

Compiled by JOE BRUGGER



Modeling water, styrene as wood ...

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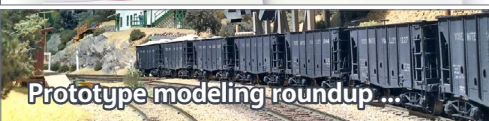
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Exploring the Tsunami2 ...

Getting Real

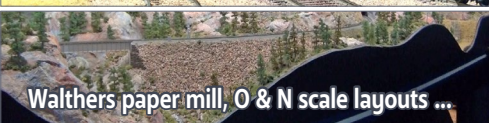
ALL five MRH Getting Real columnists



Prototype modeling roundup ...

What's Neat

KEN PATTERSON



Walthers paper mill, O & N scale layouts ...

Yes, it's a model

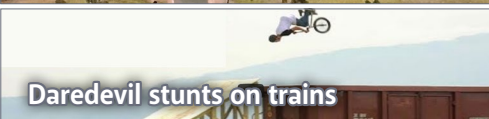
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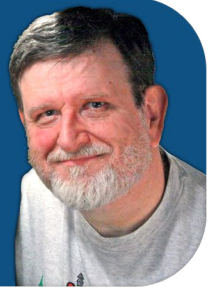
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by Ken J. Johnson
Preproduction model shown

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PUBLISHER'S MUSINGS



Model Railroad Hobbyist | June 2018 | #100

JOE FUGATE: MRH'S FOREVER FREE
BUSINESS MODEL AND THE FUTURE



WHEN WE LAUNCHED *MODEL RAILROAD HOBBYIST* magazine back in January 2009, we elected to make it advertiser-supported and free to modelers to read.

Another important goal has been that we provide our fellow model railroaders what they need to achieve their model railroading dreams.

Just because we're free doesn't mean we can be sloppy. I often remind the staff: "nobody likes free junk." We have to make the magazine a quality product.

In a nutshell, our goal has been to make MRH magazine the best deal going for intermediate-to-advanced general model railroading how-tos. That said, we don't want to ignore beginners, but we do not target the beginner audience specifically.

Given all this, how has the forever free business model performed?

Frankly, it's been moderately successful, but MRH magazine revenue gets eaten up by payments to contributors and staff each month. Most months, there's nothing left to fund growing the magazine in any way, and some months we need to cut corners to make ends meet.

The MRH Store and TrainMasters TV do much better financially and their funding allows us to pursue new products and a few road trips for new videos.

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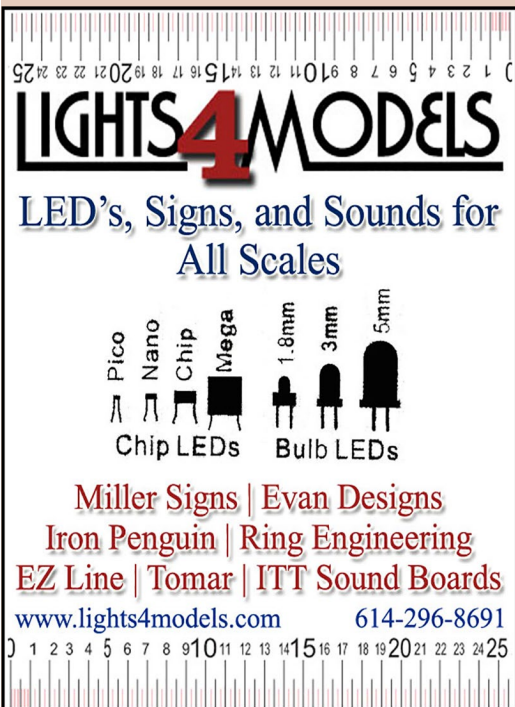
If you look at ad-supported digital publishing on the web as a whole, it's been a mixed bag in recent years.

Across the entire internet publishing industry (modern eBooks, eZines, and content-rich websites – not old school paper publishing) – non-targeted ad clicks are down. Advertisers no longer can just put any ol' ad out there and get clicks. Advertisers must now roll up their sleeves and really do their homework.

Advertisers also can't just sit on their laurels, running the same ads repeatedly and get clicks. Responses to a rerun ad drop off quickly.





A good ad campaign with MRH does far better than a general web ad, but it takes time and effort to put together a good-performing campaign. The approach used with paper-based advertising doesn't work with a digital medium such as MRH magazine. You have to think *differently*.

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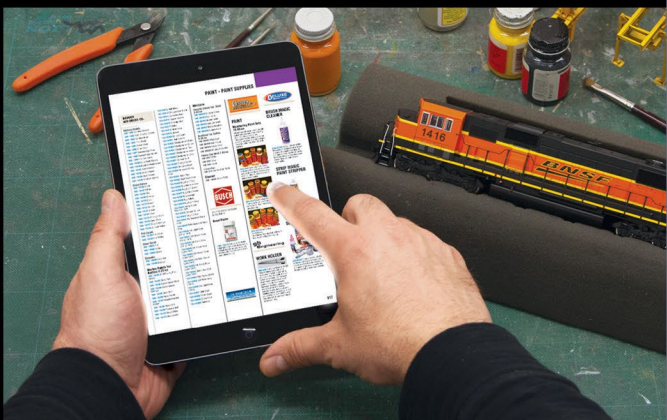
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PUBLISHER'S MUSINGS | 3

Many mom-and-pop model railroading businesses stretch themselves thin just trying to make good products – building a successful web-based ad campaign takes training and marketing savvy they may not have. To help with this problem, MRH Media will be building an extensive training program for hobby vendors to help them get the best bang for their advertising buck.

Meanwhile, Google, YouTube, and Facebook ads targeted to reader interest (aka, “smart ads”) are getting record levels of clicks. In short, Google, YouTube, and Facebook (the “big three”) are getting ever better at targeting viewers with ads that match their interest and avoiding ads for things they don’t care about.

Non-targeted display ads are “dumb” – they depend on blasting everyone in sight with the hope of finding someone who cares. Readers get so inundated by “dumb” ads they tune out ads more and more.

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THE ULTIMATE ACF 4600 3-BAY CENTERFLOW HOPPER IS NOW IN ATHEARN GENESIS

ANNOUNCING

The 3-bay CenterFlow covered hopper first entered service in the mid-1960s built by American Car and Foundry. The cars handle loads such as grain, corn and similar bulk commodities. The Centerflow relies on the car's rounded body to provide structural strength without the added weight of bracing, as well as making gravity unloading easier. This 3-bay car came in a 4,600-cubic foot capacity. The railroads looking to replace

their aging 40' box cars in grain service needed a modern hopper design. One that could operate within the tighter Plate B clearances for light branchline and industrial service. ACF's design won them many contracts from a plethora of railroads. One can find these cars still in revenue service today in grain trains and other similar service. Athearn is excited to announce the brand new ACF 4600 cubic foot 3-Bay CenterFlow hopper exquisitely detailed in Genesis HO and in N-scale.



Early high side ladder and high brake wheel version depicted

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PUBLISHER'S MUSINGS | 4

MRH magazine display ads are “dumb” because all readers get all ads regardless of their specific interests in the hobby. And the PDF format is a dumb file format – it has no allowances for adding programmatic code to the documents to make the ads smarter.

As if this wasn't enough, most browsers now come with ad blockers built in and turned on by default. And ads on mobile devices are proving to be even less effective because of the tiny screens. The internet ad business just isn't what it was five years ago.

So the bottom line for the magazine is this – MRH magazine is the most resource-constrained part of MRH Media. Ad clicks are down and ad revenue has not been growing. Meanwhile, production costs are slowly increasing.

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When we put “forever free” on an MRH magazine issue, it means for as long as we have breath, we’ll make sure what’s in that issue remains online and free to access.

It also means we’re working to have good MRH succession plans in place to keep that issue forever available online and forever free beyond us should we ever close our doors.

And to the degree the ad-supported funding model keeps working into the future, future issues of MRH will likewise have content that’s “forever free.”

While readers haven’t paid to read MRH magazine content, the magazine is not actually free – hobby vendors fund it, of course. It should not be rocket science that if hobby vendor funding varies, the free content in the magazine needs to keep pace with the funding.

We’ve had the desire to do more with the magazine, but since this part of MRH Media has been resource-constrained, we haven’t been able to branch out and do more – and we have a long list of things we’d like to do.

New this month – a donate button

The hobby has good things that remain free (but still keep improving) such as JMRI, and they get extra funding support through donations. To help relieve the ongoing ad-supported resource constraints of MRH magazine, as of this month we’re adding donate buttons, similar to what JMRI does.

If you’ve found any value in the first 100 free issues of MRH, then consider saying thanks with a donation. No pressure, though.

We understand some of you struggle to find funds to even do the hobby at all – so we’re not talking to you. However, if you’re blessed financially and have appreciated what we keep providing for free, then [consider saying thanks to MRH with a donation.](#)




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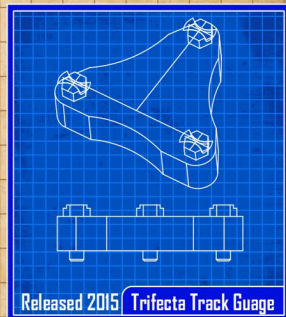
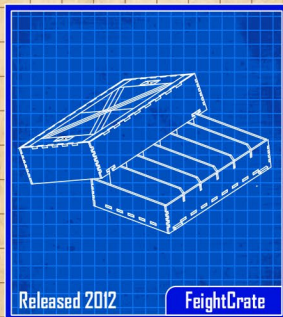
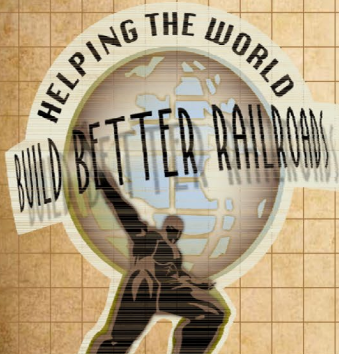
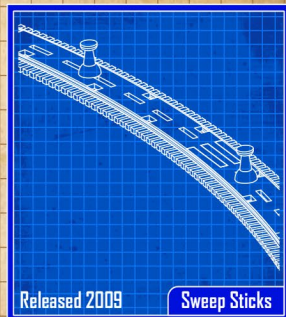
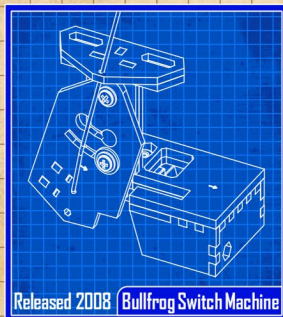
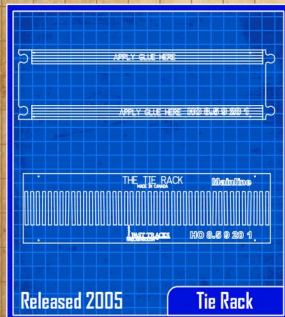
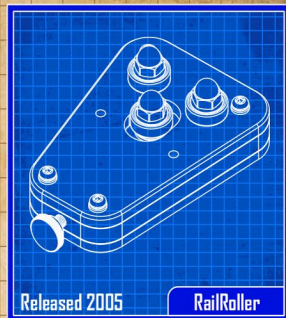
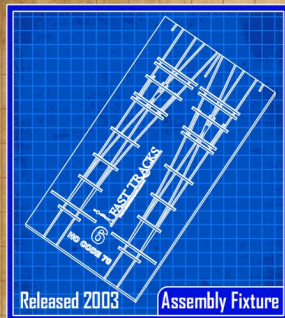
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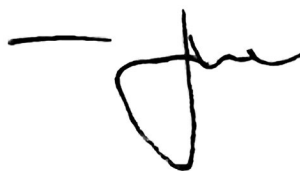
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One thing is certain from all this: the web keeps evolving and we can't sit on our laurels. We must evolve and adapt to the changing web marketplace and always keep pace with the needs of our readers. We have ideas on the table for doing this, such as adding premium paid magazine bonus content at some future date.

But regardless of what we do going forward, one thing you can count on – MRH will remain the best deal out there as to hobby how-to content, hands down.

On to the next 100 issues! ☒



NOTE: As of this issue, we're discontinuing the embedded edition. For most of you, you will see no change – just fewer and simpler download choices.

But if you're computer tech savvy and you want both the magazine and the media all in single download, see the subscriber bonuses to get the PDF issue bundled with the media all as a single zip file download. ***Long story short:*** The embedded edition depends on Flash media and Adobe is sunsetting support for Flash.

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* Donations for hobby publications are not tax-deductible.

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LAST ISSUE'S RATINGS

The five top-rated articles in the [May 2018 issue](#) of *Model Railroad Hobbyist* are:

- 4.8 Prototypes for Accurails 1300-series
- 4.6 DCC Impulses: Modern DCC decoders with braking
- 4.6 Rick McClellan's Frisco
- 4.6 What's Neat: Layout rework, stack packs ...
- 4.5 More Kadee-style coupler tips

Issue overall: **4.2**

Please rate the articles! Click the reader comments button on each article and select the star rating you think each article deserves. Thanks! ■

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MRH ... QUESTIONS, ANSWERS, TIPS



Model Railroad Hobbyist | June 2018 | #100

compiled by **JOE BRUGGER**



RATE THIS ARTICLE

Water with ripples

Q. I am nearing the completion of the river on my layout, using Envirotex Lite for the basic river. I would like to have some small ripples rather just a glossy mirror coat. Has anyone has had good results in creating ripples, and what is your technique?

—hoffertg

A. Rick Wade: Rob Spangler did a great “how-to” on water which I distilled down to a PDF file that you can view and download from my Richlawn Railroad website. You can find the page for the PDF at richlawnrailroad.com/?page_id=657. [Photobucket had blocked access to these files. As of 5/18/18 they are visible in the original thread at mrhmag.com/node/13720.]

Rob Spangler: Thanks, Rick. I hope that info helps people.

There is more detail in the PDF, but fthe ollowing are Rob's basic steps:

► **MRH QUESTIONS, ANSWERS, AND TIPS**

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Start with completed scenery in place – land forms, creek banks and so on – but keep vegetation away from the stream until later. To help impart some depth to the stream, airbrush some Railroad Tie Brown or another color into the creek bed. Darker colors can give the appearance of deeper water when viewed from above. Select a color based on photos of streams in the area you are modeling. It's important to avoid hard edges in the base color, so an airbrush is ideal.

Water material flows downhill if not restrained, and adding “dams” at the location of future rapids helps to hold the water so it doesn't migrate too far downstream before setting. Clear caulk will work.



1. Mike Cawdry uses two-part epoxy resin on his layouts. To get ripples in flatter water he uses a skewer to repeatedly work irregularities into the surface while it sets and had to persevere for quite some time before they started to take. *Mike Cawdry photo*



2. Rick Wade used Rob's techniques, including using the top coat of Mod Podge, to create a convincing mountain stream on his Louisville & Nashville railroad.

Rick Wade photo

Later-applied materials may not stick to pure silicone. Acrylic gel medium is one alternative, but much more expensive. The dams should not be big, but just high enough to let the water material pool behind them.

First pour

For water, Rob used tried 'n' true epoxy resin. Several brands work interchangeably, including EnviroTex, Crystal Sheen, and one, "Amazing Clear Cast," that was the brand available at Hobby Lobby where he had a 40%-off coupon. Mix according to the manufacturer's instruction. It helps to do a small test batch to get a feel for how the material handles and how long it takes to set up. For mixing, any disposable plastic container should work provided it's tough enough not to melt from heat as the resin left in it starts to set. There's just enough heat to affect flimsy plastic.

“Since I wanted the creek to look greenish and somewhat muddy,” Rob said, “I added some Testors olive drab enamel military paint. A few drops are plenty. Clear resin is rarely realistic, so look at prototype photos for examples of color. Other useful Testors paints include Dark Tan and Dark Green, and Floquil Pullman Green works great for other parts of my region.”

Nearby track was taped to protect it from resin drips. Newspapers protected the floor in case resin dripped through an undetected pinhole. Be sure to build an impermeable temporary dam if your model stream runs off the edge of the scenery.

Second pour

Let the initial batch of resin set up and cure for about three days before applying the next. Mix both batches the same, including color. Limiting the amount of color in the first batch poured keeps the finished creek from getting too opaque later as the opacity builds up. The first layer was about 1/8” deep, and the second was somewhat less. If some of the pools look a little skimpy, now is the time to add to the dams’ height.

Rapids and touch-up

Turbulence appears whenever water flows sharply downhill or encounters an obstacle. Rob’s Cedar Creek has some rapids but no large waterfalls, and the major rapids are built-up caulk and the resin that flowed over it, plus some paint. To add whitewater, he built up acrylic paint in semi translucent layers. Some areas get very little paint, almost as a wash, others get more and still more until the white covers everything.

Also, at this stage, dry-brush rock and dirt colors onto any areas where the resin crept out of bounds. Use the same scenery paint that was used on the rocks earlier so the new coat blends. Cover

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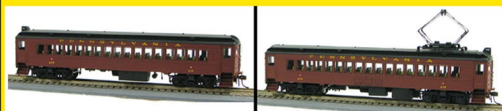
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up shiny spots around the banks and on large rocks emerging above the water surface in mid-stream.

Catch some waves

As it sets up naturally, epoxy produces a glassy, smooth surface that doesn't represent moving water well and only looks quite right for truly stagnant places. Trying to texture the resin as it sets is a losing proposition in most circumstances.

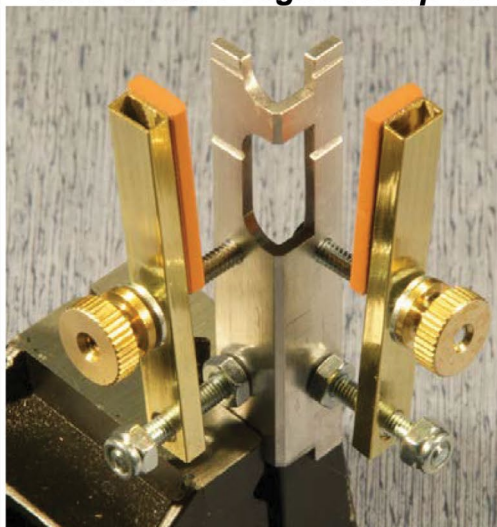
Fortunately, Rob developed easier ways to handle it: "I like using gloss Mod Podge for ripples. Acrylic gloss medium will also work, but it's less viscous and more prone to filling with bubbles as it's applied. Whichever you like is probably fine. A disposable acid brush works great as an applicator. I cover nearly the entire surface of the resin with Mod Podge. Ripple patterns can vary depending on stream flow, and brush marks look appropriate around rapids, so adapt the application technique as you go."

Mod Podge will go on white, and clear up as it dries.

One thing to watch: Glossy plain resin, with no ripples, can reflect hard edges of room features, like the top of a backdrop, light fixtures, and so on. Ripples diffuse such unrealistic reflections, so they don't intrude on the scene.

Want to keep it simple? **Richard Todd** uses Woodland Scenics Water Effects with great results. After the surface is thoroughly dry, he put some Water Effects in a plastic cup, dipped a quarter-inch brush in, and vertically dabbed the Water Effects on the surface. The Water Effects goes on white but dries clear.

Find more photos and information on other modelers' techniques and materials at: mrhmag.com/node/33296.

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Rob describes his Cedar Creek project at mrhmag.com/node/8540 and mrhmag.com/node/13720 (NOTE: Photobucket, for the moment, has restored these photos and they are visible in the thread.).

Make plastic look like new wood

Q. I've been looking through some threads and see plenty of articles on how to make well-weathered wood out of styrene. I need a way to make a freight car deck look like relatively new wood in decent shape. I have a set of Central Valley 40-foot boxcar floors and frames to build up and put open seating on. The railroad will use these converted car frames for tours of the scenic gorges and rivers. Only in service for a couple of years, the boards will have seen a fair amount of foot traffic but aren't badly abused.

—Irish Rover



3. Harold Minky washes burnt and raw sienna inks over white primer to create the look of raw wood.

Harold Minky photo

A. Harold Minky: Several years ago, I tried several techniques and used burnt and raw sienna inks on white primer to make raw wood [3].

Roughen the surface of the styrene with sandpaper and/or a wire brush first to add texture and kill the shine, then coat with white primer. Wash on raw sienna for a “new wood” look, and a thinned black wash for gray aging wood.



4. Styrene decking on the B&O flat car is also dulled before it's primed with white and enhanced with inks. For “new wood,” use burnt and raw sienna coloring over the primer instead of gray. *Harold Minky photo*



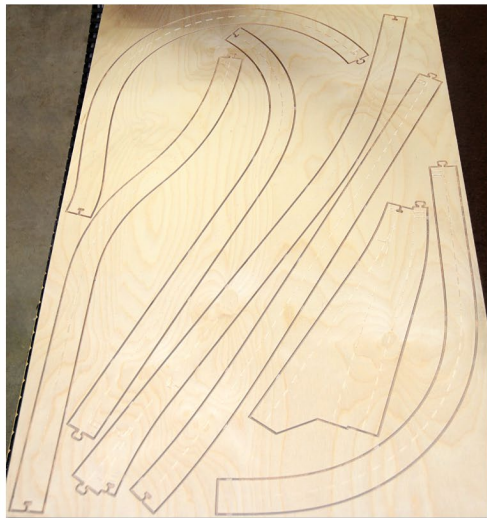
5. Styrene boards are on the left and wood swizzle sticks are on the right. Harold Minky colored both using an India ink/alcohol blend over white acrylic. *Harold Minky photo*

Rene' Gourley: Harold, I note from your website that you use Kilz2 primer. Do you spray it on, or brush it? Diluted? Thanks for sharing; your aged wood styrene looks great!

Harold Minky: Doesn't matter as long as it is flat white, just like the Kilz2. Have used other flat whites, including gesso, acrylics, and so on. When I first did the technique back in the '70s. I used Floquil flat white and "real" India ink. Now both of those are gone, "India Ink" now being some synthetic thing... Just play around. You will never know what you will find... If you find something that works, report it on the web. None of this is rocket surgery or brain science, just throwing spitballs against the wall.

Read the complete thread at mrhmag.com/node/23162 and study Harold's technique at www.pacificcoastairlinerr.com/aging_wood.

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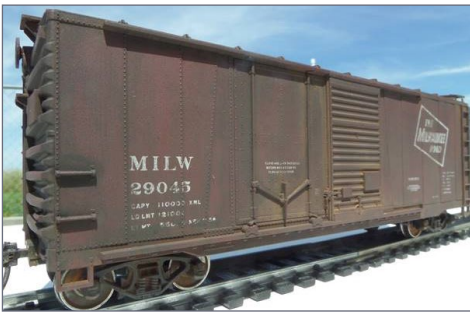
TIPS

Cheap weathering powder

I have found a cheap source of weathering powder at the local Home Depot. They sell powdered concrete tint in one-pound boxes for about five bucks. The tint comes in several different earth tones as well as black and gray. I have four different colors I use for weathering freight cars.

Make sure to have a resealable container handy when you open these, as they are intended to be used all at once and cannot be resealed. Apply the powder in a place that can get dirty: any spills will stain any surface that it comes in contact with.

—Lucas Goodman



6. This Accurail boxcar was weathered with concrete tinting powder. No other detailing or weathering methods were used. Not too bad for a first try.
Lucas Goodman photo



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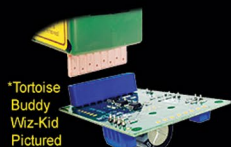
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BRUCE PETRARCA MMR

EXPLORES THE SOUNDTRAXX
TSUNAMI2 LINE OF DECODERS ...



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FIRST, I HAVE DECIDED THAT IT IS THE TIME in my life for me to concentrate on the layouts I want to work on for me and for our club (PCMRC.org). Toward that end, I have decided to retire from monthly MRH columns. My pending retirement was the subject of a thread on the MRH site (mrhmag.com/node/33079). This will be my next to the last column as the regular contributor.

Lots of ink (and electrons) have been spent discussing the Tsunami2. I'll try very hard not to plow old ground here, but share my views on this decoder, now that it has been on the market for a while. SoundTraxx recently released version 1.2 of the software [1] with a few new items, so I'll be talking about them, too.

This is in the context of an installation in a locomotive for our club garden layout. I had worked with a couple of steam versions before this garden diesel installation.

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Compared to the original Tsunami, what has changed?

I was a beta tester for the original Tsunami, so I have worked with them for well over a decade. Sort of like comfortable shoes, favorite old things are hard to leave. I have learned how to work with the Tsunami quirks by now.

Look at the technology when the original Tsunami was developed and released. There wasn't a smart phone back then. The Motorola flip phones were the cat's pajamas at that point. Blu-Ray discs were just barely available, competing with the HD disc that they eventually beat out in the marketplace.

The original Tsunami was the first major DCC decoder to break through the 16-bit barrier. What a difference in sound quality it represented. Between higher definition storage and the quality of SoundTraxx recording and editing, the sound came alive. Every so often I work on a locomotive with a DSD or DSX decoder, the predecessor technology. They bring me up short every time, remembering how good we thought they were back then, and how far we've gone beyond that level.

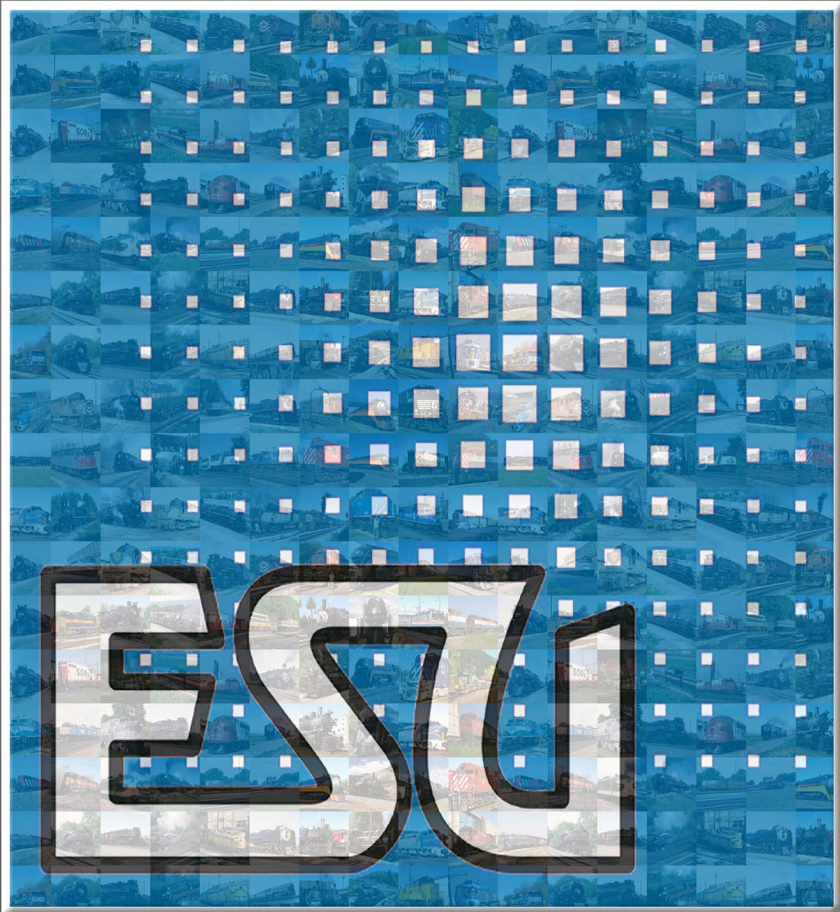
With the Tsunami2 (Tsu2), there is a monumental technology update. The original Tsunami



1. Tsunami2 decoders with the version 1.2 software stickers attached. *SoundTraxx photo*

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sound quality is good; the Tsu2 is better. However, it takes some really good speakers to hear the differences for the most part.

Better motor control

Out of the bag, the Tsu2 decoders creep on speed step one, in comparison to the original Tsunamis that tended to run away at speed step one. One quirk I won't have to work around. Good show, SoundTraxx.'

More audio power

All but the smallest Tsu2 units [3] have several watts of audio power (two or three, depending upon the decoder size); the original had one watt. This change is a benefit and a curse.

More power can translate in cleaner sound. However, the trend is to smaller speakers. Smaller speakers usually have lower power handling capabilities, necessitating careful volume settings on higher powered decoders.

Turn the volume up too high and overdrive the speaker and lots of not-so-good things happen: distortion, speaker damage -- possibly even shorting, which can lead to decoder damage.



2. The TSU-2200, the center point of the Tsu2 line. It is aimed at the HO market. *SoundTraxx photo*



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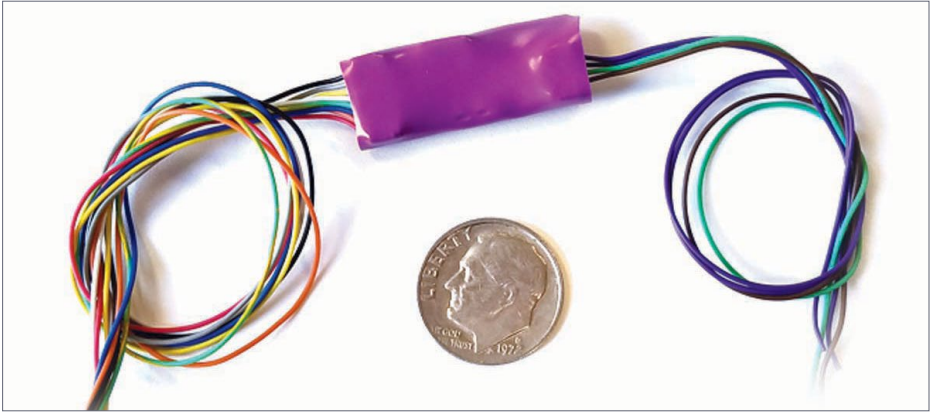


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3. The TSU-1100 replaces the TSU-750 and provides 1-amp motor current and four functions.

BEMF-controlled steam chuff

What's that? In a nutshell, the decoder reads the revolutions of the motor and determines when to create a chuff sound.

Again, there are good and bad sides to this feature. With no motor connected, there is no chuff, period. There is not a cam input to force the chuff, either. If you want a chuff, you gotta have a motor connected and turning.

However, once you train the decoder that it takes 137 (or whatever your locomotive needs) revolutions of the motor to turn the drivers 90 degrees, the decoder will chuff exactly four times per revolution of the drivers. This is independent of the actual motor speed. No chuff cam input means that there is no way to make the chuff sound at an exact point on the driver rotation. The small increase in accuracy is not worth the effort, in my opinion, if it were offered.

More size / power levels

Newer technology allows the Tsu2 to handle more power in a smaller package without overheating. The pricing [4] is close

Model	Total Current	Functions	Audio Watts	Size mm	MSRP
TSU-1100	1 amp	4 x 100 mA	1 Watt	27 x 10.5 x 5	\$129.95
TSU-21PNEM	1 amp	6 x 100 mA	2 Watts	30.5 x 15.5 x 6.5	\$109.95
TSU-2200	2 amps	6 x 100 mA	2 Watts	35 x 18 x 6	\$124.95
TSU-PNP	2 amps	6 x 100 mA	2 Watts	74 x 17 x 5	\$109.95
TSU-4400	4 amps	6 x 400 mA	3 Watts	69 x 30.5 x 14	\$179.95

4. Tsunami2 model comparison.

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between models, except for the 4-amp unit for O and larger scales. This means that you can choose the decoder that fits your needs (available space and current demand) and not worry too much about breaking your budget.

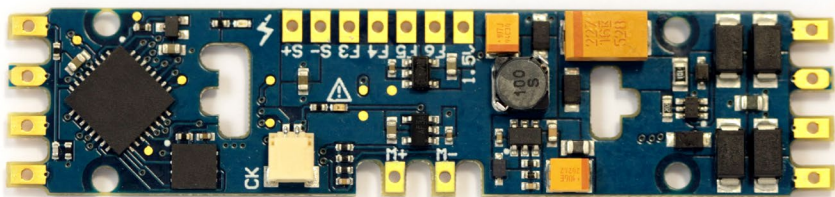
The focus products in the Tsu2 line are the TSU-2200 and the TSU-PNP [1]. They are pretty much the same decoder in two different form factors.

The TSU-2200 [2] is a traditional wrapped decoder with a 9-pin industry standard JST socket on one end and wires for a speaker and two functions plus a connector for a CurrentKeeper or similar device on the other.

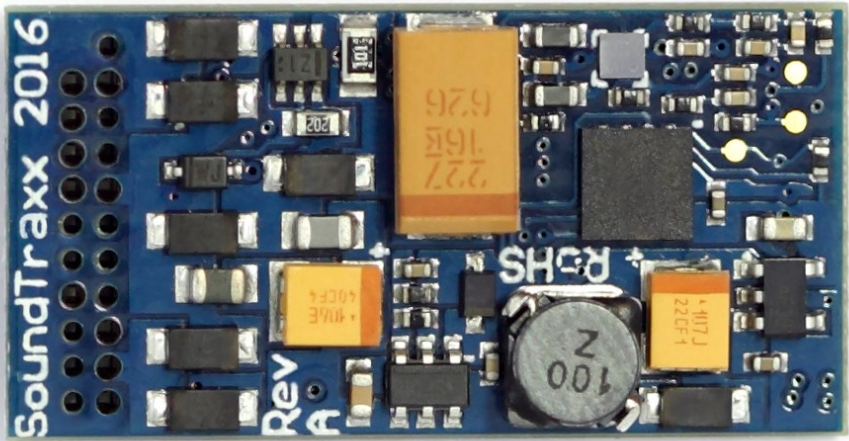
The TSU-PNP [5] is an Atlas-style light board replacement unit with functionally the same electronics.

These two units [1] represent the best bang for the buck within the Tsu2 product line.

The 2-amp motor rating and six 100-mA functions will fulfill the needs of most medium to small locomotives.



5. TSU-PNP is the replacement light board version. This form factor fits in place of the Atlas-style light boards.
SoundTraxx photo



6. The TSU-21PNEM is designed for plugging into some of the 21-pin sockets in the modern locomotives. *SoundTraxx photo*

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If you want to know more about the new 1.2 diesel software update, watch this YouTube video: https://youtu.be/k7_xOKrCBho

More functions for lighting and other effects

Every Tsu2 has two more functions than its original Tsunami equivalent [4]. Even the TSU-1100 [3], aimed at the N-scale market, now has 4 function outputs.

Use DecoderPro

With the number of features built into the Tsu2, SoundTraxx had to break into the arena of indexed CVs to be able to program the Tsu2 decoders. I've discussed indexed CVs in prior columns.

My advice is use DecoderPro to set up the Tsu2 decoders. Once you experience the ease of programming, I know you will use DecoderPro for everything.



7. The LGB garden scale locomotive before the TSU-4400 installation, running under AirWire 900 control on the PCMRC layout (PCMRC.org). *Bruce Petrarca photo*

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Version 1.2 software for diesel decoders

The decoder I got for this installation included the new Version 1.2 software.

The new features as delineated on the SoundTraxx.com website are shown in the sidebar.

I really like the Prime Mover Pitch Shift feature. CV 223 comes preset to 128 which is neutral pitch. Adjusting CV223 down will pitch the motor lower. Above 128, the pitch rises. This is subtle, so make big leaps (say 40 numbers) to hear the difference. Using the concept of 40 points between motor sounds, this will allow six different motor sounds for six different decoders ($6 \times 40 = 240$) in your fleet.

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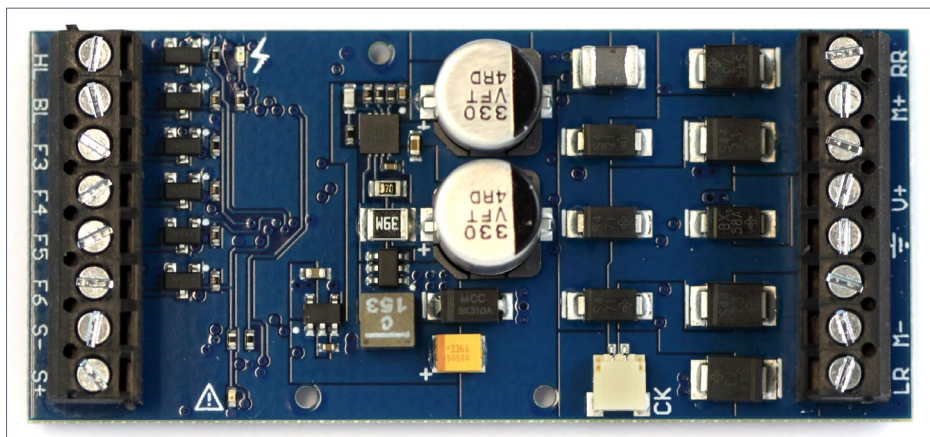
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8. TSU-4400 decoders are aimed at the O and larger scale market. *SoundTraxx photo*

Thus, you can run a large consist with motors sounding slightly different.

The auxiliary HEP generator sound (a diesel-driven generator independent of the locomotive motor) and the Electronic Air Dryer sound will interest modelers of modern diesels, including passenger service locomotives.

The electronic bell (as is popular on the Alaska Railroad) and two new Leslie air horns will also hit a sweet spot for a few niche modelers.

Consider the Version 1.2 software a bit of whipped cream on top of a really fine pie. Didn't know that I needed it, but I sure like some of it.



OOPS!

I verified that connecting one speaker lead to a track lead is a good way to generate a lot of heat and make the decoder mute in the process. I recommend against doing so.



"Clickety-Clack" sound effect

The Tsu2 decoders ship with this effect enabled. Personally, I don't like it.

Yes, it can be tuned for the number of wheels and sizes, etc. However, I find a train with clack sounds coming from the loco but not any other car(s) unhinges me. No, I'm not putting a SoundCar decoder in every car in the fleet so they all make the clack sound.

Thankfully, as explained in the Tsu2 Diesel Technical Manual (soundtraxx.com/manuals/tsu2_diesel_technical_ref.pdf), "Entering a value of 0 into CV 3.258 will disable the clickety-clack effect." Yup, there are those indexed CVs again. Remember DecoderPro?

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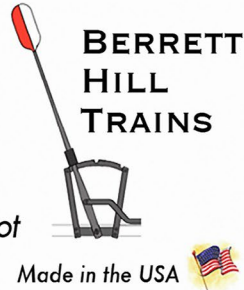


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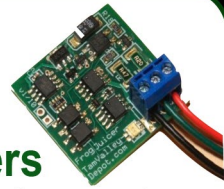
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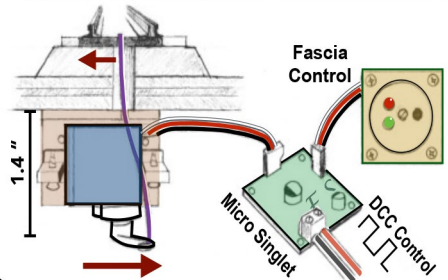


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Installation in a Garden Scale LGB locomotive

This decoder [8] is destined for installation in one of the PebbleCreek Model Railroad Club's garden locomotives [7]. This is one of the Queen Mary series locomotives from LGB. That group of locomotives were put together with parts from several styles of diesel loco and represent a generic diesel loco. The general form and the manufacturer's plate says Alco, but there are EMD hints, too.

I chose an EMD-style decoder (SoundTraxx #885017) with the idea of putting 645 turbo or 710 turbo motor sound into this locomotive.

Since this column is about the Tsu2 product, I won't belabor the installation details.

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What's next? Well, this locomotive [7] needs a speaker. It's been a long time since I've discussed speaker technology and usage, so my final regular column will delve into a few new items I've experimented with, and how to work with the higher-powered audio amplifiers in the Tsu2 and competitive decoders. It is coming in the August issue. No spoiler alert here. You need to tune in to see what transpires.

I feel the Tsu2 decoders are a technological step forward from the original Tsunami decoders. That step comes with a price: the use of indexed CVs which, in my opinion, mandates the use of DecoderPro to set them up. The Tsu2 runs cooler, has more functions, and more motor power, at a similar selling price to the original. What is not to like?

We'll be discussing issues on the blog for this column. Please share

your ideas with us all. I'd love to hear what you think. Just click on the Reader Feedback icon at the beginning or the end of the column. While you are there, I encourage you to rate the column. "Awesome" is always appreciated. Thanks.

Until my next column, I wish you green boards in all your endeavors. ✓

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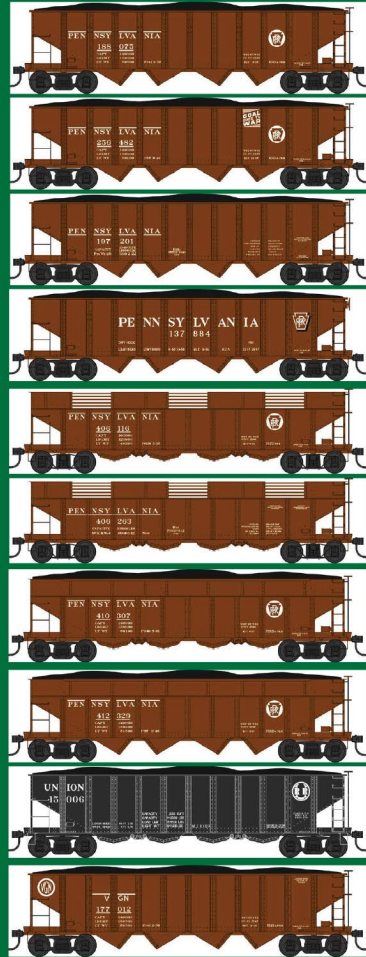
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GETTING REAL column



Model Railroad Hobbyist | June 2018 | #100

MARTY MCGUIRK shows us
his new start ...



SOME MAY NOT REMEMBER, AND MOST WON'T CARE, but I was the original “Getting Real” columnist. I’ve told *MRH* Publisher Joe Fugate on more than one occasion the smartest editorial recommendation I’ve ever made was suggesting the rotating contributor format for this column!

After all, it’s given all of us the opportunity to see the work of a group of prototype modelers far more talented and experienced than I’ll ever be.

So, to all my fellow “Getting Real” columnists, congratulations and happy 100th issue!

Even fewer of you may be wondering where I’ve been. Before the Portland NMRA convention a serious increase in my commitments at work meant I really didn’t have time to do a lot of the type of modeling I thought would result in interesting columns. So I voluntarily put myself on the bench.

► **MODELING REAL RAILROADS AND WHAT THEY DO**

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The journey

There's what I'd call "micro" prototype modeling – modeling a specific locomotive or freight car for example. "Macro" prototype modeling – say trying to model an entire town or subdivision of a prototype railroad – can quickly trip you up.

First of all, there's the obvious issue of "not enough" square footage. And then there's a basement that turns left where the prototype went to the right. But these aren't the biggest challenges the prototype modeler (or any modeler) with a large basement faces.

I've built four relatively large model railroads (more accurately, I've started construction, but only two ever reached operational status) in the last two decades. Here's what I've learned from the process of building them:



1. Building a locomotive or freight car, like this Westerfield MoPac boxcar, is an example of what Marty calls "micro" prototype modeling – a finite project with a defined beginning and end point.

- Large home layouts are not for everyone.
- Just because you have the space, filling it is not always wise.
- Plan your resources (time, space, and money). Make sure you have all three in sufficient quantity to ensure success before starting the project.
- Too many shortcuts can produce a “catalog” layout - give your layout a personal stamp, even if it means making it smaller.
- Commit to doing something on a regular schedule. (Even 15 minutes a day can add up to real progress).
- Consider trading money for time for certain tasks (decoder installation or perhaps contract with a layout designer).
- Fewer, less-intense scenes can look more realistic AND often require less time per square foot.
- Minimize the mess – Those who took shop or art classes in school will remember every class ended with cleaning up and putting away tools

I started my last railroad in 2008, building it as a double-deck railroad on narrow shelves in an effort to get the longest main-line possible into the space. I soon found that the layout simply didn't allow me to recreate the prototype scenes I wanted to capture – it was always going to look like a track on a narrow shelf no matter how I tried to convince myself otherwise. This dissatisfaction led to a seemingly never-ending series of reworking, building and reworking again.

But the thought of the required fleet of rolling stock, numerous (a couple hundred) buildings – many of which I told myself and anyone else who would listen that I was going to research and scratchbuild – the wide swaths of static grass and what felt like billions of trees were more than enough to force me into the easy chair in front of the TV.



I'd built the layout to host operating sessions – and while this may sound daft to some, one of the main things I've learned in the last few years is that hosting large operating sessions simply isn't for me.

Visits I enjoy immensely are when one or two friends stop by, we run trains for a bit, and then adjourn for a beverage either to the “crew lounge” or out on the deck to chat about modeling techniques, ongoing or planned projects, or even the dogs. You know, the important things in life.

Instead of doing what I wanted to do when I wanted to do it, I've been stuck in a loop of sorts – “feeding the monster” – the large layout looming in the basement that required track,



2. After a four- or five-hour session with up to a dozen people I'd be completely exhausted – only to realize I never really had a chance to truly catch up with anyone. It was like we'd had a bunch of friends over for a party and then not spoken to anyone.



3. Despite the constant working and reworking, Marty did make some decent progress on his HO Central Vermont, and was pleased with how the layout was shaping up. You could say he made peace with the monster in the basement, and was resigned to the fact that he had a real “lifetime” layout.

wiring, static grass, structures, trees (my God, the trees!), in massive quantities.

I kept telling myself I’d get the thing to “looking finished” and then turn my attention to the projects I wanted to work on. But there was always another bunch of trees to install – or some piece of track to ballast.

About 18 months ago my wife and I started thinking about doing some remodeling. But in the end, we knew no amount of remodeling would result in the house being in a different, and more desirable to us, location.

GETTING REAL | 6

We did hesitate for a few months, but in the end signed a contract for a new house (yes, it has a basement!).

The new layout will still be Central Vermont, but this time it will be based on the railroad's Richford Branch. I find that between work, commuting, and other interests I don't want to grapple with a huge and complex layout. I anticipate this new layout will be fundamentally up and running in a few months – then I can indulge whatever aspect of the hobby I want.

I'll conclude with this. I don't think the previous layout was an absolute failure. I had fun, shared some good times with friends,



4. The last picture I took of this layout. I look upon this as a blessing, not a curse - frankly I'm not sure this wouldn't have been the layout's fate even if we hadn't moved!



5. The new layout space is just waiting for a new, this time much simpler and more focused railroad.

perfected some techniques, and learned a lot about myself.

My purpose in writing this is not to discourage anyone else from pursuing their approach to the hobby. Lord knows, the above isn't going to encourage anyone to do anything other than take up knitting!

Instead, I'm trying to quantify the good and bad, and hopefully apply those lessons learned to the next railroad. ✓



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GETTING REAL

JACK BURGESS discusses "Why prototype modeling?" ...



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PROTOTYPE MODELING, PROTO-FREELANCE modeling, and pure freelance modeling all have an important place in our hobby, and all are completely valid approaches. When I re-entered the hobby in 1965 as an adult (after discovering that I could not afford the hobby on my meager allowance as a 12-year-old), I chose the freelance path since it gave me the freedom to build models which met my limited knowledge of the prototype and, more importantly, my limited funds.

My first layout as an adult was based on a plan in the September 1963 issue of *Model Railroader* magazine called the Bellefonte & Snowshoe Railroad, a very simple switch-back design. I couldn't afford either a power pack or a locomotive when I started construction, so I wasn't sure a locomotive could climb the grade between the two levels until I purchased both of those necessities. But that first 0-4-0 locomotive made it up the grade. I completed all of the basic scenery and scratchbuilt some cars, along with a structure or two.

By 1967, I decided to model a prototype railroad rather than freelance. For some reason, I was drawn to the steam era (maybe because, as a child, I could remember hearing steam whistles from the SP/ATSF departure tracks to the Tehachapi Loop in Bakersfield).



1. YV rail fan Al Rose took this photo of the Yosemite Portland Cement Company limestone storage bunker at Emory in April 1942, just a couple of months before the operation was purchased by the Henry J. Kaiser Company and shut down. Al took the photo from the rear platform of YV observation car 330 with color film rated at 10 ASA, hence the blurry image. The redbud trees in bloom are a sign of late spring in the Merced River canyon.

Fortunately, at about this time I met a local model railroader who, if you can you imagine, was measuring, photographing, and building models of prototype freight cars he found in the local rail yards. Compared to my meager efforts, his scratchbuilt models were amazing! So I scrapped all my earlier efforts and started doing the same – building models of actual freight cars I had photographed and measured. (We didn't know about *The Official Railway Equipment Registers* in those days and, more importantly, had no way to purchase one, since the internet was couple of decades in the future.)

There were a number of factors that I used to pick a prototype to model. The brass locomotives being released each month for popular prototype railroads were way beyond my modest budget, so I decided to model a railroad overlooked by the brass importers. I also felt that I could never afford to visit a prototype that wasn't in California, a necessary requirement to accurately model the scenery of a prototype.

I considered the Sierra Railroad, another California shortline, but the book about the Sierra Railroad in the local library didn't have many photos, and I realized that, given my limited resources, I would need to scratchbuild all the structures and equipment for any future layout.

I ultimately decided to model the Yosemite Valley Railroad. That decision was primarily due to Hank Johnston's book *Railroads of the Yosemite Valley* that was available at the local library. Hank's book had over 400 photos which was very important. I assumed, naively, that every photo ever taken of the Yosemite Valley Railroad was in Hank's book.

Fortunately, I was eventually able to meet many of the railfans who had actually photographed the YV in the late 1930s and early 1940s. I purchased copies of their photos or even borrowed their negatives and made my own prints. Now, 50 years later, my collection of YV photos numbers nearly 3,500 prototype photos and is still growing, although much slower now.

Prototype modeling, what is not to like?

I enjoy every aspect of prototype modeling – the research, the scratchbuilding, and the unique connection with other prototype modelers, especially other YV modelers. For the past 22 years, YV modelers and fans have gotten together for an annual Yosemite Valley Railroad Weekend to learn more about our prototype. The

YV was 78 miles long and we have hiked, driven, or otherwise explored nearly the entire route plus the four inclines.

Over the years, the group of YV fans has had lengthy online discussions ranging from where certain photos were taken to operations. Even today, a new photo shared among YV fans might answer a



2. One of the joys of prototype modeling is the opportunity to recreate actual scenes along the route. However, there is always a limit to the amount of information available when you start modeling a prototype unless you collect information for decades before beginning to build a layout. In this case, I didn't realize when I designed my layout that the empties/loads track was double-ended and instead I added a passing track to serve this important industry. On the other hand, it increases the operating challenges of serving a facing-point siding. But if I had known, I would have more accurately modeled the prototype.

long-unresolved question. Even after 50 years, we are all still learning more about our prototype.

While I have no reservations about dedicating my life to modeling a single prototype, I asked several other YV modelers about their experiences. My friend Bernard, who lives in Holland, and who attended the second YV get-together in 1997 (and 15 since then), shared this with me:

I started with a Märklin train set at age 3. The bug bit me and I have been infected ever since. In 1975 I saw a copy of Model Railroader magazine at the newsstand for the first time.



3. Photographer Dorothea Lange was best known for her Depression-era photography work for the Farm Security Administration. The novel *Grapes of Wrath* written by American realist author John Steinbeck was published in 1939, the year I model. Much of the book takes place in the California Central Valley and I used this and other Lange photos to model the struggles of migrant workers during the Depression.

I was a first-year college student in Holland with no money whatsoever so I skipped a couple of meals to buy that copy of *MR*. A new world opened up and I wanted to go and see those U.S. trains.

So I started saving every penny, working a summer job for several years so that, finally in 1980, I had saved enough to pay for a cheap trip to the U.S. I was also able to convince my two brothers to join in saving and share a U.S. road trip together.

We flew the cheapest flight from Holland to New York and bought a \$500 rust bucket, a 1973 Ford Galaxy station wagon. That was our home for the next eight weeks. We slept in the car every night and lived on only fruit, granola bars, and milk.

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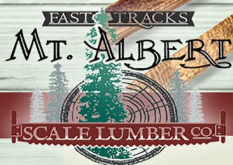
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After travelling through the East Coast, the Midwest, and the Rockies, we ended up in California. Upon leaving the Yosemite National Park, I noticed the evidence of train tracks along the Merced River west of the Park. I thought that it could be great to model.

Then, a few days later in a secondhand bookstore, I saw the book by Hank Johnston about the Yosemite Valley Railroad. Wow!! Everything was there including all the YV photos in the world!

Even though he was half-way around the world from the Yosemite Valley Railroad, Bernard became an expert on the history of a gold mine on the YV at MP 55.5 called the Mountain King Mine. I asked him how in the world he decided to research that mine and he responded:

Before even knowing about the YV, I had some givens and druthers (to use some of John Armstrong's lingo). I was looking for a shortline U.S. prototype on the West Coast with some serious logging operations. I also wanted some mining operations.

After buying Hank's book, I was in heaven. The railroad had serious logging AND mining AND standard gauge AND beautiful scenery AND a connection with the SP and ATSF.

The postcard view of the Mountain King mill in his book was tops. But nothing more was mentioned on Mountain King in his book.

After a period of massive stress at work, I bought a ticket on a spur of the moment to San Francisco for a day later. The goal was to learn more about the YV.

After a couple other stops, I went to the museum in the gold rush town of Mariposa (not that far from the YV) and was given two cardboard boxes of stuff that I could browse through and photograph as much as I wanted.

In one of those boxes was a 1915 panorama photo of the entire Mountain King mill which was crying out to be modeled! I wanted to know more.

During a YV weekend, he was able to hike down to the site of the Mountain King mine operations which was another highlight. He continues:

With the advent of the internet, I could spend hours browsing for more photos. On eBay I discovered an old photo album from a family who lived in Mountain King in the 1913-15 period.



4. Selecting a month/year to model introduces more constraints but also has more rewards if you are willing to research the history for the year that you model. My model of an Oklahoma family coming to the California Central Valley to pick crops shows them with another flat tire. Their car, loaded with all of their belongings including their bed mattress on the top of their car and other belongings on an improvised support on the back of the vehicle was inspired by a number of Dorothea Lange photos. Yes, the car has a 1939 Oklahoma license plate.

That put me in touch with an author who was writing a children's book on Mountain King. Her dad had lived there as a kid in the same period. She put me in touch with another family who also had photos.

I then met the current owners of the mine and later flew to Los Angeles to meet them a couple of years ago.

His collection of Mountain King resources now includes around 50 photos, plus hundreds of scans of historical maps and documents.

Jeff, a California-based YV modeler offered these suggestions:

I have been chasing a dream YV layout since 2003 but have yet to build it. However, is that dream layout concept preventing me from truly enjoying the hobby and the short line history I've come to grow up with and love?

The short answer is no. Chasing the dream layout has brought me in contact with other modelers and historians who share a passion for the YV and brought clarity to the history of the YV as well as my modeling endeavors.

In 2003, I thought scratchbuilding was left to those with more patience and modeling skills. With a little encouragement from other YV modelers, I jumped in with this idea—if others can do it, why not me?

I realized that I had been building plastic and wood model kits for years, so what is the difference between those kits and a blank sheet of plastic, following a set of plans, an X-Acto knife, and a straight-edge to build the perfect model to fit one's specific short line?

You know what? It worked and, at the same time, the building was fulfilling and fun! As one building led to another, the time to build a model was reduced and my skills improved!

Lastly, if space or room for that dream layout isn't available at the moment, have fun with building a diorama. I built a 36" x 18" diorama many years ago and it is still used to photograph completed models while experimenting with lighting and color shading on painted brass locomotives and rolling stock.

Most importantly, I am a firm believer in "time management modeling." I am committed to spend one hour from 7:00 pm to 8:00 pm each day on modeling projects until each is completed. It brings focus and consistency in finishing the project to fruition and sense of accomplishment.

Jeremy, a YV modeler from Illinois shared this.

I started out in the hobby at Christmas when I was 7. But it wasn't until many years later, after modeling the ATSF, BN, Milwaukee Road, and the Indiana Railroad, when I was working on a new freelanced layout set in the 1930s that I discovered the Yosemite Valley Railroad. It had everything my fictional railroad did, but it meant that I would not have to make it up.



5. This is the condition that YV observation 330 was in when my friend and his wife bought it for \$1.00. But they saw the potential and have spent the past 23 years restoring it.

My choice to model something real meant that it would be better than me making it up. The idea that a prototype could provide everything I wanted, including what kinds of trains to run, what kinds of cars to build, what locomotives to build, what structures would look like and so much more, was really the catalyst that morphed my thinking into basing everything on a prototype.

Prototype modeling has gone for me, I would say, pretty well. I really enjoy doing the research, learning, and understanding what the prototype was doing via photos and maps. I feel like that kind of understanding adds to the modeling appeal and interest because there are things that I can include in a model and in how a scene is planned for a layout, that can help educate a visitor about the prototype.

The biggest challenge I have had is finding the equipment. It took a lot of hunting, talking to people, searching, and digging to find not only the Yosemite Valley Railroad-specific brass imports, but also to narrow in on the right models to build for foreign-road equipment.

I think that learning from experts and, in the case of the Yosemite Valley, having the opportunity to build friendships with other YV modelers and to listen and learn, have been absolutely invaluable.

Guy, another modeler from California who models the YV plus the Southern Pacific Railroad, the Western Pacific/Tidewater Southern Railroads, the Sierra Railroad, and the Hetch-Hetchy Railroad wrote about his experiences:

I am not a strict prototype modeler, but I do model specific equipment, structures and locations. The main reason I became more interested in the prototype was to increase the realism

of my models. It was easier to copy something that existed and have it come out looking good, than it was to guess at what something might have looked like, and sweat the details by making up something plausible.

The inspiration for my modeling choices came from my love of steam and the mountains in California. The Yosemite Valley Railroad was a no-brainer as I have spent time in Yosemite every year since I was five years old—it feels like home to me.

Did it go as planned? Well, not exactly but the switch to building prototype models has been pretty smooth for the most part and there were not too many unpleasant surprises along the way.

As has been often said, sticking to prototypes and a specific era (however large it may be), has been easier on the pocketbook



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(I don't buy stuff that doesn't fit) and has helped keep attention focused on completing what I have already outlined for the layout. I suppose the one thing that did take me by surprise is how long all this stuff takes once you start scratchbuilding.

As I learned more about my various prototypes, certain inaccurate models didn't look right to me anymore. This can take you down the slippery slope as you begin to purge and replace various items with more realistic models. Buying more accurate brass was more time-consuming and a bit pricier than I would have liked.

There have been many epic failures. I have replaced brass locomotive decoders several times, rebuilt sections of scenery lots



6. Here is observation 330 in 2007 for the 100th anniversary of the first passenger train to El Portal while polishing the rails of the Niles Canyon Railway in Fremont, CA. It was a wonderful day-long, nostalgic trip for a prototype modeler like me and the other YV fans on board!

of times, and have also rebuilt various models that didn't turn out right.

But overall it has been a good experience for me. One of the reasons for this is that I happened to have made friends with a bunch of excellent modelers who helped me out and taught me how to do things the right way. This allowed me to avoid lots of frustration.

For me

There is absolutely no question that modeling a prototype as accurately as possible has changed my life.

I love the research (which led to writing a book on the YV) as well as the challenges of scratchbuilding.

Back when I chose to model the YV, I set a personal goal to recreate the YV to the best of my abilities, and my passion for my prototype has kept me from taking shortcuts. My approach is, if you invest the time needed to build a new prototype freight car, building, or details on your layout as well as you can, the personal rewards will encourage you to take on new projects and build them to the best of your abilities.

Feeling good about your efforts in the time that you spend on your hobby only drives you to do more.

But beware! Several decades ago I met a modeler (Wes) who was modeling a completely freelanced railroad. I could sense that he wasn't that dedicated to it since little progress was being made. Since he enjoyed whitewater rafting on the Merced River along the YV roadbed, I suggested that he think about modeling the YV. He switched and jumped in with both feet.

In early 1995, I learned that YV observation car 330, which had been used as a diner in the northern California town of Yreka,



would be burned in a fire department training exercise unless a museum or an individual could be found to haul away take the dilapidated remains. I told Wes about the car and he ended up purchasing it for one dollar, which was more than it was worth.

The 330 was moved to the San Francisco Bay Area exactly 50 years from the date of the last run of the YV. Today, it has trucks, a complete air brake system, the exterior is done, and work continues on replicating the mahogany paneling on the interior.

In 2007 on the 100th anniversary of the first passenger train to El Portal, a number of fans of the YV spent all day in the observation car behind steam on the Niles Canyon Railway.

The pleasure and satisfaction that you derive from the hobby only encourages you to ramp-up and continually improve your skills. Isn't that what a hobby should do? ☒



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GETTING REAL

NICK MUFF discusses "Why prototype modeling?" ...



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MODEL RAILROADING SPANS THE SPECTRUM

from model railroads that are completely freelanced to those that meticulously represent a particular historical railroad, a particular historical prototype location, and some even down to a particular date. In modeling the Kansas City Terminal Railway and connecting Kansas City Southern Railway, I have obviously placed myself on the historical end of that spectrum.

To create my representation of downtown Kansas City in the early 1950s and to model the KCS in the same time period required a lot of research and many field trips to the Midwest. This resulted in thousands of photographs and hundreds of drawings. I was surprised by how much I enjoyed this part of the hobby! I sometimes describe myself as a model railroader who is also a frustrated historian.

Along the way you encounter others with the same interest and experts in the field who add color and priceless background to your recreation. I believe this involvement in multiple disciplines is what makes model railroading such an enjoyable hobby.

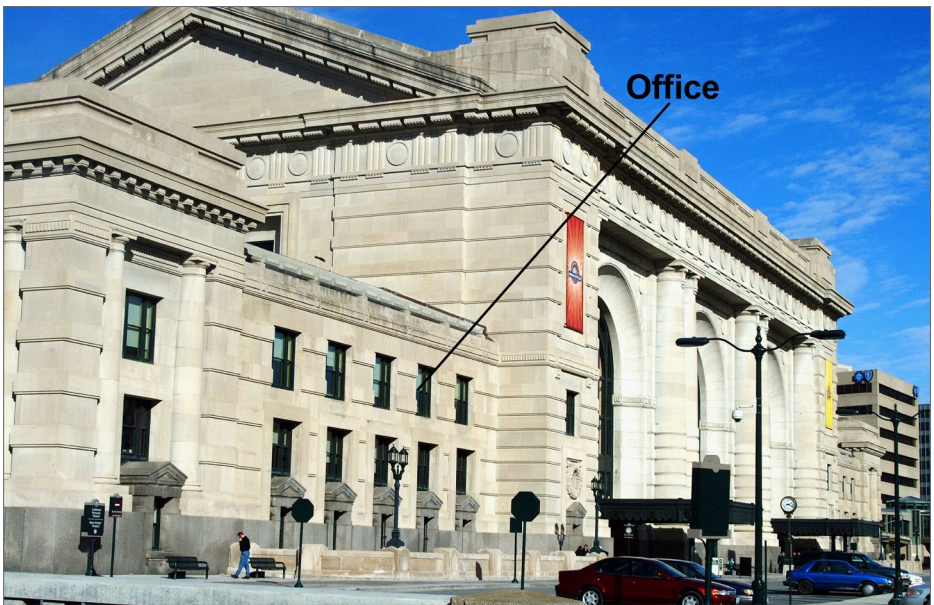
To obtain plans for Kansas City Union Station, I wrote to the Kansas City Terminal Railway and asked what they could



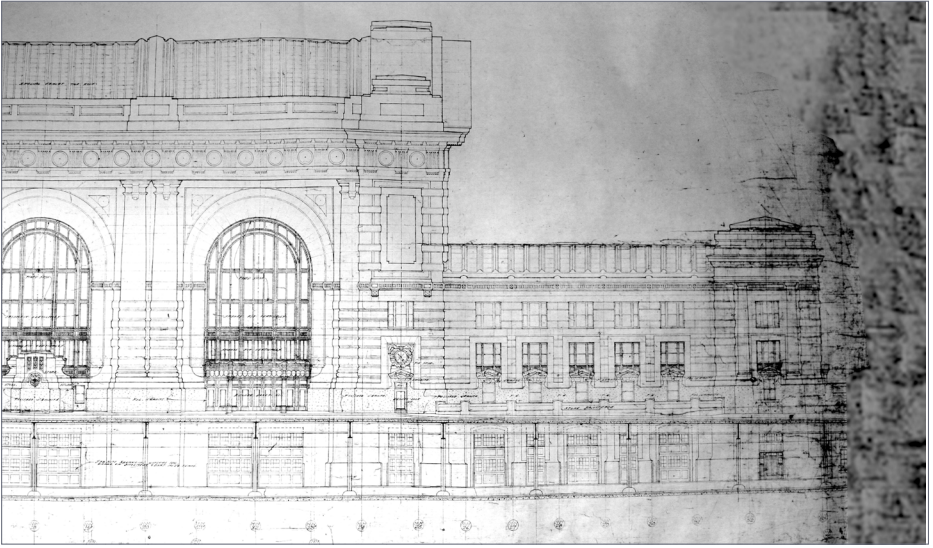
provide. On one of my trips to Kansas City I made an appointment to meet one of their employees in the Union Station. That in itself was an adventure.

When I arrived at the appointed time and place I found him asleep at his desk. It took some time and waiting and occasional, “Ahem” to get the process gently in motion! He provided me with a 1/8”-scale plan of the south face of union station, a 1/16”-scale plan of the East elevation of the waiting room, as well as track plans for the Union Station in the mid-’40s and mid-’50s.

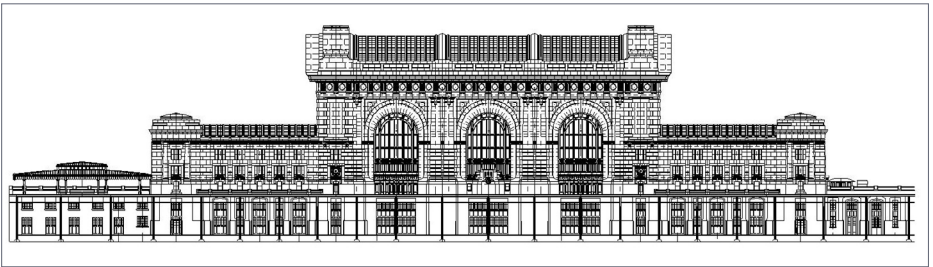
The plans themselves were invaluable in creating my model, but the experience itself is a lifetime memory. The employee is gone and the office is gone, but I still have that memory!



1. Marked on the photograph is the office where I picked up the paper plans for the Union Station – the first and only time I ever had the privilege of meeting a Terminal Railway employee in the station!



2. Here is a photograph of the right side of the drawing. The entire drawing is over 8 feet long. In the left-hand window in the middle of the decorative masonry at the bottom of the window is a lion head. I faithfully re-created this in my CAD drawing. Later I learned the important difference between “as drawn” and “as built.” There was no lion head on the prototype!



3. Here is my first CAD drawing, the south elevation of Union Station created from the paper plans.

Bumps along the way

In planning my model railroad, I had not seriously considered structure and vehicle lighting. I presumed that some structures would be lighted, but sort of backed into this aspect of modeling.

It started innocently enough when I added lights and interiors to the first structures and lighted my first three vehicles on Flying Field Road under the Swope Park bridge. I just continued lighting vehicles and structures as I worked along the layout, but was pleasantly surprised by the amazing prototypical effect that



4. The KCS open-spandrel concrete arch viaduct crosses Flying Field Road at Swope Park. Here are the first three lighted vehicles. The closest automobile is HO scale. The two vehicles under the bridge are N scale. Likewise the closest streetlamp is HO scale, and the distant streetlamp is N scale. The road narrows as well to create forced perspective. Little did I realize where these three lighted vehicles and streetlights would take me!

resulted. It's one of those serendipitous moments when you realize that the whole is greater than the sum of the parts.

The nighttime lighting is a big favorite with visitors. Of course, one of the developments that made this possible was of the availability at that time of tiny light-emitting diodes. I never would have attempted night lighting of this magnitude with incandescent bulbs.

If only 10% of them burned out, that would represent hundreds of lights gone dark! Actually, those first three vehicles were lighted with tiny incandescent bulbs which subsequently had to be replaced.



5. Kansas City Union Station, West Throat at night. The Railway Express building is to the right. The Broadway Avenue bridge crosses in the middle with Kansas City Union Station in the distance. The combination of vehicle and structure lighting creates an amazing effective realism.

The journey continues

The benchwork for my layout is a little unusual. I fell into this construction technique because the first sections of Kansas City Union Station (the eastern half) were part of a previous garage layout that was built with the intention that they would ultimately be installed in the basement that did not yet exist. I needed flat sturdy benchwork that could later be moved.

So I chose to create the top of the benchwork from three-quarter-inch plywood. I added four-inch strips of three-quarter-inch plywood along all of the edges and across the middle to strengthen each section eight-foot-long section. The result was very strong,



6. Bench work for the East half of Union Station is 4 feet wide at its widest point, which with two sections, each 8 feet long, totals 16 feet. The other half of Union Station, which you see in the distance, is actually reflected in a mirror. Plywood benchwork turned out to be sturdy and easily movable.



7. Here benchwork for both the East and West ends of Kansas City Union Station is in place. Construction is well underway. The piece of plywood over the track in the middle of the photo allowed me to kneel or stand on that area while working on the back section of the layout.

strong enough to walk on, and, considering the size of the union station, there were many times when I did walk on it during construction! When the house expansion and basement project were completed, it was easy to move the sections into the basement.

It made sense to continue to create the west half of Union Station and the remainder of the benchwork for Kansas City in the same fashion. Another advantage would be the ability to salvage portions of the layout when the time came to make the final run.

It took about eight years to complete the Kansas City portion of the layout. When it came time to add the Kansas City Southern mainline section to a return loop on the lower deck at Shreveport,

Louisiana, I used the same technique. The goal this time was slightly different.

Now the basement was in an advanced stage of completion. The F-7 locomotive cab, my full-scale passenger car mockup, and all of downtown Kansas City were completed. The last thing I needed was sawdust in the basement. So it was back to my original construction technique, which meant the benchwork sections could be constructed in the shop and then moved down to the basement, with no sanding or sawing required in the basement.

The new benchwork was a little more challenging. It is built on two levels, and includes changes in grade and elevation as well as two major depressed areas for the Spavinaw River and Bald Cypress Swamp.

I'm very pleased with the result. The completed pieces went together easily in the basement. That whole area is now covered with land-forms and rock castings. This also explains why I chose foam rock castings and geodesic foam scenery sheets for this area. I did not need sawdust in the basement or dripping plaster and water!

In the end, the benchwork was more expensive to construct, but is very sturdy and allows for future salvage in a way that would not be possible with traditional L-girder construction. ☒

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GETTING REAL

TONY THOMPSON discusses
"Why prototype modeling?" ...



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THE PROTOTYPE ORIENTATION OF MY MODEL

railroading goals has certainly evolved over the years I have been in the hobby. I would be the first to admit I began as someone with only a vague amount of prototype knowledge (though enthusiastic about the Southern Pacific), and accordingly I had few prototypical goals. But that has steadily changed.

The more I learn from research, the more I want to reproduce my knowledge on my layout.

The key point for me has always been to capture the railroading itself, as it was conducted at the time I have chosen, which is the transition era. My interests, even as a teenager, were primarily on the freight side, both in terms of operating procedures and also with regard to equipment.

Naturally locomotives are an important part of my modeling, as is true for most modelers, but freight cars are an even greater interest. I have a reasonably large freight car collection, nearly all of it now appropriate for my modeling period. My layout has been designed to display these freight cars in an appropriate context and to give them appropriate work to do.



1. This depot, serving my layout town of Shumala, was built fairly closely to the Southern Pacific plans for the Sylmar, California depot, as I described in some detail in my column in November 2012 *Model Railroad Hobbyist*. The structure is scratchbuilt, using commercial doors and windows, suitably modified for this building.

Another goal I have always had is to convey accurately the era of my modeling and my layout environment. I chose 1953 as my modeling year, and have been careful not only with freight cars and paint schemes on rolling stock, but with industries, highway vehicles, and even advertising such as billboards. All these factors combine to emphasize the year of 1953.

I originally wanted a layout with a main line on which I could operate prototypical-looking freight and passenger trains. By that, I mean trains long enough to appear credible for the main line. But space constraints ruled that out in my current layout. Instead, I chose to model a mythical branch line of the SP, and over time this has proven a better and better choice.

This branch line idea means that a familiar railroad, the SP, supplies the prototypes for locomotives, cabooses, depots, and so on. I took advantage of this in depots such as the one shown in [1]. Meanwhile, the mythical branch approach allows creation of suitable towns.

The area of the central California coast in which this branch line is located does constrain the kinds of industries and scenery I can build, but I had always wanted to avoid highly compressed industries of great size or other large facilities.

Instead, by choosing a rural area with small towns and small industries, such as packing houses and bulk oil dealers, I can get closer to realistic sizes of buildings. To approach my goal of reproducing railroading on the Southern Pacific, I don't feel I have any need for strict devotion to particular structures or specific towns.

Instead, in what can be an even more challenging goal, I try to capture a general spirit of the time and place. An example of my approach is the Associated bulk oil dealer I built [2]. Though not matching any specific prototype dealer, it is intended to depict what facilities were like for typical dealers like this.

These are the reasons I don't model a specific prototype place or buildings, though my layout is set in a particular area of California. I sometimes envy those whose research enables them to model exact places in detail. I would enjoy that research challenge along with the modeling challenges of reproducing prototypes exactly. But my approach and my modeling goals have worked for me, not only in building a layout that satisfies me, but in creating a layout which can be and is operated in a very prototypical way.



2. This model of an Associated Oil Company bulk depot was designed using widely seen features of prototype oil dealerships, as I showed in a column in the March 2014 *Model Railroad Hobbyist*. The tall tanks are from a kit, but the warehouse and most other visible components were scratchbuilt. The point was to capture typical prototype appearance, even if not a model of a specific business.

One thing that has surprised me is how much there is to learn about specific industries (oil dealers, wineries, packing houses, and so on), how much of that information is readily found on the internet, and how interesting it is to apply that knowledge to freight car traffic and also to layout structures. It's one of my favorite parts of the hobby today.

That said, it is still true that Southern Pacific modeling remains the core emphasis on my layout. Luckily, there are plenty of ways to pursue that goal, even sometimes with commercial kits [3, 4]. The same could be said for freight car modeling.

So my prototype goals led me to a situation where, when visiting operators arrive, my fleet of freight cars gets the kind of workout I always envisioned, and the layout comes to life in just the way I planned.

Hard to beat that in hobby terms. ✓



3. The roundhouse serving my mythical branch line was built from a Banta Modelworks kit. This kit very accurately depicts the Southern Pacific roundhouse at Port Costa, California and is typical of many smaller frame roundhouses on the SP. It was fun to build and captures a suitable prototype look for my layout. The foreground scene of wheel-sets being changed in a truck is closely based on prototype photos and its creation was described in the September 2016 *Model Railroad Hobbyist*. The water tank in the background is a brass model of a standard SP 65,000-gallon tank. Locomotives take water from water columns fed by this tank.



4. This view along Willow Lake Road in my town of Santa Rosalia, at the end of my branch line, shows a marine cloud layer over the ocean. At left is the familiar look of a Southern Pacific Common Standard 22 depot, built from an American Model Builders kit.



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GETTING REAL

MIKE ROSE discusses "Why prototype modeling?" ...



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IN A WAY, I'VE ALWAYS BEEN A PROTOTYPE modeler, even before I was doing trains! I can remember as a kid going out with my parents, seeing a building under construction or a manufacturing plant with trucks, and once home, promptly replicating what I saw with my toys. That urge to recreate what I saw in the real world never really left.

Nearly 26 years ago, when I started my new layout in the current (newly built) home, I endeavored to make a freelance railroad so that I had free reign to employ a wide variety of eclectic motive power. And I was highly influenced by some excellent freelance layouts that appeared in the magazines at the time during the late seventies and early eighties.

While I was assembling quite a fleet of locomotives and freight cars, the layout plodded along, seeming to take forever, and eventually became something that filled half my basement, kind of ran (remember, this was the days of DC, code 100 track, and nothing remotely resembling an operations plan!), but frankly was a bit on the boring side. The scenery techniques were decidedly Old School and laborious, yet yielded fairly lackluster

results. For many years the layout languished, but I found myself discovering railfanning in earnest, and spent a great deal of time trackside, often traveling all over the country with friends and by myself.

This exposure to the real thing stimulated my creative juices in a way that brought back childhood memories and the familiar excitement I once felt. It seemed that there were interesting freight cars and locomotives that cried out to be modeled everywhere I went, and that is just what I set out to do. Although my first articles got published when I was 16, back in 1972 (the long-defunct *Railroad Modeler* magazine), I never even thought about doing an article again until the newly energized prototype modeling urge began producing increasingly nice models. My friends kept saying “you should be doing an article on that” and eventually I did, sending an article in to *Railroad Model Craftsman* in 1996 that won their Kitbashing Award, and it was off to the races after that! But for the longest time the efforts were confined to freight cars and locomotives while the layout still languished.

Attending prototype modeling meets made a huge difference for me, since I met people there who have become lifelong friends

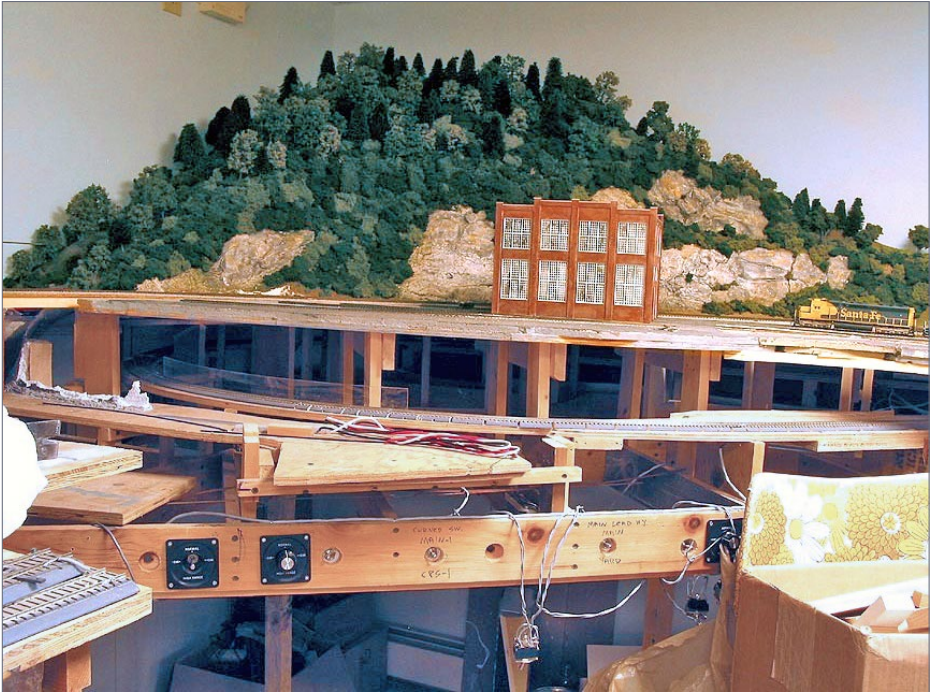
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and kindred spirits. And once I began attending op sessions at other layouts, I began to want more for my own layout. At the same time, I wanted to improve my weathering efforts, and started to model individual real freight cars I had photographed. I soon found that the need to recreate what I was seeing drove me to develop new techniques and to discover new materials that I still use to this day.

I've written before about one particular railfanning trip, where I stumbled upon what would become my prototype focus for the layout. The move from freelance to proto-freelance to



1. It's hard to believe that the picture above, taken straight off the old layout – complete with hidden loops under plaster mountains, kit-built structures, and long-term lack of scenery – would turn into the very different layout you see today.



2, 3. This was the former Hammill Yard in the top photo, again from the old layout, along with “lack of focus” motive power from all over the place. Note another old-school mountain in the distance, and also the groove laboriously cut into the wall behind so I could, yes, hide more track! This scene turned into the towns of Towanda and Wyalusing in the second picture.



full-on prototype modeling for the layout evolved over time, but gathered speed as it went on. Soon I was all-in on proto modeling for the layout, in addition to freight cars and locomotives. Eventually, there was also an era change to put me into what I considered a “sweet spot” of activity on my Conrail Lehigh Line, along with the most compelling locomotive mix.

While I would have guessed that this would be constraining, it surprised me by being liberating! I no longer had to keep up with current events that I was increasingly less interested in, and it meant that a lot of decisions about what to model and how to do it were made for me. I could actually focus for once, instead of being hampered by the “everything is interesting!” approach



4, 5, 6. (Top left, bottom left, and above) Here is another hard-to-believe change. This suspended plaster mountain, covered with ground foam and not a real tree in sight in the top photo is no more. It evolved into a fully-treed backdrop and the town of Laceyville, complete with structures.

I'd taken for so long. Focusing on a particular prototype means you can actually drill down and learn a lot about something, all the nuances and trivia. Even the difficulties in researching some of this material turned out to be rewarding, and I continued to meet new friends who contributed to the effort.

If I had any doubts at all, just looking back on photos of the earlier efforts as compared to now alleviated all of them! It was not simply improved techniques, although admittedly most of that was driven by the need to model prototypes closely. For me it was the vision gleaned by this focus on the prototype. I was able to get it in my head and once there I could model it. The following examples should speak for themselves but, for me, prototype modeling is about getting real. ☒

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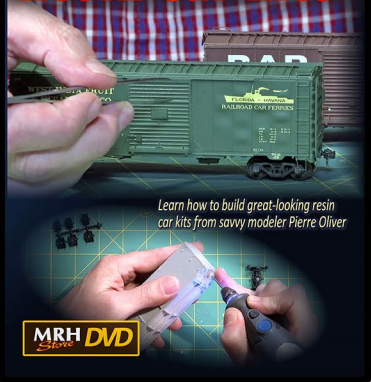
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WHAT'S NEAT

column



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KEN PATTERSON TOURS A BIG O SCALE LAYOUT AND A SMALL N SCALE ONE, LEARNS ABOUT TREES, BUILDS WALTHERS' PAPER MILL, AND MORE ...

THIS MONTH WE LOOK AT DAVID STEWART'S 3000 sq. ft. O scale layout and Campbell Rice makes a fast pine tree, I build the Walthers paper mill in HO scale, Paul Brennecke shares his bedroom-size N scale layout, the Grand Railroad, and Steven M. Conroy provides us with fascinating drone footage of a military train running through the hills of California -- all in this month's What's Neat Video.

Walthers paper mill project

I build the Walthers paper mill kit this month to use as a prop for my outdoor model photography scenes. The Walthers paper mill adds to the variety of my buildings, in that it can represent any type of industrial brick building. 

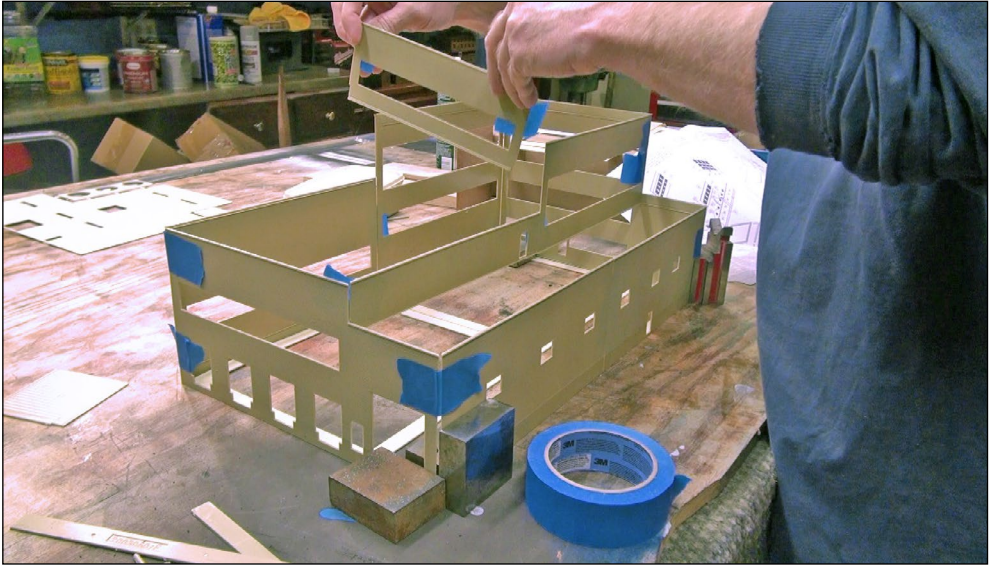
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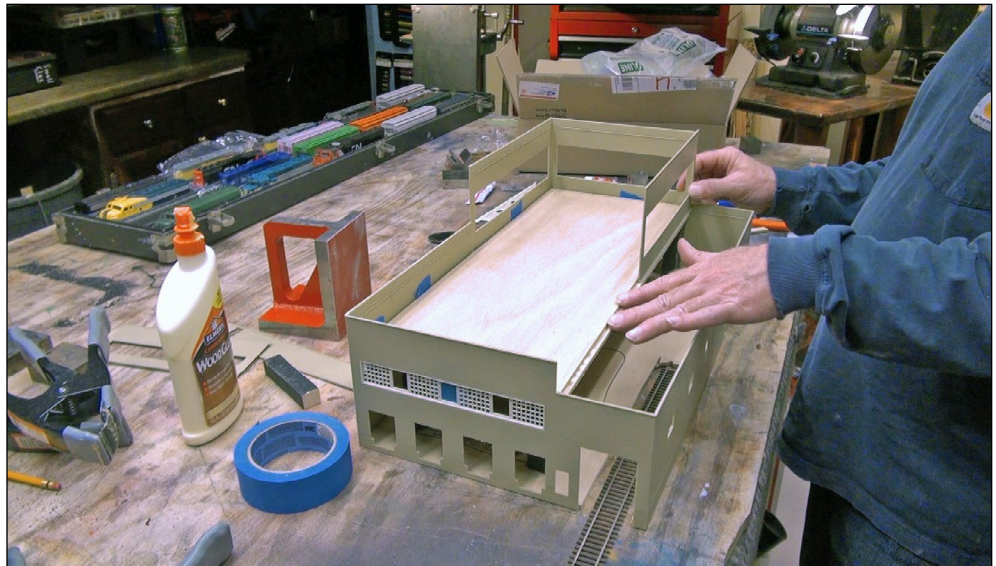
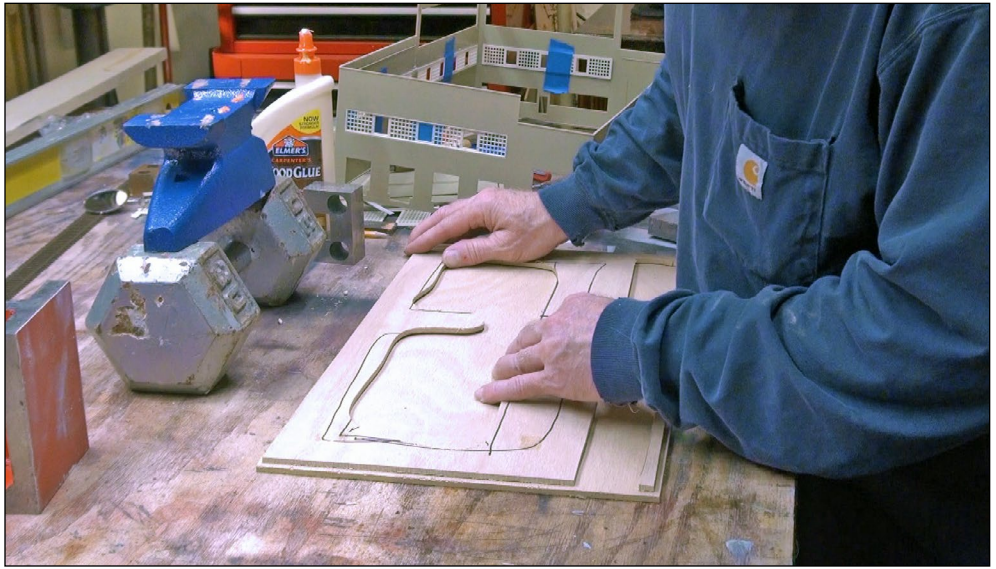
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1. (Above) I taped the exterior walls together to better understand the size of the overall structure and visualize any modifications I may want to incorporate.
2. (Top right) I wanted to build my own plywood base to hold the structure firmly together when moving it in and out of the basement during the photo shooting process. I used quarter-inch plywood, measuring the outside dimensions of the building so the base would be flush around the bottom. I cut a space for railroad tracks to enter the building, and holes to reach into the bottom of the kit. I painted the base with spray can primer and set it outside to dry.
3. (Bottom right) In this photo, you can see the second-story floor, also constructed from quarter-inch plywood and set on top of half-inch wood columns for support. The second floor has a quarter-inch lip to support the second story exterior walls on one side of the building.

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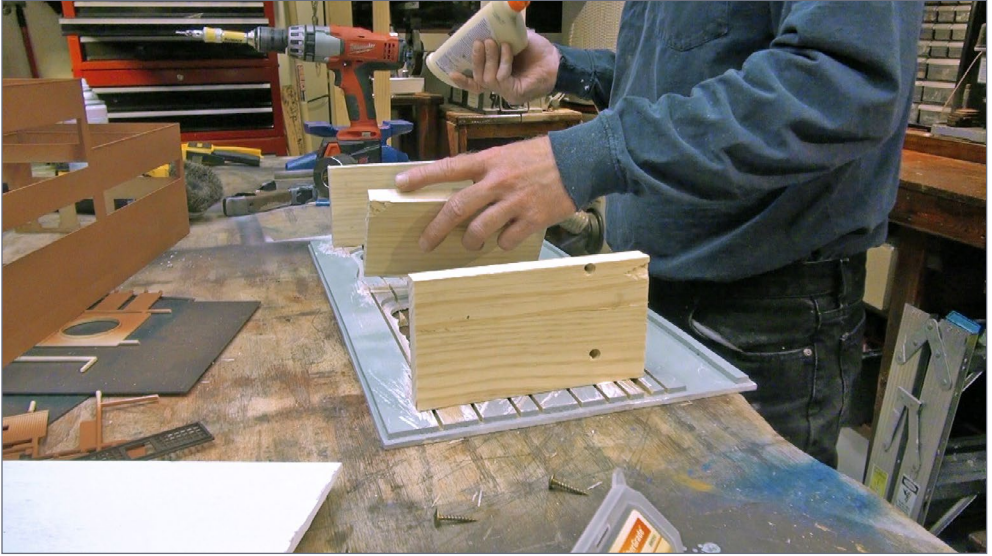
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4. I painted the exterior walls with Rustoleum plastic-compatible Redwood spray paint. This went on smoothly in two coats, letting the paint dry between coats to prevent paint runs.





5. The first-floor plywood base warped, with a 1/8th-inch bow as the primer dried in the sun. I scored the base with a saw to bend it straight and replaced the half-inch wood columns with 5-inch-high half-inch stock. This will prevent further warping and support the second floor in the right position to fit the building's window arrangement.



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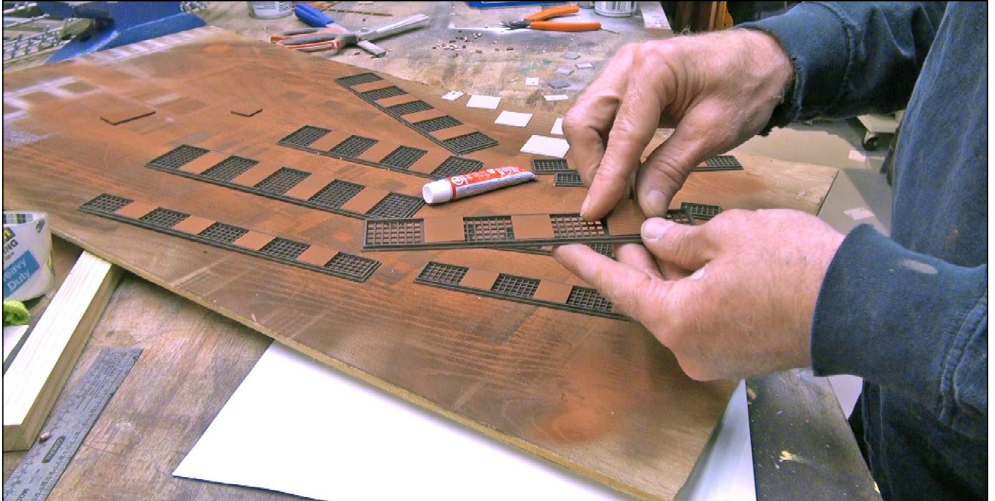


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6. I painted the building's cement cap stones with an airbrush and Floquil Cement paint. The air pressure was set at 10 psi to spray a very tight and fine pattern with no overspray. This will accent the outside lines of the building for a realistic appearance.



7. I painted the steel window frames with Rustoleum Camouflage Brown paint. The brick inserts are pressed into position as per the kit's instructions and glued in place with Testors Plastic Cement.

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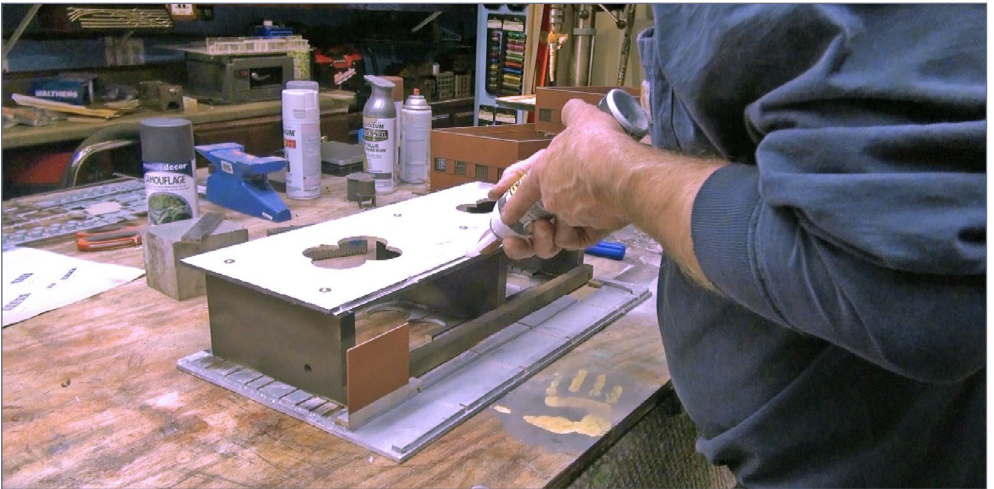
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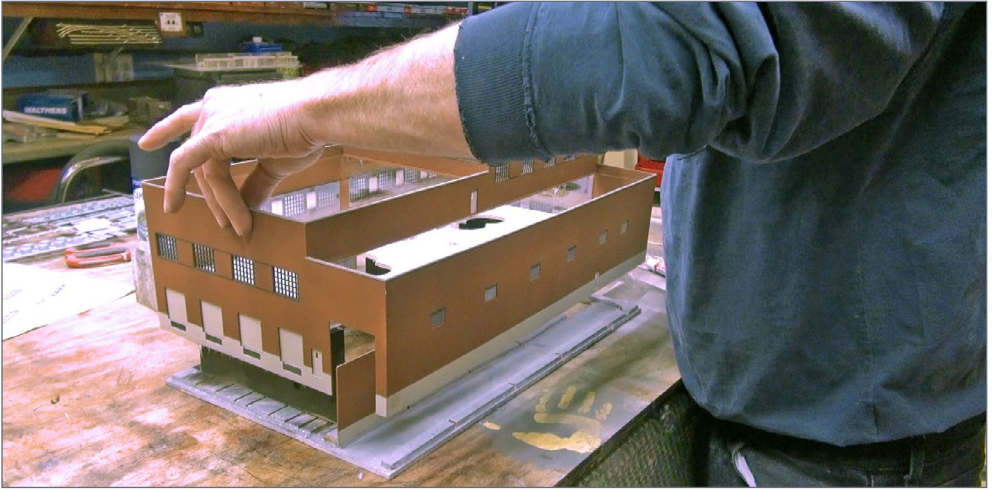




8. For the glass in the building I used 1/32" clear plastic sheets cut to the size of the entire wall, covering the windows. This was glued in place with clear silicone adhesive. I did this for all the windows as it was fast and added strength to the walls.



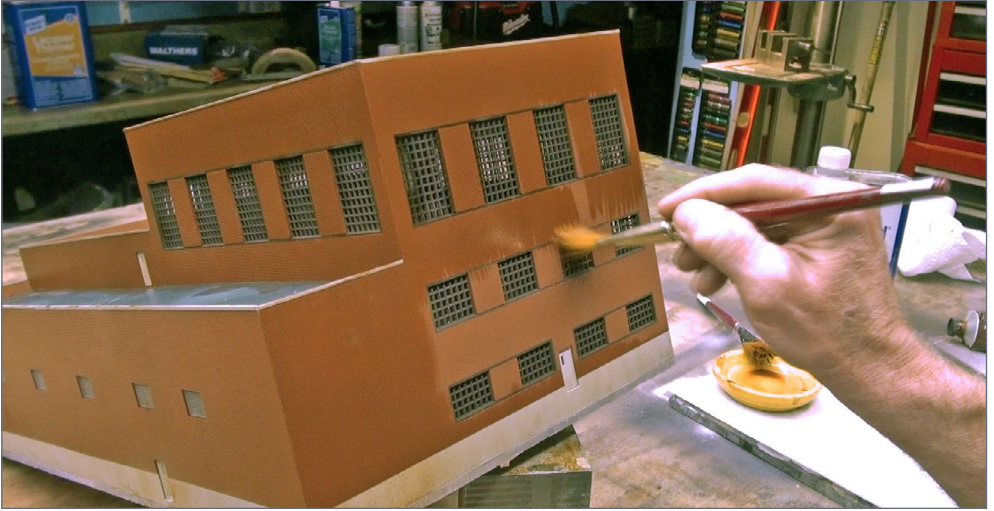
9. The interior frame of the building is made from wood and painted to seal it. I am applying a bead of silicone adhesive to the second story lip as well as the entire base around the bottom.



10. I slid the building's finished walls around the wood interior and into the bead of glue around the bottom, securely attaching the walls to the base.



11. To weather the redwood paint applied to the brick, I mixed burnt umber oil paint with Turpenoid thinner on a flat tile, then applied the mixture with a one-inch artist brush. I blotted the brush on a paper towel to control the amount of paint wash applied



12. Pulling the paint wash down in strokes creates a film of grime. Streaks are welcome here and the weathering wash looks fantastic in sunlight. Avoid getting the wash on the glass.



13. The finished paper mill is set up in a scene for an Athearn Norfolk Southern model photo shoot. The building is big and fills the background perfectly in model photo setups. The color combination and the weathering make for a very realistic industrial building.

David Stewart's O scale layout



14. In this month's video, we look at David Stewart's O scale model railroad. It fills a 3000 sq. ft. basement, with over 2000 feet of hand-laid track using code 100 and 150 rail.



15. The turnouts flow through the trackwork and are controlled by switch machines connected to a prototype CTC board system. The layout is built for operation, with long mainlines snaking between yards, cities, and industries. The car cards have photographs of each individual freight car printed on them. The layout is a walkaround design.

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16. The “theme park” aisle design guides visitors through curtains dividing day from night, or storms and thunder, to some long and winding sunny track scenes. In the video we walk through the 600 or more feet of aisles through the various scenes.



17. The switch yard includes an operating hump yard where retarders controlled with servo motors press foam retarders to the inside of the wheel flanges as the cars roll down the hump.



18. Retarders control the cars' roll rate as they roll down to their predetermined track. David claims this is a very fast way to make up train consists.



19. The rotary dumper is amazing to watch. All of David's coal cars have loose coal in them. It is picked up at various mines and transferred to ships at the rotary dump site. O scale hoppers full of coal have great mass and careful train control becomes a trick on David's long winding grades. To hear and see this layout operate was a great experience.

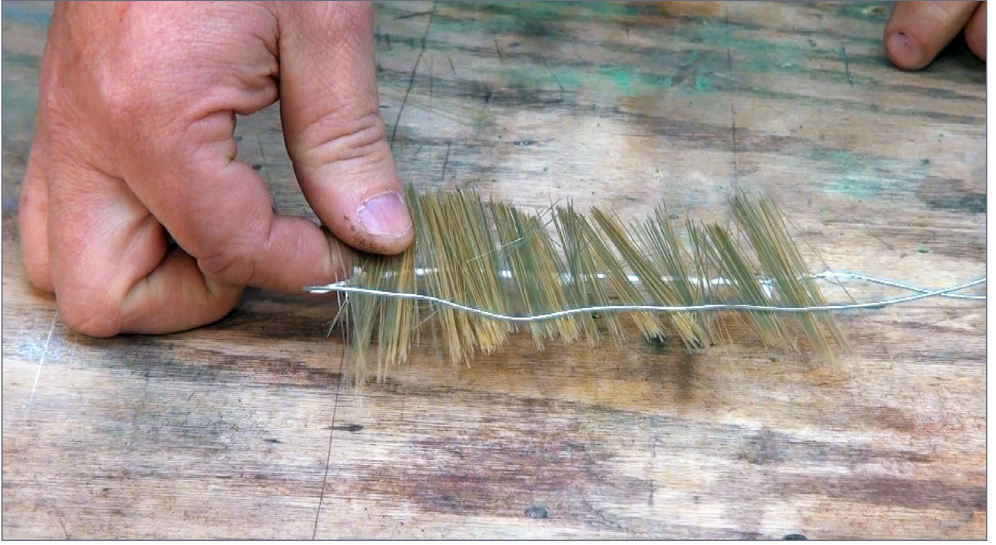
Campbell Rice makes trees



20. The real surprise this month was when Campbell Rice dropped by to show me how he makes pine trees. It was a real trick to watch, like pulling a rabbit – or in this case, a tree – out of a hat using a paintbrush and a wire.



21. He starts with a picture frame wire bent in an 8-inch-long 'U' pattern.



22. Then he places paintbrush bristles on top of one wire and under the other wire, holding them in place with "Tacky Glue."



23. He then hooks a metal hook in the top loop at one end of the tree. The other end is held by a Vise-Grip tool.



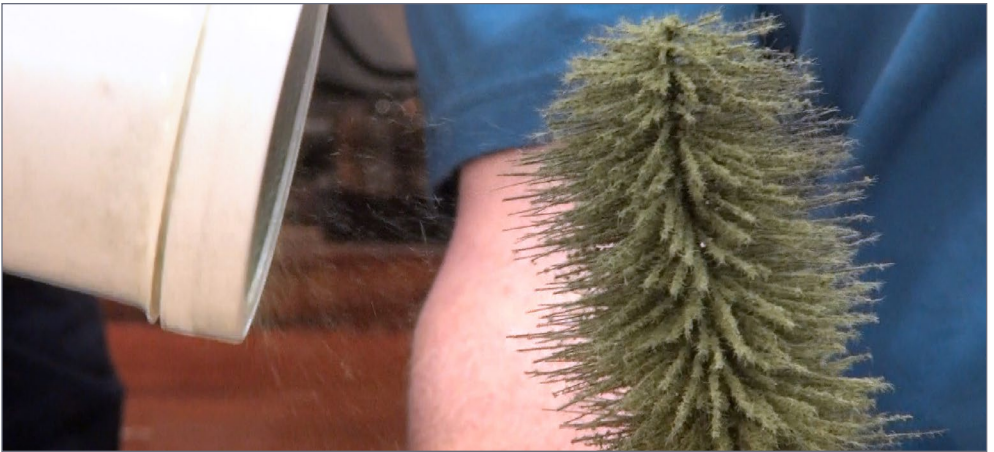
24. When the drill is turned on, the wire twists the brush fibers into instant tree branches. It happens very fast and is cool to watch in the video.



25. He uses scissors to trim the branches into the shape of a pine tree.



26. Campbell sprays the tree with Elmer's Glue and covers the branches with a mix of green fine ground foam.



27. To enhance the tree, he uses a static gun filled with 1/16-inch long fibers. He grounds the gun to the tree's metal base and turns on the gun, creating a static charge in the tree that attracts the fibers to the glue on the branches making for a realistic pine needle effect.

Paul Brennecke's N scale "Grand" railroad



28. Paul's layout has been featured in the model press, with six cover shots over the years. It was a treat to see this tricked-out super-detailed N scale representation of the Colorado Rockies in a bedroom-size layout.



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29. The layout is designed for the run-by effect. Paul likes to railfan and watch his scratchbuilt stack cars run past him, pulled by detailed modern locomotives with scale-thickness handrails bent from wire. His Grand paint scheme was influenced by his college colors when he was younger. The layout is stacked with almost two scale miles of mainline. A 36" helix takes the train from hidden staging yards to the bridges high in the mountains.



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30. His scenery color and hand-painted backdrops give the viewer a feeling of the expanse of the great mountainous outdoors while still being in a simple bedroom. The attention to track detail is amazing with track switch heaters, rail defect detectors, and fully functional signaling. The trains run on code 55 rails.

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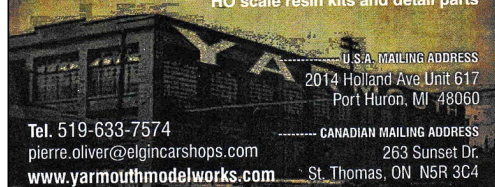
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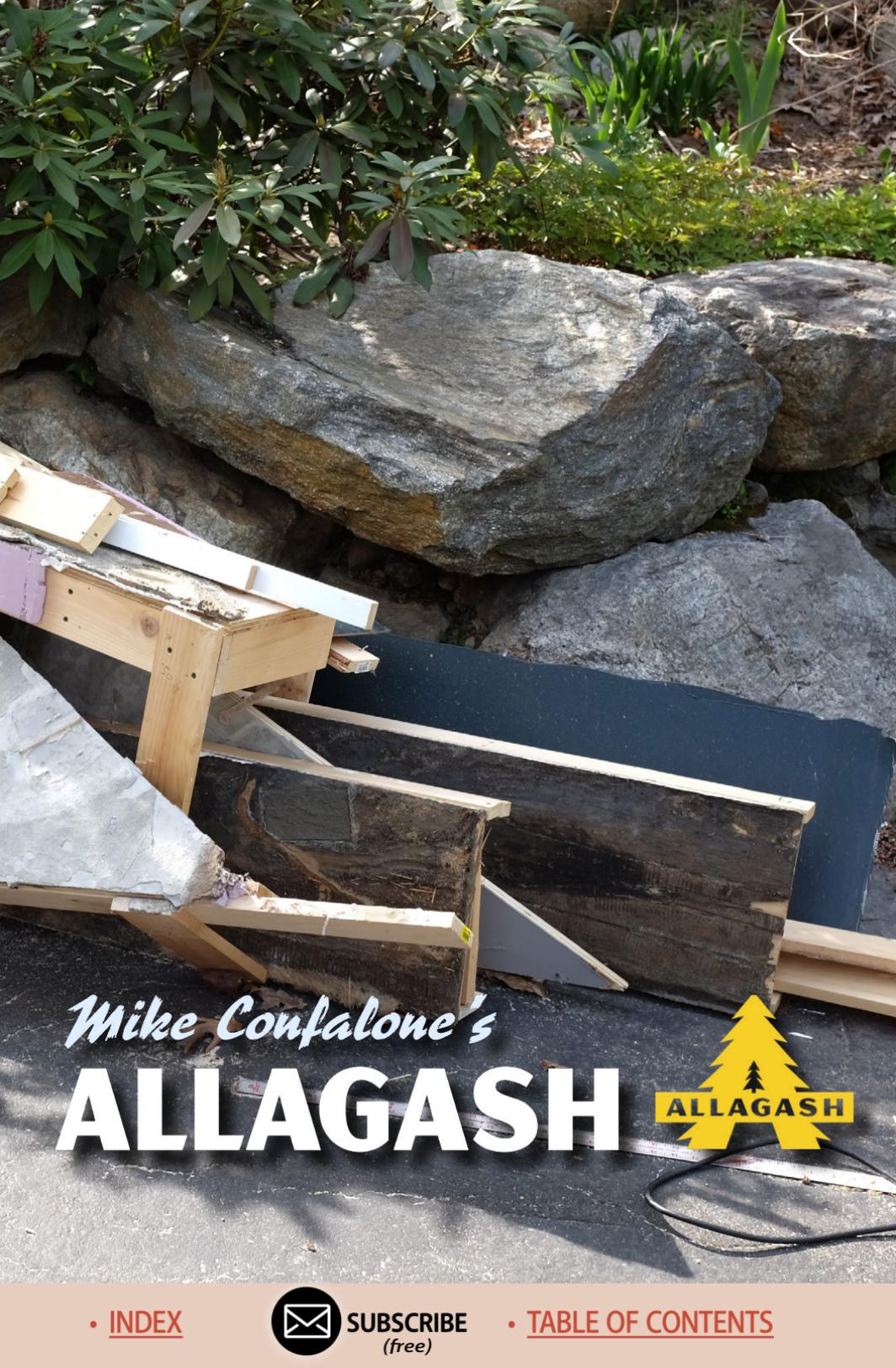
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Rebuilding the **White Mountain Branch**

MIKE CONFALONE rips
out part of the Allagash and
replaces it with something
completely new ...



Mike Confalone's
ALLAGASH



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FOR JUST ABOUT ANYONE BUILDING A SIZABLE model railroad, the prospect of rebuilding is not something one looks forward to, especially if the railroad, or that portion of the railroad is scenicked, operational and essentially complete. Naturally, re-work is to be avoided at all costs. But sometimes our first efforts are not necessarily our best.

There can be several reasons for this, but the most common one is experience. As we build our model railroads, we learn as we go, making mistakes along the way. I've never been one to put things on paper. For me the best-laid plan doesn't mean much until wood and screws start flying around. But during this process, things sometimes don't go as planned or are not built quite right.

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1. For a short time, I experimented with a short line called the Western Maine. Here a former Allagash F-unit and RS3 haul stone out of the quarry. The Western Maine went belly-up and the Allagash resumed operations on the branch after a very short time.

Another reason for a rebuild might be changing objectives. What we initially sought to create might not be so important to us anymore. Perhaps we have acquired a new perspective on things, or our interests have changed.

Whatever the reason may be, don't be afraid to look things square in the eye and assess. If you are not satisfied with the end result, there is only one way to fix things – tear it down and start anew! My friend Mike Rose calls this “Layout Kaboom.” Mike has been through a lot of rebuilding over the last several years.

Mike will tell you much of that was due to my influence. We have spent many hours discussing and planning his prototype Conrail layout based in the mid-1980s. In the process it became apparent that “out with the old, in with the new” had become the mantra. Mike has a good attitude about things, understanding that making changes now, even if it involves short-term pain, will give him a much better model railroad, and much more enjoyment. In essence, a long-term gain. In doing so, he has created a fantastic model railroad that is far superior to the original in every way.

For me, I’ve been there and done it as well. I have rebuilt just about every square inch of my current proto-freelanced Allagash Railway, set in Maine in the early spring of 1984. The majority of this happened as a result of a change from my old railroad, the Woodsville Terminal short line, (see Kalmbach’s *Model Railroad Planning 2007*) to the present-day Allagash.



2. An AGR RS1 handles chips from the loader at what was originally called Grafton Notch under the old branch rule. Note the single-stall engine house which was removed after a short time.



3. A broad view of the old branch shows the wood chip loader and section building/office. The office building was relocated to White Mountain Junction.

With the conversion to the Allagash I decided to keep the original 1' x 16' Woodsville Terminal branch line and rebrand it as the White Mountain Branch of the Allagash. The scene was supposed to represent Vermont but the scenery was similar to what you would find in Maine, and could suffice.

I made small changes along the way, adding a wood yard to the location where a partially completed wood-fired power plant once sat. I expanded the branch to include a rail-served rock quarry (see MRH Store - "Scenery Modeling Outside the Box, V2"). The Allagash would serve the quarry as part of the operating plan.

But as time moved on and new scenes on the Allagash came to life, I started to have second thoughts about my decision to retain the old branch line. The bottom line was that the Allagash had a

very “big” feel about it. Because of the way the railroad looked, in terms of its locomotive and freight car fleet and the operating plan that had multiple road trains servicing large paper mills and other industry as well as important interchanges with prototype railroads in the area, the old branch line just didn’t seem to fit.

For starters, the track on the branch line was decrepit. This was done by design to emphasize the down-on-its-luck character of the Woodsville Terminal. I intentionally twisted rail and ties to create a look that said “pass at your own risk!”

In addition to the track being in poor condition, the track arrangement was poorly designed and there was too much track in the small space. The initial turnout that led from the main line into the small yard was wrong (I used a RH turnout where it should have been a LH).



4. The corner on the far end of the bench had a partially-built wood-fired power plant. I replaced the power plant with a small pulpwood yard.



5. A broad view of the quarry.

This seemingly innocent mistake resulted in poorly-flowing track that just didn't look at all like what a prototype railroad would do. In addition, the spur into the quarry was done with Code 55 flex track and was bent around a corner on what seemed like a 10" radius!

Needless to say, getting trains to navigate that curve was always a challenge. In summary, the old branch had a lot of character, but when I really studied it, it began to look just a little bit like a caricature. (Definition: to make or give a comically or grotesquely exaggerated representation of someone or something) More importantly, it just didn't seem to fit in with what was quickly becoming the mighty Allagash.

Industries on the branch were limited to a small, dilapidated wood chip mill, a small wood yard and the rock quarry, all generating limited, low-revenue tonnage that probably wouldn't have

been sufficient to pay the bills. A railroad like the Allagash most likely would have cast off such a branch to a short line, abandoned it in place, or ripped it up.

Saying goodbye to the old branch

So, I was faced with a dilemma. The “branch,” as we often referred to it, was my first serious effort toward building a model railroad. And yes, the Woodsville Terminal short line concept was sound and the small railroad had garnered considerable attention in the model railroad press.



6. Another view of the quarry showing stone hoppers disappearing into the wall. This in-wall access would come in handy when the branch to Rumford Point was eventually built out.



7. A close-up view of the wood chip loader. This image illustrates the dilapidated nature of the marginal industry on the old branch.

The bottom line was that I had worked very hard to create it, and I was proud of it. But the Woodsville Terminal was now a fallen flag and the branch had become part of the new Allagash. In its present condition, it simply didn't fit. I had no choice but to face this reality and somehow figure out what to do.

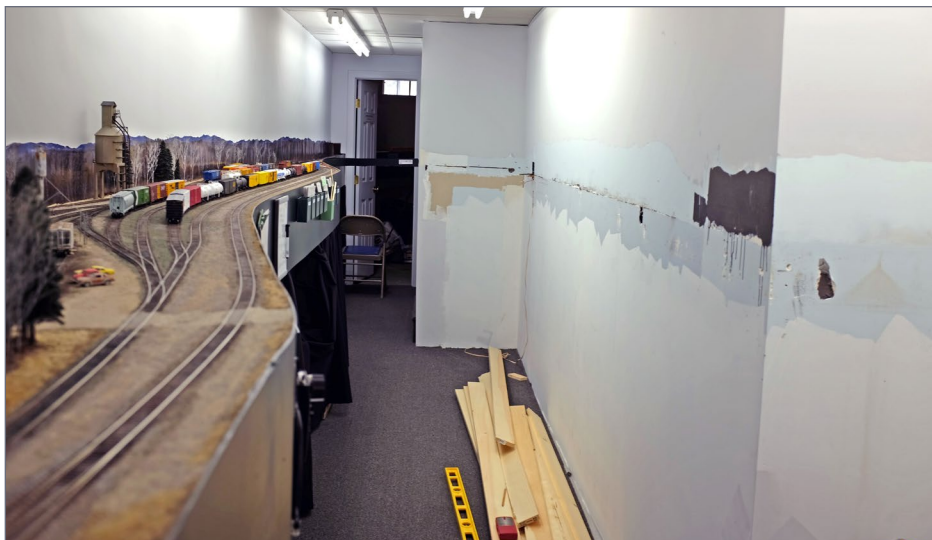
I struggled with this for a while. The thought of physically tearing it down was painful. I remember standing downstairs looking at the branch, trying to find a way to save it. Maybe I could modify it or do something to make it look like it belonged.

Perhaps a new industry, or a modified track plan would help convince me. But every time I stood there, I got the same feeling – it had to go. The decision was made.

Having made the decision to rebuild, I was hopeful that I could retain the benchwork. But this proved impossible. The scenery material base was so hard that it was very difficult to get up off the plywood to create a new, smooth surface to work with.

Despite all my efforts, all I did was create a mess as I attempted to excavate the rutted muddy base scenery. At the time I wasn't a very patient person, and it wasn't long before I was tearing the entire structure off the wall in pieces. It was difficult to watch something that I had created torn to shreds, but at the same time it was liberating to know that I would be creating something brand new, something that looked like it would naturally be a part of the Allagash. And I knew that this time I was going to do it right.

Once the decision to remove the old railroad was made, I didn't waste any time. With crowbar and hammer I went to work, and in just a couple of hours the old branch was laying in a heap outside the garage door. A trip to the dump permanently sealed its fate!



8. The old branch has been torn off the wall. New lumber is ready to go. Madrid yard is on the left.



9. The former quarry location.



10. The remnants of the quarry section and benchwork from the old branch ready for a run to the dump.

Inspiration for the new branch

With a new outlook on things, I quickly built the benchwork for the new branch. I hadn't settled on specific industries just yet, but I knew a few things that I wanted to have.

There's nothing like the real railroads to provide inspiration, and one town in particular had held my attention for some time – Wilton, NH on the old Boston & Maine Hillsboro Branch. Wilton still has rail service today in the form of shortline Milford-Bennington stone trains that run through town during most construction seasons.

Wilton has all of the elements of a classic New England town that is served by rail – station, freight house, passing track and a local industry called Souhegan Wood Products. The wood products



11. The new benchwork is complete. There are tools everywhere and it looks like I am working on fascia and testing sky colors.



12. The access hole that leads to White Mountain Junction. The track branching off to the left was removed in favor of a residential area.

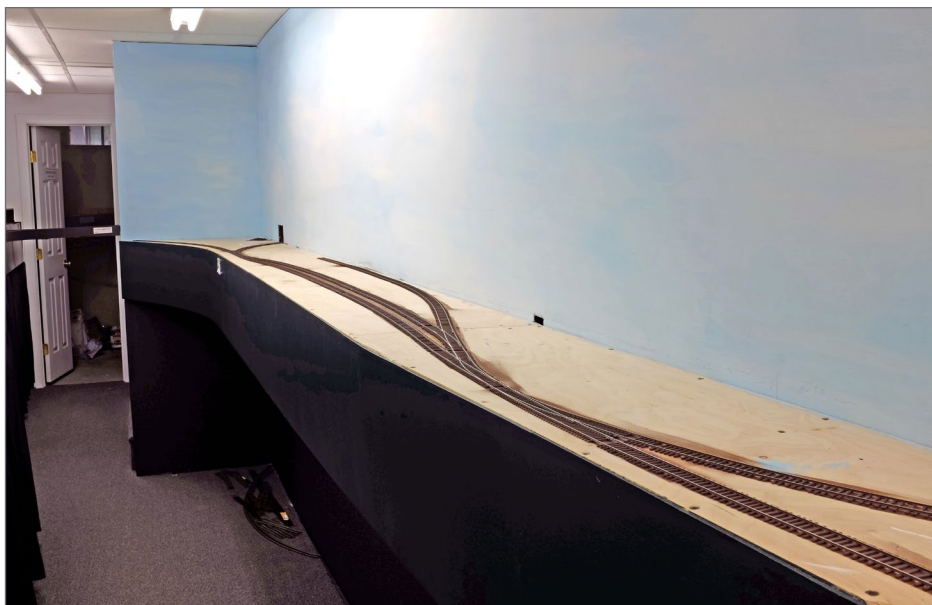
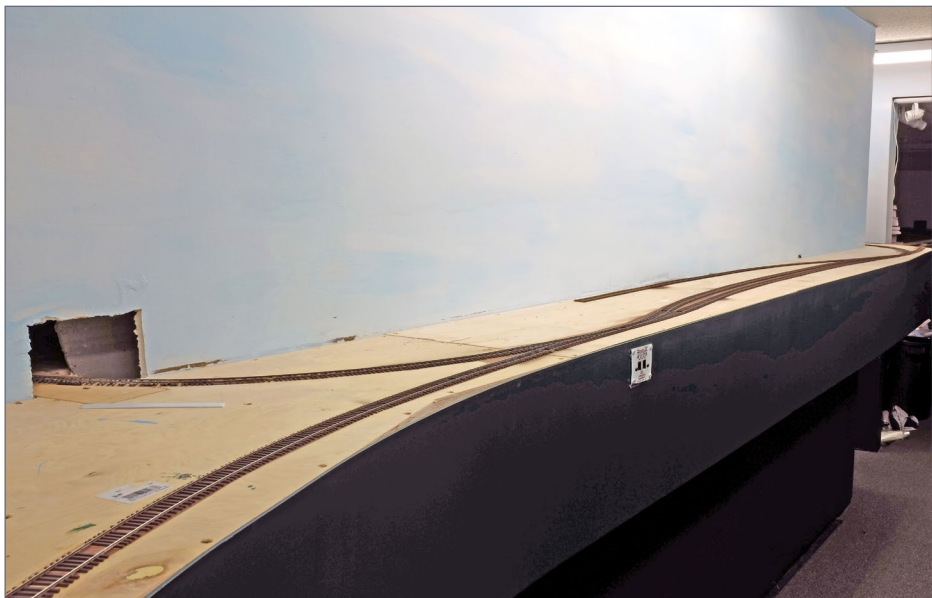
company hasn't had rail service in decades, but it is still in business, making belt winding cores from compressed scrap wood.

I knew as soon as I studied it that I wanted to have it represented on the new branch.

Designing a trackplan

I made an initial visit to Wilton. Based on the general layout of the railroad there, I was able to come up with a basic track arrangement for the proposed town of Andover, ME that would include a main line, passing siding and industry spurs. I planned to have the wood products building be one of a couple of industries in town. Beyond that, I wasn't really sure on the details.

In [13] you can see the original trackplan. Note the track heading off opposite the entry point in the wall and toward the end of the benchwork in the far corner. That spur was quickly



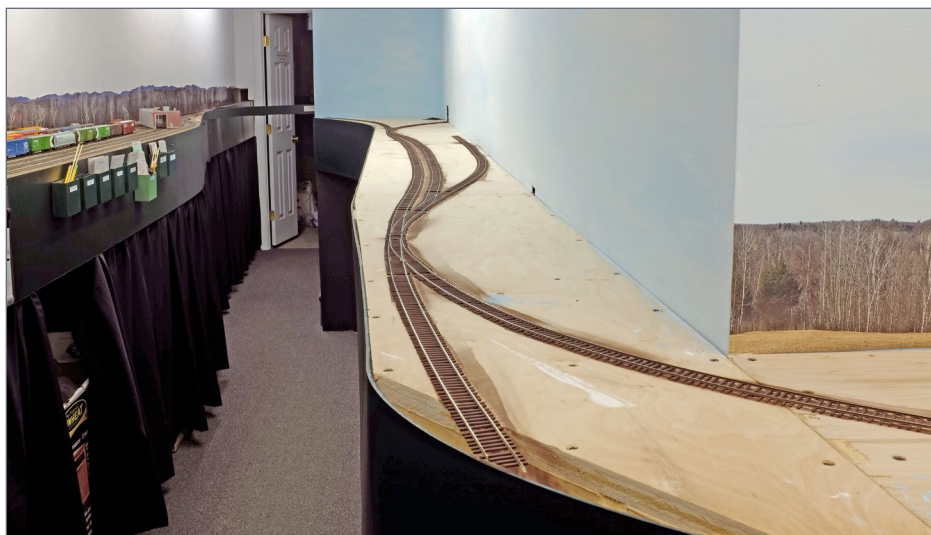
13, 13a. A wide view of the new track arrangement.

eliminated after evaluating the overall look and feel of the track layout.

I determined that there was too much track in the first draft and didn't want to fall into the trap I had with the prior branch, where too much track was crammed into a relatively small area.

So the track arrangement at Andover, which flows on a slight curve coming out of the wall from White Mountain Jct., consists of the main line and passing track, a spur that heads toward the wall [13a], and then another junction called Rumford Point Jct. where the White Mountain Branch leaves the bench [14] and heads off to the west toward New Hampshire's White Mountains.

Theoretically, the rails of the White Mountain Branch are in place for a mile or two beyond this point, but are long out of service.



14. Rumford Point Junction. The track leading off the bench is the White Mountain Branch, which is out of service beyond this point. The Rumford Point Branch heads to the right, toward the old quarry location.

At Rumford Point Jct. the Rumford Point Branch begins, and heads around the corner to East Andover (former quarry location, see photo 14) through a hole in the wall and into the garage where it continues toward Rumford Point.

The building of the Rumford Point Branch will be a story for another time.



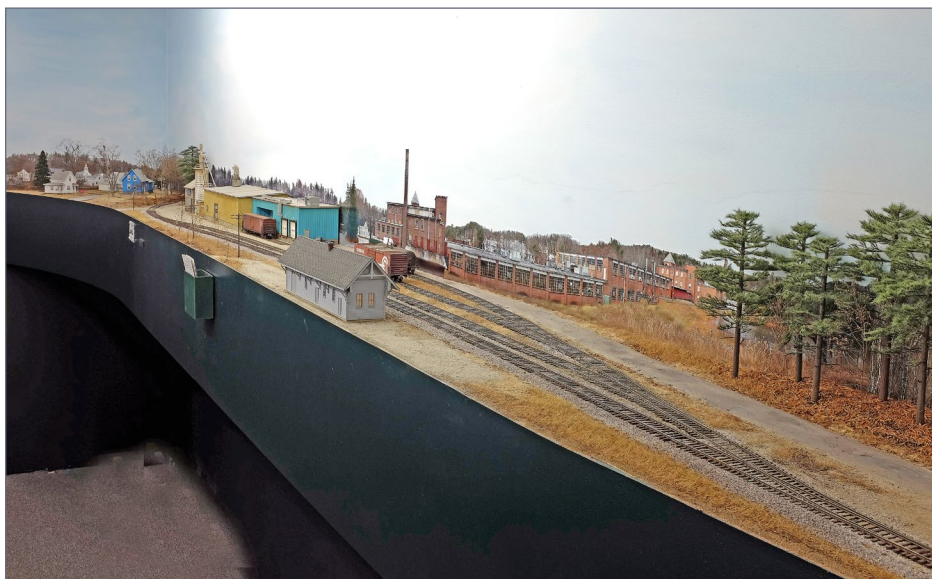
15. A broad view of the old quarry location. Originally this was the end of track, and an Agway complex was tried. I decided against this and extended the Rumford Point Branch beyond here, through the wall and into the garage. Eventually this would become East Andover and a pole yard would occupy the space.

Scenery and industries at Andover and East Andover

More visits to Wilton were all the inspiration I needed to really get going on what would become Andover. A nice cloudy day served me well and I was able to get some great backdrop photos of some of the old mill buildings in town, without harsh shadows or bad lighting.

Most of the backdrops on the Allagash were of the mountain/hillside variety. Photographing old mill buildings provided an opportunity to vary the look of the railroad and represent some of the town of Andover on the backdrop without the need to build a lot of structures.

Despite the narrow bench work (14.5") the scene at Andover looks far deeper when standing in the aisle. The effect is even greater in photographs.



16. The new branch from left to right: the far corner residential area, Andover Wood Products, Oxford Mills (on the photo backdrop) and the old passenger station.

After building and installing the backdrop I immediately noticed that one of the old brick factory structures pictured on the backdrop would make a great consignee for tank car loading. I ran one spur right up to the backdrop to reach the consignee (Oxford Mills), while another spur heads further down to reach the Andover Wood Products building which receives empty boxcars for loading the winding cores.

On the aisle side is an old wooden passenger station, now utilized by the Allagash for maintenance of way. Beyond that, there really



17. The small residential area, in the space that once hosted a wood yard on the old branch, and a wood-fired power plant on the original Woodsville Terminal. Sometimes, less is more, and the temptation to put another industry in this space was strong. But a few simple homes, a photo backdrop and a road give a sense of place and emphasize the fact that people actually live in Andover!

Note the hole in the wall to the right. This is where the main line enters from White Mountain Junction. A few trees disguise the entry point.

isn't much to the scenery but a few utility poles, an abandoned road, a large stand of pine trees and some grass. Back down at the entry point from White Mountain Jct. is a large corner of what seemed like nothing but dead space.

As mentioned earlier, I had originally run a spur into the area, like the wood yard spur on the old branch, but I removed it in favor of less track. Sometimes, less is more. In lieu of another industry I placed a few simple homes and a residential road here to represent some civilization. Another smaller photo backdrop gave the tight corner a lot of depth.



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Beyond Rumford Point Junction and around the corner at the old quarry site is the railroad location East Andover. The old quarry site is a large space and once again the temptation was strong to cram buildings and industry into the space.

I tried putting an Agway feed mill and fertilizer blend plant in the space and designed the track work accordingly, but the structures just didn't look right. At that point, the idea of extending the branch to North Rumford and Rumford Point was born.

There was still a hole in the wall at the back of the old quarry space, where I formerly shoved gravel hoppers through. I decided to run the main line into the old quarry space, extending it through the hole in the wall and into the garage for future expansion to North Rumford and Rumford Point.



18. Another view of the mainline entry point and the beginning of Andover Wood Products. Note the distant pine trees on the photo backdrop that blend with the larger trees in the foreground.

In the meantime, I had to decide what industry to put in the corner space at East Andover. Again leaning on the prototype for ideas, I decided to model an industry which is seldom represented on model railroads – a utility pole transload. A simple pole yard in Concord, NH inspired the scene at East Andover.

The main line curves away and through the hole in the wall while a short spur heads into the pole yard. Stacks of poles, muddy ground, some trees and weeds, along with a photo backdrop of a distant hillside and power plant round out the bare-bones scene at East Andover.



19. Andover Wood Products, inspired by Souhegan Wood products in Wilton, NH. Note how the photo backdrop just appears above the top of the building, giving the impression of some distance, but not too much. Those trees at the top are just on the other side of a river, which in theory is right behind the structure.

It just feels right

The look and feel of the new branch, unlike the old branch, reflects a branch line that is in decent shape and fairly well maintained, similar to the rest of the Allagash Railway. To me, it just feels right.

Industries are on the light side with the two consignees in Andover and the pole yard at East Andover. The line to North Rumford and Rumford Point (including the Martin Spur) has since been built out but is not yet scenicked.

Consignees on the Martin Spur (in the vicinity of North Rumford) include a cement transload and a plastic pellet distributor.



20. Another long view of Andover with the wood products factory and the Oxford Mills complex on the photo backdrop. Note the tank car spotted at Oxford Mills. At the far end you can see the Rumford Point Branch veering sharply around the corner to the left.



21. Rumford Point Junction. Note the rust on the tops of the rails of the White Mountain Branch in the right foreground.



22. The Rumford Point Branch heads for the pole yard, while the rusty White Mountain Branch terminates in a pile of ballast.

Customers at North Rumford include a pulpwood load-out and the Agway fertilizer mixing plant. There is a paper mill at the end of the line at Rumford Point (represented by staging).

At the time of this writing, the trackage from North Rumford to Rumford Point was in the process of being re-opened after a long theoretical hiatus, with service to the paper mill at Rumford Point resuming under the operation of a new shortline called the Oxford County Railroad. The backstory on this is for another time.

The Allagash retains service to the consignees on the Martin Spur. On paper, the interchange with the new Oxford County is at North Rumford, but the actual swapping of cars is done a few miles north at Andover.



23. This image shows the treatment of a hard corner. The photo backdrops line up and the large pine trees and other bare deciduous trees help to soften the transition.



24, 25. The pole yard at East Andover. Note the Rumford Point Branch main line disappears into the hole in the wall. The entry point is disguised with a berm and trees. Note the single pine tree “flat” against the wall right at the entry point. The branch to Rumford Point continues into the garage.

For the Allagash, the branch has enough traffic to justify a several-times-per-week local, but nothing more than that. In essence, it is a light duty branch line with lots of character and interesting industries not seen elsewhere on the Allagash.

By definition it is bordering on marginal, and theoretically a loss of one or more of the larger customers could mean the end of the branch.

Operations on "the Branch"

Operations on the White Mountain Branch are based at White Mountain Junction (WMJ). Facilities here are modest, consisting of a small yard and an old section building that serves as office for the crews based here. White Mountain Junction has the look and feel of a backwoods operation. The concept and overall look of the place takes very loose inspiration from Whitefield, NH on the Maine Central's Mountain Division.

Lines out of White Mountain Junction go in three directions – north to Madrid where the branch connects with the Androscoggin Subdivision at Sandy River Jct., south to Andover, East Andover, North Rumford, the Martin Spur, and Rumford Point, and east to Berry Mills.

The branch to Berry Mills is just a short staging lead that leaves the yard at WM Jct. and goes into a single staging track that is buried under the farm scene at Knox. There is a simulated Georgia Pacific paper mill at Berry Mills, and traffic to/from the mill is staged at White Mountain Junction.

Daily operations out of WM Jct. require two crews. The night crew (W2) runs to Berry Mills, switches the mill and returns to WM Jct. in the early morning. This crew is theoretical, not actual, as there is no run to Berry Mills save for the short stub that tucks under the farm to the staging track.

The daytime job is symbolized W1. W1 starts by collecting the cars from the overnight run of W2 from Berry Mills as well as any cars that came in to WM Jct. from Andover and points beyond from yesterday's W1. The W1 crew will put the train together and make a turn to Madrid Yard.



26, 27. At the small yard at White Mountain Junction, Allagash GP7 500 and the W1 crew prepare for the day's work.

Power is usually a single GP7 or GP9 or a GP38. The train will head up to Sandy River Jct., then onto the Androscoggin Sub for the short run to Madrid.

After swapping cars at Madrid, W1 will return to Sandy River Jct. and head back down the branch to WM Jct. Once there, the W1 crew will pause for a while at the yard office before heading out to Andover, East Andover and up to the Martin Spur.

At Andover, the crew will switch Oxford Mills and Andover Wood Products. In addition, they may switch the pole yard at East Andover, or they may leave the East Andover cars on the passing track at Andover and head for the Martin Spur with whatever traffic they have.

On the Martin Spur they will switch Atlantic Cement and Northern Resin.



28. Early morning at White Mountain Junction. The night job W2 is returning with a single D&H boxcar from the paper mill at Berry Mills.



29. The 500 spots the D&H paper car on the rear of some other cars in the small White Mountain Junction yard.



30. The 500 couples to its train and will back through the yard and prepare for the run to Madrid.

After work is complete on the Martin Spur, the crew will return to Andover, switching the pole yard at East Andover if it wasn't done earlier. After the work here is done, the crew will put its train back together and head for WM Jct. where they will go off duty.

Theoretically, the night job W2 to Berry Mills runs after the operating session is complete. Traffic coming from Berry Mills will be staged at White Mountain Junction before the next operating session, when the cycle will repeat.



31. W1 is on the move as it leaves the yard and passes the station sign for White Mountain Junction.



32. AGR 500 and the W1 crew are on the White Mountain Branch with three empty cement cars and an empty plastics car from Rumford Point as well as a loaded boxcar out of Andover Wood Products and the paper load out of Berry Mills. The AGR's Androscoggin Subdivision mainline can be seen in the foreground.



33. The 500 pauses at Sandy River Junction where the W1 job will enter the Androscoggin Sub. for the short run to Madrid Yard.



34. GP7 500 enters Madrid, passing some loaded pulpwood cars at the yard's south end.



35. The 500 and train have swapped cars at Madrid and the short train is about to cross the Sandy River. Traffic is light today with just a single plastics hopper, a double-door box-car of lumber, a single load of poles and a load of cement. The plastics car, cement hopper and lumber will go to the Martin Spur while the poles will be set out at East Andover.



36. The 500 and its train have returned to White Mountain Junction.



37. After a coffee break at the old section building, now used as an office for AGR crews, the W1 heads south for Andover.



38. AGR 500 arrives at the inviting village of Andover. Andover Wood Products is on the right.



39. The W1 job takes the passing siding at Andover.



40. AGR 500 moves ahead to spot an empty Conrail boxcar for loading at Andover Wood Products. Oxford Mills looms in the distance.



41. The 500 grabs an empty tank car from the Oxford Mills spur.



42. The 500 pulls an empty Missouri Pacific boxcar out of Andover Wood Products.





43, 44. (Lower left, above) The empty Conrail boxcar is spotted at Andover Wood Products.

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45, 46. AGR 500 works the rear of the train, latching on to the load of poles for the pole yard at East Andover.



47, 48. AGR 500 shoves the loaded pole car into East Andover and then moves on to pulling the empty cars from the spur.





49. (Left) W1 grabs three empty pole cars and spots the single load at the Western Maine Power pole yard.

50. (Above) Having finished working at East Andover, the W1 is now on the Rumford Point Branch with a small train headed south for the Martin Spur. A car of plastic pellets, a single lumber load, and a car of cement make up today's business.





51. The 500 has finished work on the Martin Spur and is approaching the pole yard at East Andover on the return trip with two empty plastics hoppers in tow.

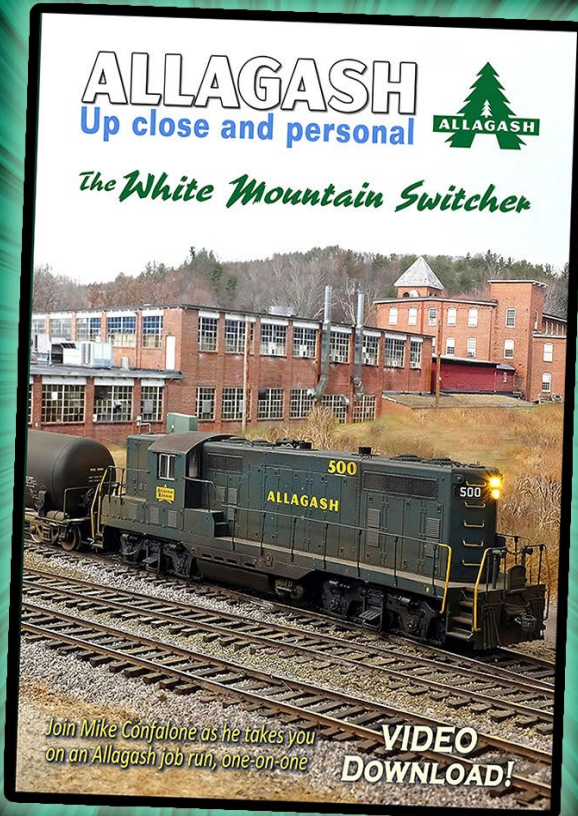


52. After putting its train back together at Andover, the W1 passes the station sign as it departs Andover, headed home for White Mountain Junction.

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Final thoughts

As I mentioned earlier, the decision to rip out the old branch line was not easy, but I can say without hesitation that the new White Mountain and Rumford Point Branches fit the Allagash like a glove.

The industries modeled are typical of what one might expect to find on a New England branch line. The business is sufficient to continue operations but not so busy that it takes away from that branch line feel. This is the one piece of track on the Allagash that is dominated by a once daily, single-locomotive local for the entire length of the branch, with no road trains at all.

There is just enough switching involved to make things interesting without getting too complex.



53-55. (Top left, bottom left, above) The W1 job has made it back to White Mountain junction, where the crew yards the small train and takes the engine to the yard office. Later that night, the W2 crew will come on duty and run light engine to the paper mill at Berry Mills. Another day on “the Branch” has come to an end.

In short, it's a nice lazy branch to run on during an operating session, and the guys who have operated it have really enjoyed themselves. They say it might just be the most interesting job on the railroad.

That's proof enough for me that I made the right decision! ☒

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MIKE CONFALONE



Mike Confalone grew up in Smithtown, NY, and got into model railroading at age 10 or 11. Like many young teens, he joined the local model railroad club and got his first glimpse of model railroading on a large scale.

College in the mid 1980s took him away from the hobby for a while, but railfanning became a favorite pastime.

Mike publishes a Northeastern prototype railroading magazine called *Railroad Explorer* (railroad-explorer.com), and has published eight books on prototype railroading.

Today, Mike's proto-freelanced, under-construction Allagash Railway occupies a 58' x 24' space – his entire basement and the former two-car garage. Mike loves all aspects of model railroading, from benchwork on up, but his specialty is scenery and weathering. He also enjoys the challenge of prototypical operations.

Besides the trains, he and Susan, his wife of 27 years, love to garden and landscape their wooded two-acre property in southern New Hampshire. He also plays a mean guitar, but his Fender and Marshall-fueled rock-band gigging days are over, at least for now! ■



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Model Railroad Hobbyist | June 2018 | #100

compiled by **JOE FUGATE**

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1. A Pennsylvania Railroad MP54 set heads outbound from St. Martins station on Philadelphia's Chestnut Hill West commuter line.

The photo is taken on Tim Nicholson's almost-complete HO 10'x10' layout focused on St. Martins station in the early 1950s. Tim is modeling the suburban Philadelphia lineside and scenery, using Google Street View to aid in accuracy. The MP54s are Con-Cor units that Tim weathered to reflect the usual condition of these cars in service.

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2. Bealville, CA (circa 1950-52) is a closed train order station with the railroad buildings now being used by the MOW Department. The center siding has been removed and the remaining siding connected to Allard on the east to form the longest passing siding on the uphill climb out of Caliente to Tehachapi. The short spur that crosses the road in the center of the scene is used for company traffic. Outfit cars are seen to the left (east) of the road, and ballast cars to the right.

The model is the work of several club members, primarily John Rotsart for the scenery and Gary Simon for the backdrop. As with the rest of the exhibit, the scene was modeled using original railroad plans and many photos of the actual structures. Don Mitchell took this photo with his Apple iPhone from the public viewing aisle of the La Mesa Model Railroad Club's Tehachapi Exhibit in the San Diego Model Railroad Museum.



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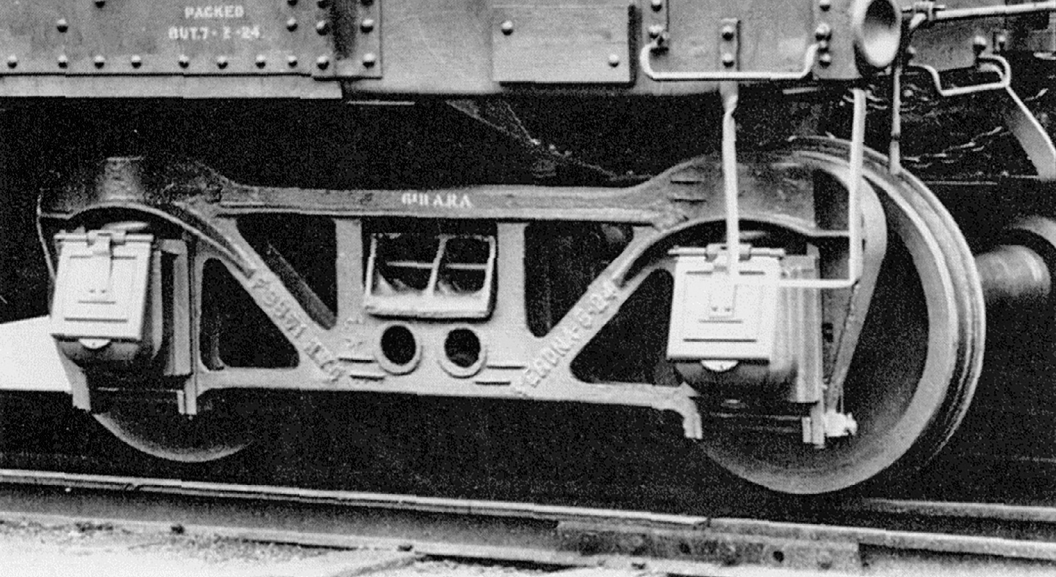


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Freight car trucks

OF THE 20TH CENTURY

Model Railroad Hobbyist | June 2018 | #100

RICHARD BALE'S definitive modeler's guide
to prototype freight car trucks ...

SINCE THE EARLIEST DAYS OF RAILROADING, A GREAT variety of manufactured components have been available to those responsible for building and maintaining rolling stock. Early builders could do wonders with wood but most lacked the ability to fabricate sturdy metal parts such as car ends, doors, brake components, and trucks. By the early 1900s specialty manufacturers offered a wide range of cast, stamped, forged, and machined items for new car construction, as well as for the repair and maintenance of railroad equipment.

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RATE THIS ARTICLE

Many railroad modelers find the variety of prototype equipment bewildering, and lots of items tend to look alike. A freight car door is a freight car door, a car end is a car end, and a truck is a truck. Beginning in the 1960s some railfans, museum curators, and serious model builders began to look at common railroad equipment with greater curiosity, and discovered a new world of detail in greater variety than previously imagined.

Importers of brass models were among the first to include accurate fixtures and appliances in their models. Slowly, a few mass producers of plastic freight car models began to incorporate greater prototype authenticity into their products. That trend continues today. This article will help modelers identify commercial freight car trucks in use throughout the 20th century.



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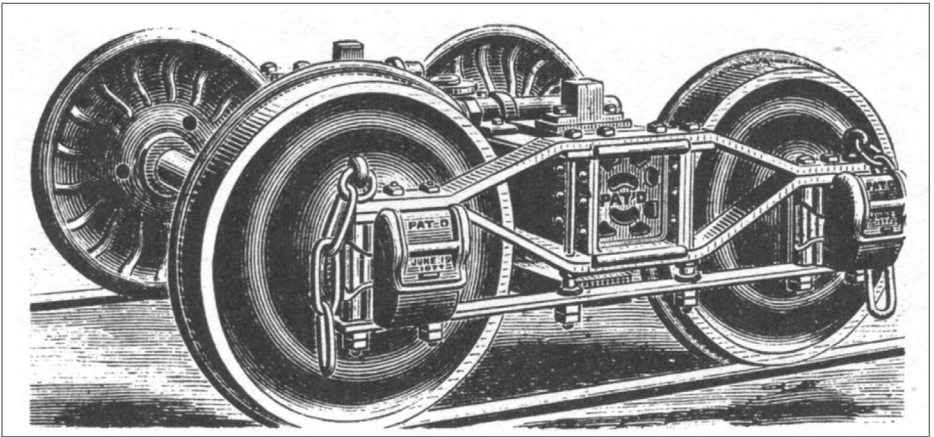
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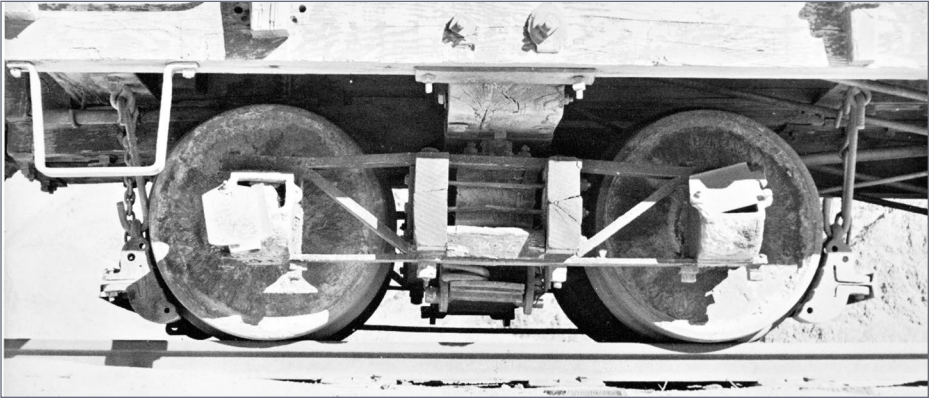


Freight car trucks

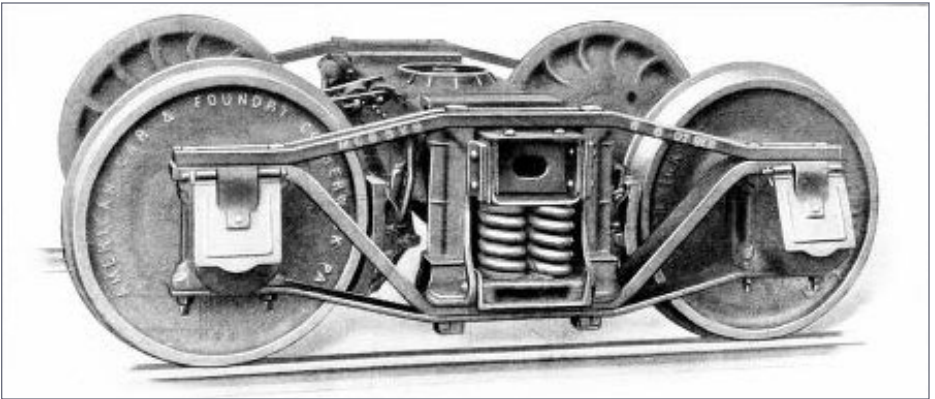
Arch bar trucks were the dominant type of freight car truck on American railroads from the era of the Civil War until the development of cast side frames in the early 1900s. The arch bar arrangement of three steel bars formed a truss that held the individual cast journal boxes [5] in place. Bolsters and spring planks were fabricated of oak or steel, or a combination of both materials. Arch bar trucks were lightweight and inexpensive. They were relatively easy to maintain, which was a good thing since they needed lots of attention.



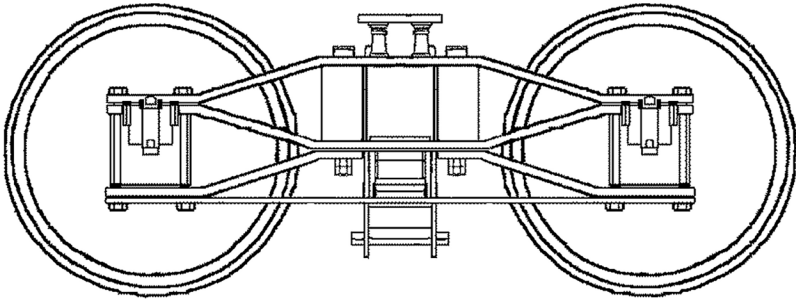
1. Thielson arch bar trucks were popular from 1875 to the early 1900s. It featured a cast iron transom. This one is equipped with safety chains, indicating it was for a tender. In 1884 the Master Car Builders (MCB) standardized the wheelbase of arch bar trucks at five feet.



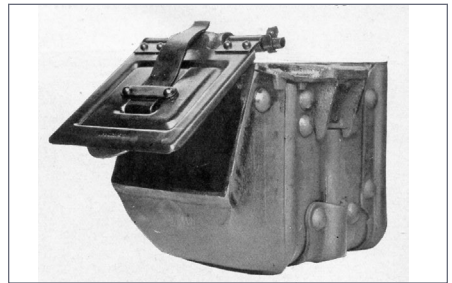
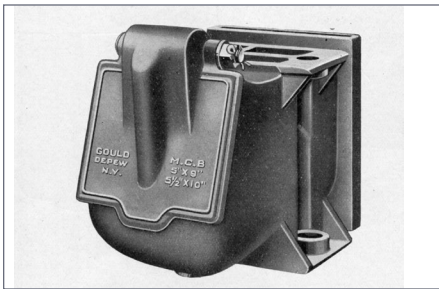
2. The principal drawback with arch bar trucks was that over time the rivets and bolts that held the side frames together tended to loosen, often with disastrous results. This well-traveled arch bar truck has a straight upper chord and swing hangers between parallel wood transoms.



3. From the late 1800s through the 1920s, the American Car & Foundry Company (ACF) produced arch bar trucks for 30- to 50-ton capacity cars. This one is for a 40-ton car. The MCB defined the bars of the frame as the arch bar (top), the inverted arch bar (middle), and the pedestal tie bar (bottom).



4. Some early trucks were fabricated with four bars. MCB named it the auxiliary arch bar (third from the top).



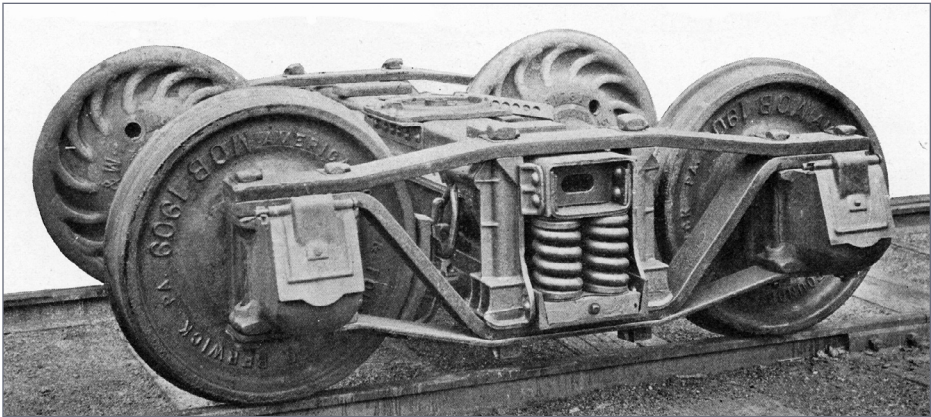
5. Cast journal boxes surrounded the end of the axle, held the bearing in place, and provided a small reservoir for lubricant. The spring-loaded lids could be flipped up to view the bearing and add oil if needed.



6. Cast spring seats and bolster column guides for arch bar trucks were offered by several companies. These are from American Steel Foundry (ASF).

MASTER CAR BUILDERS CHART FROM 1900 SPECIFIED THE MINIMUM STANDARD FOR ARCH BAR FRAME MEMBERS

Car Capacity	40-ton	50-ton
Arch bar	1.5" x 4.5"	1.5" x 5"
Inverted arch bar	1.375" x 4.5"	1.5" x 5"
Pedestal tie bar	.625" x 4.5"	.625" x 5"



7a. This arch bar truck with large journal boxes is rated for a 50-ton capacity car. Upper and lower arch bars are 1.5 inches thick by 5 inches wide; the tie bar at bottom is 0.625 inches thick.



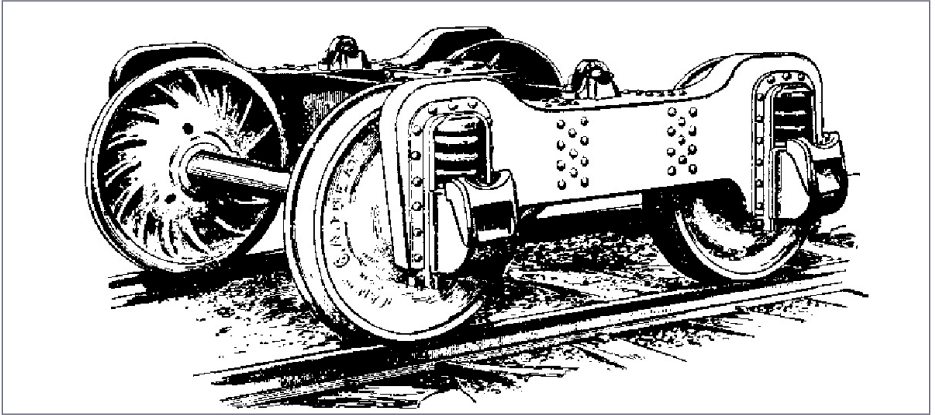


7b. The assembled frame of arch bar trucks tended to work loose. Rivets and bolts needed constant attention. In this Oregon repair yard at the turn of the century, the man standing second from left is heating a replacement rivet at a portable forge. Arch bar trucks were banned from interchange in December 1939, but implementation was delayed until 1941. They continued in non-interchange use through the steam era, including under tenders. Overseas railroads continued to purchase arch bar trucks from American manufacturers into the early 1960s.

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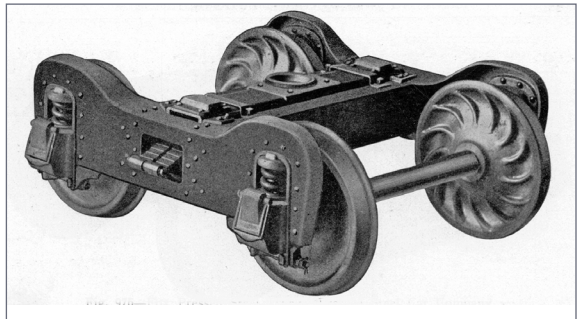
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Stamped metal side frames



8. Trucks with stamped metal side frames were introduced in an attempt to overcome the inherent problems of the arch bar concept. Several designs were offered, with the most successful being the Fox truck with stamped side frames riveted together to form a rigid truck. Fox was an established British company that sold its products throughout Europe. It met considerable resistance to its products in the U.S.

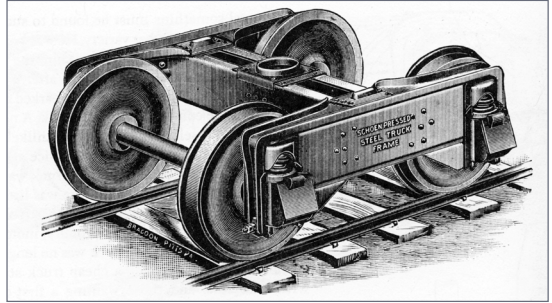
9. In addition to coil springs above the pedestal journals, this version of the Fox truck utilizes full elliptical springs under the bolster. After a slow start in America, the Fox



Pressed Steel Equipment Co., finally scored a sizable order from the New York Central Railway in 1888.

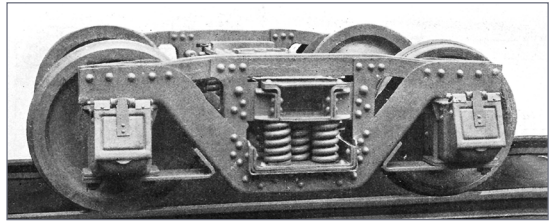
10. Schoen Pressed Steel Company offered a stamped truck with sprung pedestals in the early 1890s. In 1899 Fox and Schoen merged into the Pressed Steel Car Company, which

dropped the Schoen design but continued producing the Fox truck. As trains grew in size, weight and speed, the lack of flexibility in stamped metal trucks and the tendency for the journal to jam in the spring pedestal spelled their demise.



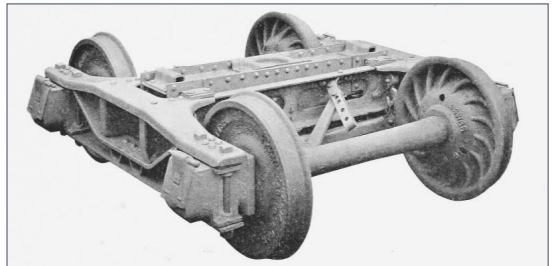
11. The Slick truck, manufactured by the Cambria Steel Company in the early teens, emulated the arch bar idea with stamped components. As with other

fabricated trucks, the multitude of rivets was problematic.



12. Arch bar trucks could get out of line easily, i.e., one side frame could get slightly ahead of the other. The Pressed Steel Car Co. attempted to solve this problem with a

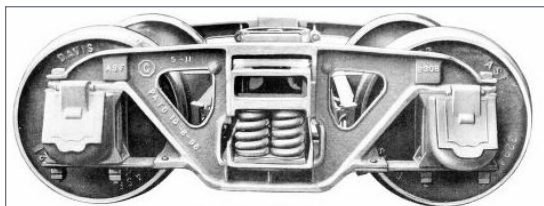
stamped bolster that was riveted to the stamped upper arch bars. It garnered little interest. Freight car trucks take a beating, and with the myriad of parts in a pressed metal truck, too many things could go wrong. A better idea was needed.



Andrews cast side frames

American Steel Foundries Company (ASF) introduced the revolutionary Andrews cast steel truck in 1892. Although the Andrews truck had fewer parts than an arch bar, and was far better at keeping things dimensionally square, use of a truck with a cast steel frame did not begin to gain wide acceptance until about 1910.

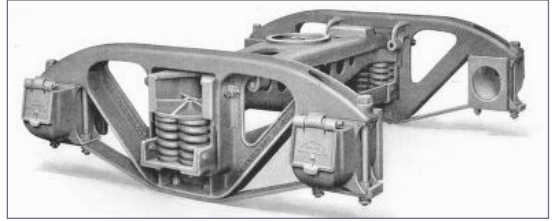
13. The Andrews cast truck provided a dimensionally rigid frame to which journal boxes could be securely bolted. A bottom strap kept the journals in alignment. Although more expensive than arch bar trucks, the Andrews design offered some economy in that journal boxes could be recycled from discarded arch bar trucks.



14. The original Andrews frames made by ASF were cast with T-section chords. They were soon replaced with a stronger L-section [13] profile. The design evolved into a double-truss U-section [15]. Wide acceptance of the Andrews design came during World War I, when more than 100,000 USRA cars were equipped with Andrews trucks. To meet the demand, ASF licensed their Andrews design to other manufacturers.

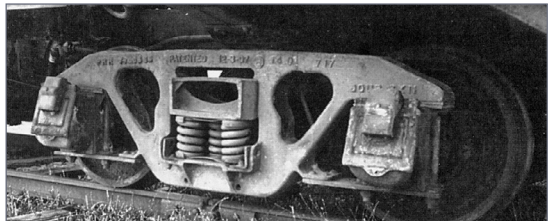


15. The spotting feature of the cast Andrews truck is the retaining bar that links the bolted-on journal boxes to the frame.



The designs included a single steel strap that extended under the frame as shown above on a truck manufactured in 1905 by ASF, and short straps that were riveted to anchor lugs cast in the frame [13]. Andrews trucks continued to be produced until about 1931.

16. This 70-ton Crown truck is a heavy-duty variation on the Andrews principle developed by the Pennsylvania Railroad.



Spotting features include the arched upper corners and deep section below the spring plank.



EARLY CAST FRAMES BANNED

In 1957 all truck side frames cast with an I, T or L-section truss were prohibited from interchange service.

Andrews trucks with cast U-section side frames were banned by the AAR on new and rebuilt cars in 1965.

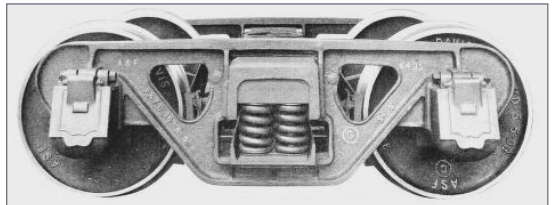
Vulcan truck

ASF introduced the Vulcan cast truck in 1905. It was a further development of the Andrews design with an improved method of keeping the independent journal boxes in alignment.

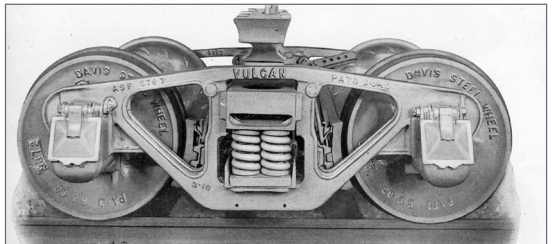
17. The Vulcan cast truck had inverted U-shaped jaws that secured the journal box on three sides. Journal boxes from old arch bar trucks could still be used, but a stabilizing bar across the bottom was no longer needed. In promoting their Vulcan truck, ASF claimed it had fewer parts than an Andrews and was inherently stronger.



18. Manufactured under license by the Scullin Steel Co. in 1910, this 50-ton version of a Vulcan cast T-section pedestal truck has strengthened sections at the upper corners of the inverted jaw.



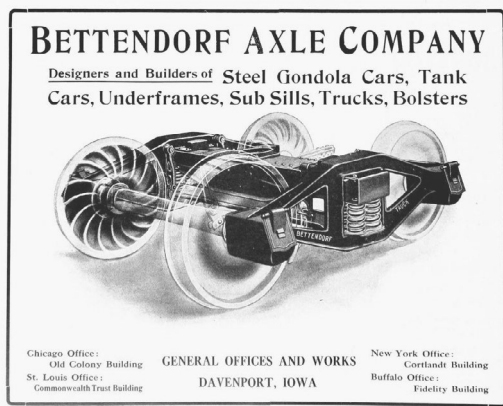
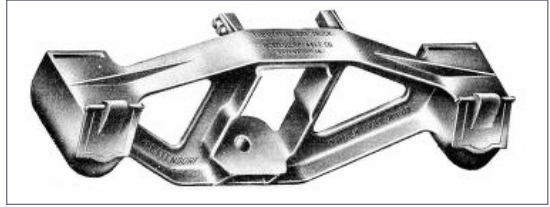
19. This World War I-era Vulcan truck cast with a double-truss U-section frame can easily be confused with a Bettendorf design. The differences are the individual journal boxes and the bolts that retain them to the frame. Although less popular than the Andrews design, the production of Vulcan trucks continued through the teens.



Bettendorf side frame cast with integral journals

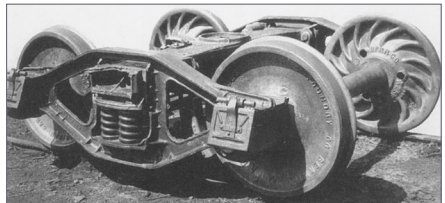
The Bettendorf Axle Company introduced a one-piece side frame cast with integral journal boxes in 1903. The revolutionary concept became the basis of standardized trucks for the next 100 years.

20. An early Bettendorf side frame with integrally cast journal boxes. The L-section struts were soon replaced with a sturdier T-section [22]. The design advanced to a U-section for greater strength [23].



21. Although initially more costly than arch bar or Andrews trucks, the economy of the one-piece frame was realized through reduced maintenance and improved safety. This Bettendorf ad is from 1905.

22. This Bettendorf truck from the World War I-era had heavy T-section frame chords. It was rated for a 40-ton capacity car. The Bettendorf concept of combining journal boxes and a rigid one-piece frame grew increasingly important as freight trains had more cars carrying heavier loads at increased speed.

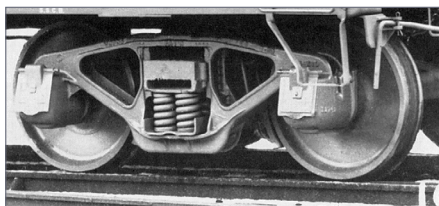


23. The double-truss version of Bettendorf one-piece truck with a U-section frame was introduced in late teens. Bettendorf licensed the

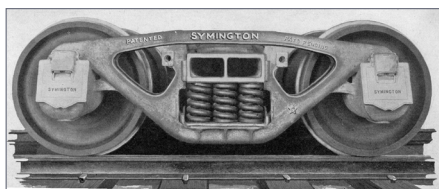


design to other truck makers and eventually the essentials of the design were adopted as a standard by the American Association of Railways-AAR (later reorganized as the ARA-American Railway Association).

24. Bettendorf-type trucks were produced under license by several manufacturers, resulting in numerous subtle variations in appearance. This 2D-F8 truck produced by the Pennsylvania Railroad is rated at 50 tons. Note the thick section below the channeled spring plank. Most PRR X29 boxcars received this truck.



25. Symington version of the Bettendorf cast double-truss designed for 70-ton journals. Note the wide channel spring plank supporting the nine unit spring pack. Only the three front springs are visible.



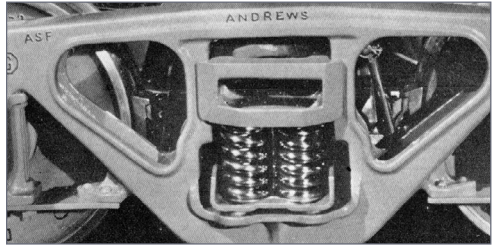
BRITISH VS AMERICAN DESIGN

The introduction of a pair of swiveling trucks by Ross Winans on a Baltimore & Ohio passenger car in 1831 ushered in the eight-wheel car and marked the beginning of a radical difference between British and American car design.



Truck Springs

26. Truck side frames were held together by the bolsters which rode on springs that were held in place by a spring plank, which also helped hold the truck frames in alignment. Early spring planks were made of wood [2]. Metal spring planks (above) were made of a wide U-shaped channel.

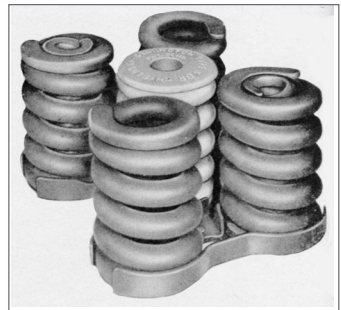


27. As more sophisticated bolsters were developed, the need for a heavy spring plank was no longer necessary. This sprung plankless truck has lugs cast into the platform that hold the spring pack in place.

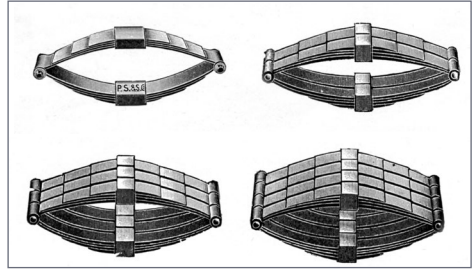


As freight train speeds increased in the 1920s and '30s, it was found that trucks with springs that cushioned loaded cars rode extremely hard when empty, sometimes setting up oscillating harmonics that caused the trucks to bounce dangerously. Various types of snubbers were developed to help mitigate the oscillations.

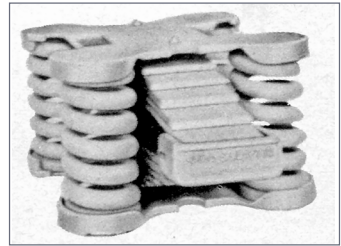
28. Friction snubbers and combination snubber-spring packs were offered by a variety of manufacturers, but most are not discernable in modeling. This five-coil group has two single springs, two dual springs, and a harmonic snubber in the center.



29. The action of elliptic springs sliding against each other is somewhat self-dampening. They were generally used in caboose and passenger trucks, where smoother rides were desired. Depending on the nominal weight of the car single, dual, triple, and quadruple elliptic groups were used.



30. Self-dampening elliptical and coil springs were combined to provide a softer ride and reduce bounce from harmonic oscillation. The PRR 2D-F12 truck is a notable example of this design. Note how the spring pack is held together with stamped-metal retainer plates.



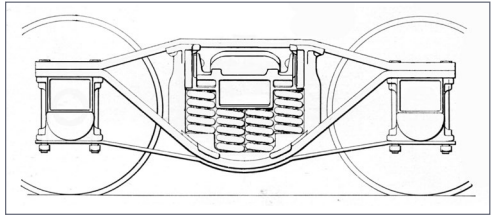
DALMAN TWO-LEVEL SPRING PLANK

Numerous ideas were tried in an effort to minimize the problems of stiff riding and harmonic induced bouncing in freight cars. One successful idea was the Dalman two-level bolster developed by ASF in the early 1920s. It provided room for additional springs for greater control. The concept was widely accepted and manufacturers applied the Dalman bolster to arch bar, Andrews and Bettendorf-type trucks.

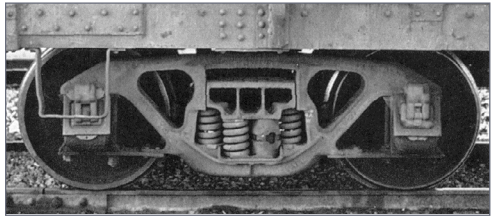


Improving the ride

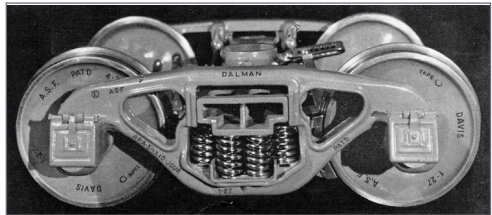
31. A Dalman two-level spring plank and bolster assembly was applied to a few arch bar trucks in the early 1920s. Note the curve in both the inverted arch bar and the lower pedestal tie bar.



32. There are three coil springs and a snubber assembly in the visible springs on the Dalman multi-level spring plank of this Andrews truck.



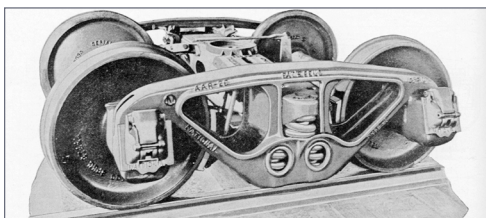
33. The additional width of the Dalman stepped-spring plank on this ASF truck provided room for groups of eight to 12 softer springs, rather than the typical pack of four or five.



GRAVITY

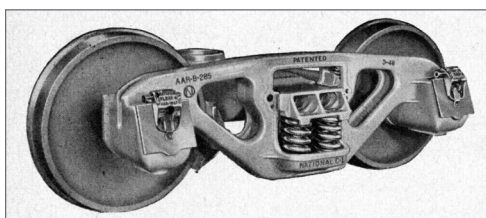
Trucks are held in place on a model by screwing them to the floor of the car. Gravity does the job on real railroad cars with a skinny 1.75-inch free-floating center pin under the car guiding the truck.

34. One of the most successful designs to reduce the weight of trucks was the National B spring-plankless truck introduced by National Malleable & Steel Castings Co. in 1931.

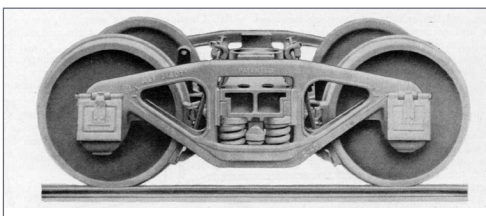


A unique trunnion design kept the bolster and side frame in alignment, and eliminated the need for a heavy transverse spring plank that could weigh up to 300 pounds. Spotting features of National B trucks are the end pocket in the bolster that keeps the spring group in position, and the pair of round holes in the side frame. Some National B trucks were later fitted with roller bearings.

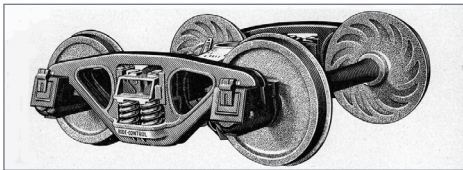
35. National's C-1 truck introduced in the late 1940s featured a new and improved spring snubbing system that had friction wedges located behind the bulge in the side frame near the bolster end. That bulge and the protruding bottom lip that retains the spring pack give the C-1 its unique appearance.



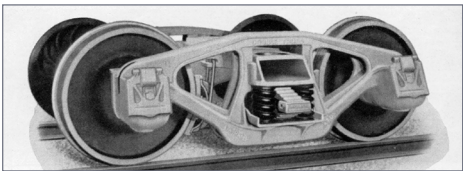
36. During the 1930s and 40s, ASF's catalogue included a self-aligning spring-plankless truck with a Simplex snubber between the coil springs. Note the protruding lower lip on the cast side frame that supports the spring pack.



37. The A-3 Ride Control truck was introduced by ASF in 1943. To limit spring oscillation, steel wedges between the side frame and bolster acted as a shock absorber and snubbed uncontrolled springing. By the early 1950s the A-3 had become one of the most widely used trucks in the industry.

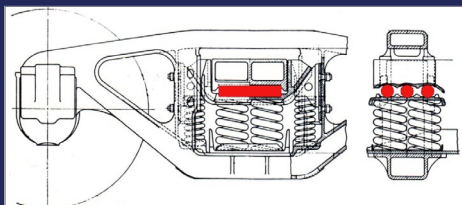


38. In the mid-1930s the Buckeye Steel Casting Co. cataloged this double-truss Bettendorf-type truck that combined elliptic and coil springs to reduce bouncing due to harmonic oscillation. Note heavy section below the flat channel spring plank.



BARBER LATERAL-MOTION SYSTEM

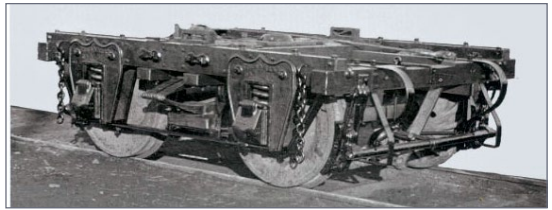
John C. Barber, founder and chief engineer of the Standard Car Truck Company, received a patent in 1909 for a practical centering system that used case-hardened steel rollers to control a limited amount of sideways motion between the bolster and the side frame of the truck. The rollers, shown here in red, were a simple and effective alternative to the use of swing hangers. The Barber system was licensed and used by many truck manufacturers through the 1930s and into the 1950s. It was applied to freight car trucks as well as locomotive trailing trucks.



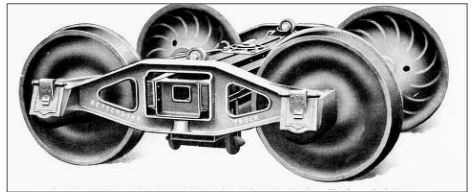
Caboose trucks

Early cabooses generally had standard arch bar trucks, but as train speeds increased, the hard bouncing and lateral jolting became intolerable. By the 1920s trucks with a softer ride were available for cabooses. Designing for load variations was not a factor. Many caboose trucks had elliptic springs or a combination of elliptic and coil springs, and most incorporated a snubbing system to reduce spring oscillation.

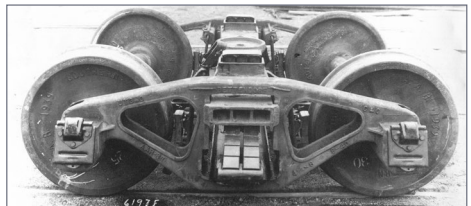
39. This early caboose truck with pedestals bolted to a wood beam frame was essentially a light-weight version of a four-wheel passenger truck with a short wheelbase.



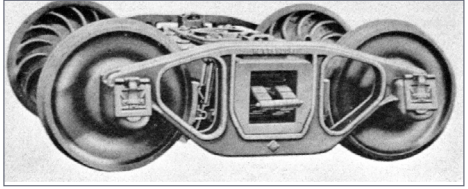
40. This Bettendorf T-section cast truck with elliptic bolster springs hidden in the transom was designed for a 30-ton caboose. Note the swing-motion link hanging beneath lower chord.



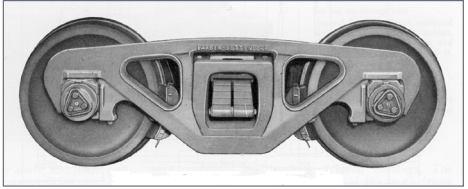
41. This Bettendorf caboose truck with a double-truss U-section frame and elliptic springs was built in 1941.



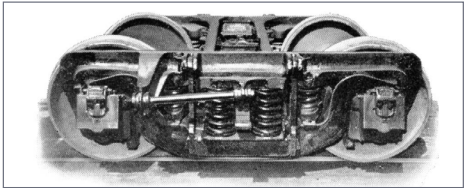
42. During the 1920s and '30s Bettendorf offered a caboose truck with elliptic springs and Barber swing-motion links.



43. A roller bearing caboose truck produced by Standard Car Truck Co. combined the Barber-Bettendorf swing-motion with elliptic springs to mitigate shocks. The inverted U-shaped jaws that retained the roller-bearing journal harkened back to the Vulcan design.



44. Caboose trucks reached their zenith in the early 1950s with this easy-riding equalized truck with outside swing hangers and a bolster anchor. It was produced by GSI which cast the frame, pedestal jaws and transom in one-piece. This truck was also available with roller bearings. Bolster anchor rods stabilize the bolster longitudinally with the truck frame and guide the vertical and lateral movements of the bolster.



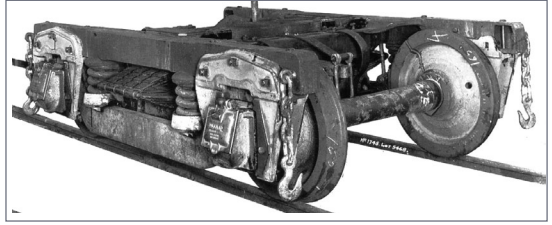
REPAIRING TRUCKS

Car re-builders and truck maintenance supervisors didn't buy complete trucks, they bought truck parts. There were many sources for basic castings and the numerous parts that make up a truck. One foundry might supply both side frames and bolsters, or the customer might choose to order bolsters from a third party. Springs came from a different vendor, as did all of the brake components. Wheels and axles, bearings, dust guards, and journal covers could all be purchased from specialty suppliers. – *Dennis Storzek.*

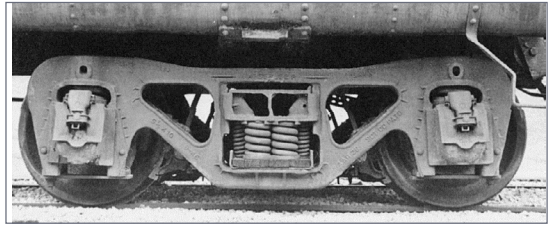
High-speed trucks

Express cars, reefers, and other types of freight equipment assigned to passenger trains required high-speed trucks. There was a great variety of designs.

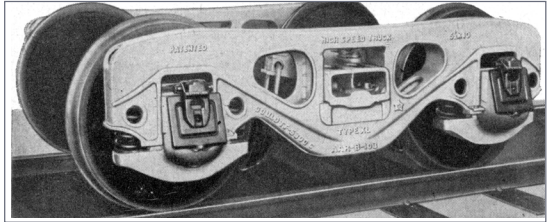
45. Many wood-sheathed express cars built by Pullman in the 1920s rode on high-speed equalized trucks with independently sprung pedestals bolted to a cast steel frame. This truck was produced by General Steel Casting Company.



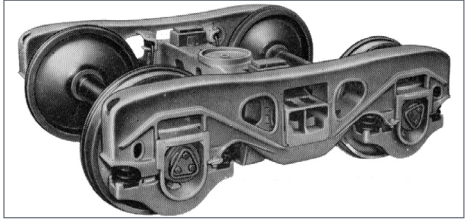
46. Barber S-2-P high-speed truck with individually sprung pedestals. Note the wood board between the springs and the U-shaped spring plank.



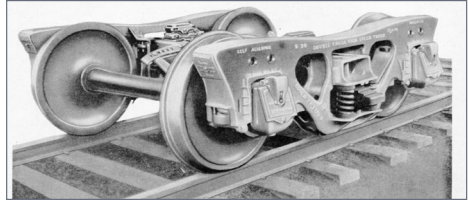
47. Symington-Gould's XL series of high-speed trucks featured pedestal style journal boxes with unique bottom retainers that allowed lateral axle movement independent of the side frames. Early units produced in the 1920s had plain journal bearings while post-war models [48] had roller bearings.



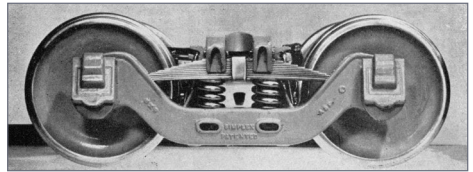
48. Roller bearing version of Symington XL high-speed truck. Also see [47].



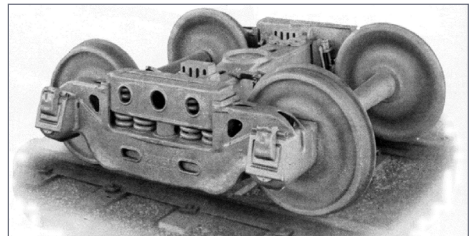
49. Symington-Gould introduced this 50-ton high-speed self-aligning double-truss truck in the early 1930s. The "ears" at the upper corners of the casting enclosed an elliptic spring and two coil springs over each journal box. The bolster is supported by a non-harmonic combination of coil and elliptical springs. These trucks were favored by the New York Central. Subsequent versions were fitted with roller bearings.



50. This Simplex high-speed truck with a drop frame and a long elliptic spring was developed in the mid-1930s by American Steel Foundries. The distinctive design was widely used on express refrigerator cars.

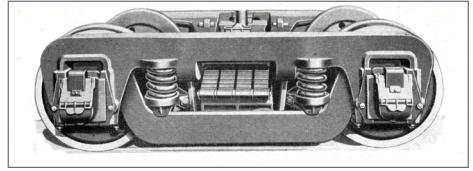


51. Also from the 1930s is this Buckeye high-speed truck that utilized a row of four coil springs and a snubber, plus an elliptic spring. This was a soft-riding truck with the combination of springs providing movement of nearly three inches.

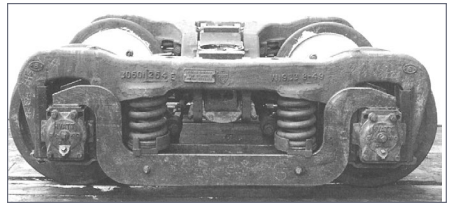


52. The Commonwealth equalized, high-speed, swing-motion, pedestal-type trucks, produced by General Steel Casting Co., employed both coil and full-elliptical springs.

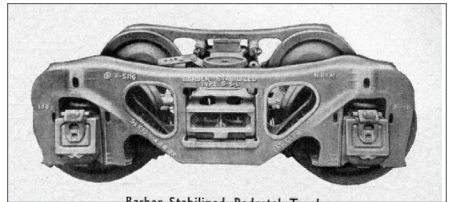
The truck was available with an inside drop equalizer (above) or with an outside equalizer [53]. Both types were widely used on express cars. Note the quadruple elliptic bolster spring.



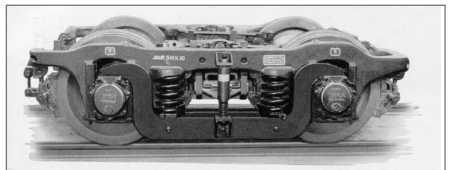
53. This version of the Commonwealth high-speed swing-motion pedestal truck had an outside dropped equalizer and roller bearings. It was essentially a Commonwealth passenger truck with a shorter wheelbase.



54. The Standard Car Truck Co. introduced this Barber S-5-L stabilized high-speed pedestal truck in the late 1940s. It featured a Barber lateral-motion device. It was subsequently available with roller bearings.

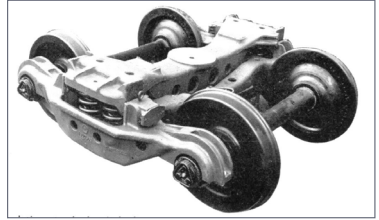


55. General Steel Casting Co. introduced their BX series high-speed truck in the 1960s. Spotting features include a deeply dropped outside equalizer bar, roller bearings, and a Houdaille friction snubber that is similar in appearance to an automotive shock absorber.



56. The Rockwell high-speed truck appeared on the market in the late 1960s. Coil springs at the bolster were augmented by rubber sleeves around the journal that provided some vertical cushioning to the unsprung journal bearing.

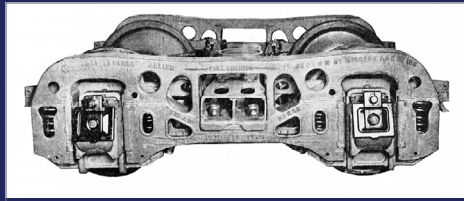
Replaceable snubbers were a composite of asbestos and phenolic. This unusual-looking truck was produced by the LFM-Atchison Division of Rockwell Manufacturing.



THE ILL-FATED ALLIED FULL-CUSHION TRUCK

57. Allied Railway Equipment Co. introduced its Allied Full-Cushion truck in 1940 with considerable fanfare. Promotional material touting the radical design claimed it delivered *"high-speed freight with passenger car smoothness."*

The complex truck performed well in early tests, and was selected for application to 1200 troop sleepers and 400 troop kitchen cars built by Pullman-Standard during WWII. Allied's revolutionary truck fell into disfavor after it was targeted as the cause of a number of serious derailments. Allied's Full-Cushion truck was banned from interchange in 1955.

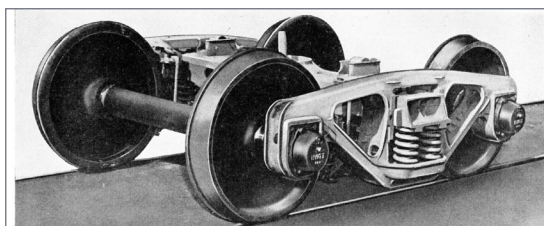


Plain bearings and roller bearings

Through the 1950s, the vast majority of trucks used plain bearings that were lubricated by waste packing acting as a wick to distribute oil up to the bearing surface inside the journal box. They required constant attention. Inspection and adding lubricant was achieved by lifting a spring-loaded lid on the journal box [5]. If not kept lubricated, the waste material could dry out, resulting in a hot-box that could ignite with sometimes disastrous results.

Roller bearing freight car trucks were available as early as the 1920s, but railroads were reluctant to bear the expense of installing them on cars that would spend considerable time off line. In addition to cost, roller bearings from that period often failed to hold up in the tough railroad environment.

58. Manufacturers of roller bearings offered kits to update trucks built with plain bearing journals. This Bettendorf-type truck has been retrofitted with Hyatt roller bearing assemblies. Note the plankless spring base.

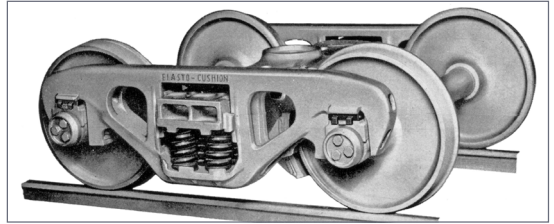


PAINTING TRUCKS

The ARA/AAR prohibited the use of heavy paint, tar, or cement-based paint on trucks. The application of light-bodied paint to truck frames and bolsters that did not prevent detection of flaws or cracks during ordinary inspection was allowed. Car wheels were not permitted to receive paint of any kind.



59. Roller bearing trucks can be identified by the end caps on the axles which are generally round or triangular. Many contemporary bearing caps rotate with the axle. In promoting their product roller bearing manufacturers including Timken, Fafnir, Hyatt, and SKF disparaged plain bearings by referring to them as *friction* bearings in their ads. The term continues today with modelers and hobby manufacturers.



Roller bearing salesmen had a better product after WWII, and met with greater success, but it was a slow process. In 1956 less than one percent of freight cars in interchange had roller bearing trucks. Their use increased significantly with the construction boom of 100-ton covered grain hopper cars in the late 1950s.

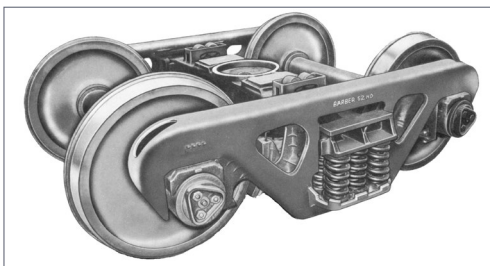


AAR BEARING REGULATIONS

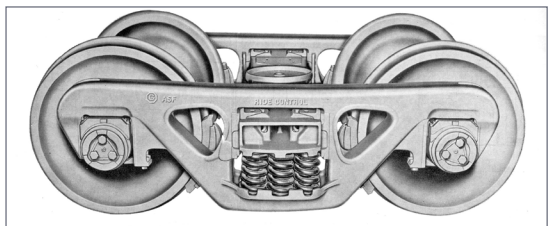
In 1966 the AAR ordered all rebuilt or new cars rated for 100 tons or more to be equipped with roller bearing trucks. Trucks with plain bearings became illegal on all new cars built after 1968 and were banned from interchange in January 1994. Cars with journals converted from plain to roller bearing were banned from interchange in 1991, but implementation of that ruling was extended to 1995.

Modern roller bearing trucks made by various manufacturers are similar in appearance and can be difficult to tell apart. Most designs have inverted U-shaped jaws on the cast side frame that hold the journal bearing assembly in place; similar to the old Vulcan design. Many contemporary bearing caps rotate with the axle.

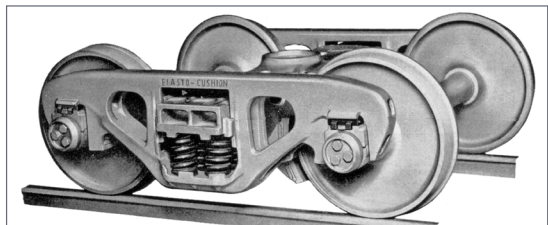
60. One of the most common trucks seen on contemporary equipment is this Barber stabilized S-2-HD roller bearing truck manufactured by Standard Car Truck Co. Note the triangular shaped axle end cap.



61. Also popular is the ASF100-ton Ride Control truck. This photo clearly shows the inverted U-shaped jaws on the cast side frame that hold the journal in place. This truck was produced by American Steel Foundries in the 1970s.



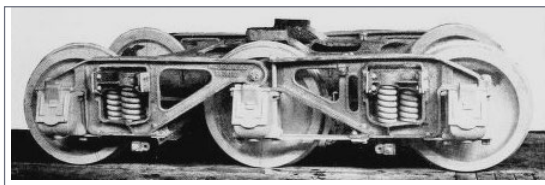
62. Another popular modern roller bearing trucks is the Buckeye C-R Elasto-Cushion stabilized truck. A self-centering pad located above the roller bearing journal allows a controlled amount of lateral movement of the axle. The three axle bolts are surrounded by a round end cap.



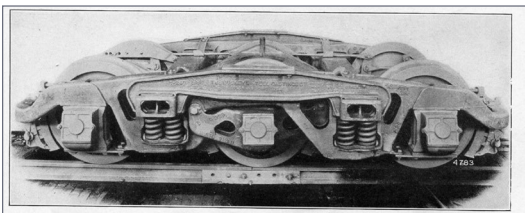
Heavy-duty trucks

Freight cars with a rated capacity greater than 70 tons require heavy-duty trucks. To handle heavier loads, trucks were built with larger axles and bearings, heavier frames, and beefed up spring packages. Many used wrought steel 36-inch wheels rather than the usual 33-inch size. The standard wheelbase of five-feet, six inches was expanded to five-feet 10 inches. Some six- and eight-wheel trucks used bizarre equalizer arrangements to spread the weight evenly to all axles.

63. Articulated six-wheel truck developed just prior to World War I by ASF for Norfolk & Western 100-ton gondolas. Note the cast L-section frame and the bolted-on journals.



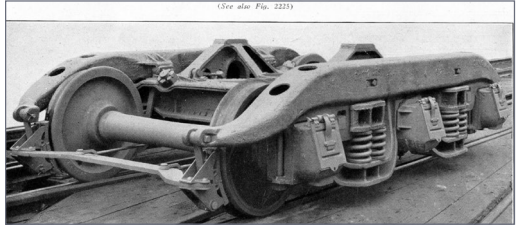
64. This Buckeye heavy-duty, equalized six-wheel plain bearing truck with heavy outside top equalizer, was introduced in the late 1920s. The journals are bolted-on, and hangers for outside brakes are incorporated into the cast frame.



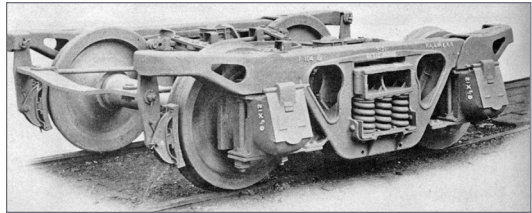
MODERN AXLES

Modern axles typically weigh from 1,100 to 1,200 pounds. They are forged from medium-carbon steel and are machined all over to reduce surface fatigue.

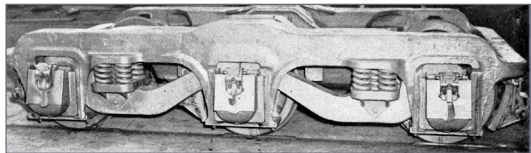
65. The extended frame on this Pennsylvania Railroad six-wheel heavy-duty freight truck serves as a support for the brake hanger. Specialty trucks, including this one, favored bolted-on journals, since a broken one could be easily replaced without junking the expensive main frame. This truck was built in the early 1930s.



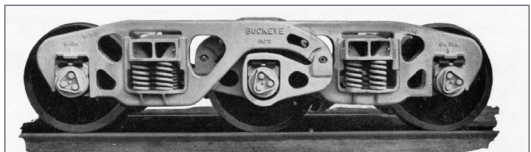
66. Buckeye four-wheel heavy-duty truck with bolted-on journal boxes. This robust version of an Andrews truck with outside brake hangers integrally cast in the side frame was introduced in 1921.



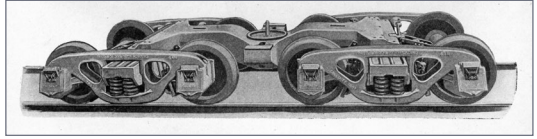
67. GSI developed this Commonwealth six-wheel plain-bearing equalized truck for depressed-center and heavy-duty flat cars in the late 1940s. It has exceptionally large journal boxes in a frame similar to a passenger car truck.



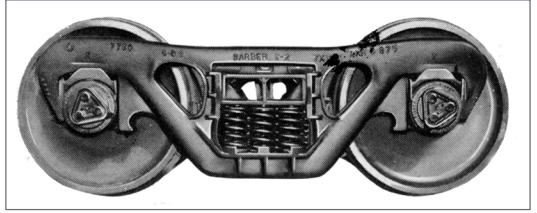
68. Buckeye showed this six-wheel Elasto-Cushion equalized high-capacity truck with roller bearings in its 1970 catalogue. An earlier version with plain bearings was virtually identical. Both types were also available in a 12-wheel tandem arrangement with a span bolster.



69. Gould offered several versions of eight-wheel heavy-duty trucks with an equalized span bolster. This one was developed during World War II. It was rated for cars with a capacity of 200 tons.



70. The Scullin Steel Co. of St. Louis, MO offered this heavy-duty version of a Barber S-2 truck in the late 1960s. It was cast in high-tensile heat-treated steel, and was for 125-ton service.



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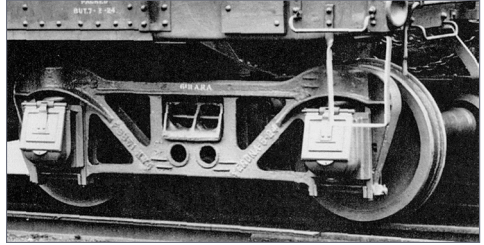
WHEEL SIZES

Wheels for freight cars of up to 70-ton capacity have been standardized at 33-inch diameter for many years. Larger wheels (36-inch for 100-ton and 38-inch for 125-ton cars) are used to help spread heat and weight at the contact point between wheel and rail head. To accommodate tall truck trailers on routes where clearances are tight, some piggyback flat cars have 28-inch wheels.

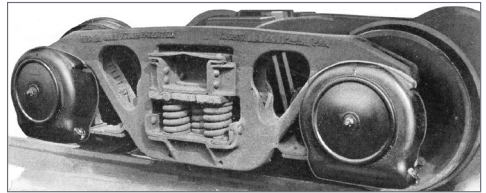
Miscellaneous freight car trucks

Although the vast majority of trucks on North American freight cars have been of standard design, a few unusual iterations have appeared from time-to-time. None of them evolved into common practice, but they are no less interesting to study.

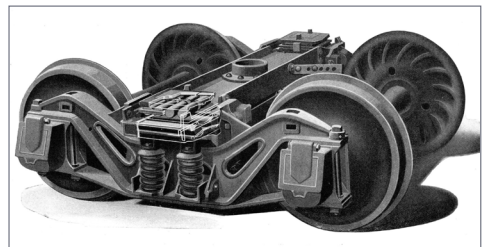
71. The Verona freight car truck, introduced by the Standard Steel Car Co. prior to World War I, consisted of a cast frame with bolted-on journal boxes. It reportedly suffered from cracks in the chord structure and achieved little success.



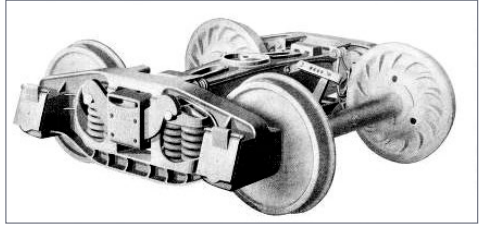
72. The loss of oil and dried out cotton waste in a journal box was an ongoing problem for the railroads. In the early 1930s the Isothermos Corporation offered a solution to end the problem with an innovative lubricating system attached to the axle that continuously splashed oil on the bearing. The journal boxes were sealed with a unique round housing shown here applied to an Andrews truck.



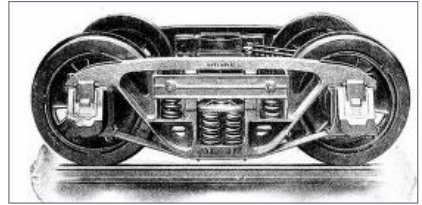
73. In the late teens, Standard Car Truck Co. introduced the Double-Action truck that featured both lateral and radial Barber motion roller devices. It employed unique cast side frames that followed the Andrews principle.



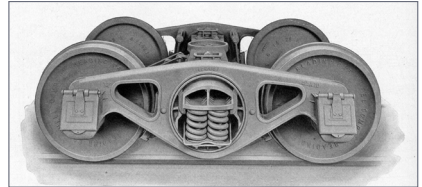
74. This unique 70-ton truck produced by Bettendorf in the mid-teens featured an outside equalizer with separate coil spring packs between each journal and the bolster.



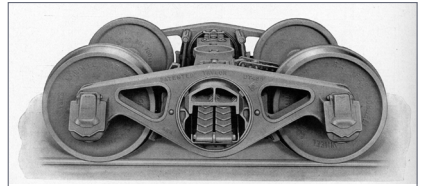
75. The Bulhoup freight car truck was briefly promoted in the early 1930s by the McConway & Torley Co. The cast side frame follows the Andrews principle with a continuous journal tie strap at the bottom. It was claimed that the multiple levels of coil springs gave the truck great flexibility even on less-than-perfect track.



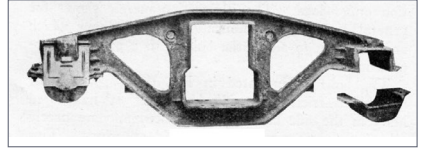
76. In the late 1920s the Flexible Truck Co. of Reading, PA introduced the Taylor freight car trucks with round holes in the frame that permitted the bolster and spring pack to rotate over various track conditions.



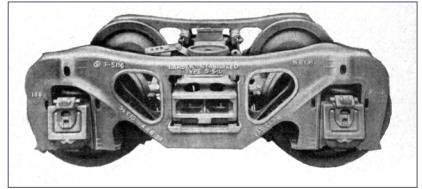
77. The caboose version of the Taylor truck had a pair of full elliptical springs. The only major user of the distinctive truck was the Reading Railroad which, coincidentally, served the Taylor factory.



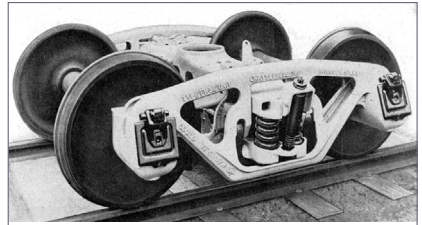
78. The independent journal boxes in arch bar and Andrews trucks made changing wheels sets relatively easy. To change a wheel set in a Bettendorf truck with integrally cast journals was considerably more complicated. Scullin Steel attempted to ease the problem with the introduction of a cast steel truck frame with a two-part journal. Although the idea seemed logical, not much was heard about the idea following its introduction in 1918.



79. The Barber S-5-L stabilized truck, launched by Standard Car Truck Co. just prior to World War II, featured pedestal-type journals that rode in vertical jaws in the double-truss cast side frame. A Barber lateral motion system was installed between the side frame and the bolster.



80. In the late 1940s the Chrysler Corporation and Symington-Gould jointly developed a high-speed truck that utilized a swing-motion spring seat and a tubular friction snubber that looked like an automotive shock absorber. Although the Chrysler FR-5 truck rode well, its high initial cost and heavier-than-normal maintenance limited its acceptance.

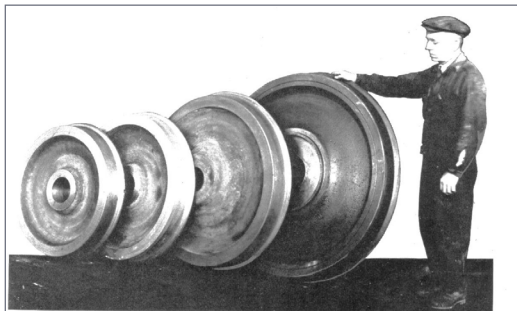


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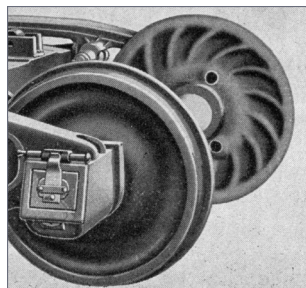


Wheels

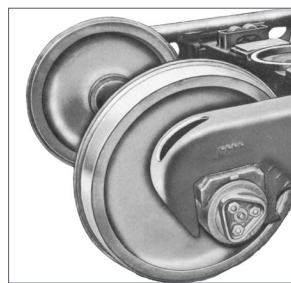
81. Cast iron wheels in a variety of sizes were universally used from the earliest days of American railroads until post WWII. In addition to normal wear, they were subject to failure due to imperfections in the casting process, as well as extremes of temperature such as being overheated by dragging brake shoes.

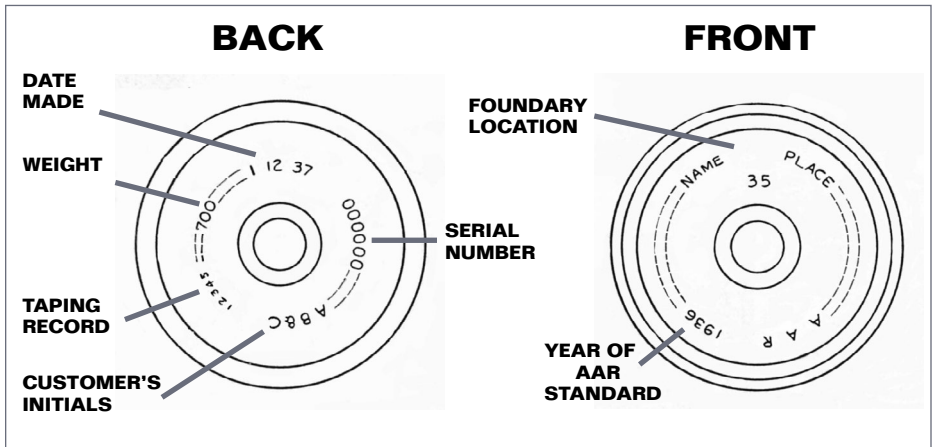


82. Some foundries, but not all, incorporated spiral ribs on the back of the iron wheel to help strengthen the casting while keeping the weight of a standard 33-inch wheel in the range of 750 pounds. Cast iron wheels were prohibited on new cars in 1958. They were prohibited as replacement wheels after 1963, and outlawed from interchange in 1968.

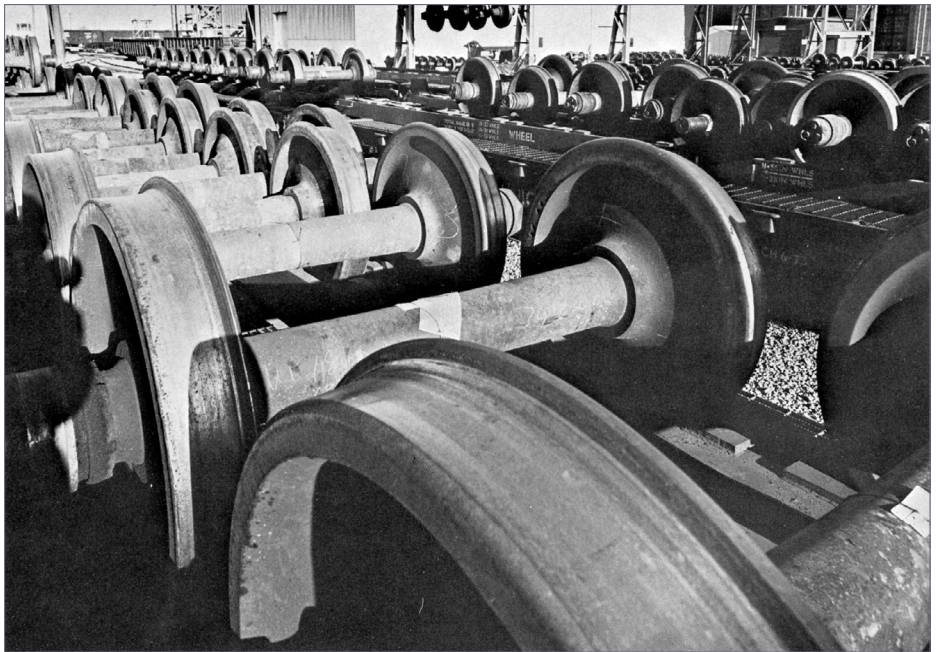


83. Wrought steel wheels, which had a much better safety record than cast iron, were specified for new passenger equipment in the 1920s. Although more expensive, wrought steel wheels were considered far safer. The application of wrought steel wheels on freight trucks started selectively in the early 1930s and became widespread after World War II.



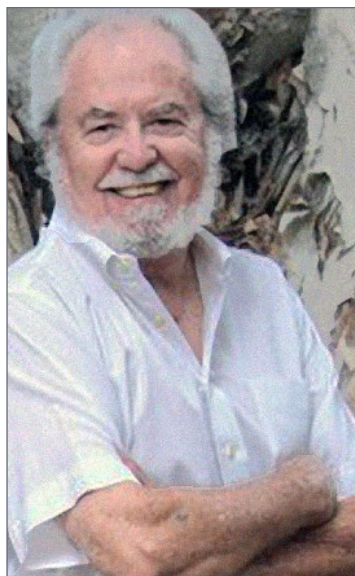


84. To meet AAR standards, foundries were required to follow these guidelines to identify wheels.



85. Union Pacific wheel yard at Pocatello ID. ☒

RICHARD BALE



Author Richard Bale's interest in freight car trucks began several decades ago while he was interviewing George Hook of Central Valley Models for an article in the NMRA Bulletin. George went into considerable detail about CVM's trucks as well as the earlier Micro-Motive trucks George and his partner Bob Lindsay manufactured. Richard became curious about prototype trucks and has been gathering information about them ever since. He lives in Oceanside, CA where he serves as a director for the North County Model Railroad Society. ■



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PROBABLY FEW READERS WILL WANT TO MODEL the Los Angeles Union Station, although it could be selectively compressed to fit into a large layout.

A passenger-themed layout (or a conventional layout with passenger switching as well as freight) can be as simple as a loop with a branch leading to the terminal or could be far more complicated.

In the East, Allentown Union Station, for example, had only two through passenger tracks and three or four storage tracks for coaches. The engine terminal (East Penn Jct. roundhouse) was about a mile south from the station. Served by only the Central RR of New Jersey and the Reading Company, this station didn't even serve the third railroad in the area, the Lehigh Valley. The LV had its own station a short walk up the street.

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1. A couple of early diesels at Los Angeles – a General Motors switcher and Union Pacific's train, the *Utahn*, a segment of the *City of St. Louis*. The F3 diesels may include one of the Santa Fe head-end steam-generator cars on loan or lease, and also have a long string of mail cars ahead of the passenger section of the train. *Models by V.S. Roseman*

Despite the size difference, the actual work at these passenger terminals was the same: receive trains, unload passengers, mail, and express, and dispatch trains after loading passengers, mail, and express.

The LA terminal developed some interesting routines to operate the facility, and some of those may be useful for modelers of almost any passenger operation.

A good source of information on details of terminal operation can be found in John Droege's book *Passenger Trains and Terminals*. This was republished in 1975 and is easily available.

Los Angeles Union Station was the result of over 20 years of debate and argument between the railroads and the city, but one of the few points of agreement was that if a single union station

was to be built, it must be a through-type station rather than stub-end. Trains could unload, pass through, and from there go to the yards of their respective railroads.

In a stub-end station, tracks end in bumpers and trains are hauled in by their road engine, then are backed out – a dangerous operation requiring constant switching. The city did not want switch engines working all day smoking-up their new downtown civic area.



2. My watch is right on time, so the City of Los Angeles is a few minutes early crossing over Vignes St. and passing Terminal Tower. But the two units here pull a string of sleeping cars, being just the first section of the train. This will be followed in a few minutes by a long coach section, both out of Chicago and both carded with the fastest schedule of any of the streamliners. In the mid-fifties and later, the General Motors E8s are standard on Union Pacific's "City of" trains. *Models by V.S. Roseman*

Even though the number of trains in Los Angeles on a given day was probably fewer than the number through Pennsylvania Station in New York in one hour, this was still a big-time operation.

LAUPT train diversity

LAUPT had lines from all over bringing passengers into the city.

The Southern Pacific had their Los Angeles-Chicago trains via Golden State route (with the Rock Island,) trains to New Orleans on the Sunset route, trains on the San Joaquin Valley route to San Francisco/Oakland, Sacramento, and Portland, OR, and trains to San Francisco on the Coast Line route. SP was the biggest user of the terminal.

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





3. Instead of the usual Alco PA diesels, today's Grand Canyon to Chicago on the Santa Fe drew one of their 4-8-4 steam engines. The train is made up of whatever lightweight equipment is left over from the top trains, plus some heavyweight cars. A friend and Santa Fe enthusiast tells me those heavyweight cars "rode like Cadillacs." *Models by V.S. Roseman*



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Santa Fe had trains to San Diego and to Kansas City, Chicago, and Texas points. The only one of the railroads with its own through-route to Chicago, Santa Fe operated a motor coach service to Bakersfield to meet their trains to the Bay Area.

Union Pacific's trains ran to Chicago on the Overland Route, in cooperation with Chicago Northwestern RR operating from Omaha to Chicago.

From the start of the terminal's tracks near Mission Tower, LAUPT ran as a separate railroad with its own rules. However, equipment and crews came in from the three railroads in proportion to their ownership in the terminal.



4. Catching a breather for a few minutes, this terminal switcher is a little General Motors SW1. But standing next to it, even a little switcher looks huge wearing the tiger stripes of the Southern Pacific. In a few minutes this engine will be shoving mail and express cars to and from their respective facilities. *Models by V.S. Roseman*



5. You can be sure the engineer has his head out the window on this backup move in the terminal area because so many people are getting on and off the trains. As this Union Pacific streamliner is discharging passengers, the big 4-8-4 in two-tone gray is backing out to the UP yards for servicing.

Painted with silver stripes to match the two-tone gray Overland and other trains of the railroad, around 1951 the UP began painting all their passenger equipment in the Armor Yellow and Harbor Mist gray colors – and these engines got yellow lettering and striping to harmonize with the trains. *Models by V.S. Roseman*

Southern Pacific had the greatest number, Santa Fe followed, and Union Pacific had the smallest number. Terminal switching assignments were given to the next engine on the ready track regardless of railroad. For this reason, a Santa Fe crew might be running a Union Pacific engine to switch Southern Pacific cars.

I was advised by former staff of LAUPT that the terminal switchers were assigned for the year or half-year, then would rotate to

the next road's turn. This produced some interesting movements in the steam-diesel transition era, such as an ancient Southern Pacific 2-6-0 hauling the newest Santa Fe Budd stainless steel streamlined cars.

More likely engines might be an 0-8-0, 0-6-0, or a 2-8-0, recently bumped from freight service to become heavy switchers. Santa Fe had 0-6-0s, as did Union Pacific.

Diesels could be from any manufacturer, and checking photos of the terminal in operation will show specific engines and types used.

Terminal switching

While most stations would have two tracks served by two platforms, Los Angeles had some platforms with a third track between



6. All three users of the LAUPT are represented here, with a Union Pacific lashup of E8s, Santa Fe F units, and on the right, a Southern Pacific E7 set. *Models by V.S. Roseman*



7. I have been told that most of the six-axle passenger diesels on the ATSF were kept around Chicago and Kansas City, but they got out to Los Angeles, too. The train from this arriving engine is being hauled to the Santa Fe yards, and will soon be followed by this two-unit set backing down to the engine facility. *Models by V.S. Roseman*

the two platforms. This track would have a switch leading to the platform track where an arriving road engine could pull in and back out of the station as the train was unloading. This was a good arrangement, as it required only one escape track to serve two platform tracks, and could remain functional even if both tracks had arriving trains.

When passengers had disembarked, all luggage was loaded onto carts to be distributed at the baggage check room in the station. Then a yard switcher from the same railroad would enter the terminal tracks, couple to the back end of the train, and cut off the train from any mail and express car (leaving them at the south end of the platform tracks). The yard engine would haul the train to the appropriate yard for cleaning, servicing, and restocking for its next run.

The second type of switching work involved a terminal switcher coupling to the mail and express cars left at the platform track. Express cars went to the Railway Express tracks (the first few tracks adjacent to the station) to unload. Mail cars went to the post office across the street for unloading.

Since there was a driveway at the south end of the yard, an REA truck could be loaded while the express cars were still in place from the arriving train.

The rule book for the terminal, I have been told by a gentleman who worked there, was a Southern Pacific rule book.

There was a terminal timetable showing all the arrivals and departures posted in the station. A mimeographed timetable was also given to employees, usually at the start and end of Daylight Saving Time, which is when new timetables were issued.



8. Just north of the terminal proper are the mail tracks serving the big post office building. This SP Alco switcher is bringing out some mail cars loaded and ready for service. In the distance, a UP switcher is moving a sleeping car. *Models by V.S. Roseman*



9. This could be almost any time between about 1940 through the 1950s. This E1 EMD unit, number 7, was bought for the *San Diegan* service, and it has arrived in just that service. It was these very Santa Fe E1 units that introduced the famous red “Warbonnet” color scheme. *Models by V.S. Roseman*

These two types of switching could keep two or more model railroad operators busy as trains enter and leave the station all day, and far into the night.

In summary, terminal operation follows this specific pattern:

- The road engine pulls an arriving train into the platforms for unloading. The engine uncouples and waits for a yard engine from the same railroad to pull the consist to its nearby coach yard off terminal property.
- LAUPT also had escape tracks, and the engine off an arriving train could pull ahead, over the switches to the center track, reverse and go to the railroad’s engine facility as the passengers were unloading. Again, the mail and express cars would

be cut off the consist to await attention after the rest of the train is hauled to the coach yard.

- A terminal switcher (could be any of the three roads) would pull the mail and express cars from the consist and deliver express cars to the first tracks at the Railway Express building at the southwest corner of the terminal tracks, then bring the mail cars to the post office across the street for unloading.

A hidden loop to receive outgoing trains and then feed incoming trains later, plus a coach yard and a compressed version of the LAUPT yard, could make an interesting layout. And if the terminal



10. Nothing much moving at this hour – but way over on the last track is a Southern Pacific 0-6-0 switcher with a low “sausage” tender. This S-10 lasted into the 1950s, and similar newer switchers lasted a few more years, although by the '50s the switching operation in LAUPT was dieselized pretty early. *Models by V.S. Roseman*



11. If you took a walk from Mission Tower (the entrance to the LAUPT property) the curve into the terminal looked like this with the post office on the left, and the oil-pipeline manufacturers on the right. City Hall and the Courthouse are in the distance.

The train arriving on the right is the *Coast Daylight* from San Francisco and on the left is a Santa Fe train hauled by F7 #37 on its way out of the terminal. *Models by V.S. Roseman*

were fitted into a well-designed freight layout, there would be a lot of action for a large home or club layout.

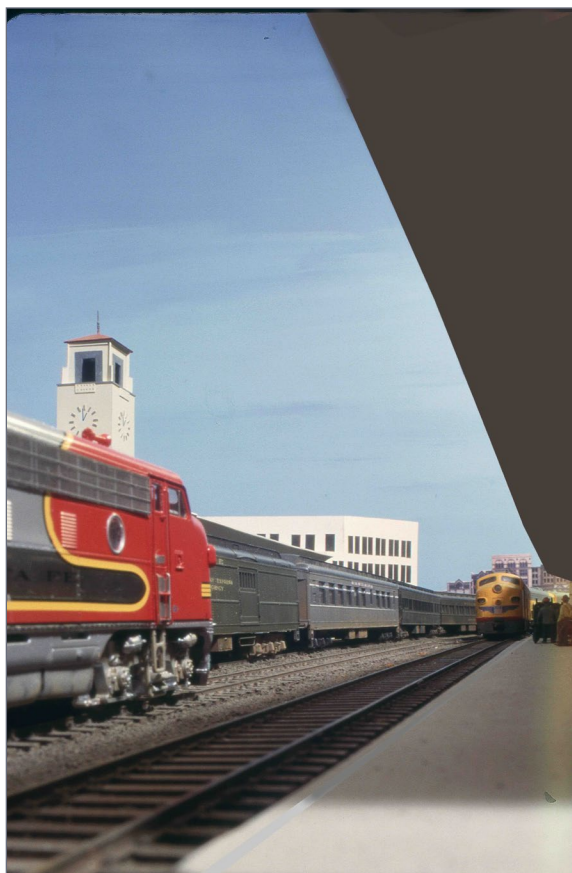
So, there is more to passenger operation than just running your passenger train 'round and 'round, thinking that switching happens only on the freight side of your model railroad.

Modelers may not realize that mail and express was an important part of the passenger train equation. After the mid-1950s, the income from express and especially from mail kept passenger trains profitable, or at least kept them from losing money as the railroads kept them running.

Secondary trains like SP's #40-41 The Imperial, often ran with a long string of mail and express cars, and in their last years only had one or two passenger coaches.

It was in the 1960s, about the time jet aircraft went into service, when passengers moved from intercity trains to airlines. It was also in the 1960s that the U.S. Post Office and Railway Express (renamed REA Express at the end) began moving mail and express over to freight trains and then to airplanes or trucks.

This is an ideal type of layout. If you have several favorite railroads, they can all use a terminal like this one.



12. At the far left, a Santa Fe train has arrived – possibly the Grand Canyon from the heavy-weight mix of equipment. Its engines (at left) have moved to the escape track and are now moving out for servicing as the train unloads passengers. On the right, a Union Pacific train is arriving at the next platform. *Models by V.S. Roseman*



13. Pacific Electric was a huge electrified rapid transit system connecting downtown L.A. with its suburbs. The photo shows prototype car, 415, a "Blimp." (and it deserves this name for its huge size, 67'-11" long) P.E. had a freight yard in the LAUPT and had tracks on Aliso St.

A few intercity runs of interest

Pullman sleeping cars on overnight trains were generally at their platforms ready for occupancy between 7:00 to 9:00 in the evening for the convenience of passengers, even when the actual departure time was much later that night.

The car porter would make up the seats in the rooms into the night configuration with clean sheets. A few trains such as Southern Pacific's all coach *Starlight* had a food service car open all night and served breakfast in the morning.

The Santa Fe's streamlined *San Diegans* departed four times a day for a two-hour run to San Diego, and these trains remained popular even after the long-distance trains were losing most of their

ridership. The short hop from Los Angeles to San Diego by plane was expensive. Considering travel time to and from the airports vs. the train's departure and arrival from the downtown areas, there was little advantage to the plane. And Santa Fe always ran a class act, pampering riders.

With the lack of commuter service, the terminal saw few trains in the late 1960s, and many of the facilities were shut down, such as the cocktail lounge and the Fred Harvey restaurant. It is fortunate that the station remained open at all.

Today, with light-rail lines routed into the platforms, the station is revitalized and bustles as it did in its best days. So its best days actually may be yet to come.

Los Angeles Union Station is still very much in operation with Amtrak trains and many California operations, including transit



14. Notice how many tracks at Union Station are dedicated just for mail and express. These services paid a lot of the bills and made it practical for the railroads to keep running passenger trains as long as they did. This SP S-10 switcher has just picked up a long string of empty express cars. *Models by V.S. Roseman*



15. This couldn't be very late in the time period because the Daylight car on the far left still has its full-width diaphragm in place. While these diaphragms made the trains look like one long handsome unit, they became a maintenance headache as they got older. Meanwhile in the background, a Santa Fe GP7 has been drafted for switching use today. *Models by V.S. Roseman*



16. A good look at the view to the west, with a Santa Fe F unit showing its Warbonnet paint. A few tracks over, an SP GS-4 steam engine in orange and red paint has arrived with a Daylight train from San Francisco. Beyond the engine is the Railway Express office building, and across Alameda St. behind the RE building is the new courthouse down the block. *Models by V.S. Roseman*

lines. A recent visit showed the station looking better than in previous years, with crowds of people getting on and off trains.

Coming soon: Streamliner schemes during the steam-to-diesel transition period at Los Angeles Union Station. ☒



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17. When one of the railroads would move a train, or even a car in or out of the terminal, they used one of their own yard switchers. With 2-6-0 Moguls running up their final days, they were still useful. One would on occasion run into the terminal to haul out a bad order car or deliver a string of passenger cars to make up an outgoing train. The streamlined coach is a Budd-built car ordered for the Sunset Limited. It is shown here being hauled out to the yard by a 2-6-0 at the start of the 1950s. Just entering the photo from the left is a new Southern Pacific E-unit on an eastbound train. *Models by V.S. Roseman*



18. An E6 A-B consist is backing into the terminal to couple up to its section of the City of Los Angeles train to Chicago. Another late-'40s, early-'50s scene also features a big Southern Pacific GS-2 on the left, and a string of Santa Fe express cars moving slowly in on track 1. *Models by V.S. Roseman*



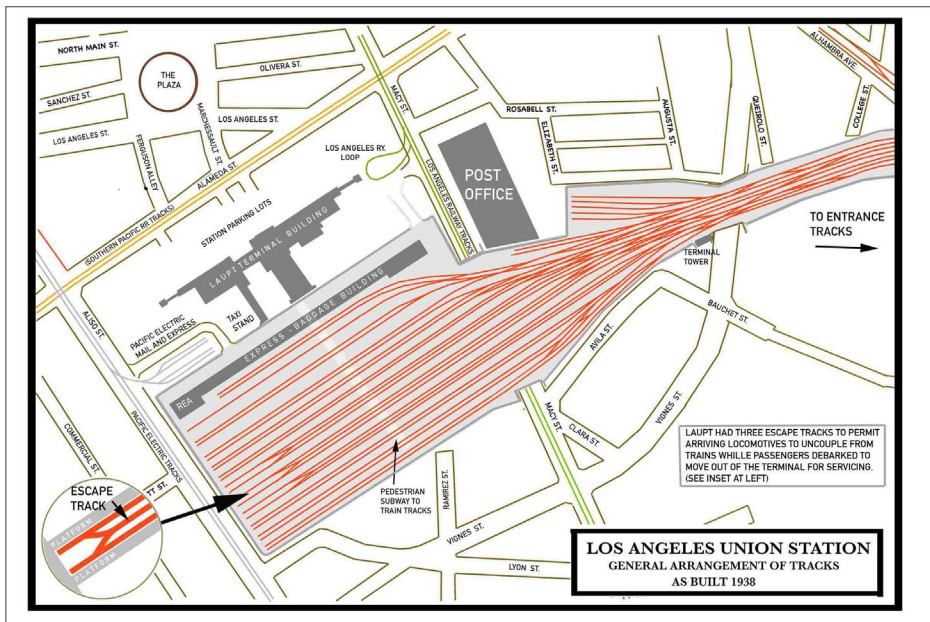
19. Here is Mission Tower at the edge of the Los Angeles Union Passenger Terminal. Curves from here lead into all three trunk railroads that use LAUPT. On the left, a Southern Pacific Daylight GS-4 with matching Daylight train has just crossed the Los Angeles River heading towards the terminal in the late-'40s or early-'50s. On the right, a Union Pacific switcher in black moves a string of tourist sleeping cars. *Models by V.S. Roseman*

V.S. ROSEMAN



Victor got his first train, a Lionel, at age 3. Victor graduated from the Pratt Institute with BFA and MS degrees and taught fine arts in high and junior high school for 30 years and is now retired.

Victor has written many articles and several railroad related books over the past 35 years. He's also done many freelance projects for Walthers, Atlas and other model manufacturers. ■



20, 21. (Above and right) Maps of LAUPT and surrounding area.



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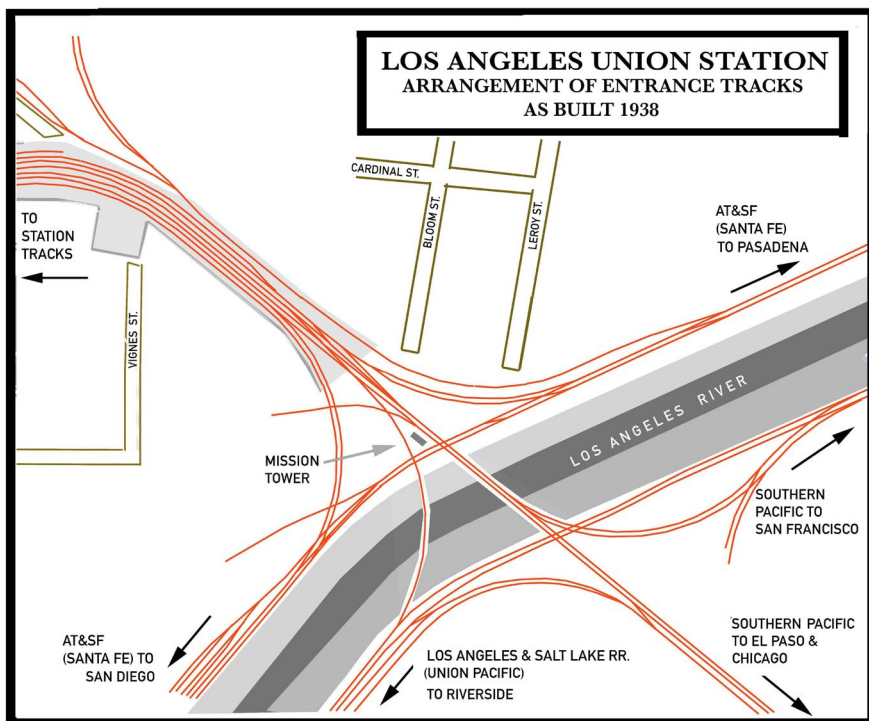
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LOS ANGELES UNION STATION ARRANGEMENT OF ENTRANCE TRACKS AS BUILT 1938



Joe Fugate's **Siskiyou Line 2** **PROGRESS UPDATE**

Model Railroad Hobbyist | June 2018 | #100



RATE THIS ARTICLE

JOE FUGATE reports on the dismantling of layout 1 and the rise of layout 2 using TOMA ...

YES, YOU READ IT RIGHT – MY SISKIYOU LINE LAYOUT (SL1) is going away and the new Siskiyou Line 2 (SL2) layout I'm designing and building uses TOMA (The "One Module" Approach) in its design and construction.

If you're dubious about TOMA, or if you think it's mainly just MRH hype, hopefully this article will show you how TOMA thinking can lead to some radically new layout building methods.

For exhibit A see the discoveries I cover in this article regarding SL2. I am developing a quite different approach to doing a home layout with SL2.

In my January 2017 MRH editorial, I announced I had decided to dismantle my SL1 layout and build a new sectional SL2 layout using TOMA methods. How did this happen?



1. Here is the Dillard Forest Products mill on my old Siskiyou Line 1 layout, as it looked about 2010. This shelf has now been completely dismantled.



2. Here is how the Dillard Forest Products mill shelf looks with the mill dismantled and removed. The valance and lights remain, but they will be removed once the rest of the layout is taken down. I also will need to repair and refinish the walls.

The decision to dismantle

It all started with my wife and I discussing our future housing plans. We currently live in a subdivision – but our long-term desire is to move out of town to some rural property.

As I opened the door to replacing the current layout, I began thinking of possibilities. I also became reluctant to keep working on a layout I now knew was dumpster fodder.

When will this happen? That depends on my 89-year-old mother, who currently lives with us. We don't want to relocate until she passes. We want to treasure every moment mom is still with us, but we're also planning what comes next after she passes.

This gives us potentially several years to dismantle Siskiyou Line 1 and to fix up the space to look like a normal finished basement in preparation for selling the house. In the meantime, I can dismantle SL1 and build a new TOMA-based SL2 layout that can go with us when we move.

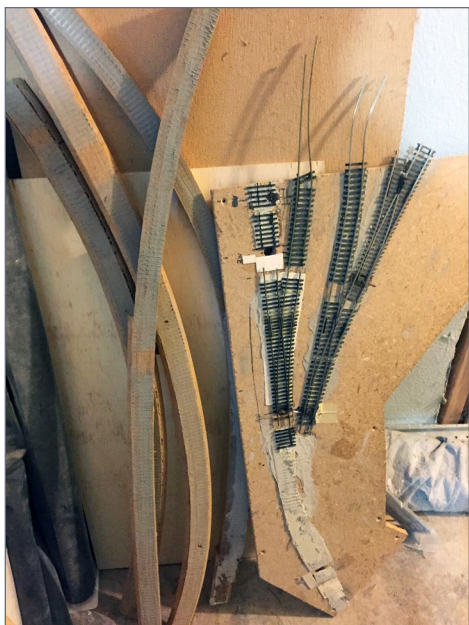
Starting the dismantling

The dismantling of SL1 started just after the grand finale op session in February 2017. I began in the staging area by removing track and wiring, working a few weekends [3].

Meanwhile, life intervened in April 2017 and I had to put the layout dismantling on hold for the next eight months. We instead had to focus on moving my aging mother in with us and to dispose of her house and downsize her accumulated possessions.

Finally, eight months later, mom's house was sold and that project finally got put behind us. Back to dismantling the layout!

With dismantling back in full swing, I have dismantled the entire staging area and removed the Dillard Forest Products shelf [2]. I



3. First of the dismantled track and roadbed from Siskiyou Line 1. I'm not saving turnouts, so what you see here is headed for the dump. Dismantling the layout was put on hold for eight months – I explain why in the text.

new sectional TOMA SL2, I will be using all-new bus wire. Of course, my NCE DCC system can move to the new layout, no problem.

am repurposing the staging area as my module section building shop.

Because I am taking a completely new approach with the TOMA construction of SL2, I am saving none of the lumber from SL1, nor am I saving any roadbed. I am also not saving any turnouts since I intend to put all new jig-built turnouts on the new layout.

Where I can, I am saving the track, or at least I'm saving the rail. I can use saved rail on the SL2 by using Central Valley tie strips for the track or build it into switches.

I'm also saving trees, bridges, and structures. I'm saving the track feeder wires, but because of how I plan to do the bus wiring on the

Getting organized

Dismantling a large basement layout generates a lot of stuff that all needs to go somewhere. It goes to the dump, or if it gets saved, it needs to be organized and stored so that you aren't buried in the process!





4. To keep things from turning into a total mess, I'm using inexpensive food containers to organize and store the screws. I'm sorting the screws as to size and labeling each container. This should make it very easy to store these or to give some of them away.

multi-drawer bins full of parts I want to keep.

Note one important general philosophy I'm following here: the storage always ends up on wheels. To do that I'm using roll-away carts with shelves and bins for the small stuff, and I'm using larger bins put on appliance dollies for the larger stuff.

By having everything on wheels, moving all this stored stuff around as needed becomes as simple as rolling it from here to there.

Given that SL2 will use completely different benchwork materials and fastening methods to keep things lightweight and portable, I have no use for most of the lumber or drywall screws from SL1, so they need to go. I'm using inexpensive food containers to save the screws [4] so I can use them for other projects around the house.

I'm also organizing other leftovers such as cup hooks, terminal strip blocks, cable clamps, and binder clips. I picked up small five-drawer storage bins [5] and am labeling the drawers for each kind of thing I'm saving.

Once these bins are filled, I will put them on roll-away carts to make it easy to move the stash around as needed.

I expect once it's all said and done, I'll have several of these

TOMA: WHAT'S THE BIG DEAL?

If your brain is wired to think in terms of traditional monolithic layout construction, then the idea of a sectional or modular home layout may seem strange or just plain silly. TOMA suggests that you instead build a home layout in bite-sized chunks using modules or sections.

The most novel part of TOMA is the idea of building a finished, operational layout as you go – finishing one or just a few module sections at a time. The TOMA process encourages you be more realistic about doing the full hobby end-to-end and to think more holistically about a layout project – but with a small enough scope you can likely finish it in weeks or months instead of years or decades.

Remember Linn Westcott's *HO Railroad that Grows*? TOMA is the 21st Century version of that idea. At each step with TOMA, you have a finished-looking operational layout.

We realize that TOMA is not for everybody, but it should be an option on the table along with more traditional monolithic approaches to doing a home layout before embarking on that dream layout project.

Here's why: We've seen folks get all excited over filling their train room with benchwork because it goes up fast. But then things usually grind to a crawl as the real meat of the hobby starts. Later, we often hear they tore it all out. And all too often, they leave the hobby, disillusioned.

Through TOMA we hope to reduce the number of stillborn layouts and get more modelers to expand doing the hobby beyond just building benchwork and laying track.

You always have a finished operational model railroad with TOMA instead of a still-born Plywood Pacific albatross in the layout room. ■



When it comes time to actually move, I won't have to pack up anything, either. Just roll it all up the driveway into the moving van!

I was originally going to soak the ballasted parts of the layout to try and remove the trackwork, but with mom now staying with us, the bathtub is in her bathroom, and she wouldn't appreciate pieces of layout soaking in her bathtub. Plus when I checked my stash, I have a lot of rail and flex track still in my stash – enough for at least four or five modules.

If the track is unballasted and will come up easily, then I try and save some of it. Otherwise, I'm not going to bother.

Since I'm going with TOMA for SL2, building a larger layout becomes more of a bit-by-bit expenditure rather than a room-full-at-a-time kind of thing like SL1 construction was.



5. For salvaged parts I do want to save, I'm using these plastic bins with drawers and labeling the drawers as to which parts they contain. I am storing these bins on rolling carts, making it easy to move the saved and stored items around as dismantling progresses. Having everything on rolling carts will also make moving easy when that day comes.

A new home layout paradigm: SL2 with TOMA

Classic TOMA (as we've described it since the term first surfaced around 2015) involves building a home layout in bite-sized module sections. You build one or a few sections all the way to completion

before moving on to build new layout sections. Add temporary staging on the end and run trains, debugging each module section as you go.

One major implication of this approach is that you plan a single section completely. Then you actually do all phases of layout construction with the very first module section, totally finishing it.

Traditional layout construction has been to build in stages: first do all the benchwork, then do the roadbed and then lay all the track. Next, wire the track. After that, move on to doing your backdrop, adding basic scenery and ballasting all the track.

From there, it's on to adding details –dirt, grass, rocks, bushes, trees, as well as structures, autos, people, and so on. If you have things you want to incorporate like train signals, you can add those during the later detailing stages.

Plan now or fix later?

On SL1, I did not put much thought into a number of things (including signaling) because doing detailed end-to-end planning on a large layout project takes a lot of effort. My thinking was “I’ll worry about that later ...” which turned out to be a really bad idea.

Trouble was, when later came I realized I had made critical mistakes in layout design and construction that could not be easily corrected without doing a “rip and replace” of several parts of the layout.

TOMA gives me a framework and time to think through how I’m going to build the first few sections of SL2 all the way to completion. All the scenery and structures need to be complete, the backdrop needs to be completely done, and everything needs to be fully functional, including the signals.

The “build it to completion” approach of TOMA bakes in testing the layout’s construction methods and standards up front. I’m enjoying



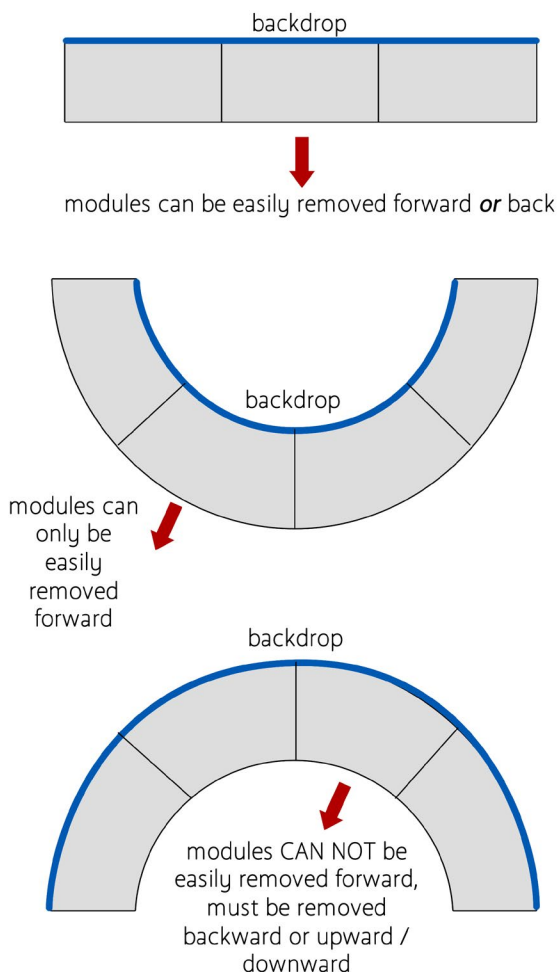
the new discoveries as I think through the planning on the first couple of SL2 module sections.

Here's one example.

I put some thought into inserting and removing module sections to take them back and forth between the layout space and the module

6. Certain considerations are needed for a TOMA home layout when inserting or removing module sections, depending on their configuration.

Exhibit and show layouts typically don't have this concern – but with a home layout you get something called walls that may greatly constrict module assembly!



Also, walls may prevent using backward removal option.

work area. For an exhibition layout in a large space, you typically have a lot of freedom as to the direction from which you can add or remove module sections. Not so with a home layout [6].

I expect building the first couple of SL2 TOMA sections will reveal still more insights and lead to further changes.

I can do any needed course corrections early and not have huge parts of the layout that need to be rethought and/or rebuilt – or that I just need to live with because it's too much work to redo it.

Planning SL2

Since it will likely be several years before we move and I don't yet know what the new space will look like, I'm planning SL2 to fit into the SL1 layout space that's being freed up as I dismantle SL1.

One of the tenets of TOMA is you don't need to plan the entire layout in great detail – just the first few modules. To that end, I've put together a room plan for SL2 [7] focusing on a subset of the module sections.

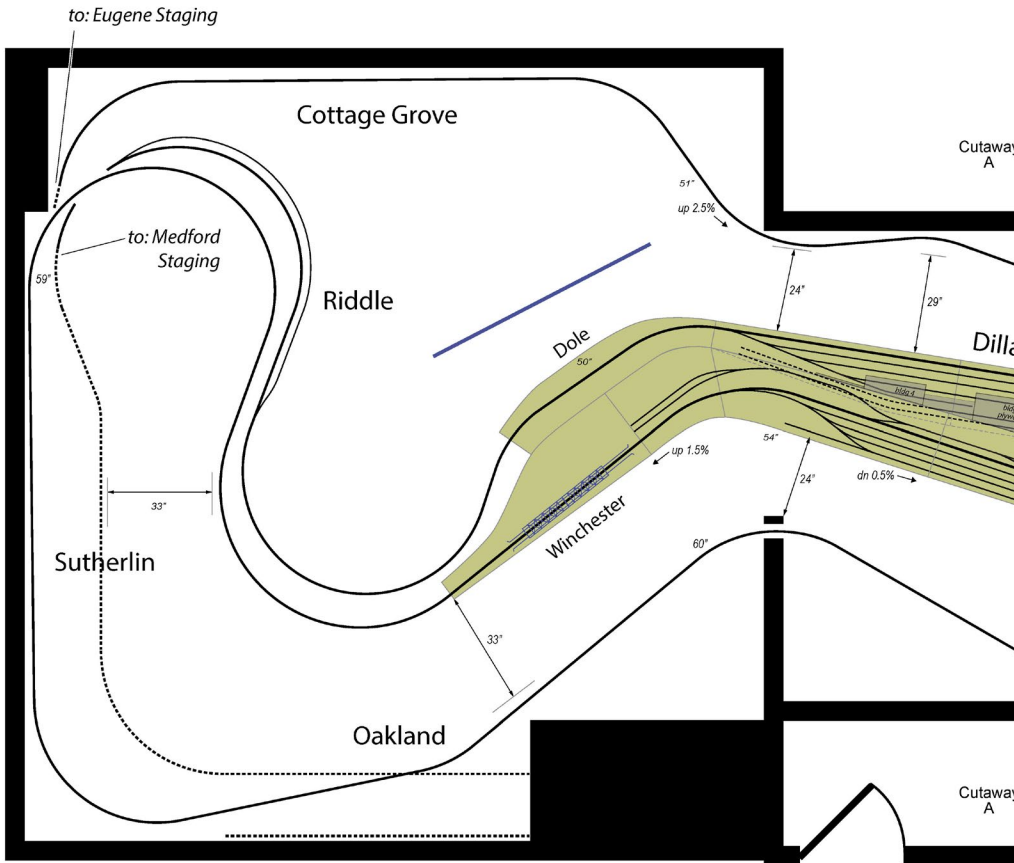
I am expecting the new space to be somewhat different from this current space, so the modules I've laid out here probably won't fit into the new space the same way. To that end, I've designed what I'm calling “sacrificial module sections” in Dillard and Roseburg.

The ideal sacrificial module has few to no turnouts on it. In Dillard, you can see the one sacrificial module in the middle between the two end modules with all the turnouts.

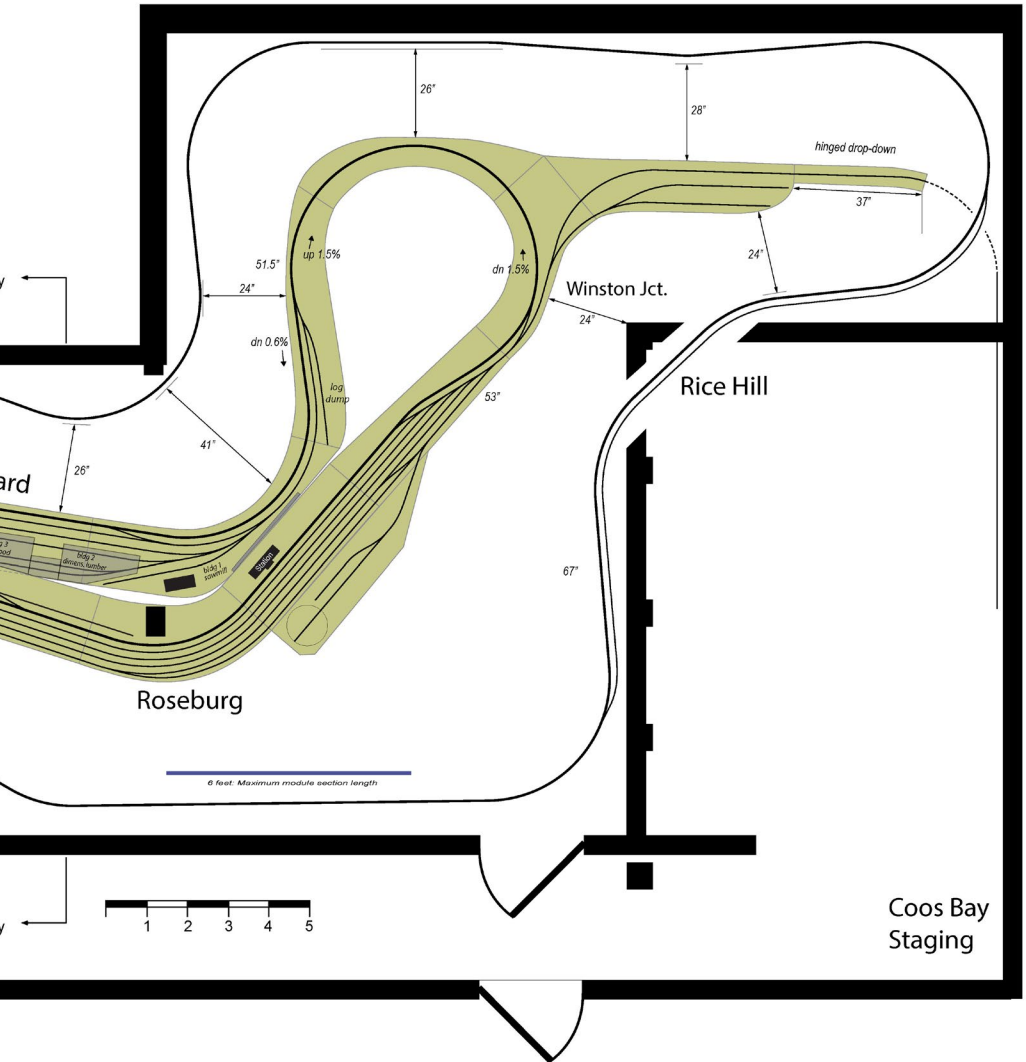
Roseburg is similar. In the middle of the yard is a curved sacrificial module with only one turnout on it followed by a second all straight sacrificial module with no turnouts. I expect the shape of Roseburg yard will be different in the new space, so I can replace the middle sacrificial module(s) with something that fits the new space better.



SISKIYOU LINE 2 - February 2018 2.11



7. Here is my current plan of Siskiyou Line 2. Notice I'm only doing detailed planning on the module sections in the middle of the room, mainly the towns of Dillard and Roseburg. I'm leaving the rest of the layout somewhat vague. If you look carefully, you can see the gray lines marking the module section joints on the middle part of the plan.



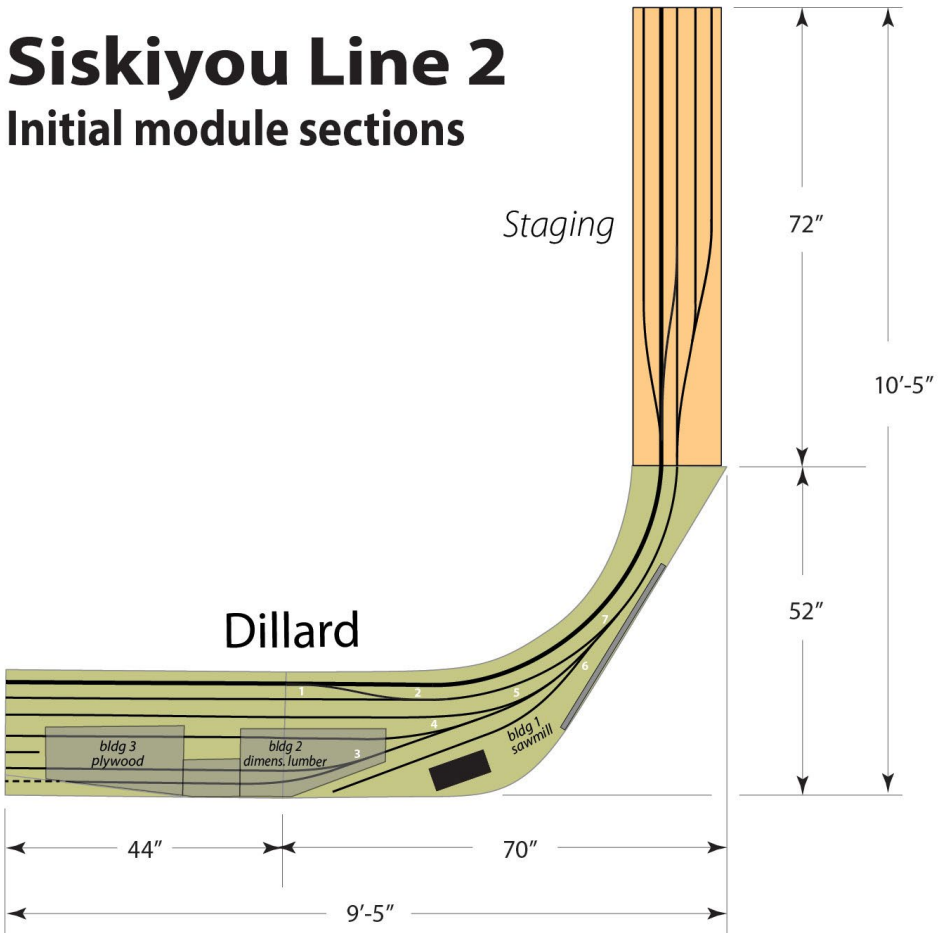
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Where to start

I've selected two module sections in Dillard as my TOMA starting point.

Siskiyou Line 2 Initial module sections



8. I'm planning to start construction of SL2 with these two module sections and follow TOMA practice by getting them finished before moving on to other sections. I'm adding some minimal staging on one end for use with these two sections as I'm hoping to take what you see here to the Kansas City NMRA National train show in August.

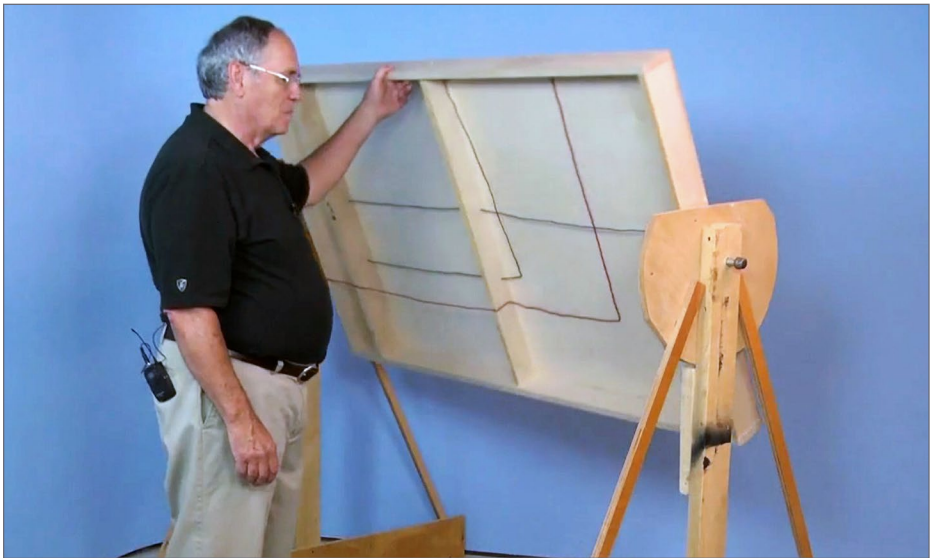
I'm hoping to take these two module sections [8], plus the staging shown, to the NMRA National Convention in Kansas City. If you can make that show, you may get to see a bit of Siskiyou Line 2 for yourself!

Totally rethinking layout construction

TOMA has me completely rethinking how I build a home layout.

Separate module work area: I am building each module section in a module work area that's separate from the layout area. I want to do all the "dirty work" in the module work area. I want the layout space to remain free of any layout construction debris.

I also like the notion of building the layout in comfort a section at a time. I can orient a module section any direction as needed by using a "module rotisserie" or "A-frame-o-matic" [9].



9. Miles Hale demonstrates module his "A-frame-o-matic" in his *Back to the Basement* layout building video series on MRH Media's TrainMasters TV.

Imagine doing the layout wiring and installing Tortoises by simply turning the module upside down. As I get older, this becomes an attractive option.

Lightweight module sections: Moving each module section easily between the work area and the layout area becomes a high priority. I've developed techniques for making each module as lightweight as possible, yet durable.

For instance, foam core (styrofoam between two cardstock faces) is attractive as a possible benchwork material because it's very light, but it's easily deformed if you accidentally press too hard against it. On the other hand, if I use a torsion-box method of construction with ¼" plywood, I can get module benchwork that's still lightweight and yet also quite strong.

The same goes for scenery construction – I will use foam and lightweight materials to keep the scenery very lightweight.

As for making module sections easily transportable, size also figures into the equation. I've settled on six feet long as a good maneuverable length, yet not so short it increases the number of section joints needed on the layout. Of course, sections can be shorter than six feet, but they must never exceed this length.

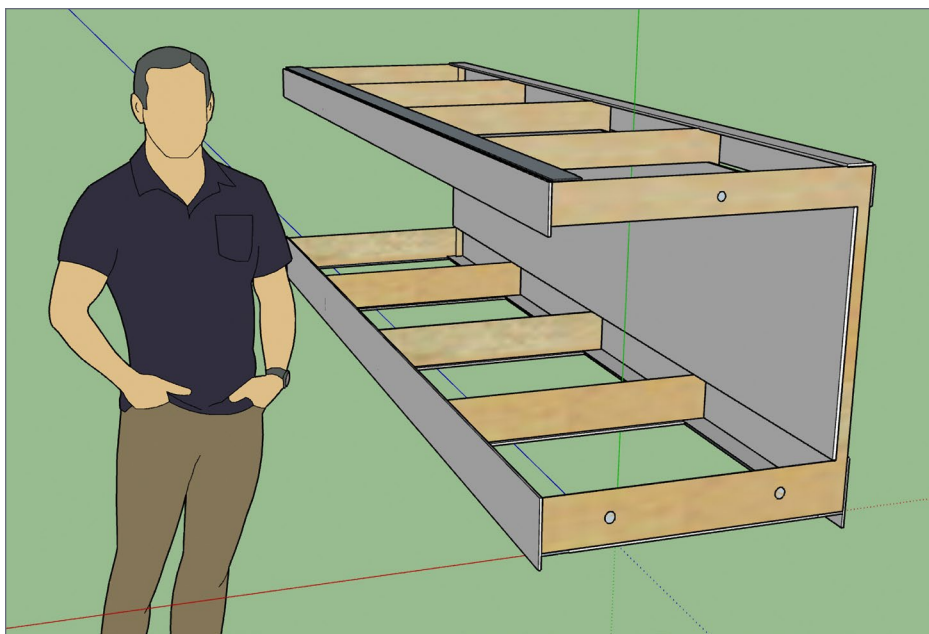
Ideally, one person will be able to carry a finished module section because it will weigh less than 40 pounds total.

Shadowbox form factor: I love the shadowbox look of my SL1 [10], so I am designing the SL2 module sections to have a shadowbox form factor [11], complete with backdrop and valance included.

Ordinarily, modules have been built more as flat boxes without the backdrop or valance, but I'm finding the full shadowbox structure has interesting side effects I had not expected. More on that in a moment.



10. I am a fan of the shadowbox look such as you see here on SL1, so I'm using a shadowbox form factor for SL2's module sections.



11. Here is my basic design for the shadowbox module section benchwork on SL2. I drew this in SketchUp so I could view it in 3D from any angle.

I am aiming at a total height with the valance of no more than 24" and to also keep the max module section width to 24". Module section width can be as narrow as 8-12" and still look good. If more width is needed, I will add a second section in front of the first, with some additional bolt-on lighting valance to go above the extension.

The end result is a box that's 24" x 24" x 72" – if I can keep it light, then I can upend it to make it easy to fit through a typical 30" wide by 6-8" tall door.

Module joints: To connect the modules, I'm using three 1/4" x 1-1/2" thumb screw bolts and wing nuts [12]. To get precise alignment through the holes in the modules, I'm lining the holes with 9/32"



12. To connect the module sections, I'm using 1/4" x 1-1/2" thumb screw bolts with wing nuts. I'm also lining the holes in the wood module ends with 9/32" brass tubing that has a tight sliding fit over the 1/4" bolts.

brass tube which has an inside diameter of 0.255" – just enough to allow a sliding fit of the screws with slop less than the width of a single human hair (0.006").

I am gluing the tubes into 9/32" holes with 5-minute epoxy. I'm gluing a double layer of ¼" plywood on the ends around the holes, giving me ½" of material to hold each tube. The idea is to get perfect alignment at each joint without the need for fiddling or adjusting. Just align the modules so the ¼" thumb screws go all the way through and then add the wing nut and hand tighten.

I will drill two widely-spaced holes in the bottom base end of a module and one hole in the top center valance end. This forms a precise three-point alignment with less than a 0.005" variance. Pretty much on-the-money.

Once the modules are in place for the long term, I intend to apply a bit of scenery and ballast over the joints to hide them. I want the TOMA SL2 layout to look just like a permanent layout, not a sectional / modular one.

Spline roadbed: I am a big fan of spline roadbed and I used hard-board spline roadbed extensively on SL1. However, in my pursuit of making things more lightweight, I looked at other materials for making roadbed spline, such as poplar or pine.



SEE SISKIYOU LINE 2 IN KANSAS CITY

I'm planning to bring the first two TOMA module sections of the Siskiyou Line 2 to the NMRA National convention in Kansas City this August. So if you would like to see what I'm doing with SL2 for yourself, visit our train show booth!





13. I tested different materials for making spline (from top to bottom): $\frac{5}{16}$ " pine, $\frac{1}{4}$ " Masonite, and $\frac{1}{4}$ " poplar. I was looking for which material weighed the least – and pine was the hands down winner, being only 36% the weight of Masonite.

I cut some short pieces of the different materials I could use for spline roadbed [13], assembled the needed pieces to get the proper roadbed width and weighed them. The results?

Masonite: 5.8oz; poplar 2.8oz; and pine 2.1oz.

I did the math on a 6 foot module section with some sidings and spurs all done in spline, I estimate I could save at least 5 pounds by using pine for the spline instead of Masonite.

Making the modules more stable: Because the SL2 modules will be so light, I have been concerned about their stability. For example, what if someone tripped and steadied themselves against a module section? They could push the modules over accidentally.

This isn't as much of a concern with a more traditional home layout because construction is generally more massive and things are

commonly attached to the walls and/or floor rather than being free-standing.

The trick with these free-standing modules is to add some mass down low to make them more stable. Each module section will have detachable legs, but how do we make the entire module-and-leg assembly harder to tip over?

I came up with the idea of attaching the bottom of the module section legs to some plywood plates laid on the floor under the module. Then simply put an ordinary cinder block on each plywood floor plate!

This adds some significant mass down low and greatly increases the stability of the module sections. It also is portable, since the cinder blocks can be transported, and the legs can be detached from the plywood plates as well as from the module sections.

Shadowbox serendipidities

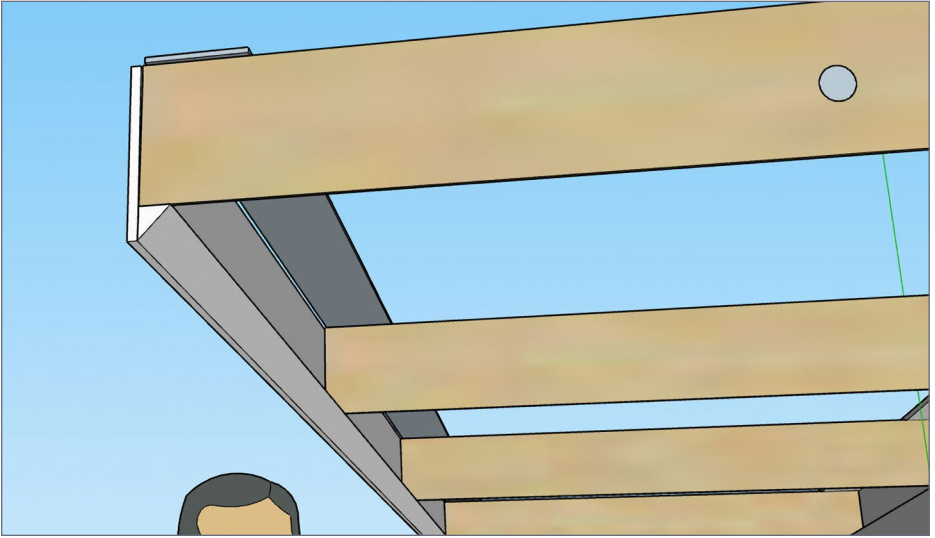
After I decided to go with a shadowbox module form factor for SL2, some helpful side effects have emerged.

LED strip lighting: Obviously, with the valance as part of the module section, I can easily add lighting. If I add a ½” triangular angled strip [14] on the valance, it becomes very easy to add LED strip lighting! LED strip lighting did not exist in 1991 when I started SL1, so this is an exciting new benefit of an updated SL2.

These strips typically come in 3-meter lengths (~16 feet), and they can be cut or spliced. I’m expecting to do a little cutting and splicing to get 6-foot sections that can be connected at the module joints.

Photo backdrop: Another technology that did not exist back in the 90s when I began building SL1 is digital photography. Using modern digital photography, I can create accurate photomural





14. Adding a triangular strip to the valance makes it easy to add LED strip lighting to the module.

backdrops and send them out to be economically printed using permanent ink on long rolls of heavy paper.

On SL2, the shadowbox form factor means each module section will have its own “backdrop wall” of ABS plastic already installed and painted basic blue.

I can make one photomural extend across several module backdrop sections, minimizing sky joints. Using temporary mounting attachment methods, I can apply the photomural to the assembled module sections, but take down the photomural if I need to disassemble the module sections when I move.

No rotisserie needed: I realized the box structure of the SL2 shadowbox modules means I don’t need a rotisserie. All I need is an ordinary 6’ to 8’ table when working on a module section! Each module is a complete box and can be set onto the backdrop side or easily turned completely upside down.

The rotisserie is necessary only for flat domino-style modules that may not be stable when tipped up.

Makes multi-deck possible: The shadowbox module form factor is stackable, which means a multi-deck TOMA layout is possible. In fact, if you turn the upper shadowbox around 180 degrees so the backdrop is above the lighting valance on the lower shadowbox, you can do a TOMA mushroom!

Correcting SL1 mistakes

I am also correcting some SL1 mistakes with the design of my new SL2 modular section benchwork.

Mounting for skirting built in: I never made allowances for attaching the skirting to the benchwork on SL1, so I stapled it to the



15. When MRH/TMTV visited Jeff Sargent's layout in 2015 to shoot a layout story, Jeff showed us his clever system for attaching layout skirting. Notice the cup hooks, the 1/2" white flexible water hose, and the sliding 1" shower curtain-style clip rings. The SL2 module section design accommodates this system to attach skirting.

bottom of the ½” particle board fascia with mixed results. It often looked rather ratty up close. On SL2, I will have a convenient skirting attachment system built in.

When we visited Jeff Sargent’s N scale layout in the spring of 2015 to shoot a layout story, Jeff showed us his clever solution for installing layout skirting. He put in cup hooks, then ran some ½” flexible white water hose (the kind you use to connect up a fridge icemaker to the water source) through the cup hooks, and hung some 1” shower curtain-type clip rings on the hose [15].

Then to hang fabric skirting, you just clip it on. Need to take down the skirting for a work session under the layout? No problem. I love this clever technique, so I’ve designed in enough bottom fascia edge to allow for this, and made a place to screw in the cup hooks.

Easy access to wiring: I also want easy access to the wiring once the module section is placed in the layout room. For this, I’m using a piece of ¼” plywood mounted underneath the module to make a “panel” with small ¾” hinges that fold down forward.

When this panel is folded up, it’s held in place with latch magnets. All very neat and tidy, yet quite accessible for debugging if needed.

On this fold-down panel, I can mount terminal blocks to which I connect all the module’s track feeders. Then just run bus wires to the terminal blocks and all the module’s track gets power.



SL2 construction approach

Once I define a set of 2 to 4 module sections to be a part of a given TOMA build, the construction process goes like this:

In the work area:

1. Construct each module section's benchwork in the work area, just short of the roadbed stage.

In the layout space:

2. Take each module section into the layout space, add the removable legs, and set it in place.
3. Install LED lighting, allowing it to be connected / disconnected at module section joints.
4. Add the roadbed that crosses module joints and cut the roadbed at the joints.
5. Lay the track across the joints, soldering to special PC ties on both sides of the joints. Cut the rail at the joints.

Back to the work area:

6. Take each module section back to the work area, one at a time, and finish installing the rest of the roadbed and track. Install and test turnout function (finger-flicking points in my case).
7. Finish module wiring and do some initial tests with locomotives to ensure wiring is correct and turnouts operate without issue.
8. Install signaling and working turnout switch stands. Test and debug.
9. Install any bridges.
10. Install scenery terrain contours using foam. As part of the process, identify building locations and roads. Apply dirt and put in any exposed rock areas with castings or by hand carving.



Install any water areas.
Finish any roads, complete with center lines and other markings such as RR crossing alerts.

11. Ballast the track and install any railroad crossings at roads. Apply any additional details to the track (turnout braces, joint bars, signal boxes) and weather the track. Test to make sure the “dirty scenery process” has not compromised rail contact.

Back to the layout space:

12. Take the module section back into the layout space and put it back in place.
13. Scenic over the joints with a bit more dirt material. Apply a bit more ballast to the module track joints.
14. Apply the continuous photo backdrop across the 2-4 module sections (removable for later if need to relocate the layout).
15. Apply static grass and bushes, then add any trees.
16. Add structures and any final details (signs, trash cans, barrels, figures, autos, junk, etc.)





16. I built a 44" long prototype module section out of $\frac{1}{4}$ " plywood and some $\frac{3}{4}$ " square stock cut on my table saw to test my module construction ideas. The module shown here has the base track level at 50" off the floor (I stacked paint cans on the work table to get it up to the right height) and it weighs a mere 5 pounds. Compare this to the 3D digital render I did in SketchUp [11]. This section still needs the fascia, valance and backdrop added, but so far the results are very promising.

I'm expecting I will find some hitches in the process on the first set of module sections and make adjustments.

Later if I need to relocate the layout, I'll remove the photo backdrop and structures, then use a sharp utility knife to cut through the scenery and ballast at module joints. I don't expect the cut to be clean – some scenic base may break lose at the joints and will need repairs once the layout is set up again in the new location.

I've built a prototype of a module section with ¼" plywood to get an idea of how to build one [16]. This section is just the skeleton so far – it's 44" long and it weighs a mere 5 pounds. Of course the next thing to do is to add a fascia and valance with ¼" plywood, add an ABS plastic backdrop, and add some flange bracing on the tops and bottoms of the ¼" C members to stiffen them up.

In the case of the two module sections I'm starting with, the scenery is pretty much flat, so I will just add a top of ¼" plywood on each module from front to back. Other module sections that have not-so-flat scenery will have risers and get spline roadbed.

All told, I'm expecting a finished module section minus track and scenery to come in at around 10-15 pounds.

My goal for a fully finished module section is for it to be no more than 40 pounds – light enough one person can easily lift it.

As an interesting comparison, when I dismantled the 12-foot long Dillard lumber mill shelf on SL1 (24" wide in some spots) made using 1x4 L-girders, 1x2" joists, ½" plywood and ½" drywall board and plaster – the entire dismantled shelf with track and ballast weighed over 250 pounds on the dump scales! More than 20 pounds per foot!

If I can achieve my goal, 12 feet of SL2 will weigh 80 pounds – less than one-third as much.

Concluding thoughts

As I began looking at doing SL2 as a TOMA, advancements in the hobby over the last 26 years coupled with lessons I learned on SL1 make doing this new layout a sheer delight. I'm eager to keep writing and videoing about this journey because I'm discovering many helpful cool twists on doing a home layout.

Stay tuned. If you make it to the NMRA National in Kansas City this August, come see the first two TOMA sections of Siskiyou Line 2. ☒



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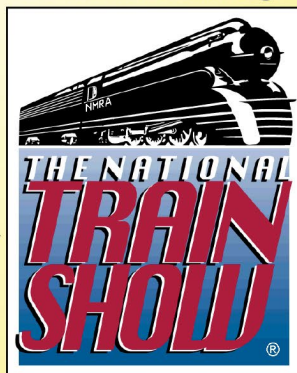
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JUNE NEWS

column



Model Railroad Hobbyist | June 2018 | #100



RATE THIS ARTICLE

RICHARD BALE and
JEFF SHULTZ report the latest hobby industry news

Precision Scale Sold

Precision Scale Company (PSC), a major importer of brass locomotives and rolling stock and a manufacturer of an extensive line of detail parts, has been sold. The announcement was made by Mark Mogensen, owner of the Montana-based business. Mark has decided it is time to retire. PF&S Railway Supply, a well-established hobby outlet in Washington state, has acquired the parts and detail portion of PSC, which encompasses more than 10,000 brass and plastic super-detailing parts. The importing segment of PSC will be assumed by Jack Vansworth, owner of Division Point, who has agreed to complete several PSC steam locomotive projects already under development in Korea. They include a Seaboard Air Line streamlined P-1 4-6-2 Pacific, a Frisco 4-8-2 Mountain, and RF&P and Pere Marquette 2-8-4 Berkshires. For additional information contact precision-scaleco@gmail.com.

► THE LATEST MODEL RAILROAD PRODUCTS, NEWS & EVENTS

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Montage Worldwide, an on-line seller of model railroad books and magazines, has announced that it will cease doing business this fall. Reduced prices will be in effect during the closeout period. For additional information visit montagewww.com ...

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NEW CLUB CARS



The **Chicago & North Western Historical Society** is selling HO scale ready-to-run models of CNW 40-foot boxcars number 809 and 1153. Pullman Standard built the prototypes of

the PS-1 cars in Michigan City, IN in 1954. Both cars were repainted in 1965 in standard freight car red with yellow lettering and black tar cement ends, roof, and underframe. Kadee produced the ready-to-run models for CNWHS. For information go to www.cnwhs.org/shopping and click on Kits.

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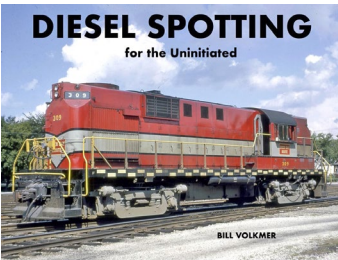
NEW PRODUCTS FOR ALL SCALES

Deepwoods Software has released version 2.1.43 of Model Railroad System. The upgrade consists of a collection of programs designed to help with many of the more tedious aspects of modeling. Included are libraries for communication with Chubb and Lenz XPressNet networks, a user-mode driver for the Rail Driver control console, a library to parse XTrkCAD layout files, as well as utilities for computing dropping resistors, camera view areas, developing railroad time tables, and a switchlist-based freight car forwarder system. For more information, including download links, visit www.deepsoft.com/ModelRailroadSystem.

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Here's an early look at Von Eerie's Family Restaurant, a whimsical new Hydrocal structure kit coming soon from **Downtown Deco**. The model will be available in N, HO, and O scales. For more information visit downtowndeco.com.



Morning Sun has released "*Diesel Spotting for the Uninitiated*" as a downloadable eBook. Diesel enthusiast Bill Volkmer takes the reader on a diesel-spotting tour with over 300 photographs; the majority are in color. This is a comprehensive guide to first and

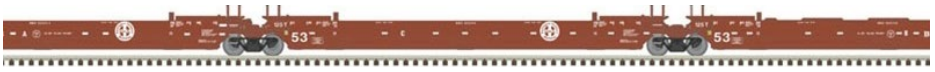
second generation diesels.

"*Long Island Railroad Trackside*" by Matt Herson is among the newest hardcover books from Morning Sun. Additional new releases include "*Illini Rails*" by Robert J. Yanosey, "*Bessemer & Lake Erie Power, In Color*" by Stephen M. Timko; and "*Caboose Color Portfolio, Book #2 D-M*" edited by Robert J. Yanosey. Also new is "*New Haven Trackside*," featuring the photography of T. J. Donahue. For more information contact a dealer or visit morningsunbooks.com.

O SCALE PRODUCT NEWS

Atlas O has added a Gunderson Maxi-IV well car to its Master series of O scale rolling stock. Availability is scheduled for the third





quarter of 2018. The heavy diecast model rides on trucks with rotating bearing caps. Road names will be BNSF, Northwest Container, TTX, and Utah Central. Both 2-rail and 3-rail versions of the ready-to-run car will be produced.



Two styles of 53-foot corrugated containers suitable for the new well cars are also planned for release in the third quarter of this year. A

CIMC container has beveled doors and placard holders on all sides. It will be available decorated for Hub Group, Marten, Matson, and TMX. A Jindo container that features separate door bars will be available for Hub Group, CSX, and Pacer.



The newest structure from Atlas O is Wheeler's Auto Dealers. The building features large windows for displaying model vehicles. The assembled model is 6.5-inches tall and has a footprint of 10.06 x 8.9-inches. This is a snap-

together kit that can be disassembled for storage.

Atlas O's new black and white Crossing Gate comes fully assembled and ready for use. It is designed to be installed in a layout through a .625-inch hole. The gate and red LED can be activated by pressing a switch that is included with the model. The gate can also be activated with any automatic trackside activator. The gate requires an AC or DC power source in the range of 8 to 12 volts.



Both the auto dealer and crossing gate are planned for release late this year. For additional information on all Atlas O products contact a dealer or visit atlaso.com.

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Motrak Models has announced a new O scale version of the Little Depot kit to celebrate their 15th anniversary. The HO version of this kit was the first structure kit released by Motrak Models. The kit features laser cut bass wood wall and roof pieces, Tichy windows and doors, three laser-cut benches, a laser-scribed brick platform, 3-tab shingles, and a laser-cut chimney. The building measures 5.75 x 3-inches with the platform measuring 11.5 x 5.75-inches.

Motrak has also released O scale 3-tab shingles in black, red, green, gray, and slate. Each package covers approximately 64 square inches. For more information on the products visit motrakmodelsusa.com.

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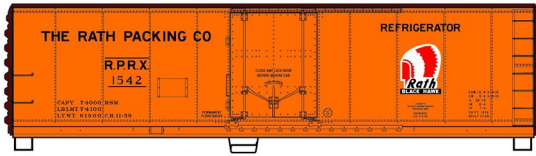
HO SCALE PRODUCT NEWS



Heading the list of new HO scale kits available from **Accurail** this month is a

three-pack of 41-foot AAR steel gondolas decorated for Toledo & Ohio Central, a subsidiary of New York Central. The model is based on a prototype built in 1944.

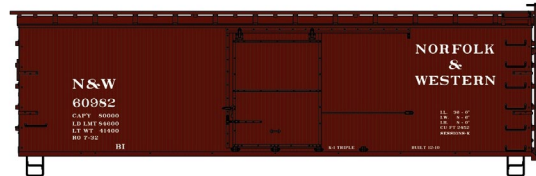




This Rath Packing Co. car represents an all steel mechanical reefer built in 1959. Like the prototype, Accurail's HO version features a Youngstown plug door.



Accurail's 36-foot Fowler wood boxcar is available decorated for Bangor & Aroostook.



Completing Accurail's June release is a kit for a Norfolk & Western 36-foot wood boxcar. The HO scale

model follows the prototype which had a steel roof, steel ends, and a straight steel underframe. All Accurail kits include appropriate trucks and Accumate knuckle couplers. For additional information on Accurail products contact a dealer or visit accurail.com.



Another run of Genesis EMD SD70ACe diesels is at the top of **Athearn's** production schedule for April 2019. In addition to CSX with a boxcar logo, the HO scale model will be available in Athearn's Primed for Grime paint for C&O (ex-CSX) and PRLX. Also scheduled for release next April is an EMD GP50 diesel



locomotive. Road names will be Chicago & North Western, Frisco, Santa Fe (red and yellow Kodachrome), Dakota & Iowa Railway (ex-CNW), and two Burlington Northern schemes: green, and orange and white (ex-Frisco). Road specific details include the location and type of horns, Strato-lite, Gyra-light, antenna, cab mirrors, sunshades, pilots, anti-climbers, and winterization hatch.

Both the SD70ACe and GP50 will have rubber hoses, all LED lighting, and a DCC decoder with SoundTraxx Tsunami2 sound. DC versions of the locomotive will have a 21-pin connector for installation of an aftermarket decoder.



Three different 33,900-gallon LPG tank cars are due from Athearn next April. Variations in this HO scale Genesis model include early, flat panel, and late body phases; and two styles of loading platforms. Special features include separately applied walkway platform, manway, outlet, ladders, brake rigging detail, safety rail supports and tank saddles; photo-etched metal walkways and end platforms, and wire safety rails and end handrails. The cars will have 100-ton roller bearing trucks with rotating bearing caps and machined metal wheelsets. Road names will be UTLX (above), GATX, TEIX, PLMX, NATX, ROCX, and CBTX.

Athearn Ready-to-Roll models scheduled for release next April include an HO scale EMD SD45T-2 diesel. Of special note are new photoetched stainless steel windshield wipers and a redesigned



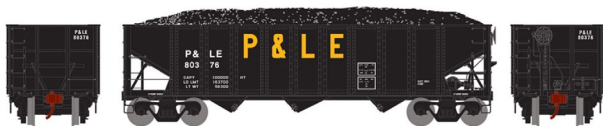


rear truck that allows better visibility through the grilles. This model, and all Athearn HO scale locomotives scheduled for release after January 2019, will come with rubber hoses and all LED lighting. Three versions of NREX-National Railway Equipment will be available including one in Primed for Grime. Also included are the Cotton Belt Bicentennial locomotive, and Cotton Belt and Southern Pacific in scarlet and black. Fanciful “what-if protocolance” Montana Rail Link and Southern Railway of British Columbia locomotives finish up this release. Sound equipped models will have Econami Sound by SoundTraxx with sound that functions in both DC and DCC environments. Full DCC functions will be available when operated in DCC mode.



Additional Ready-to-Roll HO scale models coming next April include a 50-foot FMC boxcar with double Youngstown sliding doors. The Athearn model is based on a prototype with outside posts and non-terminating ends. Features include separately applied grab irons and 70-ton roller bearing trucks with 33-inch machined metal wheelsets. Road names will be Union Pacific, British Columbia Hydro Railway, Hartford & Slocomb, McCloud River Railway, Canadian Pacific (ex-Procor), and Wisconsin Central.

A new production run of triple-bay ribbed side hopper cars with removable coal loads is included in Athearn's April 2019 production schedule. Separately applied details on the Ready-to-Roll model include wire grab irons, brake equipment, end braces, and stirrup steps. Nine road numbers will be available for Pittsburgh &



Lake Erie, Chicago, Burlington & Quincy; Norfolk Southern, Penn Central, Rock Island, and B&O-Chessie System. The B&O cars have peaked ends. All other road names will have flat ends.



Completing Athearn's April 2019 release is a 60-foot Gunderson general purpose flat car. Two decorating schemes will be available for Trailer Train. Additional road names will be Santa Fe, Burlington Northern, Frisco, Great Northern, Missouri Pacific, Southern Railway, BNSF, Delaware & Hudson, Soo Line, and Southern Pacific.



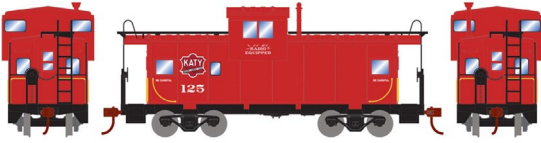
Roundhouse Brand models due next April include a chemical tank car decorated for Burlington Northern-Consolidated Chemical Industries, BNSF (white), Procor, Canadian Liquid Air, ALCAN Limited, CSX, and a training car decorated for Massachusetts Call/Volunteer Firefighters. The fully assembled HO scale model comes with knuckle couplers and appropriate trucks with machined metal wheelsets.

A new production run of wide-vision steel cabooses is planned for release next April. The Roundhouse model will be equipped with newly-tooled caboose trucks with machined metal wheelsets. Decorating schemes include a white BNSF caboose that promotes railroad safety. One side of the car is in French the other in English.





BNSF uses this caboose around Winnipeg, Canada. It can be seen in operation at www.youtube.com/watch?v=wn2DwCq0EmQ.



Additional road names for the HO scale model include Missouri-Kansas-Texas, McCloud Railway, Conrail, SSW-Cotton Belt, Great Northern, Chesapeake & Ohio, Rock Island, Burlington Northern (Freedom scheme), and Gulf, Mobile & Ohio. For additional information on all Athearn and Roundhouse products contact a dealer or visit athearn.com.

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Atlas is booking advance reservations for a family of General Electric high-horse-

power road switchers identified as Dash 8-40B, Dash 8-40BW, and Dash 8-32BWH. GE built the four-axle Dash 8-40B units in the late 1980s. They were identified by their dynamic brake gear located between the cab and engine compartment and gull-wing grilles at the rear of the locomotive. Many are still in service today. Atlas will offer HO scale models decorated for Albany & Eastern, CSX, Providence & Worcester, Union Pacific, Conrail, Santa Fe (blue and yellow), Susquehanna, and SSW-Cotton Belt.

In the early 1990s GE began using the North American safety cab on most of its six-axle locomotives. The only order for four-axle



of the Dash 8-40BW.

Dash 8-40Bs with the new cab came from ATSF, making the Santa Fe and its successor, BNSF, the only operators



three roads that purchased second-hand units from the original owners. They include Providence & Worcester, and Arkansas Oklahoma. The MR&T scheme is also offered.

In addition to Santa Fe and BNSF schemes, Atlas will offer the Dash 8-40BW decorated for



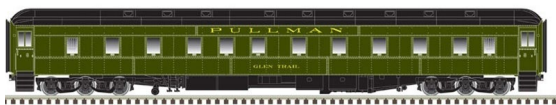
for Amtrak on the longer Dash 8-40BW frame. They incorporated additional modifications for passenger service. Atlas will release the Dash 8-32BWH decorated in Amtrak's Phase V scheme (above) as well as in the colorful "Pepsi Can" scheme (below).

Using a North American Cab, General Electric built the Dash 8-32BWH locomotives



DCC with LokSound Select Dual-Mode decoder for operation on both DC and DCC layouts.

Atlas will offer this group of locomotives in both Silver Series (DC only) and Gold Series



6-3 (six compartment, three drawing room) sleeper. Features on

The next release of HO scale heavyweight steel passenger cars from Atlas will be a Pullman

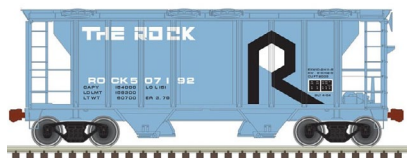
the ready-to-run model include operating diaphragms, prototypically correct six-wheel trucks with metal wheelsets, and full underbody details including ice or mechanical air conditioning equipment as appropriate to the road being modeled. A 24-inch minimum radius is recommended for reliable operation.



Santa Fe, and Pullman in both two-tone gray and traditional green. A limited number of undecorated models will be available at a reduced price.



New freight cars coming from Atlas include a Master series Thrall steel gondola. The car has an interior length of 52'-6" and a rated capacity of 2743 cu.ft. The ready-to-run HO scale model features etched metal platform and end reinforcement plates, and individual metal grab irons. Road names will be Dakota, Minnesota & Eastern; Oregon Steel Mills, BNSF, CEFX (ex-CP), CRDX-Chicago Freight, Norfolk Southern, and Union Pacific.



Atlas plans to release this PS-2 twin-bay covered hopper in its Trainman Series of affordably priced models. The HO scale ready-to-run car represents a mid-century prototype with a capacity of 2,003 cu.ft. It has eight round roof hatches and two gravity discharge hoppers. The model will come with either solid bearing or roller bearing trucks as appropriate to the railroad being modeled.

Road names will be Chessie System (B&O), CSX, Soo Line, Southern Pacific, Burlington Northern, Jersey Central, Missouri

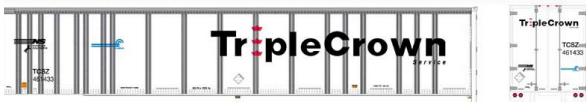


Pacific, and Rock Island. For additional information on all Atlas products contact a dealer or visit atlasrr.com.



Bachmann is quoting an early summer release date for a new 2-8-0 Consolidation steam locomotive. The

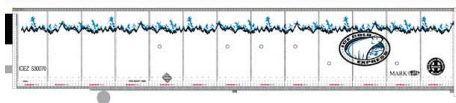
HO scale model is built on a heavy diecast chassis and includes crew figures in the cab. It is equipped with front and back knuckle couplers. The locomotive comes with Bachmann's DCC SoundTraxx sound package that includes steam exhaust, short and long whistles, bell, air pump, steam release, and blower in polyphonic 16-bit sound. In addition to the Santa Fe version shown, the ready-to-run steam engine will be available decorated for Southern Railway, Pennsylvania, New York Central, and Union Pacific. For additional information contact a dealer or visit bachmanntrains.com.



Bowser is accepting pre-orders through June 8, 2018 for a new production

run of 53-foot Roadrainers. Delivery is planned for late this year. Three styles of HO scale Roadrainers will be produced. Platewall Roadrainers (above) will be available decorated for Schneider, Swift, and three different Triple Crown schemes.





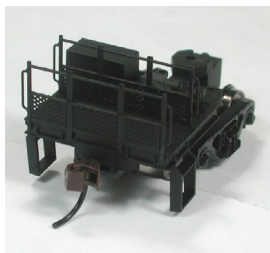
Duraplate Roadrailers will be available for Alliance-Reefer, Triple Crown

(ex-CN), and two BNSF “Ice Cold Express” schemes.

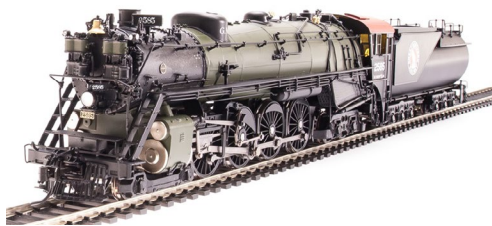


An ex-Amtrak Roadrailer with a unique side door will be decorated

for Triple Crown.



One CouplerMate is required for each string of Roadrailers. Bowser’s HO scale CouplerMate includes steps and a detailed deck. For information on all Bowser products contact a dealer or visit bowser-trains.com.



Broadway Limited Imports is selling a Great Northern class S2 4-8-4 steam locomotive decorated in the famous Glacier Park scheme. The distinctive livery included

a green boiler, oxide red cab roof, and chrome plated cylinder covers and steam chest heads. It was an impressive locomotive with 80-inch drivers, a 17,000-gallon all-welded Vanderbilt tender and dual air pumps hung on the smoke box front. One locomotive, No. 2584, has been preserved and is on display at the depot in Havre, MT. BLI’s HO scale version faithfully replicates the 14 prototypes Baldwin delivered to GN in the spring of 1930. The model is composed of a handcrafted brass superstructure mounted on a heavy die-cast chassis. It is equipped with traction tires and is available with an

open cab or with an enclosed vestibule cab. The model comes with Paragon3 sound with Rolling Thunder that functions in both DC and DCC environments. For information on all BLI products contact a dealer or visit broadway-limited.com.

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East Coast Railroads is selling a kit for a 14-panel 70-ton triple-bay coal hopper decorated for Durham & Southern.

The HO scale model follows a prototype built in the summer of 1959. The kit was produced for ECR by Bowser and includes knuckle couplers and metal wheelsets. To order visit eastcoast-railroads.com.

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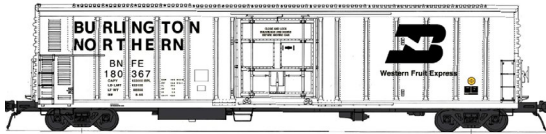


ExactRail has made another release of its Trinity 6275 plug door boxcar. The HO scale ready-to-run model features separately applied door tracks, etched stain-

less steel crossover walks, wire formed grab irons, Kadee #58 knuckle couplers, and 100-ton ASF Ride Control trucks with 36-inch machined metal wheelsets. Twelve car numbers are available in the 2004 as-delivered scheme. Also available is car number 505213 that replicates a damaged prototype that had one side repainted with TTX's new "Forward Thinking" logo. The opposite side retained the original paint scheme. For additional information visit exactrail.com.

PS: ExactRail is interested in releasing more road numbers of the Trinity-built FBOX boxcars with the “Forward Thinking” logo but needs quality photos of cars numbered 504400-504799 or 505200-505399 that have been repainted with the new logo. Photos should be sent to Chris Brimley at cbrimley@exactrail.com.

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InterMountain Railway is booking reservations for a new production run of HO scale class R-70-15

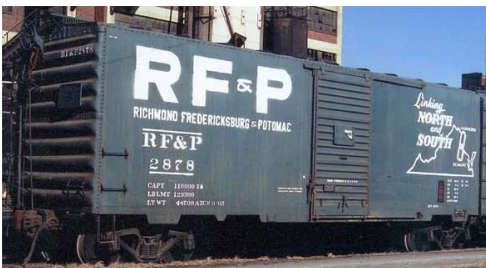
refrigerator cars. New paint schemes will be available for Milwaukee Road, Conrail, WFCX/Great Northern, Bangor & Aroostook, and a Burlington Northern car in white livery.



Popular road names that will be rerun in this release include PFE SPFE, PFE UP-SP,

and two versions of UPFE. The ready-to-run models will have appropriate trucks with metal wheelsets and Kadee knuckle couplers. For additional information contact a dealer or visit intermountain-railway.com.

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New HO scale ready-to-run models coming from **Kadee** in August include this Richmond Fredericksburg & Potomac 40-foot PS-1 boxcar. The car was built in 1952 with a 6-foot Youngstown sliding door. The prototype

received its blue paint job when it was shopped in 1965.



Also scheduled for release in August is a Delaware & Hudson 50-foot PS-1 boxcar built in 1966. Spotting

features include the 10-foot six-panel Superior sliding door, cushion underframe, and full side sill.



Kadee is working toward a November release date for a new PS-1 body style. The HO scale model is based on cars built by Pullman Standard in the late 1940s. Differences from

the later PS-1 prototype that Kadee has been issuing for the past several years include variations in the roof, bolster tabs and side sills. The six familiar indentations in the hat section of the steel ends are missing since PS didn't begin using them until 1953. Kadee's initial release of the new Pullman Standard car will be ATSF boxcar No. 276749. It was built in 1947 with a Superior 6-foot seven-panel sliding door manufactured by Chicago Railway Equipment Co. For additional information on all Kadee products contact a dealer or visit kadee.com.



KatoUSA is booking provisional pre-orders to determine the demand for a re-

run of its HO scale C&NW Bi-Level commuter cars. The model's previous release was in 2005. If sufficient interest is shown, a coach and a cab-coach with full interior details and directional head and tail lights will be produced. Delivery would be in early

2019. Kato has requested interested parties to place a reservation with a dealer as soon as possible. For additional information contact a dealer or visit katousa.com.

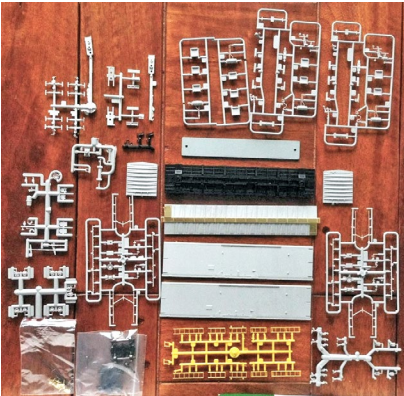
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Lonestar Models has released new HO scale kits for Wilson grain trailers. Carrier names available now are Nutrena and two versions of Cargill. The model replicates a 43-foot Pacesetter aluminum

prototype introduced by the Wilson Trailer Company of Sioux City, Iowa in 1990. The basic design continues in use today. For additional information contact a dealer or visit lonestarmodels.com.

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Moloco is making preparations to release a new production run of prototypically correct FGE 50-foot RBL boxcars. An undecorated kit (left) will be included in the release. For additional information visit molocotrains.com.

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Monster Modelworks has released the County Depot kit, based on the Fulton County Narrow Gauge Depot in Lewistown, IL. The kit includes 3D laser-engraved American Bond brick walls and corner pieces, peel-and-stick windows with glazing, laser-cut doors and freight doors, metal roofing, and multiple 3D printed



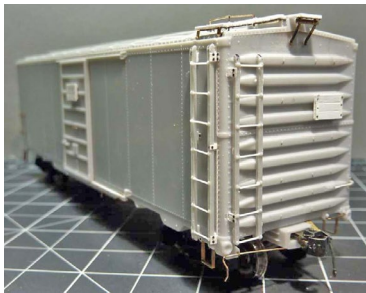
parts. The Railway Express Agency sign is also included. The building's dimensions are 3.3 x 8.25-inches. It is 5.75-inches high. For more information visit monster-modelworks.com.

PHOTO COURTESY OF MIKE SKIBBE COLLECTION



of a group of 150 identical cars delivered to CGW in 1945.

Resin Car Works is selling a mini-kit to convert an InterMountain 1937 AAR car into an accurate model of a unique Chicago Great Western boxcar. The Pullman-Standard builder's photo shows car 92000, the first



RSW's mini-kit consists of a pair of cast resin ends, a sheet of Chicago Great Western decals, and a pair of Tahoe truck side frames. The master for the proprietary P-S ends was created by Jason Kliever and printed as a 3D solid model. They were cleaned up and used to make molds to cast these

resin ends. George Toman used the mini-kit to build the model shown above. For additional information visit resincarworks.com.

Showcase Miniatures has released Val-U Fuels and Oils, the first of a series of kits to be produced together with Jason Jensen of



Jason Jensen Trains. Representing a petroleum products warehouse, the kit includes laser-cut parts, peel-and-stick windows, pewter detail castings, tab and slot construction, waterslide decals and step-by-step instructions. For more information, visit showcase-miniatures.net.

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Tangent Scale Models has completed another release of its authentically detailed HO Scale General American 4180 cu. ft .Airlslide covered hopper. Announcement of the rerun was made at the Western Prototype Modelers Meet held last month in San Bernardino, CA.



The release covers three road names including this St. Louis Southwestern (Cotton Belt) as repainted in 1976.

Note the power hand brake mounted high on the end.



This model accurately represents a prototype General American delivered to Union Pacific in 1973. The builder applied silver paint to the trucks and the body of the car with the power hand brake in the

low position.

Completing Tangent's rerun is a Southern Pacific car as repainted in 1976. During the repaint shop personnel masked some of the existing data lettering. Tangent has reproduced the resulting mix



of original and fresh 1976 stencils. Special features on the ready-to-run models include etched-metal running boards, painted wire

grab irons, separate air hoses, Kadee knuckle couplers, and appropriate trucks with machined 36-inch wheelsets. Semi-scale wheels are available separately. Tangent offers mixing of products for multiple car discounts. For additional information visit tangentscale-models.com.



Walthers next HO scale name-train project will be Union Pacific's City of Los Angeles. Ten 85-foot

passenger cars representing a typical winter consist of the flagship of UP's Domeliner fleet of the 1960s will be produced along with appropriately decorated EMD E9A and E9B diesel locomotives.

Release of the cars will be spread over a seven-month period beginning in February 2019. Unless otherwise noted, all the cars are based on ACF prototypes. The initial release will be a Dome-Coach (above) followed by a Café-Lounge in March and a 44-seat Coach in April. June releases include a Baggage car and a Baggage-Dormitory car. A Dome-Diner and a Double Bedroom Sleeper are scheduled for July. The August release will consist of a Budd 10-6 Sleeper and a Pullman-Standard 5-2-2 Sleeper (below). The ten-car train set concludes in September with the release of a Dome-Lounge.



Details noted by Walthers include authentic window tinting, stainless steel grab

irons, knuckle couplers, and correct trucks with built-in electrical pickups and metal wheelsets. Walthers suggests a minimum radius of 24 inches for trouble-free operation. An extended drawbar is included with each car for use on curves with a radius less than 24 inches.



Walthers is preparing a special run of its Proto series EMD E9A and E9B models to lead the City of Los Angeles train. The COLA E9s will be available individually as well as in A-B

sets with matching road numbers. Upgrades to the HO scale models that reflect changes made on the prototype locomotives in the 1960s include modified etched-metal Farr side grilles, working Western-Cullen rotary beacon, elevated air horn stand with Leslie S-2M and A-200 horns, twin seal-beam headlights, and nose-mounted grab irons on the engineer's side of the cab. The models will come with ESU LokSound Select for DCC or DC operation. Standard DC versions will also be available. Availability is scheduled for October 2019.



Walthers plans to release an E9A decorated as the Prelude Express next February. Power for the 1974 American Freedom Train was supplied by Union Pacific E9A number 951 painted in a patriotic red,

white and blue scheme. At the conclusion of its AFT assignment, UP kept the colorful diesel on hand for occasional promotional duties. Number 951 was thoroughly refurbished in 1984 as part of the UP's Heritage Fleet. It continues to be seen handling special

trains today. The HO scale model will have all the features of the COLA E9As.



Walthers has scheduled an August release for a Mainline series steel bay-window caboose based on a prototype built by International Car Co.

The HO scale ready-to-run model will be available decorated for New York Central, Chicago & North Western, Conrail, Milwaukee Road, Southern Railway, and Union Pacific.



This HO scale 55-foot triple-bay covered hopper represents a 4780 cu. ft. prototype introduced by Evans Rail Products

in 1977. Details on Walthers Mainline ready-to-run model include factory installed grab irons, see-through etched-metal end platforms and walkways, and separate vibrator brackets on the discharge bays. Road names include ADM-UELX (gray), ADM-UELX (yellow), Comet Rice-USLX, Farmers Coop Association-USLX (orange), Farmers Coop Association-USLX (green), and MKT. Availability is planned for October. For additional information on all Walthers products contact a dealer or visit walthers.com.



York Modelrail is selling a kit for a 20-foot Midland Railway Signal Box. The kit includes six standard laser-cut white Rowmark panels, an MDF internal structure, clear acrylic glazing strips, self-adhesive roofing tiles, steps, walkway, and railings. Detailed

instructions are included. Although this unique model is scaled to

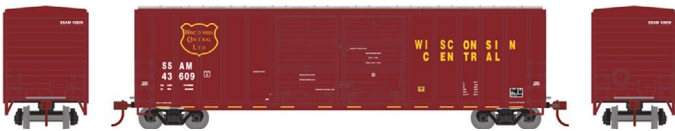
1:76 (OO) some HO modelers may find it suitable for their layout. For more information visit yorkmodelrail.com.

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N SCALE PRODUCT NEWS



Athearn's production scheduled for April 2019 includes a selection of N scale 33,900-gallon LPG tank cars. Variants include early, late, and flat panel body phases; and two styles of loading platforms. Road names will be UTLX, GATX, TEIX, PLMX, NATX, ROCX, and CBTX. Details include separately applied walkway platform, manway, outlet, ladders, brake rigging detail, safety rail supports and tank saddles; photoetched metal walkways and end platforms, and wire safety rails and end handrails. The cars will have roller bearing trucks with machined metal wheelsets.



Additional ready-to-run N scale models coming from Athearn next April include a 50-foot FMC boxcar with double Youngstown doors. The model is based on a prototype with outside posts and non-terminating ends. Road names will be Union Pacific, British Columbia Hydro Railway, Hartford & Slocomb, McCloud River Railway, Canadian Pacific (ex-Procor), and Wisconsin Central.

A new production run of triple-bay hopper cars with removable coal loads are included in Athearn's April 2019 production schedule. Cars decorated for Pittsburgh & Lake Erie, Chicago, Burlington

& Quincy; Norfolk Southern, Penn Central, Rock Island, and B&O-Chessie System will be available. The B&O cars have peaked ends. All other road names will have flat ends. The N scale ready-to-run model will ride on newly-tooled ASF Ride-Control trucks or 70-ton roller bearing trucks depending on the practice of the railroad being modeled. For additional information on all Athearn products contact a dealer or visit athearn.com.

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Bluford Shops has announced its second run of International Car Bay Window Cabooses, featuring 15 different

road names in three body styles. Road names included in this release are B&O (Chessie, above), Penn Central, P&LE, Northern Alberta Railways, Canadian National, NYC, Chicago Great Western, Green Bay & Western, Wisconsin Central (ex-GB&W), Katy, Norfolk Southern, Bessemer & Lake Erie, Burlington Northern, Kansas City Southern, and Frisco. For more information see your dealer or bluford-shops.com.

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ExactRail has made another release of its Trinity 6275 Plug Door boxcar. The N scale ready-to-run model features 100-ton ASF

Ride Control trucks with 36-inch machined metal wheelsets, and Micro-Trains #1015 couplers. Availability includes car number

505213 that replicates a damaged prototype that had one side repainted with TTX's new "Forward Thinking" logo. The opposite side retained the original paint scheme. For additional information visit exactrail.com.

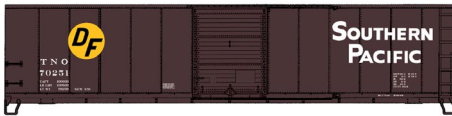
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Fox Valley Models is selling N scale models of a B&O class I-12 Wagontop Caboose. Three road numbers are available with white lettering and a 25-inch capitol herald. This

is the scheme B&O used in the 1945-1955 period. For additional information contact a dealer or visit foxvalleymodels.com.

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InterMountain has AAR 50-foot boxcars with a single Youngstown sliding door. The ready-to-run N scale model is

based on a prototype introduced in the late 1950s. This production run includes ten decorating schemes. New road names are ATSF (Shock Control), Penn Central, Detroit, Toledo & Ironton; and Texas & New Orleans (DF).



Popular road names rerun in this release with new numbers include Delaware & Hudson, Grand Trunk Western, Santa

Fe, and two versions each for CB&Q and Southern Pacific.



Additional new N scale models from InterMountain include a group of Coalporters with 14 side panels.

Road names are Burlington Northern, Canadian National, Portland General Electric-Rose, Union Pacific, American Electric Power, Kansas City Power & Light, Central Illinois Power, Somerset Railroad, Northern Indiana Public Service, BNSF, Sultran-SULX, Conrail, and Wisconsin Electric Power-WEPX. For additional information on all InterMountain products contact a dealer or visit intermountain-railway.com.

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Jackson Terminal Company is selling N scale 40-foot canvas/ open top containers with wave-style corrugations. The containers have IBC ISO corner pins and a

magnetic connecting system. Carrier names are Hapag Lloyd, Grand View Containers, Transamerica Leasing, Seaco, UASC, and Yang Ming.



A new 40-foot HC container decorated for ONE-Ocean Network Express is scheduled for release this summer. All JTC N scale containers are sold in two packs with different numbers. For additional information contact a dealer or visit: jtcmodeltrains.com.

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KatoUSA plans to release an Operation North Pole Christmas Train set this fall. Motive power for the N scale set will be provided by a Chicago Metra EMD F40PH diesel wrapped with Operation North Pole. Completing the seasonal train set are four gallery



bi-level coaches and a gallery bi-level cab coach. The set comes in special bookcase-style packaging. Kato has pledged to donate a portion of the proceeds of the train set to

Operation North Pole to support the cost of future wrappings. For additional information contact a dealer or visit katousa.com.



Micro-Trains Line has released several new N scale models including this 48-foot ribbed-side container decorated for Allied Worldwide.



To meet the demands of a peak grain season, B&O installed temporary fiberglass roofs on many of its 100-ton triple-bay open hopper cars. Dubbed a “Hopper Topper”, the lightweight roof could be easily removed and stored for future use. This unique model is available now from Micro-Trains.



Also new is a Canadian National wood sheathed cabooses. The prototype was created during World War II from an aging 34-foot

boxcar. Like the prototype, Micro-Trains N scale version rides on Bettendorf swing motion trucks.



Micro-Trains has released this 50-foot PRR boxcar to dealers. The N scale ready-to-run model represents a prototype with a pair of 8-foot Youngstown sliding

doors on each side. The car was rebuilt in the 1960s to remove its running boards and shorten the side ladders. For additional information on all Micro-Trains Line products contact a dealer or visit micro-trains.com.

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NEW DECALS, SIGNS AND FINISHING PRODUCTS



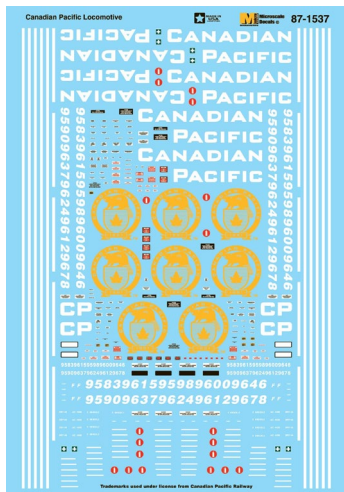
Golden West sells US-1 Super Solvent, a chemical solution for debonding or dissolving CA (cyanoacrylate instant glue). While most debonders are based on acetone, Super Solvent uses a nitroalkane formula that does not attack styrene or resin. Super Solvent is available on eBay and through selected retailer.

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RATE THIS ARTICLE





Microscale Industries has released a new water slide decal for Canadian Pacific diesel locomotives. The set includes CP's beaver herald in gold. Both N and HO scale editions are available. For additional information contact a dealer or visit microscale.com.



Smokebox Graphics sells water slide decals for HO scale non-reflective FRA 224 strips. Each package includes three sizes and three shades of yellow plus white. Detailed

instructions that outline the Federal Railroad Administration rules that mandate reflectorization of rail freight rolling stock and locomotives are included. For additional information visit smokeboxgraphics.com.



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BRIEFLY NOTED AT PRESS TIME ...

Athearn has posted a video of three N scale Norfolk Southern SD70 diesels helping Southern Pacific haul a TankTrain over Tehachapi Loop. The diesel units have just been released to dealers. The TankTrain cars are scheduled to arrive in October. The N scale scene was shot at Caboose Hobby in Lakewood CO. Check it out at www.facebook.com/AthearnModelTrains/videos/10155857258750041.

Atlas reports that the cab and nose arrangement on a recent run of HO scale Norfolk Southern Dash 8-40CW locomotive No. 8408 is incorrect. If you have one of the affected models and want Atlas to send you a replacement cab, you will need to have the warranty card, the purchase receipt, and a copy of the box end flap. For further instructions contact Atlas at 908-687-0880 or email csdept@atlasrr.

Con-Cor has released another run of Pennsylvania Railroad MUmp54 Bride & Groom commuter train sets. Individual cars decorated for PRR, Long Island Railroad, and SEPTA are included in this new production release. Both powered and dummy cars are available. Details at www.con-cor.com/website.

White River Productions has released "2018 On30 Annual". The softbound publication devotes 116 pages to the maverick scale hatched by the late H. Lee Riley. Also new from White River is "Freight Car Handbook" by Stephen M. Priest, MMR. The book features 100 pages of freight car drawings, text, images, and data. The publications are available on line at shop.whiteriverproductions.com.

Shinohara, a major manufacturer of model railroad track popular throughout the world, is in the process of closing down. Mr. Kei-suka Shinohara, who founded the Yokohama-based business in the 1970s, is retiring. Some shortages are already being experienced by distributors and dealers in North America. In addition to selling Shinohara products, Walthers sells it's own brand of track which is custom-made by Shinohara. Walthers is reported to be negotiating with Kei-suka Shinohara to acquire relevant portions of the tooling and relocate it to China for manufacturing.

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SELECTED EVENTS



Model Railroad Hobbyist | June 2018 | #100

JUNE 2018



(Many events charge a fee. Check individual info website for details.)

AUSTRALIA, QUEENSLAND, TOOWOOMBA, June 2-3, Model Train, Craft & Hobby Expo, at Toowoomba Showgrounds, Glenvale Road. Info at admin@toowoombamodelrailwayclub.com.au.

CALIFORNIA, RICHMOND, June 16, San Francisco Bay Area Prototype Modelers Meet at St. David's School Hall, 871 Sonoma Street. Info at bayareaprototypemodelers.org.

CONNECTICUT, ENFIELD, June 1-2, 16th New England Railroad Prototype Modelers Meet, at Holiday Inn, 1 Bright Meadow Boulevard. Info at nerpm.org.

FLORIDA, TALLAHASSEE, June 23, 27th Annual Tallahassee Model Railroad Show & Sale, sponsored by Big Bend MR Association, at Buildings 2 and 4, North Florida Fairgrounds. Info at www.facebook.com/BBMRA.

ILLINOIS, GREENVILLE, June 9, American Heritage Railroad Train Show, at American Farm Heritage Museum, Interstate 70 at Illinois Route 127. Request additional info from Jim at 217-825-6230.

KANSAS, OVERLAND PARK, June 23, 15th Annual Kansas City Narrow Gauge Meet, sponsored by KC Area Narrow Gaugers, at Johnson County Library, Blue Valley Branch, 9000 West 151st Street. Advance registrations are required by June 18, 2018. Request additional info from Larry Alfred at captlalfred@gmail.com.

MARYLAND, TIMONIUM, June 9-10, The Great Scale Model Train Show, at Maryland State Fairgrounds, 2200 York Road. Info at gsmts.com.

OKLAHOMA, ENID, June 9, Trainfest 2018, at Garfield County Fairgrounds Trade Show Pavilion, 111 West Perdue Avenue. Request info from Randy Lutz 580-478-2631.

PENNSYLVANIA, STRASBURG, June 18-23, Big Train Operator Club Convention. HQ at Bird-In-Hand Family Inn (800-537-2535). Convention info at bigtrainoperator.com/40th-conv/convention-schedule.pdf.

TENNESSEE, JOHNSON CITY, June 1-2, George L. Carter Railroad Museum 10th Anniversary Celebration, at East Tennessee State University. Includes presentation by the East Tennessee & Western North Carolina Railroad Historical Society. Info at www.etsu.edu/railroad.

WISCONSIN, WAUPACA, June 16-17, 29th Strawberry Fest Model Railroad Show & Model Contest, sponsored by Waupaca Area Model Railroaders at Waupaca Recreation Center, at the intersection of School, State, and Badger Streets. Info at www.wamrltd.com.

July 2018, by location

ILLINOIS, COLLINSVILLE (Metro St. Louis), July 20-21, Railroad Prototype Modeler's Meet co-hosted by NMRA Gateway Division, John Golden, and Lonnie Bathurst, at Gateway Convention Center, One Gateway Drive. HQ at Double Tree Hotel adjacent to the convention center. Info at icg.home.mindspring.com/rpm/stlrpm.htm.



Future 2018, by location

CALIFORNIA, SAN DIEGO, September 12-16, NMRA/PSR Convention, sponsored by San Diego Division, Pacific Southwest Region at Marriott Courtyard Hotel Mission Valley, 8757 Rio San Diego Drive. Info at psrconvention.org/home/index.php.

ILLINOIS, LISLE, October 18-20, Railroad Prototype Modelers Conference Chicagoland, at Sheraton Hotel and Conference Center, 3000 Warrenville Road. Info at rpmconference.com.

INDIANA, SOUTH BEND, September 21-22, NMRA Michiana Division Education and Training Conference 2018 “Modeling like a PROtotype”, at Aloft Hotel. Info at michiana-nmra.org.

MARYLAND, ROCKVILLE, August 22-26, 50th O scale National Convention, co-sponsored by NMRA MER, Standard Gauge, Narrow Gauge, P48 and Traction modelers; at Rockville Hilton Hotel, 1750 Rockville Pike. Info at 2018oscalenational.com.

MICHIGAN, EAST LANSING, November 11. Model Railroad Show & Sale, sponsored by Lansing MR Club, at Michigan State University Pavilion, 4301 Farm Lane. Info at lmrc.org/trainshow/index.shtml.

MINNESOTA, BLOOMINGTON, September 5-8, 38th Annual National Narrow Gauge Convention at Double Tree by Hilton, 7800 Normandale Blvd. Info at nngc-2018.com.

MISSOURI, KANSAS CITY, August 5-12, 2018, NMRA National Convention and National Train Show. Host hotel is Westin Kansas City at Crown Center. Info at kc2018.org.

NEW HAMPSHIRE, CONCORD, August 19, Model Railroad Show, sponsored by Concord MR Club, at Everett Arena, Loudon Road. Request info from Rich Fifield at ehfsaf@aol.com.

NEW JERSEY, MAHWAH, September 13-16, NMRA
Northeast Region Convention at Double Tree by Hilton, 180
route 17 South. Info at erielimited.org.

Beyond 2018

UTAH, SALT LAKE CITY, July 7-13, 2019, NMRA National
Convention and National Train Show. HQ hotel is Little America
Hotel. Info at nmra2019slc.org.

MISSOURI, ST. LOUIS, July 12-18, 2020, NMRA National
Convention and National Train Show. HQ hotel is Hilton St. Louis
at the Ballpark. Info at gateway2020.org.

CALIFORNIA, SANTA CLARA, 2021, NMRA National
Convention. ■

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REVERSE RUNNING

commentary



Model Railroad Hobbyist | June 2018 | #100

JOE FUGATE PONDERES THE EVIL INVENTOR
OF THE MODEL RAILROADING HELIX ...

★★★★★
RATE THIS ARTICLE



EVER WONDER WHO
invented the model railroading
helix? I sure have.

He must have been one dastardly
character. The helix is a terrible
model railroading layout design
construct – I hate them.

Modelers new to layout design
seem fascinated with the
helix and often gleefully add
a six, eight, or even ten-tier
helix to their layout design.
Sometimes they add more
than one!

If you've ever operated on a layout that actually has one of
these beasts, then you know a helix eats trains like a black
hole. There is no other layout train running more boring than
that of running in a helix.

► **STEPPING OUTSIDE THE BOX WITH A CONTRARY VIEW**

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You can't find a good way to scenic a multi-tiered helix because it's an artificial construct with no prototype equivalent. That means a helix is always hidden trackage.

Once your train enters a helix and disappears for what seems like an eternity, you get concerned, so you inch up the throttle a bit. After what seems like another long while, you inch up the throttle again, just to be safe.

As you wait and the train still has not emerged, could it be stalled? Better give it a tad more throttle as insurance.

Finally, once the train emerges from the helix, it's going like the proverbial bat-out-of-you-know-where, thanks to all those just-to-be-safe slight throttle increases!

I built a little two-tier helix between my upper deck Siskiyou Line main and my Coos Bay Branch Line on Siskiyou Line 1. The entire visible branch line was 106 feet long.

That little helix had 42 feet of track in it, making it equal 40% of the visible branch in length! At scale speed, a train would be in this helix for two full minutes.

To feel the experience for yourself, start running a train slowly – then put your hand over your eyes for two minutes while it runs. Having fun? No peeking! Eager for the time to run out so you can watch the train run again? You bet!

And that's just a *two-tier helix*. Now imagine what a six, eight, or ten-tier helix is like. Trains take *forever* to traverse such a monster and the amount of track in one may rival the length of the entire visible route on your layout. Not exactly the best way to double the length of your mainline!

The inventor of the helix is evil, I tell you, just plain evil. I can tell you one thing: I guarantee my Siskiyou Line 2 layout will have **no** helix! ☑



DERAILMENTS



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Model Railroad Hobbyist | June 2018 | #100



Daredevil stunts on a train

Watch some daredevils turn a moving train into an extreme sports playground. They added some trampolines, bike ramps and a Russian Swing to a moving train for a day of crazy tricks and stunts. ■

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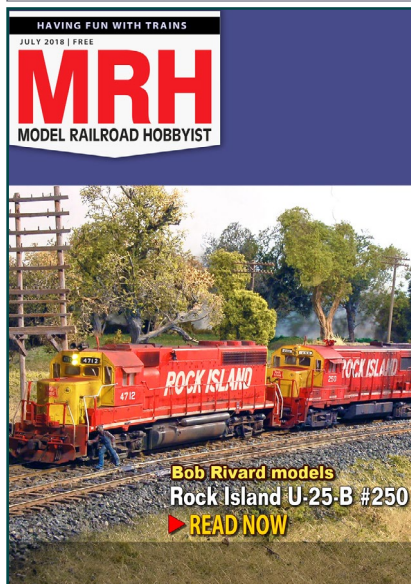
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