

Model Railroad Hobbyist magazine™

October 2013

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Modeling a GE 70-tonner



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Embedded edition - Portrait

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Model Railroad Hobbyist magazine™

Front Cover: Robert Rousseau kit bashes a unique locomotive. Follow along as he shares some of his simple yet elegant techniques for building this Norfolk Southern locomotive

ISSN 2152-7423

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Published for the glory of God. [What's this?](#)

Issue password: Oct2013

Cover and MRH masthead



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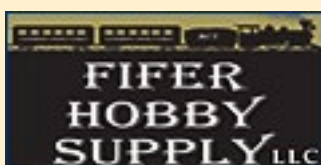
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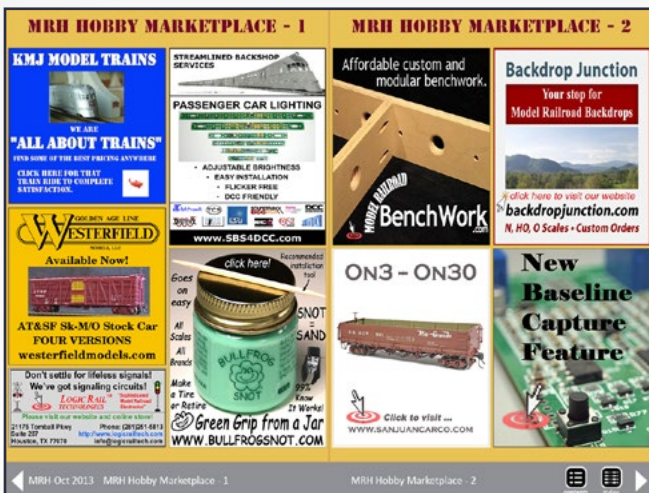
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Making a unique locomotive

by Robert Rousseau



Yes, it's a model

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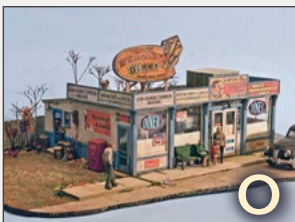
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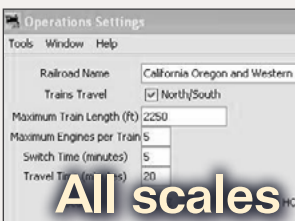
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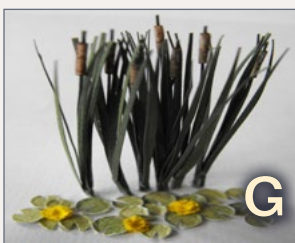
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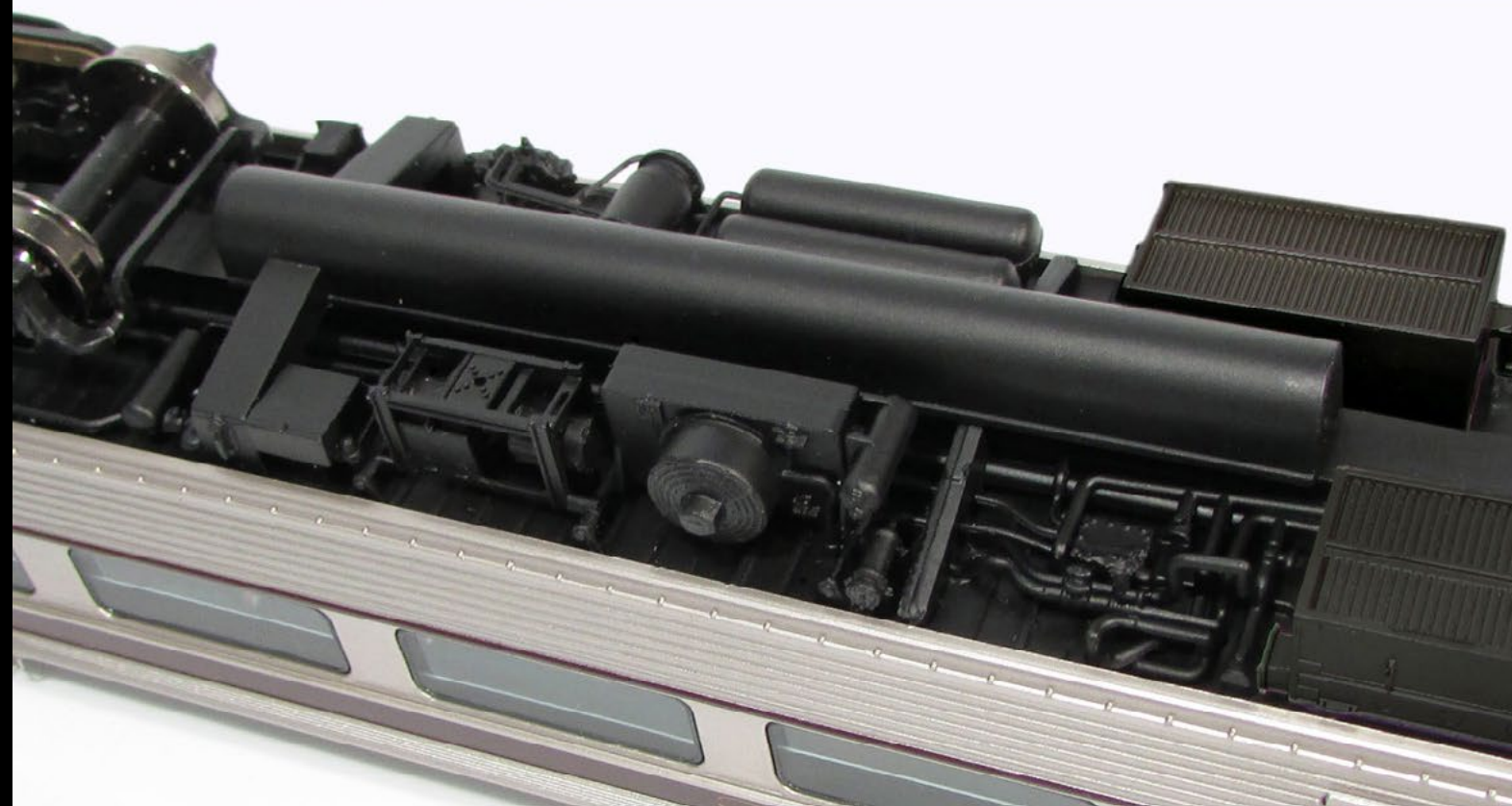
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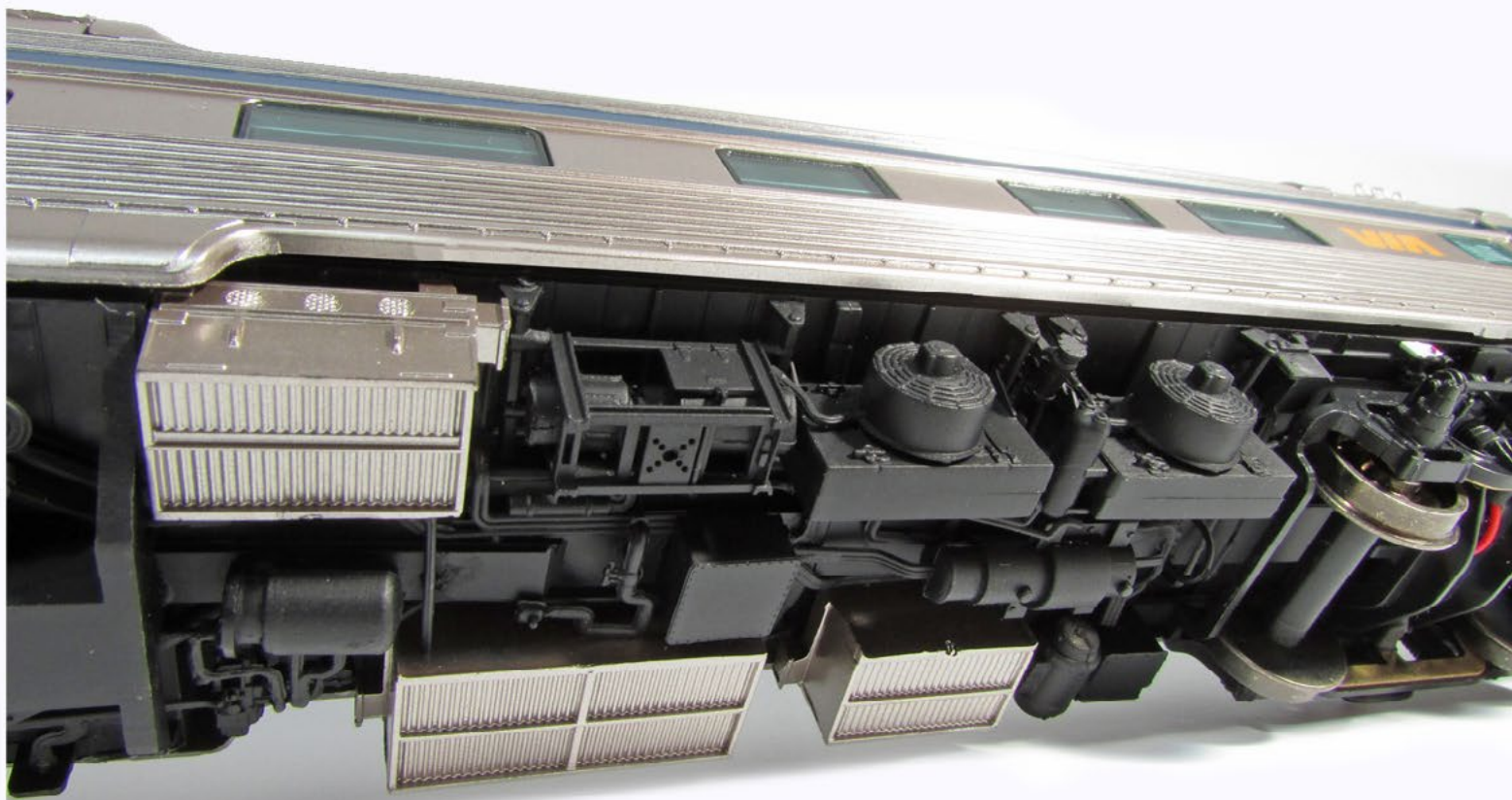
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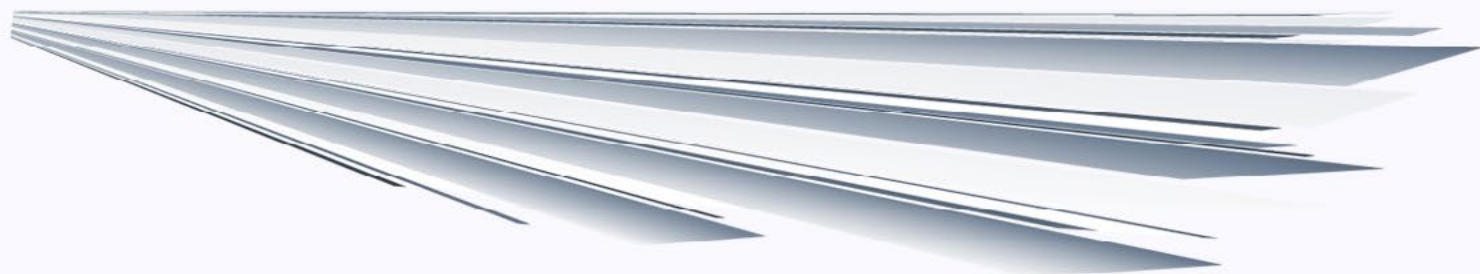
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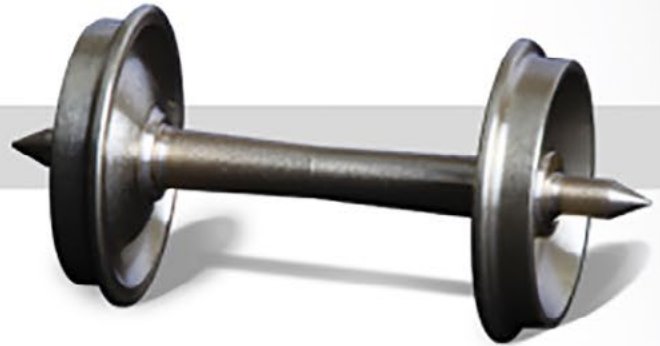
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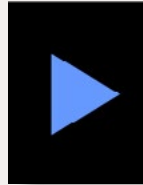
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Hobby time

How much free time do you have?



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Assistant Editor's thoughts
by *Don Hanley*



We all have our own dream layout in mind – the layout we would like to build someday. However building that dream layout often collides with three realities of life: money, space, and time. We all have an idea of what we would build if we had money and space to build our dream layout. But what about time?

Each and every one of us has 24 hours in a day. So let's break it down and see how much time we actually have for the hobby. Assuming the following are average, let's begin:

Sleeping	8 hrs
Morning time/getting ready for work	1 hr
Work commute/to and from	1 hr
Work and lunch	9 hrs
Dinner	1 hr
Daily household chores	1 hr
Total	21 hrs

So approximately 21 hours of everyone's day is taken up with normal living. If you have a family with children or

grandchildren, there are even more requirements on your time. Sports, school activities, dance, piano lessons etc. Maybe the old saying “life got in the way” isn't all that far off.

Weekends seem to be catch-up time. Time to do all of the things that we didn't have time to do during the week. Yard work, family get-togethers and just unwind. So without much effort, we have used up most of the time we have available. As human beings, we are social by nature, and relationships are important. Relationships are not built by proximity, but by time and interaction with other human beings. Anyone who has dated or is married understands this.

So how do we achieve the dream layout we want, and balance the rest of life? Part one of the equation is to understand what is important in your life. Family, friends, a roof over your head, and a warm bed to sleep in. The hobby is secondary to those; after all if you don't have a roof over your head it's hard to have a layout.

I believe that second part of the equation is that you build your dream layout in cracks of time, 10 minutes here, 20 minutes there. Over the last year (October to October) I have managed to scratchbuild a large structure for a friend's layout, build the backdrop for mine with some help, and build a couple of undecorated Tichy kits that I painted and decaled. Doesn't sound like much when you put it down on paper.

Yet I think I have accomplished a fair amount, considering that the majority of it was spent in 10-20 minute slices of time. Yes, there are some instances of two or more hours in a row, but those are really few and far in-between. The problem, as I see it, is that most hobbyists grossly under-estimate the amount of time required for a given project, and take on much larger projects than we realize (guilty as charged).

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Prices and delivery dates as shown were accurate at press time; for updates, visit walthers.com. Preproduction models and illustrations shown, some details and colors may vary. ©2013 Wm. K. Walthers, Inc.



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The Amherst Railway Society Railroad Hobby Show

Our 2014 Show will be

January 25 & 26, 2014

Save the dates!



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About The Show


Every year late in January or early in February, the Amherst Railway Society holds its Railroad Hobby Show at the Eastern States Exposition Fairgrounds (The home of The Big E) in West Springfield Massachusetts. More than 25,000 railfans and public attended the Show each of the past three years.

The event features real life railroads and scale model railroads, historical societies, travel agencies, art shows, flea market dealers, importers, manufacturers and photographers. You have to see it to believe it!



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The solution? Build your layout in cracks of time, with the understanding that it won't be built overnight. With that in mind, I go back to Joe's one module challenge, mrhpub.com/2013-05-may/land/#/151. Design your layout in such a way that you can work on it in sections. Begin with the easiest part first, even if you are an experienced modeler.

I believe you will discover a sense of accomplishment that will fuel the desire and passion to move on to the next section. You also may discover that a smaller layout can be as much fun as a large one, or that your imagination was much larger than what you really want to take on. The key is to find your sweet spot in the hobby and stick with it. It doesn't matter if you are a billionaire or a pauper, each one of us has only 24 hours in a day and not one second more. 





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HAVING FUN WITH TRAINS



N scale bliss!
Learn more in the
Jan 2012 MRH
(back issue)

Read this issue



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MRH's second annual

Start the hobby for \$500 contest



- You have a \$500 total budget.
- Assume basic tools: hammer, saw, drill, screwdriver, scissors, single-edged razor blades, soldering iron.
- Assume advanced tools like a table saw, router, or lathe are NOT available.
- Must design an operating layout or module (continuous running optional).
- Include a shopping list not exceeding \$500 - must cover benchwork, roadbed, track, wiring, control system, rolling stock, locos, structures, and scenery.
- Common items listed for sale on the web like eBay or Yahoo train yard sale okay.
- Thinking outside the box encouraged.

DEADLINE: November 30, 2013

Winners get get paid for their article when published plus they get a special bonus!

Submit entry
(select Contest)



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Notes from the **MRH STAFF**

TrainMasters TV grand opening, MRH copyright, Finding freight car trucks, Fighting dirty track, and more ...



TrainMasters TV grand opening November 11

TrainMasters TV's grand opening is this November 11th!

TrainMasters TV is our new ad-free Internet vidcast for model railroading.



Since we're making TrainMasters ad-free, there is a monthly subscription fee, but it's very affordable. If you do Netflix streaming movies over the Internet, then this is a bit like Netflix for model trains, although cheaper.

If you want to get a sneak peak, drop by in late October to see how things are shaping up: TrainMasters.tv.

What makes TrainMasters TV different, you ask? For one thing, our passion is model railroading and helping you do the hobby well.

You'll find TMTV has several dozen hours of entertaining and informative videos to help you improve your modeling skills

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September 2013 MRH Ratings

The five top-rated articles in the [September 2013](#) issue of MRH are:

- 4.7 Getting Real: Pacific Fruit Express, part 1
- 4.5 DCC Impulses: Lighting your rolling stock
- 4.5 Yes, it's a model
- 4.5 MRH Exclusive: Narrow gauge convention report
- 4.4 Refurbish a Walther's Pullman Coach
- Issue overall: 4.6

Tell us you want more (or less) by rating the articles!

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and to build a better layout, and we're adding new content every month.

And it all comes to you for less than the price of a sandwich, each and every month!

You can sign up for a single month for \$5.99, or for a year at a time for \$55. For the first couple months, we're offering a charter member annual subscription special for \$44 – or if you'd like to lock that special rate in for two years, you can subscribe for \$88.

What makes TrainMasters TV different?

You have multiple choices of video resources you can tap for model railroading, so how is TrainMasters TV different?

We don't give you a fish, we teach you to fish

We take you to new levels of understanding and innovation in the hobby, not just give you well-worn answers on the same old beginner topics. Instead of showing you a few simple methods to mimic, we teach you how to think and model like a hobby expert.

You literally get to apprentice with a broad array of hobby experts we bring on camera, furthering your own hobby journey toward becoming a better modeler.

We're about the hobby at-large, it's not just an MRH marketing tool

We do not subject you to a constant barrage of MRH marketing messages in our videos – in fact you will find the MRH staff aren't even on camera that much.

TrainMasters is not the "MRH show" but rather a refreshing fountain of knowledge and expertise from the movers and shakers in the hobby. Since TrainMasters is not ad-funded, it

has no in-your-face ads or blatant hobby vendor infomercials. TrainMasters is about giving you real answers, not marketing hype.

It's the HOBBYIST that makes the hobby fun, not just the models

Models don't have fun, it's the modelers who have the fun! Model Railroad Hobbyist has always been about the hobbyists and how they do the hobby well – and TrainMasters is no different.

One of model railroading's unique appeals is that train models do interesting things and they MOVE. As a video medium, we show you the models in action, and we help you get inside the hobbyist to see what makes them tick. TrainMasters TV aims to make the hobby more entertaining, more fun, and ultimately, more satisfying.

We do professional, network-quality video production

TrainMasters TV goes all-out to produce the best quality high definition video and audio possible. Our Executive Producer,

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Barry Silverthorn, has a background in network and PBS Television production and he works to make our videos look and sound like what you'd expect from the pros.

We have professional studio sets as well as go on-location, and we take advantage of multiple cameras and the best camera angles to make sure you don't miss any of the action.

We believe you will clearly see the difference – TrainMasters is not just YouTube on steroids.

The MRH copyright and how it works

Model Railroad Hobbyist purchases first time global publication rights to manuscripts, images, video recordings, and audio recordings using a [creative commons license](#).

Under this license, you are free to distribute the work as long as the distribution vehicle remains free, and as long as you always provide a link back to this web site. You may not freely distribute this work if you fail to provide the URL of this site with the work.

You *may not* use any MRH magazine content in a commercial publication that costs money without our permission.

Attention Authors!

When sending your article to us for consideration, please include a photo of yourself along with a brief bio of a couple paragraphs.

Doing this helps our editorial staff a lot. There have been instances where no photo or bio was sent with the manuscript and we have been unable to get a reply to our request in time to meet a desired publication deadline, so we have to lay the article aside.

If you want to increase the chances of having your article published, then include your bio information and “mug shot” photo along with your submission!

Finding model freight car trucks

Back in the May issue, we published a popular article by Richard Hendrickson on Freight Car Trucks, 1900-1960. Richard Hendrickson sent us this note:

“I recently revised my HO scale freight car truck file on Google Docs. Unfortunately, the revised file now requires a different address. MRH has set up a permalink to this new location:

mrhmag.com/url/ho-model-freight-trucks

“Please get this new address out to the prototype modeling community. Thanks to MRH for providing a permlink to my Google Docs file.

October 2013

Subscriber-only bonus extras!

Available to subscribers for free!

DVD and HD quality versions of the videos in this issue, plus:

- **Fully zoomable trackplan of Jim Ferguson’s GN Railway layout**

Click here to access



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“As I update this information, if the location ever changes again, I will notify MRH and they will keep the above link permanently pointing to this information, wherever it happens to reside.”

Dirty track and how to fight it

There are some good threads on the MRH website about how to fight dirty track.

No-Ox has received a lot of good press lately, enough so some of the MRH staff are going to give it a try. To read the thread on our website about it, see:

mrhmag.com/node/7169 (No-ox discussion)

There's also a recent thread on using Goo Gone to clean track:

mrhmag.com/node/15360 (using Goo Gone)

There are also a number of general track cleaning threads:

mrhmag.com/node/2726 (Dirty wheels, again)

mrhmag.com/node/14659 (Dirty track, DC vs DCC)

mrhmag.com/node/6725 (Keep alive as dirty track solution)

There's more coming on how to sidestep the issue entirely: namely battery power. MRH has some threads about that as well:

mrhmag.com/node/2292 (General discussion of battery power)

mrhmag.com/node/10434 (Full-sized battery powered locos)

mrhmag.com/node/7056 (Preview Dead Rail Society system)

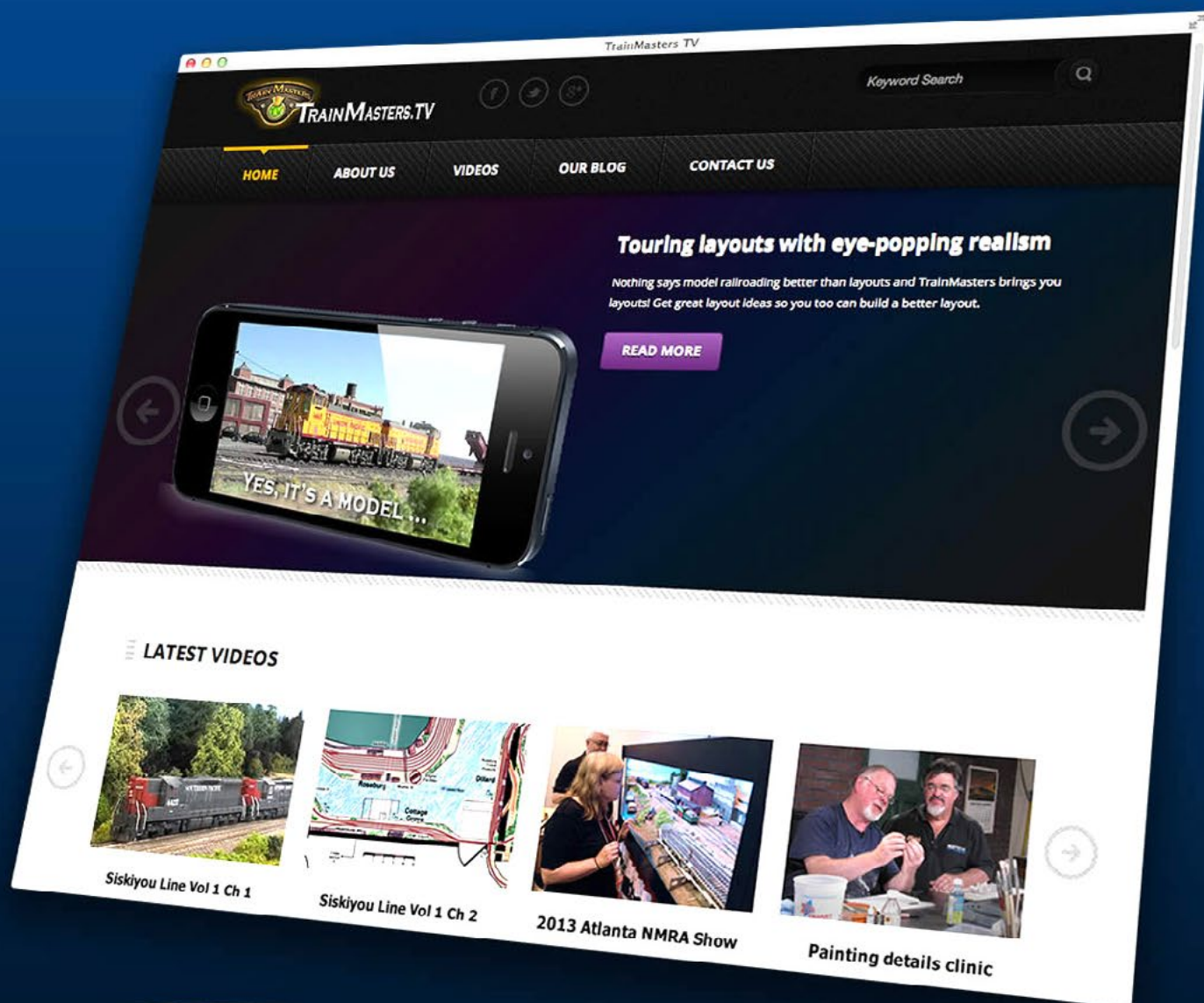
So go check out some of these threads if you'd like to know more about how to keep your track clean - or how you can stop worrying about dirty track completely!

Our policy regarding photos in 'Yes, it's a Model'

The MRH staff pulls many of the photos used in “Yes, it's a Model” from those posted on the MRH website, especially those posted in the Weekly Photo Fun thread.

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(\$3.67 / month)



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While we try to contact everyone when we intend to publish their photo, and will continue to do so, there have been instances where we have been unable to get a timely response to meet publication deadlines. MRH will consider photos published on the Weekly Photo Fun thread as consent to be used in our “Yes, it’s a Model” magazine feature.

All subscribers whose photos we use in the magazine will be paid for the use of the photo.

If you don’t want your photo to maybe end up in MRH, then don’t post it on the World Wide Web. It is already, World Wide, you know once you post it on the Internet, so we assume you realize that.

For that reason, we’re assuming that highlighting your photo by featuring it in the magazine isn’t that much more “exposure” than you’re already getting by putting it on a website that anyone can view.

Our Fifth Anniversary issue

The January 2014 issue will be our fifth anniversary issue and we’ve got some fun things planned for it. Wow, five years already. Can you believe it?

In this issue ...

Robert Rousseau shows us how to detail a unique locomotive for the Norfolk Southern. We also have an interview with Jim Ferguson and photos of his Great Northern Railroad located in Vermont. Check out this world-class layout.

Mike Tylick continues with part two of building a laser kit with tips for modify and detailing it. Dennis Drury details how to

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use JMRI for car routing, of all things, a feature that many of us were not aware of.

As for our columns this month, Charlie Comstock is back with “Up The Creek”, showing us all about installing a train order semaphore. Bruce Petrarca interviews Nancy and Steve of SoundTraxx.

Tony Thompson continues with the second part of his popular Pacific Fruit Express piece. Finally, we have Ken Patterson’s Whats Neat This Week on another modelers’ fabulous work and Jack Burgess brings us more about drafting tools.

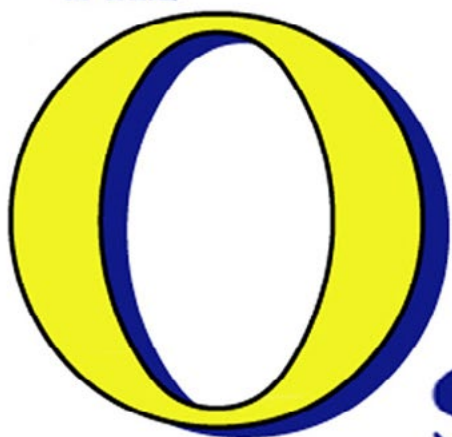
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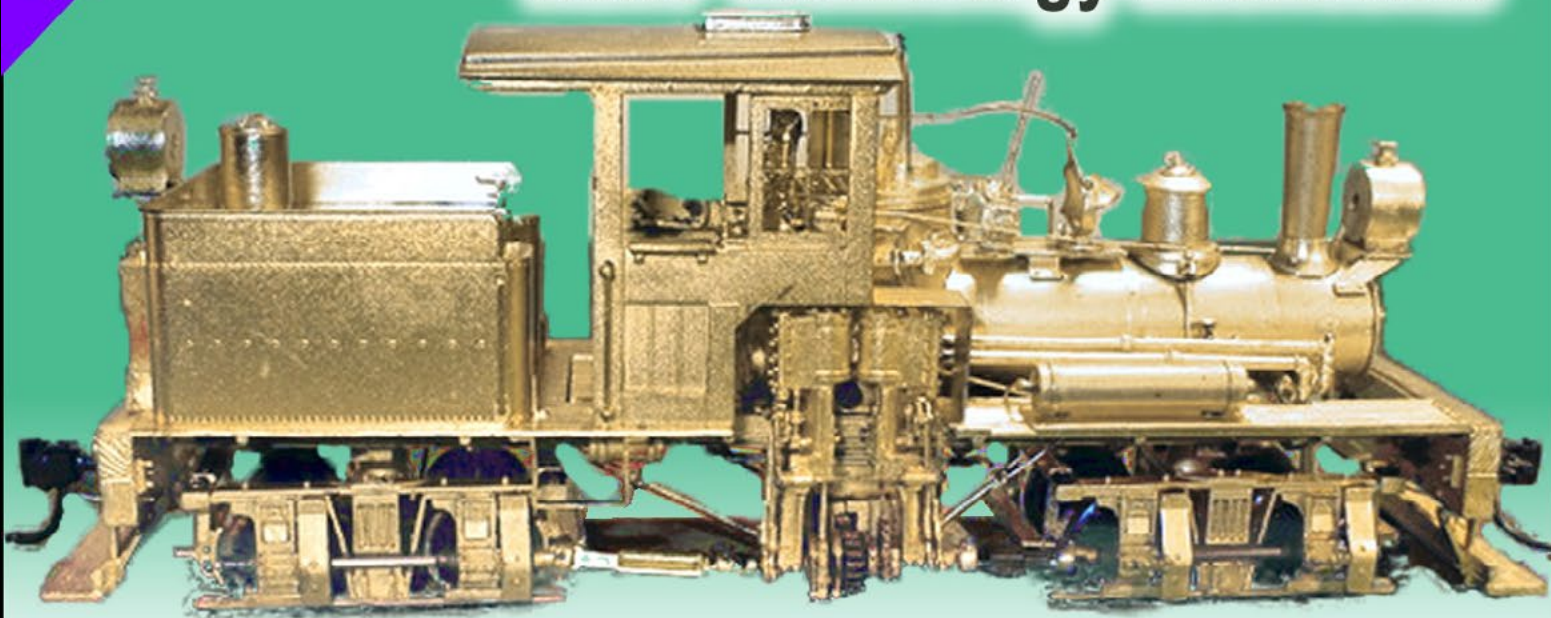
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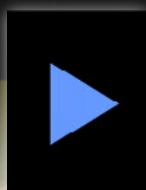
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QUESTIONS AND ANSWERS

McCloud RR all-door colors

Q. I'm looking to paint and decal some custom boxcars I'm building. Can someone point me to the right color or color combination of model paints? I prefer Scalecoat II, but will use whatever works. The kind of car I'm working on is a rebuilt former all-door car which is nothing like the plate B Atlas car. The era my car will be painted for is early 1980s when the car had fresh paint, which looked much darker than it eventually faded out to be in the late '90s.

– Mike Lozensky

A. “Stottman” suggests a dark “roof brown” as a close match, and posted a sample photo (1) of a McCloud River box car.

Rick Uhlenkott adds: “The all-door cars were not box cars, but fully enclosed bulkhead flat cars. They fell out of favor with

shippers after deregulation allowed railroads more latitude in setting fees. To achieve the full enclosure but still have the whole length of of the car accessible, they had a massive beam/roof structure to hold up not only the roof, but support the doors as well (the doors hung from the roof since there was no side wall).

“The beefier structure added so much extra weight that the cars were expensive for the railroads to handle. Before deregulation, the roads were constrained to the official fee schedule and could not recoup the extra cost. After deregulation, the fees charged to move these cars shot up to reflect the actual cost and most shippers decided that was too much.”

Railroad researchers can find photos at: rrpicturearchives.net and many more photos of MR box cars are at: rrpicturearchives.net/rsList.aspx?id=MR&cid=2.

– MRH



1: A McCloud River Railroad boxcar shows the company's white and brown scheme, well-faded in this case. **'Stottman' photo.**



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Micro Kristal Klear

Q. The article about building an Athearn GP40-2, from the September 2012 magazine, mentioned using Micro Kristal Klear to create cab windows. My question, is does anyone know how to use Krystal Klear for cab windows when kitbashing an model locomotive?

– SD40dash2fan

A. Microscale Micro Kristal Klear (2a & 2b) is good for making windows in small openings, can fill gaps, and is very good for gluing clear parts in place. It dries clear and can be tinted with food coloring to make colored lenses. For a larger opening like a diesel locomotive windshield, you will have to experiment and see if it meets your standards.

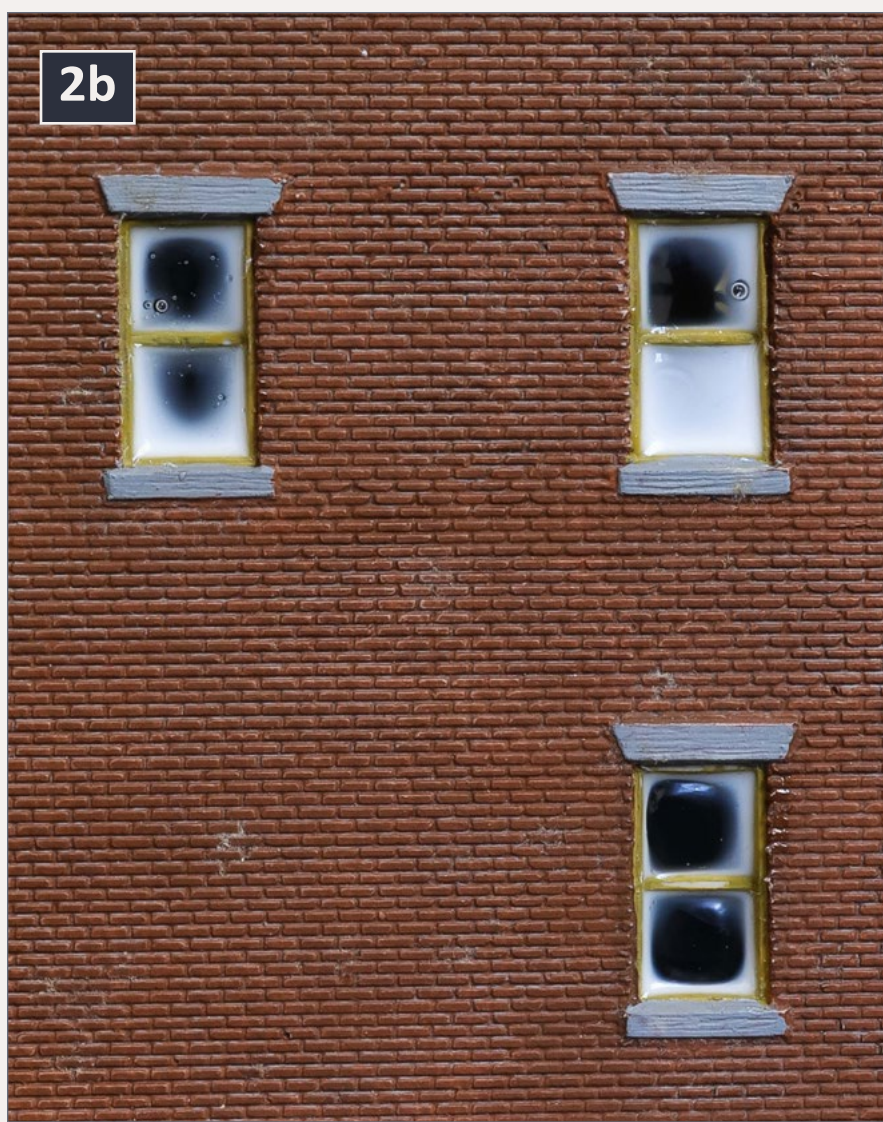
Kristal Klear is very good at gluing dissimilar materials together, like fixing brass details to a styrene plastic body.



It works fairly well making windows up to about 1/4" in size, but the "glass" will be slightly thicker at the edges than in the center. It's handy for putting flush glazing into multi-paned structure windows, and for filling in the sight glasses on the long hood of EMD Dash Two locomotives.

To make small windows, dip a flat toothpick in the cloudy liquid and draw it all around the edges of the opening. Then, hold the flat of the toothpick parallel to

2a: Kristal Klear is sold by Microscale, the decal people, and has several modeling uses.



2b: The three stages of Kristal Klear. These window panes are 1/4" square. Top left is the first attempt. Top right has too much material applied, and both attempts show trapped air bubbles. The third try, at bottom right, has cured for about 2½ hours, and will eventually be clear.

the edge of the frame and draw it across from one side to the other. It gives you a fair amount of working time. Kristal Klear can be washed off while it remains cloudy. When it sets up, it will be clear, and will not yellow over time.

Making the windows takes a bit of practice, so don't expect the first try to be perfect. Some openings are just a bit too large for the liquid film to stretch. The more material you get in there, the longer it will take to set up and turn clear. A tool wider than the standard toothpick can help.

At \$4 for a small bottle, it's not a big risk to try out.

An alternative technique for bigger openings is to save flat pieces of the thin clear plastic that is everywhere in packaging,



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and cut it to fit inside the window openings. Krystal Klear is perfect for holding it in place.

Find the original GP40-2 article at:

mrhmag.com/magazine/mrh-2012-09-sep/frisco-gp40-2.

– MRH

Helpers and DPUs

Q. Last month you talked about helper engines and then showed a picture of a distributed power unit (DPU). What's the difference?

A. Let me refer to my Union Pacific knowledge because names and practices are different from one railroad to another, and from one era to another.

A helper unit has its own crew and is added to assist a train for a short distance – say from La Grande up to Kamela on the UP's Blue Mountain grades in eastern Oregon.

At La Grande, a westbound freight needing help would stop. The caboose or rear-end monitor would be removed, the helper would couple to the last car on the train, and the protection would be added behind the helper. At the top of the hill, the process would be reversed, with the helper cutting off and the train being reassembled for the downhill trip to Pendleton. The helper would head back east to La Grande, and might help two or three trains in a shift. The same scenario played out on any number of railroads.

A DPU lets a train tackle tough grades but also offers other advantages for flatland railroading. Instead of having its own crew, a DPU is controlled electronically from the cab of the lead engine on the train. Instead of being cut in at the base of a hill, it may run the length of a division or more. In the UP's case

in the Blues, a westbound DPU could be in the train from the crew change point at Nampa, Idaho, all the way to Hinkle, Ore. It could even be added farther east, near Pocatello, Idaho, to help cope with adverse grades near Hammett and Glenns Ferry in Idaho.

Having locomotives running at the same speed but distributed throughout the train reduces the physical forces working on the cars and coupler drawbars. In effect, fewer cars are being pushed and pulled by each set of locomotives. Having locomotives mid-train, at the tail end, or both, also reduces the amount of time needed to set and release brakes because cars will be closer to the engine-borne compressors that maintain the train line. UP cites a four to six percent fuel saving in trains with power arranged as DPUs.

– MRH, UPRR.com



TIPS

Paint bottle labels

Have you run into a problem with printed information rubbing off your paint bottles? Useful information like the paint color's name and stock number?

Some manufacturers are now using a stock label with the basic information preprinted. When the bottle is filled, it is labeled using an ink that smears or rubs off after the first use or two.



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What I do is an easy way to preserve the information a little longer. The first thing I do when I purchase a bottle of paint is to date the bottle, then wrap clear carton or shipping tape around the entire bottle. I use a utility knife to trim away the excess. This protects the needed information during many uses.

– Andrew Hauser


Bonus tip: When you open a new bottle of paint, use a brush to put a dot of the paint on the lid. This makes it easy to find a color without reading the label.



- 3a: Label lettering can rub off on some recent runs of Floquil and PollyScale, leaving a modeler wondering exactly what shade of black or orange is in that bottle.
- 3b: Preserve the lettering on paint labels by wrapping the bottle with clear packaging tape. Trim the excess with a sharp knife. **Andrew Hauser photos.**



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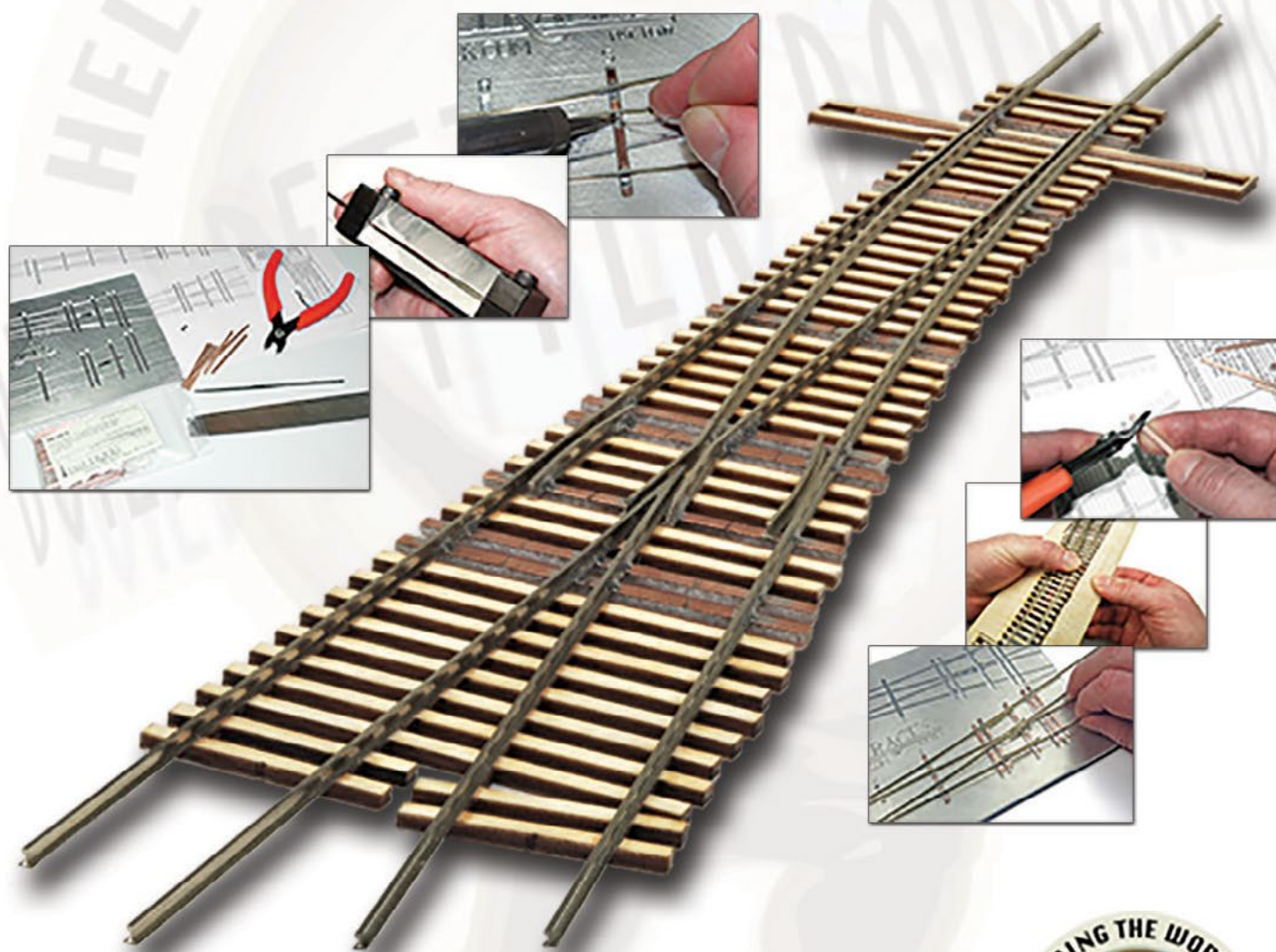
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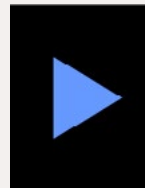




Oakhill gets a train order semaphore!

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

Up the Creek column
by Charlie Comstock



**Reader
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Moving to TT&TO operation ...

For a while now I've had a hankering to use time tables and train orders to control train movement during op sessions on my Bear Creek and South Jackson layout. There always

1. The new train order semaphore at Oakhill on the author's BC&SJ layout.



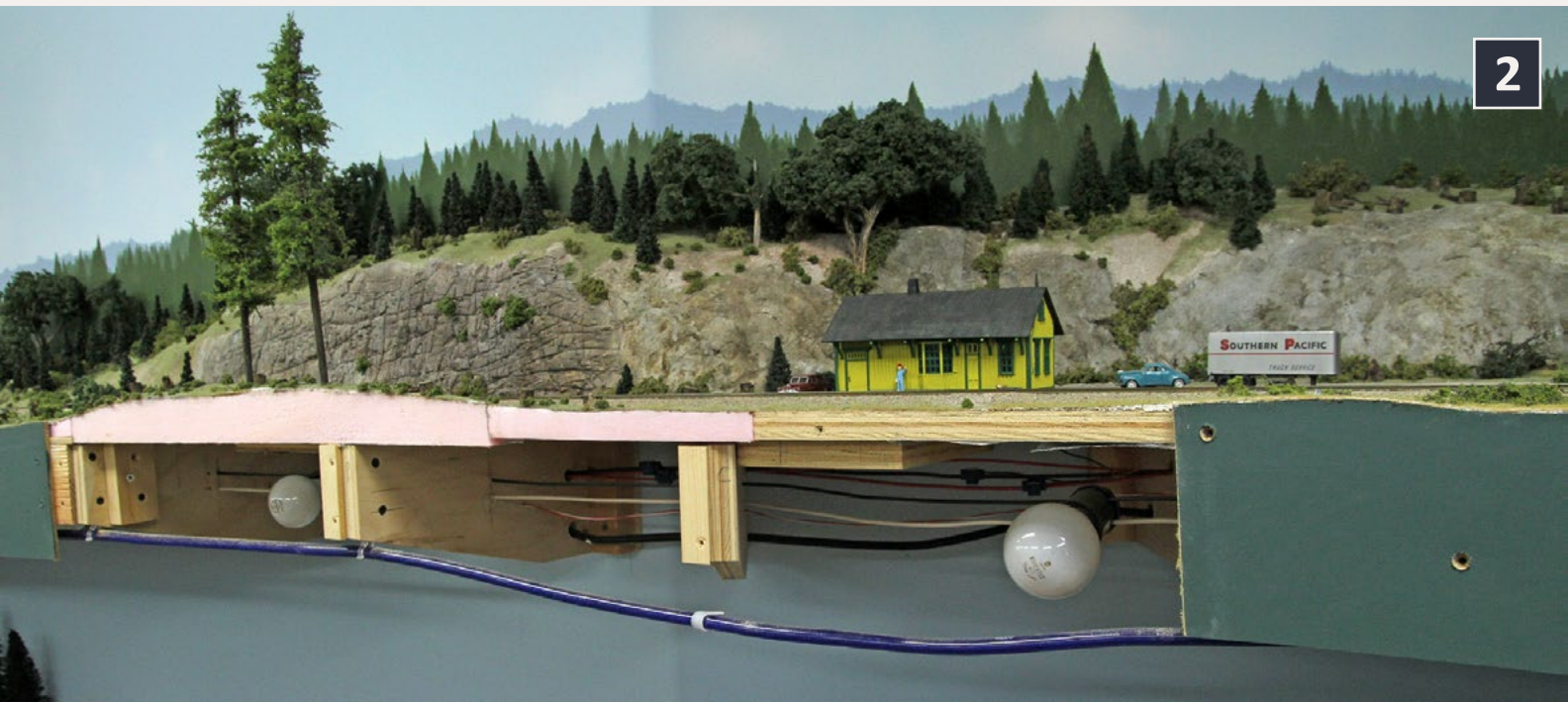
seemed to be a reason to put off this change, however, during the recent PNR regional convention in Boise I had the opportunity to rub elbows with Seth Neumann and Jim Providenza and they set about evangelizing me into the TT&TO faith.

Train order signals

When a dispatcher needs to modify a time table or create an extra train outside of the time table, he dictates train orders to the operator at one or more train order stations. If the train orders are for a train originating at that station, the crew picks up the orders (and a clearance card) from the operator before leaving. But, if the dispatcher needs to modify the authority of a train that's already on the high iron, how do the train orders get to the crew?

The answer is train order signals. The operator sets the appropriate signal (east or west) to red or yellow to tell approaching trains there are orders for them. If the train order signal is set to red, the train stops and the conductor and engineer climb down, go to

2: The Oakhill depot is the future home for a lower quadrant train order semaphore. I cut away the fascia to access the space for the servos beneath the roadbed.



the operator's office, and they sign for the orders. If the train order signal is set to yellow, the operator goes out to the station platform and hoops up the orders to the crew as they pass by without stopping.

Did you get that? Train order signals tell trains where to look to get train orders. Most recently, train order signals used lamps. But for my 1952 era I wanted to use train order semaphores. With the SP influence on the BC&SJ, lower quadrant train order semaphores seemed like just the thing for me.

I searched the Internet and found that Tomar sells lower quadrant train orders and placed an order at my LHS, [Mainline Trains](#). I also needed a means to operate them and selected the Dual 3-Way servo controller from Tam Valley.

With the semaphore and controller on their way, a visit to a local R/C aircraft hobby shop netted me a pair of HiTech HS-55 servos.



3: A Tomar lower quadrant train order semaphore.



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4: Drilling the mounting hole for the train order semaphore.

Installation

Per Tomar's instructions I started installation by drilling a 1/4" hole between the Oakhill main and siding, being careful to deburr the edges of the hole. The semaphore post and control wires pass through this hole so any splinters can become a problem for smooth semaphore operation (4).

5



There was a splice plate under the Oakhill roadbed below the semaphore location. Luckily I could mount the servos completely on the splice plate so it wasn't a huge problem.

I checked the semaphore against the hole to ensure it fit and the control wires didn't bind before proceeding (5).

5: Test fitting the semaphore in the mounting hole. Note the control wires and the tiny power leads for the LED at the top of the mast.



6: Scraping away ballast near the hole to make room for the semaphore's base.

Because the track was already ballasted where the semaphore would be installed, I used a steel scraper to remove enough ballast to make a flat mounting surface for the semaphore base (6). After scraping, I test fit the semaphore to be

sure its base would fit. I also wanted to be sure there was adequate clearance between the semaphore and passing railroad equipment (7).



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7: Test fitting the semaphore's base. Does it rest level with no ballast chunks below?



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Why TT&TO operation?

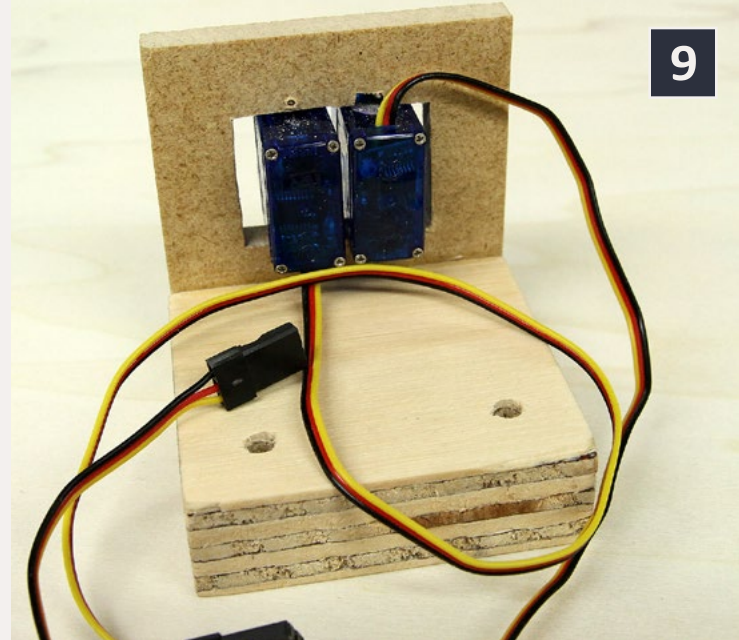
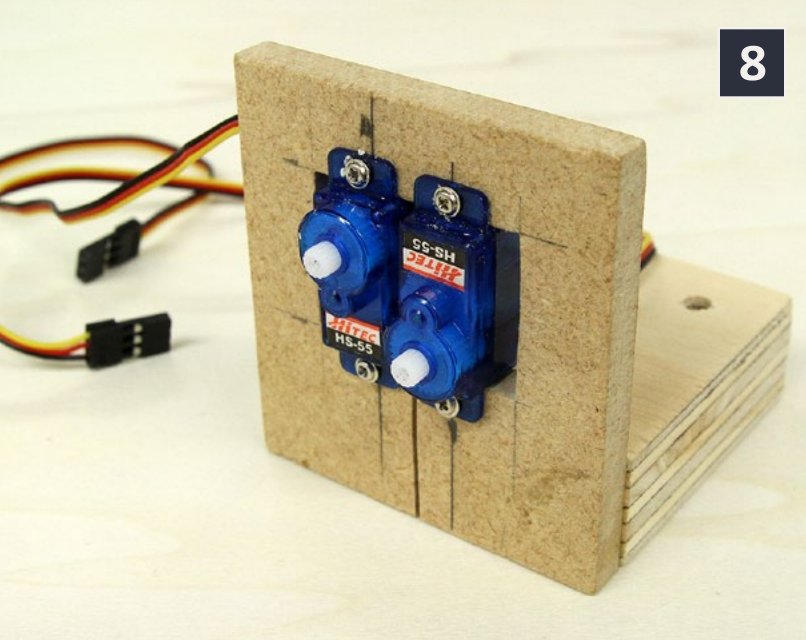
I bought a copy of the Opsig's (opsig.org) new book, "19 East, Copy Three", and began refreshing my knowledge of running trains on a dark railroad before reliable radio communications. It turns out that co-author and former NP dispatcher Dave Sprau lives less than an hour away from me! With trepidation I contacted him and asked if he'd be interested in training the BC&SJ's motley crew in the art of TT&TO operation. I was amazed – the answer was yes! The BC&SJ was heading for TT&TO control.

I already had much of the paperwork (clearance cards, train order forms, dispatcher log books, train sheets, and employee time table) needed for TT&TO from a previous fling with it in 2005. Most were usable or a few updates away from being usable. We had a great training session with Dave and I scheduled the first regular op session using TT&TO.

You may be wondering why I would abandon TWC (track warrants) which has been used on the BC&SJ since 2004. Track warrants were great, but for me there were three major issues:

- The BC&SJ is set in 1952 and TWC wasn't feasible until around 1980 when radio communications worked everywhere.
- My crews often spend a lot of time waiting for a hole in the radio chatter before they can call the dispatcher, and sometimes the dispatcher is too busy to promptly dictate a new warrant.
- Radios, especially those without headsets, create a lot of distracting noise in the train room. Often there aren't enough radios to go around.

A crew using TT&TO makes their own decisions based on the time table and their train orders and doesn't need direct contact with the dispatcher. Of course, if things go wrong, the dispatcher may need to write a flurry of train orders to fix things, but I hope that will be the exception rather than the rule. ■



8 and 9: I made a bracket to hold the servos from scraps of plywood and fiberboard. It's important that the servos are held securely in place. If they move around it will be impossible to make the semaphore blades operate consistently.

Remember the 1/4" hole for the semaphore? The two control wires are parallel but slightly less than 1/4" apart. The servo pivot arms must be close to each other. I staggered the servos to facilitate this while keeping each pivot arm clear of the other.

[**← back to previous page of text ...**](#)

I made an L-shaped bracket for the servos from scraps I had on hand (8 and 9). The bracket needs to hold the servos securely and provide a sturdy mounting point below the layout (note the two mounting holes in the 3/4" plywood base).

Installing the semaphore

The Tomar instructions say to either glue or spike the semaphore in place pressing only on the base (to avoid damage to the delicate ladder, blades, and mechanism). I chose to use spikes so I'd be able to remove the semaphore if I screwed up the mounting (10).



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10: I mounted the semaphore by holding it in place and tracing its outline with a sharp pencil. With the semaphore removed again I drilled tiny pilot holes for Micro Engineering small spikes.

I reinstalled the semaphore, double checked its alignment and added six spikes spaced around its base. These appear to hold it very securely.

The photo shows the spikes before they were driven home.

Installing the servos

Installing the servo module – bracket and two servos – is primarily a matter of getting things well aligned. The first things to position are the semaphore blades – they should be at the yellow position, about halfway between the low (green) and high (red) positions.

The next thing to align is the servo bracket. Position it so the two semaphore control wires drop down between the two servos and just behind the rear surface of the servo control arms (11).

Connecting the servos and semaphore

I removed the servo control arms from the servos and drilled them with a #77 bit (.018") which was a couple thousandths larger than the semaphore control wires. The control wires will pass through these holes and slop needs to be minimized.

Semaphore control wires

LED power leads

Screws secure the module to roadbed

Servo module is located such that the control wires pass closely behind the control arms.

Servo control arm

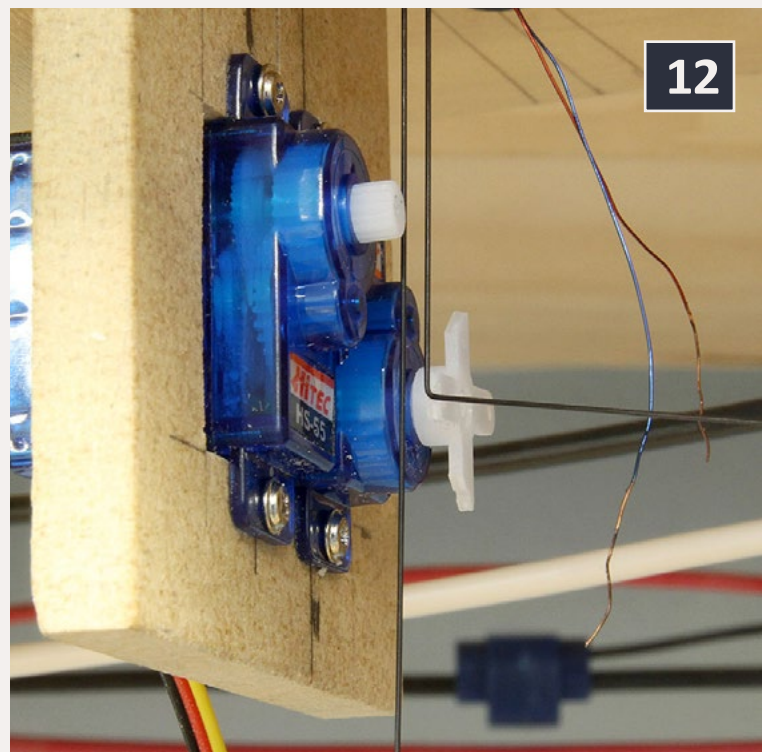
11: The servo module, aligned below the train order semaphore and screwed in place.

12: A semaphore control wire bent to pass through a servo control arm hole.

I fit the newly drilled servo control arms back on the servos and put a 90° bend in the semaphore control wires where they will pass through the control arms (12).

The final step is threading the semaphore control wires through the servo control

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Lower quadrant semaphores

The train order signals I'm using have two semaphore blades and illuminated red, yellow, and green aspects. These are lower quadrant semaphores. That means that when a blade is fully down (the vertical position) it is displaying the green aspect. When the blade is fully raised (the horizontal position) it is displaying a red aspect. When the blade is at a 45° angle pointing down it is displaying a yellow aspect.

A red train order signal tells a train crew that Form 31 train order(s) are waiting and they must stop and sign for receipt of the new orders before they proceeding. A yellow aspect tells a train crew that Form 19 train order(s) are waiting and they should expect to find the operator out on the station platform, ready to "hoop up" the orders to them as they pass. Needless to say, crews preferred Form 19 orders so they could grab 'em without stopping. ■

red aspect



yellow aspect



green aspect





13



14

13: Threading the servo control arm onto the bent semaphore control wire.

14: The threaded servo control arm on the servo, ready to be secured with its mounting screw.

[**← back to previous page of text ...**](#)

arms (13), then installing the control arms back on the servos (14). Once both semaphore control wires are connected it's time to install the servo driver electronics.

Servo driver electronics

I chose to use [Tam Valley Depot](#) Dual 3-Way servo drivers to operate my semaphores. Each of these boards controls two servos, ideal for my double-blade train order semaphores.

I needed to run my DC accessory power bus into Oakhill to reach the servos. I mounted the Dual 3-Way controller on the insulating standoffs that came with it and connected power wiring and the servo control wiring harnesses to it.



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The Dual 3-Way controllers come from the factory programmed for minimum semaphore movement. The servos may be small, but they are quite powerful. Having the default servo positions for red, yellow, and green aspects close to the center of travel helps avoid damaging delicate semaphore blade assemblies by attempting to operate them beyond their limits.

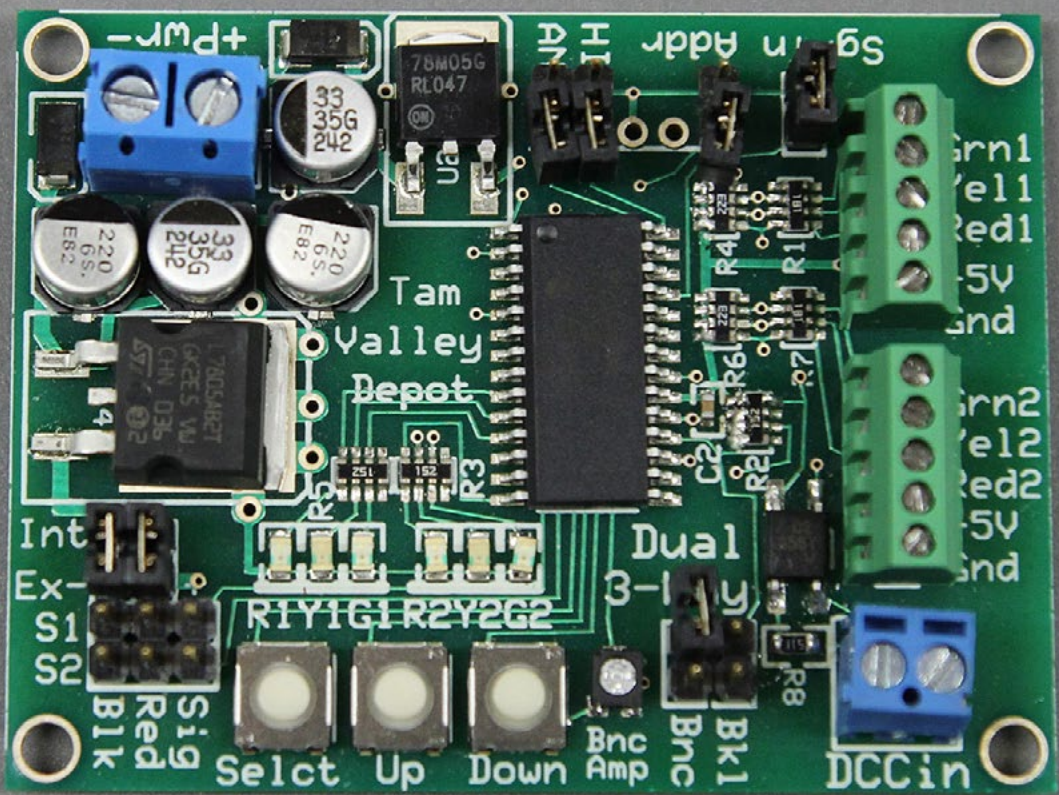
The select, up, and down push buttons on the servo controller are used to program how far the controller should move the servos (and semaphore blades). This allows for relatively precise setting of positions for the red, yellow, and green aspects.

You can download a PDF format [Dual 3-Way manual](#) here.

The Tomar lower quadrant train order semaphores also include an operating light that illuminates the appropriate

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16: A Tam Valley Dual 3-Way servo controller.






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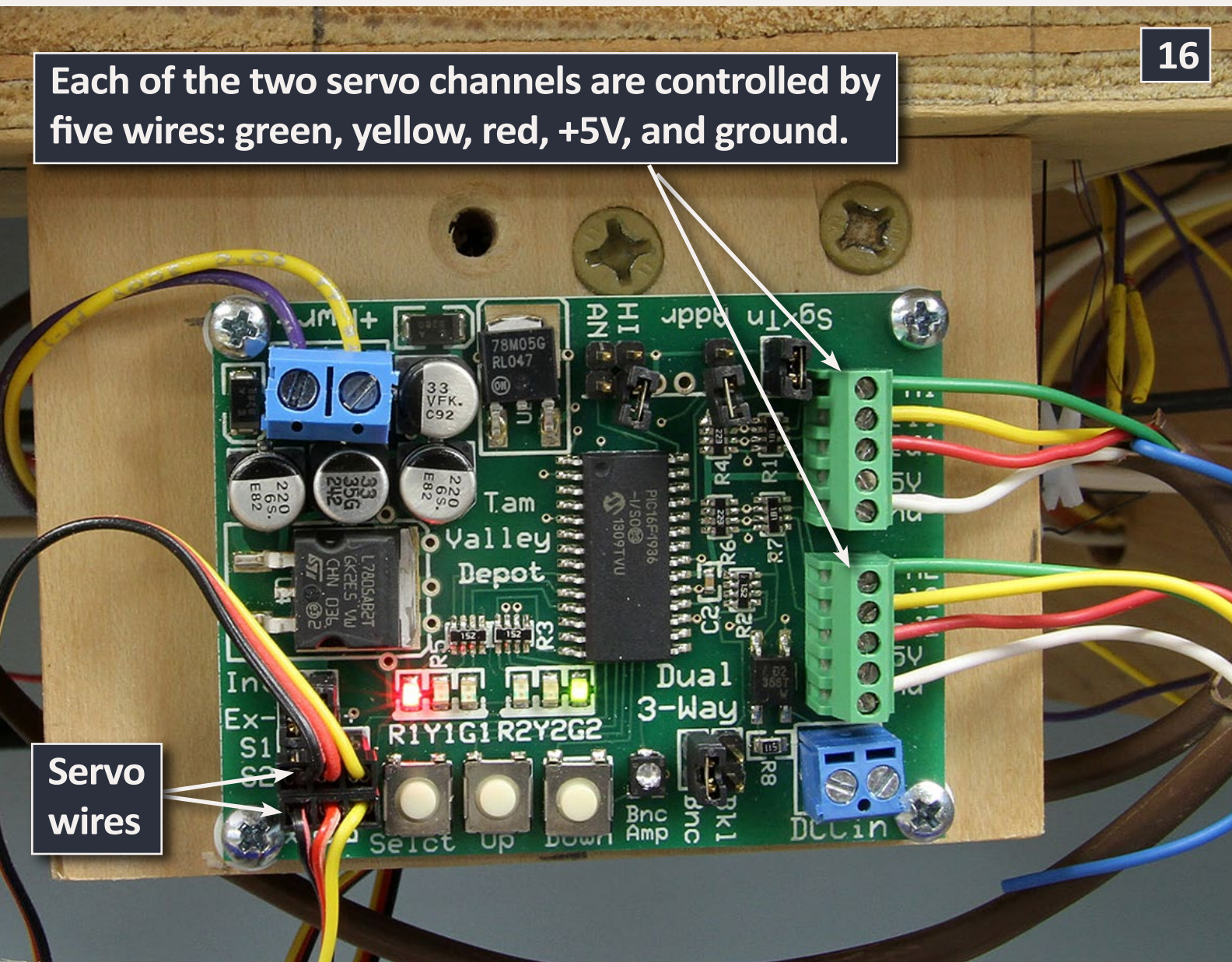
red, yellow, and green colored lens at the top of the semaphore blades. I programmed the Dual 3-Way to move the semaphore blades so that the correct colored lens was illuminated for each of the three aspects.

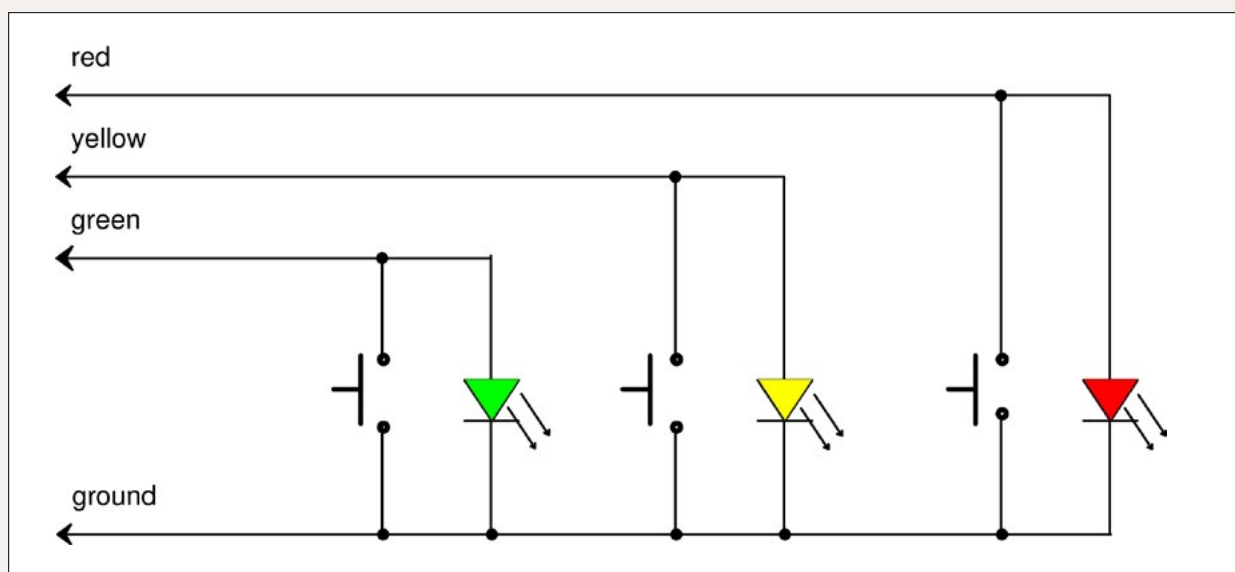
With the HiTech HS55 servos I used this worked fairly well. If you're using really cheap servos, the positioning may not repeat with precision.

Control Panel wiring

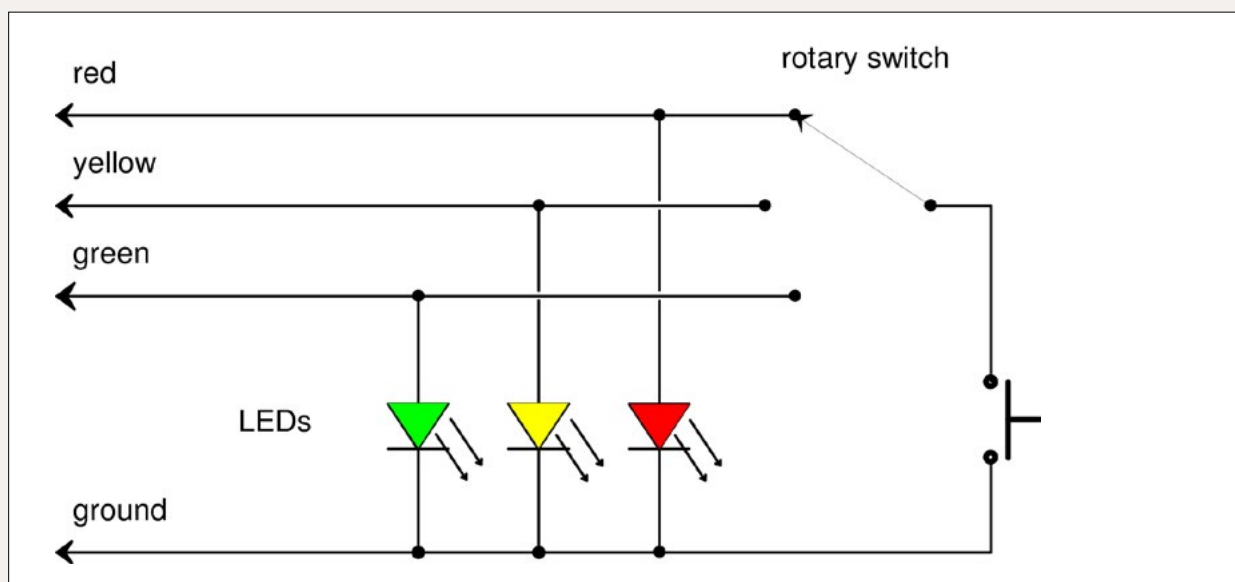
One of my goals is to have a semaphore control panel present at each operator's desk. The Dual 3-Way can be

16: The Dual 3-Way controller installed and powered up.





17a: The three-button control panel schematic from Tam Valley. Duplicate this circuit to control both semaphores.



17b: Panel updated for use with rotary switch and a single push button switch. I tried this wiring at Oakhill.

operated either by DCC addressing which is great for users with JMRI Panel Pro or a hard-wired control panel. I didn't want the extra expense and complication of adding a computer screen for each operator so I chose hard-wired control panels. The Dual 3-Way documentation includes a schematic for a control panel interface that needs only four wires per semaphore blade between the controller and a control panel. That suited me fine.

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I also thought that at some point I might need multiple control panels. For cases where an op session was short-handed and I needed one operator to take on the duties normally performed by two, each semaphore could be controlled by multiple train order panels.

The Tam Valley schematic called for three push buttons to operate each semaphore blade or six for one train order mast (17a). I had some rotary switches on hand and figured that by using them I could reduce the switch count to a rotary switch and two push buttons (17b).

Up to this point things had gone pretty well. But once I hooked up the Oakhill panel nothing seemed to work right.

Troubleshooting the panels

The first problem I had to deal with was my own fault (aided and abetted by Radio Shack). I found the drawer with the switches at my local Radio Shack, located the bin for the normally-open push buttons, checked the label on a package – it said normally open, and grabbed two packages. I should have checked the second package from that bin. Apparently Mr. Murphy, the store manager, had mixed normally-open and normally-closed switches in that bin.

I wasted a lot of time figuring out why my semaphore blades changed position as I twisted the rotary switch without a button being pressed. Eventually I had an "aha" moment and realized that normally-closed push button switches had snuck into my control panel. After installing the correct switches the semaphore behaved a bit better. But the semaphores sometimes still followed twists of the rotary switch.

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A clipping from the

South Jackson Gazette

Unwarranted movement of trains!


Patrons of the South Jackson Tavern are abuzz with the latest news from the railroad.

According to lots of railroad employees it seems the BC&SJ, which has for a number of years relied upon track warrants to dispatch trains, has begun the process of switching to a newer system.

Explained Horace Fithers, authority on nearly everything, "The crews on the railroad sure were getting fed up having to wait and wait all the time fer the dadgum dispatcher to get them their next track warrant. There they'd be, cooling their heels and perusing the latest S.J. Gazette and nuthing was comin' in on the radio. Making it worse, usually they'd know there weren't no traffic ahead of them an' the delays were only that high falutin' dispatcherator being dang slow gittin them their next authority, again."

"So when railroad management announced they were going to try a new system where the crews ain't dependin' on the DS to tell 'em when to come and go each and every time, well it jest brought smiles out most everywhere!"

Charlie Comstock, superintendent of nearly everything, commented when reached, "We believe the new system represents the ultimate in railroad operation technology, and besides, with all the radios turned on it got so loud trackside you couldn't hear yourself think. And now the crews can demonstrate a bit more of that perffessionalism they keep talking about."

This reporter certainly hopes things work out as well as planned and everything runs more smoothly. 

* Enjoy the Gazette? Read more at
bcsjrr.com



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I was using rotary switches from my electronics scrap box. It turned out they were make-before-break. That is, if the rotary switch was set for the red aspect, when I turned it to yellow, it made contact with yellow before the red was disconnected. This momentary short of the red and yellow wires would sometimes confuse the Dual 3-Way. The solution was simple, I further rumaged around in my electronics scrap box and eventually found a break-before-make rotary switch. Now the semaphore blades moved properly. Well, almost...

The haunted semaphores

Two nights later I was shooting photos of the semaphore for this column. What had worked perfectly before now exhibited an amazing problem. When I put either semaphore in its yellow aspect, it promptly changed from yellow to red all by itself!

An e-mail to Tam Valley's proprietor went unanswered (it turns out Duncan was on vacation). I called my good buddy and electronics whiz Geoff. We discussed what might be wrong.

At this point I was confident my panel wiring was correct. In a previous e-mail Duncan had recommended that I not use twisted pair wires for the cables connecting the control panel to the servo controller;

"It would be better to have each wire separated than twisted together. Twisted pair is propagating differential signals like DCC but it will promote crosstalk in the case of the Dual 3-Way."

This left me speculating about wire capacitance in the new, (non-twisted pair) wiring). Given there was only 12' of wire, it seemed surprising to me wire capacitance could cause such a problem.

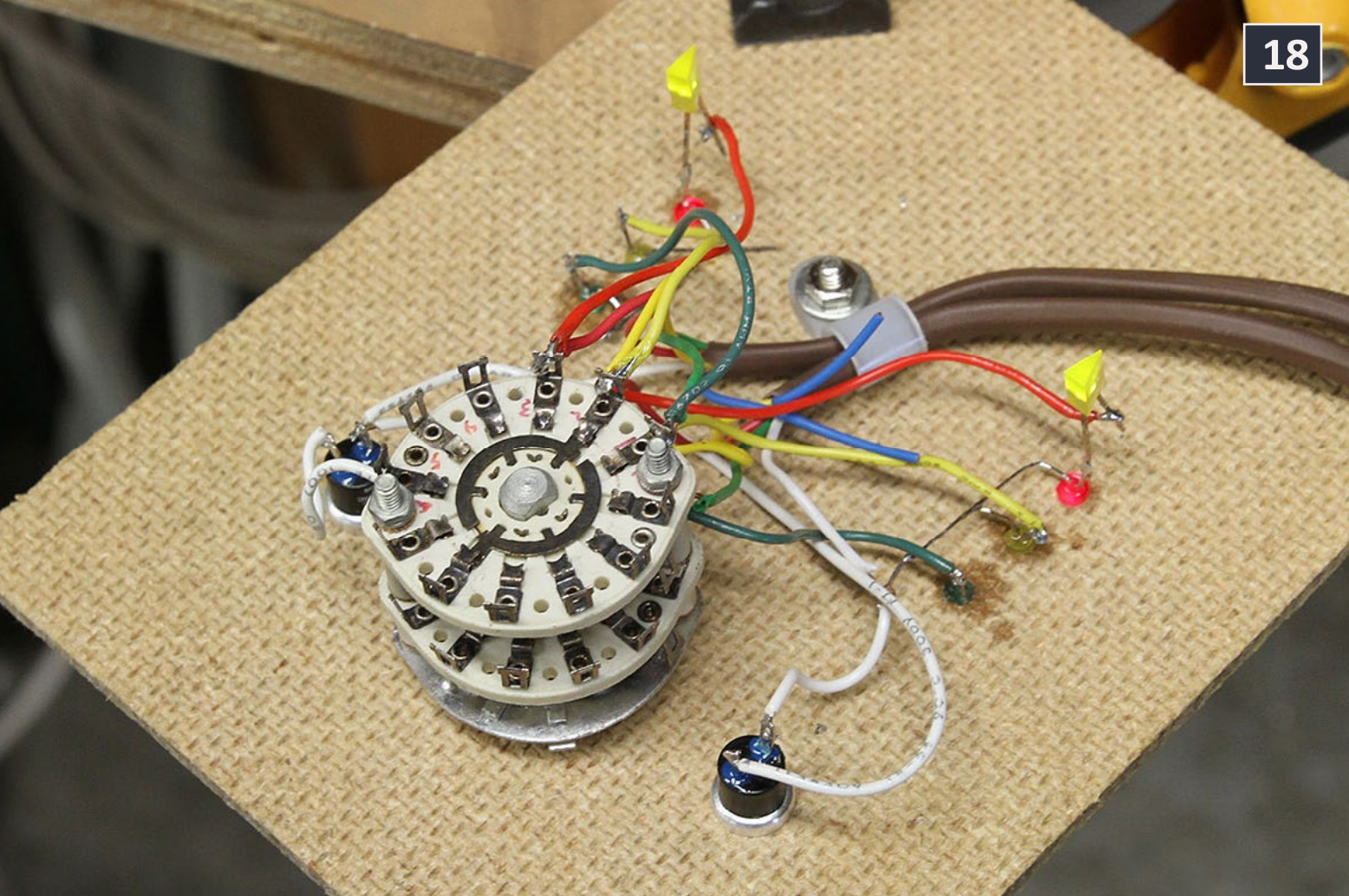
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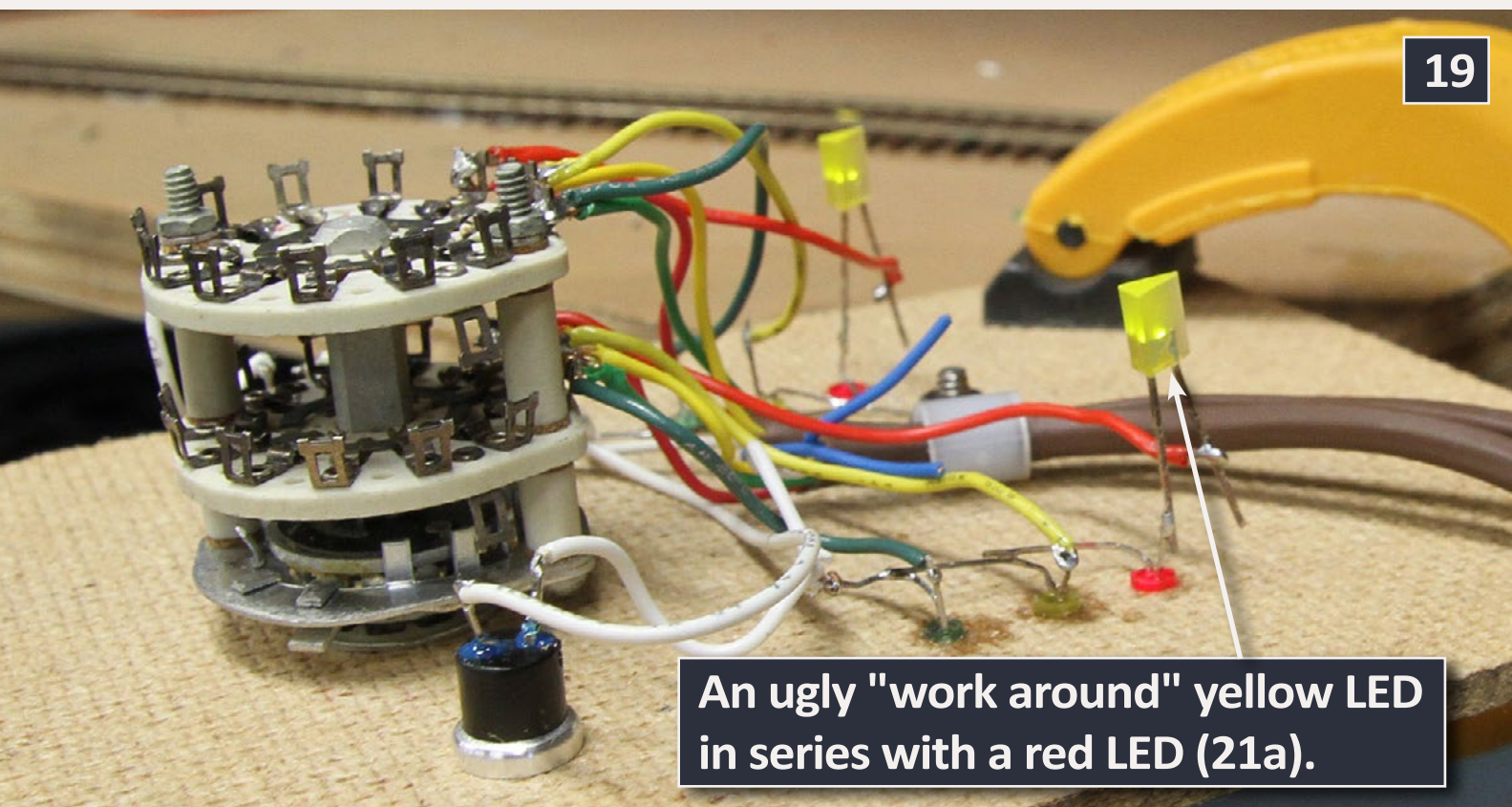
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18 and 19: The backside of my train order control panel showing the rotary switch, two push buttons and LEDs. White is ground. Blue is not used. Red, yellow, and green connect to the switches and LEDs (21a).



An ugly "work around" yellow LED in series with a red LED (21a).



20: The Oakhill operator's desk with the train order control panel installed.

[← back to previous page of text ...](#)

That next day I attempted to re-verify the problem. Guess what? The semaphore system was back to working properly, again. I hate intermittent problems! I set both semaphore blades to yellow and waited. Several hours later the semaphores switched to red by themselves. I set them to yellow again and this time they stayed yellow until midnight.

The next day, I set the semaphores to yellow around 10 a.m. By noon one of them had changed to red. I set it back to yellow and waited. As of 6 p.m. both semaphores were still yellow.

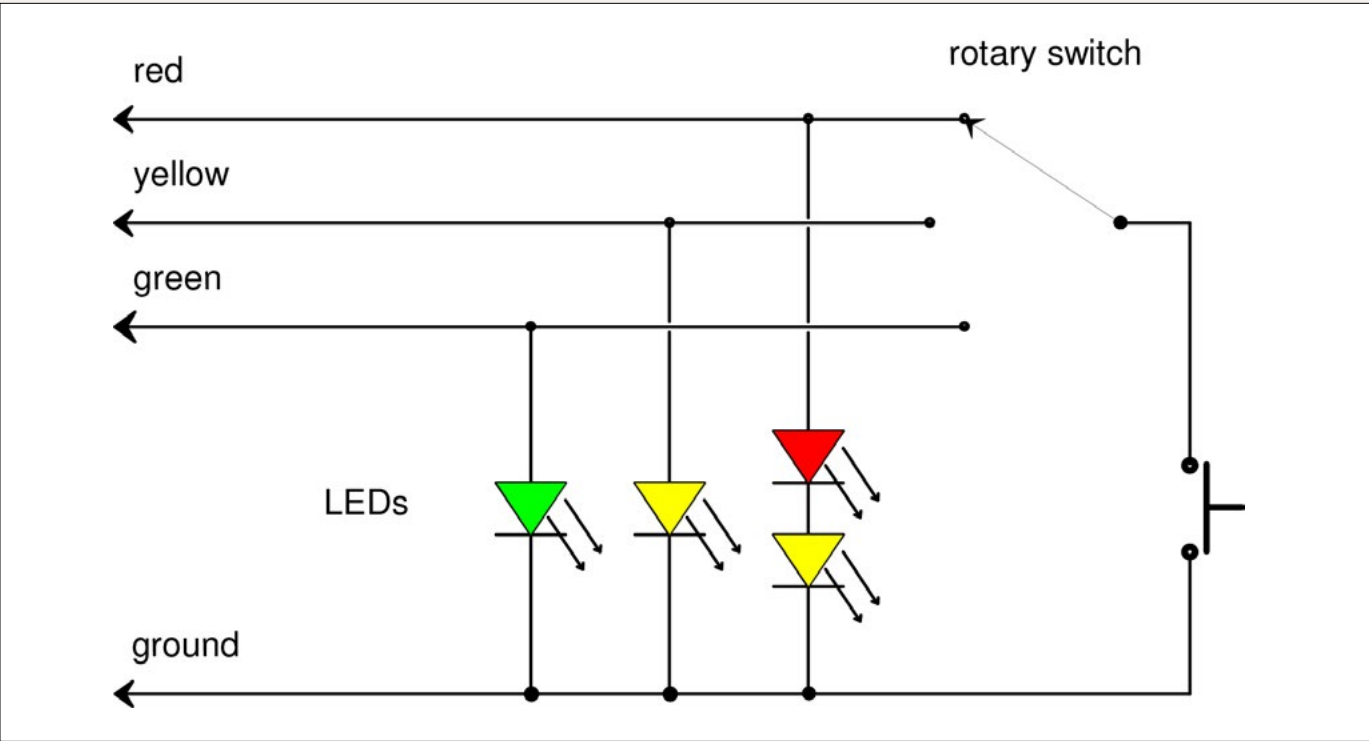
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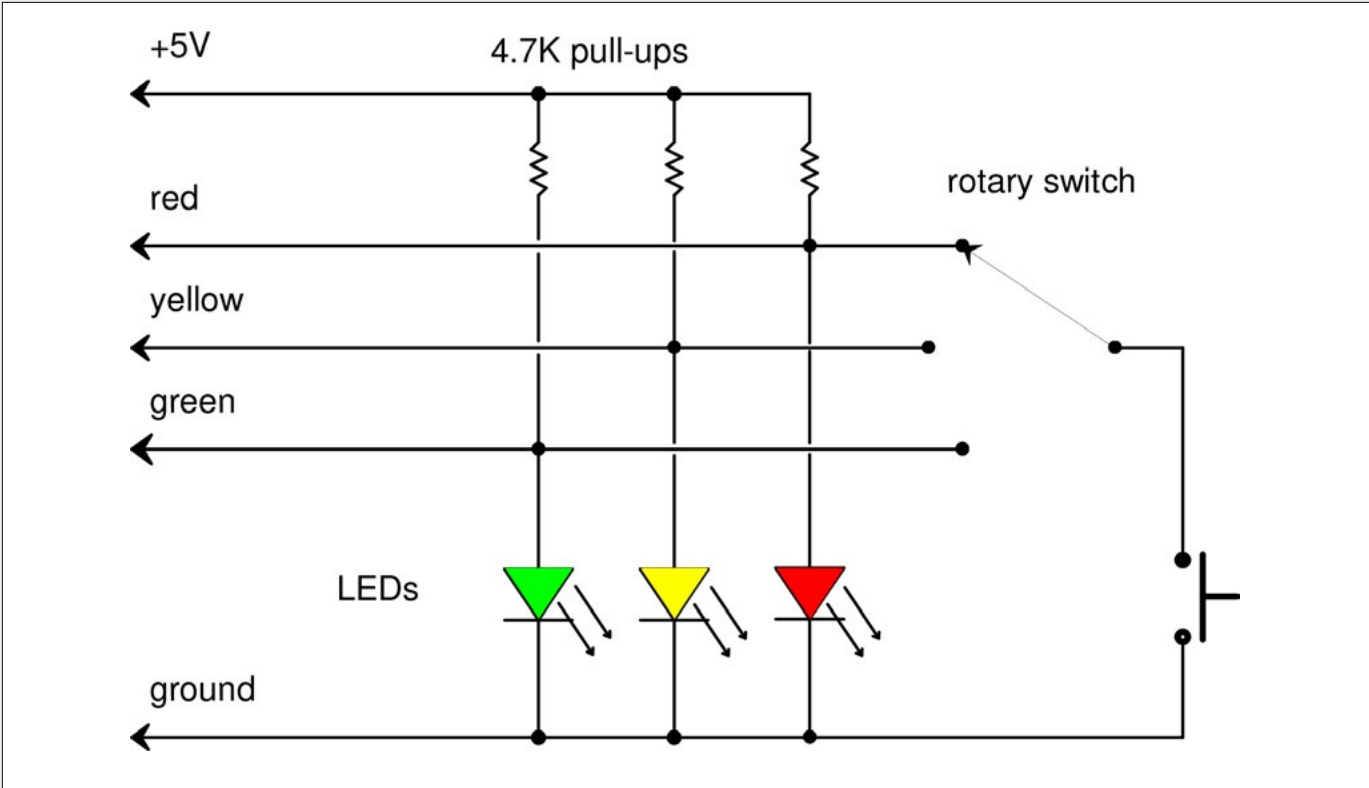
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21a: Panel wiring showing the extra yellow LED I added in series with the red LED. This icky workaround solved the spontaneous switch to red aspect problem.



21b: Duncan at Tam Valley suggested adding some pull-up resistors as a possible workaround. This also worked for me and was much cleaner than the extra LED.

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Work arounds

On Friday, Geoff came over. For some reason it appeared the red LEDs in my control panel were behind the problem. When we replaced them with a yellow LED it seemed to work.

Geoff suggested I paint yellow LEDs with Tamiya transparent red paint. I had no Tamiya paint on hand, so I tried putting a yellow LED in series with the red one. This worked, too, and I already had a bunch of yellow LEDs on hand (21a). Now the panel was working, but needing different LED colors felt weird to me.

Finally Duncan came back from vacation and suggested adding 4.7K ohm pull-up resistors to the red/yellow/green lines (21b). I gave this a try and it worked also.

Seeing what's happening

A good friend gave me an old oscilloscope (a very good friend). I hooked it up to the red, yellow, and green wires and made the following observations:

Playback problems? [Click to try a different version.](#)



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- The i/o pin was being switched to input for about 9 μ S.
- There was a 4 μ S + charge curve for the lines without their push button pressed.
- There was a small amount of electrical garbage on the line.

I sent 'scope photos to Duncan. He speculated the Dual 3-Way controller was sampling the signal too soon after switching to input mode, so he made a few micro-code tweaks, and mailed me a pair of replacements.

I'm pleased to say the new controllers are working fine! I successfully tried them with the same 15' of twisted pair wire that hadn't worked originally. Then I torture tested them using 300' of twisted pair wire. The LED's in the control panel didn't light – a matter of too much resistance in the cable – but the controllers correctly interpreted the push button commands and switched to red, yellow, or green aspect as desired! Go team!

Conclusions

It's neat to watch the semaphore blades go up and down. The Dual 3-Way controller even has a bouncing blade effect.

If you're on a budget you might want to think twice about automated semaphores – a Tomar train order semaphore, Dual 3-Way servo controller, pair of R/C aircraft servos, and control panel wiring will run over \$100 per train order installation.

A simpler alternative used by Tony Koester is moving the semaphore blades by hand. You could also install fixed semaphores and use LEDs in the fascia to show aspect.

I was in a hurry when I installed the train order semaphore at Oakhill and didn't enjoy the debugging. Many of the problems were my fault – double checking parts before installation saves time in the long run! Once I got Duncan the 'scope photos he



22: The waveform on the yellow wire. After switching to input mode over, 4 μ S was needed to charge the wire's capacitance. Reading this pin during those 4 μ S can result in reading a '0' instead of a '1'.

was quick to apply a fix and send me replacement boards but having him away on vacation (and away from his e-mail) didn't help my anxiety levels.

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Allow lots of time when installing new electromechanical devices – don't be like me and attempt it with an op session imminent! I ended up so frazzled that I cancelled the session. Grrrr...

Now South Jackson needs its train order semaphore! ☒

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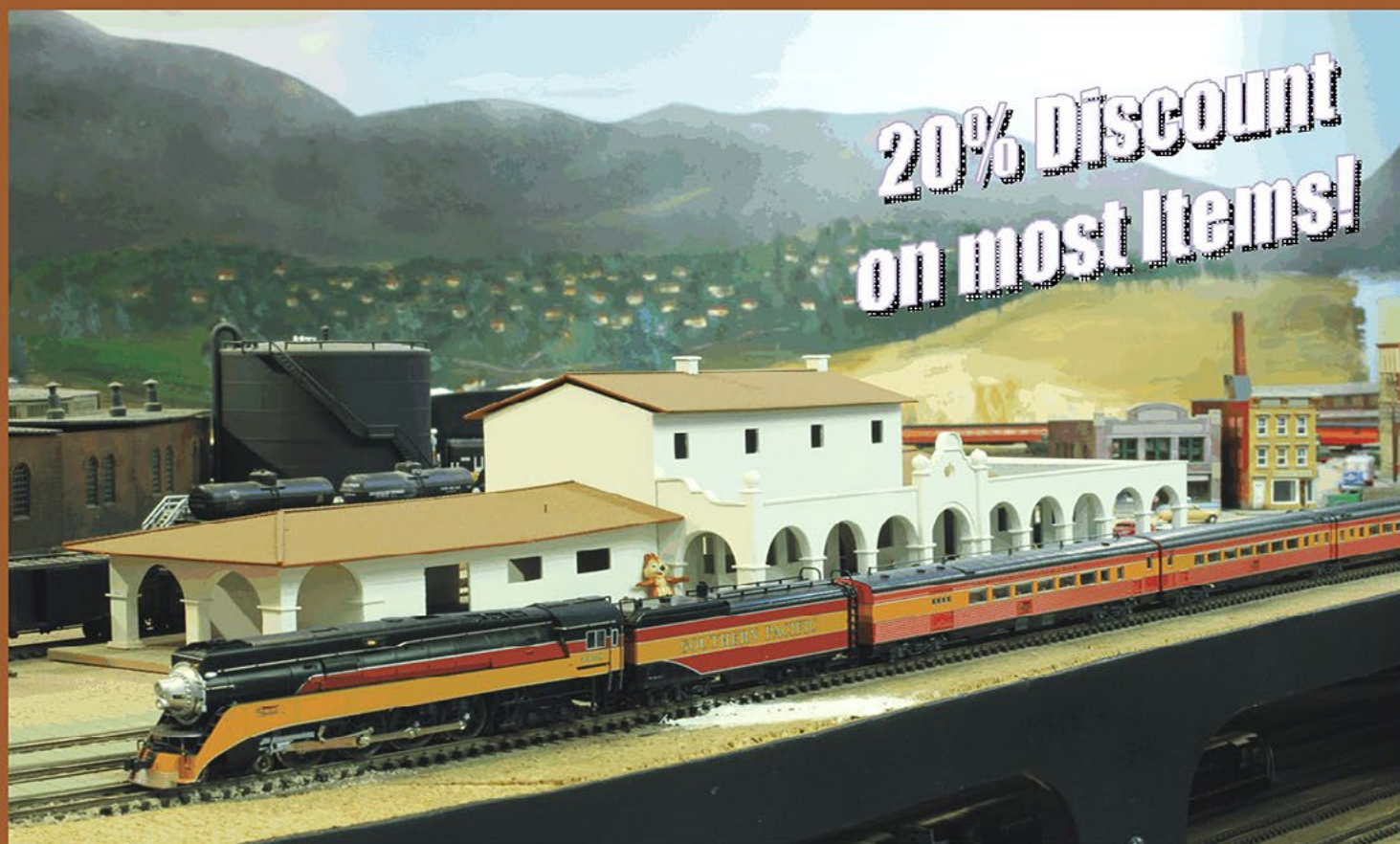
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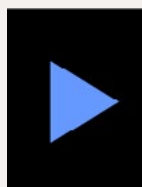
(Photo's are from our N-Scale layout)





How do they get the sound in?

It's more work than you think



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DCC Impulses column

by Bruce Petrarca photos courtesy of
SoundTraxx, unless otherwise specified

An interview with Nancy and Steve of SoundTraxx.

In my August 2012 column (mrhmag.com/magazine/mrh-2012-08-aug/dcc_impulses), I discussed how to get the sound out of your locomotive – good acoustic principles. That got me thinking about the process of getting the sounds into the decoders. Having spent many days in Durango with the SoundTraxx folks, I decided to let you sit in on a discussion with the two founders and owners of SoundTraxx.

MRH: I know you two were the founders of SoundTraxx. What are your current roles in the company?

ST: We each retain 50% ownership in the company, with no other shareholders or investors. Steve Dominguez serves as CEO and Chief Engineer, guiding all product development and manufacturing. Nancy Workman serves as Vice President and guides the sales and marketing efforts, also overseeing the general day-to-day business that includes accounting and human resources. Corporate decisions are made jointly.

MRH: Tell us a little about your company history.

ST: SoundTraxx began as Throttle Up! Corp., in Pocasset, Massachusetts in 1989. Our first product, introduced in January of 1990, was not actually a sound system, but a lighting system called the Hyperlight. The Hyperlight was the first lighting system to use a microprocessor, not only to provide brilliant lighting effects, but also to allow the user to select the desired effect from within one model. Our Hyperlight effects are now part of every sound decoder (and some motor decoders) we make.

Our first sound system, the SoundTraxx D220-IR Diesel Sound System, was introduced in 1991. This was the first sound and throttle system to incorporate wireless control.

This was followed a year later by the SoundTraxx S220-IR Steam Sound System, the first digital sound system to offer ‘playable’ whistles. By this time, everyone was calling us SoundTraxx, so we began marketing and doing business under that name.

We moved the business to Colorado in 1994 and settled in Durango in 1998.



1: The first SoundTraxx system from Throttle Up! (D220-IR) circa 1991

We designed and built a modern building for our corporate headquarters and main manufacturing facility.

We announced the first Digital Sound Decoders in 1996,



2: The headquarters building designed and built for SoundTraxx in Durango, Colorado.

introducing the first DCC decoder to be integrated with sound and lighting functions.

From our first year of production in 1997, we've continued developing sound decoders for other model manufacturers (for example, Bachmann and Athearn) and our end-users, including our SurroundTraxx Multi-Train Sound System.

In 2004, we announced the creation of a new product line, Blackstone Models (3), featuring exquisitely detailed HOn3 locomotives and rolling stock. The Blackstone Models products have been very well received and have been credited with rejuvenating the HO narrow gauge world.

MRH: What are the sources of your sound files and why do the Tsunamis sound so good?

ST: The engineers at SoundTraxx created all of our sound files. We go into the field, recording from actual prototypes. While we certainly have a 'formula' or procedure for how we make our sound files and recordings, we believe that they sound as good as they do because of what we do with our software after the recording takes place. This includes using the resources



within the company – we have two former locomotive engineers here on staff! Some of us are modelers, too, and we don't believe in putting out anything that we would not be proud to have on our own layouts. Of course, the 16-bit sound (we were the first to do this!) is huge. Anyone who has listened to 8-bit sound decoders can instantly hear the difference.

MRH: Do you "synthesize" sounds that are not available for live recording?

ST: No. On rare occasions, we have manipulated digital recordings to replicate something that no longer exists, i.e., a tonal shift perhaps to make one exhaust chuff into another, but they are not 'made-up'.

MRH: So you have to find a functioning entity for your recording (motor, whistle, air pump, etc.) and send folks there to record it.

Yes. In general, it takes from a half day to two days to collect the raw recordings for each engine. It also typically takes two people.

MRH: I've visited your facility several times and have always been impressed with your sound editing facility. Give our readers a tour of it, please.



3: Blackstone HOn3 Locomotive and cars.

ST: When we had our building designed, we included a special room (5) that would eliminate unwanted echoes and isolate the sound engineer from other sounds within the building. We use a Mac computer, with the latest in hardware and software tools.

MRH: Explain what goes into taking a sound file from your raw recording and turning it into a sample ready for inclusion in a decoder.

ST: The raw sounds of course, need to be put into the digital format that we use for editing. There is a lot of cleanup – regardless of how careful you are – sometimes you can’t control sounds occurring around you during the recording process. Most of what happens next is to make the sounds fit with our software design. Lots of testing, lots of tweaks!

MRH: Can you estimate the number of man-hours that goes into a new sound set? Starting from the field recording and going through your sound room and making the files ready for inclusion in a Tsunami decoder.

ST: Well this certainly varies. Obviously a trip to England or Japan to record takes longer to collect the raw recording than popping in down the street at the Durango & Silverton Narrow Gauge Railroad! So there is the recording session investment that we discussed previously: one to four man-days per loco plus travel time.

Once we have the sound recorded, it takes several weeks to massage the sound into the format we need and then again into our software. So, it takes about 100 man-hours after the sound is captured before the sound set is ready for one version of decoder.



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MRH: I’ve been impressed with your fabrication facility. Tell the readers why you are so committed to in-house manufacturing.

ST: We believe that we can and should do it in the U.S.A. It is all about quality and service. We can completely control the manufacturing process, which is key to our quality control. We also control our delivery – pretty much guaranteeing that we will have product available when our customers need it. We have seen what happens to companies that manufacture overseas – product is late shipping, pricing is not within their control, and quality is average at best.

With the closing of so many factories over the past twenty years, the subject of how we are able to successfully manufacture our products in the U.S.A. is frequently broached. We invest regularly in quality capital equipment. Our SMT (Surface Mount Technology) machines are fast and efficient, and continually upgraded and improved. In the past six months, we have added two new pieces of production equipment. This is just part of our commitment to continually improving our processes while keeping a stable workforce. Adding some automation does not take away jobs! In fact, it offers opportunities for some of our employees to ‘specialize’ in the operation and maintenance of these unique pieces of equipment, keeping what could otherwise become a routine job a tad more interesting.

Making our electronics in the U.S.A. allows us to completely control our production – time to delivery, cost and quality. Automating some of the manufacturing allows us to offer

competitive wages to our employees. Parts procurement and pricing is more controlled. We don’t



**Reader
Feedback**
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4: SoundTraxx' personnel recording a diesel loco on site

suffer the delays and expense of having our product shipped from outside the country. It is our intent to continue the design and manufacture of our electronic products in the U.S.A.

Of course, the subject of Blackstone Models comes up as well. We design them here but, at present, can only economically produce them in China. Nobody would be happier than we to manufacture these products here. Watching wages overseas rising, customers are often under the impression that we could now successfully bring this manufacturing on shore. The labor rate in China has increased from \$0.90 per hour to \$2.00 per hour. It is still a fraction of the domestic minimum wage of \$7.50/hr. There are so many manual assembly processes in the making of a model that we can't assemble it here and deliver it at a cost that the market wants.



MRH: Tell us a bit about SurroundTraxx, now that it has been out for a while.

ST: SurroundTraxx is a unique digital sound system designed for the layout, not the individual model. Working with today's DCC technology, SurroundTraxx gives the modeler the realism of high-fidelity sound moving with your train as it travels about the layout without installing speakers onboard the engine. It uses the latest Digital Signal Processing (DSP) technology and advanced block detection techniques to reproduce the sounds made by each train on the layout to direct the sound to the speaker closest to the trains' location. We believe it is the perfect solution for small scales such as N-Scale, where you are at the mercy of too-tiny onboard speakers.



5: SoundTraxx' sound editing room – this specially built room has no parallel walls to reduce reflections



6: One of SoundTraxx’ two pick-and-place SMT assembly machines – keeping the jobs and technology in the U.S.A.

Unfortunately, none of our customers have sent us photos of their final installations, so the only photo I have to share with you and your readers (8) is one from a demonstration in the factory for our August 2013 Dealer Training Seminar.

MRH: Are the sound files in SurroundTraxx the same as what are in the Tsunami decoders?

ST: The manner in which the sound files are structured is different, but they start with the same raw recordings. The editing is different because of the different usages. So, the SurroundTraxx files are unique.

MRH: I asked you for a motor and light decoder to simplify speed matching with your Tsunamis. I've been very happy with

the product you've provided. How are these “Tsilent Tsunamis” being received without being paired with a sound Tsunami?

ST: Very well. It has been a steadily growing market for us. It seemed to take a while for customers to realize they were getting a really good decoder for an incredibly competitive price.

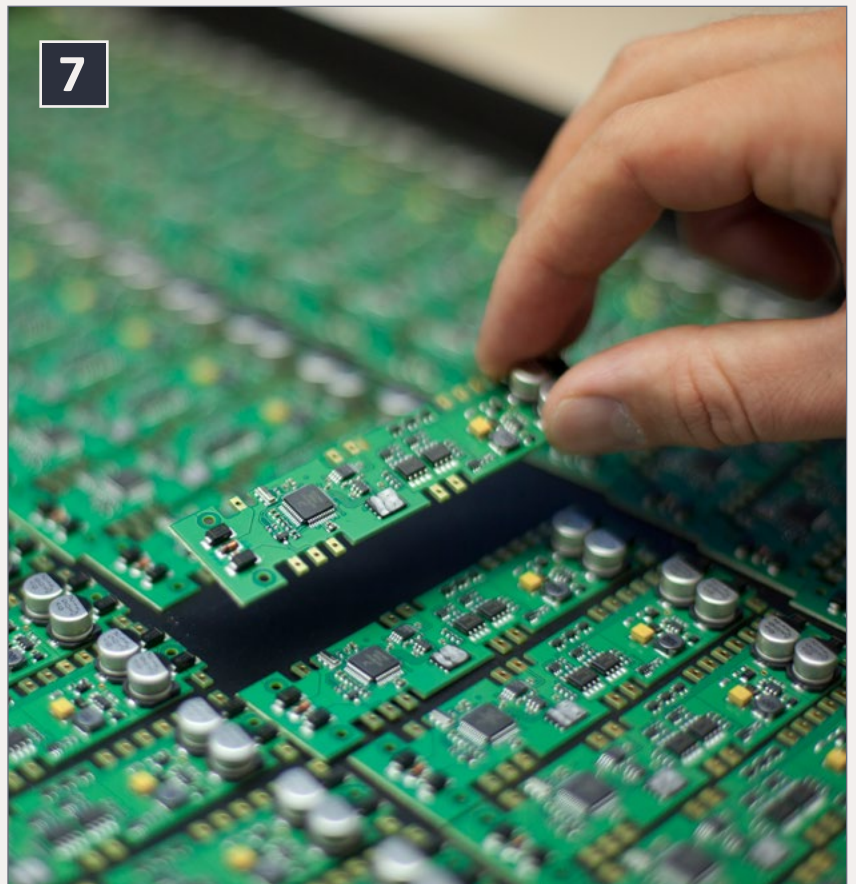
MRH: I hear from lots of folks that they would love to have a Tsunami for their O- or G-scale locos. Any chance of a SoundTraxx offering for larger locos?

ST: We’ve been slowly looking at this. We’ve learned a lot about what will and won’t work for larger scales by producing products for such manufacturers as Bachmann and Piko. We hope this allows us to work towards a product for these folks – we hear them.

MRH: How do you respond to customer requests?

ST: We use our customer feedback to determine the direction our product development will take. The problem of course, is limited resources and the return on the investment. Some products by necessity take a higher priority.

[... On to next page of text →](#)



7: A batch of SoundTraxx Tsunami decoders ready for 100% testing.

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8: Dealers getting a “hands on” look at SurroundTraxx during the 2013 Dealer Training Seminar

[← back to previous page of text ...](#)

Putting a timeframe to anything is nearly impossible unless it is an active project.

MRH: Thank you, Nancy and Steve for sharing with the MRH readers. Hopefully, readers will better understand what it takes to get a soundset into a decoder now.

If you liked this column, please click on the Reader Feedback link here and rate it awesome. Please join in the conversation that invariably develops there about the topics presented in the column. Share your experiences. You might also comment there if you'd like to see similar interviews with other players in the DCC world. Thanks.

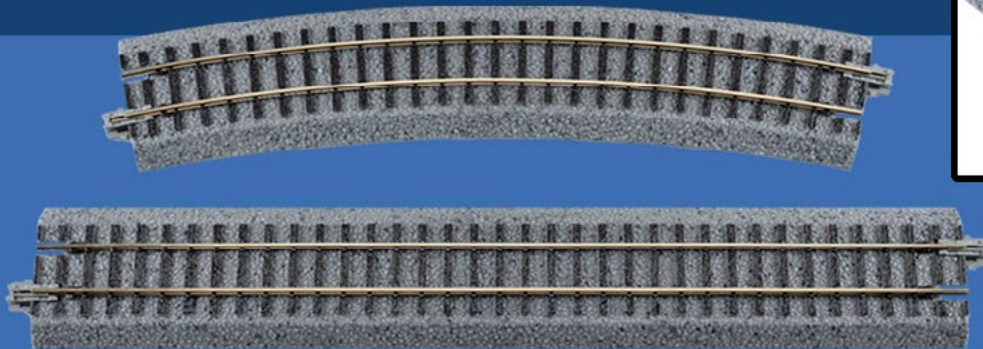
Until next month, I wish you green boards. ☒

[... On to Sidebar →](#)



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From Mr. DCC's workbench

How do I switch more current with my decoder?

Occasionally there is a need to switch a load that isn't compatible with the output of a DCC decoder. Whether this need is due to the voltage or current needed, or if a contact closure (or opening) is needed, it can frequently be filled by using a relay.

A relay is an electro-mechanical device that takes some electrical current and uses the resulting magnetic field to move some contacts, just like throwing a switch. There is a mechanical lag time while the contacts physically move, so they are not well suited for items that get turned on and off quickly. Likewise, they don't do dimming, just on and off, so no fancy lighting effects, either.

Sounds easy, just connect the relay to the blue and green (or other function) wire and be done with it, right? Uh, no, not actually.

Think about the spark coil that generates thousands of volts to ignite the gasoline in our car engines. They work on the concept of turning the current on and off through a coil. Similarly, a relay will generate a large spike of voltage when the current is turned off. This spike is enough to blow the output transistor (and, perhaps, more circuitry) inside the decoder if the relay is hooked up directly to the decoder.

A simple diode will fix the problem. It is put across (in parallel with) the relay coil in a direction where the normal current will

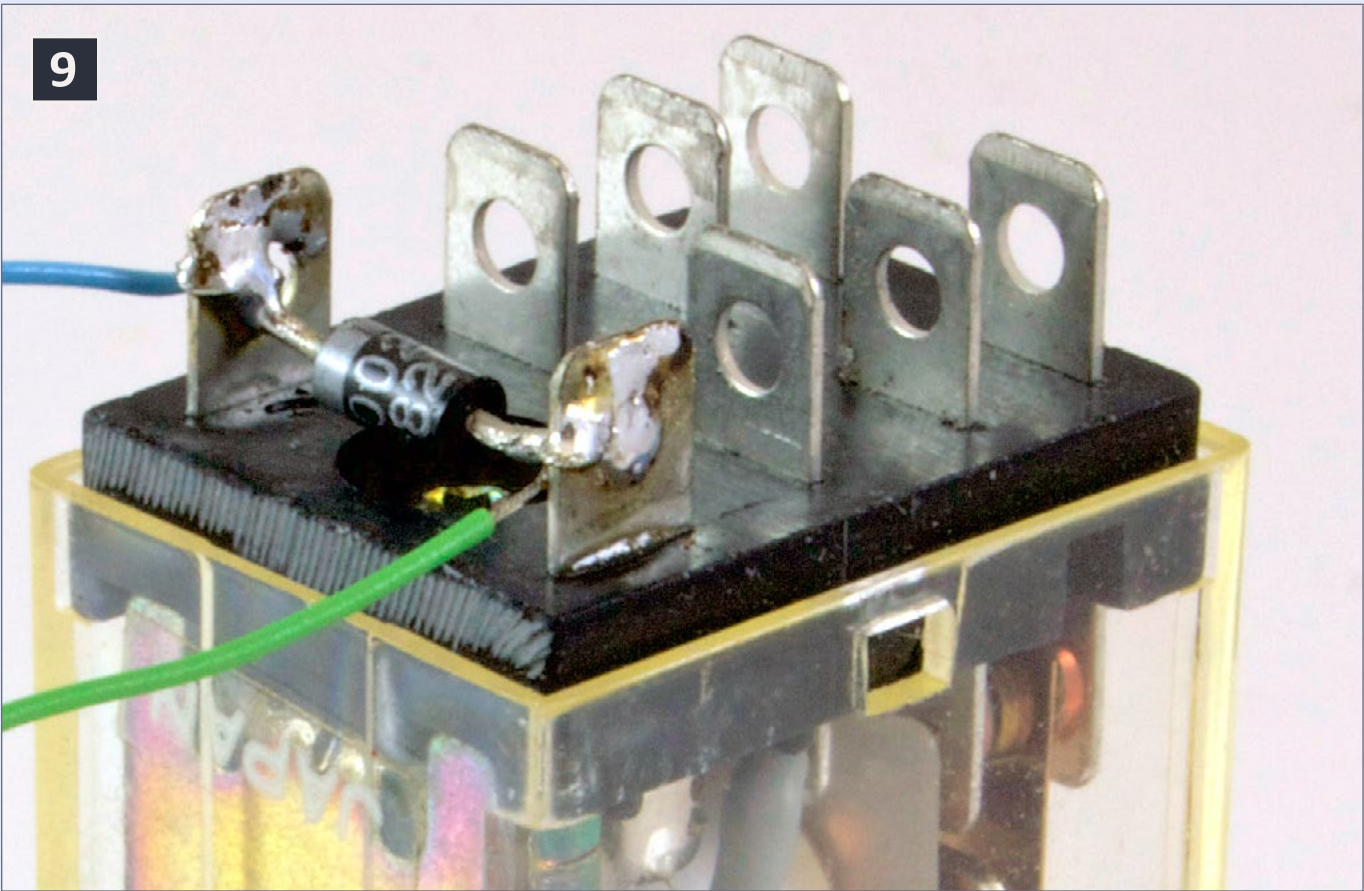
flow through the coil, but when the current is turned off, the spike of voltage goes through the diode. This means that the end of the diode with the band connects to the blue (or positive) wire from the decoder as shown in the detail photo, figure 9.

Select a relay with a coil voltage of 12 volts and an activation current less than the decoder function output is rated for. Frequently the functions are rated for 100 mA (0.1 A), so a coil resistance above 150 ohms is needed. Make sure the contacts are rated for voltages and currents higher than you are going to be switching. ■



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9: A diode protects the decoder from being damaged by the high voltage spike when the decoder drops the current to the coil. Note: diode band is toward blue wire. Photo by the author.



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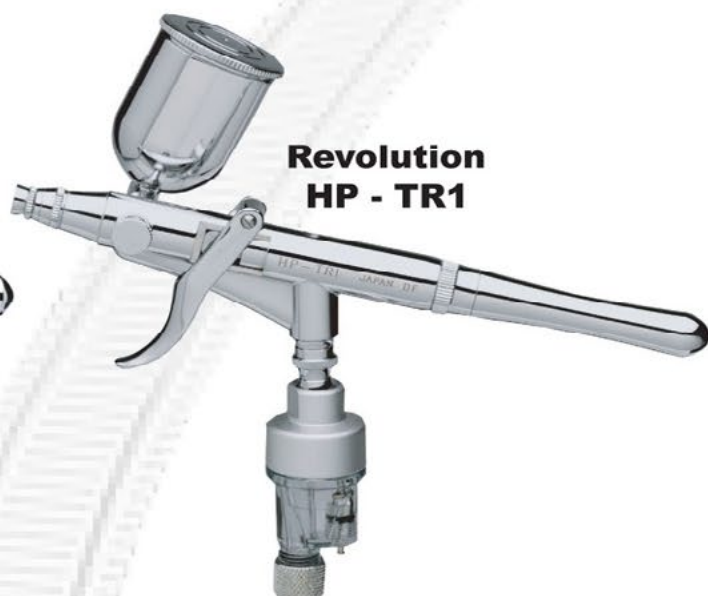
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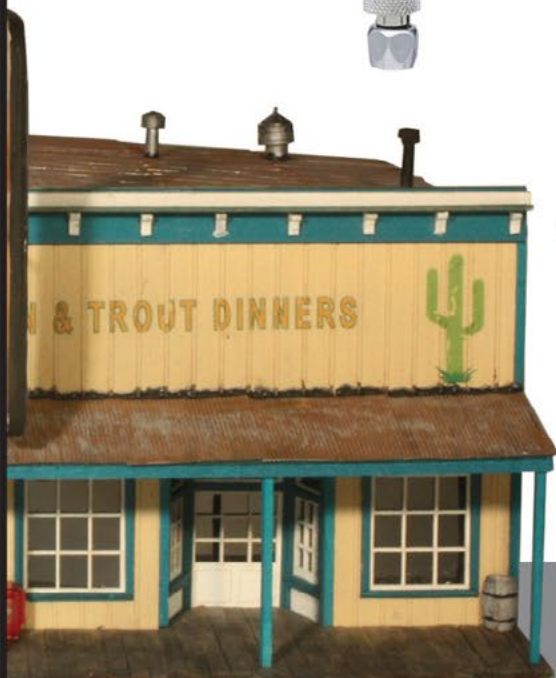
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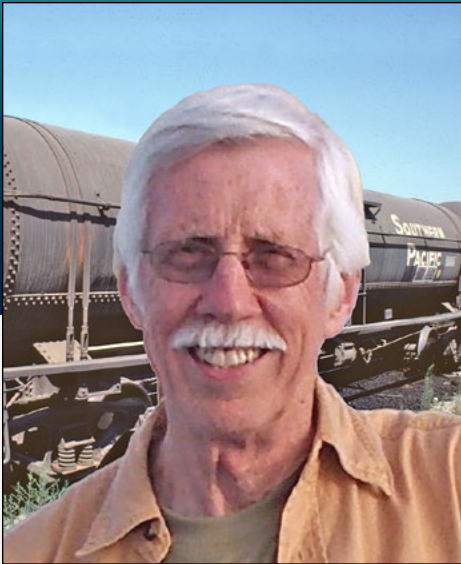
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Modeling PFE cars

Pacific Fruit Express, part two



Getting Real column

by Tony Thompson

PFE paint schemes, car classes, and more

In Part One of my column on modeling Pacific Fruit Express, I addressed prototype facilities and how they operated. This month I describe modeling PFE cars and accompanying facilities. Because of the size of the PFE fleet, modeling a thorough representation of it is a large challenge, but for those wishing to have just a few PFE cars, the fleet size is an advantage in some ways, as it permits flexibility in choices of car classes to model.

Naturally one can simply model by “targets of opportunity,” and just take PFE cars that are handy, as kits or ready-to-run. Alternatively, one can choose to be systematic. One such approach to choices of PFE cars to model is to choose some proportion of the entire fleet to model. That is what I am doing.

To illustrate how this might work, I include Table 2, showing the PFE car fleet as listed in the January 1953 issue of the Official Railway Equipment Register, or ORER. I show each number group for the PFE fleet, and how many cars were in it at

Number Group	No. of Cars	Class	Ye
2001–5000	2985	R-40-25	
5001–8000	2961	R-40-23	
8001–10000	1997	R-40-26	
13220–15919	474	R-30-11	
15920–36473	159	R-30-12, -13	
38563–39062	471	R-40-4	
40001–44700	4559	R-40-10	
44701–45700	979	R-40-14	
45701–46702	987	R-40-20	
46703–48702	1982	R-40-23	
50001–52775	see text	none	
60001–62500	2437	R-30/40-18*	
62501–63500	976†	R-30/40-19*	
63501–65920	2362†	R-30/40-21*	
65921–68532	2551†	R-30/40-24*	
73001–76554	3399	R-30/40-16*	
90001–91021	807	R-30/40-8*	
91022–98718	7112	R-30/30-9*	
100401–100500	97	R-50-3,4	
200001–200100	98	R-70-2	
200301–200587	278	R-50-5	
Total	37677		
ORER Total	38563		

*if rebuilt from 30-ton cars, classed as R-30-x; if rebuilt

†proportioned by class size from actual total of 3 numb

ple 2
 t, January 1953

	Model Car Fleets, basis		
car (re)built	one per 1000	one per 3000	my fleet
1949–50	3	1	3
1947	3	1	3
1951–52	2	1	2
1917–18	0	0	0
1920–26	0	0	0
1930	0	0	0
1936–37	5	2	4
1941	1	0	1
1945	1	0	1
1947	2	1	4
1939–40	see text on “Western Pacific cars”		
1942–43	2	1	2
1944–45	1	0	1
1945–47	2	1	1
1947–48	3	1	4
1940–42	3	1	2
1931–32	1	0	1
1938–40	7	2	6
1941	0	0	0
1932	0	0	1
1945–47	0	0	1
	36	12	37

from 40-ton cars, classed as R-40-x
 per groups, 5889 cars among PFE 62501–68532

that time, in the first two columns. I have omitted a few relatively rare car groups.

The next two columns to the right identify the PFE car class of each number group (nomenclature is explained in a footnote), and the year(s) built or rebuilt.

Finally, the three columns at the right show how a model car fleet might be proportioned if one chooses to have approximately one model for each 1000 prototype cars. The next column to the right shows the same idea, but for one model to

“PFE policy was to repaint wood-sheathed cars every four to six years, and steel cars every 10 to 12 years.”

each 3000 PFE cars, to reduce the number of needed models. I should emphasize that these particular proportions are arbitrary. One could readily choose different numbers.

My own choice is to shoot for the one per 1000 set of cars. The far right column shows that I have not rigorously done that, but broadly speaking, have gotten into that ballpark.

Note that at the bottom, under the total number of cars shown in the second column, I have added another line with the actual total of the complete PFE car fleet in that ORER issue. It is only about 2% larger, meaning that the car number groups I selected for Table 2 do encompass 98% of the total PFE car fleet.

Next I turn to modeling some of these specific classes shown in Table 2. But first, I want to give an overview of paint and lettering schemes, since these will apply to all the models in one way or another.



18: This photo show the ceaseless movement of PFE cars, loaded eastward near Green River, Wyoming on September 3, 1955. An important value in this image is the vivid depiction of the variation of weathering among the many PFE cars. - *photo, John E. Shaw*

Painting history

There were long stretches of time during which PFE paint schemes remained essentially constant, and there were also periods of somewhat rapid change. For the transition-era modeler, the latter is the case. I will present only a brief summary of the history, along with what it means for a 1953 modeler like myself. Those modeling other periods should, of course, construct a similar framework for themselves.

As background, it should be recognized that PFE policy was to repaint wood-sheathed cars every four to six years, and steel cars every 10 to 12 years. Shop data show not only that this policy was followed, but also that repainting was freely applied for cars even with minor repairs. And recall that the cars

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passed through PFE shops after nearly every trip, so this kind of repainting schedule could readily be carried out.

Paint schemes

In 1922, PFE introduced the use of railroad emblems or medallions, as PFE called them, SP on one side of the car and UP on the other, with the SP emblem toward the B end. (Always a bane of model manufacturers, this meant that the two car sides had to be separately decorated.) At this time, cars were a yellow color similar to UP Armour Yellow, as they had been since 1906. The original UP medallion said “Union Pacific System” in the blue field at the top, and there was a diagonal banner promoting “The Overland Route.”

The new scheme was applied throughout the fleet, and PFE records indicate that no medallion-less cars remained by the end of 1928.

In 1929, PFE changed the color of its car sides to orange. It was called Light Orange and is indistinguishable from SP’s later color, Daylight Orange. Evidence from PFE shop records indicates that essentially all cars in the fleet had been repainted by 1934.

In 1936, UP made corporate changes which folded most subsidiaries into the parent railroad, and the word “System” was then discontinued from the UP medallion. The plain emblem continued in use until 1942, when UP discontinued the diagonal Overland banner.

In the late 1930s, as the Depression eased and the run-up to World War II began, PFE shops were very active, not only repainting older cars, but rebuilding thousands of other cars. By the start of the war, it is likely that only a few of the UP “System” medallions were still in service.

On June 15, 1946, the two-emblem scheme with the plain, colored UP emblem was introduced (and both car sides were identical). In the ensuing several years, the shops were again very active, catching up with wartime deferred maintenance and continuing a very large rebuilding program. By 1949, wood-sheathed cars with diagonal-banner UP emblems would have been rare.

“During 1949, side hardware on PFE cars, painted black since 1906, became the same orange color as car sides, except only the side sill and center step, which remained black.”

Class R-40-10 steel cars, built in 1936, would have been due for repainting by then and many would have lost their original UP “banner” emblems by 1949.

During 1949, side hardware on PFE cars, painted black since 1906, became the same orange color as car sides, except only the side sill and center step, which remained black. The color two-emblem scheme continued, still with each side of the car identical, and with the SP emblem nearest the car door.

In June 1950, a major change came with the UP medallion becoming black and white instead of red, white and blue. The new UP emblem can be readily recognized even in black and white photographs because the word “Railroad” was added in the field at the top. Side hardware remained as in the 1949 change.



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19: Empties westward on Sherman Hill, also in September 1955. This image also shows the variation of weathering among the PFE cars. – photo, John E. Shaw

Then in June 1951, the side sills and center steps also became orange, along with the entire car side. The arrangement of medallions also changed, with the SP emblem now nearest the B end on each side, making the two car sides different, with emblem arrangement reversed between the two.

In this 1949-1951 period of painting changes, the shops continued to repaint many cars, so examples of each of the 1949, 1950 and 1951 schemes can be readily found in photos. As a 1953 modeler, I can accurately include samples of each in my fleet.

A comment on weathering: with most prototypes, modelers are accustomed to weathering more heavily for older paint schemes, and the farther a particular paint job is in the past (relative to one's modeling era), the dirtier it should be. But this really cannot be applied to PFE cars. We know that thousands of them were washed every year, from the 1920s into the middle 1950s.

During 1937-1942, for example, about 19,000 cars were washed each year. So age alone cannot determine how dirty a PFE car ought to be, see (18) and (19).

PFE classes

Now let's look at how some of these classes can be modeled – some have multiple possibilities. I begin with the larger classes.

Class R-40-23. This was PFE's largest class of new (as opposed to rebuilt) cars, and as Table 2 shows, was divided into two number series, 5001-8000 and 46703-48702, totaling 5000 cars when new. The best and most accurate model in HO scale



20: This model of PFE Class R-40-23 is an InterMountain ready-to-run car. It models a repaint, using the paint scheme introduced in 1951, though all side hardware should be orange. The UP emblem is black and white, and the SP emblem is toward the B end of the car on both sides, thus making the two sides non-identical. In the background, another reefer is about to be spotted at the ice house in my layout town of Shumala.



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is the InterMountain car. They have offered cars both as kits and ready-to-run in both number series.

It should be mentioned that this class is evidently the prototype for the Athearn steel reefer, although both underframe and ends of that model have some discrepancies from the prototype.

These cars were all delivered in the 1946 paint scheme with the emblems of both railroads on both sides, with the UP emblem in red, white and blue. But in the 1950s, many of the cars were repainted in the then-current scheme of two emblems each side, but with the UP emblem in black and white. My model of one of these repainted cars is shown, see (20).

Class R-40-10. Table 2 shows that this class was the third-largest of PFE’s classes and the first class of all-steel cars. For



21: This car was built from an InterMountain kit for Class R-40-10. Car number was changed into the 41000 group for variety. The paint scheme shown is the post-1946 two-emblem scheme, applied when many R-40-10 cars were repainted after World War II, with their original paint 10 or more years old. It has received the car-fan upgrade and a steel-grid running board. It is shown at the winery in my layout town of Ballard.



22: This representative of PFE Class R-40-26 is a Challenger brass model, which was repainted and relettered correctly. The model originally had a fan control box below the side sill on this right side, which is incorrect; it was removed. The model is shown on my layout at Ballard.

some years, InterMountain has marketed a very accurate and complete model for this car class. It is by far the best modeling option. They have numbered many of their models in a restricted number series, but with model PFE decals (more on that below), one can easily change car numbers to spread the models over the entire class number series, see (21) for my model.

By the 1950s, most cars would have been repainted; many also received steel-grid running boards and car fans in the late 1940s and early 1950s. My model shows those characteristics.

Class R-40-26. This was a 2000-car class, not one of the biggest in the PFE fleet, but a distinctive car because it was PFE's first class with sliding (plug) doors. These have been offered in brass



by Challenger Imports, and in resin by Sunshine. Parts for kitbashing have been around too, to modify the Athearn reefer body.

“The Class R-40-19 cars were among the last to receive the 1942-1946 single-emblem paint scheme, and in my modeling year of 1953, some probably still retained it. ”

For my two cars, I did one of the kitbashes, and for the second car, I decided to correct the shortcomings of the brass model. There were some minor detail errors, and the car color and lettering were seriously wrong.

I adjusted the details and repainted the car sides Daylight Orange, then relettered with the old Microscale set 87-501, with a few bits of lettering from other sets, notably Champ set SHS-190. Today this would not be necessary, as Microscale 87-501 has been reissued in a much better version, thanks to some meticulous research by Dick Harley, and everything on this model could now be correctly lettered with that one set. My completed model is shown, see (22).

Class R-40-19. The two rebuilt classes of wartime were R-30/40-18 and -19. Both had solid steel (panel) roofs and W-corner-post Dreadnaught ends; neither class was rebuilt with car fans. The primary visual distinction between them was the change from wood running boards on the -18 cars, to steel-grid running boards on the -19 cars.

The two classes combined had 3500 cars, a large group, and I have three cars from these two classes (see Table 2). Terry Wegmann cut dies for the ends and roofs so that these cars could



23: This car of Class R-40-19 is shown in a mainline train on my layout, near the junction of Shumala. It is a lightly modified ready-to-run car from InterMountain, which was manufactured with Red Caboose and Terry Wegmann parts. After weathering, a reweigh date stencil and route card were added. It still has its wartime single-emblem paint scheme, but is not too dirty, probably reflecting washing frequency.

be converted from Red Caboose kits, and InterMountain has offered them in limited runs as ready-to-run cars. The model I show (23) is one of those.

The Class R-40-19 cars were among the last to receive the 1942-1946 single-emblem paint scheme, and in my modeling year of 1953, some probably still retained it. Mine is modeled that way.

Classes R-40-14 and R-40-20. These classes of steel cars followed the R-40-10 in 1941 and 1945, respectively, and differed substantially only in having Dreadnaught ends with rounded or W-corner-post ends rather than sharp-cornered ends. At 1000 cars each, I wanted to model a car of each class.





24: Here is my model of a Class R-40-14 car, repainted into the 1951 paint scheme. This is an Athearn reefer body with replaced metal grab irons and sill steps, a steel-grid running board, and correct resin ends with free-standing details. Decals are a mixture, but nowadays this car could be done entirely with the new Microscale set 87-501. The model is posed in front of the Phelan & Taylor packing house at Shumala on my layout. The structure is a Showcase Miniatures kit.

I did so with Athearn reefer bodies, adding replacement correct ends. I got my ends from Richard Hendrickson's former Westrail moldings; these are now available from Southern Car & Foundry.

I show here my Class R-40-14 model (24). By 1953 these cars were 12 years old, and most would surely have been repainted into a later scheme, likely the two-emblem black-white scheme.

That is what I chose to apply on this model. Again, the new Microscale set 87-501 is the one to use for this scheme.



25: Class R-50-5 was distinctive in that it is 47 feet long, instead of the 41 feet of nearly all the other PFE ice cars. The class was mostly used for frozen food. My model is the Sunshine resin version and is shown in this view up Nipomo Street, spotted at the wholesale grocer, Peerless Foods, in my layout town of Ballard. The car was built by Dennis Williams and lettered and weathered by me.

Class R-50-5. Although PFE originally built 400 cars of Class R-50-1, when rebuilt, they were split into two new groups of classes, R-50-3,-4 and R-50-5. Both the original cars and the R-50-5 rebuilds have been offered in resin by Sunshine. As the -5 cars were the most numerous survivors of the original 400 cars, I decided to have one, even though this class size falls below my cutoff of 1000 cars. My Sunshine model is shown, see (25).

Frozen food was a growing category of perishable shipment after World War II. PFE's ice-refrigerated (and heavily salted) cars



like this class would be superseded in a few years by mechanical reefers, which could better handle the low temperatures needed to ship frozen loads. But in 1953, ice-salt refrigeration still dominated frozen food shipping.

Class R-40-25. During 1949-50, PFE acquired another 3000 all-steel cars, largely similar to the R-40-23 cars which preceded them, although the cars were manufactured with the then-new diagonal panel roof. These were also the first new PFE cars to receive the 1949 paint scheme modification, with most side hardware orange. Adding the correct roof could be done by kitbashing a new roof onto any model of an R-40-23, but InterMountain has offered the R-40-25 cars with all correct parts, so there should be no need for any kitbashing. An InterMountain



26: Class R-40-25 is important because it comprised 3000 cars, although visually it is not much different from preceding all-steel Class R-40-23. It differs primarily in having a diagonal-panel roof. One of my models of this class is shown being spotted at the ice deck in Shumala. This is an InterMountain ready-to-run model, with some weathering and route cards added.



27: Seen here at the Nipomo Street crossing in Ballard on my layout is a car of Class R-30-16, with its distinctive wood-sheathed ends and steel roof. This was built with Terry Wegmann parts on a Red Caboose body. The paint scheme represents a postwar repaint of a car originally rebuilt about 1940.

ready-to-run car, which I weathered appropriately for the age of the paint scheme, can be seen in (26).

Class R-30/40-16. This was one of the larger classes of rebuilt PFE cars, about 3400 cars, and is distinctive in that the cars were given solid steel roofs of straight-panel design when rebuilt, but retained their original wood-sheathed ends. There has not been a commercial kit for this class, but at one time noted die maker Terry Wegmann made roofs and other parts for this car that could be added to a Red Caboose car body. Terry never sold many of these kits, and they are



no longer available except by private sale, but I was lucky enough to pick up two of them for my fleet. For one of these completed models, see (27).

Class R-30/40-24. This is a particularly interesting rebuild class, not only for its size (more than 2500 cars) but for its appearance. It was the only PFE rebuild class to receive Improved Dreadnaught ends, with narrow intermediate ribs between the large ribs, and initially the cars received plywood side sheathing when being rebuilt.



28: PFE 67412 is being picked up from the ice deck by Consolidation 2829, with the Shumala yard office behind the engine. My stand-in model of a plywood-sheathed Class R-40-24 car is modified from an Athearn kit, by the simple expedient of slicing off the side rivets and door hinges, replacing the latter with Grandt Line part 5168 hinges, adding a Precision Scale brass washout plug as a fan shaft, and replacing grab irons, ice hatch hardware, and running board (with etched metal grid). The original's tabbed side sill was also removed, and Detail Associates stirrup steps were applied. This is the 1949 paint scheme, with most side hardware orange, but still with color UP medallions. For those preferring a more accurate car body, a Sunshine resin kit has been produced for this class.

Over time, the plywood choice proved a poor one, as water got inside the sheathing and caused it to delaminate, warp, and curl. Within a few years, shops were directed to re-sheath any -24 car with such symptoms with tried-and-true tongue-and-groove (T&G) sheathing, and photos show that many cars were in fact so reworked. But the plywood did survive on some cars into the middle and even late 1950s. So 1950s modelers can choose to have both plywood and T&G versions of this class if they wish.

I have modeled the -24 cars both ways. The plywood version can be modeled, at least as a stand-in car, by simply sanding off the rivets on an Athearn steel reefer or other car with Improved Dreadnaught ends, and replacing the door hinges with the long-strap type used on wood car sheathing.

The model I show (28) is of that kind, and is otherwise pretty much the Athearn body with appropriate re-detailing. The At-

“The Athearn wood-side reefer ... has the correct door hinges, and needs only to have the sheathing retainer strip along the bottom of the car side removed ...”

hearn underframe, however, has essentially no relation to an actual R-40-24 underbody. A much more accurate version is quite possible, because there has also been a Sunshine resin kit for the plywood cars.

The T&G version is also easily created, at least as a stand-in, with the Athearn wood-side reefer. It has the correct door hinges, and needs only to have the sheathing retainer strip along



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the bottom of the car side removed, and some of the clunky Athearn details remedied.

Class R-30-9. Although one of the last classes I will illustrate here, it is certainly not the least among the PFE car classes, numbering more that 7000 cars at one time. I believe this is a frequently overlooked class, and there is no good reason not to have a representative number of models, because Red Caboose produced a fine model of this car. Both kits and, more recently, ready-to-run cars have been offered.

I have built a couple of the Red Caboose cars from kits. The one shown (29) was modeled with ice hatches latched open



29: Class R-30-9 is among the largest PFE classes, and yet is often neglected by modelers. My chart, Table 2, should make the need clear. My model, shown in a train passing the Shumala section house, is a Red Caboose kit, built with ice hatches latched open for vent service. This particular kit was a special run for an annual meeting of the Southern Pacific Historical & Technical Society. It is lightly weathered to indicate a car recently washed.

for vent service, an operating feature described in Part One of this column.

The Red Caboose ice hatches have plugs molded on the underside, as do the ice hatches of some other makers of refrigerator car models. I painted them light gray before installation.

I think the opening angle of the hatches here, which corresponds to the top of the kit’s latch bars, is a little too high, and I will probably arrange my next model a little lower. But this arrangement does offer an interesting variation in your reefer fleet.

Ice service cars. Throughout its history, PFE needed to move ice from places where it was plentiful to places with



30: This ice service car is spotted at the ice unloading door of the ice house at Shumala. Its ice hatch openings have been blanked off and lettering changed for its service assignment. This is a modified Red Caboose car. The white placard at the left of the car side reads “PFE ICE SERVICE RETURN TO LOS ANGELES WHEN EMPTY,” and is available in the new Microscale 87-501 set.



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a shortage. They simply used older or worn-out cars for this service. Floor racks were removed to make ice handling easier, and usually the ice bunkers were removed and the hatch openings blanked off. (The cargo, of course, refrigerated itself.) By about World War II, such cars were usually stenciled “ICE SERVICE,” and Microscale set 87-501 has this lettering.

I modeled such a car for my ice transfer (ITP) type of facility at Shumala, using a Red Caboose model of Class R-30-9, modifying the lettering and blanking the hatch openings. To see the model, refer to (30).

This not only affords a different car in my PFE fleet, but adds another car destination as well.

Western Pacific cars. As many modelers know, the PFE roster included a block of cars owned by Western Pacific, but under contract for PFE use. Originally there were 2775 of these cars, and most of them were reconditioned in 1939-1940. But they were badly deteriorated by 1950 and many were being scrapped. Finally about 900 were reconditioned again in 1954 and returned to service.

This group is large enough for me to want one in my model fleet. But as it happened, the rapid shrinkage of the WP car group had resulted in an almost zero fleet size in 1953. Surviving old cars had been withdrawn from service, pending agreement with WP about rebuilding, and the rebuilds did not start to appear in any numbers until the fall of 1953. Strictly, for much of 1953, the fleet is too small to include in Table 2. I suppose I could say I have instituted a small time warp to have one of the original WP number-series car, more probable in 1951 or 1952 than my model year of 1953. I show my single WP car here in (31).



31: My lone example of one of PFE's Western Pacific cars is this Red Caboose kit, shown here being switched in front of the Shumala depot by big Baldwin 5212. This reefer is pretty much built stock from the kit. I did equip the car with AB brakes, but little else was changed besides addition of weathering and route cards. (Construction of the depot was described in my Model Railroad Hobbyist column for November 2012.)

Car modeling summary. These example cars are intended to illustrate the variety of available models.

As mentioned, most of the classes can be modeled with various approaches, largely because PFE used an essentially standard superstructure, whether for wood-sheathed or steel cars, making many classes identical in major features, if different in detail. Table 2 provides a basis for model choices if a modeler wishes to proportion his or her PFE roster to the prototype.



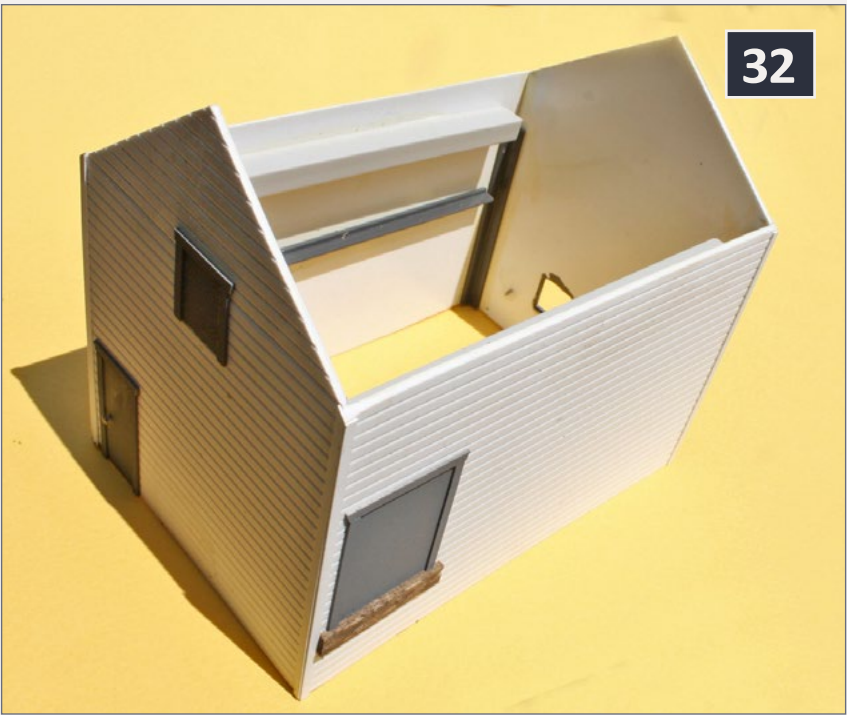
Let me make one important point. It often seems that modelers do not realize how many wood-sheathed cars continued on the PFE roster, even well after the arrival of thousands of all-steel cars, just because the PFE roster was so big.

For example, in April 1950, 62% of PFE cars were wood-sheathed; by January 1958, the fleet was still 47% wood sheathed (and incidentally, there were 712 mechanical refrigerator cars on the roster). If nothing else, models should be chosen with this proportion of wood vs. steel in the car fleet in mind.

Modeling an Ice House

As I stated in Part One, describing prototype operations, most icing facilities in PFE territory were ice transfer plants (ITP), and many were not really large. This permits modeling a small icing facility that is not out of scale with the rest of the layout.

In my town of Shumala, I have done just this, with an ice house set up for rail delivery of ice from elsewhere, and a two-car deck. The building is a simple structure of styrene novelty siding, with a Grandt Line window and simplified doors. I show



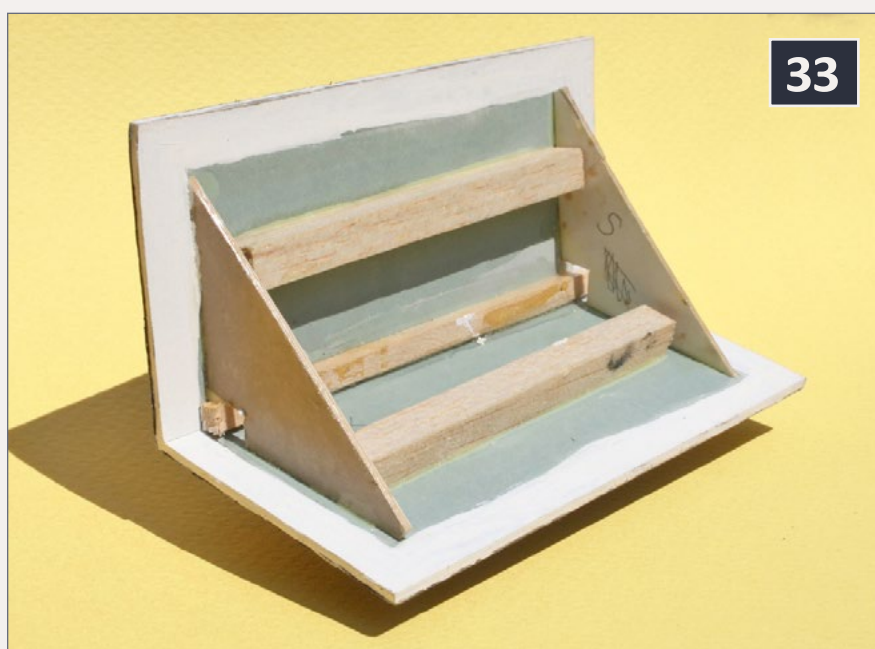
32: The styrene building is built with novelty siding, reinforced near the top of the sides with square ABS ubing, and with an angle shape at mid-height, along with corner angles. This kind of construction is quick and easy.

the inside of the completed structure (32) – very simple styrene modeling.

Almost all my structures have removable roofs, for future access to replace window glazing, add lighting if desired, and so on. You can see the roof construction for this structure (33), which is heavy cardstock amply reinforced. I modeled the sides of the clerestory atop the roof with styrene clapboard, to suggest louvers in the clerestory.

An end view of the ice house (34) shows where drive-up customers would purchase ice. A small-town ice facility like this would likely manufacture small amounts of clear ice for consumer sale, but would have limited ability to produce ice in the quantities needed for icing refrigerator cars around peak harvest season.

I present an overview of the ice house and deck here (35). The deck is entirely of stripwood, pre-stained and built board-by-board, and supported on bents that were constructed using a simple fixture to ensure that they would be identical.



33: The ice house roof is made from heavy cardstock, thoroughly reinforced inside with quarter-inch square balsa and with cardstock roof formers to ensure matching roof pitch with the building ends. The outside of the roof has masking tape cut into strips to simulate rolled roofing, and painted medium gray.

I have not added a chain along the deck for moving ice, as the deck is probably too small to justify such an installation. Some small decks did have a sheet-steel track for sliding ice blocks, but again, not in any case I know of where the deck was this small.

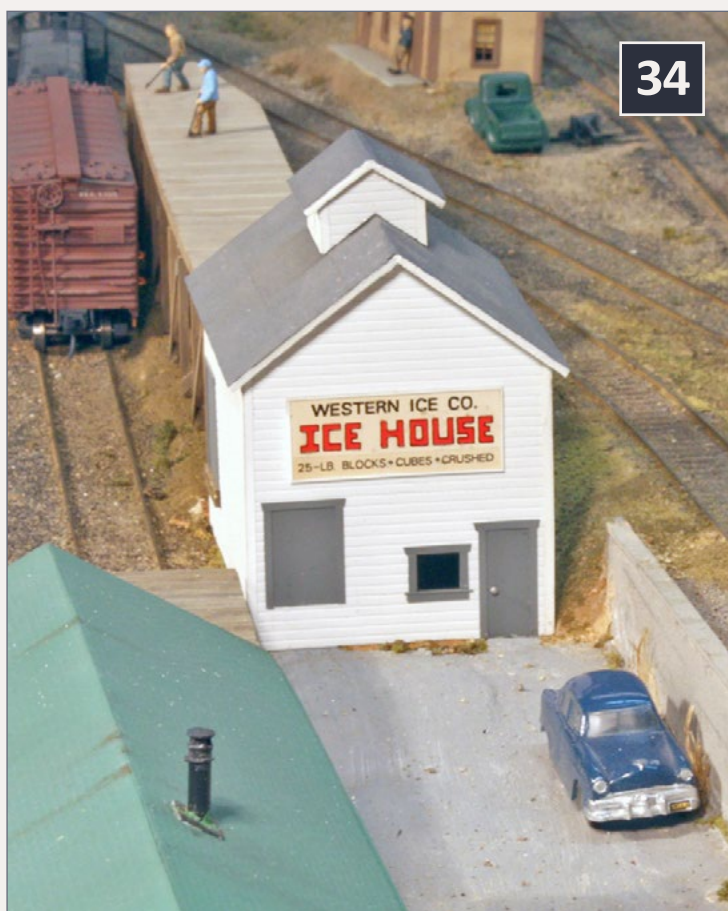
I wanted to have workmen on the deck, and with conventional plastic figures, these are easily chosen.

I made their ice tools, a bident and a pickaroon from brass wire (36).

This ice deck is freelanced and not based exactly on any prototype, but the bents supporting the deck, the size and shape of the building, and other features are definitely chosen to reflect prototype practice.

The bents are patterned on the standard PFE bent, shown in a drawing in the PFE book, page 294 (for full reference to the book, see Part One).

For my small SP branch, this is probably a big-enough ice deck, particularly since some of the packing houses on the branch have their own pre-cooling facilities for produce. That means they will not order pre-iced cars, and so the cars they load only



34: This is an end view of the ice house, with an office door and window, and a service door for drive-up customers. The building is roofed with masking tape simulating rolled roofing, and painted gray.



35: An overall view of my two-car ice deck at Shumala. The building is styrene novelty siding. There is an ice unloading door at trackside, since this is not a large-scale manufacturing facility, it needs to have ice brought in to have a sufficient supply.



36: I've posed a couple of commercial figures on my ice deck, with arms moved to suit the tools. I made the bident at left and a pickaroon at right, from brass wire. I glued the figures to the deck with white glue, so they can be removed and repositioned if desired. I don't normally put ice blocks on the deck, but do have a couple of clear plastic lumps which can be used. They are sanded lightly to make them cloudy rather than clear; clear ice is a consumer product and not necessary for icing refrigerator cars.



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have to be iced once, at initial icing when they are outbound. Packers without pre-coolers are likely to order cars pre-iced, which then have to be initially iced as well.

Concluding Remarks

The cars, icing facilities, and operations connected with Pacific Fruit Express are an interesting story and can largely be modeled conveniently today. I have provided examples of some of the opportunities, without going into a lot of detail about any individual car modeling projects, because I only want to suggest scope, not to lay out too many specifics.

The modeler who needs only a couple of PFE cars in a fleet of freight cars can choose whatever is attractive on the roster of Table 2, if modeling 1953 or a time close to it. For other modeling periods, a roster like Table 2 should be constructed for the modeling year chosen, to permit choosing cars in a realistic way.

Here, of course, I assume that car choices are intended to be in proportion to the PFE roster. If not, one can choose any appealing models.

As for operations, anyone can use the outline above of PFE practice to handle model PFE cars appropriately, including movement of empties, loading and icing cars, and moving loads to market. ☒

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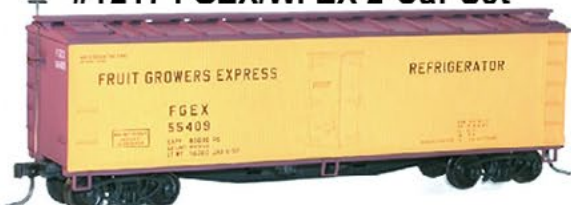
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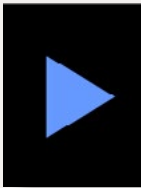
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Jered Slusser, weathering artist

Photos and video of superb models



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What's neat this week column

by Ken Patterson


1



1: Jered Slusser, an educated, talented railroad weathering artist.



In August, we had another great prototype modelers meet in St. Louis. Members of the Rustbucket website were in attendance, with an assortment of “better than museum quality” models.

That’s where I met Jered Slusser, an educated, talented rail-road weathering artist, and just all around nice guy. His models have been featured in the model press and so it was exciting to meet him and have him visit my photo studio. We spent about three hours shooting sun-lit freight cars in various scenes. We made some good quality stills and filmed a switching sequence video featuring Jered's models in operation to share his work with our readers. Jered wrote the photo captions to explain some of the eye candy in this month’s still photos. Be sure to cast your vote for What’s Neat This Week and watch the Jered Slusser video. 

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3



4



3-4: Penn Central X72-A started life as a Proto 1000 novelty car lettered for Dick Tracy! The paint was stripped and all of the cast details were scraped off. New ladders and details from Branchline and Moloco, and scratchbuilt components, were added for the ultimate “silk purse from a sow’s ear”. The X72 and X72-A were general service boxcars the PC, and subsequently Conrail, used for decades.



5a-5b: Conrail transfer caboose #18467 is a kitbash project with the shell built for me by David Lederhouse. The stan-chions are white metal castings and all of the railings and other details are scratchbuilt with exception of the propane tanks which fueled the updated heating systems. This is a model of an N-11E, part of a series of 75 cabooses built at the Despatch Shops in East Rochester, NY in 1969. They were the first transfer cabooses built by the PC on new underframes.



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6: Delaware & Hudson 25051 is a kitbashed Branchline 50' boxcar with a modified sill and end details. These cars were purchased from the PRR in 1972, originally classified as X-44's by the Pennsy. The D&H applied 2 different lettering schemes to the cars, white as modeled here, and yellow. All of these had their roofwalks removed, but only some of the cars had the brake gear lowered.

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7: Conrail 884196 is one of a small batch of covered hoppers that were built by the Erie in its Dunmore shops near Scranton, PA. At the time they were constructed, they were some of the largest covered hoppers on the rails, and the quality of the construction is shown by the number that lasted into Conrail. The model is a resin kit from Funaro & Camerlengo, with a plethora of extra detail parts, including the Plano etched metal roofwalk and Exactrail trucks.



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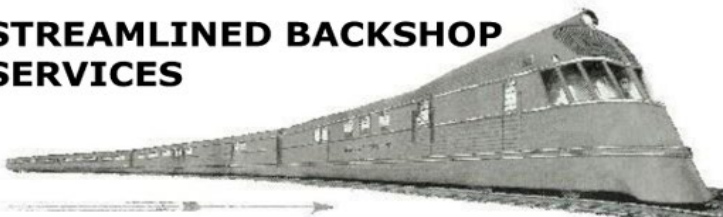
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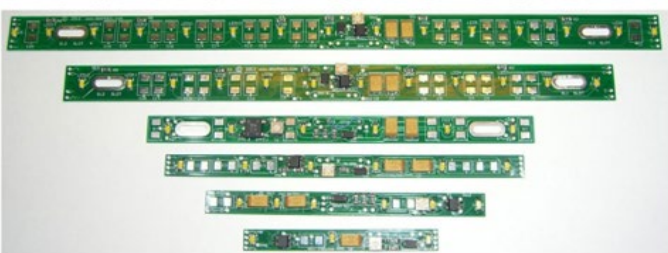
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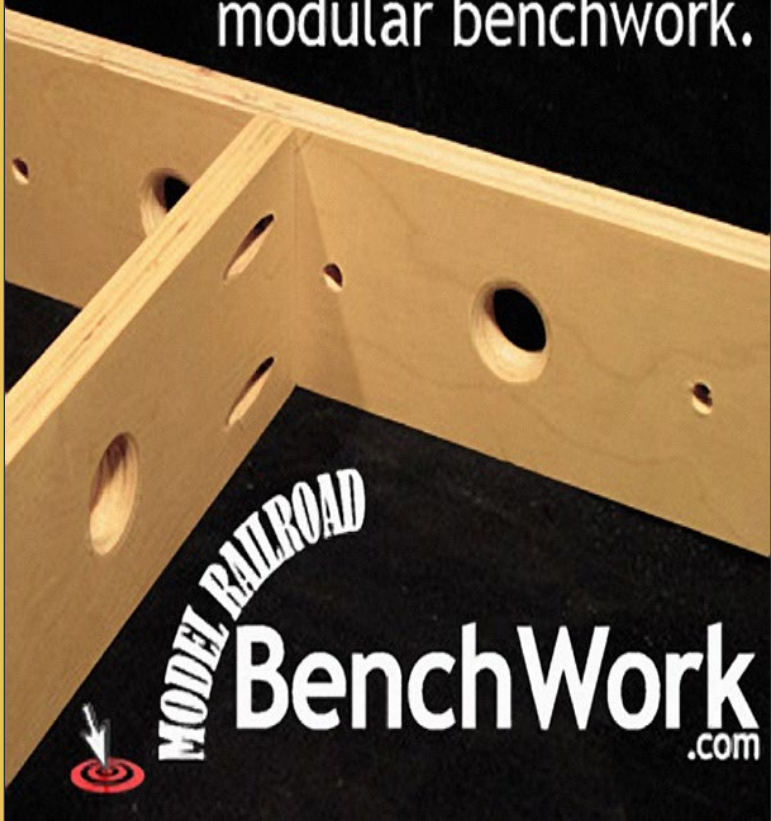
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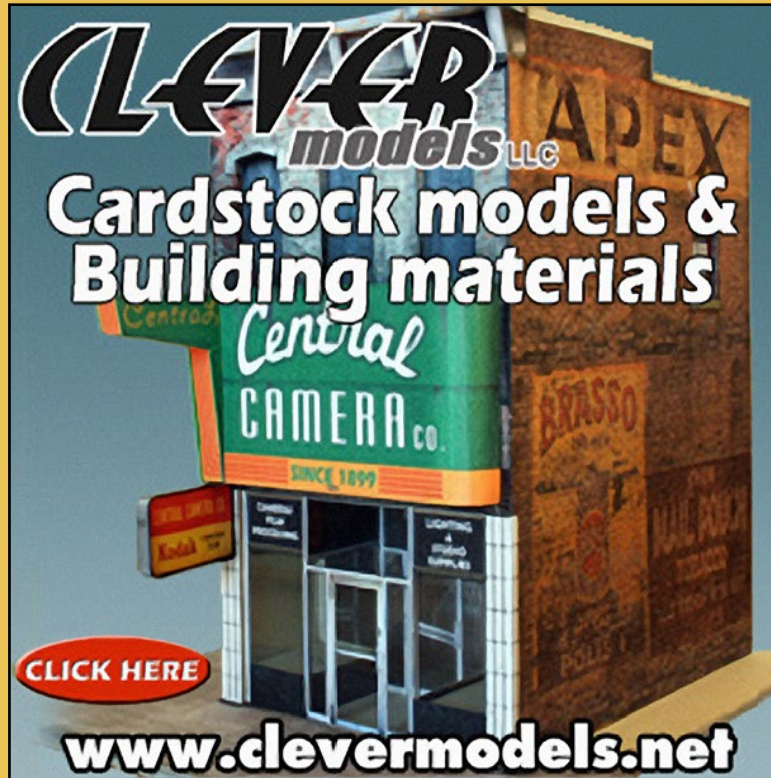
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Drafting tools for modeling part 2

Compasses and dividers
can be used for a number
of tasks ...

by Jack Burgess

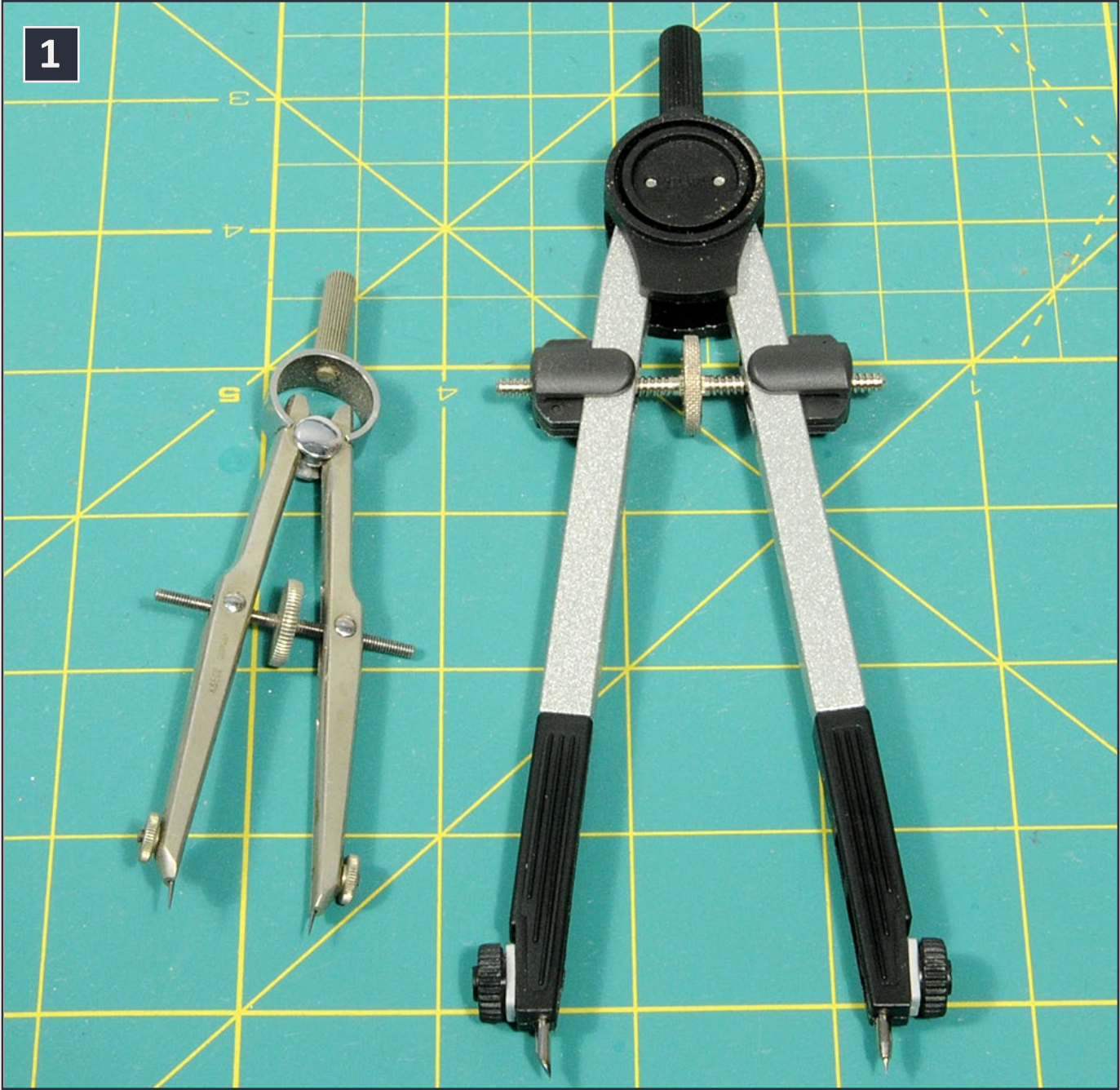


Compasses and dividers are very similar. Basically, compasses are used to draw circles, while dividers are used to transfer measurements. For example, you could transfer measurements from a scale drawing to the material being used to build the model. Many of us (if you are old enough) used a compass in school (with a lead pencil into one leg) to draw circles. But the real difference between the compasses and dividers is whether both points are metal (a divider) or if one point is a pencil lead (a compass).

Combination drafting compasses are typically equipped with both a piece of pencil lead to draw circles and an extra needle for use as a divider. Since this article is not about drawing circles, I'll be using the term "dividers" when talking about taking measurements, and "compasses" when discussing cutting discs of styrene.

The simplest dividers utilize a friction movement to hold the two legs in position. This might work for transferring measurements on a drafting project but doesn't work well for modeling

purposes. Modelers instead need a “combination bow” compass (1) that has a wheel which moves the legs in and out. This wheel can be located between the legs (as on the compasses in Photo 1) or on the side of one leg. This type of compass or

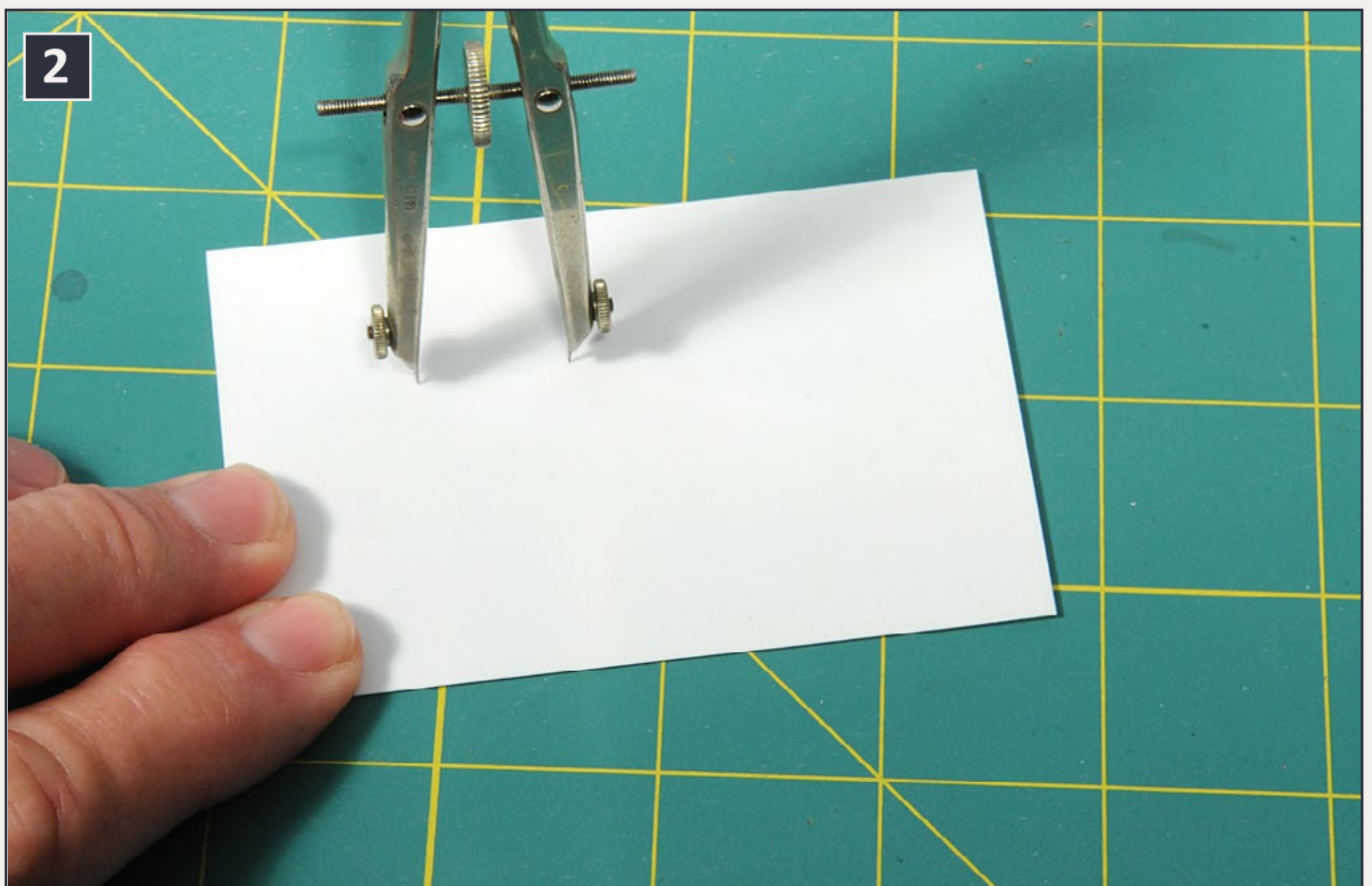


1: I have two dividers/compasses, both of which are combination bow compasses. The smaller one has a maximum spread of about 2" and is used primarily for transferring measurements. The larger 6" combination bow compass has an effective radius of about 5½".

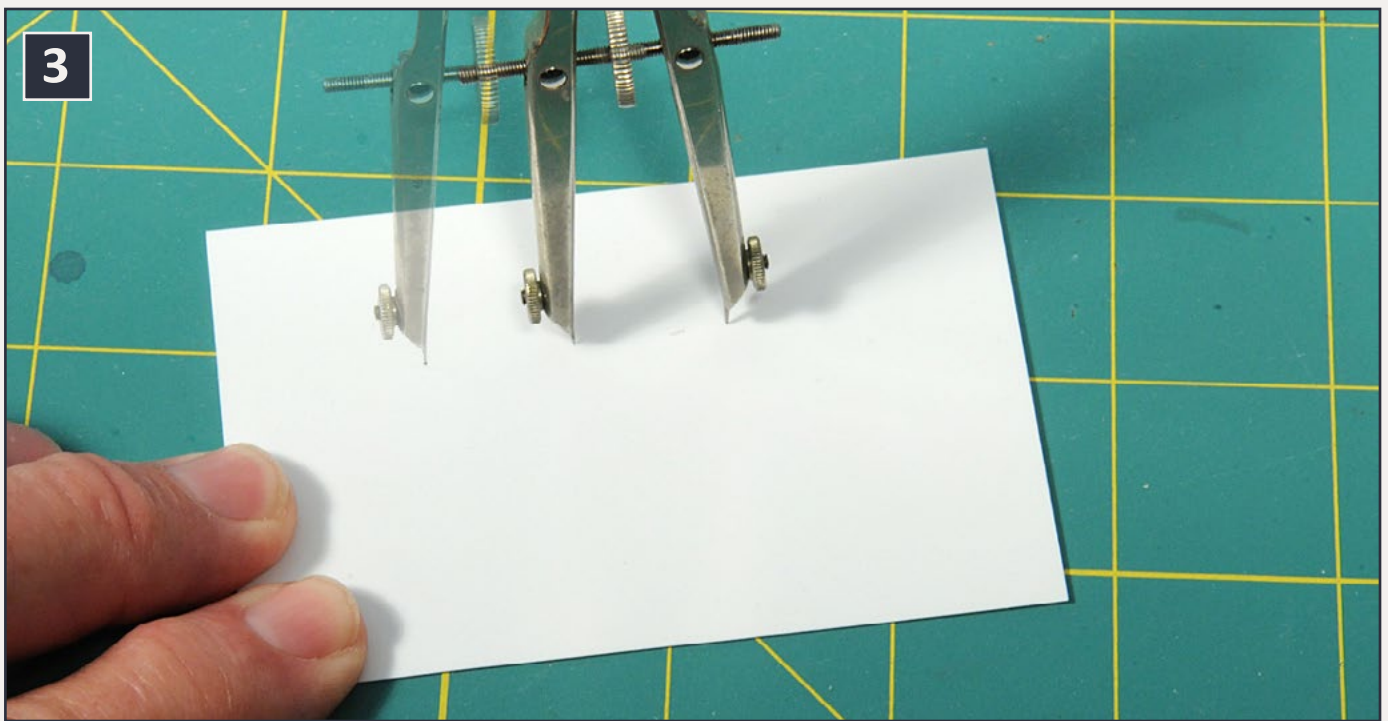
divider lets you accurately transfer measurements or scribe circles without the legs of the tool moving.

I've already mentioned that one task easily handled by a set of dividers is transferring measurements. Assume that you have a scale plan for a simple handcar shed that you want to build. The first step is to lay out the sides of the building on styrene or basswood.

You could simply measure the width of each side of the building on the scale plan using a scale ruler and then, using a pencil, mark the widths on your siding material and cut on the pencil lines. However, chances are good that the two resulting pairs of sides will not be exactly the same width



2: This and the next photo illustrate the technique of “walking” a divider over a sheet of styrene to result in one or more strips of the same width. You start by making prick marks with both divider needles.



3: The divider is then “walked” to the right, pivoting around the right leg and another prick mark made in the styrene for the second piece; the “ghost” image is the original location. This is an easy way to produce multiple pieces of styrene which are the same width. Note that the prick marks need to be in a relatively straight line in order to be the same width.

due to the challenge of placing the pencil marks exactly where they are supposed to be, especially if the width of the sides of the building are not on an even foot mark. In addition, the pencil marks themselves are relatively wide. Is that a problem on a simple shed? No, but such errors do become more important on larger, more complex projects.

If the sides of a building are not parallel, then it will be difficult to fit the roof onto the building. Therefore, I make it a practice to always be as accurate as possible, regardless of the size or complexity of a scratchbuilding project. Whether the resulting structure is exactly the size of the prototype to the nearest scale inch is not as important as having opposite sides are the same width and height.



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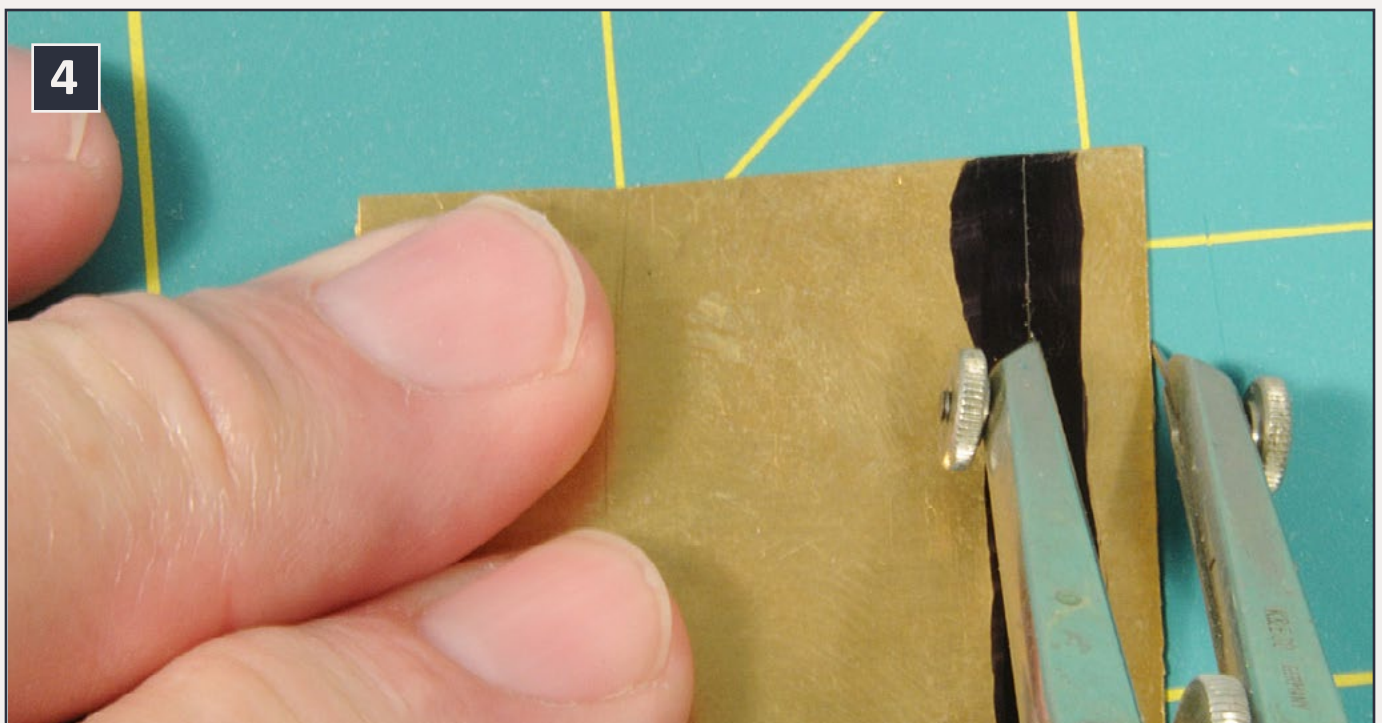


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My feeling is that, if you practice accuracy when building even simple structures, you won't be overwhelmed when you take on large, complex structures.

A more accurate approach to laying out the sides of this simple building is to use a divider. Set the divider to the width of the face of the building and transfer that measure to the material being used for the building by pricking two very tiny holes in the material with the dividers. Then “walk” the dividers (2-3, prior pages) to make another prick mark. These three prick marks set the width of the front and back sides of the building. Marking them with the same divider setting ensures that they will be exactly the same width.

Once you have prick marks for these two pieces, use a small machinist square to ensure that your cuts are perpendicular to the bottom edge of your material as you cut them to



4: This photo shows dividers being used to scribe a cut line on a piece of brass. A permanent marker was used to coat the area that will be scribed so that the scribe line could easily be seen while cutting the stripe to the desired width.

width. Another tip: after lining up the edge of the machinist square with a prick mark, just lightly drag the tip of the blade of your hobby knife along the square; if you are exactly in line with the prick mark, you will feel the tip of the blade “drop” into the prick mark. If so, make your cut. Otherwise, move your machinist square as needed to make sure that it is accurately aligned and then make the cut.

You can also use a divider to scribe lines for cutting material to a specific width. If you need a strip of thin brass of a certain width, set the dividers to the needed width and then scribe a line from the edge of the brass sheet as shown in Photo 4. You need to first make sure that the edge you are scribing from is straight. Otherwise the resulting strip of brass will simply replicate that uneven edge.

The scribe line will be easier to see if you use a black permanent marker to color the area before you scribe the line. The marker dye can be easily removed with lacquer thinner.

The same scribing technique can be used with styrene although you don’t want to use a permanent marker on styrene. If you are scribing a relatively thick sheet of styrene, such as .040”, extend one leg of the needle on the divider longer than the other and use the shorter leg to make the scribe line. This will let the divider be vertical as you scribe the line as shown in Photo 5 on the next page.

Compasses can also be used to cut out discs by scribing. A pointed needle can be used when scribing thin styrene material to make discs. The compass legs are set to the radius of the disc (half of the diameter) and then the material scribed using multiple circular passes.

These multiple passes tend to enlarge the center hole which can cause problems. A simple solution is to tape the material

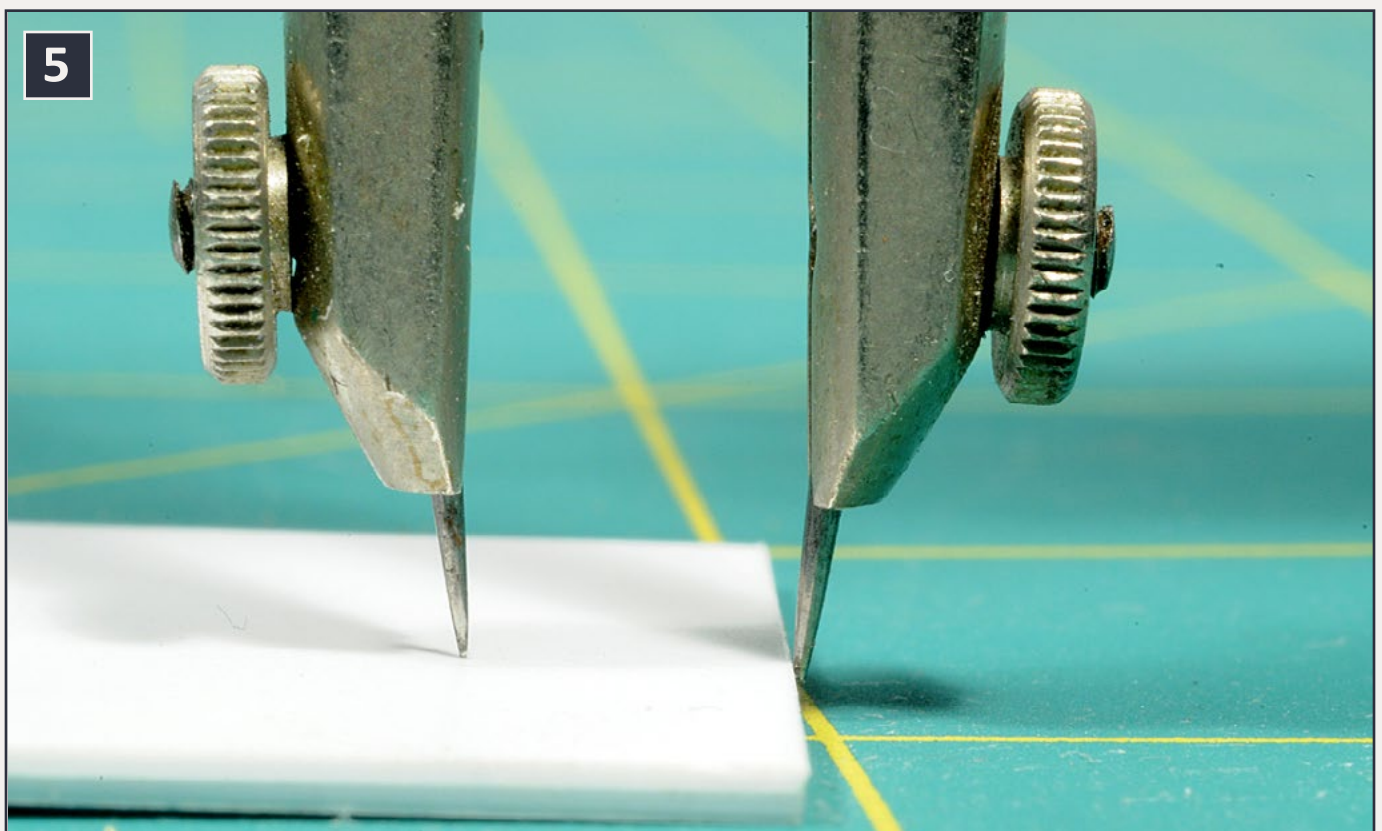


to be cut to a larger sheet of thick (such as .040") styrene; as the center leg of the compass pushes through the thin material it will stay in place via the underlying material.

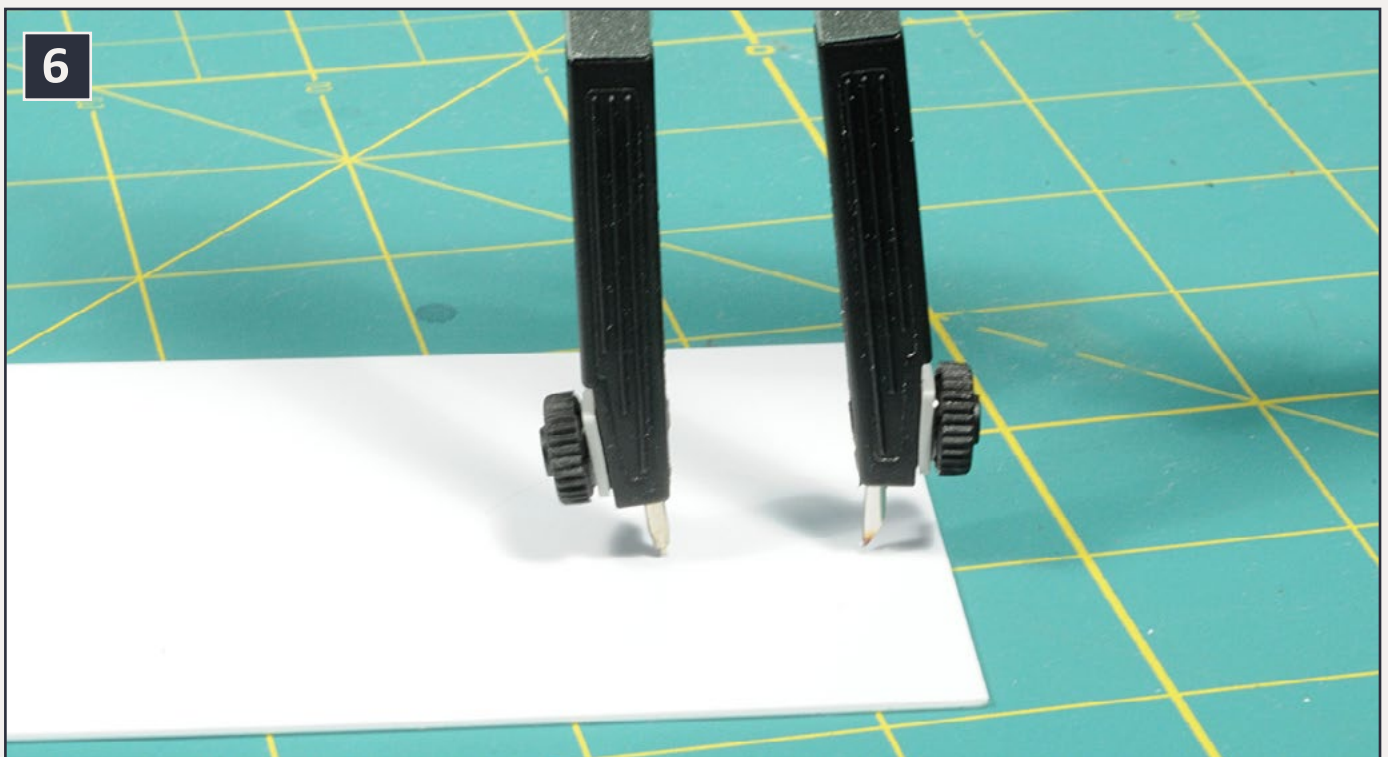
Large round discs are needed when scratchbuilding water and fuel tanks. I typically use .040" styrene for the tops and bottoms of such tanks and the regular needle doesn't work that well (6) since it tends to cut a V-shaped slot. In those cases I will grind the needle to a chisel shape as shown in Photo 7.

Note that most compass needles are double-ended so that you can grind one end and still have a pointed needle end for transferring dimensions. The needle is positioned in the compass with the cutting edge closest to the center of the circle.

Again, make a number of passes and then either snap the styrene piece out, or finish up with a hobby knife after



5: When scribing thicker materials such as this .040" sheet of styrene, extend one leg of the dividers as shown in this photo. That makes it easier to follow the edge of the sheet of styrene.



6: This photo illustrates using the larger compass to cut out a round styrene disc. Repeated passes are needed and it is usually easier to move the styrene than to rotate the compass around a complete circle. The needle on the cutting leg has been ground to a cutting edge.



7: This chisel point was ground to result in a cutting edge on one of the needle points on the compass.

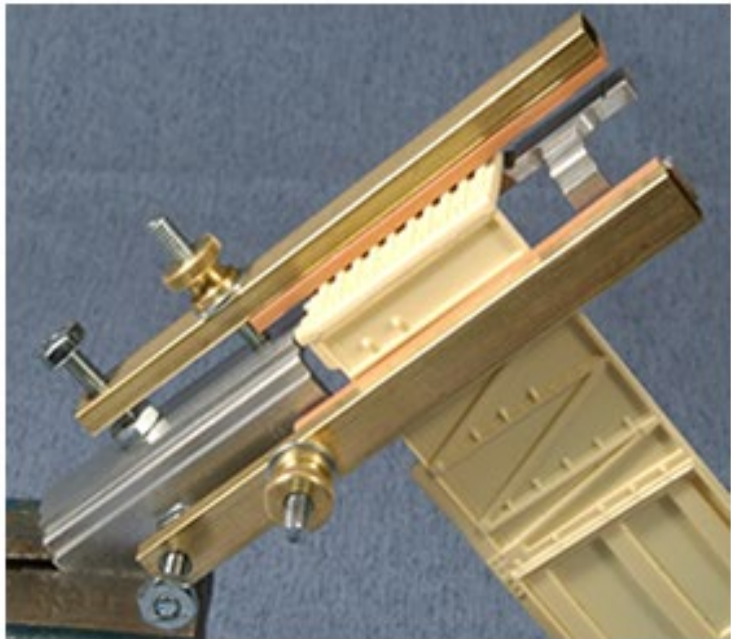


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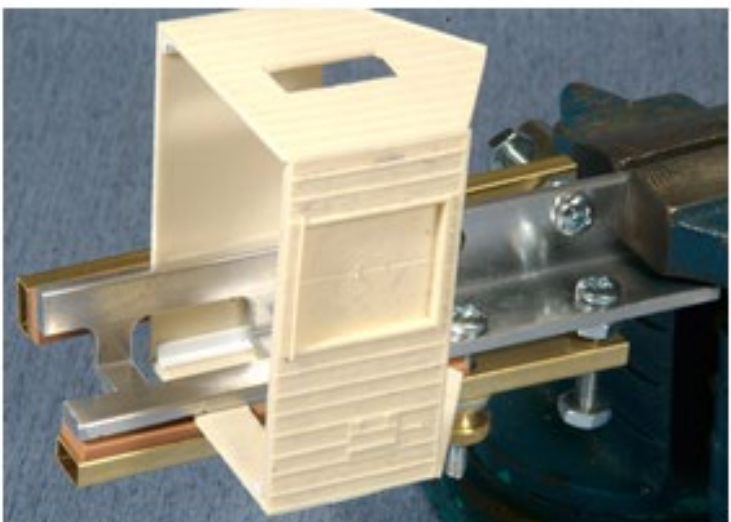


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scribing as deeply as possible.

Drafting compasses are available online at a number of outlets. In addition to my small dividers, which I think I have had since my college drafting class, I use an Alvin Introductory 6" Bow Drafting Compass & Divider that I purchased online from Drafting Steals (drafting-steals.com) for around \$12. It will draw or scribe circles up to about 10" in diameter (equal to over 70 feet in HO scale).

Disclaimer – I love good tools and don't hesitate to invest in them. ☒



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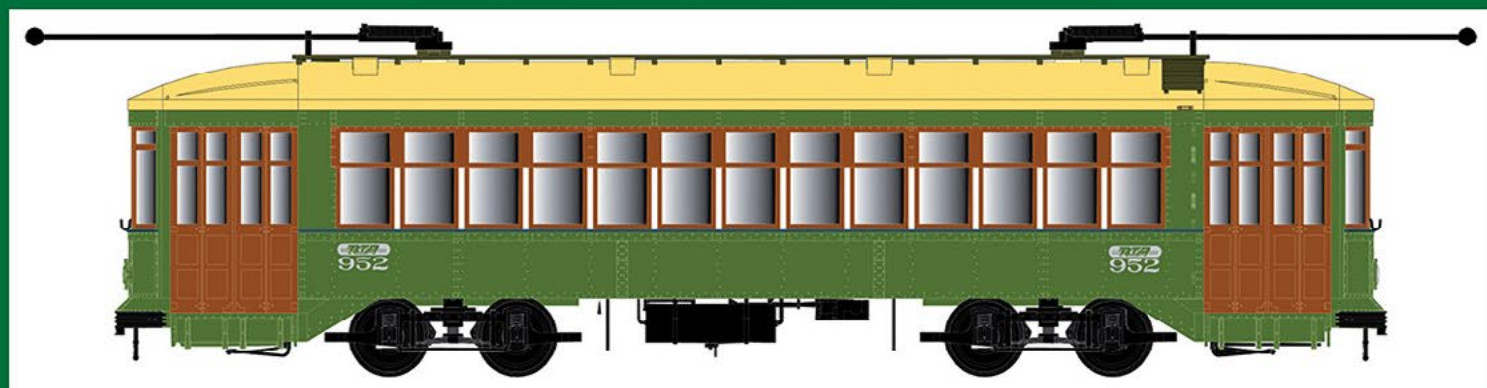


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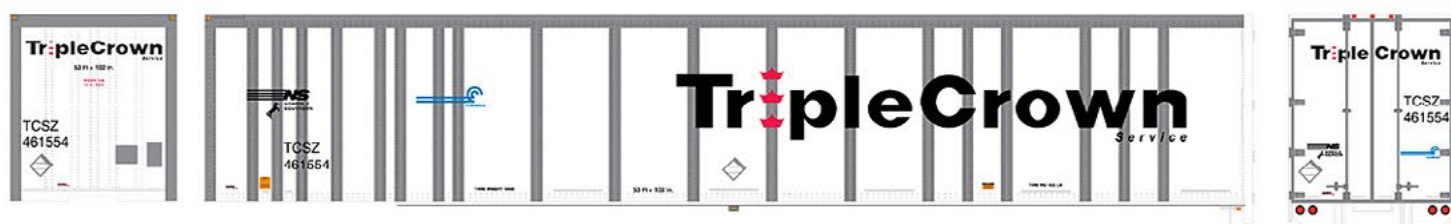


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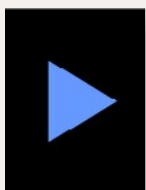


– **By Robert Rousseau**

Model photos by author

Prototype photos by Warren Calloway

Norfolk Southern management bought three 70-ton engines to replace the ten-wheeler steam engines on mail and express trains 1 and 2. Units 701, 702 and 703 were delivered in June 1948 and assigned to trains 1 and 2 until 1951. After that, they were used in local and branch line service around New Bern and Bayboro, NC. They lasted well



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into the Southern Railway merger, remaining on the roster until 1978.



Modifications and details

This is an undecorated General Electric 70-ton switcher ready-to-run model from Bachmann #81101 that I heavily modified. I'm modeling NS #701 in as it was in 1974. The model won first place diesel category in the NMRA Mid-East Region Convention in 2012 in Suffolk, Virginia.

I began by cutting some scrap plastic sheet to cover the front grill. Putty was applied around the edges and sanded smooth.



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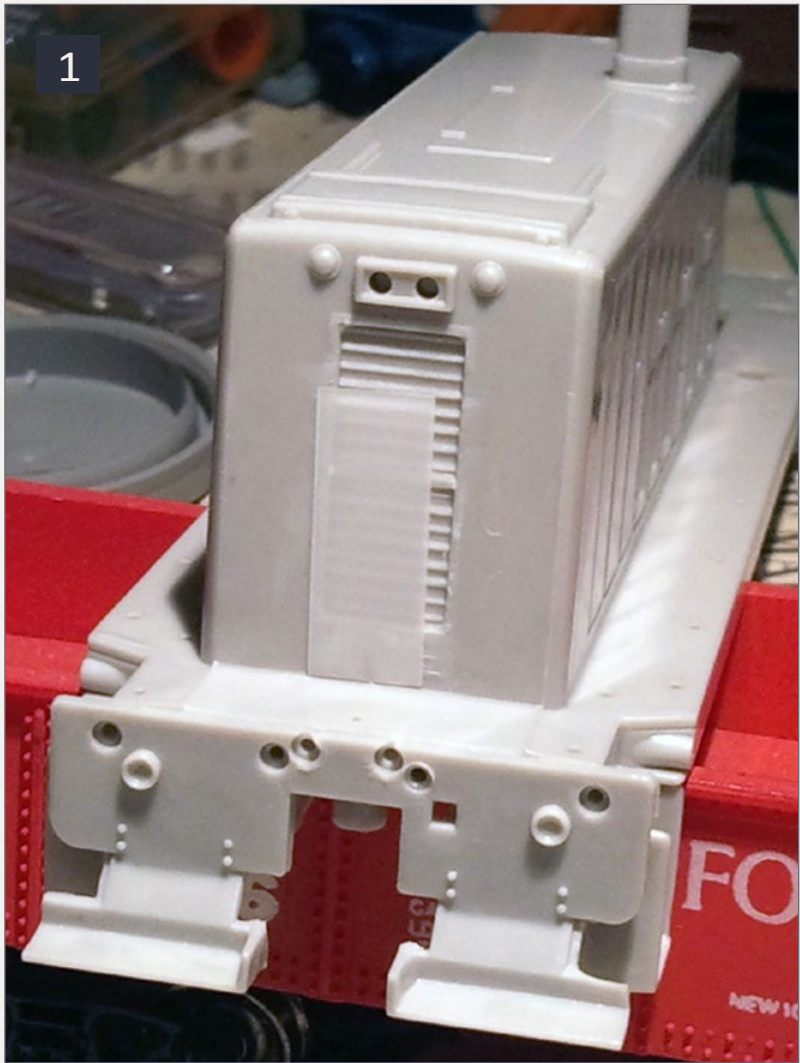
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(1-2). With the sanding complete, I glued on the Hi-Tech Details #6017 Sunshades over windows. Next I chiseled off the existing headlights with flat X-acto blade. I saved the headlight frames and converted them into number boards on the front of the hood (3). You can also see the sunshades added to the cab.

I cut up the handrails to closely match the prototype (4). I filled in the existing hole for the diesel horn with scrap styrene and putty, and drilled a #56 hole and added Cal-Scale #316 5-Chime Diesel Horn to top of the hood. To be able to apply the red diagonal striping decal later, I sawed off the rear steps from the cab, sanding the cab smooth. The steps will be glued on after I reattach the cab to the shell.

I also installed Cal Scale #395 Dual Lens Headlights to the front of the hood and rear of the cab (5). For the headlight cowling, I cut off two ends from a drinking straw and dipped this in light gray paint. I then used Microscale Kristal Klear to make the glass lens. I attached this around the headlights on the front and rear.

I mounted Cal-Scale #280 marker lights to the front of the hood.



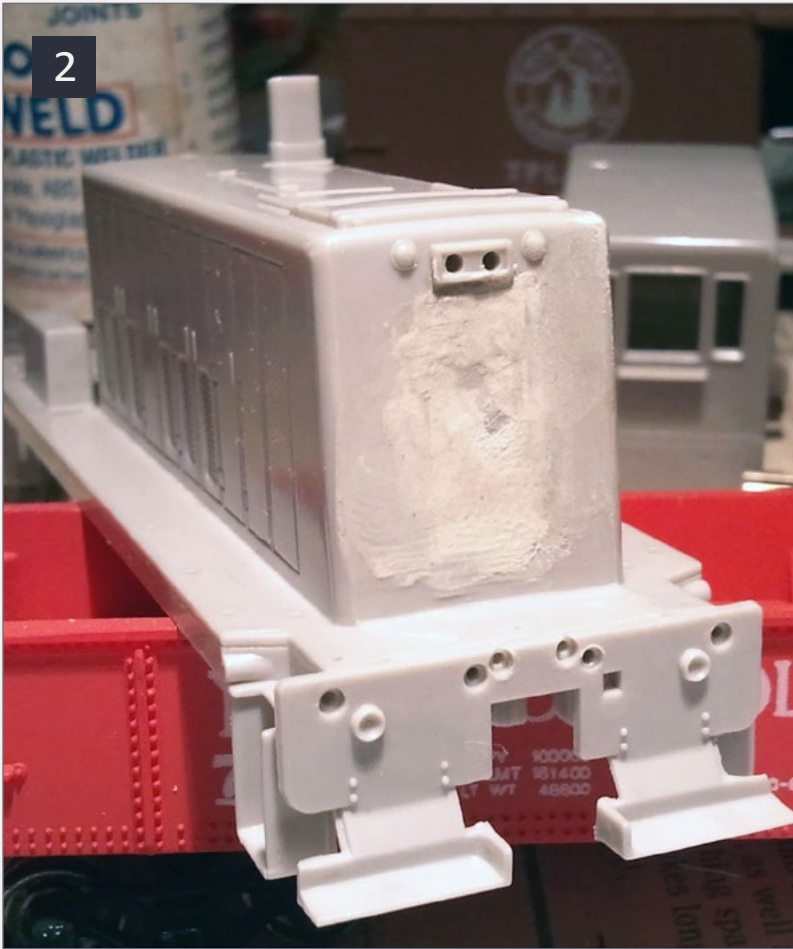
1: Scrap plastic is used to cover the radiator.

Using a #78 bit I drilled holes for the marker light wires. I bent the brass wires to “plug” into the locomotive lighting sockets. Four Sequoia #5005 HO clear marker jewels were glued into the marker lights.

Four Precision Scale #3215 poling pockets are placed around the front and rear of the frame. I added Cal Scale #394 MU stands to both front and rear platforms above the coupler. A-Line #29201 windshield wipers (short) are installed on both front and rear windows (6).

I wanted to have a push pole attached to the locomotive, so I found a black matchstick and beat it up a bit to make it look well-used. I cut A-Line #29002 Stirrup Steps (Style C) into a hook shape to hold the push pole. I cemented all of these into place, being careful that they would not interfere with the movement of the front truck.

For the chain on the side, I cut four pieces from 0.020” brass wire and bent them into a hook shape with a coupler trip pin pliers. I drilled four #75 holes and mounted these next to the fuel tank for the chain. Figure 7 shows future number boards.



2: Putty is used to fill in the gaps. Once it has dried I will sand it smooth.

I painted Alloy Forms #1000 chain flat black and cut it to size, adding on to the hooks.

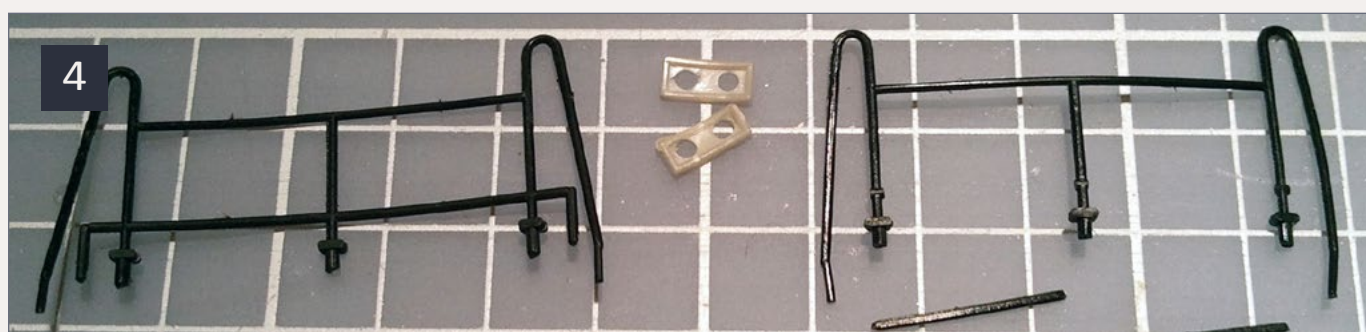
I really enjoy the Hi-Tech Details #6034 MU and brake hoses, and attached these to the ends of the unit. They were painted with Testors Silver and Floquil Rust paint pens.

The grab bars are made from 0.020" brass wire. I cut two lengths and fashioned them to shape. Holes are drilled, the grabs painted yellow, and attached to the front and rear pilots (8). I bent four A-Line #29100 Grab Irons (drop style) into a straight grab iron, drilled holes and installed them on the front and rear pilots. I cut a lengths of 0.020" brass wire and made the grab bar for the rear cab door, and the upper handrail on left side next to cab. These are also painted yellow.

I painted the engineer, seat, and control stand and glued them into the cab. The cab was then attached to the locomotive



3: The radiator area has been sanded smooth and Hi-Tech Models sunshades are added to the sides of the cabs.



4: The kit supplied handrail is on the left, compare this to the modifications on the right. The headlight castings are in between the handrails. They will be glued to the side of the locomotive to become the number boards.

body. I painted the model's handrails and glued them on. Finally I glued on supplied coupler lift bars and stanchions.

The model did not have any of the detail parts to make it a Norfolk Southern locomotive. I added these details based on several photos of NS 701. These photos show the details added to the Bachmann model.

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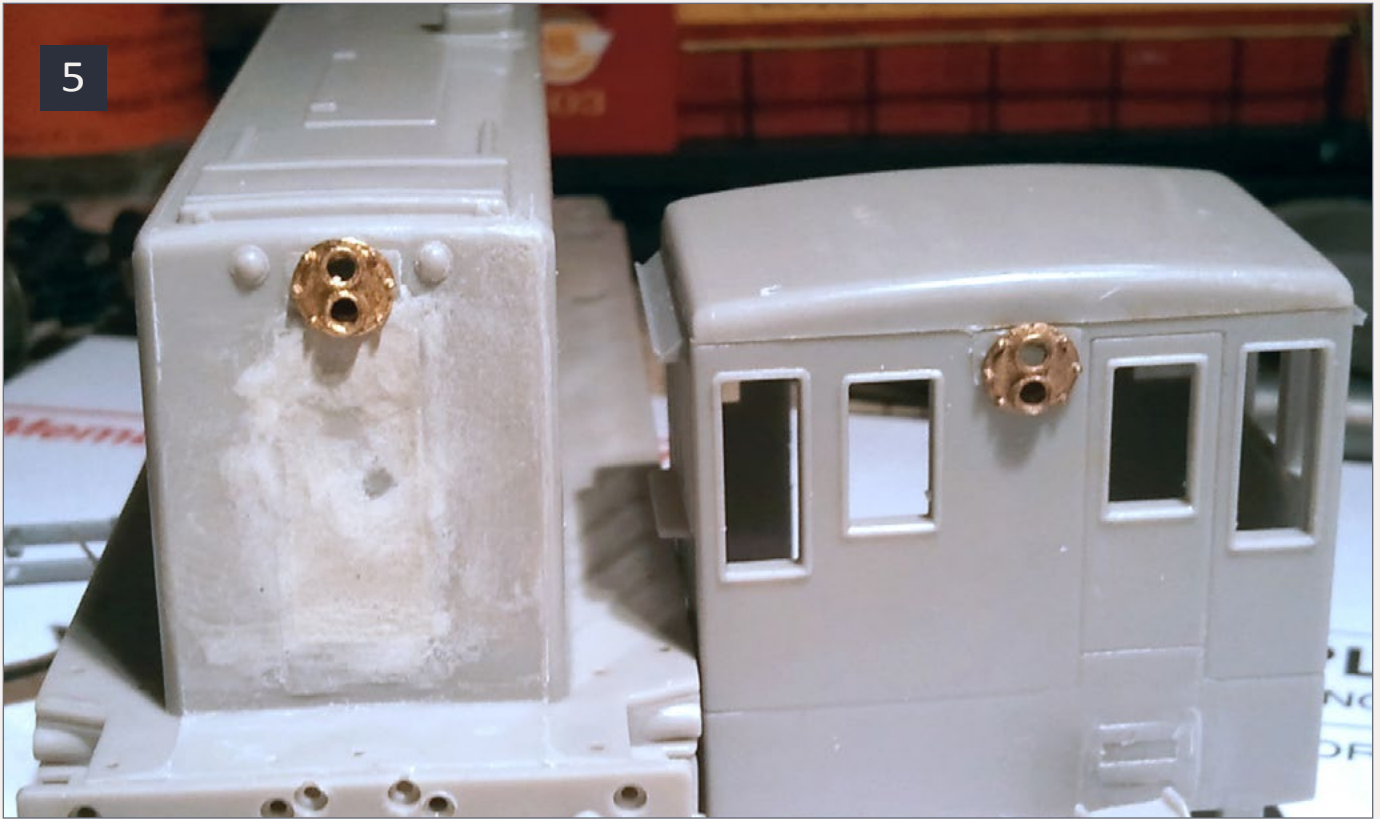
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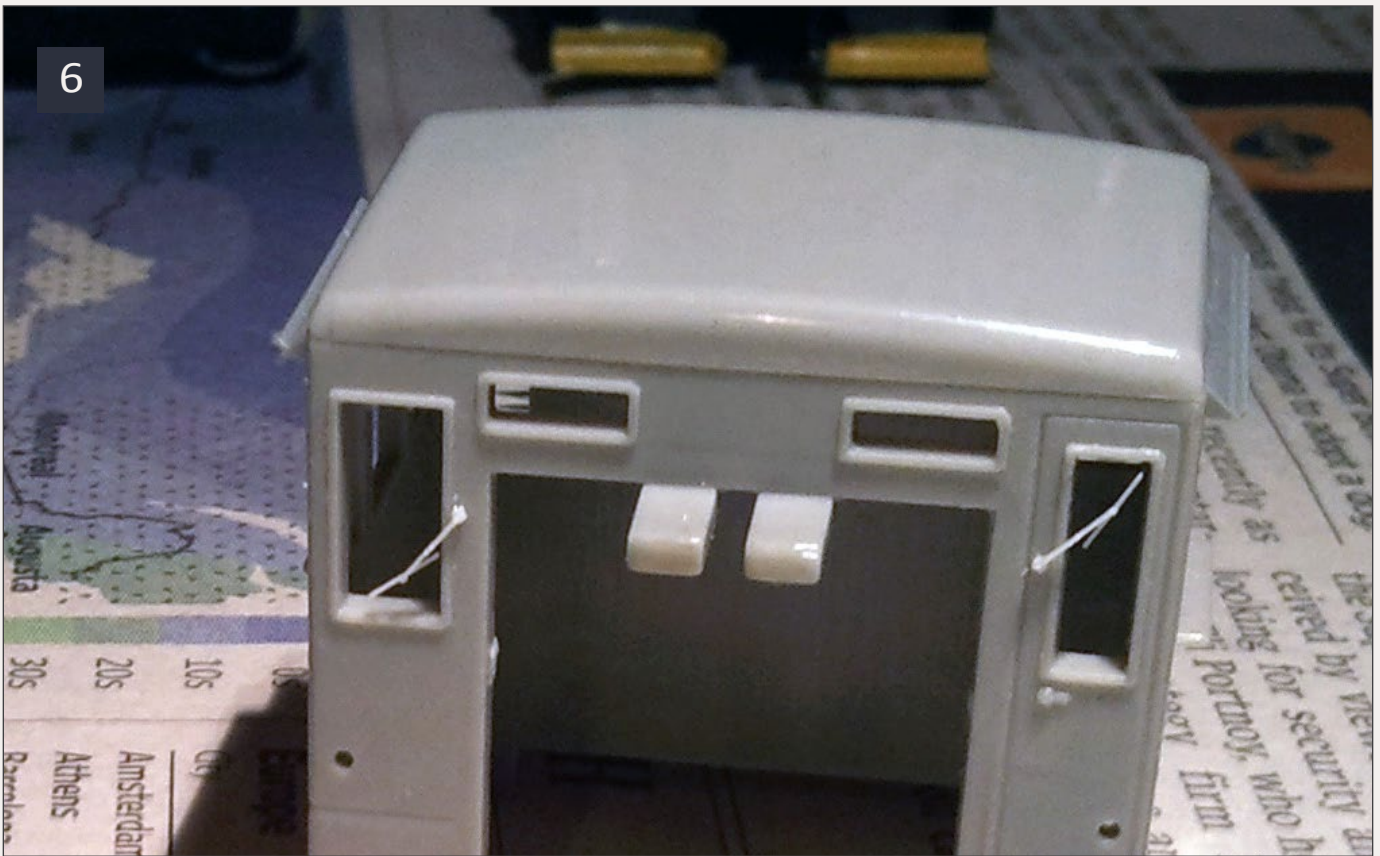


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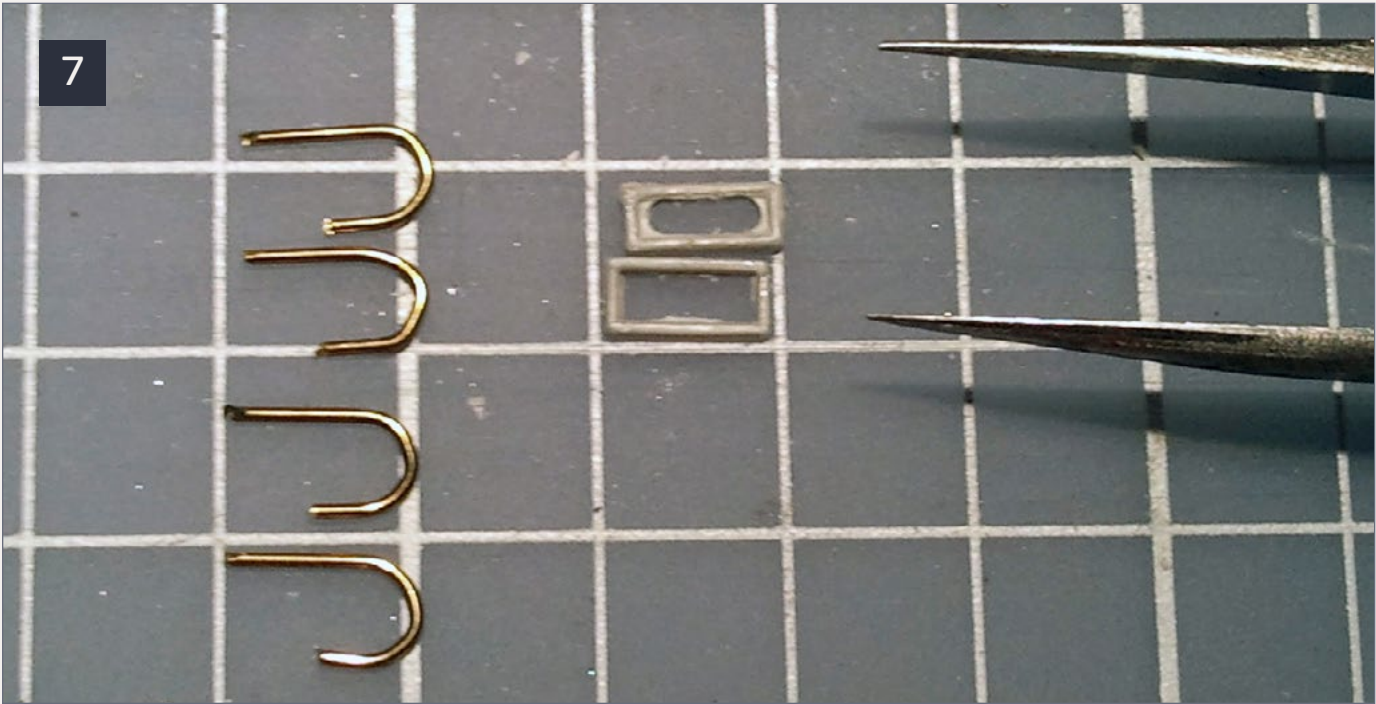




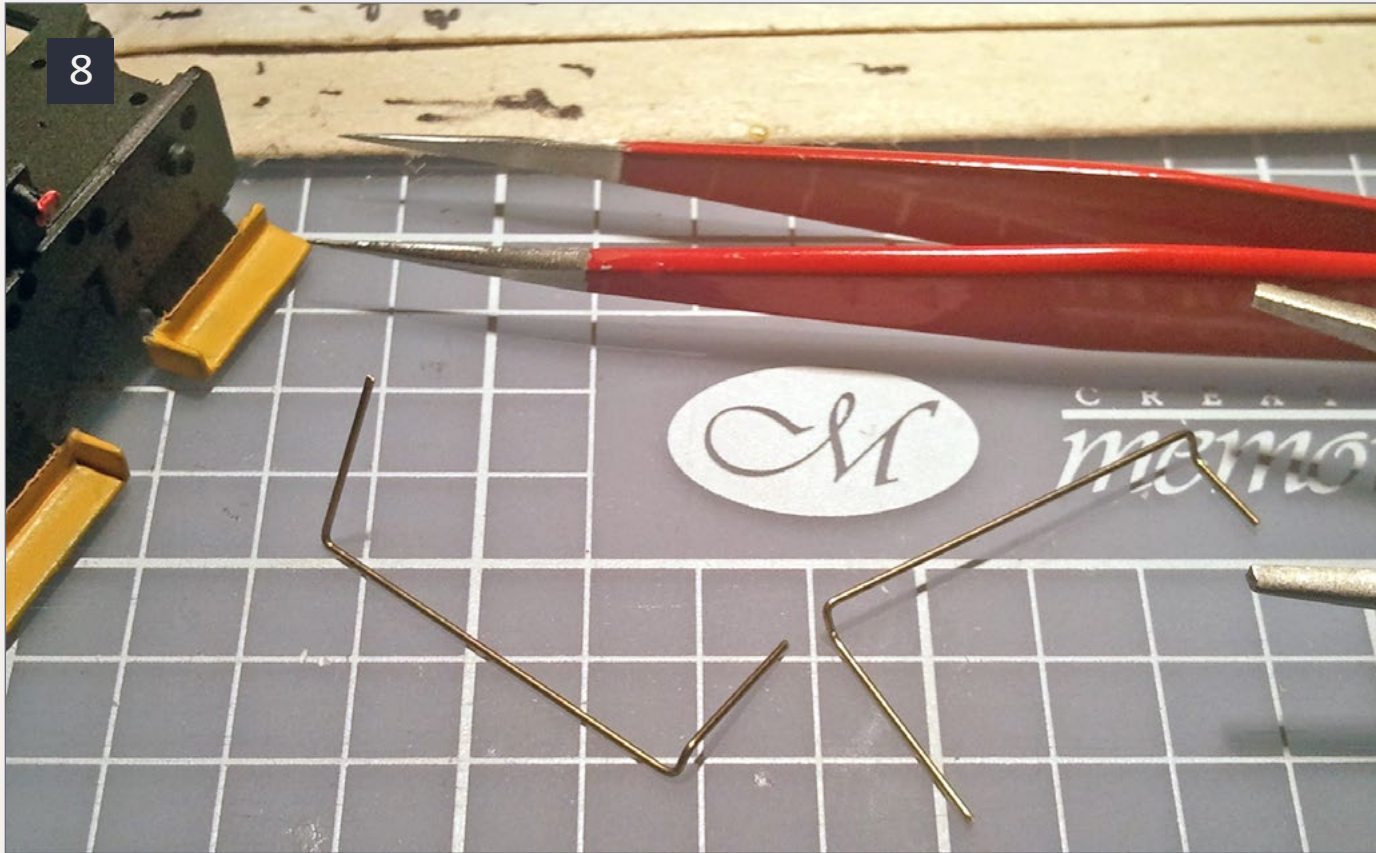
5: Cal-Scale headlights have been added to the cab and hood. The cab steps have also been removed to allow decal-ing of the diagonal stripes on the back of the cab.



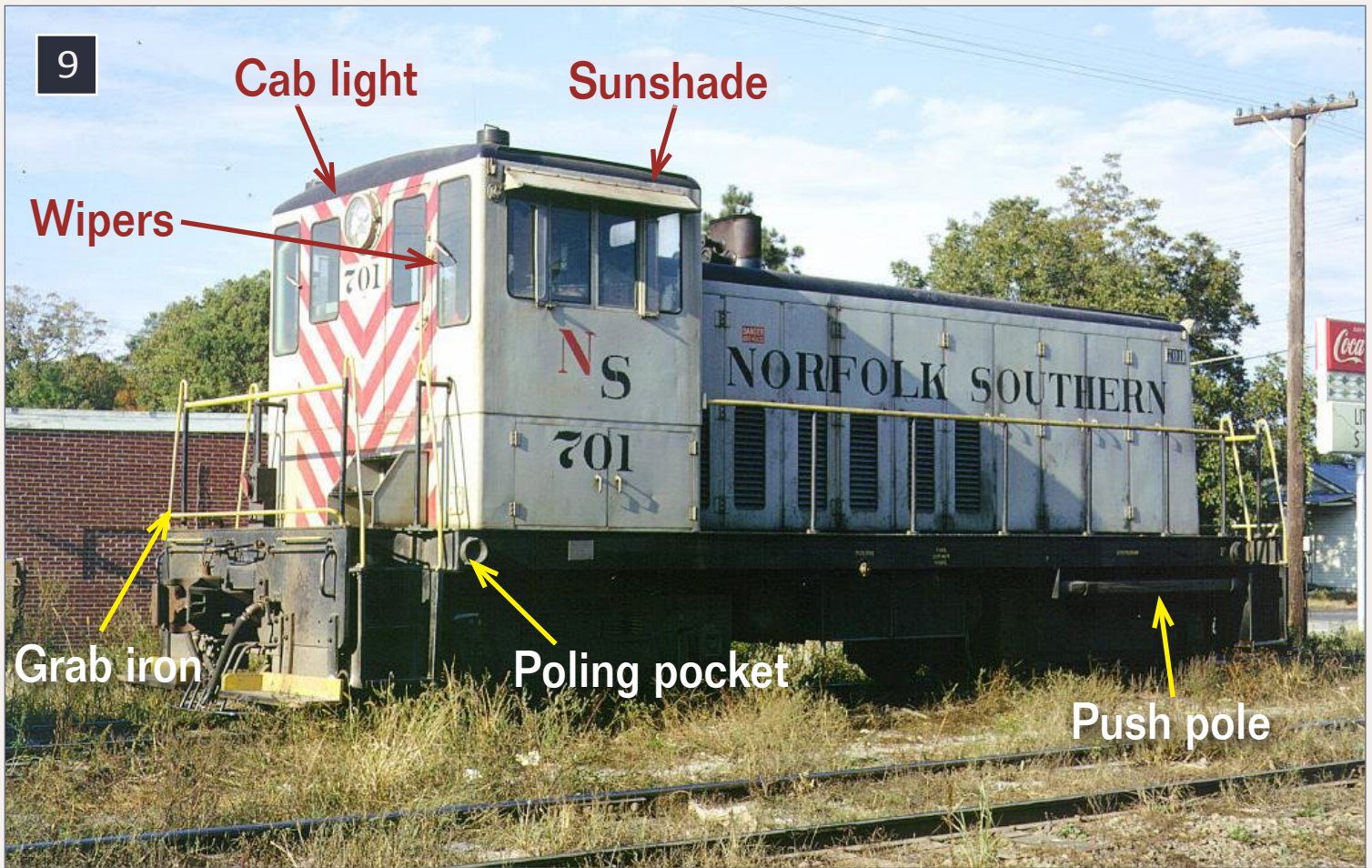
6: Windshield wipers have been added to the front cab windows.



7: The number boards are made from the old headlights that were salvaged from the undecorated locomotive. The hooks are made from 0.020" brass wire and will hold the push poles.

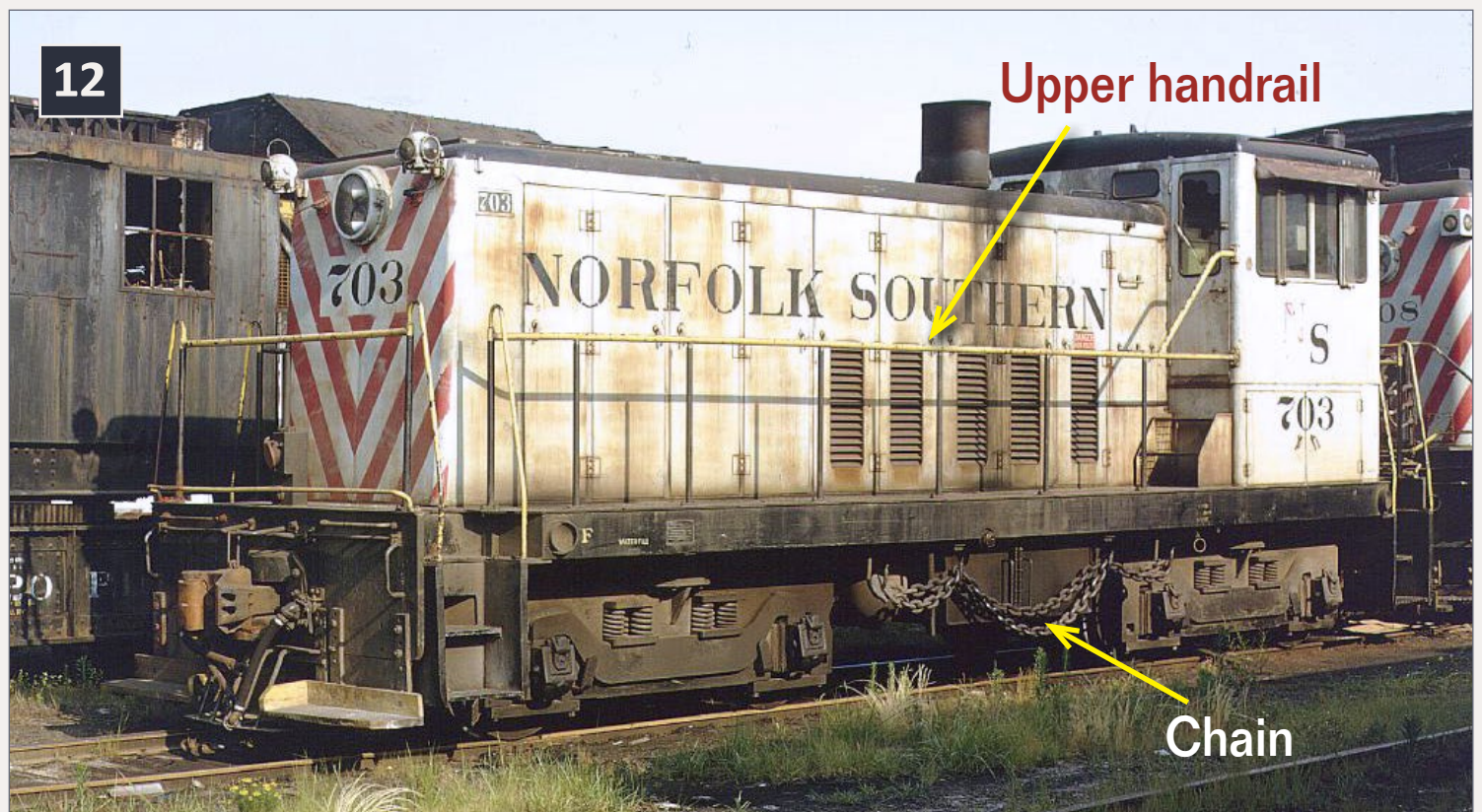
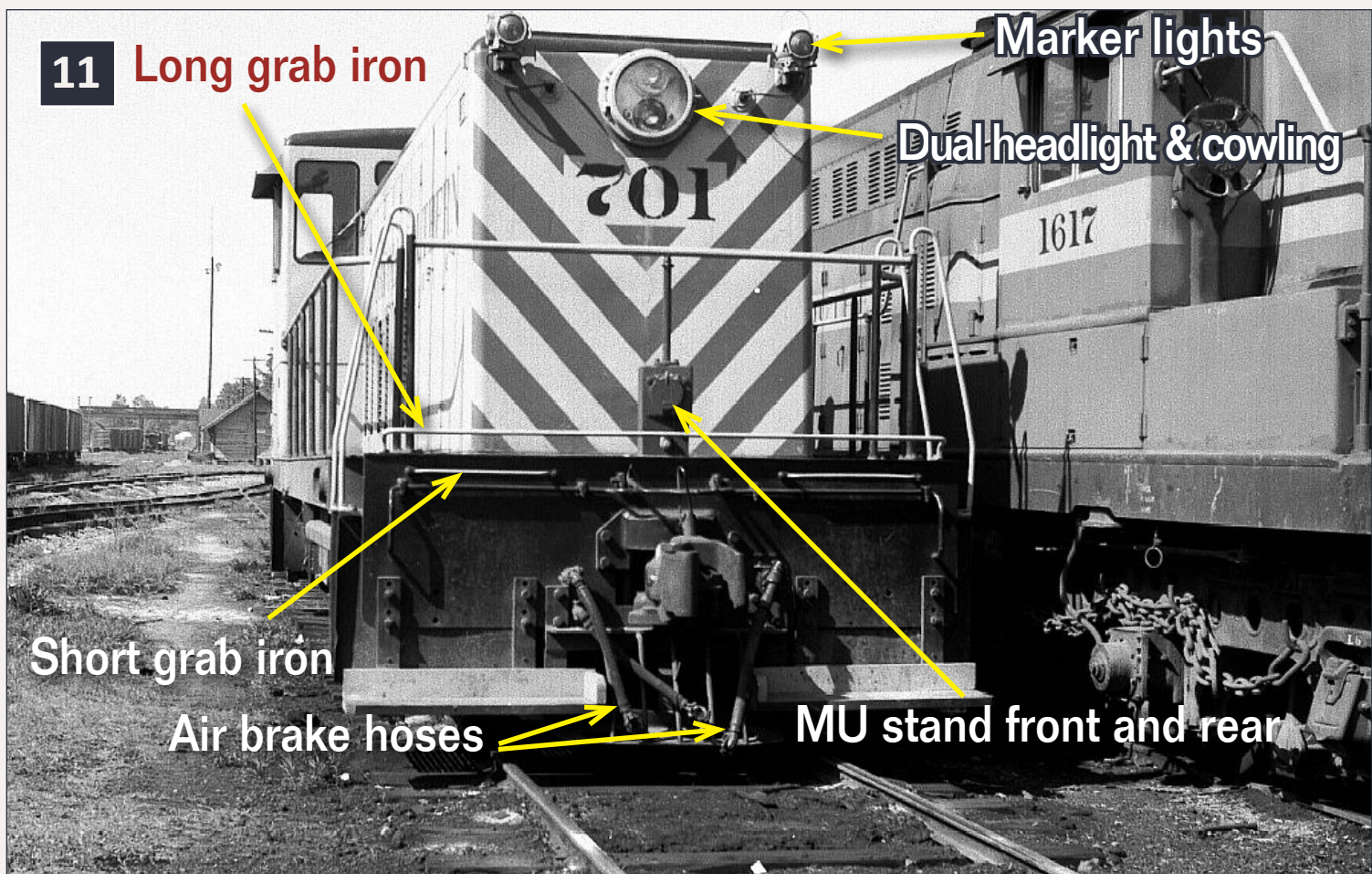


8: The grab bars that go on the end of the cab are bent from 0.020" brass wire.



9: Elizabeth City, North Carolina October 1969.

10: Bayboro, North Carolina July 1974 Warren Calloway photos.



11: Date and location unknown.

12: Chesapeake, Virginia, 1972 Warren Calloway photos.



Finish and lettering

I began painting by hand-brushing several coats of Model Master Light Gray #4765. Next, I masked off the cab and spray painted flat black on the roof. I then masked off and sprayed flat black on the engine hood roof and frame. The handrails, steps and grab irons received 2 coats Monogram-Humbrol #154 Insignia Yellow. I used an Ultra Fine Tip Sharpie and outlined all the windows in the cab.

For decals, I used several sources to get the parts needed.

"Danger 600 Volts" & "F" was from a Walthers #25-78 – ACL GP-35 set.

Norfolk Southern" & "701" & "NS" were all from Microscale #87-135 – Norfolk Southern Diesels.

"Fuel", "Water Fill", "Engine Oil Drain" & "Emergency Fuel Cutoff" from Microscale #87-48 – Diesel Data is used on both sides of the frame.

Builders plate was cut from Microscale #4054 – EMD & GE Builders Plates.

Front and rear stripes was from a Herald King #L-210 – Grey Diesel Hood Unit. This set matched very closely to

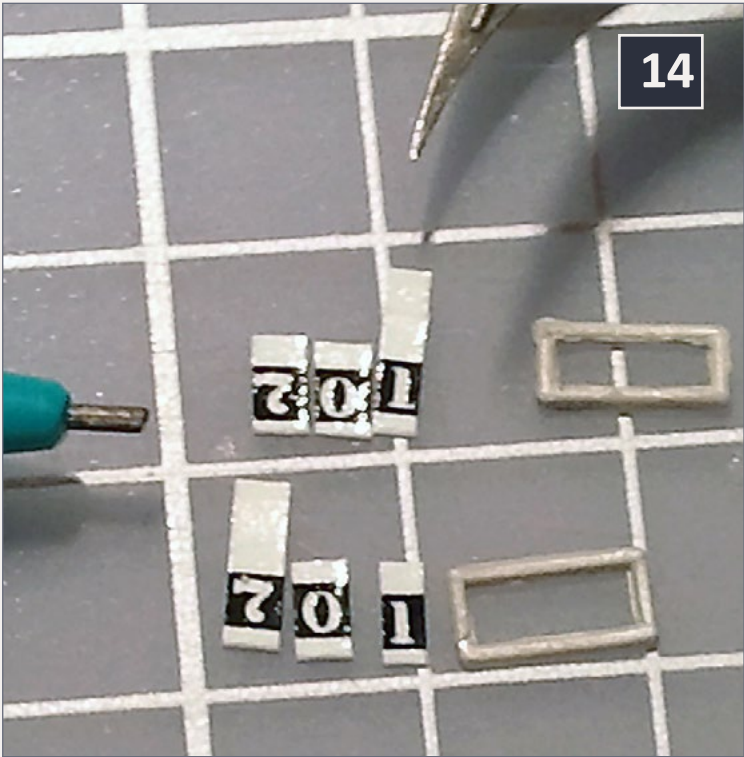


13: The spacing of the road number is checked before soaking the decals off the sheet

the angle of the stripes on NS 701.

Small numbers on the number board of the front hood were cut individually from Microscale #87-205 – Number boards.

For weathering, I applied a wash of India ink diluted with 91% alcohol. I went back and touched up with a cotton swab dipped in 70% alcohol to clean off some areas. ☒



14: Preparing the numbers for the number board.



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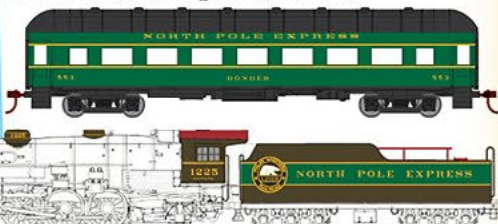
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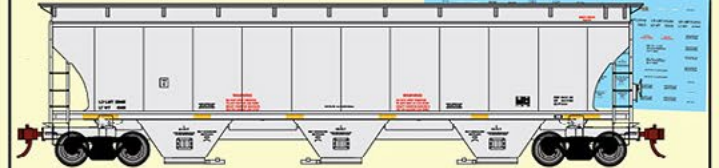


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Robert Rousseau received a Tyco train set for Christmas when he was 10. He is currently building his third layout, based on the Durham & Southern Railroad, connecting Norfolk & Southern Railway in the early 1970s.

He is a Director of the local NMRA Carolina Piedmont Division and a webmaster for several other organizations. Robert is also an Editor for the Norfolk & Southern Historical Society newsletter. He lives in Holly Springs, North Carolina with his wife and two sons. He works for IBM in the IT industry. Other interests include ham radio and camping with his son in the cub scouts.



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Parts List

- A-Line #29002 Stirrup Steps (Style C)
- A-Line #29100 Grab Irons (Drop Style)
- A-Line #29201 Windshield Wipers (Short)
- Alloy Forms #1000 chain
- Cal Scale #394 MU Stands
- Cal Scale #395 Dual Lens Headlights
- Cal-Scale #280 Marker Lights
- Cal-Scale #316 5-Chime Diesel Horn
- Hi-Tech Details #6017 Sunshades
- Hi-Tech Details #6034 M.U. & Brake Hose
- Precision Scale #3215 Poling Pockets
- Sequoia #5005 HO Marker Jewels Clear
- Scratchbuilt parts
- Brass rod 0.020"

Miscellaneous

- Numberboard frames
- Plastic drinking straw
- Sheet of styrene plastic ■



Yes, it's a model

**Model Railroad Hobbyist's
monthly photo album**



1: Ferrous Processing and Trading's Trackmobile pulls a cut of empty gons to be spotted inside its scrap facility located alongside CSX's Downtown Spur in Miami. Scrap steel is ground into baseball size chunks and then loaded into the gons for shipment.

The scene was photographed on Lance Mindheim's Downtown Spur layout.


More images of Lance's model railroad can be found at: lancemindheim.com.




2: A Wabash transfer run returns light to Lang Yard after dropping a block at Fleming Yard. The pair of F7's are on the elevated line at the end of Seeboth Street in the East LaSalle switching district. The elevated line connects Union Terminal with its coach yard located just out of the photo to the left.

This scene is on the North American Prototype Modelers HO scale club layout in Milwaukee Wisconsin. The structures are both kitbash and scratchbuilt models, foliage is comprised of Silfor tufts and Scenic Express super trees and turf mats. The retaining wall is assembled from plaster castings.

David Karkoski did the modeling and took the photo.



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3-4: One of the more important locations on Mike Confalone's HO-scale Allagash Railway is New Sharon, Maine. It's a dreary day in April 1980 and the modest engine facility is alive with the sights and sounds (and smell!) of Alco and EMD diesels getting ready for the day's assignments.

Alco RS32 701 is on the New Sharon Switcher while GP7 500 and MLW M420 205 get fueled and sanded prior to their trip down to the Maine coast on job NL1 (New Sharon-Lincolnville).

The sand tower is a Walthers kit, painted and then decaled with the Allagash logo before weathering with artist oils. The fuel pad was heavily kitbashed from a Walthers kit. A scratchbuilt pump house was added.



The single-stall engine house was scratchbuilt by friend Neil Schofield.

The ground cover consists of combinations of grout, real dirt and sifted sand, and was weathered with a combination of AIM weathering powders, as well as full-strength tube artist oils of various colors.

A photo backdrop was also employed, which includes an image of a pile of road salt, under a partially pulled-back tarp.

Stay tuned for more on the Allagash Railway coming in January 2014 as MRH celebrates its fifth anniversary.

Photos and models by Mike Confalone.



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Here's a larger version of the photo on the previous page.
Notice the realistic grease weathering on the Alco's trucks.



Mike's Allagash, how he built it and how he operates it, will be coming from MRH in January, our fifth anniversary issue.



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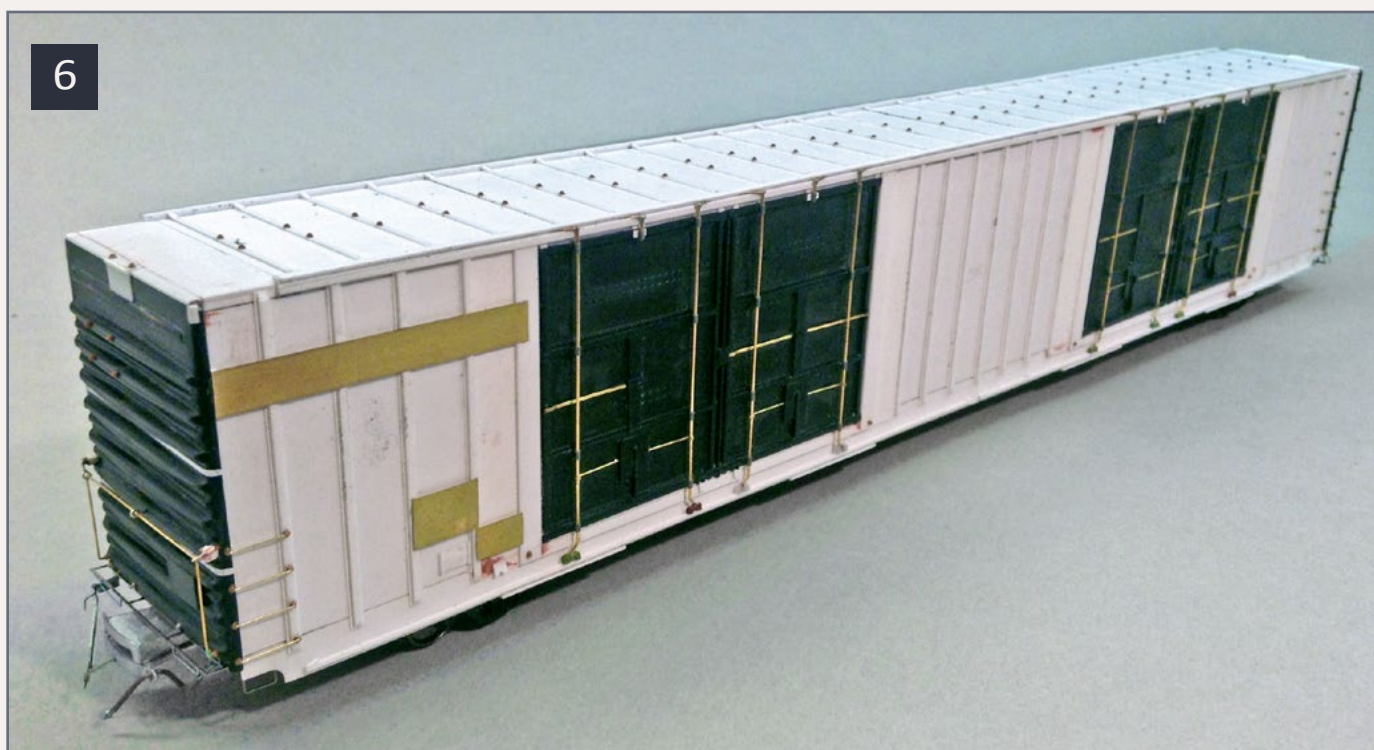


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5: It's early autumn as Logansport and Indiana Northern #23 eases across Olson road. The train left Logansport and is switching the various elevators along the road. The line's heritage can be seen in the PRR's cast iron cross bucks.

Tom Johnson has done a marvelous job of capturing the look and feel of rural Indiana in early autumn. More photos of Tom's layout can be seen at: mrhmag.com/node/8934.



6: It's a good thing that the undecorated railroad has only one piece of equipment. The paperwork for the railroad clerks would be a nightmare if they had more.

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Mike Lozensky scratch-built this car using an Athearn blue box car as the starting point. He used the doors, ends, and underframe but fabricated the rest of the body.

To see more, go to:
[mrhmag.com/
node/14924?page=2
#comment-113554](http://mrhmag.com/node/14924?page=2#comment-113554).



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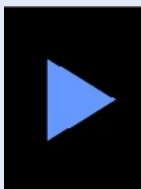
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Get your photo in YIAM!

Our *Yes, it's a model* monthly photo feature presents some of the most inspiring modeling and photos from the MRH website. If you'd like to get *your modeling* in our photo feature, just start posting your photos on the MRH website, especially in the [Weekend Photo Fun thread](#) created each weekend.

Many of the photos posted show HO modeling, but we'd like to encourage modelers in other scales to post on the MRH website as well. We don't want this to just be an HO photo feature!

For info on how to post photos to our website, [see this help how-to](#). You need to be an MRH subscriber to post photos to our website, and becoming a subscriber is free, [just fill out this form here](#).



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- **Gustav W. Verderber**

Model photos by author

MRH-Oct 2013 Jim Ferguson's GN - 1



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Jim Ferguson's

Great Northern Railroad



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A world-class layout over two decades in the making ...

Among the many joys of model railroading, along with planning, constructing and operating a model railroad empire, are the camaraderie and friendships that stem from this wonderful hobby. Since I began modeling in 2004, I've met many remarkable people, all of whom I admire not only for their abilities as modelers, but as uniquely interesting, skilled, and generous individuals.

Two modelers, in particular, one in HO, the other in O scale, I now count among my closest friends. Indeed, they've become like family to me. Both have contributed significantly to my own development as a modeler. To return the favor, I'd like to "pay it forward" and introduce them to readers of MRH, beginning with this interview with Jim Ferguson about his Great Northern Railway.

Gustav: Many of us become model railroaders because of an early experience with either model trains, real trains or both. What experiences eventually culminated in this magnificent layout?

Jim: I got into model railroading when I was 12, with a Lionel set. The track was on an old dining room table in the basement of our farmhouse in Indiana. It was about 5' x 9'. I got pretty good at decorating it and making it look like a real railroad. When I joined the Navy I had to leave it behind, and my two younger brothers, alas, they weren't interested in working on or maintaining the layout and they eventually destroyed it.

Gustav: Did you find space and time for a layout during your career in the Navy?

Jim: Obviously, there's hardly an opportunity in the Navy to have a model railroad. I managed the catapults and arresting gear on a number of aircraft carriers. On board the ship, my personal space



1: Goodyear Tire Company loading dock, Eaton, Oregon.



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2: Eaton switchers leaving the Hickcox Publishing spur, Eaton.

3: Jim working the Morningside yard and engine facility, Morningside, Washington.

was limited to my bunk. However, in my latter years in the service, when my son was 7, I built him a 4' x 8' plywood central and we ran some trains around.

When it came time for a move, I packed up all the rolling stock and engines and structures and labeled the boxes "BOOKS" so no one would steal them and shipped them from Washington state to Meridian, MS where I was to be stationed. Everything arrived but the sheet of plywood with the tracks. Someone must have said to themselves, "Hey, I can use that!" So we never got back into it.

Gustav: Obviously you did.

Jim: After I retired, I moved to Vermont and I was building a fairly large garage in 1979 to house my camper and pickup truck with a



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large room on the second floor which I intended to be a gardening shop. There's a hill behind the garage that allowed me to put in a ramped entrance for the gardening tractor and cart.

The growing season here in the North Country is very short so I was looking forward to giving my tomato plants a head start under grow lights, potting indoor plants for the house, having a workbench, a freezer chest, etc. There was lots of room up here so one day I started drawing plans for a 4' x 8' layout I could put in one corner of the shop. Then I thought, what if I extend the layout along that back wall and ... well, a year later, I had drawn plans for a layout that would encompass the entire shop.

My wife is an artist and at the time she was painting in a small bedroom, and one day she came to me and said that she needed a bigger studio. And I said, "Aw, honey, no you don't."

And she said, "Then you don't need such a big train room." She got her studio.



4: GN RS3 #225 delights the rail fans as it passes Broadview, Oregon.

Gustav: I don't see any gardening tools or seedlings in the room. It's all railroad and railroad-related items.

Jim: Right. The railroad ultimately took over the entire room.

Gustav: I've read there are two kinds of modelers. Those that plan their layouts and those that simply let them evolve. Tony Koester is a planner, George Sellios is an evolver. Both built world-class layouts. Where do you fall?

Jim: Oh, I planned the layout over the course of about two years, first drawing out scaled plans on graph paper.

Then, when I was satisfied with what I had, I covered the floor where the layout was going to be with a roll of butcher paper and transferred the drawings to the paper using a grid pattern. That approach worked out very well because it allowed me to construct the L-girder bench work right over top of the butcher paper and I could simply look down at the floor and see where all of my turnouts would be. That kept me from placing joists where I knew I'd have to install switch machines.

Gustav: I've been underneath your layout. Everything appears very well thought out.



5: GN RS1 1831 crossing the Lost River trestle.



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Jim: I used 3/4" plywood for my sub-roadbed. Half-inch warps too easily. I laid the 4' x 8' sheets on my benchwork and cut out sections of the butcher paper, positioned them on the plywood, and punched holes through the paper and into the plywood along the track center lines with an awl. When I removed the butcher paper, all I had to do was connect the holes with a pencil and that showed me exactly where to lay my tracks. I simply cut the right-of-way out of the plywood with a jigsaw and fastened it to my benchwork. I began laying track in 1981.

Gustav: With such an extensive layout, how did you decide where to start?



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6: GN RS1 with an eastbound freight arriving in Eaton.



7: Looks like lunch break at the Ruston Fuel Depot while a double headed eastbound freight crosses the Moose River Bridge and a “Woody” waits for a pair of F units to clear the crossing.

Jim: Easy. You have to have a place to park your trains so I began with the four-track hidden staging yard at the north side of the room. They say mistakes are simply lessons to be learned and lots of mistakes are called "experience." Well, I've had my share of lessons and experience. I learned one of my first lessons soon after I had finished laying the staging yard that first winter. The tracks were all neat and straight and I hadn't yet covered the yard with the upper level.

However, the following summer I found all four tracks had warped; they looked like snakes crawling over my layout. Yikes! I hadn't worked with flex track before and didn't know to leave expansion gaps in the rails.



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I worked on the north side of the layout until I had it all tracked and landscaped, and then put in the long bridge in front of the picture window that connects the north and south sides. Then I started on the south side. I still couldn't run trains all the way around the room.

There was a convention coming up in Burlington and Glenn Glasstetter was over one day and suggested I find a way of completing a loop so I could have continuous running and an open house in time for the convention.

I told him that I had plans for a peninsula down the middle of the room that would complete the loop and he asked me what I was waiting for. "Geez, Jim, get it done," he said.



8: Major Lumber Company Shay 8 backing a load of logs at Shasta, Washington.



9: While waiting for the engine hostler to bring their engine from the Morningside roundhouse, engineer Pete tells his fireman about the one that got away.

There's nothing like a deadline to push one along and I had a year to build the peninsula that in itself amounts to a moderate-sized layout. I got it done in time for the convention and had my first open house in 1985.

Gustav: Did you find that you had to modify your original plans as you made progress on the layout? Is there anything you wish you had done differently?

Jim: Yes, somewhat. I originally had the John Allen Time-Saver switching puzzle built into the layout but when I started having op sessions no one wanted to switch it, it was too much trouble. So I changed it over to a servicing facility. For the most part though, the layout is basically just as I planned it.



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I should have built more staging yards and I would not have hidden them. I have numerous scars on the top of my head from crawling under the layout to re-rail trains in the hidden staging areas. If I were to do it all over again, I would have visible staging and use it as such, as a yard for trains waiting to go out on the mainline and do their thing.

Gustav: You grew up in Indiana and live in Vermont. Most model the railroads of their youth or roads with which they have some familiarity. Would you say you're atypical?

Jim: Yes, I'm different. Originally, I was going to model the Santa Fe if only because I had some locos left over from the plywood central I had built for my son. But then around 1982-83, I attended a national model railroading convention and met a group from the Great Northern Railway Historical Society.

I liked the color of their locomotives and especially the goat emblem. I didn't know anything about the railroad. They were out there in the west somewhere, and I'm here in the northeast. I joined the society at the convention and started receiving



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10: GN Mikado #3200 with a coal drag from Fergus Falls, Washington, to Scofield Junction. Washington.



11: GN Gas Electric 2320 is ready to depart Broadview, Oregon, as the evening lights are coming on.

the quarterly publications. Once those publications started coming in, I was hooked! They included modeling ideas and lots of prototype information. I have a whole library of reference sheets on the Great Northern that tell me everything from the style of their signals to what kind of ballast they used.

My Great Northern Railroad is a freelance version of a prototypical railroad. I wanted to maintain some freedom as to how and where to run my trains and I didn't want anyone pointing out to me that this train never ran to that town, or that I couldn't get from here to there and stay true to the prototype.

So the names of all the towns have been changed to protect the innocent and the trains I'm running, like the Cascadian, don't necessarily run where they did on the prototype. But that's all right



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because they were given special orders and were rerouted. [smile]
I run the trains I want to run.

Gustav: It's your layout.

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**12: Great Northern F7 A&B
363 lead the Eastbound Empire
Builder into Eaton, as the Eaton
SW9 switchers spot an express
reefer at Green Valley Foods.**

Jim: That's right, it's my layout and I can do anything I want. I'm very happy with it, and I'm certainly far enough removed from the Great Northern territory that I'm not afraid of GN rivet-counters showing up at my op sessions. [another smile]

Gustav: And the era?

Jim: Oh, that's easy. It's the early diesel, late steam transition, circa 1955, so I can run both types of locos. I enjoy the steam engines but the diesel engines run much better and are more reliable during operating sessions.

Gustav: Do you feel you have any particular talents or skills that predisposed you to model railroading?

Jim: Not really. I have an analytical bent of mind, and I'm sure that helps me troubleshoot problems or figure out some of the more complex areas of the hobby such as wiring and decoder installation. In fact, over the years I've acquired more skills from model railroading than anything I've ever done in my life.

There are all the forums on DCC, general modeling, operations, you name it. I archive most everything I read. [Jim's train room, where we're conducting this interview, is as much an extensive library of modeling magazines, books, videos, and DVD's, as it is a home for his layout.]

Gustav: What about model railroading appeals to you the most?

Jim: I really enjoy scenery because it brings the layout to a point where it makes it real. As I've worked on the layout over the years, I've gained knowledge and experience. I have learned many ways to create the illusion of reality.

Upon noticing that the trains parked under the platforms at the Broadview train station seemed to extend past the station, which is up against the east wall of the train room, a guest once looked out the window not realizing that I had used a mirror to make it appear that the trains go through the wall. That's the ultimate compliment.

I like to use everyday materials whenever I can. For instance, most of my trees, and I have hundreds of them on the layout, are weeds, steeple bush, goldenrod, meadow sweet, stag horn sumac, ragweed, from the field behind the garage. I use some commercial trees from Woodland Scenics and Sterling Trees as highlights in the foreground.

After I've had my tea, I dry the tea bags, remove the tea leaves, and use them to make coarse ground cover. I find that different company's tea leaves are different shades of brown and



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have different textures. I make my own ground cover out of an old foam mattress which I grind up with a manual meat grinder. I then dye the ground foam with clothing dye and highlight the terrain with Woodland Scenics material.

Gustav: Your scenery is superb and the backdrop is absolutely remarkable. Both are colorful, vivid and imposing. In fact, the backdrop doesn't necessarily assume a supportive role to the trains. In some scenes the scenery and backdrop rival the trains themselves.

Jim: Guilty as charged. The backdrop was painted by my wife who I mentioned is an artist. She actually painted the backdrop before I built the layout. I initially painted a blue sky on the wall behind



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13: Close-up of the Glasstetter coal yard. Glenn, the driver, heads for his loaded truck.

where the layout was going to be and feathered in some white clouds using the wet paint technique but I wasn't thrilled with the results.

So I proceeded to paste up some photographs we had taken during our vacations and asked Pat if she'd be willing to paint in the backdrop from the photographs.

I had intended to include some higher elevations on the layout but when I saw the beautiful mountains, valleys, and alpine fields she had painted, I couldn't bring myself to cover any of it with foreground terrain.

I did blend in some city scenes using commercial backdrops, adding single structures, like hotels, etc. using pictures I cut out of magazines. I placed these

on the backdrop in locations where the small size of the pictures suggests distance and enhances the perceived depth of the backdrop scenes.

I discovered that if you use an X-Acto knife to cut out the top of the building, but tear out the bottom of the picture, the ragged lower edge lets you feather the picture into the landscape with a bit of paint very nicely and then the sharp outline at the top gives the picture a bit of a three- dimensional aspect.



14: The eastbound Fast Mail, led by GN FT A&B 459 will be picking up many happy passengers at San Pablo, California, today.



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Gustav: I've noticed you don't weather your cars.

Jim: I've weathered a few. I don't have an airbrush so I use chalks, and washes of acrylic paint, and I haven't weathered any of my locos. Frankly I'm sufficiently intimidated by the magnificent weathering other people have done I'm hesitant to try it myself until I can emulate that kind of quality. In fact, in the latest MRH, I saw pictures of weathered freight cars I couldn't tell from the real thing. Absolutely remarkable! It's an art form I have yet to acquire.

Gustav: I've participated in a number of your operating sessions, They are extremely engaging and require concentration. Though I'm having fun, I feel like I'm actually working on a railroad.



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15: Weyerhaeuser Timber Company Shay 5 works up the 2.5 percent grade on the Moose River branch line.



16: Pete, the Border Patrol officer, questions a suspicious individual on the Eaton station platform. Station built by Peter Eaton.

Jim: After scenery, what I enjoy is operation. The friendliness of the operators getting together for an afternoon is as enjoyable, sometimes more so, than watching the trains move. If you build a large layout, it doesn't come alive until you get enough operators to run it.

I started operating quite some years ago and there were times I'd have up to 12 people operating the layout. It got crowded in here and there were too many trains moving around the layout; we spent too much time waiting for someone's train to get out of the way. Now I limit the number of operators to around six or seven.

I don't care how big a layout is, the mainline is never long enough to fill up an afternoon just running trains. So we slow down the



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operation by creating a lot of switching opportunities along the way. I use a four-position car card system and way bills, with sufficient switching areas scattered around the layout to keep a train and its operator busy. In fact, the way freights do most of the switching in the towns and are most everyone's favorite trains.

The only town that has its own switcher is Eaton and that's a large industrial complex that can absorb 26 freight cars serving various industries. Sometimes it takes two operators just to run the switchers at Eaton throughout the entire operating session. I also increase running time by having operators stop to take on fuel, water, and pick up a new locomotive.

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17: Overall view of the San Pablo, California. engine facility with Mount Oberon, Washington. above. Dispatcher's desk to the right.

Personally, I'd rather switch Eaton than run the main-line. Switching is like playing chess; it requires concentration and forethought where are you going to put this car to get that car over there, and so on.

Just about the time you have it all figured out and you're about to make your moves, here comes a train into town with a string of cars to drop off or a passenger train tying up a track you need to stage some freight cars.

There are two large yards, one at St. Pablo and another at Morningside. The Morningside yard is a stub-end yard and doesn't get as much use as the through yard at St. Pablo. I have to figure out how to increase the activity at Morningside, perhaps by having trains come into the yard and getting a crew and locomotive change.

It can take quite a while to make up a train in a yard so there's always enough work to keep up the interest for a three or four-hour operating session.

I have 16 trains that I can schedule to run during an operating session and we typically, though not always, run through most of them. There are three passenger trains, four through freights, two way freights, four in and out turns, two branch lines, and a work



18: With the trap door closed, operators have easy access to the layout. Just don't trip on the counterbalance cable.



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extra. The operation department has positions for dispatcher, Eaton switcher, and San Pablo and Morningside yard masters. I let operators sign up for whatever train or job they want. Then I give each operator a packet with train orders and car cards and the operator picks up a throttle and is off to operate his train.

I'm usually the dispatcher and the room is small enough that I can communicate without a phone system. It's quite informal. We don't use a fast clock because I don't want anyone to feel they need to get anything done in a certain amount of time. It's meant to be fun. There's never any pressure to push on.

Gustav: Does the Great Northern interchange with other railroads?

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19: Overall view of Eaton.



20: Great Northern F7 A&B 363 pass the Hillside Tower interlocking.

Jim: Yes, we interchange with the Santa Fe at San Pablo where we have to exchange the loco and cabooses. I still run cabooses; to me a train without a caboose is like a sentence without a period. We also interchange with the Canadian National at Broadview and we have the two branch lines, the Moose River Valley logging railroad, and the Fergus Falls coal mining and quarry railroad.

Gustav: Tell me about your control system.

Jim: That's my least favorite aspect of model railroading. When I first started building my layout, there was no command control. Sure, there were a few DCC systems available but there was no consistency, the systems weren't compatible with one another. If you bought into a system and the owner kicked the bucket, you were out of luck. It wasn't until the NMRA standardized DCC that I felt comfortable getting into it.



In the beginning, I wired the layout the old-fashioned way with stationary controls and control panels where you watched the train go by. I had electrically controlled turnouts so we didn't have to walk back and forth between the turnouts and the panels. Well, this called for miles and miles and miles of electrical wire. The underside of my layout looks like a bowl full of spaghetti.

Eventually I found a fella that had a walk-around control. It wasn't command control; you still had to have blocks. I had 31 blocks with 4 cabs so I'd get a few guys up here to operate the layout and it was always "Who's got my block?" or "Can you get out of that block so I can move in there?" It worked but it wasn't all that great.

Then we got command control and I went with Digitrax. It worked fine. I had a good experience with Digitrax. However it wasn't very intuitive, it was difficult to use and especially to show others how to use it. I kept forgetting how to program configuration variables and it was frustrating.

I recently switched over to NCE which is much more intuitive. It basically asks you a question if you want to do something and you follow a menu to do it. I'm very happy with NCE. The blocks are still there, I just switched everything over to Cab D.

If needed I can turn off a block and look for a short circuit or isolate a problem. So the blocks are still handy. The layout is also sectioned with circuit breakers so if one section goes down, the rest of the layout can still be operated.

I don't rely on rail joiners for connectivity. Every individual piece of flex track is wired to the bus by feeder wires with the exception of some stub-end sidings where I park locos. There I used power-routing turnouts. However, over the years I've found that the points don't make solid contact thus increasing

electrical resistance. I plan to rewire these sidings with toggle switches.

Gustav: Your layout appears almost complete. Do you feel it is?

Jim: No, not at all. After about 10 years of working on the layout my wife asked me one day when I was going to finish it. I told her, "Sweetheart, when I finish it, I will also be finished."

There are some areas that still need to be sceniced. I hate seeing white plaster so I always paint it and add some ground cover, tea leaves, whatever, but I want to get back to those areas and create more three-dimensional scenes.

I still have a lot of kits to build. On my workbench there's an elaborate saw mill in progress. Most of the structures on the



Naturalist Gustav W. Verderber is an author, professional nature photographer, and adjunct professor of environmental science with a MS in zoology.

Gustav's New England and Erie is a freelance HO layout, complete with structures and scenery. The layout is loosely based on the rust belt of northern Ohio where he grew up.



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layout are kits or kitbashed. There are only a few scratchbuilt structures. Even what I have finished needs some upgrading. Now that I've honed my skills and learned more techniques, I look at things on the layout and realize I could do them better. At age 77, I have lots more to do. Hopefully, the good Lord will give me time to do it.

Gustav: Will your children inherit your layout?

Jim: No, I plan to sell the layout, house included. It's been done before, you know. However, I have an added bonus. As you know, my house is built in the shape of a railroad roundhouse. What's more, it's tucked into the side of the Green Mountains in Vermont where winters are long and cold. The ideal model railroader's home! ☒



STRUCTURES ON THE GREAT NORTHERN RAILROAD

Eaton, Oregon

1. Barn: Bachmann #45151
2. Farmhouse & Garage: Con-Cor #9003
3. Green Valley Foods: Walthers #3018
4. Troy Chair Works: DPM 2 x #106, kitbashed
5. Glenn's Ice House: Scratchbuilt by Glenn Glasstetter
6. Relative Bearing Co: Kibri #9788
7. GW Verdeber Outitters: DPM Modular Sections
8. Hickox Publishing: DPM Modular Sections
9. Electrical Equipment Yard: Walthers #3025 kitbash (planned)
10. Whiton Power & Light: DPM Modular Sections (planned)
11. Stock Yard: Walthers #3047
12. Eaton Beef: Walthers #3048
13. Jackson County Co-Op: Walthers #3022
14. Goodyear Tire Co & Loading Dock (a): DPM Modular Sections
15. A. Duff Milling: Walthers #3026
16. Eaton Switcher Office: Kitbashed
17. Eaton Station: Kitbashed Doll House Kit
18. Glasstetter Coal Dealer: Scratchbuilt (planned)

Scofield Junction, Washington

1. Scofield Station: Bachmann #45173 (station only)

Fergus Falls, Washington

1. Coal Tipple: Walthers #3017
2. Fergus Falls Station: Bachmann #45132 (kitbashed)
3. Freight Station: Kitbashed
4. Scrap Yard: Scratchbuilt

Sidebar continued on next pages ...



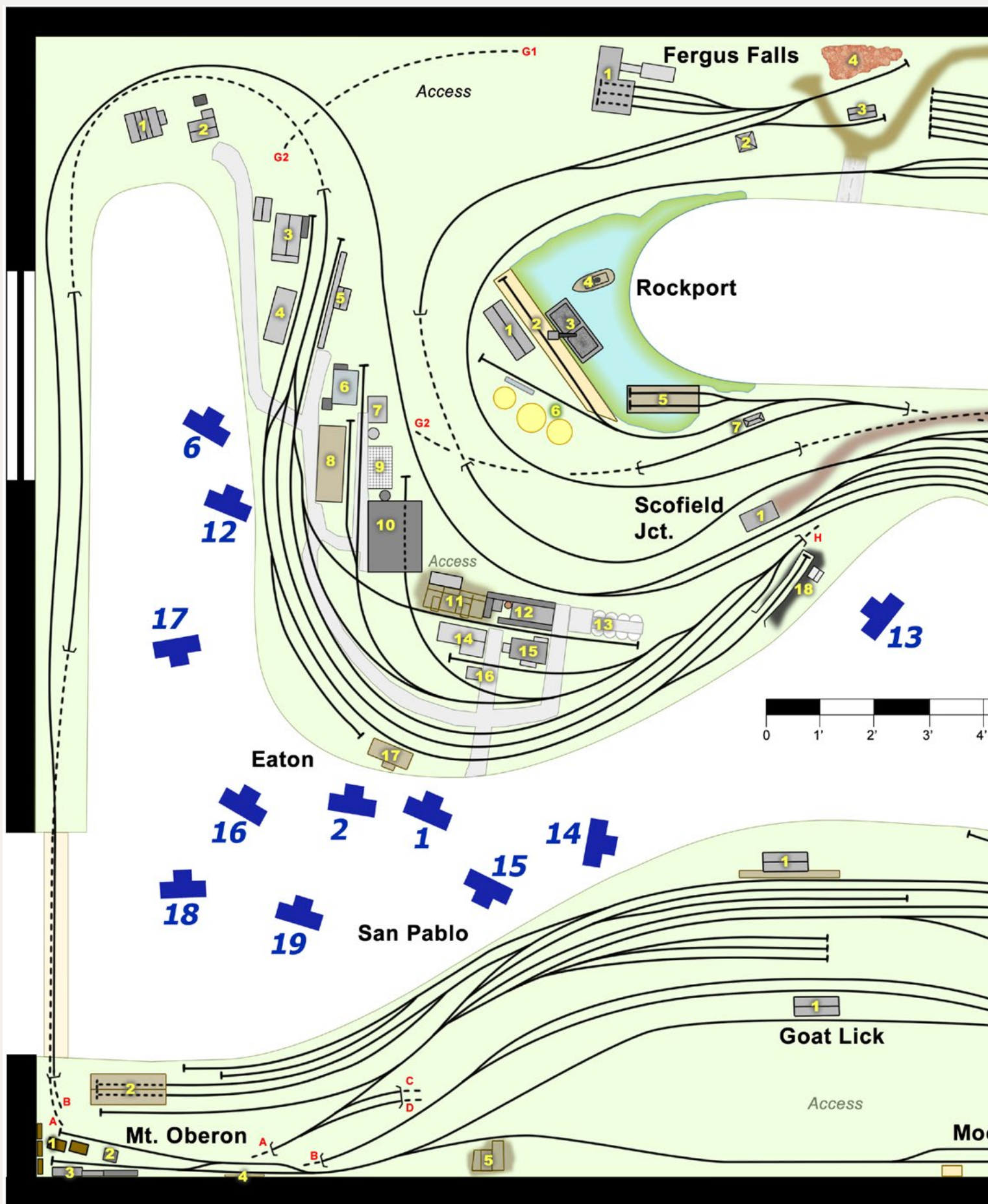
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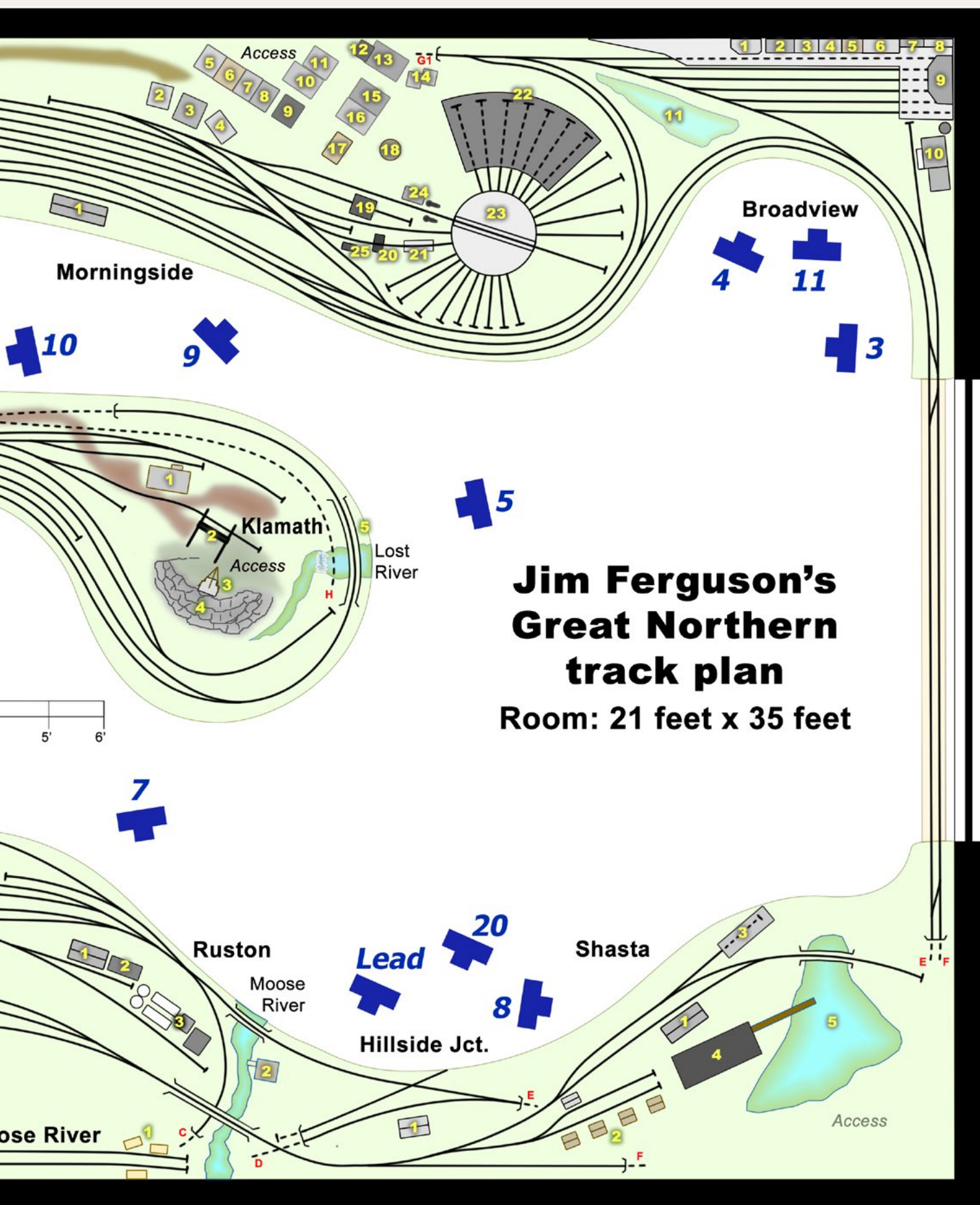


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Jim Ferguson's Great Northern track plan

Room: 21 feet x 35 feet



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STRUCTURES ON THE GREAT NORTHERN RAILROAD

Continued ...

Rockport, Oregon

1. Freight Station: IHC #47785
2. Dock: Scratchbuilt
3. Granite Barge: Scratchbuilt (planned)
4. Tug Boat - Pat C: Row River #201 (planned)
5. Railroad Car Float: Scratchbuilt
6. Shell Tank Farm: Walthers Tank Farm #7506
7. Rockport Station: Bachmann #45173

Klamath, Washington

1. Quarry Office & Station: Scratchbuilt by Brian Whiton
2. Overhead Gantry Crane: Kitbashed
3. Quarry Derrick: Scratchbuilt by Peter Eaton
4. Granite Quarry: Scratchbuilt
5. Lost River Trestle: MicroEngineering #75514

Morningside, Washington

1. Morningside Station: IHC #807, Rico Station, kitbashed
2. West Side Jewelry: Magnuson #537
3. Tina's Bakery: DPM #105
4. Morningside Sandwich Shop: DPM #113
5. O'Weed's Greenery: IHC #100-17
6. South Street Smoke Shop: HC #100-15
7. Rita's Antiques: IHC #100-16
8. 2nd Hand Rose: IHC #100-14
9. Grant Cary's Apothecary: IHC #100-18
10. Tony's Restaurant: AHM #15810
11. The Ambassador Hotel: DPM #110
12. Simone's Pet Shop: DPM #202
13. Nancy's Crafts: DPM #102



14. Town Office & Garage: DPM #112
15. Monty's Barber Shop: AHM #15708
16. Harrison's Hardware: AHM #5739
17. Texaco Gas Station: Bachmann #45174
18. Locomotive Water Tank: Plastruct #9 (planned)
19. 300-ton Coaling Tower: Model Masterpieces #125
20. Ash Pit: Scratchbuilt (wood, ashes)
21. Inspection Pit: Model Masterpieces #132
22. Roundhouse: Model Masterpieces #122 + 4 x #1221
23. 134' Girder Turntable: Diamond Scale #1341
24. Sandhouse & Water Columns: Campbell #358 & Tichy #8006
25. Yardmasters office: Kitbashed Athearn Caboose

Broadview, Oregon

1. Doug's Drug Store / Sam's Camera: IHC #47772
2. Railway Express Agency: DPM #104, 3.25" depth
3. Uncle Joe's Market: AHM #15708, 3.25" depth
4. Pat's Art Gallery: Walthers #3002, 3.25" depth
5. D.J.'s Bar & Grill: DPM #101, 3.25" depth
6. Notel Hotel: DPM #108, 3.25" depth
7. Broadview Pool Hall: DPM #102, 1.75" depth
8. Salvation Army: DPM #102, 1.75" depth
9. Broadview Train Station: Magnuson, Municipal Bldg, kitbashed
10. Furston Line Foundry: Kibri, Factory Annex #9786
11. Broadview Pond: Plaster, paint, Envirotex

Shasta, Washington

1. Shasta Station: Scratchbuilt by Glenn Glasstetter
2. Lumber Stacks: (Planned)
3. Engine house: Scratchbuilt

Sidebar continued on next page ...



trackplan



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STRUCTURES ON THE GREAT NORTHERN RAILROAD

Continued ...

4. Bandsaw Mill: Keystone #HO-112 (planned)
5. Mill pond & log dump: Scratchbuilt

Hillside Junction, California

1. H.S. Tower: Atlas #704
2. Fishing Shanty: (Planned)

Moose River, Washington

1. Logging Camp: (Planned)
2. Station: Kitbashed

Ruston, California

1. Freight Station: DPM #107
2. To be determined
3. Shell Oil Dealer: Walthers #3006

Goat Lick, Washington

1. Goat Lick Station: Scratchbuilt

San Pablo, California

1. San Pablo Station: Scratchbuilt (planned)
2. Diesel Enginehouse: Bachmann #15115 kitbash (planned)

Mt. Oberon, Washington

1. Pulpwood Yard: (Planned)
2. Pulpwood Office: Kitbashed
3. Building backdrop & flats: Kitbashed
4. M. Oberon Station: Woodland Scenics #239
5. Cattle Pen: Scratchbuilt (planned) ■



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Let's build a laser kit



– **By Mike Tylick**

Model Photos by the author



– part 2



Reader
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Building Miss Marshfield Diner ...

With all of the painting completed, now it is time to begin putting the kit together. I will take you through the necessary steps to have a sturdy structure that will last a lifetime. I will also share how I make my quickie interior. While some may think that a more-detailed interior is needed, I find that the imagination will fill in much of the detail needed as long as there is a reasonable amount of it. Now onto building the interior.

STEP 5: Putting the kit together

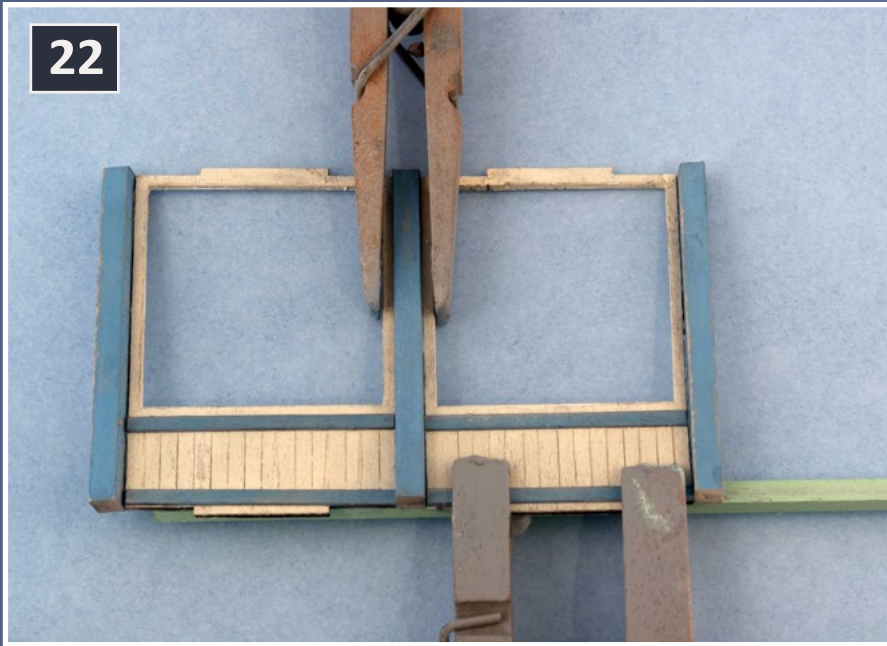


21: Mating the solid wall to a window panel. The Irwin clamps are inexpensive and are widely available. They come in a number of sizes. This is also a good view of how the

clothespins have been reversed to make clamps. These homemade clamps are usable in just about any scale.

STEP 5: Putting the kit together *Continued ...*

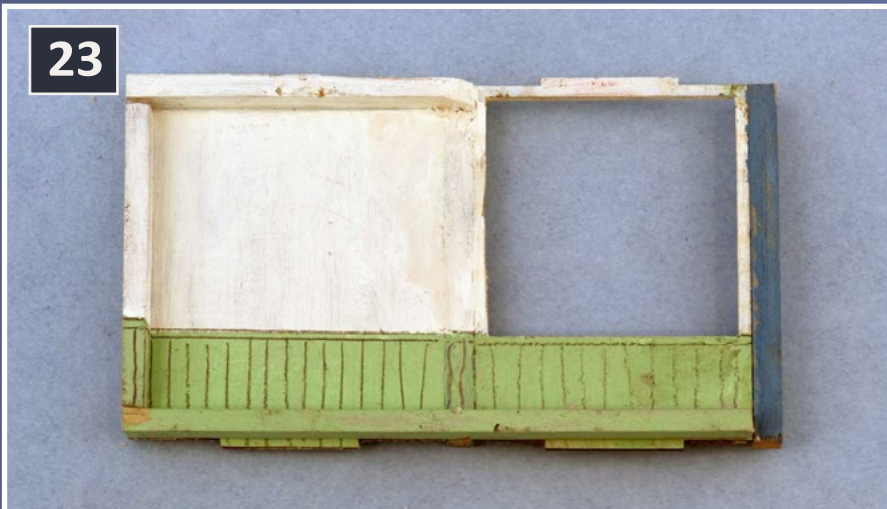
22



22: Two window panels are clamped together to form the front. It is wise to let things dry, and move on to something

else. Wood requires more setting time than styrene. I usually work on several projects at once so I have something to do while waiting for paint or glue to dry. Leftover boxes from the kits are used to keep the parts from each project separated.

23



23: The side wall from figure 22 is completed.



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STEP 5: Putting the kit together *Continued ...*

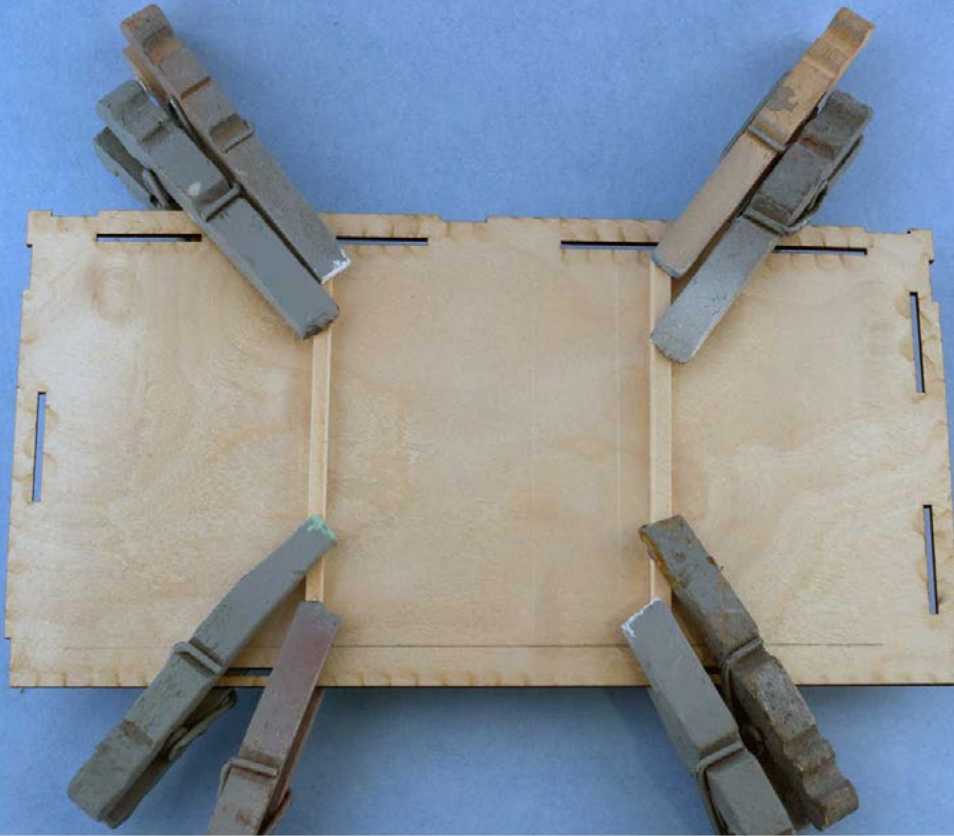
24



24: 20. Three panels and the door panel make up the front wall. The front is complete and viewed from the inside. Those familiar with the kit will notice that the door has been moved one panel to the left. I did this to make my model a little different from the stock kit. However very careful observers (I wasn't one) will notice that the door panel is slightly larger than the window panels. This caused me considerable extra work with the base and the signboards. I would not have reversed these if I had been more observant and I could have foreseen the extra work.

STEP 5: Putting the kit together *Continued ...*

25



25: Following the Bar Mills instructions, I glued the bracing to the roof's underside to prevent warping. My reversed-spring clothespins hold everything until dry. Both sides are painted to further eliminate warping. The underside is primed with white to reflect light like a real ceiling.



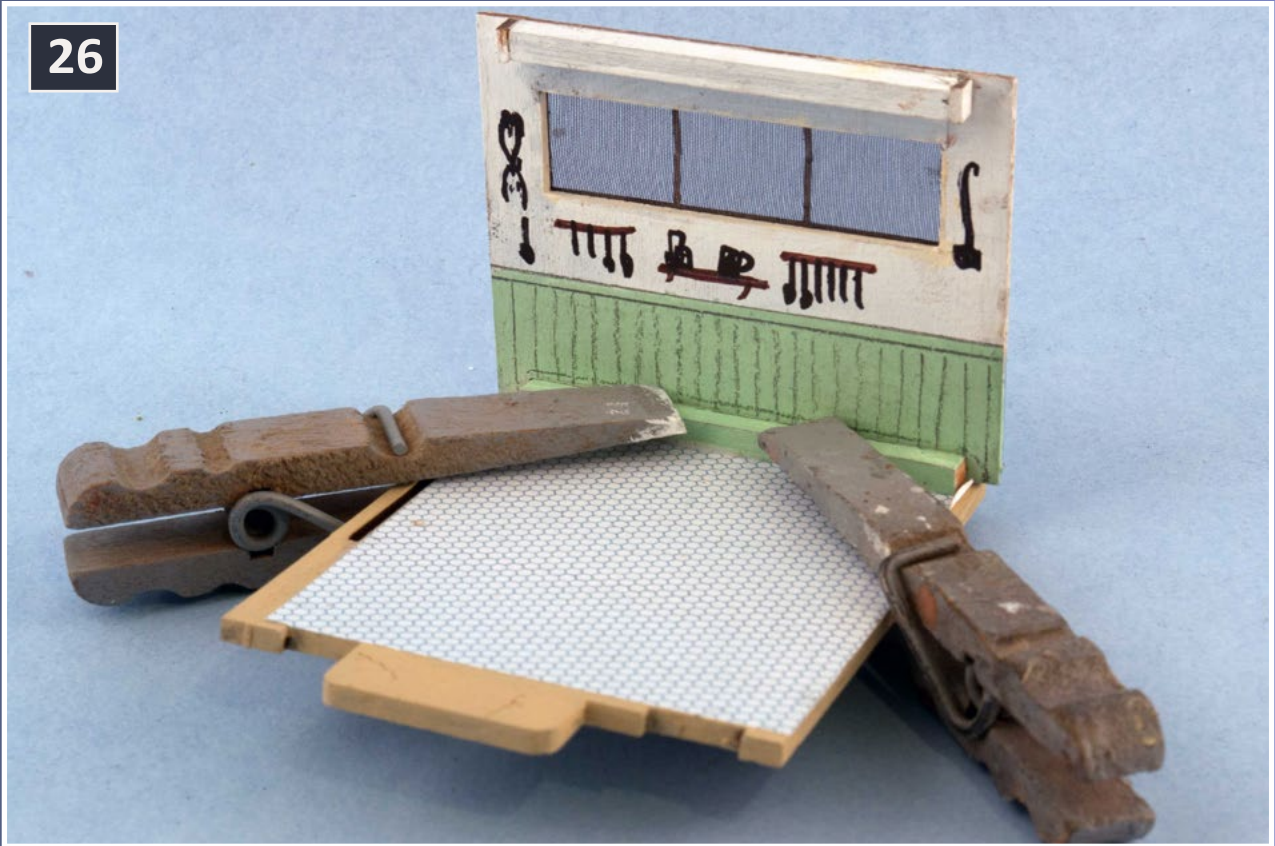
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STEP 5: Putting the kit together *Continued ...*

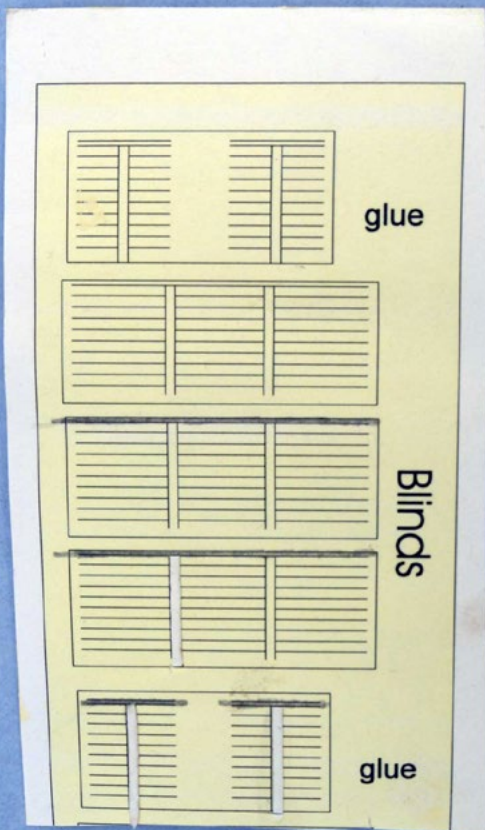
26



26: The kitchen shed is glued to the floor using the kit's tab alignment construction. I added the brace; it will never be seen, and the extra bracing never hurts. The superdetailed hanging utensils was short work with a fine-point marker. If they are seen, great; if not, it was only a few minutes. This type of detail needs to be done before the parts are put together. It can't be done later.

STEP 5: Putting the kit together *Continued ...*

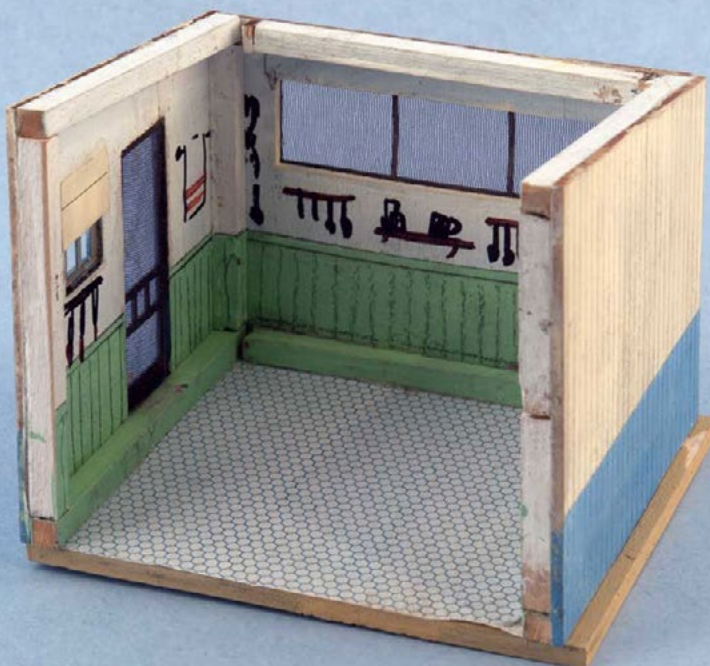
27



27: The kit-supplied blinds are for the large windows. Hindsight is great – I wish I had cut them a little shorter to make interior viewing easier, but maybe seeing less makes visitors want more.

28. The assembled kitchen shed.

28



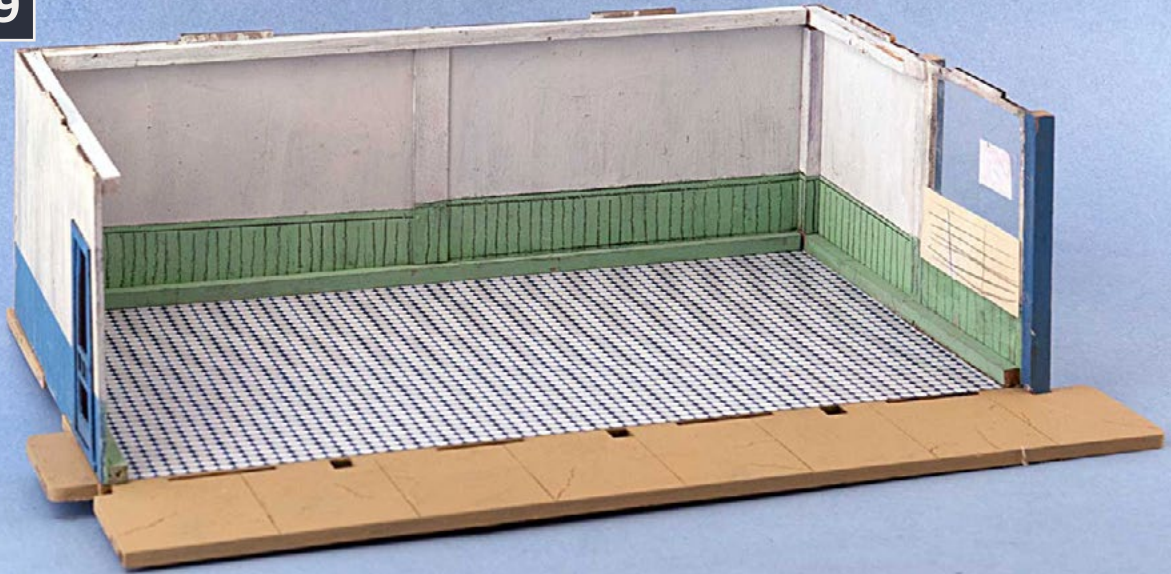
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STEP 5: Putting the kit together *Continued ...*

29



29: The side and rear walls of main structure are assembled. These are large enough to reach into easily and add interior detail. The corners are lapped and trimmed. Inevitably the paint must be touched-up on ends. This is a good reason to use ready-mixed paint, and the craft paints are available in literally hundreds of colors.

STEP 5: Putting the kit together *Continued ...*

30



30: The kitchen shed is supposed to go on the left side of the kit. Not knowing its final location on my On30 Marshfield and Old Colony RR, I wanted the option of placing it in the rear. The kitchen is designed to go just to the left of the door fitting into the construction slot. Relocating the kitchen leaves a gap which is filled with wood, sanded and painted. To match the thickness of the wood, I used leftover material from the floor carrier sheet. The screen door is made from a bit of ribbon supplied with the kit.



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STEP 5: Putting the kit together *Continued ...*

31



31: I filled in the slots in the kitchen foundation as well. I find it easier to glue oversize pieces and trim them to length.

32



32: I began the quick interior starting with the booths. The booths are simply made from pieces of illustration board that I colored with a Magic Marker. Illustration board is an inexpensive mat-board with a good drawing surface and is widely available at art stores. Dishes are paper-punch disks, and place-mats are scraps of paper. Food is drawn with fine felt tips after the glue has dried. The slightest bit of glue will destroy a marker tip. The counter is made the same way but has a stripwood foot rest. Although crude, these still look good when seen through windows.

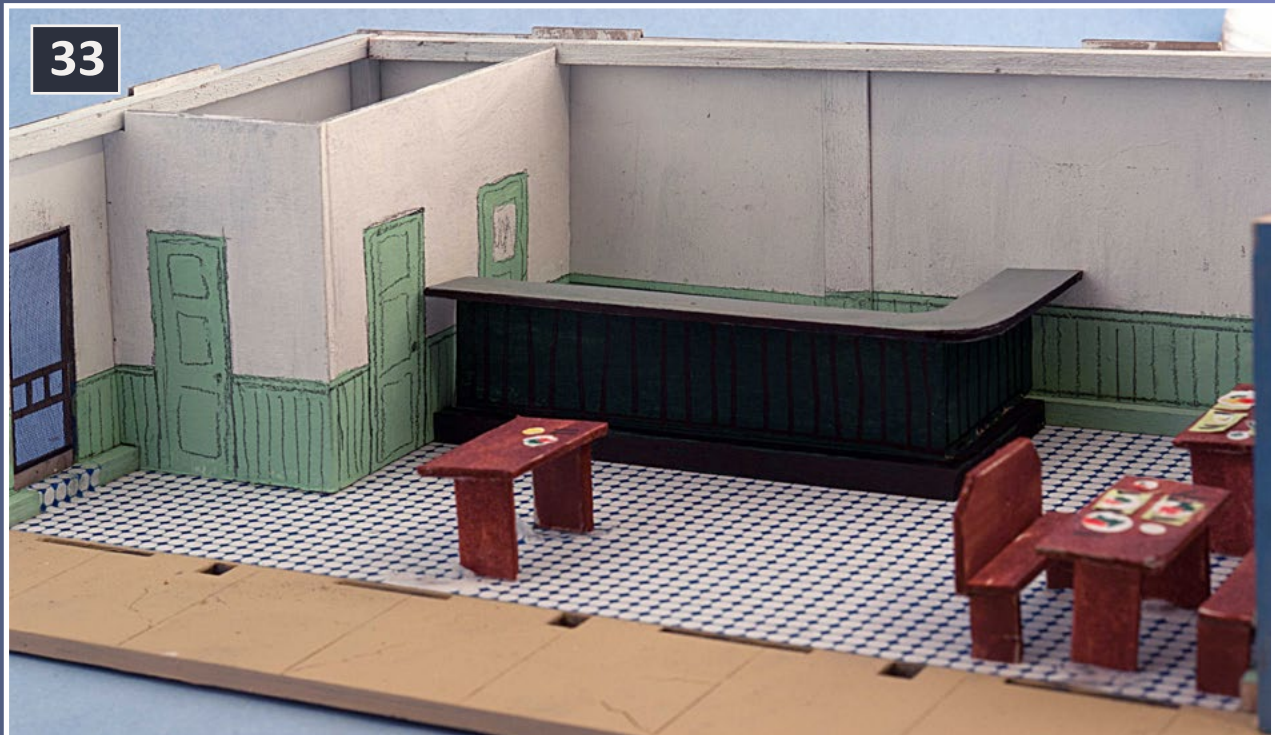


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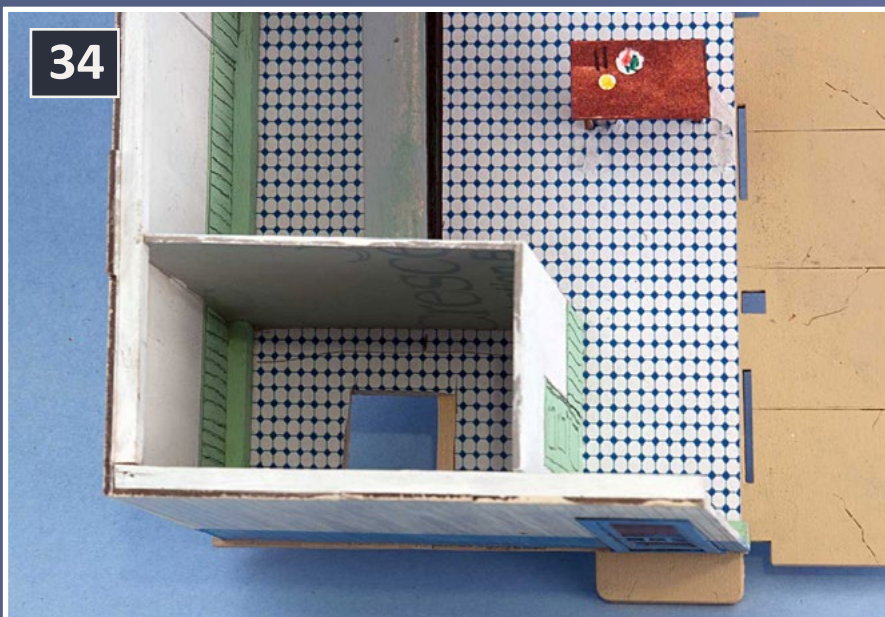


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STEP 6: Quick interior detailing the kitchen *Continued ...*



33: An illustration board bathroom is installed at the left rear. The door behind the counter leads to the kitchen whether it is placed on the side or the rear.



34: Before gluing the bathroom walls in place, I cut a hole in the floor to create a hidden path for the electrical service.

STEP 6: Quick interior detailing the kitchen *Continued ...*

35



35: Crude kitchen worktables are cut from illustration board and painted silver to resemble stainless steel. Detailing is drawn with fine

felt-tip pens. Craft beads and bits of card and wood become three dimensional details. Inexpensive figures, suitable only for background detail, work well for populating the interior. In this case, the cook is a figure who was operating a jackhammer that cannot be seen, since he is next to the sink. I trimmed the hardhat to resemble a sailor's cap, similar to the one worn by Mel in the old TV series "Alice." The open wall will be placed against the main building so there is no need to model that side. The kitchen counter is notched for interior bracing at left. Small triangular pieces support the counter and table while glue is drying. They are painted the light green to become part of the kitchen, disguising their original purpose.



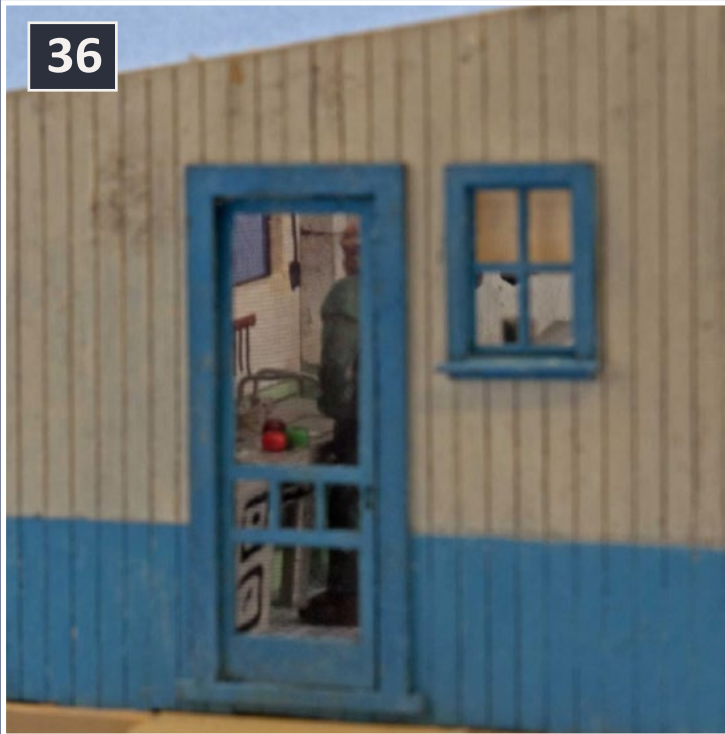
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STEP 6: Quick interior detailing the kitchen *Continued ...*

36



36-37: Other views of kitchen interior through the windows and door.

37



What if you could detail your layout ...

INSTANTLY?

click for **N Scale**
instant details

click for **H0 Scale**
instant details

click for **S Scale**
instant details

click for **O Scale**
instant details

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Michael Tylick has built a number of smaller layouts of various types

and scales over the years. Mike has been a long time contributor to Model Railroader, Railroad Model Craftsman, the National Model Railroad Association Bulletin, and other hobby publications. He has also delivered numerous clinics and presentations on various railroad and historical subjects.

He now works as a custom builder of railroad structures and rolling stock, and has recently formed RailDesign Services, for design and graphic aspects of model railroading.



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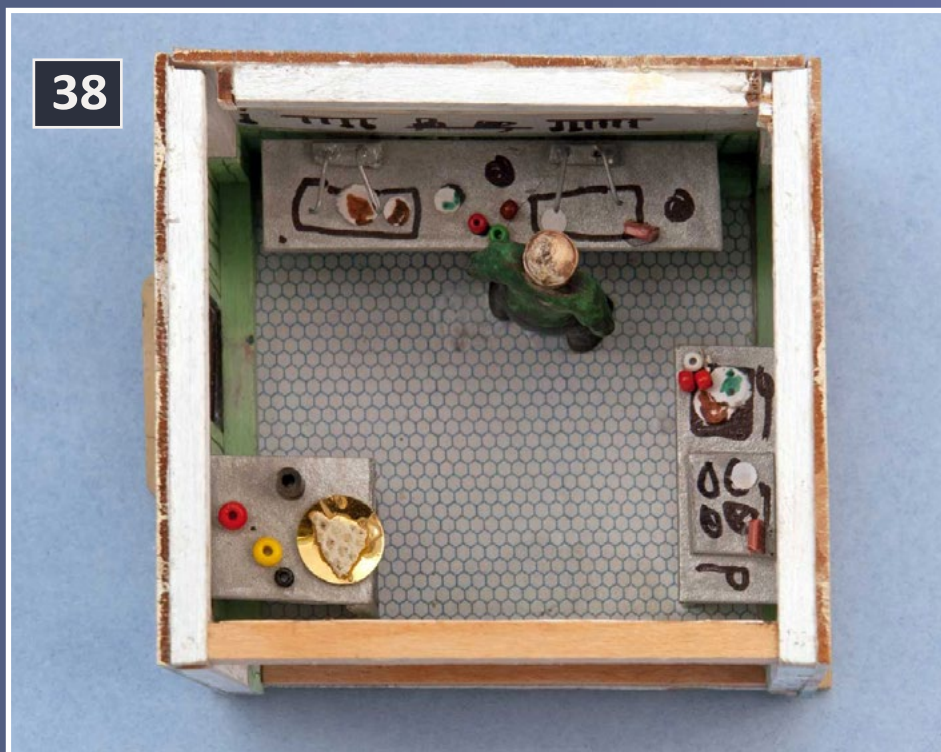
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STEP 6: Quick interior detailing the kitchen *Continued ...*

38



38: Interior view of kitchen from the top.

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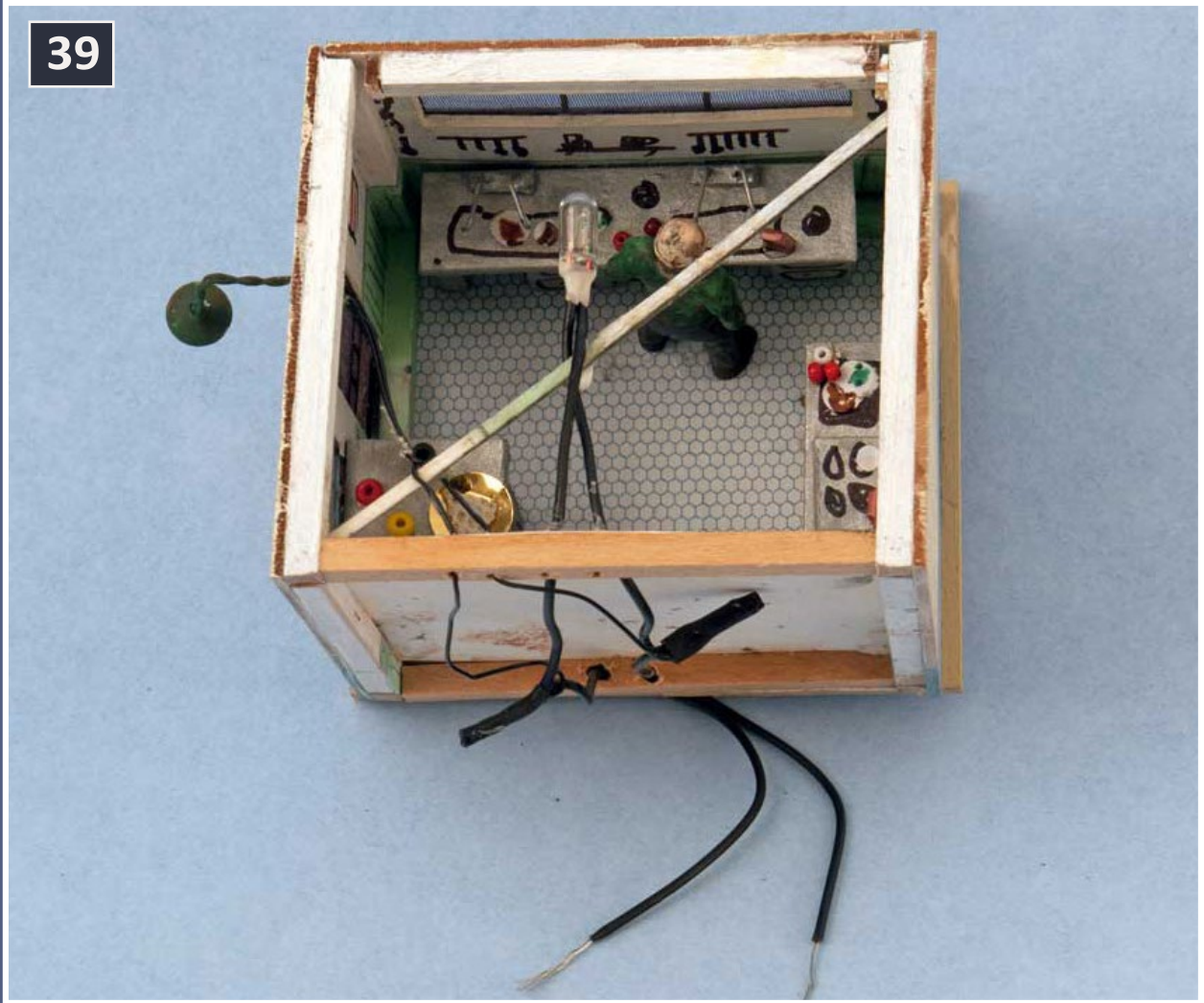
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39



39: Since the kitchen is movable, a false wall is installed on one end. This will be an interior wall hiding the electrical service for the room. One large 5mm Miniaturics bulb is all that is needed for the interior, and an HO scale Miniaturics lampshade serves as an exterior light. Both are 12 volt lamps that I will operate at 6 volts, providing a realistic soft glow and insuring an extremely long life – up to 400 times the normal life expectancy. I solder the connections and insulate them with heat shrink tubing. A scrap piece of carrier sheet is used to suspend the lamp over the kitchen interior.

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STEP 7: Quick interior detailing the dining area

40



40-42 (more photos on the next page): Completing the diner interior. The stools are varying-diameter paper-punches from illustration board. The punches are glued to small dowel posts and painted. I use inexpensive figures to give the appearance of a busy place. It doesn't take many. Menu and restroom signs are drawn on a computer and the wall decorations are from Google Images. Who would ever expect to find such a priceless collection of Winslow Homers on the walls of such an out-of-the way beanery? Ocean painting fits right in at this coastal town.



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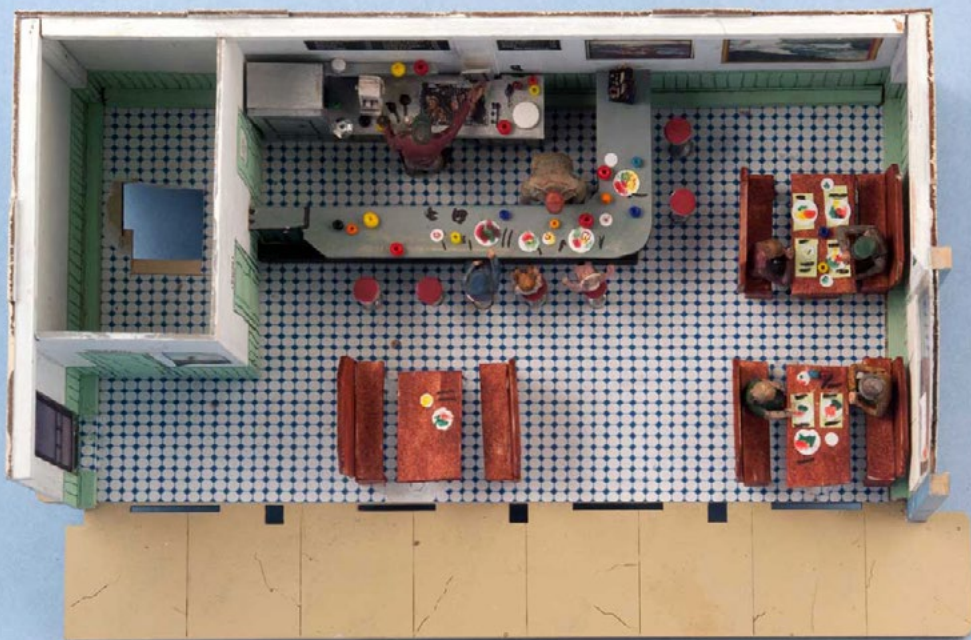
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STEP 7: Quick interior detailing the dining area *Continued ...*

41



42



41-42: See caption on prior page.

43-44: The front wall is placed, providing a better idea of what will actually be seen inside. I use Photoshop to mask-out the roof, giving a clear idea of how the interior will look. It's much easier to photograph this with photo lights, rather than

STEP 7: Quick interior detailing the dining area *Continued ...*

43



44



(43-44 continued): trying time exposures with the structure lighting. Most of the window signs are supplied with the kit. The signs and shades make it more difficult to see inside, thereby making fine detail less important. Those who are familiar with the kit will see that the door has been moved one panel to the right from the stock kit.



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STEP 7: Quick interior detailing the dining area *Continued ...*

45



46

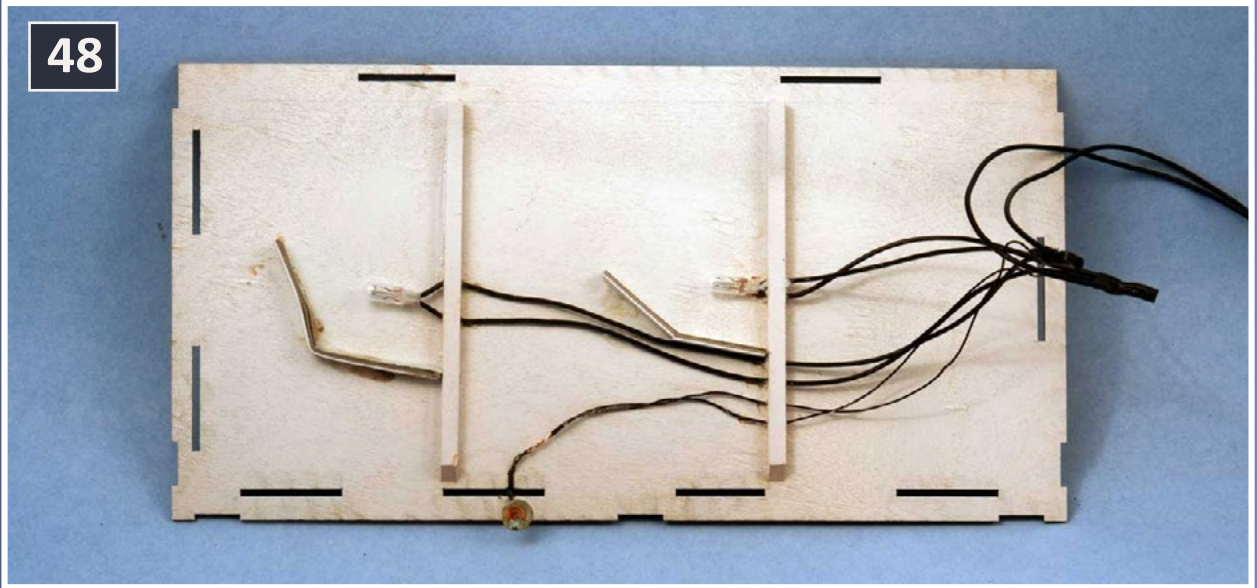


47



STEP 7: Quick interior detailing the dining area *Continued ...*

48



45-47: Different views of the of the front wall and interior.

48: Two interior lamps and a door lampshade are sufficient for lighting the interior. Small holes drilled into the bracing make a convenient support for the lamps. Cardboard baffles – the “L” shaped pieces below the lamps – are added to prevent the light from shining directly into the viewer’s eyes. The wiring installation is done the same as the kitchen. Two separate circuits will allow moving the kitchen to a different location later if I choose to do so.



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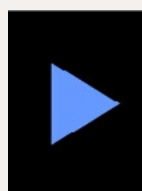
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It's not just for programming decoders

– By Dennis Drury

Generating switch lists for your layout ...

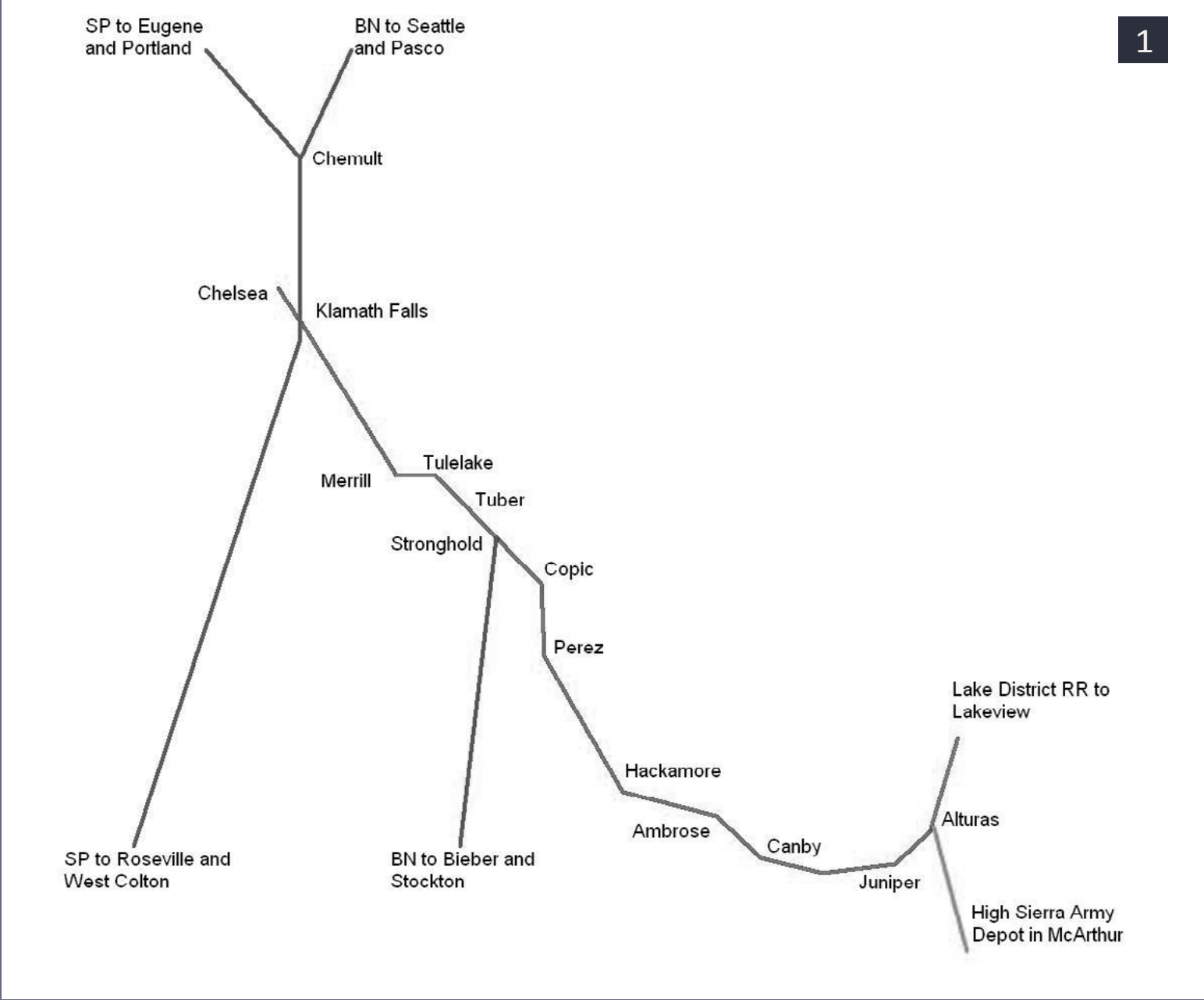


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If you are reading this magazine, you are computer savvy and have given some thought to operating the layout you're building. Ideally your design allows for operations, and you know which dispatching system you will use: timetable, Centralized Traffic Control, track warrants, Direct Traffic Control, or some other dispatching system. These decisions are only part of the operating equation.

The next decision is selecting a method of car forwarding and management. There are a large number of systems from which to choose. There are the old standbys of colored tabs on car roofs, car card and waybill and various computer programs. Each system has its strengths and weaknesses. There is no single system that will satisfy everyone.



1: The CO&W and its connections. The map sets the stage for the trains that will come on and off of the layout.

Each has its own learning curve, as well as a purchase price. However, there is a computer-based car forwarding system that is free. JMRI's operations suite lets the modeler build train consists and switch lists tailored for the layout and its car fleet. The DecoderPro/PanelPro program from the JMRI, or Java Model Railroad Interface, organization can control turnouts and signals and move train designations around a panel that represents your layout. It can also route your cars and locomotives to destinations you select, and generate switch lists and train

manifests. Much has been written about using JMRI to program DCC decoders but to my knowledge little has been written on how to set up the operations suite of JMRI.

The program has an excellent help file and tutorial. There are some tricks you can use to get the most out of the JMRI operations suite. Let's explore these tricks. We hope you will come away with a better understanding of how this program works. If you tried operations with JMRI and didn't care for it, I suggest you download the latest version and try it again. Substantial changes have been made to release 2.10. This is the version I will talk about.

Getting started with JMRI operations

Once we have a good overview of the trains and traffic, we want to run on our railroad. It's time to open up JMRI and start setting up the program. If you haven't already done so, download the JMRI program. The program is available for free at jmri.sourceforge.net/download/.

The program is Java-based and will run on any operating systems that accepts Java, including Windows, MacOS and Linux. Download version 2.10, which has many improvements to the operations section. When you install the program, you will notice there are two ways to start it. DecoderPro is for programming DCC decoders. PanelPro is mainly used for operations. Even if you do not use DCC, you can use the operations section of JMRI to generate switch lists and train manifests.

Install PanelPro

Launch the PanelPro part of the program. If this is your first time installing it, or if you have no connection between your computer and your layout, you will need to set up a simulated connection. Use the Digitrax LocoNet Simulator. I have an old desktop computer that I use for decoder programming and layout control.

Operations on the California Oregon & Western

Before starting with JMRI operations, or any car management system, you must understand how your layout fits into the overall rail system. With that in mind I this a brief overview of my railroad, the California Oregon & Western.

The CO&W was created in 1984 as part of the trend by the class one railroads to spin off unprofitable branch lines. With the Union Pacific takeover of the Western Pacific, the Southern Pacific's Modoc line was no longer needed as a through route from Oregon to the UP in Ogden. The SP abandoned the southern part of the Modoc and spun off the northern end. To see a more in-depth description of the CO&W, see issue 42 of the LDSIG Journal.

My first step was determining what railroads connected with the CO&W, and which trains carried traffic between offline destinations and customers on my railroad.

From the map (1), you can see that the CO&W interchanges with the SP and Burlington Northern at Klamath Falls, OR. It interchanges in Alturas, CA with the Lake District Railway, and the U.S. Army line serving the High Sierra Army Depot in McArthur, CA. There is a short branch out of Klamath Falls to the industrial area of Chelsea. The BN has trackage rights on the SP in Oregon between Klamath Falls and Chemult and on the CO&W between Klamath Falls and Stronghold.

The lines actually modeled are the yard in Klamath Falls, the CO&W line to Alturas and the branch to Chelsea. Staging represents the SP lines from Eugene to Roseville and West Colton, as well as the BN lines from Bieber, California to Seattle and Pasco, Washington. The Lake District and U.S. Army connections are a single staging track each out of Alturas.

Sidebar continued on next page ...



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Operations on the California Oregon & Western

... continued from previous page

Now that we know the railroads and their lines (1), we can examine the trains that will run on the layout. There are six trains on the SP that simply run through Klamath Falls with nothing more than a station stop and a crew change. The first two are the north and southbound Amtrak Starlights, trains 11 and 14, which run out of staging to a station stop at the Klamath Falls depot. After changing crews, they return to the staging yard.

Two hot SP piggyback trains, the LABRF and CZLAT, run on the line and there are two intermodal trains, OAPTT and PTOAT. These six trains run from staging to a crew change / station stop and return to staging with no on-layout changes to their consists.

Next up are the trains that contribute car movements between the connecting Class 1 railroads and the CO&W. On the SP are the EURVY, EUWCY, RVEUY and WCEUY. These trains run from Eugene (EU) to Roseville (RV) and West Colton (WC). The letter Y was an SP symbol for a manifest train from the period I'm modeling. On the BN we have trains 137 between Seattle and Bieber, California 138 between Bieber and Seattle, 170 from Bieber to Pasco and 171 from Pasco to Bieber.

Each of these trains will pick up and drop cars at Klamath Falls for the CO&W, as well as cars to be forwarded to the Army and Lake District railways. The CO&W has two yard jobs. One will service the local Klamath Falls industries once per day, while the other will run out to Chelsea and back once per session. An engine is based in Alturas to handle the local switching in that area.

For road trains, the CO&W runs a daily turn from Klamath Falls directly to Alturas, a logging turn from Chelsea to Juniper and a local to serve the industries between Klamath Falls and Tulelake, California. ■

Operations Settings

Tools
Window
Help

2

Railroad Name
California Oregon and Western

Trains Travel
☒ North/South
☒ East/West

Maximum Train Length (ft)
2250

Maximum Engines per Train
5

Switch Time (minutes)
5

Travel Time (minutes)
20

Scale
☐ Z
☐ N
☐ TT
☐ HOOn3
☐ OO
☒ HO
☐ Sn3
☐ S
☐ On3
☐ O
☐ G

Car Types
☒ Descriptive
☐ AAR Codes

Owner
Dennis Drury

Build Option
☐ Normal
☒ Aggressive

Options

☒ Add Operations Menu to Main Menu

☐ Enable Radio-Frequency Identification (RFID) Fields

Panel Options

Create Train Icons on Panel
COW_Final_3b

☒ Enable Train Icon SetX&Y

☒ Append Engine Number

Northbound Train Icon Color
Green

Southbound Train Icon Color
Green

Eastbound Train Icon Color
Gray

Westbound Train Icon Color
Gray

Local Train Icon Color
Blue

Terminated Train Icon Color
Red

Restore

Backup

Save

2: The Settings screen. I have filled in the different fields such as Railroad name, Trains Travel, Maximum Train Length (ft) etc. This screen also allows you to set your car type code, along with color coding of train direction.

When that is set up, I select: Tools -> Operations -> Settings (2). At this point you may find it helpful to look through the extensive help section of the program by selecting Help -> Window Help.

Enter the name of your railroad. This will show up when you print switch lists and train manifests. Next is orientation: The SP considered itself an east/west railroad while the BN trains ran north/south so I checked both boxes. Next, enter the maximum allowed length of a train on your railroad, as well as the maximum number of engines for one train.

Switch Time is how long it takes you to set out or pick up a single car. Travel Time is how long it takes to run from one station to the next on your layout. These times can either be in real time or fast time depending on how your layout is operated. Scale, Car Types and Owner are pretty easy to figure out. When starting out, it is best to select the Normal Build Option. When you get used to the program, you can change it to Aggressive.

Checking “Add Operation” will put an operations label in the menu choices when the program starts. I’m not using RFID, so I’ve left it unchecked. Since I will only discuss the car management part of JMRI here, I will ignore the Panel Option section. When everything on this screen is complete click on the Save button and close the window to move on to the next section.

Locations

Now we start to get into the meat of the program: adding our locations (3) into the program. Many of the locations on the system map (1) are listed on the locations screen (3), and you will notice there are locations listed that are not on the map.

Ewing and Weso are the two reversing loops on my layout. They are used to turn the Amtrak and SP intermodal trains in staging. Bend, Bieber, Dunsmuir and Eugene are the BN and SP staging yards. Keddie and Vancouver are included because certain BN trains will leave Klamath Falls with blocks for those locations.

Locations

Tools Window Help

3

<div>Id</div>	<div>Name</div>	<div>Length</div>	<div>Used</div>	<div>Rolling Stock</div>	<div>Pickups</div>	<div>Drops</div>	
20	Alturas	1450	63	1	0	0	<div>Edit</div>
18	Armstrong	0	0	0	0	0	<div>Edit</div>
9	Bend	0	0	0	0	0	<div>Edit</div>
10	Bieber	0	0	0	0	0	<div>Edit</div>
13	Chelsea	1311	1080	20	0	0	<div>Edit</div>
2	Chemult	0	0	0	0	0	<div>Edit</div>
4	Dunsmuir	0	0	0	0	0	<div>Edit</div>
1	Eugene	1810	556	9	1	0	<div>Edit</div>
22	Ewing	0	0	0	0	0	<div>Edit</div>
15	Hatfield	0	0	0	0	0	<div>Edit</div>
19	Juniper	2400	1080	20	0	0	<div>Edit</div>
25	Keddie	0	0	0	0	0	<div>Edit</div>
3	Klamath Falls	19375	907	16	0	0	<div>Edit</div>
26	Klamath Falls Industries	144	0	0	0	0	<div>Edit</div>
23	Lakeview	0	0	0	0	0	<div>Edit</div>
24	McArthur	0	0	0	0	0	<div>Edit</div>
14	Merrill	0	0	0	0	0	<div>Edit</div>
12	Pasco	1010	164	3	0	2	<div>Edit</div>
5	Roseville	1225	269	4	0	0	<div>Edit</div>
7	Seattle	985	166	3	0	0	<div>Edit</div>
11	Stockton	3720	421	8	2	0	<div>Edit</div>
17	Tuber	0	0	0	0	0	<div>Edit</div>
16	Tule Lake	0	0	0	0	0	<div>Edit</div>
8	Vancouver	0	0	0	0	0	<div>Edit</div>
21	Weso	0	0	0	0	0	<div>Edit</div>
6	West Colton	1097	269	4	0	1	<div>Edit</div>

Sort by

NameId

Add

3: Locations screen. I have the locations sorted alphabetically. These are the various stations both on and off the layout that are used in building the trains.


You can enter the stations in any order. Make sure that any location on your layout that will have trains doing work is entered. Also enter any off-layout locations served by your trains. I'll explain why later. There are separate entries for Klamath Falls and Klamath Falls Industries. I will explain the reason for that a bit later, too. For now, all we want to do add the individual locations. Hold off on putting in siding, yard, interchange or staging tracks for now. Don't worry if you forget one or two. It's easy to go back and add them later.



The help file it suggests you follow the steps in a certain order. I have found that once you get the basic locations entered, you should add your freight cars next. Once you start setting up industry sidings and freight schedules, you need to have cars in the roster for the program to use in fulfilling those schedules.

Rolling Stock

Click on Operations -> Cars you will see a screen similar to what's shown (4a, 4b). Until you add cars, you will have no data in this screen. Take a close look at what's on the Cars screen. This will give you a good understanding of the power in this program.

 Cars

ToolsWindowHelp

Number	Road	Type	Len	Load	Kernel	Location
178403	ATSF	HopCoal	40	Coal Load		Stockton (ATSF York Canyon)
178508	ATSF	HopCoal	40	Coal MTY		Pasco (UEW Coal Receiving)
178580	ATSF	HopCoal	40	Coal MTY		Pasco (UEW Coal Receiving)
178685	ATSF	HopCoal	40	Coal Load		Stockton (ATSF York Canyon)
841757	BCIT	Boxcar DSD	50	E		
818478	BCOL	FlatBulkHead	57	E		
818519	BCOL	FlatBulkHead	57	E		
10563	BN	Caboose (C)	36	E		Pasco (Pasco Cab Track)
10565	BN	Caboose (C)	36	E		Stockton (Stockton Cab Track)
10568	BN	Caboose (C)	36	L		Stockton (Stockton Cab Track)
3036	CALX	Tank Propane	51	Propane		Roseville (Martinez Gas Loading)
8328	CHP	Boxcar SSD	50	Tequila Load		West Colton (Sotol Tequila Chihu)
1001	COW	Log Car	50	Log Load		Juniper (Juniper Log 1)
1002	COW	Log Car	50	Log Empty		Chelsea (Chelsea Log 1)
1003	COW	Log Car	50	Log Empty		Chelsea (Chelsea Log 1)
1004	COW	Log Car	50	Log Empty		Chelsea (Chelsea Log 2)
1005	COW	Log Car	50	Log Load		Juniper (Juniper Log 1)

Sort by

☐

Number

☒Road

☐Type

☐Color

☐Load

63 cars

From left to right we have: the number and road name of the car, then car type. I use a modified form of the descriptive manner displaying car types, but you can use the AAR method in the Settings page. For example I have several types of boxcar: DSD for Double Sliding Door, SSD for Single Sliding Door, DPD for Double Plug Door, as well as several other boxcar types.

The next column is the car length, followed by the car’s load. In addition to the default E (empty) and L (loaded) designations, I enter other custom loads, such as coal load and coal empty. I’ll describe how to create those a bit further on in the narrative.

4a

	Destination	Train	Moves	Location	
	Klamath Falls (BN 170 -> Alturas Turn)	BN 170	124	Set	Edit
	Stockton (ATSF York Canyon)	BN 171	125	Set	Edit
	Stockton (ATSF York Canyon)	BN 171	125	Set	Edit
	Klamath Falls (BN 170 -> Alturas Turn)	BN 170	124	Set	Edit
			0	Set	Edit
			0	Set	Edit
			0	Set	Edit
	Stockton (Stockton Cab Track)	BN 171	216	Set	Edit
	Pasco (Pasco Cab Track)	BN 170	126	Set	Edit
	Seattle (Seattle Caboose)	BN 138	127	Set	Edit
	Klamath Falls (RVEUY -> Alturas Turn)	SP RVEUY	185	Set	Edit
ahua)	Stockton (WCEUY -> BN138)	SP WCEUY	38	Set	Edit
	Chelsea (Chelsea Log 2)	COW Log Train	146	Set	Edit
	Juniper (Juniper Log 1)	COW Log Train	147	Set	Edit
	Juniper (Juniper Log 1)	COW Log Train	147	Set	Edit
	Juniper (Juniper Log 1)	COW Log Train	147	Set	Edit
	Chelsea (Chelsea Log 2)	COW Log Train	146	Set	Edit

d

☐ Kernel

☐ Location

☐ Destination

☐ Train

☐ Moves

☐ Built

☐ Owner

Add

Find



Cars

ToolsWindowHelp

4b

Number	Road	Type	Len	Load	Kernel	Location	Destination	Train	Moves	Location	
178403	ATSF	HopCoal	40	Coal Load		Stockton (ATSF York Canyon)	Klamath Falls (BN 170 -> Alturas Turn)	BN 170	124	Set	Edit
178508	ATSF	HopCoal	40	Coal MTY		Pasco (UEW Coal Receiving)	Stockton (ATSF York Canyon)	BN 171	125	Set	Edit
178580	ATSF	HopCoal	40	Coal MTY		Pasco (UEW Coal Receiving)	Stockton (ATSF York Canyon)	BN 171	125	Set	Edit
178685	ATSF	HopCoal	40	Coal Load		Stockton (ATSF York Canyon)	Klamath Falls (BN 170 -> Alturas Turn)	BN 170	124	Set	Edit
841757	BCIT	Boxcar DSD	50	E					0	Set	Edit
818478	BCOL	FlatBulkHead	57	E					0	Set	Edit
818519	BCOL	FlatBulkHead	57	E					0	Set	Edit
10563	BN	Caboose (C)	36	E		Pasco (Pasco Cab Track)	Stockton (Stockton Cab Track)	BN 171	216	Set	Edit
10565	BN	Caboose (C)	36	E		Stockton (Stockton Cab Track)	Pasco (Pasco Cab Track)	BN 170	126	Set	Edit
10568	BN	Caboose (C)	36	L		Stockton (Stockton Cab Track)	Seattle (Seattle Caboose)	BN 138	127	Set	Edit
3036	CALX	Tank Propane	51	Propane		Roseville (Martinez Gas Loading)	Klamath Falls (RVEUY -> Alturas Turn)	SP RVEUY	185	Set	Edit
8328	CHP	Boxcar SSD	50	Tequila Load		West Colton (Sotol Tequila Chihuahua)	Stockton (WCEUY -> BN138)	SP WCEUY	38	Set	Edit
1001	COW	Log Car	50	Log Load		Juniper (Juniper Log 1)	Chelsea (Chelsea Log 2)	COW Log Train	146	Set	Edit
1002	COW	Log Car	50	Log Empty		Chelsea (Chelsea Log 1)	Juniper (Juniper Log 1)	COW Log Train	147	Set	Edit
1003	COW	Log Car	50	Log Empty		Chelsea (Chelsea Log 1)	Juniper (Juniper Log 1)	COW Log Train	147	Set	Edit
1004	COW	Log Car	50	Log Empty		Chelsea (Chelsea Log 2)	Juniper (Juniper Log 1)	COW Log Train	147	Set	Edit
1005	COW	Log Car	50	Log Load		Juniper (Juniper Log 1)	Chelsea (Chelsea Log 2)	COW Log Train	146	Set	Edit

Sort by

Number

Road

Type

Color

Load

Kernel

Location

Destination

Train

Moves

Built

Owner

63 cars

AddFind

4a-4b: Cars screen. Each car's reporting marks are entered, along with its length and load. I also entered the car's originating point and its destination, along with the train that it should be moved in.

The kernel is used if you have a group of cars that always stay together, such as a passenger train or unit train.

The next columns are is the car's current location, the track for which it is destined, as well as the train it's going out on. The next column shows the total number of moves the car has made since it was added to the layout. Finally are buttons for Set and Edit. The Set button allows you to manually set the track and the next destination for the car, and the train it will go out on. This is useful if a car is missrouted or needs to go to the repair track.

The Edit button allows you to quickly access the cars' characteristics if you need to edit something in the future. Before moving on let's discuss a couple of other items. You may have noticed three cars (4a, 4b) that have no information in some of the columns. The BCIT and BCOL cars have just been entered

into the car roster and haven't had schedules created, so they are just sitting there waiting to be told what to do.

There are buttons at the bottom of the screen that allow you to add the build date or car owner to the list. These are useful if you run operating sessions set in different time frames, or if you set up a club layout and want to find cars belonging to a certain member.

Add car

Begin entering
new cars to the

5: Add Car screen. On this screen the data is entered for each car. This screen allows the owner's name to be entered, a handy feature for cars on club layouts.


Add Car
5

Window Help

Road

ACFX

Edit

Road Number

91901

Clear

Type

TankKaolin

Edit

☐ Caboose
 ☐ FRED
 ☐ Hazardous

Length

40

Edit

Weight

Ounces

3.8

 Tons

75

Calculate

☒ Auto

Location

Optional

Color

White

Edit

Load

E

Edit

Kernel

Edit

Built

Jun-80

Owner

DMD

Edit

Comment

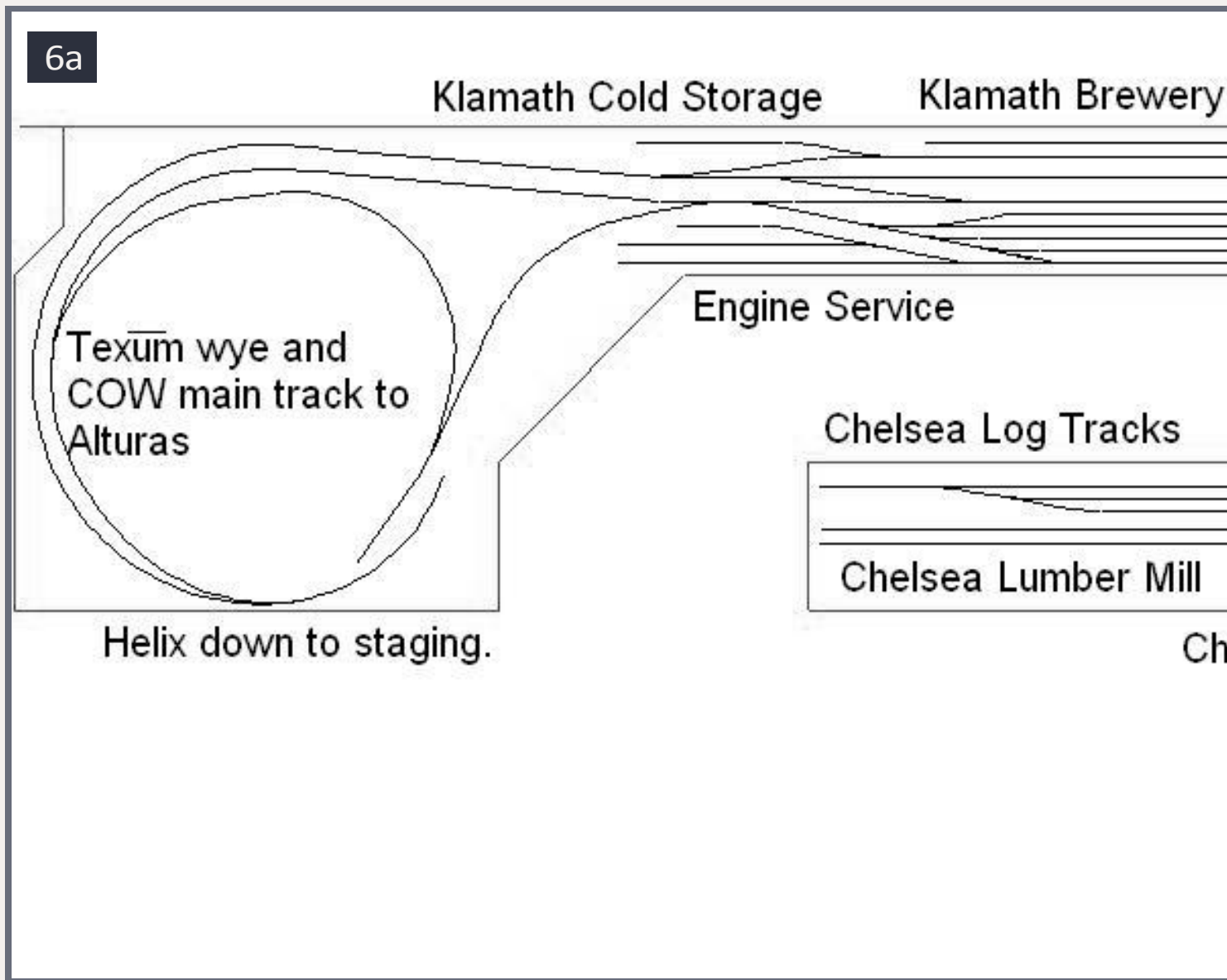
Englehard Tank Car

Delete

Add

Save

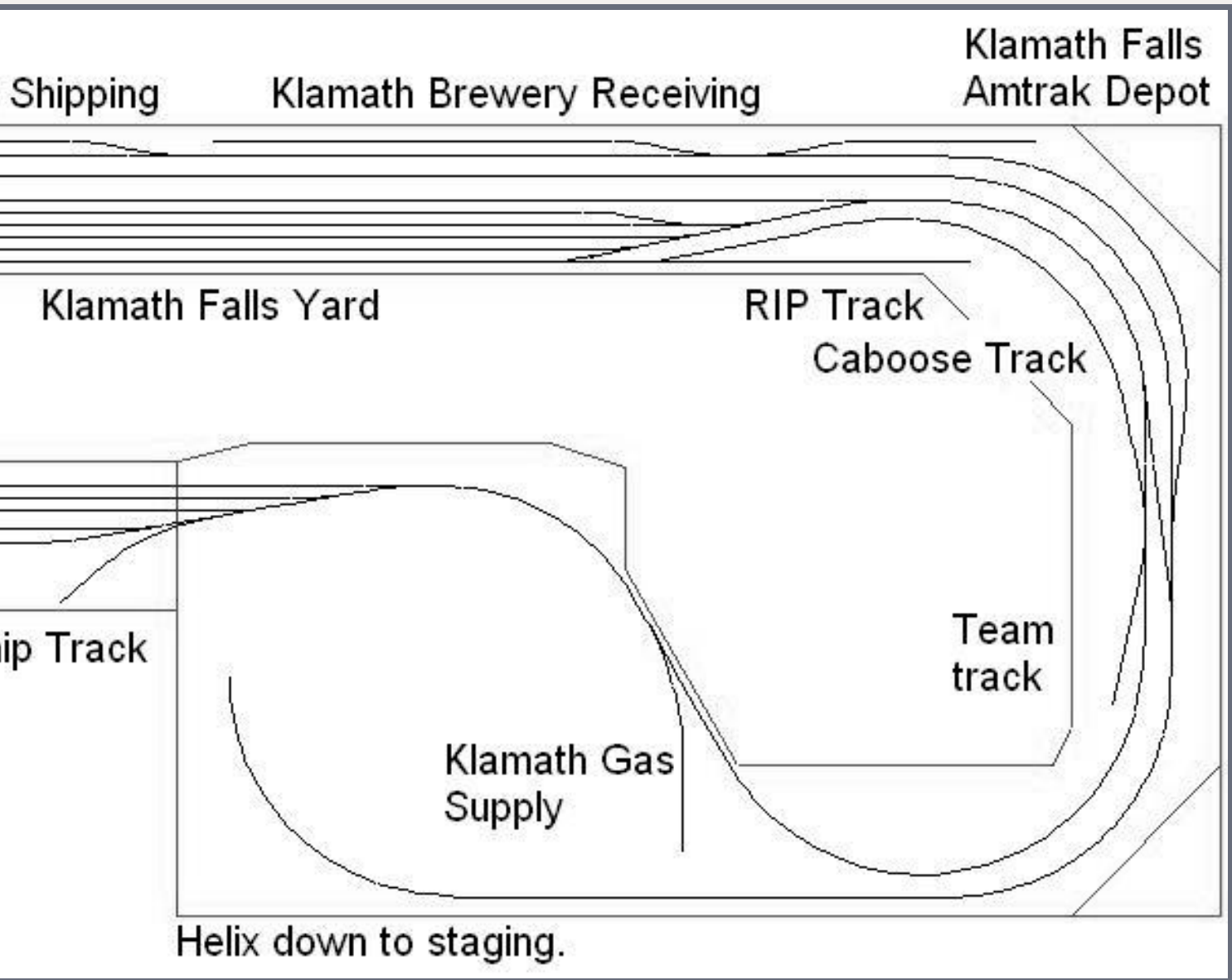
layout roster by clicking on the Add button located at the bottom of the Cars window. This will bring up the Add Car screen (5). I am adding a kaolin tank car to my roster. First, use the drop down menu to select the reporting marks under Road. Click the Edit button under Road, enter “ACFX” under reporting marks and click Add. The new reporting marks are now in the drop down list. Next, enter the car number. I didn't find the car type listed, so I click the Edit button to add Tank Kaolin. Now I can tell the program if this car is a caboose, has a FRED attached, or contains hazardous materials. Then I enter the car



length. If the value needed isn't in the list, use the edit menu to add it. Under weight, you can let the program calculate it for you, based on the NMRA guidelines, or enter it manually.

Leave Location blank until you set up the schedule for the car. Color is next, and again, you can enter other colors into the list. Load and Kernel I leave blank. The final entries are date built, owner, and comments.

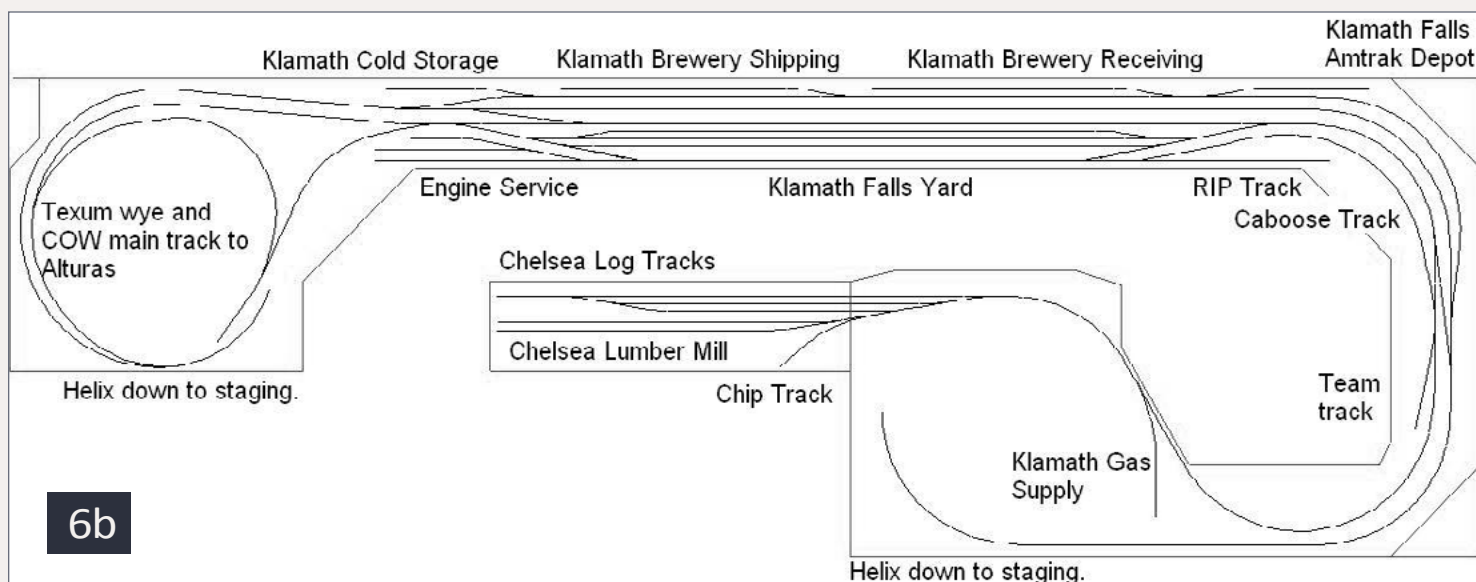
When the data is the way you want it, click Add and the car is entered into the roster. Even though the help file suggests you follow a certain order in setting up the program, you don't



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6a-6b: Klamath Yards schematic. The heart of my layout.

have to add all your cars at once. The program allows you to add one now and set up a schedule for it, or you can add all your cars once and later work on other parts of the program. It's up to you and how you want to approach the process.

Give those cars a place to go

Now let's go back and enter some industry sidings, yard, and interchange tracks. Here, you need to be a little bit clever with the program to make it do what you want. Each location can have sidings, yard, interchange, or staging tracks. If it has a siding, yard, or interchange, it can't have staging and vice-versa. Also, what the program calls sidings are really industry tracks. Passing sidings aren't used by the car management part of the program and aren't relevant to this discussion.

Before discussing yard and interchange tracks, I will go over how the program treats individual car movements. If all you want the program to do is move an empty boxcar to a factory to be loaded and then sent off to another location, it will do that just fine. If you want to specify what railroad provides

the car, what the contents are, where it's going, and why, then you have to do a bit more work. But before I get too deep into it, let's look at the nexus of my railroad, Klamath Falls yard (6a, 6b).

JMRI allows you to create schedules for your car management system to follow. These are not train or timetable schedules, but are instead shippers' schedules for getting product to their customers. As an example, I have a boxcar lettered for the Chihuahua El Pacifico railroad (CHP). Using Google, I found the Sotol distillery in Chihuahua.

I set up the program to use this CHP car to ship tequila to four locations. One of these is an on-layout beverage distributor in Alturas. The other three are off-layout locations gleaned from the OPSIG industry database. These locations are in Eugene, Seattle, and Spokane. I set this routing up this way because, even though the car runs from staging to staging for some of its trips, I want all movements to be managed by JMRI.

Before I delve into complex, multi-destination scheduling such as the CHP car, I will set up a simple one using the ACFX car I just entered. First, I determine what this car carries and then find a location that ships the product. Then I determine a location that receives the product. My favorite tools for this process are the OPSIG Industry Database (opsig.org/reso/inddb/) and Google.

Using those tools, I learn that kaolin is used in the manufacture of paper products. On the OPSIG list I found Engelhard ships kaolin from a facility in Gordon, GA. I remember going by the International Paper Co. mill in Albany, Oregon many times when I worked for the SP, so that will be the destination. In looking at the trains that traverse my layout, I don't have any trains that go to Georgia. I do know that the car most likely would be received by the SP in New Orleans, and would be forwarded to West Colton yard. From there it would



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index

go out on the WCEUY to Eugene, and then it would go on a local to the mill in Albany.

Next, I need to create (7,8) the industry sidings in West Colton and Eugene. Go into Locations, and click the Edit button to edit West Colton. The first time a location is opened, you need to check the appropriate buttons telling the program which direction trains that service this location are traveling.

The program's default is to have all rolling stock on the roster checked and serviced at this location. It's easier to manage if I

Edit Location

Tools Window Help

Name

West Colton

This location is serviced by trains traveling

☐ North

☐ South

☒ East

☒ West

Select the rolling stock serviced by this location

☐ Baggage

☐ Boxcar DD

☒ Boxcar USD

☒ Boxcar SSD

☒ Caboose

☐ Coal

☐ Colcar

☐ Flatbulkhead

☐ Flatcar

☐ Gon-scrap

☐ Gondola

☐ HopChem

☐ Coal

☐ HopCoal

☐ HopGrain

☐ HopSand

☐ Hopper

☐ Log Car

☐ MOW

☐ Passenger

☒ Reefer

☐ Tank Food

☐ Tank Gas

☐ Tank Oil

☐ Tank Propane

☐ Tankkaolin

☐ Diesel

☐ Engine

Clear all

Select all

Auto Select

Operations at this location

☒ Sidings

☐ Yards

☐ Interchange

☐ Staging only

ID	Siding Name	Length	Used	Reserved	Cars	Engines	Pickups	Drops	
6s1	Colton Cab Track	150	44	0	1	0	0	0	Edit
6s4	Sotol Tequila Chihuahua	75	0	0	0	0	0	0	Edit
6s3	US Culd Storage	72	0	0	0	0	0	0	Edit
6s2	West Colton Diesel Shop	800	225	0	0	0	0	0	Edit

Add Siding Track

Comment


Delete Location






Add Location

Save Location

7: Edit screen for the West Colton yard. Here is where you specify the direction trains arrive and depart, along with the types of cars that a location can accept.




Add Siding Track

Tools Window Help

8

Name

Engelhard Gordon, GA

Length

65

This siding is serviced by trains traveling

☒ East
☒ West

Select the rolling stock serviced by this siding

☐ Boxcar DSD
☐ Boxcar SSD
☐ Caboose
☐ Reefer
☒ TankKaolin

Clear all

Select all

Select the roads serviced by this track

☐ Accept all
☒ Accept only
☐ Exclude

ACFX

Add Road

Delete Road

ACFX

Optional Schedule

Edit

Comment

Kaolin Shipping

Delete Siding Track

Add Siding Track

Save Siding Track

8: Add Siding screen for the off-layout location of Engelhard Gordon in Georgia. Building the siding allows the program to send empty cars back to be reloaded and sent to the next customer.

uncheck everything and add cars and locomotives as needed. Before we create the siding for the kaolin car, we need to put a check mark in the box for Tank Kaolin. Then click the Add Siding button. When Add Siding Track window is first opened (9), you'll notice some of the buttons and boxes are grayed out. They will become active as data is entered. Also don't do anything with the Optional Schedule drop down menu for now.

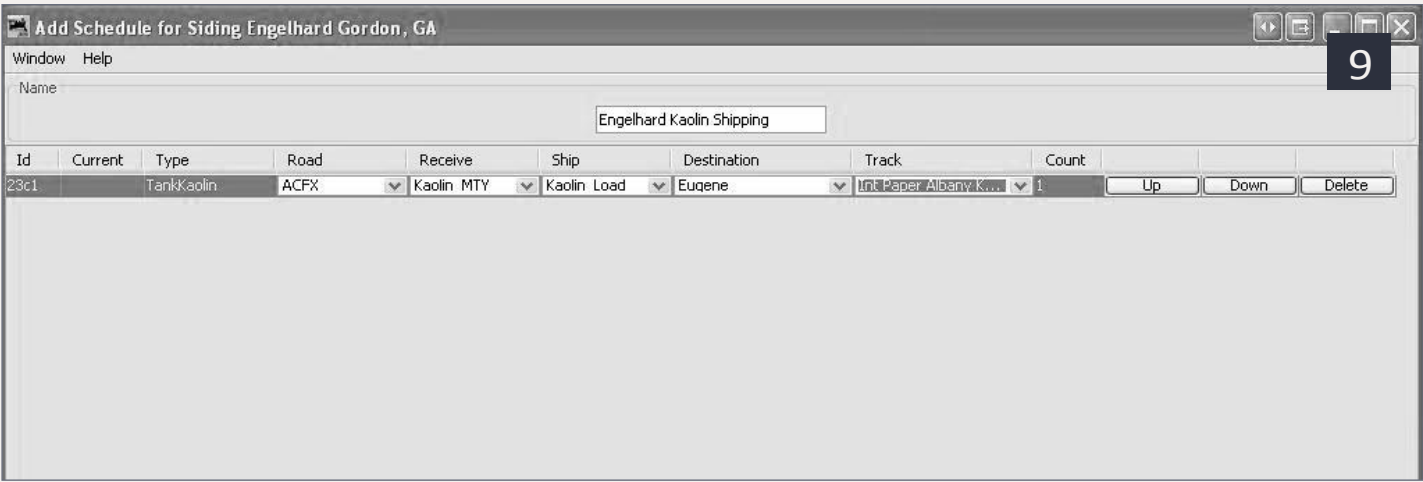
Enter the siding name, length, and any desired comments. Then click the Add Siding Track button. This is a virtual siding, so make the length long enough to hold the maximum number of cars that will ever be in it, plus a little bit extra.

Begin by clearing all rolling stock from the Serviced By This Siding list except for Tank Kaolin, and only allow ACFX reporting marks to be accepted by this track. Leave the Schedule section alone until Eugene is complete. Click the Save Siding Track button, close this window, and close the Edit Location window. Now, repeat the process to add a siding track at Eugene for International Paper/Albany/Kaolin. On to the next step.

Set up the schedule

Now we are ready to add the shipping schedule to guide the car movements. Go back to Operations-> Cars and edit the ACFX tank car. I edit the Load by clicking on the Edit button in the Load section. Here I can enter Kaolin_Load and Kaolin_MTY. Make sure to save the car data before closing the Edit Car window.

Once I have set up the loads, I return to the Engelhard siding in West Colton. Opening up the Edit Siding Track window for this siding, I click on the Edit button in the Schedule section.



9: This is how the screen looks after the data has been entered for the car.

Edit Route

Tools

Window

Help

Name

West Colton -> Eugene

Id	Location	Train Direction	Moves	Pickups?	Drops?	Max Length	Grade	X	Y			
12r1	West Colton	East	25	yes	no	2250	0.0	0	0	Up	Down	Delete
12r6	Stockton	East	1	yes	yes	2250	0.0	0	0	Up	Down	Delete
12r2	Dunsmuir	East	0	no	no	2250	2.2	0	0	Up	Down	Delete
12r3	Klamath Falls	East	10	yes	yes	2250	-2.2	0	0	Up	Down	Delete
12r4	Chemult	East	5	yes	yes	2250	0.0	0	0	Up	Down	Delete
12r5	Eugene	East	25	no	yes	2250	0.0	0	0	Up	Down	Delete

Add Location

Add location at start

Add location at end

Comment

For SP WCEUJY

Delete Route

Add Route

Save Route

10: Completed route screen. Even though the SP runs north and south along the West Coast, northbound trains are considered eastbounds by the railroad.

Here I enter Engelhard Kaolin Shipping in the Name and put in Engelhard siding, Gordon, GA in the comments and click on the Add Schedule button.

Next I select Tank Kaolin as the car type and click on the Add car type button. Once I have everything selected I click on Save Schedule and close the window. Then, in the Edit Siding Track I select the schedule I just created, click on the Save Siding Track button, and close that window. I repeat the process to set up a receiving schedule in Eugene, and I am done with this car. This takes much longer to talk about than it does to do it. It is almost the same process used setting up a car card and waybill system for this car and these industries.



Edit Train

ToolsWindowHelp

Name

SP WCEUY

Description

West Colton to Eugene Manifest

Departure Time (hh:mm)

06

20

Route

West Colton -> Eugene

Edit

This train services the following locations

☒ West Colton

☒ Stockton

☐ Dunsmuir

☒ Klamath Falls

☒ Chemult

☒ Eugene

Select car types serviced by this train

☐ Baggage☐ Boxcar DD☒ Boxcar DSD☒ Boxcar SSD☒ Caboose☐ Coal☐ Coilcar

☐ FlatBulkHead☐ Flatcar☐ Gon-scrap☐ Gondola☐ HopChem☐ HopCmnt☐ HopCoal

☐ HopGrain☐ HopSand☐ Hopper☐ Log Car☐ MOW☐ Passenger☒ Reefer

☐ Tank Food☐ Tank Gas☐ Tank Oil☐ Tank Propane☒ TankKaolin

Clear all

Select all

Select engine types serviced by this train

☒ Diesel☐ Electric☐ Gas☐ Steam

☒ Engine

Train Requires

Engines

3

Model

Road

☐ None☐ FRED☒ Caboose

Road

SSW

Comment

Delete Train


Reset Train

Add Train

Save Train

11: The completed Edit Train screen shows the name of the train along with the stations and types of cars that it services. Train requirements show that three engines and a caboose are used for this train.

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Is it time for some trains?

Before I can set up a train, it needs a route (10) to follow. From the main PanelPro window select Operations -> Routes, and click the Add button. We will create a route to run from West Colton to Eugene (10). This route will be used by the SP's WCEUY, which will be an eastbound train when it arrives at Klamath Falls.

From the drop down menu, select locations to add to the route, the direction the train is running, and the number of moves for the train to make. A move is either picking up or dropping off a car. If one car is picked up, and one car is dropped off, that will be two moves. Then tell the program if pickups and dropoffs are allowed at specific locations by a train using this route.

Next is the maximum length of the train between this location and the next as well as the grade between stations. Note: The grade can be a negative number. I click on the button to save the route and close the screen. Then close the Routes window and move on to creating some trains.

Go to the Select Operations -> Trains (11) from the main PanelPro window and click on the Add button. Type in the name of the train and a description, enter a departure time from its initial station, and select the route. This train will run with three locomotives and an SSW caboose, but I've left the Model and Road for the engines blank. I do this because several three-engine consists are available to pull this train.

You can set the number of engines required to Auto. The program will calculate how many are needed, based on the grade and number of cars in the train. As I get more car schedules completed and am ready to add those cars to the train, I will come back and check them. Click the Save Train button, close the window, and we'll get ready to run some trains. I also



created a route (10) and made up a train for the EUWCY to get the ACFX car back to West Colton so the process can begin again.

12

Edit Interchange Track

Tools Window Help

Name

WCEUY -> Alturas Turn

Length

800

This interchange track is serviced by trains traveling

☐ North

☐ South

☒ East

☒ West

Select the rolling stock serviced by this interchange track

☒ Boxcar SSD

☐ Caboose

☐ HopCoal

☐ Reefer

☐ Tank Propane

☐ Diesel

☐ Engine

Clear all

Select all

Select the roads serviced by this track

☒ Accept all

☐ Accept only

☐ Exclude

Select trains or routes for car drops

☐ Any

☒ Trains

☐ Routes

Add

Delete

SP WCEUY

Select trains or routes for car pickups

☐ Any

☒ Trains

☐ Routes

Add

Delete

Alturas Turn

Comment

Delete Interchange Track

Add Interchange Track

Save Interchange Track

12: I have set up a WCEUY -> Alturas Turn track and specified the types of cars that can be set out on the track, along with the trains that can make set-outs and pickups there.

Edit Location

ToolsWindowHelp

13

Name

West Colton

This location is serviced by trains traveling

☐ North

☐ South

☒ East

☒ West

Select the rolling stock serviced by this location

☐ Baggage

☐ FlatBulkHead

☐ HoppGrain

☐ Tank Food

☐ Boxcar DD

☐ Flatcar

☐ HoppSand

☐ Tank Gas

☒ Boxcar DSD

☐ Gon-scrap

☐ Hopper

☐ Tank Oil

☒ Boxcar SSD

☐ Gondola

☐ Ing Car

☐ Tank Propane

☒ Caboose

☐ HopChem

☐ MOW

☒ TankKaolin

☐ Coal

☐ HopCrnt

☐ Passenger

☒ Diesel

☐ Coilcar

☐ HopCoal

☒ Reefer

☒ Engine

Clear all

Select all

Auto Select

Operations at this location

☒ Sidings

☐ Yards

☐ Interchange

☐ Staging only

Id	Siding Name	Length	Used	Reserved	Cars	Engines	Pickups	Drops	
6s1	Colton Cab Track	150	44	0	1	0	0	0	Edit
6s5	Engelhard Gordon, GA	65	44	-44	1	0	1	0	Edit
6s4	Sotol Tequila Chihuahua	75	0	0	0	0	0	0	Edit
6s3	US Cold Storage	72	0	0	0	0	0	0	Edit
6s2	West Colton Diesel Shop	800	225	0	0	3	0	0	Edit

13: A portion of the Edit Location screen for West Colton.

Setting up more complex schedules

What happens if a car needs to move on several different trains to get from its origin to its destination? Let’s take a look at how I set up the CHP car (14) to haul tequila to multiple destinations.

Looking at the yard area from top to bottom (6a-6b) we see industry tracks along the backdrop, the Klamath Falls siding, and then the main line. Next are the Arrival/Departure track and five yard tracks. The bottom yard track is the lead for the engine house, caboose track, and RIP track, and must be kept clear.

When I first created the yard tracks in the JMRI program (as they are in figure 6), the program didn’t work as I expected. I discovered what I call the “overlay” concept when creating tracks for the program, rather than setting up individual yard tracks in Klamath Falls.

Overlays allow me to tell the program that I want a car to be forwarded from one train to another. The interchange tracks



are not individual tracks in the yard. Each of these can be the same physical yard track. What this does is specify in the train manifest and in the location's switch list where a particular car is to go. It also allows the yardmaster flexibility in what yard track he wants to use in building the next block or train, based on the traffic levels that day.

Edit Siding Track

Tools

Window

Help

14

Name

Sotol Tequila Chihuahua

Length

75

This siding is serviced by trains traveling

☒ East

☒ West

Select the rolling stock serviced by this siding

☐ Boxcar DSD

☒ Boxcar SSD

☐ Caboose

☐ Reefer

☐ TankKaolin

☐ Diesel

☐ Engine

Clear all

Select all

Select the roads serviced by this track

☐ Accept all

☒ Accept only

☐ Exclude

AA

Add Road

Delete Road

CHP

Optional Schedule

Sotol Tequila Shipping

Edit

Comment

Tequila Shipping

Delete Siding Track

Add Siding Track

Save Siding Track

14: Edit Siding Track screen for the Sotol Distillery. Another off-layout industry and the originator of Tequila shipments.

Edit Schedule for Siding Sotol Tequila Chihuahua

Window Help

Name

Sotol Tequila Shipping

15

Id	Current	Type	Road	Receive	Ship	Destination	Track	Count			
17c1	-->	Boxcar SSD	CHP	Tequila Mty	Tequila Load	Eugene	Oregon Liquor Commision	1	Up	Down	Delete
17c2		Boxcar SSD	CHP	Tequila Mty	Tequila Load	Stockton	WCEUY -> BN170	1	Up	Down	Delete
17c3		Boxcar SSD	CHP	Tequila Mty	Tequila Load	Klamath Falls	WCEUY -> Alturas Turn	1	Up	Down	Delete
17c4		Boxcar SSD	CHP	Tequila Mty	Tequila Load	Stockton	WCEUY -> BN138	1	Up	Down	Delete

Boxcar SSD

Add car type

☐ Add at start

☒ Add at end

Comment

Shipping schedule for the CHP boxcar shipping tequila

Delete Schedule

Add Schedule

Save Schedule

15: The Edit Schedule page for Sotol Distillery siding. Each line represents an individual shipment of product to a consignee. The Current column arrow shows the next shipment will be going to the Oregon Liquor Control Commission in Eugene.

Before I move on to the routing of the CHP car, let’s take a look at one of these interchange tracks in more detail. Figure 12 (prior page) shows the Edit Interchange Track that I’ve named the WCEUY -> Alturas Turn track. For now, the only car interchanged between these two trains is the CHP car. Only the SP WCEUY is allowed to make drops to this track and only the Alturas Turn is allowed to accept cars from this overlay track.

There is also a corresponding overlay track to move cars from the Alturas Turn back to the EUWCY for the reverse trip. Once these overlay interchange tracks are set up, you can use them for any number of cars. Now let’s see how the CHP car is set up to get that tequila to the customers (14-15).

Even though the Sotol distillery is over a thousand miles away from West Colton, that is the station where the WCEUY



terminates. After arriving in West Colton, the CHP car would be reclassified into an off-layout train that would forward it on to Chihuahua.

Cars

Tools16aWindowHelp

Number	Road	Type	Len	Color	Kernel	Location
91901	ACFX	TankKaolin	40	White		West Colton (Engelhard Gordon, GA)
1211	ATK	Baggage	70	Silver		
178403	ATSF	HopCoal	40	Red		Alturas (Alturas Trn -> Alturas Sw)
178508	ATSF	HopCoal	40	Red		Stockton (ATSF York Canyon)
178580	ATSF	HopCoal	40	Red		Stockton (ATSF York Canyon)
178685	ATSF	HopCoal	40	Red		Alturas (Alturas Trn -> Alturas Sw)
841757	BCIT	Boxcar DSD	50	Green		
818478	BCOL	FlatBulkHead	57	Green		
818519	BCOL	FlatBulkHead	57	Green		
10563	BN	Caboose (C)	36	Green		Stockton (Stockton Cab Track)
10565	BN	Caboose (C)	36	Green		Pasco (Pasco Cab Track)
10568	BN	Caboose (C)	36	Green		Seattle (Seattle Caboose)
3036	CALX	Tank Propane	51	Black		Alturas (Alturas Trn -> Alturas Sw)
8328	CHP	Boxcar SSD	50	Orange		Stockton (BN137 -> EUWCY)
1001	COW	Log Car	50	Yellow		Juniper (Juniper Log 1)
1002	COW	Log Car	50	Yellow		Chelsea (Chelsea Log 1)
1003	COW	Log Car	50	Yellow		Chelsea (Chelsea Log 1)

Trains

ToolsWindowHelp

Time	Build		Name	Description	Route
00:05	<input checked="" type="checkbox"/>	Preview	Alturas Switcher 2007	Alturas local engine	Alturas Switcher
03:00	<input checked="" type="checkbox"/>	Preview	BN 170 2100	Stockton to Pasco	Stockton -> Pasco
04:00	<input checked="" type="checkbox"/>	Preview	BN 171 2175	Pasco to Stockton	Pasco -> Stockton
06:20	<input checked="" type="checkbox"/>	Preview	SP WCEUY 9290	West Colton to Eugene Manifest	West Colton -> Eugene
07:00	<input checked="" type="checkbox"/>	Preview	Klamath Falls Switcher 2009	Klamath Falls Yard Engine	Klamath Falls Switcher
08:00	<input checked="" type="checkbox"/>	Preview	Alturas Turn 2004	Klamath Falls to Alturas and return	Alturas Turn
11:20	<input checked="" type="checkbox"/>	Preview	SP EUWCY 8277	Eugene to West Colton Manifest	Eugene -> West Colton
17:30	<input checked="" type="checkbox"/>	Preview	BN 137 3053	Seattle to Stockton Manifest	Seattle -> Stockton
18:20	<input checked="" type="checkbox"/>	Preview	SP RVEUY 9224	Roseville to Eugene Manifest	Roseville -> Eugene
20:00	<input checked="" type="checkbox"/>	Preview	COW Log Train 2003	Log Train	Log Train
20:10	<input checked="" type="checkbox"/>	Preview	BN 138 3040	Stockton to Seattle Manifest	Stockton -> Seattle
21:00	<input checked="" type="checkbox"/>	Preview	Chelsea Turn 2002	K. Falls to Chelsea and return	Chelsea Turn
23:00	<input checked="" type="checkbox"/>	Preview	SP EURVY 8966	Eugene to Roseville Manifest	Eugene -> Roseville

Sort by☒ Time☐ Name☐ Route☐ Departs☐ Terminates☐ Id

Add

Build

Preview

Here you can see (14) that the track is 75' long, will only accept Single Sliding Door (SSD) boxcars, and will only accept CHP cars. I've set up a schedule to ship tequila from this location.

Destination	Train	Moves	Location	
Eugene (Int Paper Albany Kaolin)	SP WCEUY	2	<button>Set</button>	<button>Edit</button>
		0	<button>Set</button>	<button>Edit</button>
Alturas (LP Lumber Coal Receiving)	Alturas Switcher	126	<button>Set</button>	<button>Edit</button>
Pasco (UEW Coal Receiving)	BN 170	128	<button>Set</button>	<button>Edit</button>
Pasco (UEW Coal Receiving)	BN 170	128	<button>Set</button>	<button>Edit</button>
Alturas (LP Lumber Coal Receiving)	Alturas Switcher	126	<button>Set</button>	<button>Edit</button>
		0	<button>Set</button>	<button>Edit</button>
		0	<button>Set</button>	<button>Edit</button>
		0	<button>Set</button>	<button>Edit</button>
Pasco (Pasco Cab Track)	BN 170	219	<button>Set</button>	<button>Edit</button>
Stockton (Stockton Cab Track)	BN 171	129	<button>Set</button>	<button>Edit</button>
Stockton (Stockton Cab Track)	BN 137	130	<button>Set</button>	<button>Edit</button>
Alturas (Bethel's Propane)	Alturas Switcher	187	<button>Set</button>	<button>Edit</button>
West Colton (Sotol Tequila Chihuahua)	SP EUWCY	41	<button>Set</button>	<button>Edit</button>
Chelsea (Chelsea Log 2)	COW Log Train	148	<button>Set</button>	<button>Edit</button>
Juniper (Juniper Log 1)	COW Log Train	149	<button>Set</button>	<button>Edit</button>
Juniper (Juniper Log 1)	COW Log Train	149	<button>Set</button>	<button>Edit</button>

	Departs	Terminates	Current	Status		
	Alturas	Alturas	Alturas	Partial 3/5 cars	<button>Terminate</button>	<button>Edit</button>
	Stockton	Pasco	Stockton	Partial 3/26 cars	<button>Terminate</button>	<button>Edit</button>
	Pasco	Stockton	Pasco	Partial 1/26 cars	<button>Terminate</button>	<button>Edit</button>
e	West Colton	Eugene	West Colton	Partial 2/33 cars	<button>Terminate</button>	<button>Edit</button>
	Klamath Falls	Klamath Falls	Klamath Falls	Partial 2/10 cars	<button>Terminate</button>	<button>Edit</button>
	Klamath Falls	Klamath Falls	Klamath Falls	Partial 1/21 cars	<button>Terminate</button>	<button>Edit</button>
n	Eugene	West Colton	Eugene	Partial 2/33 cars	<button>Terminate</button>	<button>Edit</button>
	Seattle	Stockton	Seattle	Partial 1/26 cars	<button>Terminate</button>	<button>Edit</button>
	Roseville	Eugene	Roseville	Partial 1/32 cars	<button>Terminate</button>	<button>Edit</button>
	Klamath Falls	Klamath Falls	Klamath Falls	Built 41 cars	<button>Terminate</button>	<button>Edit</button>
	Stockton	Seattle	Stockton	Partial 1/26 cars	<button>Terminate</button>	<button>Edit</button>
	Klamath Falls	Klamath Falls	Klamath Falls	Partial 1/20 cars	<button>Terminate</button>	<button>Edit</button>
	Eugene	Roseville	Eugene	Partial 1/32 cars	<button>Terminate</button>	<button>Edit</button>

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☐ Build Reports

☒ Preview Manifests

☐ Move

☒ Terminate

Switch Lists

Terminate

Save Builds



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Cars

Tools Window Help

Number	Road	Type	Len	Color	Kernel	Location	Destination	Train	Moves	Location		
91901	ACFX	TankKaolin	40	White		West Colton (Engelhard Gordon, GA)	Eugene (Int Paper Albany Kaolin)	SP WCEUY	2		Set	Edit
1211	ATK	Doggo	70	Silver					0		Set	Edit
178403	ATSF	HopCoal	40	Red		Alturas (Alturas Trn -> Alturas Sw)	Alturas (LP Lumber Coal Receiving)	Alturas Switcher	126		Set	Edit
178508	ATSF	HopCoal	40	Red		Stockton (ATSF York Canyon)	Pasco (UEW Coal Receiving)	BN 170	128		Set	Edit
178580	ATSF	HopCoal	40	Red		Stockton (ATSF York Canyon)	Pasco (UEW Coal Receiving)	BN 170	128		Set	Edit
178685	ATSF	HopCoal	40	Red		Alturas (Alturas Trn -> Alturas Sw)	Alturas (LP Lumber Coal Receiving)	Alturas Switcher	126		Set	Edit
841757	BCIT	Boxcar DSD	50	Green					0		Set	Edit
818478	BCOL	FlatBulkHead	57	Green					0		Set	Edit
818519	BCOL	FlatBulkHead	57	Green					0		Set	Edit
10563	BN	Caboose (C)	36	Green		Stockton (Stockton Cab Track)	Pasco (Pasco Cab Track)	BN 170	219		Set	Edit
10565	BN	Caboose (C)	36	Green		Pasco (Pasco Cab Track)	Stockton (Stockton Cab Track)	BN 171	129		Set	Edit
10568	BN	Caboose (C)	36	Green		Seattle (Seattle Caboose)	Stockton (Stockton Cab Track)	BN 137	130		Set	Edit
3036	CALX	Tank Propane	51	Black		Alturas (Alturas Trn -> Alturas Sw)	Alturas (Bethel's Propane)	Alturas Switcher	187		Set	Edit
8328	CHP	Boxcar DSD	50	Orange		Stockton (BN137 -> EUWCY)	West Colton (Sotol Tequila Chihuahua)	SP EUWCY	41		Set	Edit
1001	COW	Log Car	50	Yellow		Juniper (Juniper Log 1)	Chelsea (Chelsea Log 2)	COW Log Train	148		Set	Edit
1002	COW	Log Car	50	Yellow		Chelsea (Chelsea Log 1)	Juniper (Juniper Log 1)	COW Log Train	149		Set	Edit
1003	COW	Log Car	50	Yellow		Chelsea (Chelsea Log 1)	Juniper (Juniper Log 1)	COW Log Train	149		Set	Edit

Trains

Tools Window Help

Time	Build	Name	Description	Route	Departs	Terminates	Current	Status			
00:05	<input checked="" type="checkbox"/>	Preview	Alturas Switcher 2007	Alturas local engine	Alturas Switcher	Alturas	Alturas	Alturas	Partial 3/5 cars	Terminate	Edit
03:00	<input checked="" type="checkbox"/>	Preview	BN 170 2100	Stockton to Pasco	Stockton -> Pasco	Stockton	Pasco	Stockton	Partial 3/26 cars	Terminate	Edit
04:00	<input checked="" type="checkbox"/>	Preview	BN 171 2175	Pasco to Stockton	Pasco -> Stockton	Pasco	Stockton	Pasco	Partial 1/26 cars	Terminate	Edit
06:20	<input checked="" type="checkbox"/>	Preview	SP WCEUY 9290	West Colton to Eugene Manifest	West Colton -> Eugene	West Colton	Eugene	West Colton	Partial 2/33 cars	Terminate	Edit
07:00	<input checked="" type="checkbox"/>	Preview	Klamath Falls Switcher 2009	Klamath Falls Yard Engine	Klamath Falls Switcher	Klamath Falls	Klamath Falls	Klamath Falls	Partial 2/10 cars	Terminate	Edit
08:00	<input checked="" type="checkbox"/>	Preview	Alturas Turn 2004	Klamath Falls to Alturas and return	Alturas Turn	Klamath Falls	Klamath Falls	Klamath Falls	Partial 1/21 cars	Terminate	Edit
11:20	<input checked="" type="checkbox"/>	Preview	SP EUWCY 8277	Eugene to West Colton Manifest	Eugene -> West Colton	Eugene	West Colton	Eugene	Partial 2/33 cars	Terminate	Edit
17:30	<input checked="" type="checkbox"/>	Preview	BN 137 3053	Seattle to Stockton Manifest	Seattle -> Stockton	Seattle	Stockton	Seattle	Partial 1/26 cars	Terminate	Edit
18:20	<input checked="" type="checkbox"/>	Preview	SP RVEUY 9224	Roseville to Eugene Manifest	Roseville -> Eugene	Roseville	Eugene	Roseville	Partial 1/32 cars	Terminate	Edit
20:00	<input checked="" type="checkbox"/>	Preview	COW Log Train 2003	Log Train	Log Train	Klamath Falls	Klamath Falls	Klamath Falls	Built 41 cars	Terminate	Edit
20:10	<input checked="" type="checkbox"/>	Preview	BN 138 3040	Stockton to Seattle Manifest	Stockton -> Seattle	Stockton	Seattle	Stockton	Partial 1/26 cars	Terminate	Edit
21:00	<input checked="" type="checkbox"/>	Preview	Chelsea Turn 2002	K. Falls to Chelsea and return	Chelsea Turn	Klamath Falls	Klamath Falls	Klamath Falls	Partial 1/20 cars	Terminate	Edit
23:00	<input checked="" type="checkbox"/>	Preview	SP EUWCY 8966	Eugene to Roseville Manifest	Eugene -> Roseville	Eugene	Roseville	Eugene	Partial 1/32 cars	Terminate	Edit

Sort by: ☒ Time ☐ Name ☐ Route ☐ Departs ☐ Terminates ☐ Id ☐ Messages ☐ Build Reports ☒ Preview Manifests ☐ Move ☒ Terminate

[Add](#) [Build](#) [Preview](#) [Switch Lists](#) [Terminate](#) [Save Builds](#)

16a-16b: This is what the Trains window as well as part of the Cars window looks like after I pushed the Build button. I have sorted the cars and trains by time. This way I can be assured that no cars need to leave from a destination before they arrive.

Each line represents an individual shipment of product to a consignee; in this case the Current column shows the next shipment will be going to the Oregon Liquor Commission in Eugene. If you look at Eugene in the Locations screen, you will see a siding serving the OLCC and it will have a Tequila Receiving schedule set up to return the empty car to West Colton.

Once the empty car makes it back to the Sotol spur, it will be loaded with tequila and sent off to Eugene. The program determines that the WCEUY services both locations, so off it will go on that train. Once the car leaves the spur, the Current marker will drop down to the next destination on the list.



Here’s where it gets interesting. The BN has a customer in Pasco who also needs a shipment of tequila, so the next routing sees the car taken off-layout from West Colton to Stockton. There is an interchange track to move cars from the WCEUY to BN train 170. The BN will haul the car from Stockton to Pasco and deliver it to the Hill & Mundell Beverage Company. They will unload the car and route it to Stockton for interchange to the SP, to be returned to Sotol.

The third line of the schedule shows the car being sent to Klamath Falls to be interchanged to the CO&W Alturas Turn. That train will haul the car to Alturas where the Alturas Switcher will spot it on the Modoc-Lassen Beverage Company spur for unloading. When the car is released, the Alturas Switcher will add the car to a block to be picked up by the Alturas Turn for return to Klamath Falls. The EUWCY will pick it up the next day for return to West Colton, where the car will then be routed to Stockton to be forwarded to the Northwest Beverage Company spur in Seattle. Then the process will begin again.

Tying it all together

When I build the trains for an op session (16a-16b), I build them all at once. That way, the program won’t deliver a car to an interchange track at 11:52 and expect it to go out on a train at 11:53. Going down the list of cars, the ACFX car will leave West Colton on the WCEUY bound for the International Paper Co. in Albany. There are two ATSF coal cars in Alturas to be delivered by the Alturas Switcher to the LP Lumber Mill coal spur. There are also two other ATSF coal cars departing Stockton on train 170 that are bound for the Eastern Washington University power house.



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The three BN cabooses have been assigned to various BN trains. A WP pool caboose on the layout can be by the BN, so the fourth BN train is covered as well. Next up is a CALX car loaded with propane that is consigned to Bethel’s Propane in Alturas. After that is the CHP boxcar that is moving off-layout this session between Stockton and West Colton to get another load of tequila. Finally, some of my log cars will move from the mill in Chelsea to a log load-out in Juniper.

This listing of cars is not the crew’s running orders, and has nothing to do with movement over the road. They’ll still need authority from the dispatcher, which is beyond the scope of this article.

The line-up for Klamath Falls will give the yardmaster a list of what trains will be moving through this location as the session

Train Manifest Alturas local engine

- 1 -

July 31, 2010 4:20 PM

California Oregon and Western

Manifest for train (Alturas Switcher) Alturas local engine

Valid 7/31/10 3:56 PM

[] Engine COW 2007 (GP38) assigned to this train

Pickup engine at Alturas, Alturas Engine Lead

Scheduled work in Alturas, departure time 00:05

[] Pickup CALX 3036 Tank Propane 51' Propane Black from Alturas Trn -> Alturas Sw

[] Pickup ATSF 178403 HopCoal 40' Coal Load Red from Alturas Trn -> Alturas Sw

[] Pickup ATSF 178685 HopCoal 40' Coal Load Red from Alturas Trn -> Alturas Sw

[] Drop CALX 3036 Tank Propane 51' Propane Black to Bethel's Propane

[] Drop ATSF 178403 HopCoal 40' Coal Load Red to LP Lumber Coal Receiving

[] Drop ATSF 178685 HopCoal 40' Coal Load Red to LP Lumber Coal Receiving

[] Drop engine to Alturas Engine Lead

Train terminates in Alturas

17

17: The train manifest for the Alturas Switcher that will be used by the train crew as they perform their tasks for the day. The list provides the crew with instructions where to pick up the engine, the cars to be picked up and dropped-off.



California Oregon and Western

Switch List for Klamath Falls

Valid 7/31/10 4:26 PM

Scheduled work for Train (BN 170) Stockton to Pasco

Departs Stockton at 03:00 expected arrival 05:40

No car pickups for this train at this location

No car drops for this train at this location

Scheduled work for Train (BN 171) Pasco to Stockton

Departs Pasco at 04:00 expected arrival 05:00

No car pickups for this train at this location

No car drops for this train at this location

Scheduled work for Train (SP WCEUY) West Colton to Eugene Manifest

Departs West Colton at 06:20 expected arrival 07:20

No car pickups for this train at this location

No car drops for this train at this location

Scheduled work for Train (Klamath Falls Switcher) Klamath Falls Yard Engine

Departs Klamath Falls at 07:00

[] Pickup Engine COW 2009 (GP38) from Klamath Engine 2

[] Pickup RDMX 836 Reefer 57' Fries Mty Orange from BN 137 -> K Falls Sw

[] Pickup VCY 25055 Reefer 57' Fries Mty Blue from RUEUY -> K Falls Sw

Visit number 2

[] Drop Engine COW 2009 (GP38) to Klamath Engine 2

No car drops for this train at this location

Scheduled work for Train (Alturas Turn) Klamath Falls to Alturas and return

Departs Klamath Falls at 08:00

[] Pickup Engine COW 2004 (GP38) from Klamath Engine Lead

[] Pickup Engine COW 2005 (GP38) from Klamath Engine Lead

[] Pickup Engine COW 2006 (GP38) from Klamath Engine Lead

[] Pickup COW 21 Caboose 36' Green from Kamath Cab Tk

Visit number 2

[] Drop Engine COW 2004 (GP38) to Klamath Engine 2

[] Drop Engine COW 2005 (GP38) to Klamath Engine 2

[] Drop Engine COW 2006 (GP38) to Klamath Engine 2

[] Drop COW 21 Caboose 36' Green to Kamath Cab Tk

Scheduled work for Train (SP EUWCY) Eugene to West Colton Manifest

Departs Eugene at 11:20 expected arrival 12:00

No car pickups for this train at this location

No car drops for this train at this location

Scheduled work for Train (BN 137) Seattle to Stockton Manifest

Departs Seattle at 17:30 expected arrival 18:50

No car pickups for this train at this location

19: Page One of the Klamath Falls switch list. The list gives the switch crew a schedule of work required for each train.



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progresses and what work he will have to do to switch those trains. The list doesn't tell the yardmaster what tracks to use, but because of the way I set up the interchange tracks, it will tell him what car is going where.

Switch List Klamath Falls	- 2 -	July 31, 2010 4:26 PM
No car drops for this train at this location		19
Scheduled work for Train (SP RUEUY) Roseville to Eugene Manifest		
Departs Roseville at 18:20 expected arrival 19:00		
No car pickups for this train at this location		
No car drops for this train at this location		
Scheduled work for Train (COW Log Train) Log Train		
Departs Klamath Falls at 20:00		
[] Pickup Engine COW 2001 (GP38) from Klamath Engine Lead		
[] Pickup Engine COW 2003 (GP38) from Klamath Engine Lead		
[] Pickup Engine COW 2008 (GP38) from Klamath Engine Lead		
[] Pickup COW 24 Caboose 36' Green from Kamath Cab Tk		
Visit number 2		
Visit number 3		
Visit number 4		
[] Drop Engine COW 2001 (GP38) to Klamath Engine Lead		
[] Drop Engine COW 2003 (GP38) to Klamath Engine Lead		
[] Drop Engine COW 2008 (GP38) to Klamath Engine Lead		
[] Drop COW 24 Caboose 36' Green to Kamath Cab Tk		
Scheduled work for Train (BN 138) Stockton to Seattle Manifest		
Departs Stockton at 20:10 expected arrival 22:50		
No car pickups for this train at this location		
No car drops for this train at this location		
Scheduled work for Train (Chelsea Turn) K. Falls to Chelsea and return		
Departs Klamath Falls at 21:00		
[] Pickup Engine COW 2002 (GP38) from Klamath Engine 1		
[] Pickup PROX 43585 Tank Propane 54' Propane Black from BN 171 -> Chelsea Turn		
Visit number 2		
[] Drop Engine COW 2002 (GP38) to Klamath Engine 1		
No car drops for this train at this location		
Scheduled work for Train (SP EURUY) Eugene to Roseville Manifest		
Departs Eugene at 23:00 expected arrival 23:40		
No car pickups for this train at this location		
No car drops for this train at this location		

20: Page Two of the switch list for Klamath Falls for this operating session.



HO

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- **SoundTraxx**

- **Kadee**

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Troubleshooting

If everything is correct, when you press the Build button, you should see either “Built xx cars” or “Partial x/xx cars” in the Status column. If that’s the case, you’re ready to print your Manifests and Switch Lists and start your operating session. What happens if the dreaded Build Failed message appears, or your cars aren’t moving like they should? If the Build Failed message appears it’s usually because the train needs an engine or caboose that isn’t available. Another possibility is a lack of room at the destination for the engines or caboose to be dropped off.

If you have a car that isn’t moving, usually the box for that car type isn’t checked in either the train that’s supposed to handle the car, or in one of the locations, sidings, or interchange tracks the car is programmed to use. Reviewing the Build



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Reports can often tell you why a build fails, or why a particular car isn't moving.

If all else fails, the JMRI user group on Yahoo is very active, and its members are more than willing to help you find the source of the problem. The program developers monitor the list and contribute regularly. The URL for the group is:

groups.yahoo.com/group/jmriusers

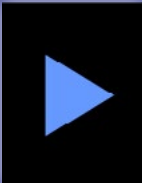
I monitor that group as well, so if you have a problem, feel free to post a question there. If you can't find a solution to your problems, contact me via email at: dennis95747@yahoo.com and I will work with you to find a solution.



Dennis Drury first became interested in trains at the age of 2. And later, his love of trains led him to go to work for the Southern Pacific in the signal and engineering departments. He also spent some time in Colombia building a 1:1 railroad from the ground up.

Dennis' previous layout, featured in the article, was dismantled when he moved to Reno last year. He is currently building an HO scale layout based on the Southern Pacific line from Klamath Falls to Chemult as it was in 1984. It will include trains from the Burlington Northern, Oregon California and Eastern as well as the Klamath Northern railroads.

Dennis is working towards NMRA Master Model Railroader and currently has three of the seven certificates required.



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Wrapping up

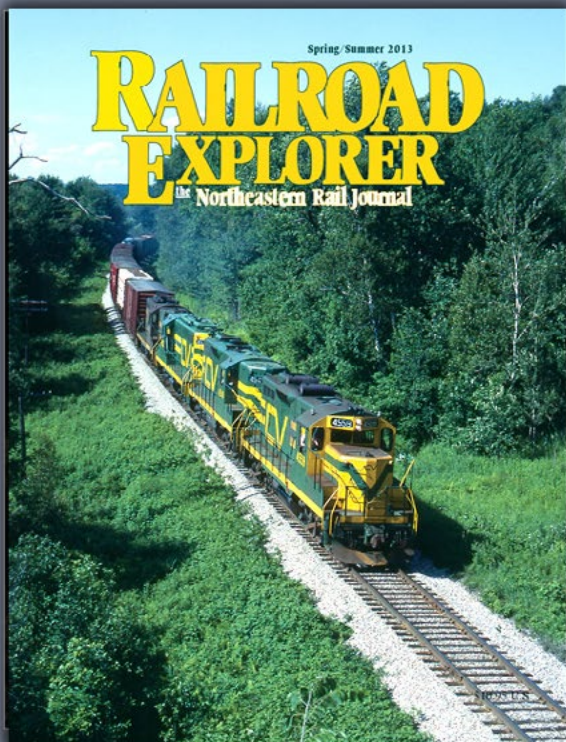
Types and styles of operating systems are quite varied, ranging from the simple to the very complex. Some people love using computers to assist them in doing some of the drudge work in setting up an operations system while others avoid them at all costs. I doubt that a single perfect system will please everyone. The JMRI operations program works for me and I hope this article will encourage you to give it a try. While the program is offered free of charge, if you find yourself using it on a regular basis, please consider making a donation to the JMRI Project. You can find the details for doing that here:

jmri.sourceforge.net/donations.shtml. 



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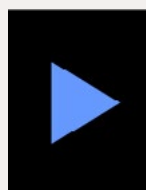


The Scenery Scene

Large scale water lilies and cattails

Cattails and water lilies are easily made, they just consume a little time to make them ...

by Dick Whitney



**Reader
Feedback**

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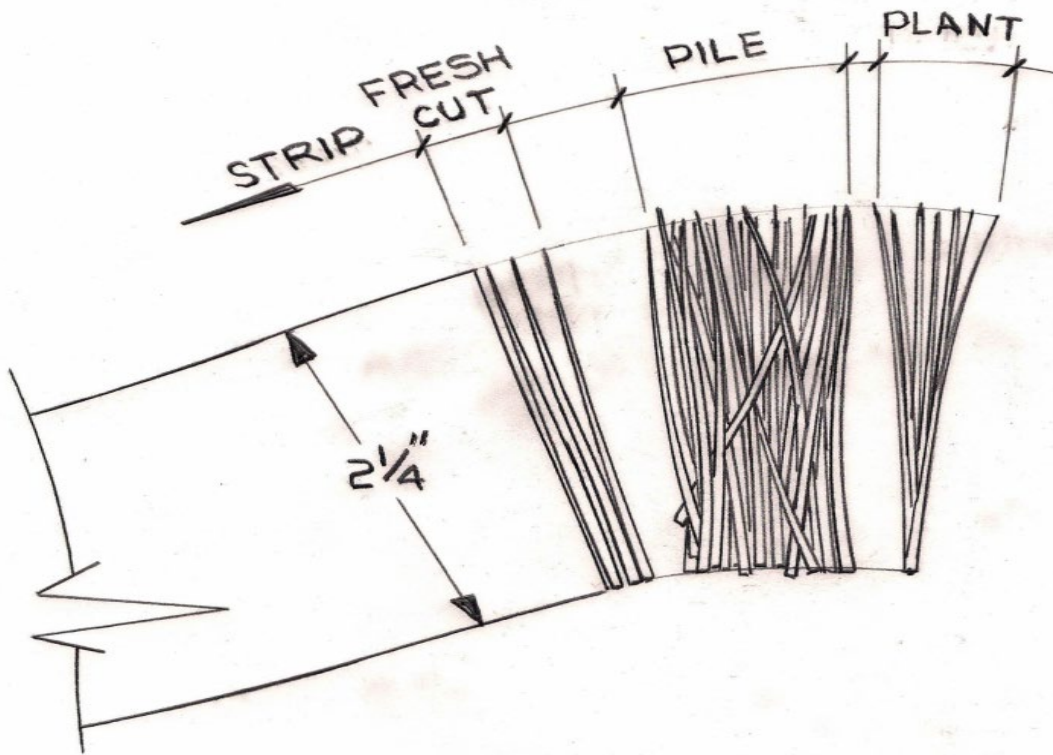
Cattails and water lilies are some of the plants found in a swamp. They are easily made, they just consume a little time to make. I make cattail leaves from colored cardstock papers. I bought one each of Dill Linen And Forest Green papers from Michael's craft store. If these exact colors cannot be found look at images on the Internet and pick a close green color.

Cattails

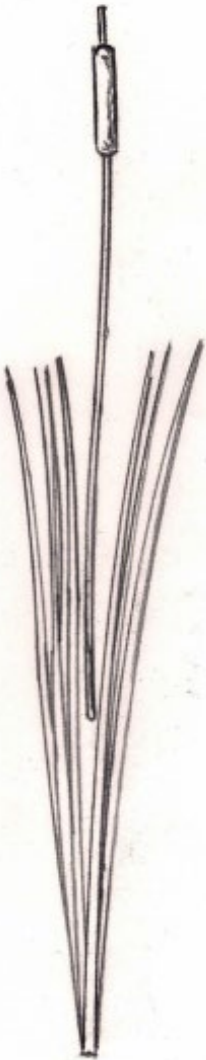
Cut 2 1/4" wide strips from these papers. With scissors, cut narrow slivers off. These should be about 1/16" wide and taper to a point at one end. Don't be too concerned if they all do not all come to a point or are perfect. In a group you will not notice them.

The slivers will curl somewhat as they are cut off. They can be straightened by pulling them through your finger tips. With several cut from each strip and straightened, place a drop of glue on a piece of scrap paper, dip the end of one leaf into it, and glue it to another leaf. Glue about seven leaves together, to make one plant, and put aside to dry.

1



2



3



1: These are the groups of leaves that I cut. First the individual leaves, which are put in a pile. From the pile they are grouped together to make the plant.

2: Sketch of a typical cattail.

3: A finished cattail.



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For a little diorama I made approximately 160 plants like this. To make the “flower” spikes cut several pieces of green 26 gauge flora wire 2 1/4” long. Next cut a strip of masking tape 5/16” wide by a couple of inches long. Start about 1/16” from one end, wrap the tape around the wire 2 1/2 to 3 times and

cut off. Roll this tightly between your thumb and finger to make a smooth spike and color with a brown marker.

Because the leaves are glued at the base, the wire will have to be cut so that the top of the stalk is about even with the leaf top. Glue the wire stalk in the leaves and squeeze them around the wire. When the plant is glued in the pond the leaves should be spread out a little. With a few made, glue them into the pond to start a stand of cattails.



4: Cattails with water lilies ready to be added to the swamp.

Water lilies

Water lilies are floating circular leaves with a notch. I used a punch sold by Micro-Mark




5: Water lilies with a pink flowers floating on the swamp.



6: Close-up of the water lilies.

to punch out 4 different size paper disks, 3/16", 7/32", 1/4" and 9/32". Look at images of water lilies on the Internet for a cardstock colored paper suggestions. Cut a notch and crinkle the edges a bit and randomly glue them into your pond.

The yellow flowers are bowl-shape and multi-pedaled. With a yellow marker color a small area of both sides of a light weight copy paper. Be sure it is dry before punching out the flowers. I used 3/16", 7/32" and 1/4" to punch out a few flower disks. Make multi-cuts around the circumference to indicate the pedals. On the two smaller disks turn the pedals up a little. In the center of the 1/4" disk place a very small bit of glue and glue the 7/32" disk into the center of it. Follow with the 3/16" disk. Rough up the pedals and glue on top of the lily pads. 

Material list

- 3 pieces of cardstock paper 1 each Dill Linen, Forest Green for the cattail leaves and a green sheet for the lily pads.
- 1 piece of light weight copy paper
- Brown and Yellow markers
- Masking tape
- White Glue
- "Micro-Mark" power punch number 81530, this is a handy punch that has 7 different hole sizes from 3/32" to 9/32" and is very helpful tool if you are a scratchbuilder.



Dick Whitney got his start with model railroading in his youth. He modeled in HO scale, and learned how to scratchbuild with a minimum of funds and materials.

His main interests are historic small logging and mining operations in the Pacific Northwest, especially researching the machinery they used.

He lives in Coeur d'Alene, Idaho with his wife Cami, and belongs to the Museum of North Idaho, the Sprang Pole Museum in Murray, Idaho, and the Inland Northwest Garden Railway Society ingrs.com.



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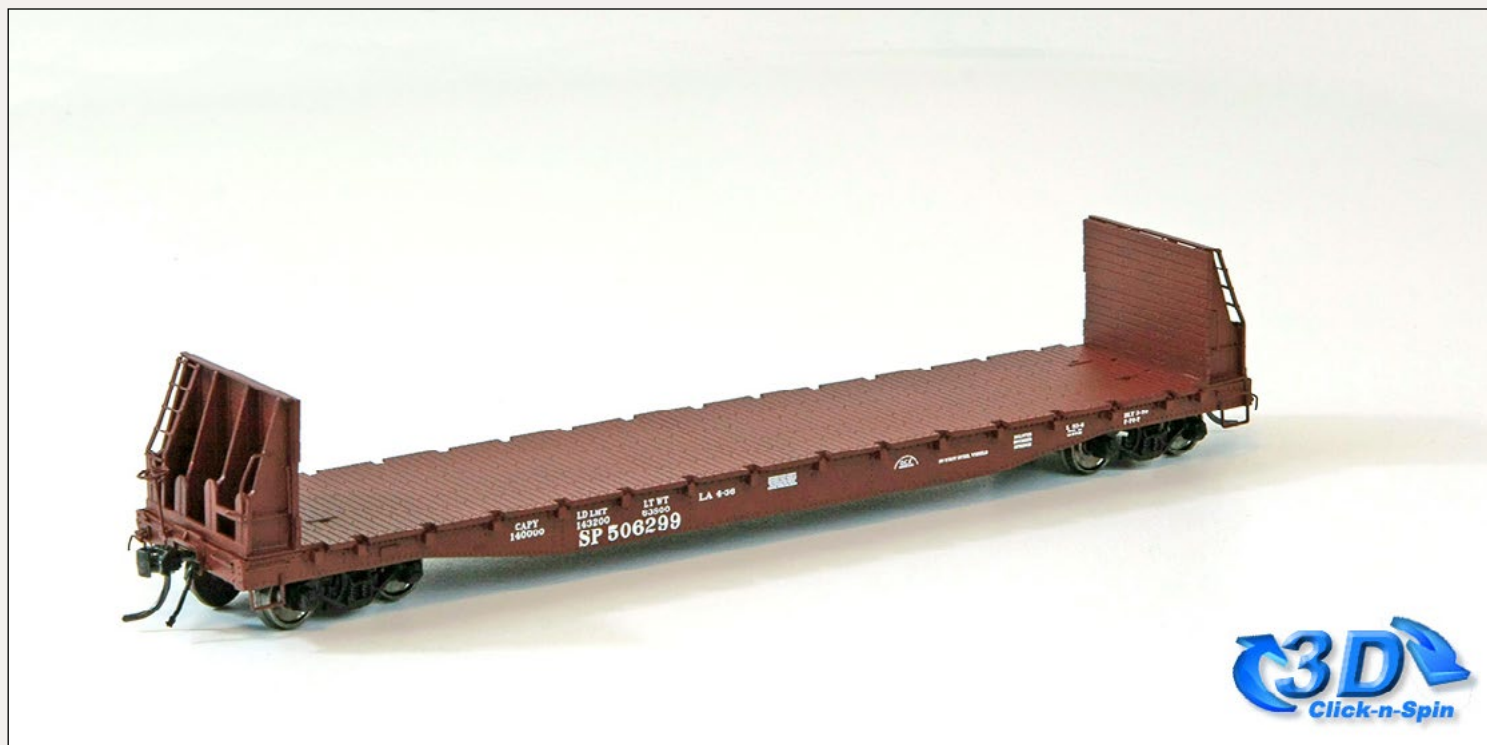


PRODUCT SHOWCASE

→ Visit espeemodels.com

Available in HO

Espee Models: F-70-7 1956 Bulkhead Flat



This **HO scale** model of SP 506299 represents the 1956 version of Southern Pacific's unique 53' 6" F-70-7 bulkhead flat car with the 6' 5" tall bulkhead. SP modified the prototype in Los Angeles from 1948-built AC&F riveted F-70-7 flat cars. SP used these cars primarily for wallboard, or "plasterboard," service as well as lumber and equipment duty. This run of plastic cars has twelve road numbers. For prototype information, see: railgoat.railfan.net/spcars/byclass/flat.

To order these limited-run cars, [visit this link](http://espeemodels.com). Price \$54.95.



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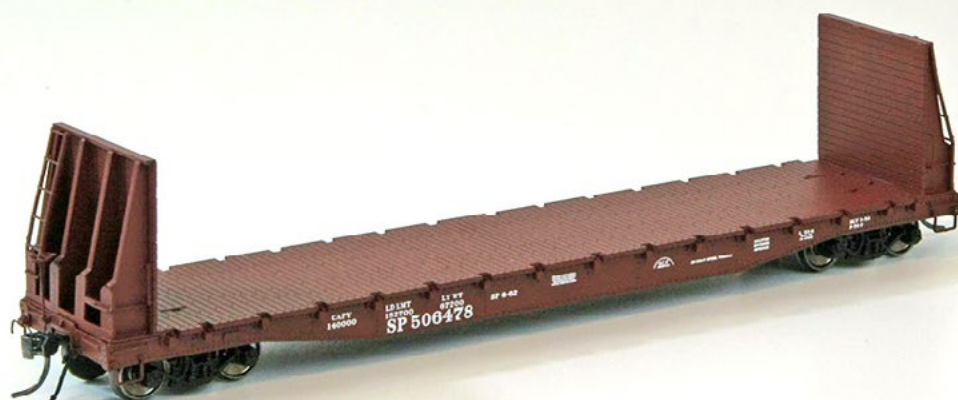


PRODUCT SHOWCASE

→ Visit espeemodels.com

Available in HO

Espee Models: F-70-7 1962 Bulkhead Flat



Similar to the 1956 model, this **HO scale** model of SP 506478 represents the 1962 version of Southern Pacific's F-70-7 bulkhead flat car, measuring 53' 6" long with an 8' 6" tall bulkhead. SP also used these cars mainly for wallboard, or "plasterboard," service, hauling lumber or equipment. These cars were retired by the mid 1980s. This run of these plastic cars has twelve road numbers. For more prototype information, see: railgoat.rail-fan.net/spcars/byclass/flat.

To order these limited-run cars, [visit this link](http://espeemodels.com). Price \$54.95.



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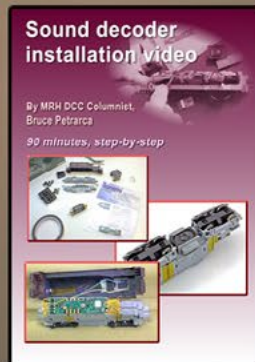
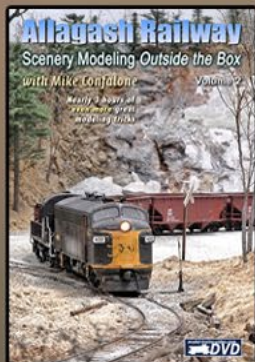
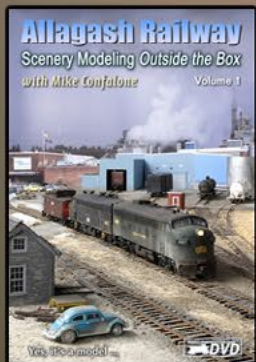
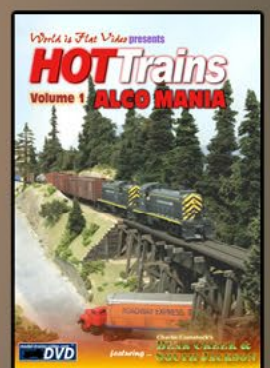
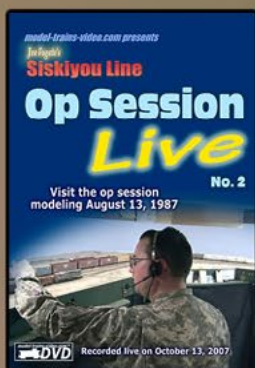
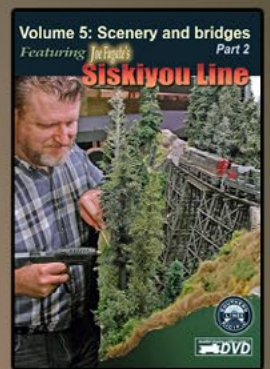
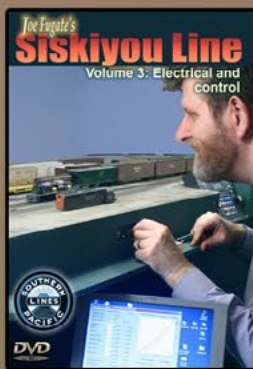
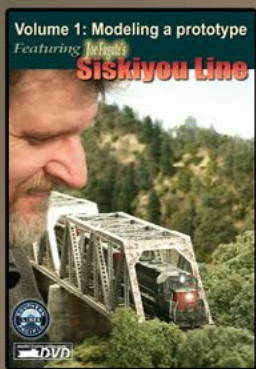


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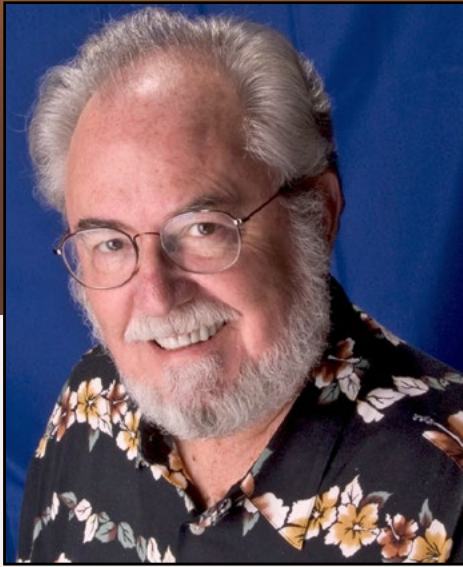
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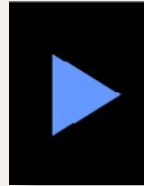


All of these videos from
Model Trains Video will be in
the video library that's
available to TrainMasters.TV
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*The Old
Yardmaster*



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October 2013: The latest model railroad products, news & events

by Richard Bale and Jeff Shultz

Colorado flooding hits InterMountain

Flood waters that hit central Colorado in mid-September caused severe damage to several communities including Longmont, where InterMountain Railway Company is headquartered. Frank Angstead, president of Intermountain, said the bottom floor of their three-story structure received about a foot of water. The company's machine shop and several offices are on the lower floor and the flood caused only minor damage. Operations were not affected because InterMountain's administration, sales activity, and warehousing are located in the upper levels of the building. "Although several Longmont homes were destroyed, thankfully there has been no loss of life," said Angstead ...

George Sellios to retire

After 48 years of designing and manufacturing an unprecedented series of HO scale craftsman structure kits, George Sellios, the founder of Fine Scale Miniatures, has announced his retirement. Noting that his recently announced kit, "The

Jamestown Water Stop,” will be his last, Sellios said he is looking forward to spending time maintaining and operating his HO scale Franklin & South Manchester Railroad as well as pursuing other interests ...

NMRA President Getz to speak at Naperville RPM

Charlie Getz has accepted an invitation to address prototype modelers attending the 20th annual Naperville RPM meet to be held later this month. Although earlier factions of the National Model Railroad Association have often been at odds with the RPM movement in the past, Getz and Joe D’Elia, who produces the Naperville meet, agreed that it was time to explore common ground. Naperville, considered to be the grand daddy of RPM meets, was founded 20 years ago by the late Martin Lofton of Sunshine Models. Although still referred to as Naperville, the 2013 event will be held October 17-19 in neighboring Lisle, Illinois. Information about the event is available at railroadprototypemodelers.com ...

Athearn to replace damaged handrails

Athearn reports that some Genesis GP50 and GP38-2 locomotives shipped in late July may have incurred damage to the rear handrails while in transit. Shipments were suspended while immediate action was taken to correct the packaging. Anyone who received a GP50 or GP38-2 with damaged handrails should contact Athearn for a replacement. Send an email to parts@athearn.com or call 877-422-9316, ext. 122 with the locomotive item number and your shipping information ...

Bowser selects LokSound, drops SoundTraxx

Bowser Trains is changing the source of sound decoders for its DCC equipped locomotives from SoundTraxx to ESU LokSound. Bowser officials said that a careful study of the two suppliers

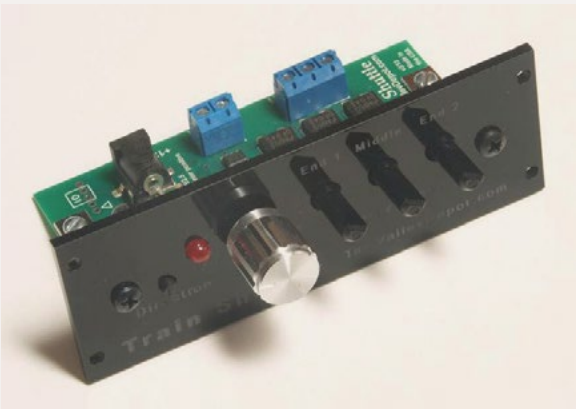
indicated the LokSound offered several technological advances that would benefit their customers. Bowser cited what it considers real advantages of the LokSound system including:

- No power booster is required to readdress or reprogram the locomotive.
- A two-year warranty.
- Superior low speed control.
- Mute is preset to have the sound off when a loco is placed on the track.
- Essential sounds are available in both DC and DCC modes. Use of 21-pin socket for sound modules simplifies replacement.
- Module can be programmed with new sounds (purchase of ESU LokProgrammer required).

Bowser said the most important reason for the switch to LokSound is that it will be a better value for their customers ...

NEW PRODUCTS FOR ALL SCALES

Morgan Hill Models' website includes a six-step tutorial on how to stain plaster castings using acrylics and dry powder. To access the free tutorial go to morganhillmodels.com/Stonewalltutorial.html.



Tam Valley Depot (tamvalley-depot.com) has released a new DCC locomotive control system with built-in detectors that can automatically reverse direction and simulate a station stop. Aptly named DCC Train Shuttle, the



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command station/throttle works with DCC-equipped locomotives with the address range of 1-99. It can automate running back and forth operation for demos, breaking in locomotives, or just for fun. The price of the DCC Train Shuttle, including power supply, is \$79.95. Visit the above website for full details including the names of participating dealers.

The Underground Railway Press has released its 2014 Catalog of Scale Plans. This 39th edition includes plans (motive power, rolling stock, and railroad structures) for logging, mainline, narrow gauge, traction, and shortline railroads. To obtain the catalog send \$2.00 to Underground Railway Press, PO Box 814OMH, Brevard NC 28712-0814.

Morning Sun Books (morningsunbooks.com) has released three new color volumes at \$59.95 each. The titles are "Amtrak Power In Color, Volume 1," by Stephen Timko, "Penn Central Power In Color, Volume 2," by Robert Yanosey, and "Prairie Depots In Color, Volume 1," by David Hickcox and Robert Yanosey. More information is available at the above website.

LARGE SCALE PRODUCT NEWS

Accucraft Trains (accucraft.com) displayed several large scale models at the 2013 National Narrow Gauge Convention including their latest version of a D&RGW K-37 class 2-8-2 Mikado steam locomotive. The big boiler on the K-37 allows the 1:20.3 scale model to operate for over an hour without the need for additional water. The butane-fired model operates on 45mm gauge track and requires



a 48” minimum radius. Visit the above website to see the wide selection of large scale models offered by Accucraft.

O SCALE PRODUCT NEWS



Atlas O’s (atlaso.com) delivery schedule for the second quarter of next year includes this 40’ 1937 single-door box-

car. In addition to the Soo Line car shown, cars decorated for Canadian Pacific, Lancaster & Chester, Pittsburgh & Lake Erie, and Santa Fe are also on the schedule. Models equipped with 3-rail trucks will have an MSRP of \$69.95. Two-rail versions will list at \$74.95. Other scale models due in the second quarter include an 11,000-gallon tank car, Coca-Cola vehicles, and rebuilt USRA steel boxcars. Visit the above website for complete details.

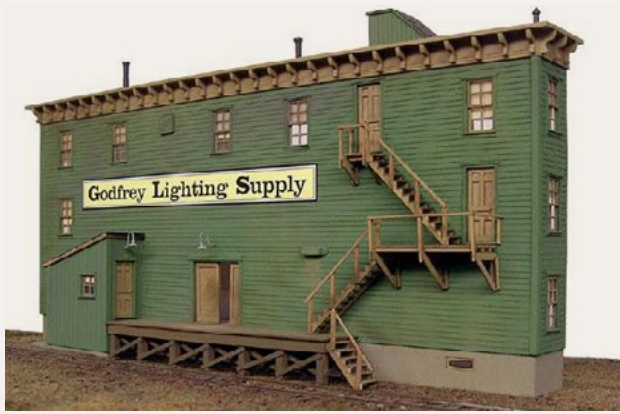
B.T.S. (btsrr.com) is selling a craftsman-type structure kit for Godfrey Lighting Supply. Features include tabbed construction of laser-cut basswood, cardstock and plywood; brass and white metal detail castings; positionable window sash and doors;



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interior walls; and appropriate signage. The finished model has a scale 81' x 15' footprint. The O scale version sells for \$159.95. The next kit expected to be released later this month will be The Howard Brothers Feed & Grain Complex.

San Juan Car Company (sanjuancarco.com) has expanded its line of components for O scale Jackson & Sharp Narrow Gauge Passenger Cars. New items include car sides with various styles of windows, end and needle beams, both bullnose and duck bill clerestory roofs, and several brake details. Visit the above website for additional information including pricing.

HO SCALE PRODUCT NEWS



New items coming from **Accurail** (accurail.com) include a group of three 1940-era Santa Fe SFRD wood reefers. The trio of cars are decorated for Grand Canyon Line, Super Chief, and Scout with the opposite side on all cars displaying a curved-line

system map and “Santa Fe all the Way” slogan. The list price for the 3-pack of kits is \$47.98.



Accurail is also selling a kit for a 41’ AAR steel gondola decorated for Great Northern for \$15.98.



An HO scale kit for a Florida Tile ACF 3-Bay covered hopper is available from Accurail at \$16.98.



Accurail is also selling a kit for a Nickel Plate Road 40’ USRA double-sheathed wood boxcar at \$15.98. A 40’ AAR steel boxcar with double doors is also

available at \$15.98. The car body is painted mineral red and is lettered with data only (no road name).

Just in time for the holiday season, **Athearn** (athearn.com) will deliver starter train sets with standard ready-to-roll equipment decorated with contemporary logos and paint schemes. Intended for modelers and first-timers who may not be concerned about prototypical accuracy, the selection will include GP38-2 or C44-9W locomotives and four basic freight cars including a 50’ boxcar, 50’ gondola, a tank car, and a wide-vision caboose. Decorating schemes will be BNSF, Canadian National, CSX, Norfolk Southern, and Union Pacific. Additional details are on the above website.



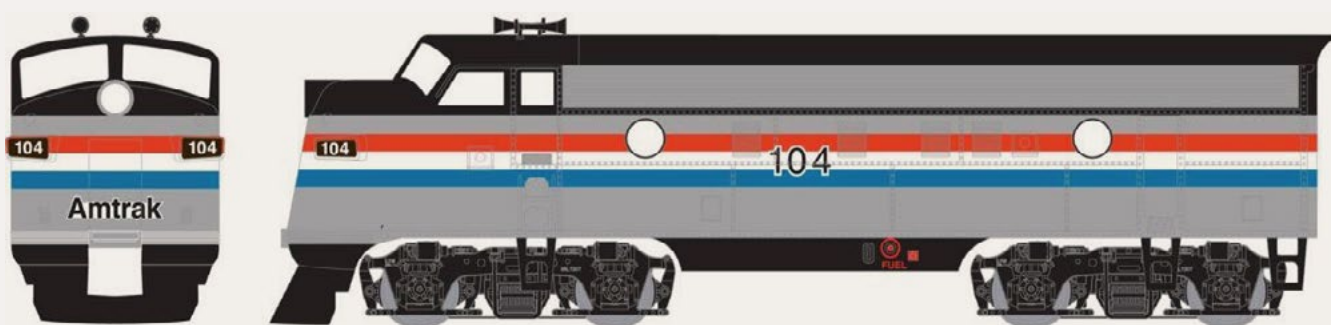
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New Athearn products scheduled for release in April 2014 include General Electric C44-9W diesel locomotives decorated for BNSF (wedge scheme), Canadian National, Norfolk Southern (horse head scheme), Union Pacific (flag scheme), and CSX as seen here in the boxcar logo scheme. With an MSRP of \$119.98, the HO scale standard DC non-sound model will be DCC-ready using Athearn's Quick Plug™ technology that will accept 8- or 9-pin after-market DCC decoders.



Classic EMD F7A and F7B diesel locomotives are also due to arrive in April. Road names of the HO scale Ready-to-Roll series model will be Amtrak (Phase III, shown), Santa Fe (Warbonnet), Norfolk Southern (Executive scheme), and Southern Pacific (Daylight scheme). F7A units will have an MSRP of \$84.98. Matching F7A/F7B units will list at \$124.98. B units are non-powered.

New ready-to-roll series passenger equipment coming in April includes lightweight RPO, baggage, coach, diner, dome car, and an observation car. The cars will be decorated for Amtrak (Phases III and IV), Santa Fe, and Southern Pacific in the Daylight scheme shown. Where correct for prototype practice, the round-end observation car will come with an appropriate drumhead. The



cars are non-lighted and are equipped with 4-wheel passenger trucks with machined metal wheels.



The next release of Athearn’s Ready-to-Roll EMD GP38-2 standard DC locomotives will be fitted with a QuickPlug™ that will accept 8- or 9-pin after-market DCC decoders. In addition, micro bulbs will be installed in the appropriate location. There is no increase in price for these needed improvements. New road names for GP38-2s scheduled to arrive next April will be BNSF (wedge scheme), and Canadian National. Both will have 3600 gallon fuel tanks. GP38-2 models with 2600 gallon tanks in the run include UP, CSX, Ferromex, and Norfolk Southern. All versions of the HO scale standard DC model will have an MSRP of \$99.98.



Athearn’s April release includes a group of HO scale Ready-to-Roll series 34’ twin-bay open-top hopper cars with removable



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coal loads. Cars with offset sides will be available for Union Pacific, CSX, and ATSF. Cars with ribbed sides include Norfolk Southern, Canadian National, and BNSF. The cars have an MSRP of \$19.98. They are equipped with 70-ton roller-bearing trucks, except the ATSF version which comes with Bettendorf-type solid bearing trucks.

Additional Ready-to-Roll series models coming in April are 50' gondolas with loads decorated for NS, CSX, CN, BNSF, and UP. Also single-dome tank cars for UP, NS, CSX, CN, BNSF, and ATSF, and a 50' ACF boxcar decorated for ATSF, UP, NS, CSX, CN, and BNSF. All have a list price of \$26.98.



A wide-vision steel caboose coming from Athearn in April will be available at an MSRP of \$26.98. Road names will be Santa Fe, Union Pacific, Norfolk Southern (red), CSX, CN, BNSF, and Ferromex.

The final item on Athearn's April schedule is a group of 50' TTX flat cars with 45' trailers at an MSRP of \$34.98. The trailers are decorated for SP (Golden Pig Service), NS (Triple Crown), Conrail (Trailvan), C&NW (Falcon scheme), BN, and Santa Fe.

Atlas (atlasrr.com) has scheduled a newly-tooled model of an ALCo HH600/HH660 diesel switcher for release during the second quarter of next year. The HO scale ready-to-run model replicates the post-1937 version of ALCo's high-hood 600/660 hp diesel switcher. An Atlas Master Silver® series model with an



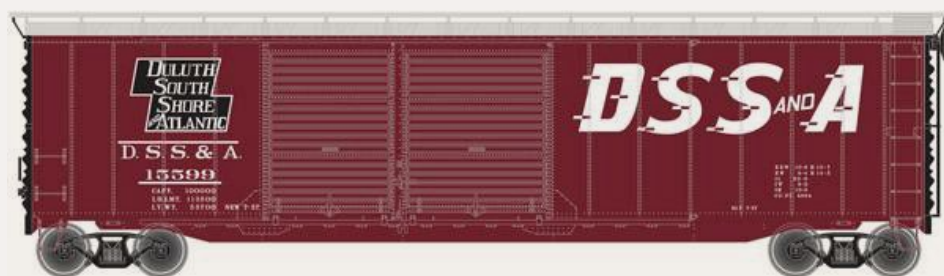
8-pin DCC-ready socket will be available at a list price of \$149.95. Atlas will also offer the model

in its Master Gold® series with factory installed Dual-Mode decoder for operation on both DC and DCC layouts at \$259.95. Road names will be Atlantic Coast Line, Boston & Albany, Hoboken Manufacturing Co., Louisville & Nashville, Minneapolis & St. Louis, Santa Fe, Tennessee Central, and Southern Pacific.



Atlas will offer two versions of a Trainman series 62' flat car early next

year. A standard flat car will be available at \$19.95 decorated for the Department of Defense, and Alaska Railroad. A bulkhead version, priced at \$23.95, will be available for BC Rail (above), MSV, TTX (Pennsy Heritage), and D&RGW.



Atlas is preparing a Master Series® 50' double-door boxcar for release during the second

quarter of 2014. Spotting features of the model are standard 7' and 8' Youngstown doors over the 15' opening on the car side. Two numbers each will be available for Duluth, South Shore & Atlantic; New Haven; Maine Central; Union Pacific; Cotton Belt; and Canadian National. The ready to run HO scale model will have an MSRP of \$32.95. An undecorated model will have a list price of \$26.95.



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Bachmann (bachmann-trains.com) is selling an ALCo S2 diesel locomotive with horn, bell, and prime mover

sound supplied through a 16-bit polyphonic sound system. In addition to the NKP livery shown, road names include Baltimore & Ohio, CB&Q, CP Rail, PRR, Santa Fe, Southern Railway, Union Pacific, United States Army, and Western Pacific. The HO scale ready-to-run model has an MSRP of \$195.00.



A new production run of HO scale resin-cast false front buildings has been released by Bachmann. Merchants Hall, above, has a footprint of 10" wide by .75" deep. It has an MSRP of \$49.99. Other

buildings in the series are Industrial Supply Warehouse, 4-Story Parking Garage, Regal Cinema, United Trust Bank, and Windsor Hotel. Visit the above website for full details including prices.



Bachmann's 0-6-0T industrial steam locomotive is available now with DCC for speed, direction, and lighting control. Released with

an MSRP of \$130.00, the side-tank locomotive is available

decorated for Bethlehem Steel, Mid Vale Steel, Midwest Quarry & Mining Co., Pennsylvania Railroad, and Santa Fe as seen above.



Blackstone Models (blackstonemodels.com) is taking reservations for its HOn3 scale D&RGW K-36 and K-28 Mikado steam locomotive. The ready-to-run 2-8-2 models will be equipped with DC/DCC SoundTraxx® Digital Sound. Delivery is expected in mid- to late-2014. The models will be decorated in ten road numbers representing multiple eras.

Five versions of the Baldwin-built prototype K-36 Mikados are in the production run, including four that survive to this day. Locomotives #481 and #486 are currently in service on the Durango & Silverton, plus Cumbres & Toltec locomotives #483 and #489. Also in this release is locomotive #485, which was scrapped after it fell into the turntable pit in Salida, CO in the early 1950s.

The K-28 “sport-model” locomotives were built by ALCo in 1923. Although K-28s saw service on the Chili Line and on mixed trains out of Silverton, they are probably best known for hauling San Juan passenger trains. Blackstone’s new production run will include #473, #476, and #478, all of which survive today on the Durango & Silverton. Also in the run are K-28s #470 and #475, which were transferred from the D&RGW to the White Pass & Yukon Railroad in 1942. Visit the above website for additional information including details on the decorating schemes. At press time the MSRP was still to be announced.



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Bowser (bowser-trains.com) has released its HO scale Baldwin DS 4-4-1000 diesel switcher in several new road names. The ready-to-run Executive Line

model is available for Canadian Pacific (gray and maroon), CP Rail (Pac-Man scheme), Santa Fe (zebra stripes), Soo Line, Erie Lackawanna, Pennsy, Norfolk Southern, Chicago Great Western, and Western Maryland (Fireball scheme, above). DC models have an MSRP of \$169.99. DCC units with sound list at \$279.95.

B.T.S. (btsrr.com) is selling a craftsman-type structure kit for “Godfrey Lighting Supply.” Features include tabbed construction of laser-cut basswood, cardstock and plywood; brass and white metal detail castings; positionable window sash and doors; interior walls; and appropriate signage. The finished model has a scale 81’ x 15’ footprint. The HO scale kit sells for \$89.95. See the O scale listing for a photo of the assembled model. The next structure kit from B.T.S will be “The Howard Brothers Feed & Grain Complex.” We’ll have details for readers next month.



Carstens Publications (carstensbookstore.com/2013hon3annual.html) has released the 2013 edition of its HOn3 Annual. Capably edited by Chris Lane, the 116-page publication includes 21 chapters covering layouts, modeling projects, construction features, product reviews, and other subjects of interest to narrow gauge modelers. The

Annual is available at hobby dealers or through the above website. MSRP is \$16.95.



Here is a pre-production look at a Southern Pacific class C-40-4 steel caboose **Centralia Car Shops** is scheduled to deliver in December. Four decorating schemes of the 1961-built prototype will be produced including a boxcar red body, a similar scheme with end-mounted markers, a boxcar red body with an orange bay, and a replica of an early 1970s rebuild. Features include interior details, wire grab irons, etched-metal running boards, swing-motion roller bearing trucks, and Kadee® couplers. The HO scale ready-to-run model will have an MSRP of \$49.95. InterMountain Railway is responsible for marketing Centralia Car Shops products. For additional information visit intermountain-railway.com.



Digital Fox Service (digitalfox.com) has released a third run of Norfolk Southern ACF triple-bay covered hopper cars in three new numbers. The HO scale kit is produced for DFS by Accurail. It is available now at \$16.99 each.

ExactRail (exactrail.com) has released another run of its 67'11" bulkhead flat car in three TTX decorating schemes. In addition to the paint job shown here with three short conspicuity stripes, the HO scale ready-to-run model is also available with five yellow conspicuity stripes, and with TTX's "Forward-Thinking" logo. The



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direct from ExactRail at \$38.95 each.

Platinum series models are based on a prototype built in Nova Scotia in 2005 by Trenton Works. The cars are available



ExactRail's Thrall 63' opera-window center-beam flat car has been reissued with multiple road numbers in six decorating schemes. They include BNSF, Burlington Northern (green), Western Pacific (black), Union Pacific, Milwaukee Road, and Milwaukee Road with billboard lettering as shown here. The HO scale models are priced at \$49.95 each.

Three new paint schemes are now available on ExactRail's HO scale Thrall 3564 gondola at \$36.95. The roads are LW, MHFX, and COER. Also available now at \$36.95 are PS-2CD 4427 covered hoppers in new decorating schemes for Milwaukee Road and Union Pacific . The four new ExactRail releases mentioned here are from the company's Platinum series. They come with Kadee couplers and ASF 100-ton Ride Control trucks with 33" machined wheels.

Fox Valley Models has completed a second run of its Soo Line 7-post boxcar with four new numbers plus an undecorated version. Cars in the new run reflect some refinements from earlier production including correcting the fit of the X-panel roof and a thinner cross section in the corner stirrup steps. Additional features include wire grab irons, etched metal cross walks, metal wheelsets and Kadee #5 couplers. The HO scale ready-to-run

model has an MSRP of \$30.95. InterMountain Railway is responsible for marketing Fox Valley products. For additional information visit intermountain-railway.com.



Full Steam Ahead (fullsteamahead.ca) is selling a craftsman-type kit that makes into an attractive HO scale model of an early gas station. The main building has a footprint of 5.25" x 1.75" and the footprint of the garage is 2.75" x 2.5". Construction is a mixture of laser-cut components (rafters, windows, and doors) plus stripwood, and signs. Details include four metal gas pump castings, an air compressor, four tire stands, and a roof vent. The vehicle shown is not included. The kit sells for \$34.99 plus shipping.



InterMountain Railway (intermountain-railway.com) has released Electro Motive Corporation FT A/B diesel locomotives decorated for Lackawanna, Southern Railway, Milwaukee Road,



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Lehigh Valley, Western Pacific, NYO&W, St Louis-Southwestern, and Atlantic Coast Line. The HO scale models are sold as A/B sets with sound at an MSRP of \$389.95 and without sound at \$249.95. Non-sound models will have a factory installed DCC decoder capable of operating on DCC and analog DC.



Intermountain plans to release another production run of its 40' 12-panel boxcar in December. While most 40' cars of the

postwar period had ten side panels, the distinctive spotting feature of these cars are the six riveted steel side panels on either side of the door. The prototype was built for Great Northern and InterMountain will release three versions for that road in Glacier green, Express Pullman green, and the Empire Builder scheme. In addition to the Southern Pacific T&NO livery shown above, the HO scale ready-to-run model will be available for Spokane, Portland & Seattle; Denver & Rio Grande Western (white scheme); Southern Pacific; and Burlington Northern. Six numbers will be available for each road name at an MSRP of \$31.95 each.



Also coming in December from InterMountain are Twin-Stack con-

tainer cars. Produced from tooling originally developed by A-Line Division of Proto-Power West, the cars will be available decorated for DTTX, ATSF, SP, CSXT-Sea Land, BN, NOKL, BNSF, and TFM. The HO scale models are available in five-car sets at an MSRP of \$129.95 per set.



Kadee Quality Products (kadee.com) is expected to release its 2013 Christmas boxcar late this month or

early November. The HO scale ready-to-run 40' steel boxcar has an MSRP of \$38.95.



December releases include the Illinois Central hat-section rib-side covered hopper shown here. The model will be

priced at \$39.95. Also scheduled for release at the end of the year are a 50' New Haven double-door boxcar with 15' doors, and a 40' steel boxcar decorated for the United States Navy. Visit the above website for complete details including pricing.



New HO scale Amtrak Phase IVb Superliner cars released by **Kato USA (katousa.com)** include a coach,

coach-baggage, and the sleeper shown above. Visit the above website for pricing and a detailed description of all Amtrak cars in the series.

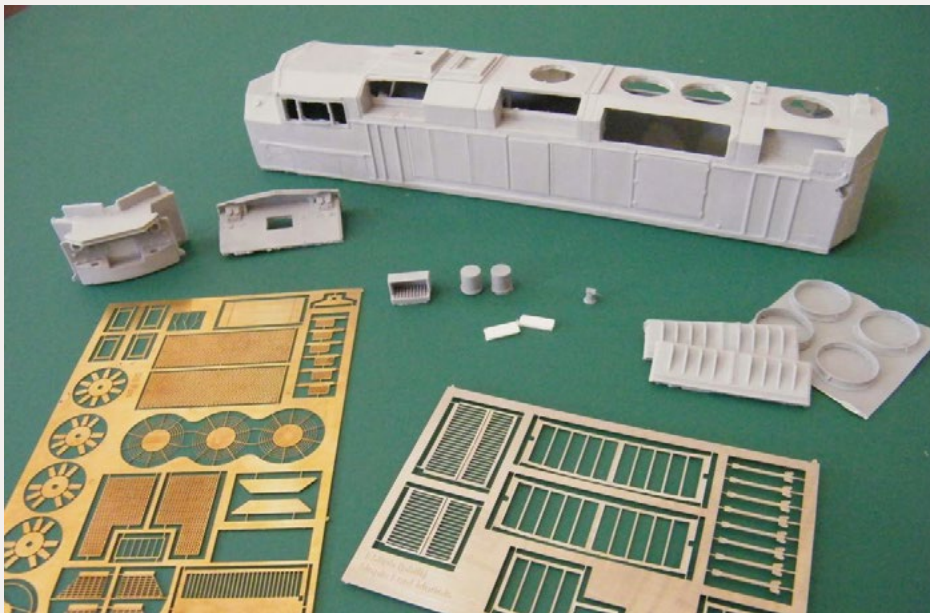
Maple Leaf Trains (mapleleaftrains.com) is selling a nicely detailed body shell for an EMD F59PH diesel locomotive. The



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cast resin components are augmented with etched metal detail parts and laser-cut windshields and windows. The HO body kit is designed for an Atlas GP40 chassis. It is priced at \$74.98.

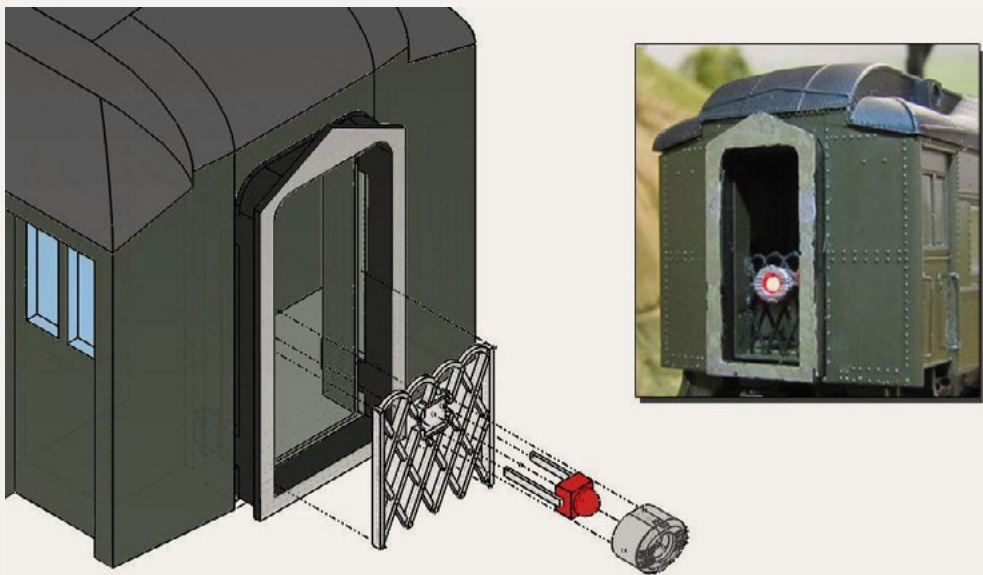
Maple Leaf Trains is an Israel-based company established by Kfir Abargil, who discovered his passion for model trains when his great-uncle founded the Israeli Model Railroad Club. After visiting Canada in 2008, Kfir decided to build a layout representing railroads serving Toronto. Since an F59PH as operated by Toronto's GO Transit was not available, Kfir designed and built his own model using state-of-the-art laser technology, metal etching, and resin casting.



Motrak Models has announced the release of an HO scale kit for a large craftsman-type industrial structure named the Bisgeier Tool Co. The structure consists of a main building with a small structure at one end, a brick boiler house with smoke

stacks, and a water tower. Components include cast Hydrocal foundation and brick walls, laser-cut clapboard and board and batten walls, and laser-cut slate roofing material. There are 79

window and door castings, white metal details from Best Trains, and Tichy vents created for this kit. Construction is aided by special templates and a selection of color photos. LEDs with a current-limiter are also included in this limited edition kit priced at \$245.00. Shipping is free to US addresses. To order, phone Motrak Models at 813-476-4784. Motrak will produce N and S scale versions of the kit if they receive at least 15 requests.



Owl Mountain Models (owl-mtmodels.com) is selling component parts needed to create a Pyle Gyalite Tailgate Marker. The easily-assem-

bled kit is designed to fit most HO scale passenger cars. It will function on layouts using either DC or DCC power. The \$9.95 kit provides material for two cars. Parts include two tailgates, two Gyalite housings, two red LEDs, and two resistors. Notes on prototypical use and suggestions for adapting the kit to various brands of passenger cars are on the above website.



Rapido Trains Inc. (rapidotrains.com) has issued additional information about its new 52'6" mill gondola scheduled for release early next

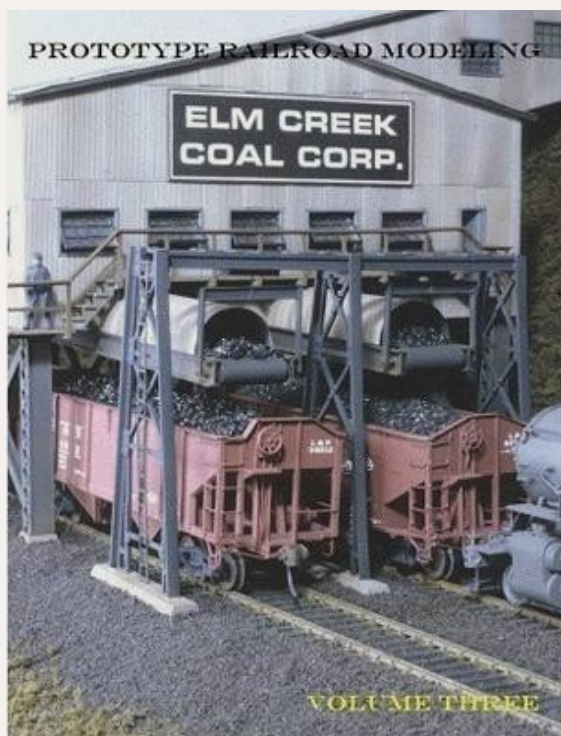
year. Road names will include Canadian Pacific; CP Rail; Canadian National; CN (12" letters); CN (wet noodle); Pacific Great Eastern; Toronto, Hamilton & Buffalo; British Columbia Railway; and Algoma Central. An undecorated model will also be available.

Features of the HO scale cars include finely detailed Z bracing, individual wire grab irons, positionable drop-ends, and ratchet-style hand brakes. All surfaces – exterior, interior and underbody – are all fully detailed. The floor is diecast metal for weight. The prototype was built starting in 1943 and continuing through the 1950s. Barber 70-ton trucks appropriate to the prototype being modeled will have either solid-bearing, roller-bearing, or solid bearing side frames with roller-bearing inserts. The ready-to-run models will have Rapido's Macdonald-Cartier magnetic metal knuckle couplers.



Red Caboose has scheduled another production run of its 42' steel flat car in February 2014. The prototype, built in 1928 by General American Car Co., was similar to a USRA design with fish-belly sides. Road names on the HO scale version will be Chesapeake & Ohio, Great Northern, Baltimore & Ohio, Canadian Pacific, Pere Marquette, and Central of Georgia. The ready-to-run model will have an MSRP of \$28.95. InterMountain Railway is responsible for marketing Red Caboose products. For additional information visit intermountain-railway.com.

After a hiatus of nearly two years, Ted Culotta has announced plans to revive **Speedwitch** (speedwitchmedia.com), a small specialty firm that at one time offered books, HO scale cast-resin



freight car kits, and decals. Culotta became widely-known through an extended series of articles titled “Essential Freight Cars” that appeared over several years in Railroad Model Craftsman magazine. The first new items to be offered by Speedwitch will be two publications; “Prototype Railroad Modeling: Volume Three,” and “Freight Cars in Context: Volume One.” Culotta is financing the relaunch through “crowd sourcing,”

a fundraising concept explained in detail at indiegogo.com/projects/speedwitch-relaunch/x/4646407.



The TrainMaster, LLC, (thetrainmaster.com) is selling an HO scale limited production Freight House kit named F. Wyneken Drayage. The craftsman-style kit consists of four buildings that can be placed in a variety of positions along a single-track spur. The limited production kit includes material for assembling the main build-

ing, loading dock, an outbuilding, and a second dock. Laser-cut walls, scale stripwood, signage, and assembly templates and instructions are included along with several construction photos. Ninety-one detail items from various manufacturers are also in the kit which is priced at \$149.99. A gallery of photos of



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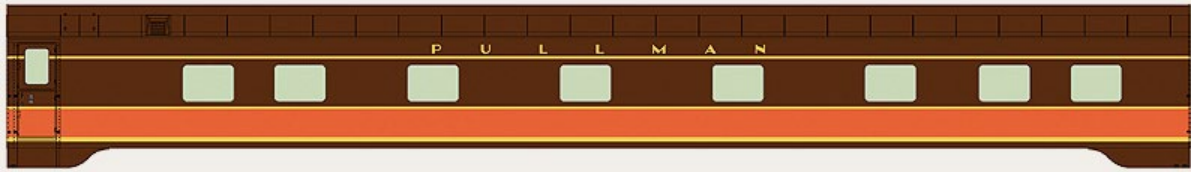
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the model and a link to the construction video can be accessed through the above website.

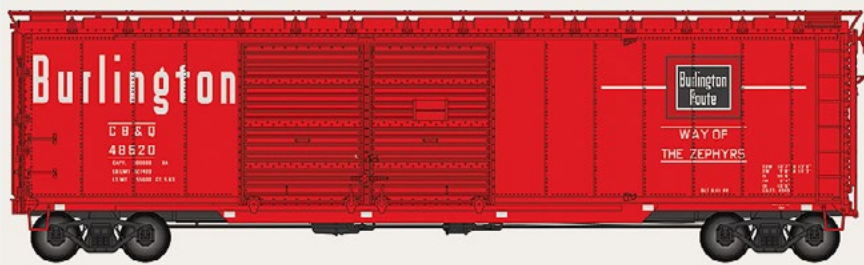
Virginia Foundry & Model Works is selling a resin kit that makes into an HO scale Cincinnati Hamilton & Dayton buggy boxcar. The prototype was used in the late 1880s to haul wagon and buggy products on the Cincinnati Hamilton & Dayton Railroad which later became part of the Baltimore and Ohio. The tall upper body is sheathed with horizontal siding. The ends are vertically sheathed with one having large loading doors. The kit comes with Cleveland-style arch bar trucks made by Panamint Models using Shapeway's detail plastic. The trucks replicate the wood bolsters, wood spring planks, and outside hung brake beams of the prototype. They are fitted with InterMountain metal wheel-sets. Kadee couplers, and Bitter Creek Models pedestal bars. Tichy and Grandt Line detailing parts are included. At the time of ordering, buyers may choose either Art Griffin water decals or Clover House dry transfers. The kit is available at \$44.00 each plus shipping. For additional information or to order contact John Canfield at jcan2x@hotmail.com.



Walthers (walthers.com) has released new road names for its Trainline™ series four-bay offset-side hopper cars. In addition to the RDG-Reading scheme shown here, additional road names are Delaware & Hudson, Louisville & Nashville, and Rock Island. The HO scale ready-to-run model has an MSRP of \$16.98.



WalthersProto® HO scale ready-to-run passenger cars due to be released in late November include 85' Pullman-Standard 10-6 sleepers built to plan 4167. Cars with fluted sides and a plated metal finish will be available decorated for Amtrak (Phase I), Atlantic Coast Line, Chesapeake & Ohio, and Nickel Plate Road. Lighted versions of these cars will have an MSRP of \$89.98. Non-lighted models will list at \$10.00 less. Cars with smooth, non-fluted sides will be available decorated for Canadian National, Baltimore & Ohio, and Illinois Central (above). Lighted versions will have an MSRP of \$79.98, with non-lighted cars listing at \$69.98 each.



Also due to arrive in late November are 50' double-door boxcars with 5/5 Dreadnaught ends. Road names on the

HO scale ready-to-run cars will be CB&Q (above), Lehigh Valley, Southern Railway, and Union Pacific. The MSRP on these Proto series cars will be \$34.98.



HO scale versions of a 50' bulkhead flat car built by Canadian Car & Foundry are due to be released

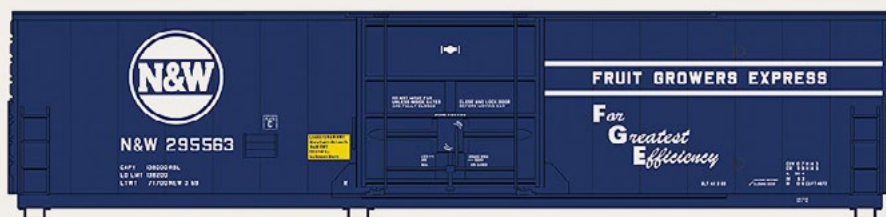
by Walthers in November. In addition to the Duluth, Winnipeg & Pacific car shown above, the Proto series cars will be available for Canadian National, and Ontario Northland. The list price will be \$31.98.



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Another HO scale model due from Walther's in November is a 50' insulated boxcar decorated for Conrail, Erie Lackawanna, Southern Railway, and Norfolk & Western. The Mainline series model will have an MSRP of \$24.98.



Walther's plans to release four different schemes on its HO scale ACF 10,000-gallon tank car in late November or early December. Road names will include Gulf, Shell, Union Oil, and Standard Oil (shown here from an earlier production run). The MSRP will be \$24.95 each.

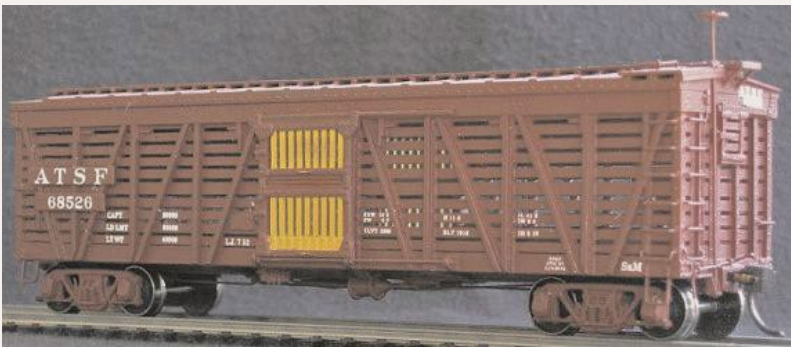


An HO version of Electro Motive Division's hardworking SW1 diesel switch engine is set for release with new road names in late December. They include Great Northern, Pennsylvania Railroad, Amtrak, and Rock Island as shown above. The ready-to-run model comes with an 8-pin plug to accept an aftermarket DCC decoder. The Walther's Mainline® series model will have an MSRP of \$99.98.



One of the first items on Walther's 2014 delivery schedule is an EMD

SD7 road locomotive. In addition to the Baltimore & Ohio scheme shown above, the Proto series model will be available for Bessemer & Lake Erie, Southern Pacific, and Chicago & North Western. The HO scale model will be available for standard DC operation at an MSRP of \$198.98. Models with Tsunami Sound and a DCC decoder will list at \$299.98. Visit the above website for information on the road-specific details included with this model.



Westerfield (westerfieldmodels.com) is selling kits for AT&SF class Sk-M (above) and Sk-O convertible double-deck stock cars. The craftsman-type cast resin kits

come with appropriate decals but without trucks or couplers. The kits are priced at \$41.00 each.

N SCALE PRODUCT NEWS

Arnold continues work on developing an N scale General Electric U25C diesel locomotive. According to Hornby America (hornbyamerica.com), Arnold’s North America distributor, road names for the U25C will be two numbers each for Chicago, Burlington & Quincy; Conrail; Louisville and Nashville; and Northern Pacific. Two numbers will also be available for Burlington Northern with one number representing an ex-Q unit and one representing an ex-NP unit. The ready-to-run models are expected to debut in April or May 2014 at a suggested retail price of \$159.99 each.



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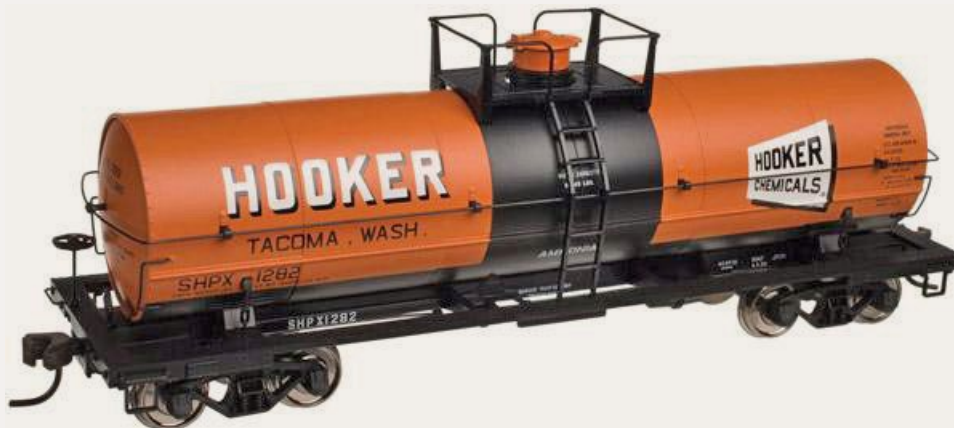
During the second quarter of 2014 **Atlas** (atlasrr.com) will release an N scale ALCo RS-1 diesel locomotive decorated for New York Central; Santa

Fe; Soo Line; Washington Terminal Railroad; Nacionales de Mexico; and Gulf; Mobile & Ohio. The MSRP will be \$114.95.



Atlas' 2-Bay open-top hopper with offset sides and flat ends is sched-

uled for release in the second quarter of 2014. Road names will be Chicago North Western; Great Northern; Lackawanna; Missouri Pacific; Unite States Army; and Kewaunee, Green Bay & Western. The MSRP will be \$18.95 or \$53.85 for a 3-pack. An undecorated model will list at \$16.95.



N scale modelers can look forward to a new release of Atlas' 11,000-gallon tank car during the second quarter of next

year. ACF built the high-pressure prototype cars in 1947 for LPG service. In addition to the Hooker version shown above, the ready-to-run model will be available for Canadian Liquid Gas (CGTX), Dupont, MCVX Safety Train, PSPX, Union Texas Petroleum, and United States Army (USAX). Models without

the loading platform will be available for Warren Petroleum, and Ryan Ruralgas (RRGX). The MSRP will be \$26.95. An undecorated model will also be offered at a list price of \$21.95.



ExactRail's (exact-trail.com) N scale Thrall 3564 gondola has been retooled with new

body-mounted draft boxes and released in seven new paint schemes. Priced at \$24.95 each, the ready-to-run model is available decorated for LW-Louisville & Wadley, COER-Crab Orchard & Egyptian Railway, MHFX - Logistical Solutions, BNSF, DJJX-David J. Joseph Company, TTX, and TTX Gold Crown.



Kato USA (katousa.com) reports that its new N scale aluminum autoracks are scheduled to arrive in January 2014.

Decorating schemes will be Canadian Pacific, Canadian National, and Amtrak as used on the Auto Train. Three more of Kato's SD70ACe's in Norfolk Southern's heritage paint have just been released to dealers. The schemes are New York Central, Penn Central, and Savannah & Atlanta. The final group of Heritage SD70ACe's will be decorated for Reading Lines and Jersey Central Lines. They are scheduled to arrive late this month.

Kato is taking reservations for three hand-decorated N scale locomotives in its Kobo Custom Paint Line. The selection includes a General Electric Genesis EP42 decorated as New Haven #230,



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and Caltrains
MP36PH #924
and #928.



Also in the release
is Milwaukee
Road Bicentennial
SD40-2 #156. In
addition to the
colorful livery,
the models have
some details
modified as

appropriate to the prototype. Visit the above website for information including pricing which varies for each locomotive.

Micro-Trains (micro-trains.com) has released an interesting video that provides a tour of their Oregon manufacturing facility where both N and Z scale products are created. To watch the video click on youtu.be/ejMbatOekTg.



Micro-Trains has introduced a 65' log car decorated for Roseburg Lumber. Two numbers are available for the N scale ready-to-run model which has an MSRP of \$24.30 each.



Also new this month is an 83' Pullman heavyweight 10-1-2 sleeper decorated for The Milwaukee Road. The model has an MSRP of \$28.45.



of \$24.20.

Micro-Trains new 50' rib-side Plate-C boxcar with double doors features a small three-color Union Pacific herald. It has an MSRP



reefer decorated for Schott Brewing Company.

Additional N scale ready-to-run models from Micro-Trains this month include a PGE two-bay open-top hopper, and a wood



One side of the reefer advertises "Highland Beer" and the other side displays "Schotts Lager." The G.A.R.E. reporting marks indicates the prototype was leased through General American Refrigerator Express. See your dealer or visit the above website for additional details.

reer advertises "Highland Beer" and the other side displays "Schotts Lager." The G.A.R.E. report-



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Z SCALE PRODUCTS NEWS



Micro-Trains (micro-trains.com) has released several new Z scale models including GMD FP7A and B diesel locomotives in Canadian Pacific livery. Powered versions have an MSRP of \$135.95 and \$99.95 respectively.



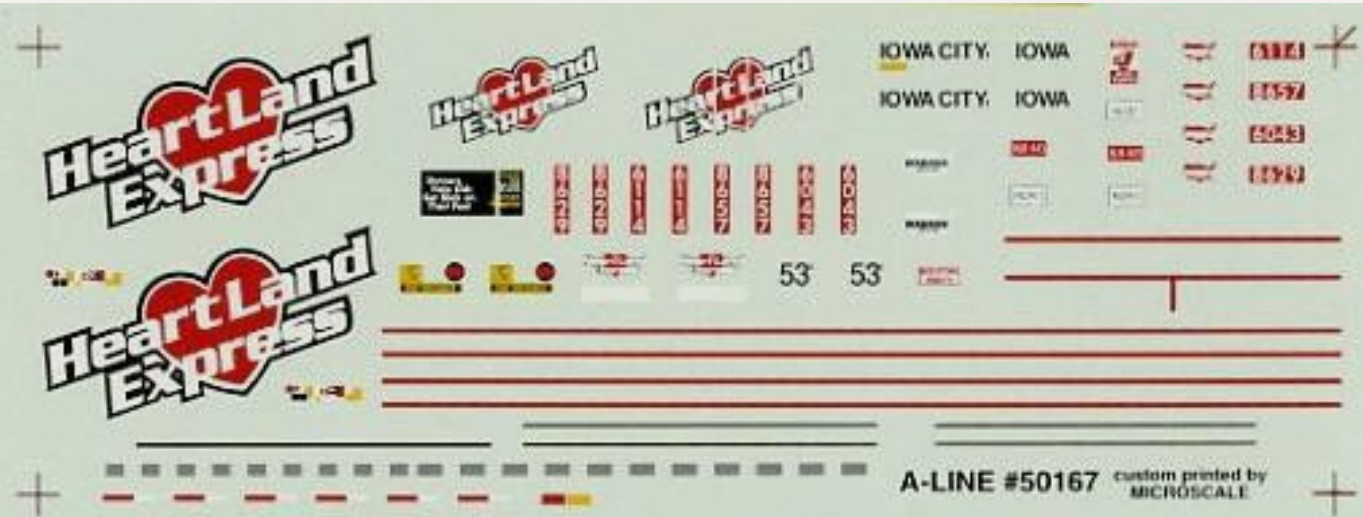
An additional new Z scale Canadian Pacific model from Micro-Trains is this 40' double-sheathed wood reefer based on a prototype built in 1922 by Canadian Car & Foundry. The lettering on the maroon car is Dulux imitation gold. The MSRP is \$24.30. Micro-Trains latest beer reefer is decorated for Schott Brewing Company with an MSRP of \$26.95. See the N scale listing for details.



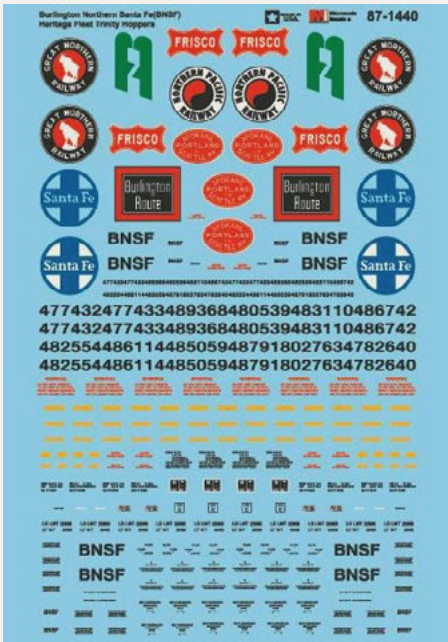
Additional Z scale reefers released this month include Pacific Fruit Express cars carrying the Western Pacific herald. The cars are available in a 4-pack at an MSRP of \$79.95.

NEW DECALS, SIGNS AND FINISHING PRODUCTS

A-Line Division of Proto Power West (ppw-aline.com/detlveh.htm) has an extensive line of HO scale truck, tractor, and



trailer detail parts as well as a selection of truck/trailer decals. Decorating systems for 53' Plate trailers include Heartland Express (above), Schneider, Werner Enterprises, Burlington Motor Carrier (blue and red), Burlington Motor Carrier (blue & black), and Alpis. Truck decals for various carriers are also available for 28' wedge and parcel trailers, 53' DuraPlate trailers, and 53' reefer trailers. A-Line's water-slide decals are manufactured by Microscale.



New water-slide decal sets from **Microscale** (microscale.com) include Burlington Northern Santa Fe (BNSF) Heritage Series Trinity Covered Hoppers, and Cryo-Trans (CRYX) and Americold (LRMX) 75' Reefer Cars. Also new are black and white lettering sets for FMC Boxcar Data, Railpower and NREX Genset heralds and logos, and Nickel



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Plate Road heavyweight and streamlined passenger cars that includes several “City of...” decals.

Still under development but expected to be released soon are decals for CSX - Arkansas & Oklahoma (AOK) Auto Max freight cars, Northwestern Pacific (NWP) passenger cars and RDCs, Trinity hopper data sheets, and Tank Train numbers. Coming in time for the holiday season are several Christmas special passenger train sets including Polar Northern Railroad (NPR), North Pole Christmas Special, Ontario Northland (ONT), and Polar Bear Express.



Motrak (motrakmodels.net) is now selling flat finish Scalecoat paint in several basic railroad colors. Scalecoat paint is widely-known for its high quality and gloss finish, but until now, Scalecoat flat finish paint has been available only by special order and only in large bulk quantities. By special arrangement

with Scalecoat, Motrak is repackaging flat paint for hobbyists in 2 ounce bottles. It is priced at \$5.25 per 2 ounce bottle, the same as the regular Scalecoat line. Flat finish Scalecoat colors currently available from Motrak are White, Rust, Sand, Railroad Grime #1, Railroad Grime #2, Engine Black, and Burnt Orange. Motrak also carries the full line of regular Scalecoat gloss paint. For additional information contact Motrak through the above website or by calling Jeff Adam at 813-476-4784.

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Briefly noted at press time...

... **Polk's train** has reached the end of the line. After 78 years in the model hobby business as a manufacturer, wholesaler and retailer, Polk's Hobby of Irvington, New Jersey, will close December 31, 2013. Citing a continuing downturn in the economy, the high cost of manufacturing and an overall shrinking of the R/C and large-scale model train arena, the company announced that the family enterprises, including Polk's Hobby, Aristo-Craft Trains, and RMT, are no longer sustainable. Polk's also owns Crest-Electronics which will continue to manufacture and market its Train Engineer Revolution brand wireless locomotive radio control system.

Brothers Irwin and Nat Polk established themselves as hobby retailers in 1935 in New York City in a walk-up on Seventh Avenue. Despite the depression, Polk's Hobby Shop thrived and they soon moved into a five-story building at 314 Fifth Avenue. Each floor specialized in a different category of the hobby field and the aggressively promoted store developed into a showcase for the hobby industry. Nat retired in 1993 and Lew Polk took responsibility for the family business until his own retirement in 2012. Scott Polk, the third generation to lead the company, became president in 2003. Although Polk's Hobby moved to New Jersey in 1980, the Manhattan store is memorialized in a scene in the movie *The Godfather*. A statement released by the Polk family read, "Our humble thanks to our loyal customers. Our apologies for not being able to keep this almost 80-year-old business going. It's a heartbreaker for us all."

... **BLMA** has announced another production run of its N scale PS-2CD 4000 covered hopper. New road names will be BN, CNW, KCS, and NP. Also in the mix is a rerun of an ATSF car. Reservations are being booked this month for delivery in mid-2014.

... **Athearn** plans to release three new HO scale Genesis-series models late next March. They include ES44AC GEVO

Briefly noted at press time continued ...

locomotives with road-specific details for UP, CPR, and BNSF; and A, A/A, and A/B combinations of Athearn's acclaimed EMD F units decorated for Seaboard Coast Line. Ready-to-Roll (non-Genesis) models due in March include SD40T-2 diesels decorated for D&RGW, UP, and SP in both snoot nose and Kodachrome schemes. Also SD60s in Conrail, CSX/YN3, CN, and CPR livery.

Athearn has scheduled both HO and N scale versions of a UTC 33,900 gallon LPG tank car for delivery in March. Additional HO items include a 40' fishbelly flat car for GN, SCL, B&M, Erie, L&N, and NH; 40' containers; and a 40' quad-bay open hopper for B&O, C&O, Rio Grande, IC, WM, and Peabody. Road names on a 50' mechanical reefer will include PFE (UP-SP), SFRD, Burlington, CN, NP, and NYC – all in six numbers each. Completing Athearn's March release is a chemical tank car in three numbers each for Warren, Emery, Eastman Kodak, Gulf, Hooker, and Allied Chemical.

... **Bowser** is working on a new series of HO scale class G-39 ore jennys decorated in various PRR and PC schemes. Both Pennsy Crown and Bettendorf-type trucks will be offered. Delivery will be early next year. ■



Reader
Feedback
(click here)





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Selected Events



October 2013

CALIFORNIA, BANNING, October 19-20, The Banning Centennial Train Festival, includes a judged model display and contest (to provide quality contest railroad models to the general public). Banning Community Center, 789 N. San Geronio Ave. Info at banning100birthday.com/2013/09/24/celebrate-train-history.

CALIFORNIA, SAN PEDRO, October 19-20, Belmont Shore Open House & Swap Meet, sponsored by Belmont Shore railroad Club, at Angels Gate Park, 3601 South Gaffey Street, Building 824. Info at belmontshorerr.com/documents/flyer.pdf.

CONNECTICUT, ORANGE, (Metro New Haven), October 13, 21st Annual Train Show sponsored by The New Haven & Derby Model Railroad Club. Vendor tables, operating layouts, door prizes, food, free parking, and more. High Plains Community Center, 525 Orange Center Road (Rt. 152). Info at newhaven-derbymodelrailroadclub.org.

FLORIDA, BRADENTON, October 11-13, Manatee Rails, NMRA Sunshine Region 2013 Convention, Courtyard Marriott Bradenton Convention Center. Info at sunshineregion.org.

ILLINOIS, LISLE, October 17-19, 20th Annual RPM-Naperville Conference (formerly held at nearby Naperville). Guest speaker NMRA president Charlie Getz. Clinicians include Bob Van Arnem, John Brown, Richard Hendrickson, Tony Koester, Clark Propst, Mont Switzer, and Tony Thompson. Hosted by Joe D'Elia at Wyndham Lisle Hotel (new venue), 3000 Warrenville Road. For info visit railroadprototypemodelers.com.

KANSAS, HAYS, October 19-20, Western Kansas Train Show featuring eight operating layouts and more than 100 vendor tables. At Ellis County Fairgrounds, 1344 Fairground Road.

MARYLAND, ROCKVILLE, October 10-12, NMRA Mid-East Region Convention includes tour of Howard Zane's Piedmont division and clinic by Marty McGuirk. At Rockville Crowne Plaza Hotel. info at home.comcast.net/~candp2013.

MARYLAND, TIMONIUM, October 26-27, Great Scale Model Train Show with more than 800 vendor tables. Hosted by Howard Zane at Cow Palace, Maryland State Fairgrounds. Info at gsmts.com.

MASSACHUSETTS, GARDNER, October 5, Southern New England O Scale Model Train Show Sale and Open House, United Methodist Church, 161 Chestnut Street. Info at snemrr.org.

MICHIGAN, FARMINGTON HILLS (Detroit area), October 27, Trainorama & Flea Market, hosted by Redford Model Railroad Club. At Costick Activities Center, 28600 Eleven Mile Road. Info at redfordmodelrailroadclub.com.

MISSOURI, KIRKWOOD, October 12-13, 23 Annual Greater St. Louis Metro Area Train Show, sponsored by Mississippi Valley N Scalpers, at Kirkwood Community Center, 111 South Geyer Road. Info at mvns.railfan.net/ShowFlyer.htm.

NEW MEXICO, SANTA FE, October 10-13, Annual Model Train Show, sponsored by Santa Fe Model Railroad Club of Northern New Mexico, at Santa Fe County Fairgrounds. Info at santafemodelrailroadclub.org.

NEW YORK, GARDINER, October 25-26, Semi-Annual Mid Hudson On30 Meet at Bishop Moore Hall, 2212 Route 44/55 (near St. Charles Borromeo RC Church). With vendors, module layouts, clinics, coffee and camaraderie. Details at groups.yahoo.com/neo/groups/midhudsonOn30meet/info.



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OHIO, WEST CHESTER, October 19-20, 46th Annual Cincinnati Train Show, sponsored by NMRA Division 7, at Lakota West High School, 8940 Union Center Avenue cincy-div7.org/2013OCT%20Show%20Flier2.pdf.

TEXAS, FORT WORTH, October 11-13, Southwest O Scale Meet and Fall Train Show, sponsored by Lockheed Martin Railroad Association. At Lockheed Martin Recreation Center, 3400 Bryant Irvin Road. Info from swoscalemeet@gmail.com.

WASHINGTON, MONROE, October 26, Rails By The Bay Prototype Modelers Meet, with clinics, model displays and dioramas, manufacturers displays, door prizes, and social camaraderie, at Evergreen State Fairgrounds Bldg 501, 14405 179th Ave SE (adjacent to BNSF's Scenic Subdivision - aka Stevens Pass). Event presented by Liz Allen, Peter Kim, Brian Rutherford, Rick Selby, Keith Thompson, and Bob Zenk. Info at northwestrpm.com.

WASHINGTON, SPOKANE, October 13, River City Modelers Open House, at 1130 E. Sprague Avenue. Featuring operation on a 45' x 45' double-deck HO scale layout. Info at rivercity-modelers.org.

November 2013

AUSTRALIA, NORTH EAST VICTORIA, November 30-December 1, Beechworth Railway Weekend, at Beechworth Memorial Hall with operating layouts of various scales, retail traders, and walking tours of the old Beechworth Railway Station area and yards. Info from John Harvey at beechworthmemorialhall@gmail.com.

CANADA, BRITISH COLUMBIA, BURNABY, November 9-10, NMRA Canada presents Trains 2013 model train show and meet with operating layouts, displays, commercial displays, Operating sessions, clinics, RPM exhibits at Cameron Rec Centre, 9523 Cameron Street. Info at bctrains.org.

CANADA, QUEBEC, LAVAL, November 9-10, 2013, Laval Expo Train Modélisme Show, Quebec's largest hobby show with more than 550 tables, train displays, operating layouts, and family fun. At Georges Vanier School, 3995 Boulevard Levesque East, Duvernay. For additional info including hours and fees visit expo-train.com or contact didier.piette@videotron.ca.

INDIANA, DANVILLE, November 23, NMRA Central Indiana Division Train Show & Meet, at Hendricks County 4H Fair Grounds, 1900 East Main St. info at cid.railfan.net. Vendors contact John Pancini at jpancini@indy.rr.com.

INDIANA, HOBART, November 30, 24th Annual Swap & Sell Meet at St. Bridget Parish Center, 102 Center Street. Info from Ron Jackson at hiawatha1995@yahoo.com.

MASSACHUSETTS, PITTSFIELD, November 7-9, Fine Scale Model Railroader Expo 2013. Major show dedicated to the art of model structure building, Speakers include Jon Addison, Michael Duggan, Dave Frary, Brett Gallant, Ken Hamilton, Bernard Kempinski, Marty McGuirk, Bob Mitchell, Dave Revelia, and Bill Sartore, at Berkshire Crown Plaza Hotel, One West Street. Info at modelrailroadexpo.com.

MISSOURI, SEDALIA, November 2, Sedalia Rails Train Show, featuring operating layouts, vendor tables, door prizes, and The Eagle operating outdoor railroad, at Liberty Park Convention Hall. Info from Ken Bird at klbird@embarkmail.com.

CALIFORNIA, LOS ANGELES, 2013 Fall Train Show at the Pasadena Model Railroad Club, featuring up to 25 HO scale trains operating on 30,000 feet of hand-laid steel rail. Club is located at 5458 Alhambra Avenue. Info at pmrrc.org.



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OHIO, DAYTON, November 2-3, 39th Annual Dayton Train Show, sponsored by local division of NMRA, with operating layouts, clinics, at more than 400 vendor tables. Hara Arena, 1001 Shiolorh Springs Road daytontrainshow.com.

OHIO, KIRTLAND, November 1-2, Cleveland 2-Rail O Scale Train Meet & Sale. Friday night O scale dinner social. Sales and layout tours on Saturday. Info from Sam Shumaker at j1d464@yahoo.com.

PENNSYLVANIA, EPHRATA, November 30, Annual Holiday Open House at Short Line Model Railroad Club, 11 S. State Street, (behind the State Street Family Practice). Info at slmrc.com.

UTAH, SALT LAKE CITY, November 1-3, Wasatch Rail Show, sponsored by NMRA Northern Utah Division, featuring three floors of operating trains in all scales, vendor tables, and Boy Scout merit badge clinic, at Utah State Fairpark, 155 North 1000 West. Info at nmrawasatch.org.

WISCONSIN, WEST ALLIS (Metro Milwaukee), November 9-10, Trainfest 2013, hosted by Wisconsin Southeastern Division of NMRA. Info at trainfest.com.

Future 2013 (By location)

CALIFORNIA, DEL MAR (Metro San Diego), December 7-8, Great Train Expo, Del Mar Fairgrounds, 2260 Jimmy Durante Blvd. Info at greattrainexpo.com.

COLORADO, LONGMONT, December 14-15, Annual Train Show, sponsored by Boulder Model Railroad Club, at Boulder County Fairgrounds. Info at bouldermodelrailroadclub.org.

FLORIDA, THE VILLAGES, December 19-22, Christmas Train Show, at Colony Cottage Regional Recreation Center, 510 Colony Blvd, featuring 8500 feet of operating layouts in all scales. Info from Alan Goldberg at amgold15@hotmail.com.

MASSACHUSETTS, MARLBOROUGH, December 7-8, Annual New England Model Train Expo hosted by NMRA HUB Division featuring operating layouts, 200 plus dealer tables, manufacturer displays, railroadiana, Build-a-Car Clinic for ages 8-14, and a Boy Scout merit badge clinic. Best Western Royal Plaza Trade Center, 181 Boston Post Road West (US 20). Info at hubdiv.org.

MICHIGAN, LIVONIA, December 1, Model Railroad Show & Workshop, presented by NMRA North Central Region Division 6. Includes demonstrations on power systems, scenery, kit building, structure building, backdrops, wiring, track laying tips, and basic building techniques, plus historical displays, videotape shows, and operating and switching layouts. Also Boy Scout merit badge activities. At Livonia Seniors Building 15218 Farmington Road. Direct inquiries to Mark Ellis at emark@sbcglobal.net.

Future 2014 and Beyond (By location)

FLORIDA, COCOA BEACH, January 9-11, 2014, Cocoa Beach RPM meet.

GEORGIA, SAVANNAH, March 27-29, 2014, Savannah RPM meet.

INDIANA, INDIANAPOLIS, July 3-10, 2016, NMRA National Convention and National Train Show nmra2016.org.

MAINE, AUGUSTA, 2016, date TBA, 36th National Narrow Gauge Convention.



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MISSOURI, KANSAS CITY, September 3-6, 2014, 34th National Narrow Gauge Convention kansascity2014.com.

NORTH CAROLINA, SPENCER, May 29-June 1, 2014, Streamliners at Spencer, a gathering of prototype locomotives of the 1930s through the 1950s at the North Carolina Transportation Museum, with opportunities for daytime portraits around the 37-stall Robert Julian Roundhouse turntable. A dozen or more restored diesel locomotive are expected to join the museum's own Atlantic Coast Line E3, and the Southern Railway's E8 and FP7. Arrangement for routing and transporting visiting locomotives is in cooperation with Norfolk Southern Corporation. Details at:

[nctrans.org/Events/Streamliners-at-Spencer-\(1\).aspx](http://nctrans.org/Events/Streamliners-at-Spencer-(1).aspx).

OHIO, CLEVELAND, July 13-19, 2014, NMRA National Convention and National Train Show 2014cleveland.org.

OREGON, PORTLAND, August 23-30, 2015, NMRA National Convention and National Train Show nmra2015.org.

TEXAS, DALLAS, February 26-March 1, 2014, Sn3 Symposium. Info at Sn3-2014.com.

TEXAS, HOUSTON, February 15, 2014, Greater Houston Train Show featuring 20,000 sf of operating layouts, instructive classes, photo and model contests, and vendor displays at Stafford Center, 10505 Cash Road. Presented by the San Jacinto Model Railroad Club. Info at sanjac.leoslair.com.

TEXAS, HOUSTON, 2015, date TBA, 35th National Narrow Gauge Convention nngc-2015.com. ■





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Getting motivated

Reverse Running: How going online can help you get going

by Joe Fugate

We've used this column in the past

to advise you to get off the computer and go do some modeling. That's still true, model

railroading is more than just talking about it online. You need to actually go do the hobby, as well.

But what about the flip side: Can going online become a modeling motivator?

Yes, it can.

Start a blog on the MRH website¹, for instance, and you can use it to post your modeling progress. There's nothing like needing something new to post as a motivation to go get something done on the layout.

When you share what you're doing, you create a need to have something to show for your efforts. Taking a model to a convention or RPM meet is one way to "make yourself do some modeling."

Holding regular operating sessions is another way to get motivated. When the guys are coming over soon, you want to make sure the layout's running reliably, and you feel a need to show progress, because you know they're going to ask!



1 See August issue Staff Notes on making posts.

Making yourself accountable to others is a good way of helping you stay on task and be less likely to get off track (sorry about the pun, but it's true). Deliberately making yourself accountable works in many areas of life, and it works for model railroading pursuits, too.

Going online and doing a regular show-and-tell of your modeling efforts on the web can have a lot of benefits. Through the web, we can share with others of like interest in a moment, regardless of where they may actually be around the globe.


This kind of sharing over the Internet is a virtual modeling meet.

Going to a meet always gets my modeling juices flowing, and it challenges me to take my modeling to new levels. Going online and sharing can do the same thing, and you don't even need to leave your home!

That's the beauty of doing a blog. A blog, short for weBLOG, is simply a public journal you post to regularly on the web. MRH makes it easy to start your own blog and chronical your model railroading progress for your fellow modelers.

You're encouraging them with your blog posts, plus you get encouragement and valuable feedback from others, not unlike what you get from going to a meet.

It's a win-win situation.

But to do this, you do need to get off the computer and go do some modeling. But don't go too far, because we want you to come back and show us what you've been up to while you've been away! 



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Derailments

humor (allegedly)



Hey – the railroad only uses the tracks for a few minutes each hour, so what's wrong with us using it the rest of the time?

Check out this prototype railroading operation in Thailand. It's a little different than what most of us in the west are accustomed to!

If you're the first to [submit a bit of good humor](#) and we use it, it's worth \$25!



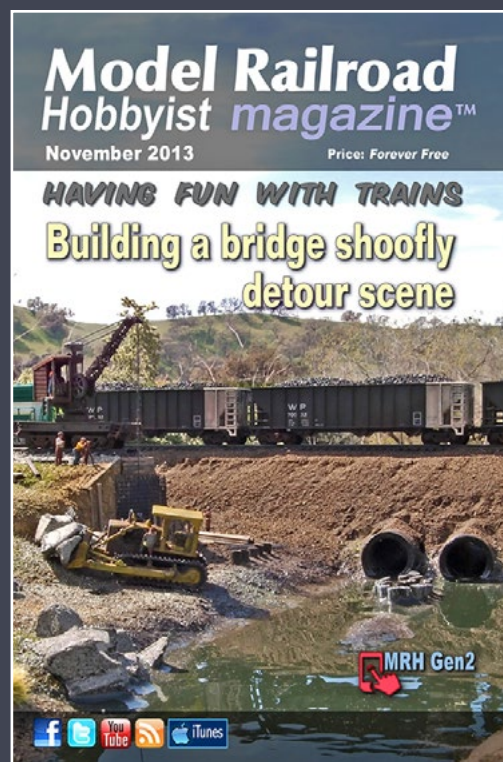
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For the love of model trains

Coming November 4th

- Building a shoofly scene
- Guide to freight car brake wheels
- Layout short detection tricks
- DT&I Hydroframe boxcar
- Building a craftsman structure kit, part 3
- ...and lots more!



More Derailments humor ...

In a terrible accident at a railroad crossing, a train smashed into a car and pushed it nearly 400 feet down the track. Though no one was killed, the driver took the train company to court.

At the trial, the brakeman insisted that he had given the driver ample warning by waving his lantern back and forth for nearly a minute. He even stood and convincingly demonstrated how he'd done it. The court believed his story, and the suit was dismissed.

"Congratulations," the company lawyer said to the brakeman when it was over. "You did superbly under cross-examination."

"Thanks, but he sure had me worried" replied the brakeman.

"How's that?" the lawyer asked.

"I was afraid that he was going to ask if the lantern was lit."

Coming next issue



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