

# Model Railroad Hobbyist magazine™

HAVING FUN WITH TRAINS

## Scratchbuild a steam loco in styrene

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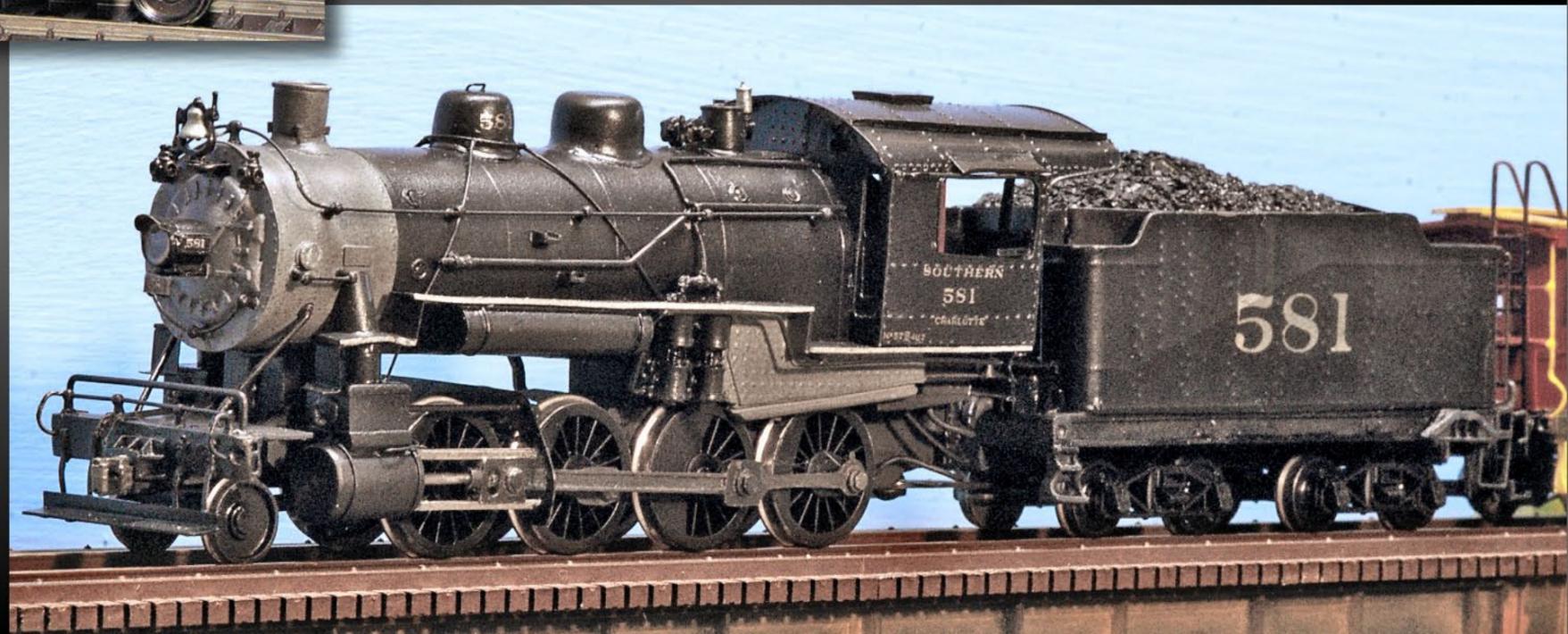
June 2012



- Small layout track plans
  - Building Frisco's PB Tower
  - Diesel DCC decoder installs
  - St. Regis paper mill wrapup
- ... and lots more, inside!

From this ...

... To this:





**Front Cover:** This month's pair of cover photos show Ken Rickman's steam loco scratchbuilding project in styrene. With today's model-the-prototype closely trends, getting precisely the steam loco your prototype used may be tough. Ken's article series that starts this month shows it's not that hard using styrene on an existing mechanism!

ISSN 2152-7423

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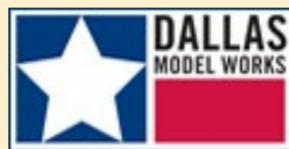
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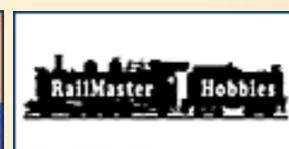
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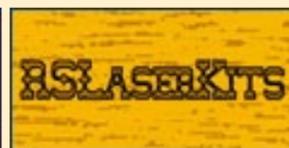
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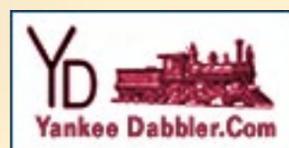
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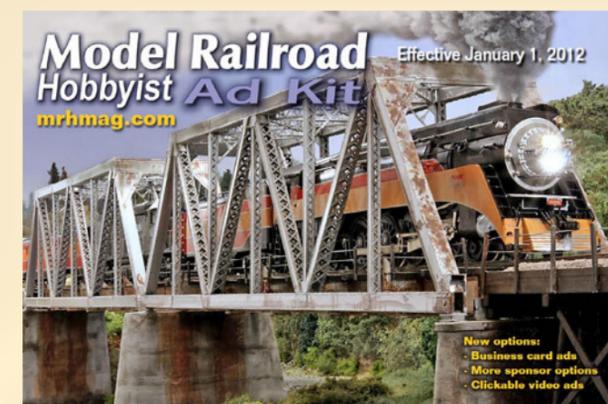
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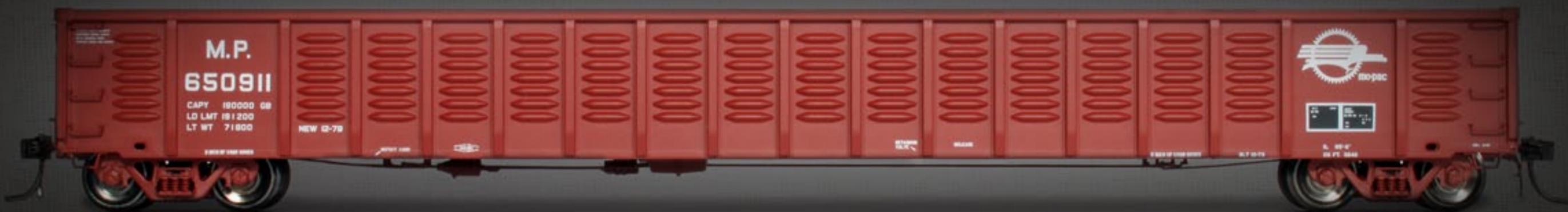
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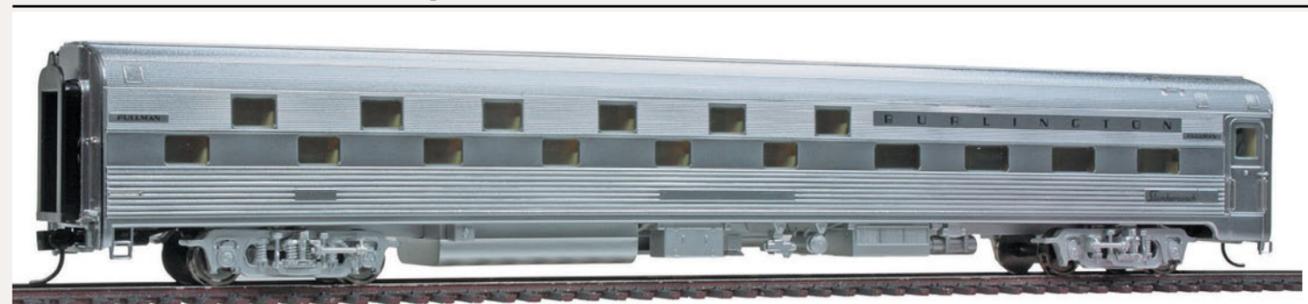
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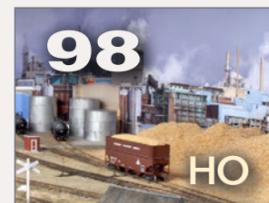
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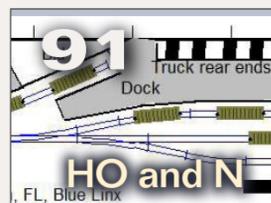
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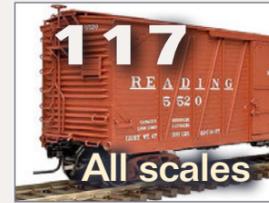
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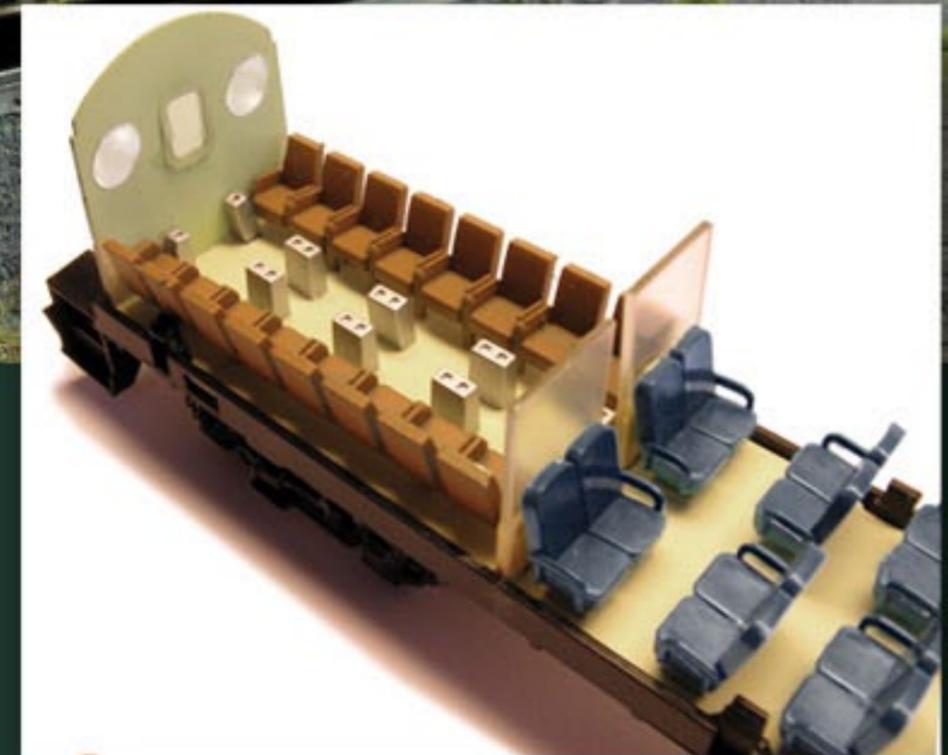
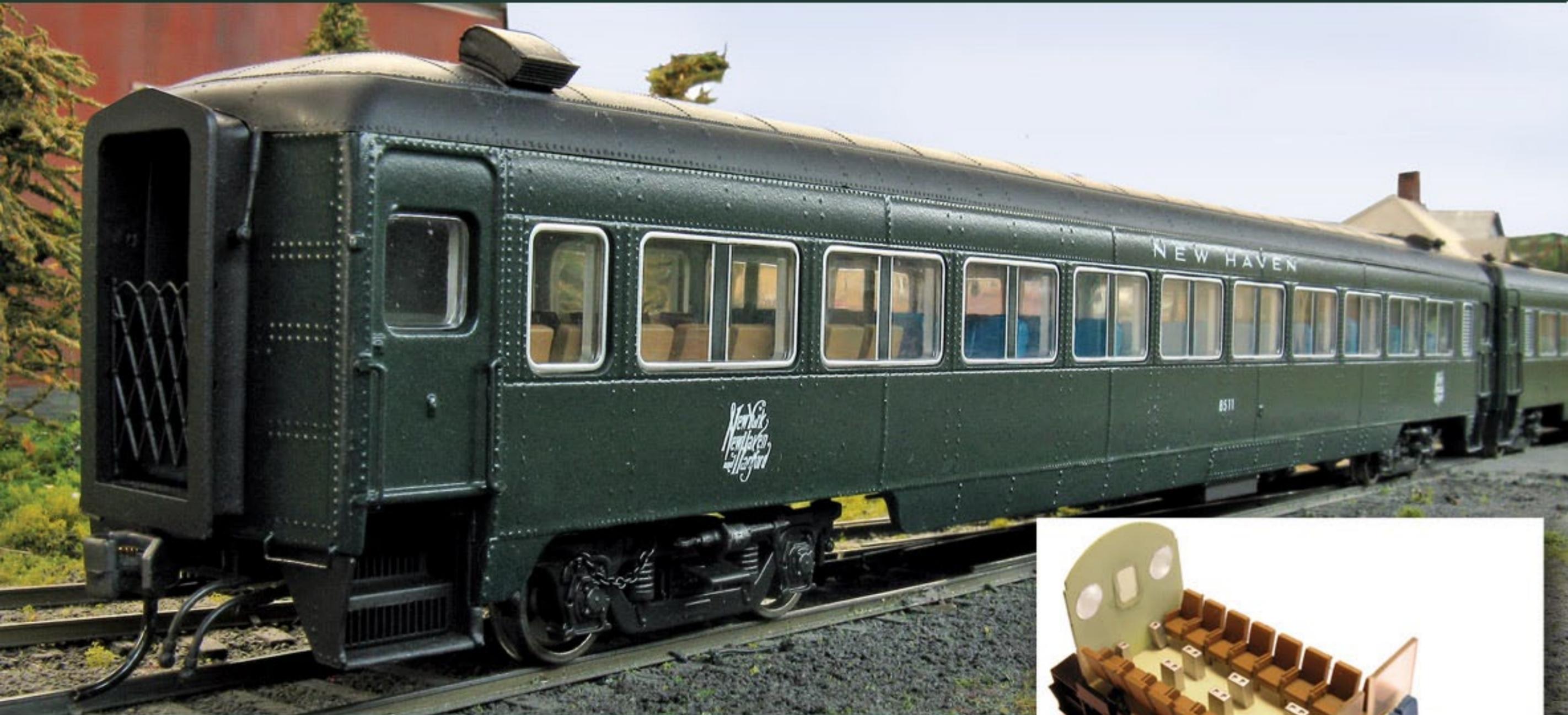
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# Smokin' Hot!!



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## PUBLISHER'S EDITORIAL: Don't make this common modeler's mistake

Musings from MRH's founder

### About the Publisher



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

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



**N**ew modelers all too often try to model something from their minds eye rather than from a photograph when doing things like building scenery or doing weathering.

These same modelers would not dare try to accurately model a specific loco, a piece of rolling stock, or a structure without a photo.

Like modeling that loco or car, it takes a trained minds eye to know what scenery or weathering details really looks like. If you make it up out of your imagination, it looks just like what it is – made up, and not true-to-life.

You fix this problem by modeling scenery and weathering from reference photos, just like any other detailed modeling you might do.

With today's Internet and Google searches, there's very little reason to *not* have reference photos for your scenery work. Grass is not always green, dirt is not always brown, and water is not always blue.

Get reference photos and study them. What scenery contours are typical for

the area you're trying to model? What do rock formations typically look like, and what colors are the rocks?

What are common vegetation patterns? Grassy rolling knolls, flat farmland, rocky sagebrush littered desert slopes, or hardwood covered hills?

Understand the scenery of the region you're modeling by getting photos of the area. Also get photos of any railroads or highways in the area so you can study how the rock cuts look.

The Siskiyou Line I model is set in Western Oregon, where much of the rock is dark basalt. In a few places, tan sedimentary sandstone or gray limestone rock cuts can be found.

Outside of man-made rock cuts or water courses, exposed rock in Western Oregon scenery is rare. Everything is covered with moss, grass, undergrowth, bushes, and trees – with conifers being the most common in mountainous areas, giving way to a mix of hardwoods and a few conifers in flatter areas.

If we modelers wouldn't think of trying to correctly model a loco or car without reference photos, how do we think we can get away with modeling decent scenery without reference photos? Go get some photos!

Same goes for weathering. If you study reference photos, you will notice different types of cars weather according to certain patterns – they are not just uniformly rusty or uniformly dirty.

You will get the best weathering results if you study photographs of real weathering, and then try to duplicate what you see. By weathering from photos, it will also help keep you from overdoing it – another common beginner mistake.

Only once you've finely honed your modeling skill by using reference photos will you be qualified to try using your "minds eye" to model from your imagination without a reference.

If you're about to do some scenery work or some weathering and you don't have reference photos to work from, the alarm bells should go off!

Get online and start doing some Googling! Go to the images section of Google search and refine your search until you get some good reference photos to work from.

You'll be much happier with the results!



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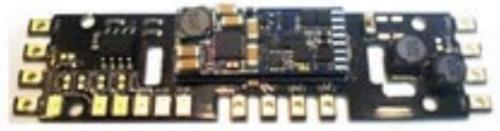
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### Notes from the

# MRH STAFF

**May issue set a new record, New sponsors, Yes MRH is indexed ...**



### May issue set a new record

M.C. Fujiwara's "Kids and Model Railroading" cover story in May set an all-time record as the highest-rated article in Model Railroad Hobbyist's history.

Just think, an article that had very little to do with building a model set a new most popular record with our readers!

When we founded *Model Railroad Hobbyist magazine*, we included Hobbyist in the name because we felt that the people in the hobby should be

the first goal rather than just the models. We wanted to remind ourselves of job 1 – to help hobbyists everywhere get the most satisfaction possible out of the hobby of model railroading.

That means articles on the "soft" side of the hobby – talking about people and helping each other get more out of the hobby, rather than publishing yet another loco detailing article.

Yes, the loco detailing articles and other how-to articles are important, but let's not be so narrow in our focus.

If we can help our readers get more out of the hobby in an article that's not modeling-specific, then we want those articles too. In fact, we feel there's a lack of such helpful articles and we want to change that.

That's why we jumped on M.C.'s kids article when we saw it – and we even made it the cover story!

This article tells you how to make the hobby more attractive to the next

generation and gives practical tips on how to get the kids involved. Instead of the hand-wringing rhetoric about the future of the hobby, here's an article that tries to be part of the solution instead of adding to the already overdone hand-wringing about the problem.

A hearty well-done to M.C. Fujiwara – and here's hoping we hear a lot more in the months and years ahead about how this article encouraged others to get the kids they know involved in the hobby!

### New sponsors

We have several new sponsoring advertisers this month!

#### Railflyer ([www.railflyermodel.com](http://www.railflyermodel.com)):

Railflyer does some awesome loco detail parts, and they also just announced a new line of paints. This up-and-coming company has some other cool technological advancing



items coming that you don't want to miss. We'll be watching Railflyer closely in the next few months as things continue to unfold!

#### TrainPlayer ([trainplayer.com](http://trainplayer.com)):

TrainPlayer has some nifty software that lets you run trains on track plans. They also offer a library of layouts so you can run trains on John Allen's famous Gorre & Daphetid track plan, for instance. Or design your own plan and work the operation bugs out of the design before ever building it!



#### Tony's Trains ([tonystrains.com](http://tonystrains.com)):

If you've spent any amount of time online looking for DCC products, you've probably



Your rating:  (5 votes)

## MAY 2012 MRH Ratings

The five top-rated articles in the [May 2012](#) issue of MRH are:

- 4.8 Kids and Model Railroading
- 4.6 DCC Impulses - Anatomy of DCC system
- 4.6 HO shelf layout of the Trona Railway
- 4.5 Building a paper mill complex, pt 2
- 4.5 Build a diesel fuel storage tank
- Issue overall: 4.7

### *Please rate the articles!*

Click the reader feedback button on each article and select the star rating you think each article deserves. **Thank you!**

heard about Tony's Train Exchange. Tony's has a great selection of DCC products, including their own DCC Specialties line of products. If you're in the market for DCC goodies, be sure to check out Tony's! Thanks to those of you who will be linking to us because you read this!

**Hobby Marketplace (page 59 this issue):** We also have other new advertisers. Check out the MRH Hobby Marketplace for advertisers with some products you many not have known about.

Don't just look at the sponsors page, also check out our hobby marketplace section for some advertisers with some products you may not have known about.

### **Yes, MRH is indexed!**

Several times a month we get asked if we're ever going to index the MRH back issues.

Good news – All published issues of MRH are already indexed, and have been for almost 2 years now! Thanks to Rod Goodwin and his online index, you can search for and find articles in MRH back issues, as well as locate major MRH website discussion threads.

From any page in our mrhmag.com website, look under the Magazine menu, then select [Index \(Rod Goodwin\)](#) ...

Once you're on in Rod's index page be sure to preface your search strings with MRH (or mrh). For example, searching with "mrh turn-outs" will list all the articles MRH has published about turnouts. Searching for "mrh weathering" searches for weather articles in MRH. Each hit returned by a search includes a VISIT link. Clicking this link will take you to the MRH article feedback page. Clicking the article lead page image on the feedback page will take your directly to that article in our online edition. Neat!

### **Cool articles coming ...**

We don't have any dates yet, but we've got some cool articles in the works that involve some nice layouts.

First, there's the Pacific and Eastern layout of the Rogue Valley club in Medford, Oregon. They run some great op sessions so we're going to let you visit an op session on this well executed club layout.

To give you some idea of how well executed this club layout is, here's a photo we took at a recent visit:



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And the club's op session is every bit as well executed as the layout, so you're in for a real treat!

Also on the horizon is an article on John Wilkes L&N and Southern Railway layout in Florida.

We got a chance recently for a quick visit to John's layout and we snapped a few photos:



We're looking forward to publishing an article one of these days on John's layout. John's a first-rate modeler, and his layout has wonderful scenery with op sessions that sound as delightful as the layout is to see.

No dates yet, but stay tuned!

Some of you have also responded to our request for layout articles, and so there's a number of good ones in the works - but we can use more!

Please use the [Article Idea link](#) on our contact us page to give a shout and let us know you might be interested in helping with a layout article for MRH.

We depend almost entirely on you, our readers, for most of what goes into the magazine, so help us out if you know of some good layouts that ought to be published.

### What's in a good step-by-step

MRH does highly detailed articles we call step-by-steps, and there's a special way we like to see them done. If you are at all thinking of writing a step-by-step for us, please pay attention to how we do a step-by-step.

First, document each step with one or more photos. Use plenty of light and try to remove excess clutter from the

back ground. The photos should be sufficiently close up to show the process, be in focus and have good white (color) balance.

Don't overlook adding some video of the more involved steps. A picture may be worth a thousand words, but sometimes a video can be worth a thousand photos. Watching a complex process instead of reading about it may turn on the light bulbs for your readers.

Our digital medium makes including video easy, and we pay a premium rate for video, so why not include some in your step-by-step article?

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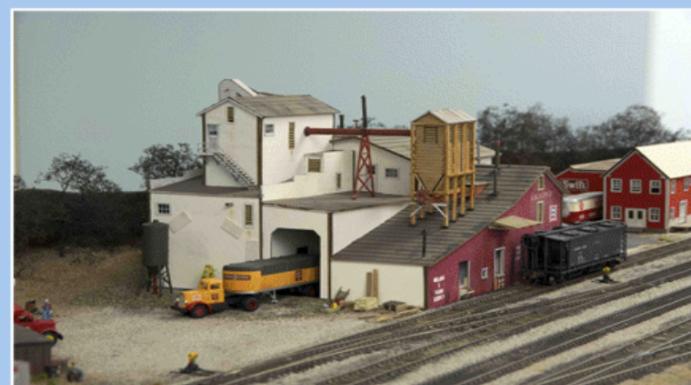
Seattle 2012 promises to be a convention that you shouldn't miss. There will be new and informative clinics from the experts, a big modern convention facility, and many family-friendly activities here in the Pacific Northwest. Many excellent model railroad layouts are here, and you'll have a chance to see 35 of them and talk to their builders.



Sept. 12-15, 2012  
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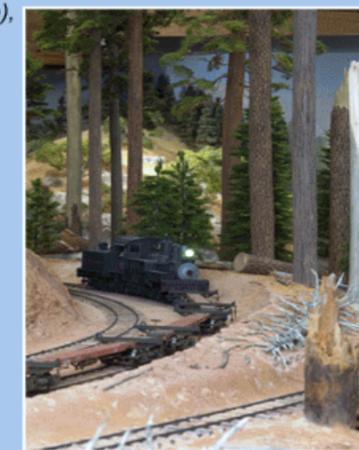
A few of the layouts and sights on the tour: Coal Creek Timber Co., Sn3 (above), D&RGW Black Canyon Lines, On3 (above right), an HO standard-gauge operation-oriented shortline (below), and an indoor 3/8n18 large-scale layout (left).



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A few more photos of the 35 layouts; D&RGW, HO n3 (above), an N scale class 1 railroad featuring indescribable scenery (below) and Westside Lumber Co., On3 (right).



Study our format when writing your text, and follow it. It's surprising how many authors just write their article without any consideration for how we like to format our material. You make us work a lot harder, and you also make us less likely to use your piece if you don't follow our formatting.

Our step-by-step format clearly calls out the steps, and we prefer to get most of the how-to text as captions that go with the photos in each step.

Don't write the text as an article and just reference the photos. And please do not write the how-to text in the body of your article and also repeat the text again (just reworded) as the captions.

Authors that pay attention to formatting and that match our approach quickly become our favorites and almost anything they submit we'll publish.

## In this issue

We're starting a series this month that will show you how to kitbash / scratchbuild the steam loco you need for your layout using styrene. Ken Rickman shows you the ropes, and we believe you'll find it is easier than you thought! So follow along with Ken as he shows you how you too can build a steam loco with styrene.

MMR Richard Napper demonstrates how he uses styrene to build a structure - in this case, Frisco's PB tower (although Richard calls it Sheffield tower on his layout). Richard does a good job illustrating some tricks to

make repetitive processes such as modeling windows easier.

Jack Burgess, one of our guest Getting Real columnists, takes a different tack this issue with a one evening project demonstrating how he builds speeder setouts.

Charlie Comstock is back from his Up the Creek column hiatus and continues the process of building his peninsula in part 4 of his series. In this installment, Charlie tells us how he connected his peninsula trackage to the rest of his layout. In the companion video to his column, Charlie tells us how he uses his own homemade jigs and a belt sander to scratchbuild turnouts.

Bruce Petrarca's ever-popular DCC column continues this month with some diesel DCC decoder installs in HO. Bruce has some great tricks he uses, so even if you're an old hand at installed decoders, make sure and give Bruce's column a read. You won't be disappointed!

Mike Rose is the guest prototype modeling columnist in this month's Getting Real. Mike's column journals his struggle to stay motivated while modeling a large structure on his layout. Mike, a professional project manager by trade, shows you how he attempted to apply some of these skills to making good progress on his own prototype-based layout. Some of the results of Mike's experiment may surprise and entertain you.

The parade of great posts on the MRH website continues, so we drew from some of the recent discussions

around small layout designs to present you with a plethora of micro to small layout track plans. We found the discussion that accompanied these plans to be very helpful, and so we're reproduced this great material here, in case you don't happen to hang out on the MRH forums.

Joe Fugate discusses a common modeler mistake in this issue's Publisher Editorial. You'll need to read the editorial to learn more, but suffice it to say, the mistake Joe cites is an all-too-common root cause for a lot of less-than-realistic scenery modeling.

In this issue's Reverse Running, our "devil's advocate" column, Joe Fugate praises the value of eBay to model railroaders. Joe's viewpoint may surprise you. Be careful, though. Joe may give you one more reason you need to get out of that armchair do more model railroading with this column.

Finally we have our MRH Product Showcase photo gallery and many pages of new product news, loaded with photos.

Happy June issue viewing!



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# MRH

## Questions, Answers and Tips

**Reader Feedback**  
(click here)



### QUESTIONS AND ANSWERS

**Q. I recently decided to try spline roadbed. I like the way the path has a natural snake up the grade and I am looking forward to seeing my trains climb this grade ... but, the splines were not a consistent width, and I could never get them to line up with each other very well.**

**A.** This could – and ought to be – a full-length article but we'll try to hit the high points. (See the whole thread at [model-railroad-hobbyist.com/node/7403](http://model-railroad-hobbyist.com/node/7403).)

Spline roadbed consists of strips of material standing on edge and laminated to form a rigid beam. It uses material very efficiently, and makes it easy to build sweeping, dramatic

curves. Well-built spline is very stable. Popular materials are hardboard (like Masonite®), Homasote®, and wood strips.

However, spline takes a certain amount of care in construction. It is important to set risers to support the grade along the track's path before starting to install spline – building it flat and trying to lift it up to a grade can lead to unwanted tilting in curves. Some roughness is inevitable, but by working slowly, the unevenness can be kept under control. The usual routine is to locate one strip on the center line of the route, and then to add splines to each side until the needed width is built up. (For a good tutorial, look at Lee Nicholas's page at [ucwrr.com/construction.htm](http://ucwrr.com/construction.htm)) The spline gurus at my

club work slowly and take care to line up the tops of the strips as much as possible. They add a spline to each side and let the glue set before going back to add another pair.

Even with care, splines can slip around while being glued. A Surform® tool will knock off high spots. Some people like to use a belt sander. Be aware that a belt sander can take off a lot of material in a short time, and that one with a wide belt can round off the top of the roadbed, leaving a high point in the middle.

While you're laying up the spline, use a short level to check across the roadbed so you don't introduce unwanted

tilting. If super-elevation is needed, that can be added later, just before track is put in place.

One myth about spline ought to be explored. Yes, it gives wonderful sweeping curves, but it does not automatically produce perfect easements. It doesn't even produce a constant radius without a fair amount of effort. How smart is a piece of wood? Or Homasote? Before you start laying spline, cut out a couple of stiff templates to the radius you want, and use them to check and recheck the curve. If a bad kink is introduced into spline, there are two solutions. One is to add more splines to the inside or outside of the curve (giving you a fat piece of



**Figure 1: Spline allows long swoopy curves using a minimum of materials, but careful attention has to be paid to grades, curvature and easements.**

roadbed); the other is to cut out the section and start over.

If you are running short trains with short cars at slow speeds, you can quit reading now. But if you plan to run long trains with long cars, give very serious thoughts to easements. C.M. Kurtz's book "Track and Turnout Engineering" (Simmons Boardman, 1945) lists nine approaches to calculating easements, but also includes a handy diagram we have reproduced for you. El Dorado Software has the basics of planning easements at [trackplanning.com/easements.htm](http://trackplanning.com/easements.htm). Essentially, an easement opens up the curve slightly between a straight

section and a curve, reducing side pressure on flanges and couplings.

– Joe Brugger

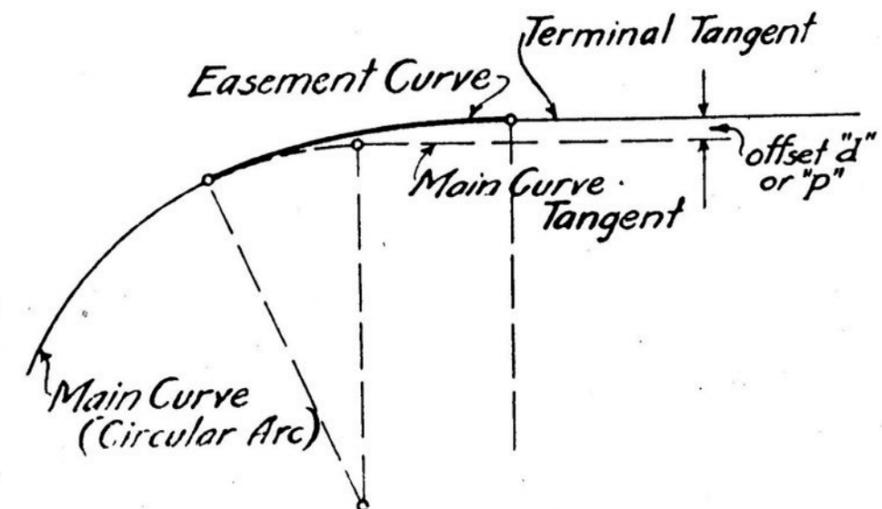
**Q. While watching my Op Session Live DVD I noticed that communication between operators and the dispatcher was with a wireless system. Can someone describe that particular system? I would be interested in hearing about what systems are available and the pros and cons of each.**

**A.** The simplest wireless system is shouting across the room, but it isn't very realistic, doesn't work with more than a couple of operators, and fails if the dispatcher is in another room.



Figure 2: Smooth spline has to be laid out with care. This lay-up, with jagged edges abutting the main where the switch splits off to the left, was rejected in favor of attaching one long strip along the main and building the additional splines onto that.

- “(2) Which can be run in by deflection or offset with chords of any desired length.
- “(3) Which is one of the general type of either the Searles spiral, the cubic parabola, or the Holbrook, Crandall, Talbot, and 10-chord spiral.”



**175. American Railway Engineering Association Manual Recommendations in Regard to Length of Easement and Elevation.**

- “Easement curves should be used on all curves requiring an elevation (superelevation) of 2 inches or more for the highest permissible speed.
- “The choice of easement curves should be governed by the ultimate speed possibilities, considering probable re-

Figure 3: Spiral easements reduce side pressure where straight track transitions into a curve, make it easier to operate long curves and locomotives without excessive drag and derailments. Illustration from "Track and Turnout Engineering," C.M. Kurtz, Simmons-Boardman, 1945.

The easiest solution is to use FRS or GMRS radios. Look at [en.wikipedia.org/wiki/Family\\_Radio\\_Service](http://en.wikipedia.org/wiki/Family_Radio_Service). FRS radios don't require licenses. These are a low-power, short-range system, and a pair of radios is easy to find for less than \$50.

Some operators don't like listening to the constant chatter on big layouts, and an alternative is to place the radios at stations and use them as if they were fixed-base telephones. Some layouts use multiple channels.

Two-way radios weren't in common railroad use before the 1970s-80s, so a real telephone system might be in order. Seth Neumann talks about setting up systems at [sandcrr.com/](http://sandcrr.com/)

[telephones.htm](http://sandcrr.com/telephones.htm), and Don Ball writes about party-line systems at [sandcrr.com/telephones.htm](http://sandcrr.com/telephones.htm). Phone systems require some parts-chasing and some technical skill to build. There is also information on phones at [x2011west.org/handouts/Communications-for-Model-Railroads.pdf](http://x2011west.org/handouts/Communications-for-Model-Railroads.pdf).

More advantages and pitfalls of communicating on model railroads are discussed at [model-railroad-hobbyist.com/node/185](http://model-railroad-hobbyist.com/node/185), also [model-railroad-hobbyist.com/node/3406](http://model-railroad-hobbyist.com/node/3406).

**Q. At my operating session last Saturday I introduced written track warrant control (TWC) forms. During the debriefing a question was raised: How does the dispatcher know if a**

**train has to stop at a town to perform switching tasks?**

**A.** The train crew should tell the dispatcher where it needs to go, to get the proper authorization to occupy those tracks. If the crew has to work a pickup and/or set-out using the main line, the conductor can leave the rear part of his train on the main, work the cars, and rebuild the train without needing a special order – assuming he or she has the authority to occupy the track. If the crew can clear the main line while doing all the shuffling around, no authority from the dispatcher is needed – they simply get off the main, clear up their warrant, do their work, and call

the dispatcher for a fresh warrant when they are ready to occupy the main again.

A “proceed to” warrant requires the train will only move forward to its destination. But a forward move is regarded as one that does not cause the markers at the rear of the train – a caboose, red lamp, flag or FRED – to move backward.

Since the caboose sits on the main waiting to be rejoined to its train and is not moving backward, the engine can do the required moves without the train “backing up”.

All of this assumes the dispatcher does not screw up and give authority on the track to someone else.

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If there is extensive work at a particular location at some sessions but not at other sessions, the dispatcher will need to know when issuing the track warrant whether the train is passing straight through (Box 2 proceed from \_\_\_ to \_\_\_) or wants more room to work (Box 4 work between \_\_\_ and \_\_\_). A simple question is enough: "Do you have any work along the way?" The dispatcher's role is to keep the main line fluid, not to dictate minute work details.

In real life, the crew would know from its list of work to be done. In the model world, especially when using car cards and waybills, that's not always easy, but the crew can certainly check their paperwork for set-outs.

The issue is the same whether track authority is granted by warrants, timetable and train order, or Centralized Traffic Control. Train movement systems don't have anything to do with what work is done in each town.

One way to handle it would be to add a note to the crew's paperwork instructing them where they have work along the line for today's session.

When they call the dispatcher to get their track warrant, they will tell him, "Be advised, we have work at Surf today." The dispatcher can then give them the appropriate authority.

Many operating layouts include a "job description" card with the crew's orders that tells them what stations

or spots they are expected to switch, such as "PM Tallman Local: Work Del Monte and Producers Packing spots in Tallman, set out loaded cars on LPG lead for pickup."

Some model layouts have the dispatcher also act as sort of a global freight agent. In that case, the dispatcher could add the information to the "Special Instructions" line on the track warrant when he issues it to the crew. But on a model railroad with more than three or four trains on the line at a time, that's asking a lot of the dispatcher.

The whole discussion is at [model-railroad-hobbyist.com/node/731](http://model-railroad-hobbyist.com/node/731).

– **Charlie Comstock, Byron Henderson**

**Q. What happens to telegraph pole wires when you get to a long tunnel, or a bridge over a deep gorge?**

**A.** Pole lines typically follow the ground over the hill or down the gorge. In some cases they have to go underground, or perhaps in urban subways, in a conduit in the concrete or on the wall of the tunnel.

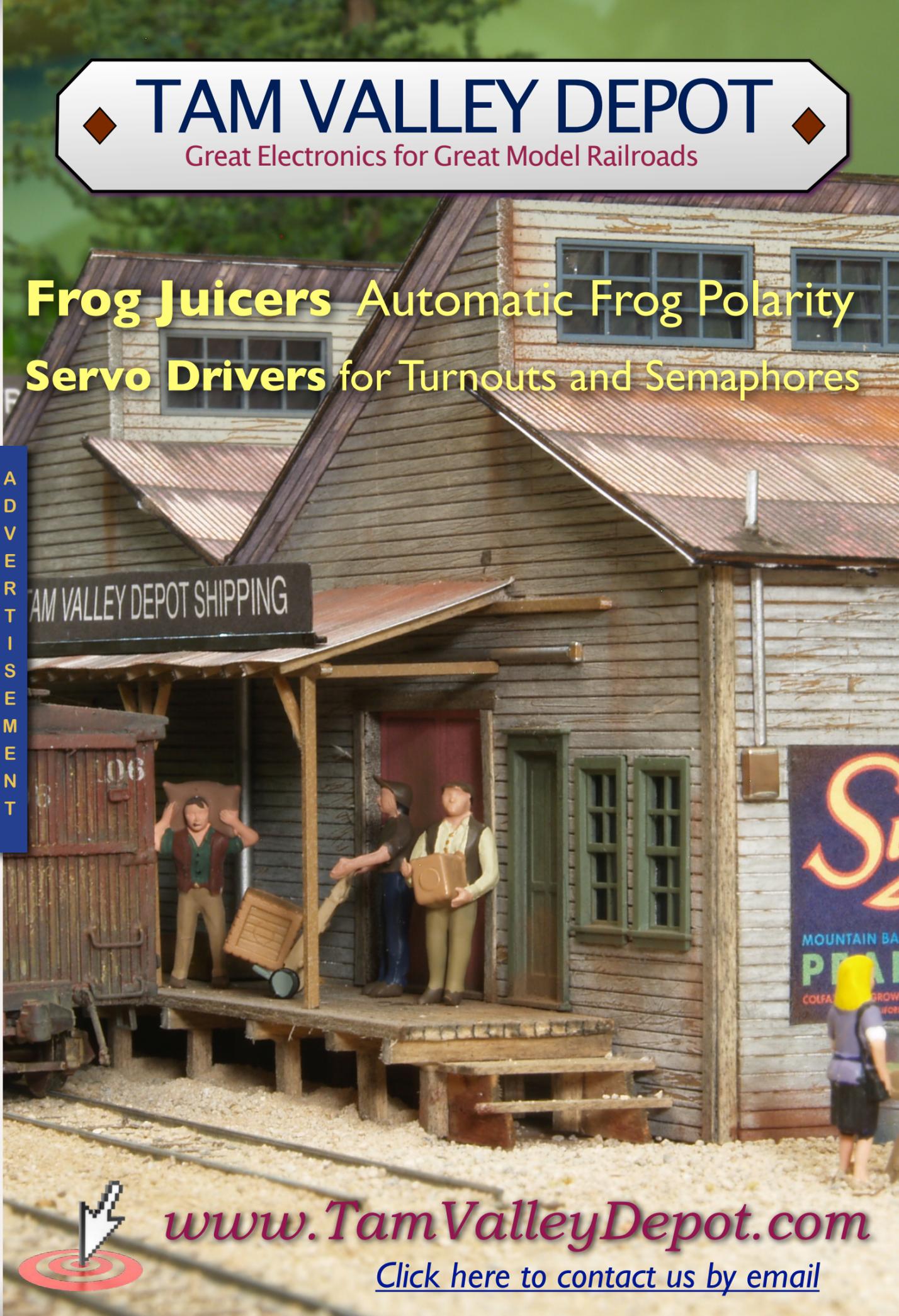
If the lines cross a river, they typically go across on the bridge somewhere, either in a conduit or on an arm with insulators attached to the bridge superstructure (figure 4 next page).

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# TIPS

## Cutting Homasote Without Dust

I continue to see comments about the nasty mess that results from cutting Homasote panels. I agree that it can make quite a mess of your environment, and your lungs, for that matter. However, I've cut a considerable amount of Homasote over many years and have always used a knife blade in my saber saw as it gives nice clean cuts and will greatly reduce the mess. It cuts cleanly because it is slicing through the material rather than tearing through it as a toothed saw blade would do.

The knife blades are sold by various places, but mine are Sears Craftsman part 28814, currently selling for less than \$1.00 each in a two-pack. Look at [Craftsman.com](http://Craftsman.com). The knife blades do get dull faster than toothed saw blades, but almost completely eliminate sawdust. If you cut when the knife blade is very dull or at too fast a speed, the blade will heat up and can darken the edges to an almost burnt color. Keep the blade reasonably sharp and cut at a reasonable speed for nice clean edge cuts.

– Kenneth D. Kalitowski

## Cork Shortage

While cork roadbed for model railroads is temporarily scarce in stores, at Walmart I found four cork board 12" square sections for

\$5.94. It is the same thickness as my Midwest Products HO cork roadbed ([walmart.com/ip/Quartet-Cork-Tiles-12-x-12/17163536](http://walmart.com/ip/Quartet-Cork-Tiles-12-x-12/17163536)).

– Rob Rousseau

Note: Midwest forecasts that cork roadbed will be back in the supply pipeline by June, once new supplies of raw cork are secured and manufacturing resumes.

See the thread at [model-railroad-hobbyist.com/node/7576](http://model-railroad-hobbyist.com/node/7576). ✓

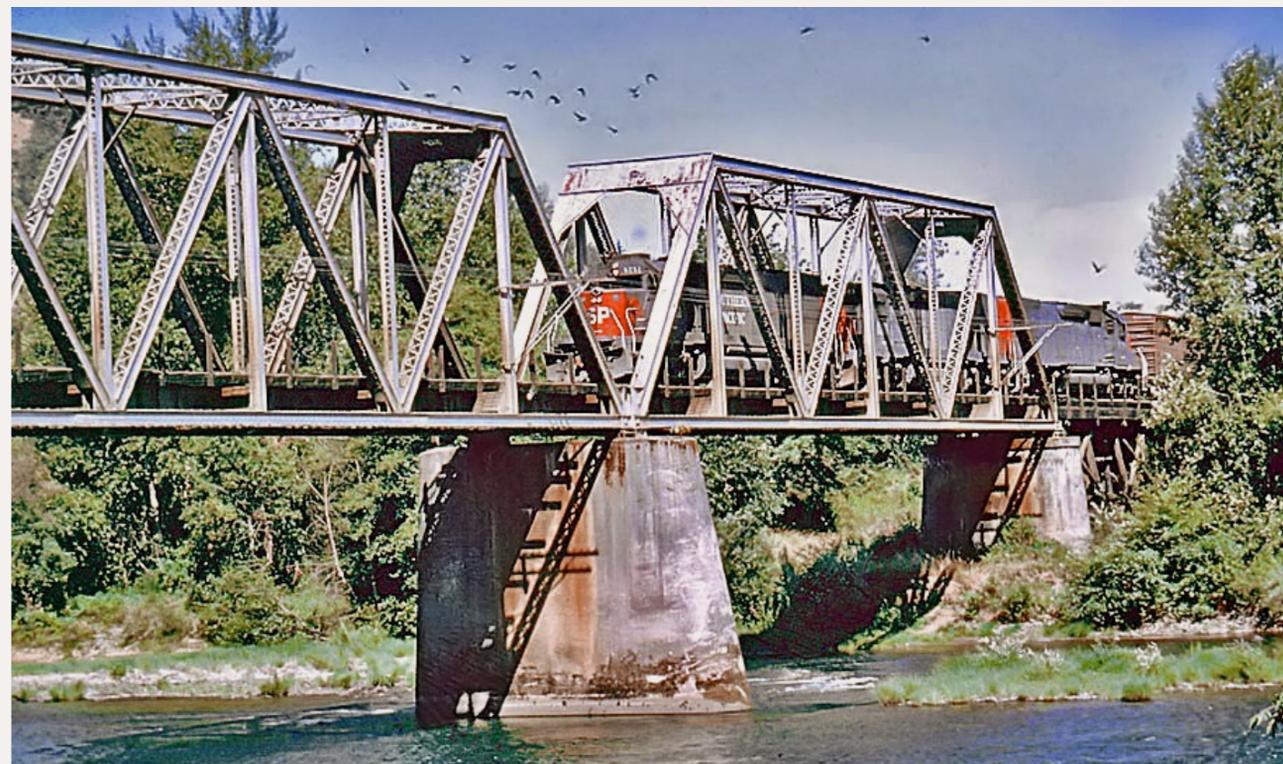


Figure 4: To carry code lines across a stream, the Southern Pacific attached crossarms to the sides of this bridge over the Umpqua River in southern Oregon. Joe Fugate photo.



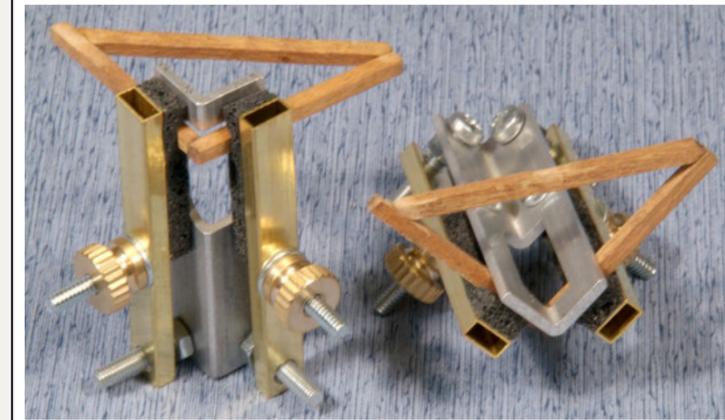
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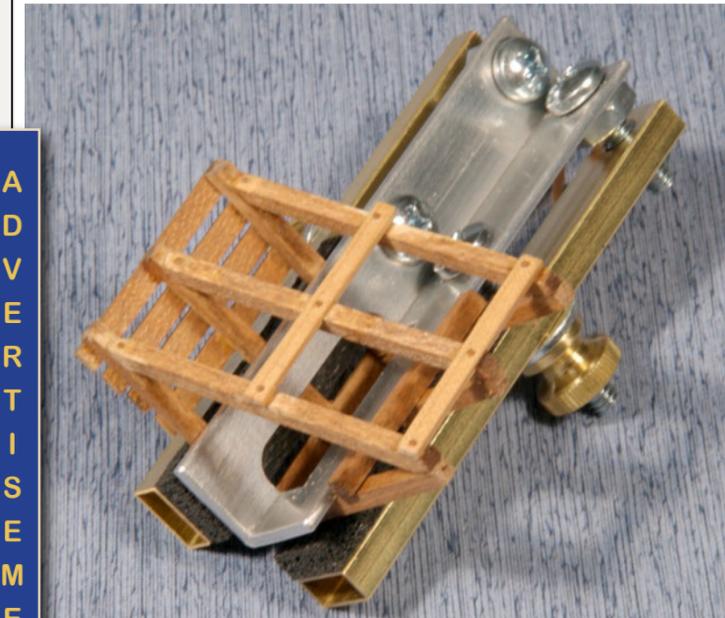
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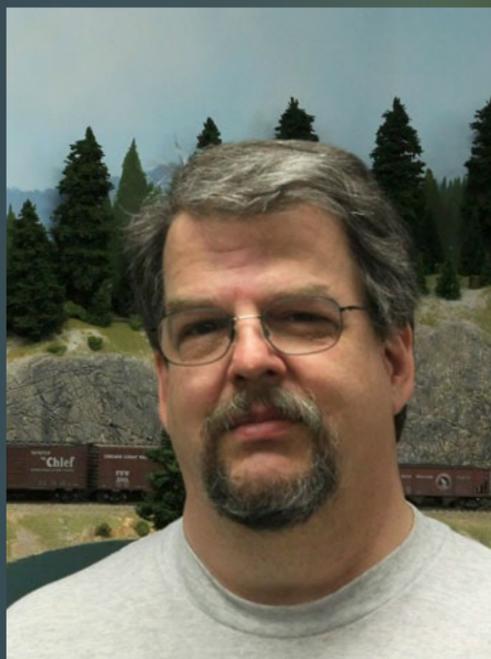
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# UP THE CREEK: Peninsula Construction!

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

Part 4 - Connecting the peninsula to the around-the-walls part of my layout ...

About our  
layouts  
columnist



**Charlie Comstock** is a MRH contributing editor.

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

**B**ack in late 2004 I was laying tracks around the walls of my new train room. I was also going through ops withdrawal. I needed a yard to operate, peninsula construction was a long way off, and the main yard would be on the peninsula. My solution was a temporary yard at South Jackson using track, turnouts, wire, plywood, and other items salvaged from the previous version of the BC&SJ. This “scrap box” yard didn’t look like much, but served well for the last seven years.

I was hoping to concentrate on peninsula construction and only change the track at the east (left) end of South Jackson to connect to the top of the helix down to main staging. If I could leave the rest of the yard alone, I’d be able to keep running trains during construction with a minimum of fuss. Once the peninsula had its track in place, then I’d replace the temporary South Jackson with a permanent one.

Unfortunately this wasn’t feasible. The elevation required to connect South Jackson to Siskiyou staging (which I’d been using as a temporary Pocatello – the east end of the railroad) was too high for the top of the helix. In retrospect, I knew when I built the temporary yard this might be the case. South



Figure 1

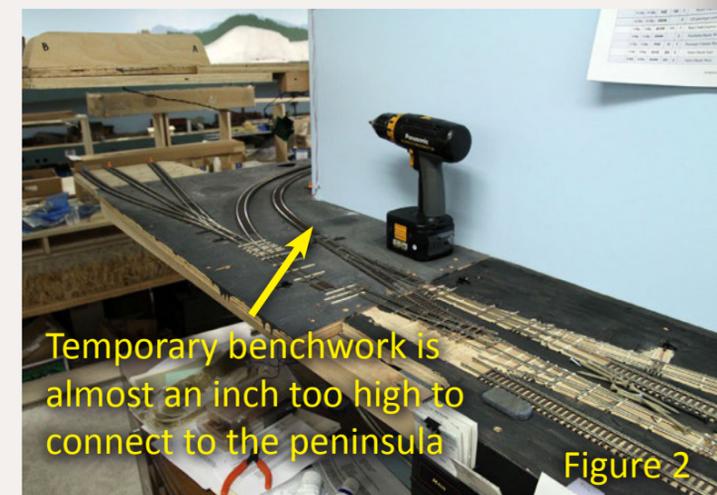


Figure 2

Figures 1,2, and 3: The old, “scrap box” version of South Jackson was too high to connect to the helix without some horrific grades. Although I was hoping to replace it later (so I could keep operating) I reluctantly decided it needed removal and replacement now. Some pieces of plywood had been with me for a dozen years and had achieved a sort of old-friend status, but removing this area wasn’t nearly as painful as tearing out the previous version of the BC&SJ. I knew it was temporary when I built it.



Figure 3

 **Reader Feedback**  
[\(click here\)](#) 



Figure 4

Figure 4: Something is missing here – the corner of South Jackson with the engine service area is gone. The rest of South Jackson will soon follow. Most of the plywood will get recycled into other places on the layout.

Figure 5: Two joists with cross members span the gap between the peninsula's helix table and the around-the-walls portion of the layout. Mike is gluing, clamping, and screwing it all together.



8" wide 3/4" plywood joist

Figure 5

Jackson was close to an inch higher than it should be to connect to the helix using "nice" grades.

I tried building a little more temporary roadbed and track, but the grades were disappointing. There were also problems with clearance for the helix to South Jackson mainline and the South Jackson switch lead which needed to pass under the Siskiyou branch line. There was a bare minimum of clearance the way I'd designed it and the higher South Jackson made it a lot worse.

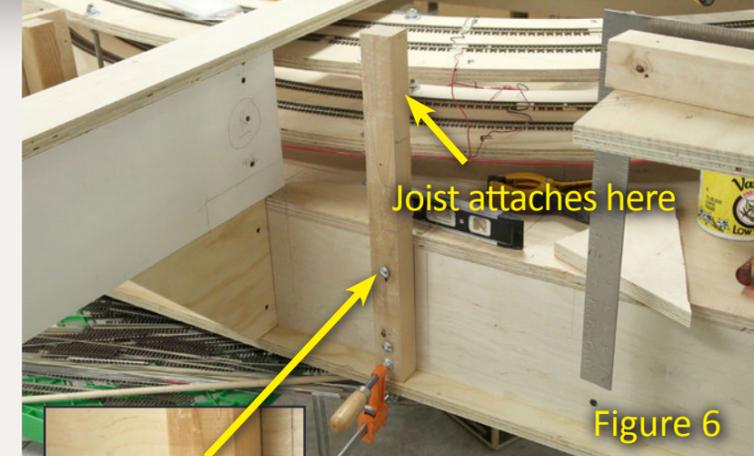
I started thinking about how little fun it would be to rebuild the area yet again when it was time to build the real yard. The final straw was the backdrop that would get shoehorned in. If I built it for a too-high South Jackson it would look like high-water pants with the properly elevated yard.

I held my breath and resolved that the temporary South Jackson had to go. Yikes! I was committing to building a whole lot more benchwork and laying a yard full of track and turnouts before the railroad could run again. Oh well, sometimes that's the way things go.

## Making a connection

I designed the connection between the wall and helix (peninsula) with a pair of cross-braced 8" plywood joists to support the track, scenery, and backdrop, but leave the area underneath clear as a low duck (actually "crawl") under (figure 5).

The joists are screwed to 2x2 cleats at the helix table end of the span. The



Joist attaches here

Figure 6



Carriage bolts provide secure mounting of the cleats that support the peninsula to wall joists.

An 8" wide plywood strip, screwed to the wall with deck screws, provides secure attachment for the joists at the wall. 2x2 cleats reinforce the joints.

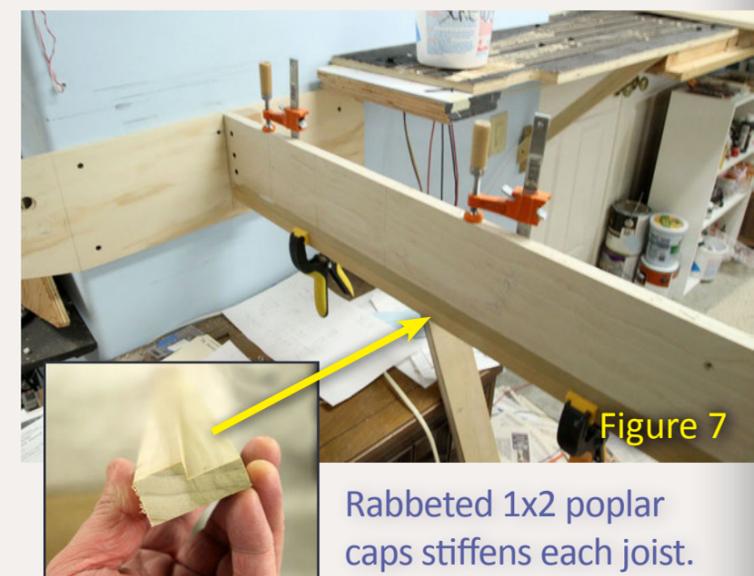
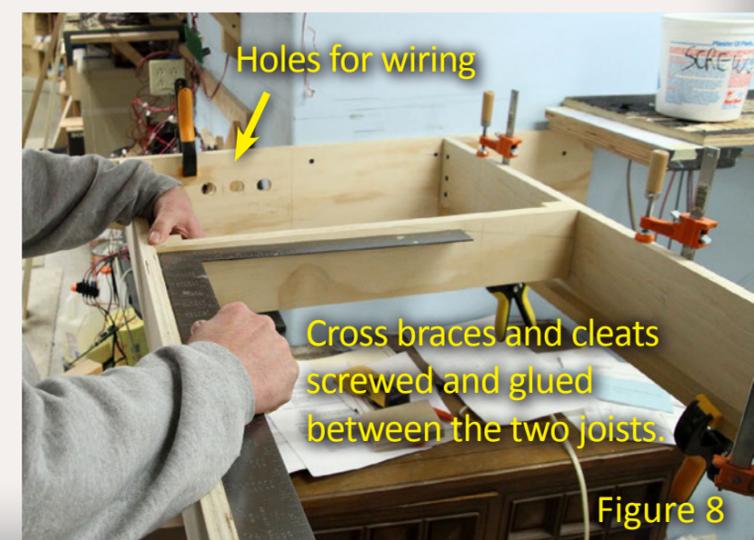


Figure 7

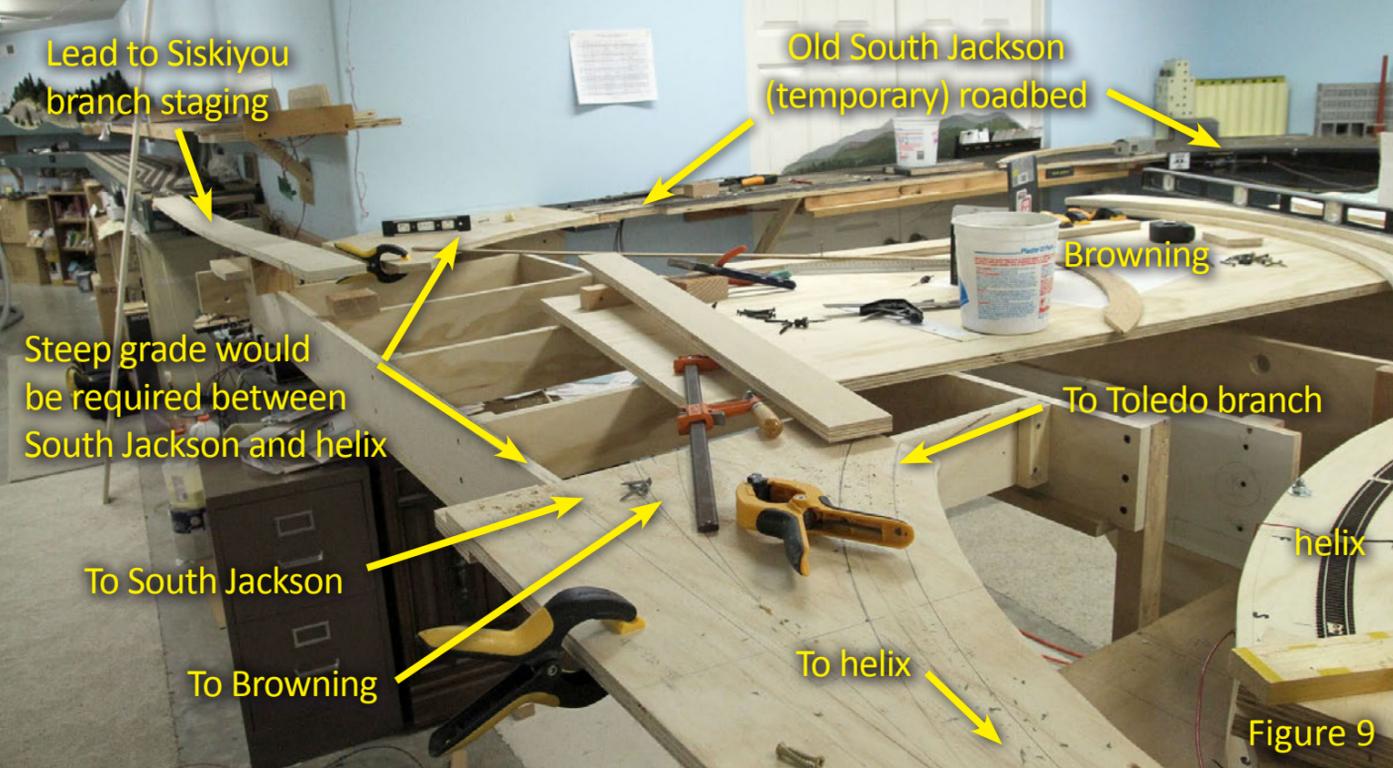
Rabbeted 1x2 poplar caps stiffens each joist.



Holes for wiring

Cross braces and cleats screwed and glued between the two joists.

Figure 8



cleats are attached to the helix table with carriage bolts (figure 6). Each joist is reinforced with a strip of poplar making a sort of inverted L-beam (figure 7). Later on another strip will be added above (figure 5) providing a mounting surface for the new South Jackson yard sub roadbed (plywood).

We used a carpenter square to ensure the cross bracing between the joists was a right angle. (figure 8). Just because the walls aren't straight doesn't mean the benchwork also must be warped.

At this point the old, temporary South Jackson subroadbed was still present (figure 9), but it was becoming clear that the elevation problem couldn't be solved without replacing South Jackson. So I removed all of South Jackson except the west end ladder turnouts.

I'm hoping I can get by without replacing the west end ladder right away but I suspect it will probably bite the dust sooner rather than later.

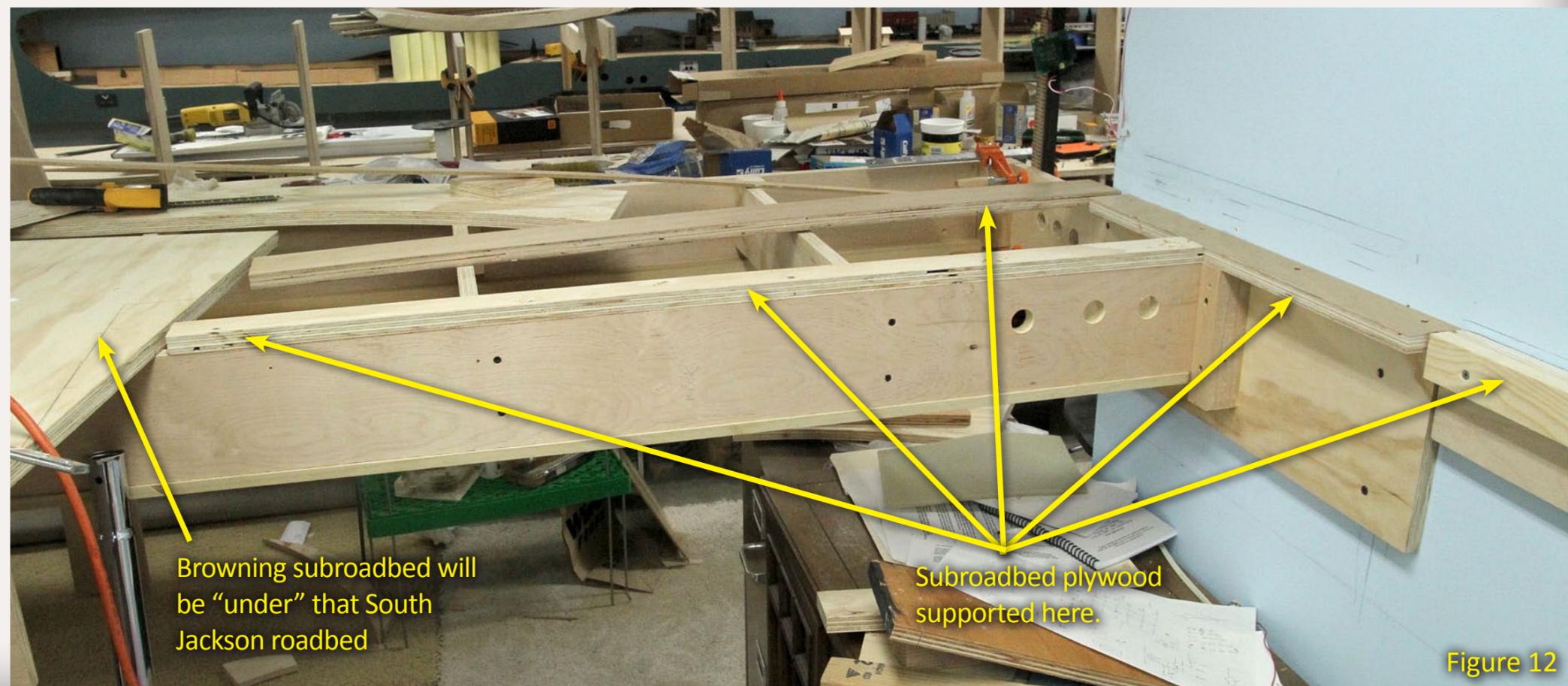
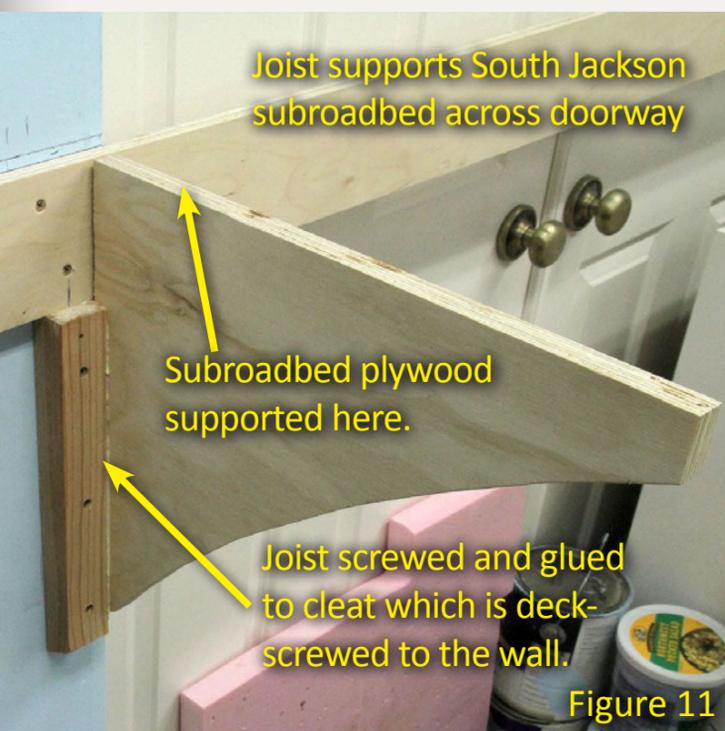
With everything out of the way I started adding subroadbed supports for the



Figure 9: The old South Jackson main yard area is still present. It's becoming clear to me that it's at the wrong elevation and I need to bite the bullet and just replace it. The top of the helix is in the foreground.

Figures 10-11: The supports for the new, correct elevation South Jackson roadbed are taking place.

Figure 12: The old, temporary, South Jackson subroadbed is gone. Strips of 3/4" plywood top the joists and the wall cleats to provide mounting surfaces for the South Jackson subroadbed. I drilled several holes in the joists to carry the many wires that will be needed to power the layout.



new, improved, correctly elevated South Jackson (figures 10-12).

I also spent a lot of time looking at the South Jackson track plan and making a number of improvements. CAD drawings let me cut complex edge shapes from a sheet of plywood (figure 13). I have to admit, when cutting out roadbed where I'm not absolutely certain of track placement, I always allow an extra inch or two in case I discover a better-than-planned track arrangement during full-size construction. It's much easier to cut a bit more later than to add some back on.

**Figure 13:** Hurrah! The first piece of the new South Jackson subroadbed goes in place. I'd been concerned about the aisle space (or rather the lack of it) between South Jackson and Browning (on the other side of the aisle). It appears the aisle, while tighter than desirable, should be OK.

## The helix junction

There are three gateways to the helix and main staging area on the layout – South Jackson, Browning, and the Toledo branch. The helix is double tracked (inner track is for downward trains and the outer track is for upward trains). A three-turnout junction at the top of the helix handles routing of trains between these points.

A Walthers #8 wye selects the downward or upward tracks, but I scratch-built the other two turnouts. I used a #8 code 83 FastTracks jig to build one, but



Figure 14

**Figure 14:** South Jackson's roadbed continues to take shape. Once I finish the bracing and cut out the turntable pit, tracks should start to appear. I'll talk about locating industries and tracks in this area in a future installment of this column. The right-hand corner needs to be coved.

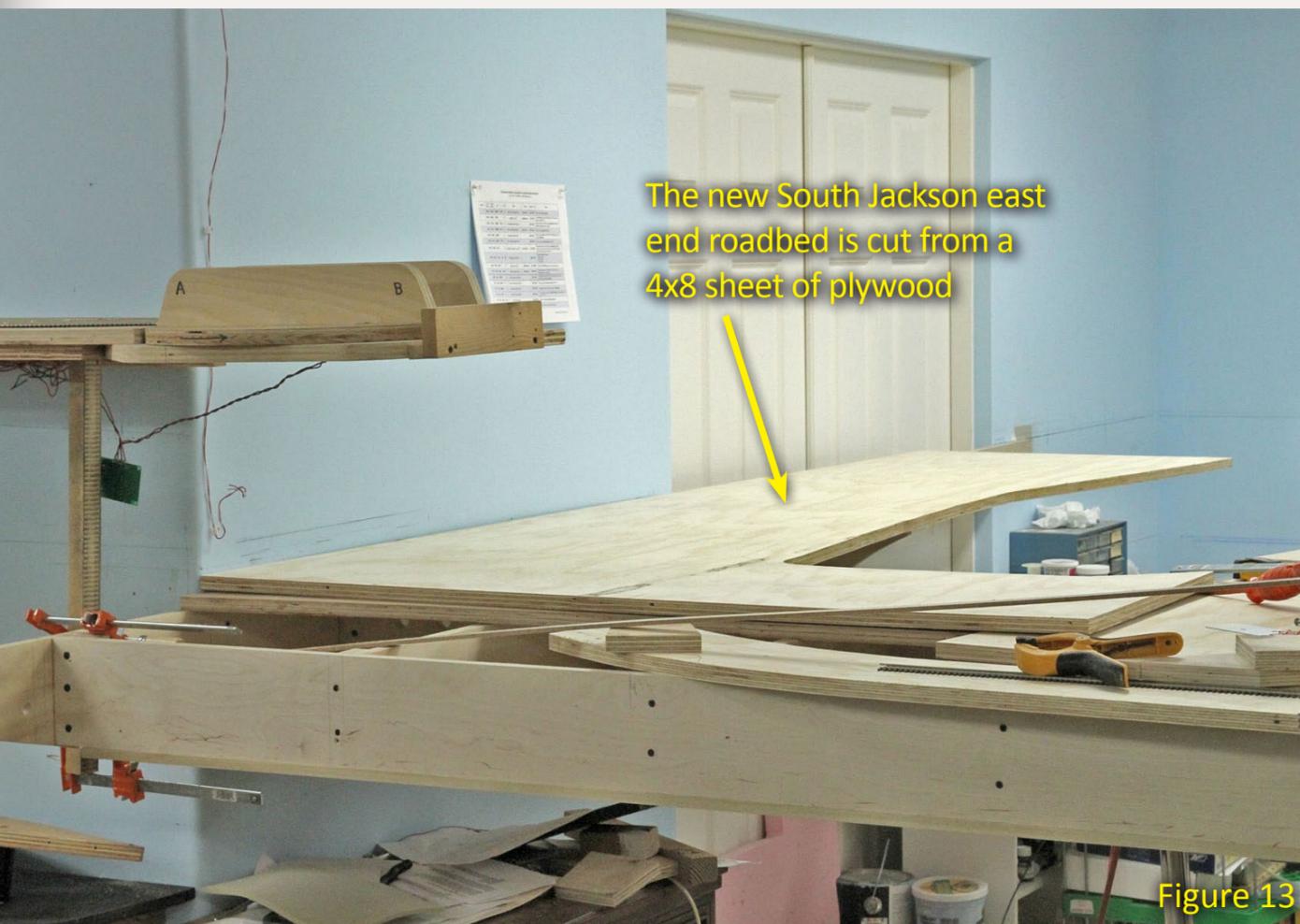


Figure 13

the other is a completely scratchbuilt code 83 #6.

I drew track center lines on the plywood roadbed and set the turnouts in place, properly aligned on the center lines. I marked the ends on the ties for the straight leg of the turnouts. I also marked the location of the turnouts' PC ties and yellow glued Micro Engineering switch length ties in place. I don't pre-cut the ties to length (figure 15). It's much easier to trim them with a sharp X-acto once the turnout is spiked in place.

## Going crazy

Spikes are a perennial problem for modelers who hand-lay track. Big spikes hold better, but look awful.

**Figure 15:** Full-length ties glued in place at the helix junction, ready for turnout installation.



Figure 15



Figure 16

**Figure 16: The helix junction with the turnouts set in place. It all looks good – time to start spiking them.**

**Figure 17: The tools and supplies I use when installing turnouts.**



Figure 17

Small spikes look better, but bend easily when driving them. Most commercial spikes are grossly over scale, especially their spike heads. I've been compromising with Micro Engineering small spikes (figure 18), but their heads are too big. More on this later.

Spiking into plywood is an almost sure way to bend spikes. When I'm faced with this task I cheat and drill lots of little pilot holes. My dial calipers tells me that an ME small spike has a shaft diameter of roughly .027" or .028" (figure 19). I use an .025" #72 drill bit (figure 21) in a moto tool to make pilot holes (figure 21). Then spike driving is easy.

What about those oversize spike heads? I'm just crazy and ornery enough to use a pair of diagonal cutters to snip off half of each spike head. Yup, I'm nuts. But it looks a lot better and it lets me position the spikes' shanks snug against the rail base – something impossible with code 83 or smaller rail and full size spike heads, because the heads are bigger than the width of the rail base! Woe be unto a telemarketer who happens to call while I'm snipping spikes. With plenty of time on my hands I've been known to string them along the garden path.

Once the turnouts are securely spiked in place, I use a moto tool cut-off disc to cut rail gaps to insulate the frog from the surrounding rails. I mostly use unpowered frogs in places where trains on turnouts are easily accessible. But in this case, I'll be powering



Figure 18



Figure 19



Figure 20

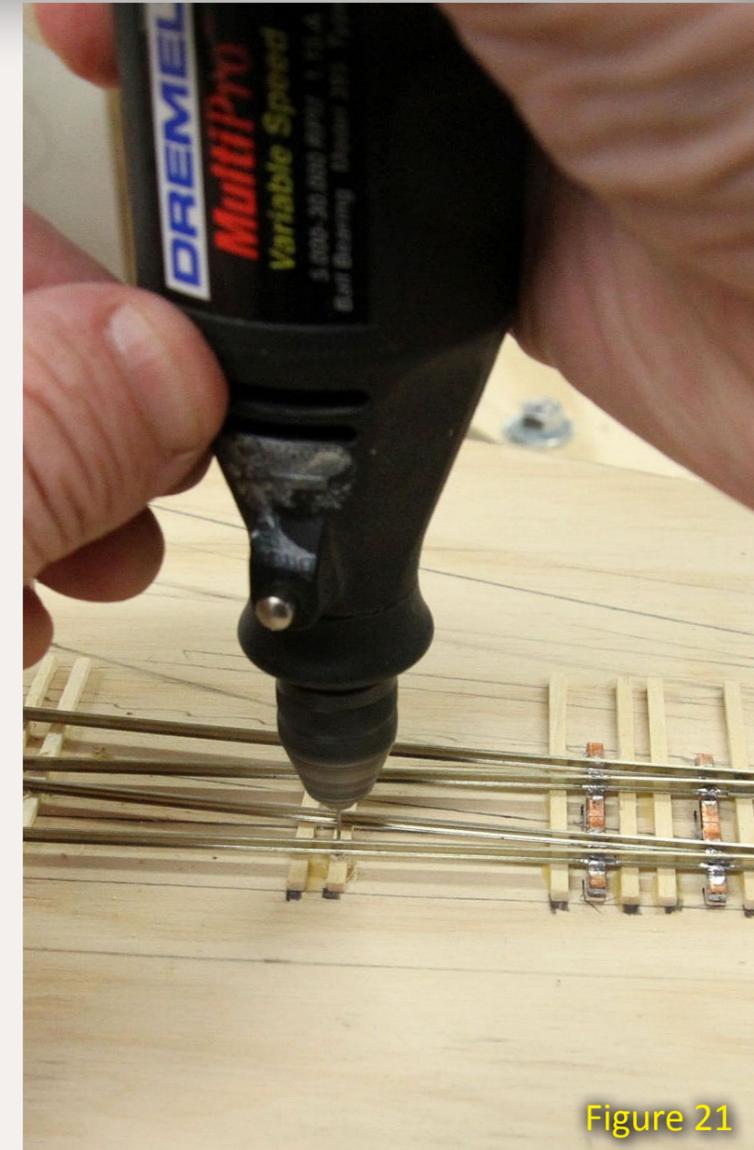


Figure 21

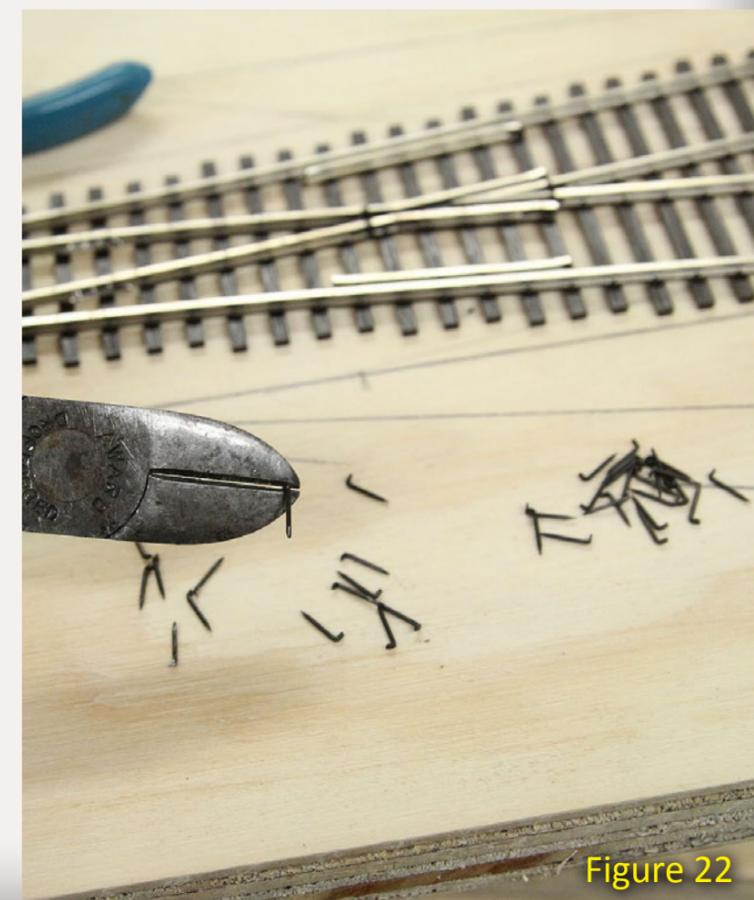


Figure 22

the frogs through one set of Tortoise contacts. If you like, a Frog Juicer also works for frog power. I really don't want locos in hidden trackage to stall, so powering the frogs in these turnouts seems like a good idea.

One more thing – thoroughly test those turnouts now! Check them for tracking and electrical shorts. It will never be easier to make any changes. I didn't have track power hooked up so I scooted a truck with code 88 (semi-scale) wheel sets at high speed through all routes of each turnout and used my multi-meter to check for shorts.

## Moving the points

I like manual turnout controls. But hidden turnouts or where safety interlocking is needed, such as in the helix junction, get Tortoises. This will let me use push button route selection and get LED turnout position indication.

Operators standing at South Jackson or Browning running trains in or out of the main staging area are less likely to mis-set the turnouts with pushbutton controls or change the position of a turnout under a train if block occupancy detection is used to qualify turnout operation. In either case, derailments are avoided.

Tortoises are reliable and have a pair of turnout position contacts. Unfortunately their contacts are only rated for 1 amp and there are times when two sets of contacts aren't enough.

**Figures 23 and 24: I hold Tortoise machines in place with #4 pan head sheet metal screws. I drill a shallow 1/4" hole in the plywood to act as a pivot point for the 1/4"x.020" brass actuator arm.**

**The actuator wire gets threaded through a small hole in the actuator arm. Threading from the rear ensures the wire won't "pop" out of the hole. Making the hole higher (further from the roadbed) increases the distance this configuration will throw switch points.**

**The other end of the actuator wire connects to the turnout throw bar. I solder this connection if the throw bar is a PC tie. Otherwise I thread the wire through a hole in the throw bar.**

When necessary, I solve the lack of contacts and current carrying capacity with external relays controlled by one of the Tortoise contacts. Omron 4PDT (4-pole double throw) relays with contacts rated at 5 amps and a 12 volt DC coil are on order from Allied Electronics and should be here soon. I'll discuss wiring the relays in my next column.

## Over or under

Tortoises have another problem – they're bulky. Two of the helix junction turnouts have a helix lap below them. Under-the-roadbed mounting

*Text continues on page 30.*

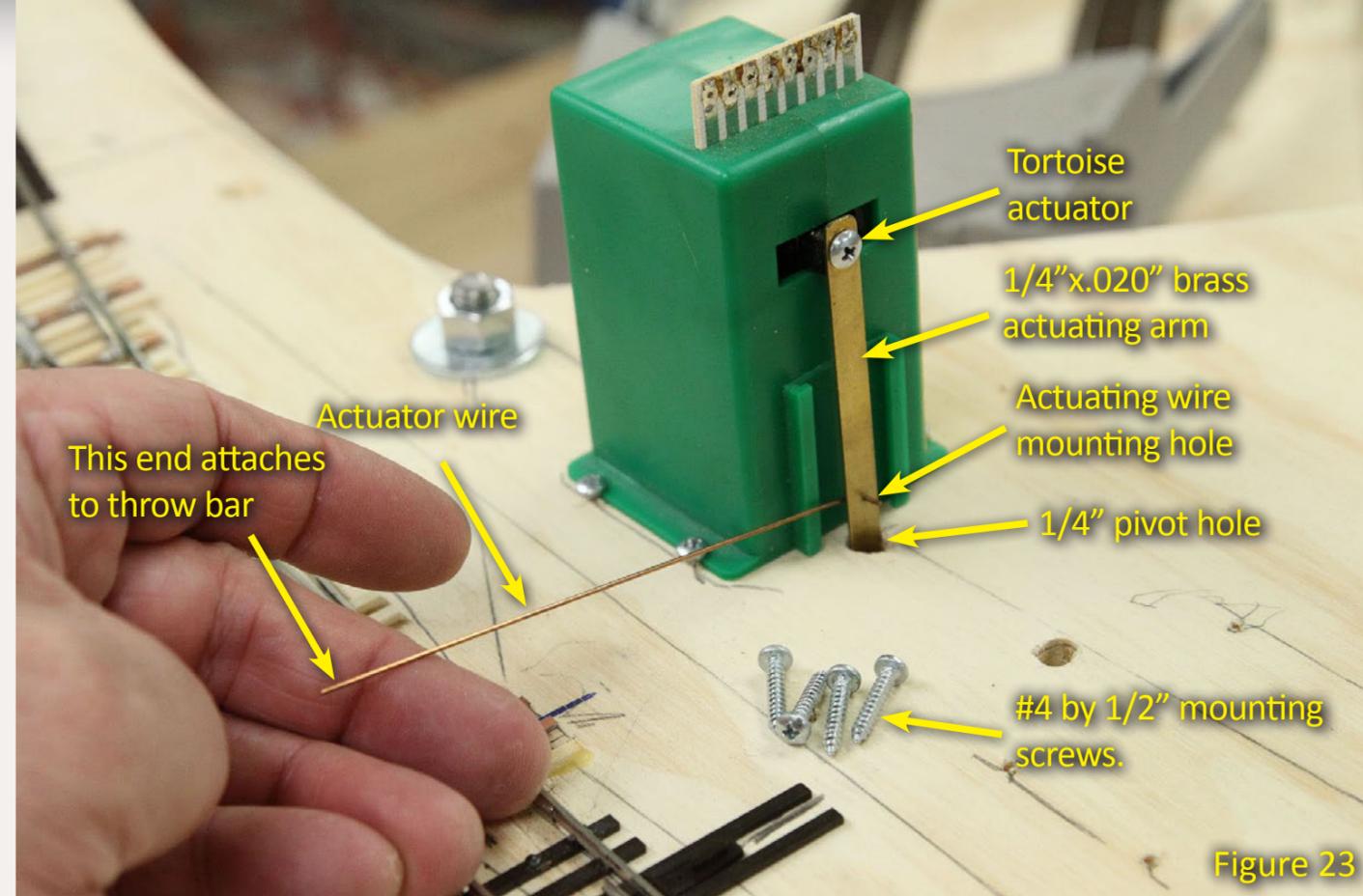


Figure 23

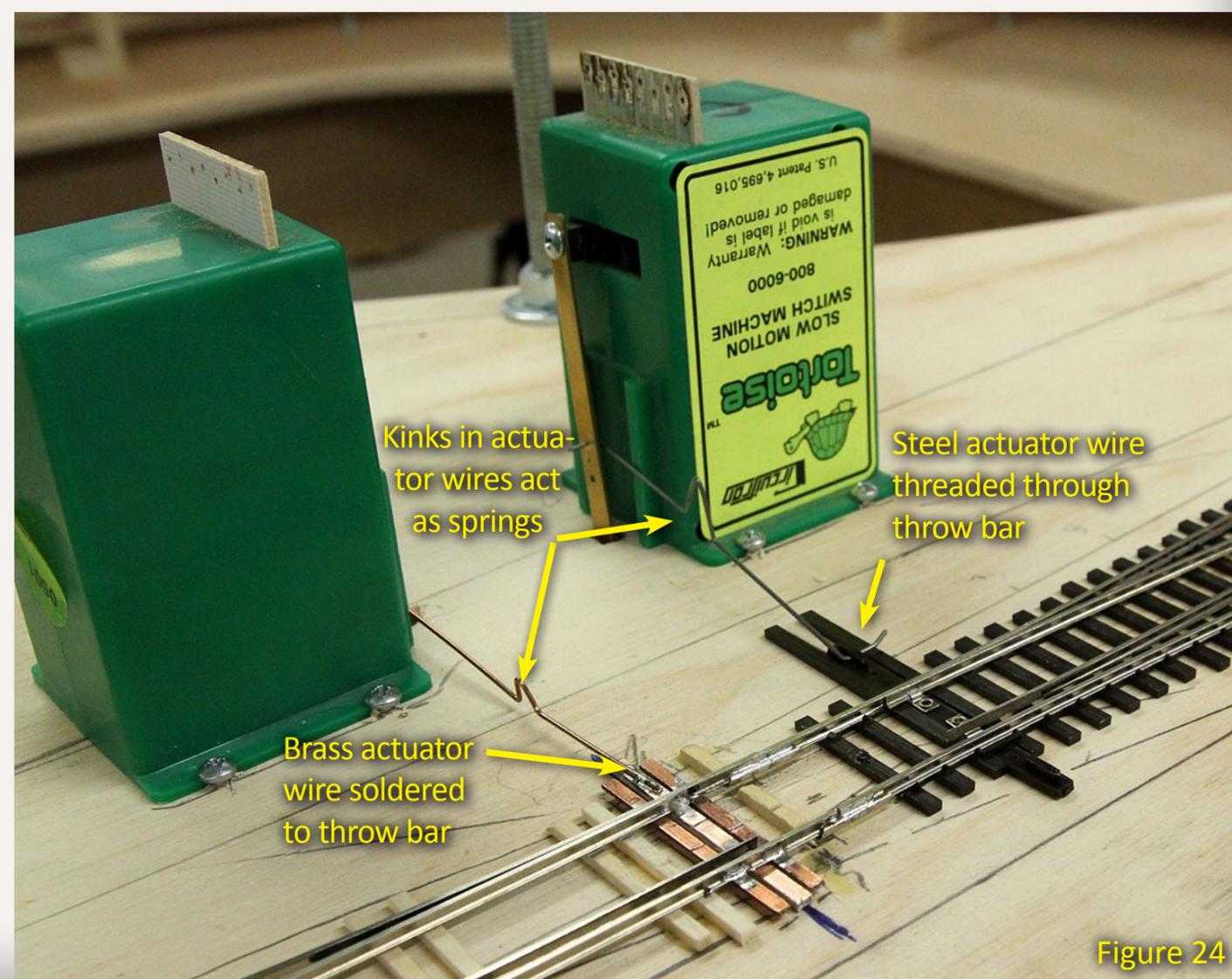
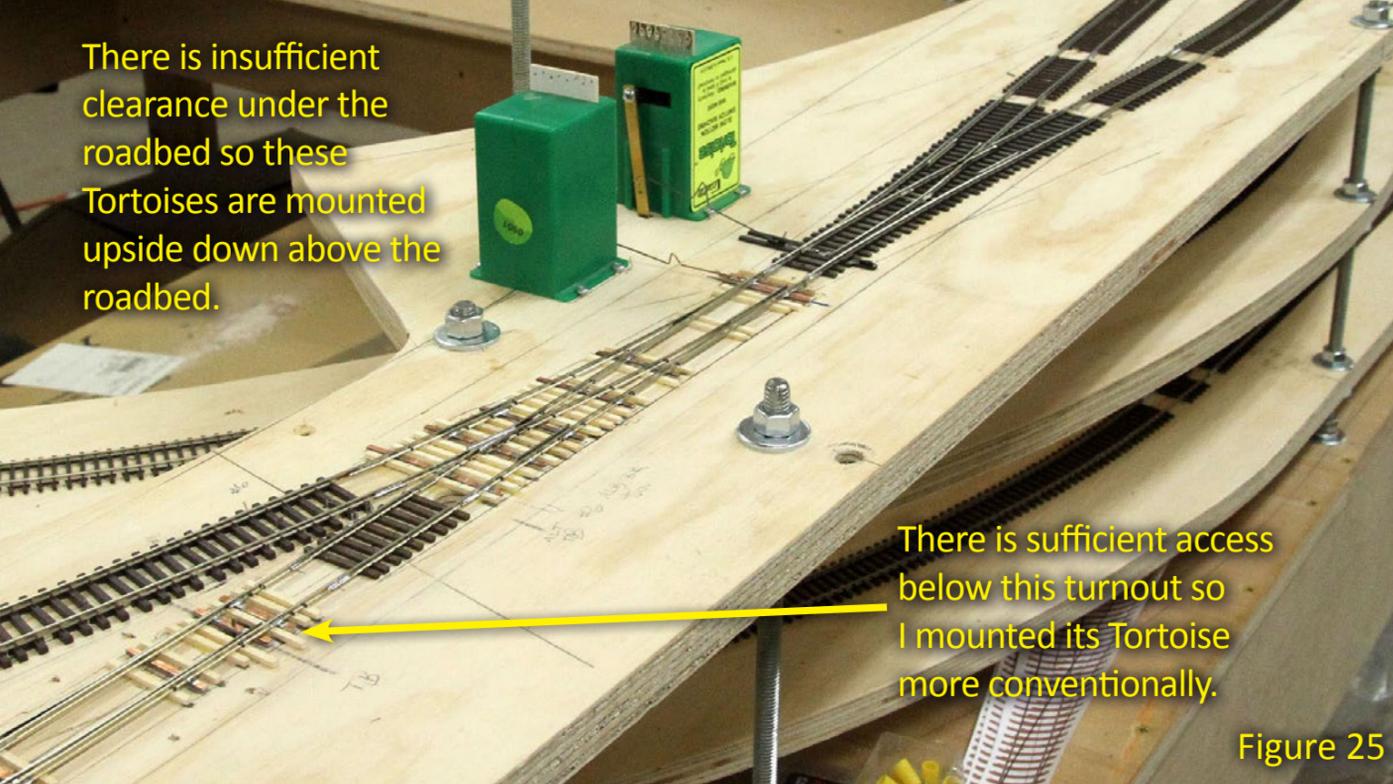


Figure 24

There is insufficient clearance under the roadbed so these Tortoises are mounted upside down above the roadbed.



There is sufficient access below this turnout so I mounted its Tortoise more conventionally.

Figure 25

Figure 25: The helix junction with the turnouts and switch machines installed but not wired. It won't be long before trains can parade up and down the helix – at least once main staging grows some tracks and turnouts!

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# South Jackson Gazette

## Strip Mine Discovers Railroad!

Much to the surprise of engineers at the Heli-X strip mining operation near South Jackson a strange prehistoric underground railroad has been discovered.

Said Rock Phindar, the site superintendent, "We've been scraping away dirt and rocks looking for interesting minerals, but dang me if we didn't find something real strange down there. Instead of minerals we dug up what looks like a very strange railroad. The tracks go around in circles but don't seem to actually get anywhere."

The locals at the Bear Creek Grill were speculating wildly as to what this might mean. Some claimed it proved that they weren't the first people in the area and there was a pre-civilization. Others thought it was a temple for a strange religion and the circular track represented the wholeness of life. Two green

sentinels on top of the circular path were claimed to be gate keepers into the beyond while the one under the path represented evil hiding below.

Horace Fithers, prominent local wasn't having any of this, though. "If ya ast me, all this malarkey about archaeology is jest that, a whole bunch of malarkey. As for it being some kind of temple, that's dumb right-nuff. The real God has a train in his robe and it fills his temple. Them miner johnnies didn't find no robe and no trains neither – jest a buncha tracks. Don't even come close to filling no temple!"

Horace paused to pull on his drink before continuing.

"I dunno what them mining boys been smoking but maybe their digging operation is more than a few stones short of a truckload!"

Meanwhile railroad spokesmodel, Honey Dwords was scheduling a press conference in a few days time. Local rumor suggests it may have something to do with free underground parking although railroad officials declined to comment.

This reporter admits he doesn't know what to think, but he likes the idea of more free parking. ☒

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



Strange dangling sentinel for a below ground temple or unknown artifact of railroading?

## Scratch Built Turnouts

The junction at the top of my helix:

- Selects which end of the modeled railroad, South Jackson, Browning, or the Toledo branch, is connected to the helix and main staging.
- Selects the up or down helix track to main staging.

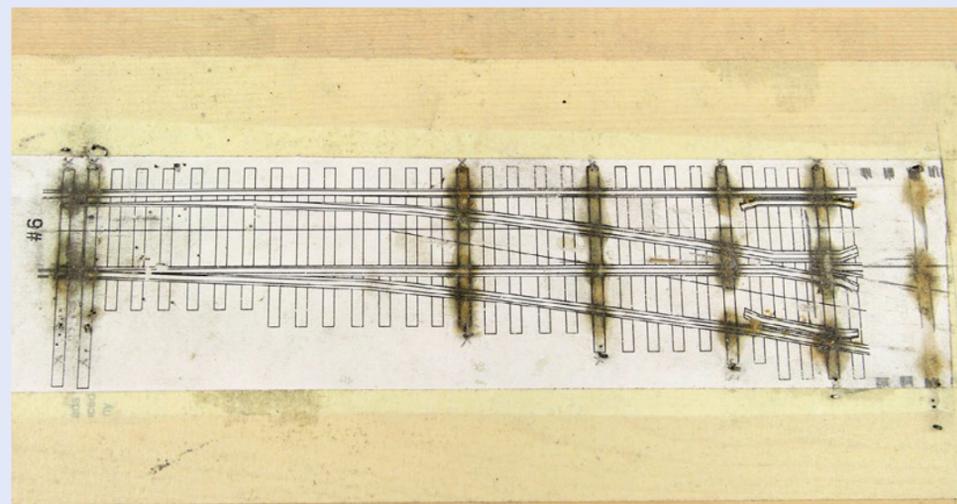
Three turnouts accomplish this. All are code 83. One is a Walthers #8 wye, one is a Fast Tracks #8. The other is a scratchbuilt #6.

Scratchbuilt? Why would I build a turnout instead of buying one?

- I like building my own turnouts.
- They're a lot less expensive than commercial turnouts.
- I control the gauge and tolerances.
- When I need custom curved or wye turnouts or if I need an unusual frog angle it's not a problem. I just build it.
- I like showing off my trackwork to visitors.



The three-turnout junction at the top of my helix.

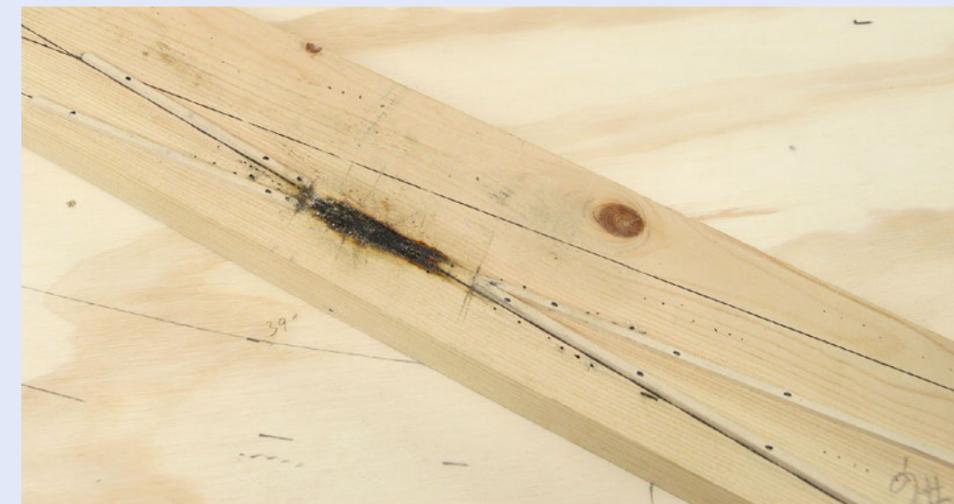


My homemade #6R turnout template works with any size rail. It's just a piece of pine 1x6 with a paper template taped on top. The template locates the rails and ties and enables reasonably accurate positioning for the points, throwbar, and frog point.

Scratchbuilding isn't terribly difficult. I could build and install a turnout in about an hour when I was in practice (on my previous layout).

For straight leg turnouts, I use a couple of simple jigs I made from a piece of scrap 1x8 and some stripwood. I don't use manufactured tie strips or machined assembly jigs (I have so many #8 code 83 turnouts in my track plan that I did purchase a Fast Tracks jig for building those).

I tape a paper turnout template to a piece of pine 1x6. I use photocopies of the templates in the back of Paul Mallery's Trackwork Handbook For Model Railroads (from Carstens), but anything accurately sized will work. You can even use templates printed from a CAD program (such as [3rd Planit](#)).



My frog / closure rail jig is a piece of pine 1x4. I measured out a #6 angle – over 6" and up 1" and spiked pieces of stripwood down as rail guides. The closure rails ride outside the guides (right) while the frog V rails ride inside the guides (on the left).

My frog jig is a piece of 1x4 with some pieces of stripwood attached as rail guides.

Play the video (below) to see me scratch build a #6R turnout using these jigs. Check it out!



Unsoldered frog in my #6 frog jig.



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*Text continued from page 27.*

is out of the question – the Tortoises would obstruct the helix tracks. The answer is to mount those two Tortoises above the roadbed. The installation won't be seen, except by people looking at the helix junction through an access port.

I link the top mounted Tortoises to the turnouts using a piece of 1/4"x.020" brass stock and a piece of wire (figures 23 and 24).

The other turnout in the helix junction has access room below it but not much above it so I chose more traditional under-the-roadbed mounting for it.

At this point, the Tortoises and track are ready for wiring and testing.

## Next time

The next installment of Up the Creek will include the further adventures of South Jackson roadbed installation and wiring the helix junction.

The helix junction (see figure 25 on page 28) is a reversing section. The main staging area is also built on a reverse loop. I'll be using those 4-pole double throw (4PDT) relays to set track polarity depending on turnout positions.



**Reader Feedback**  
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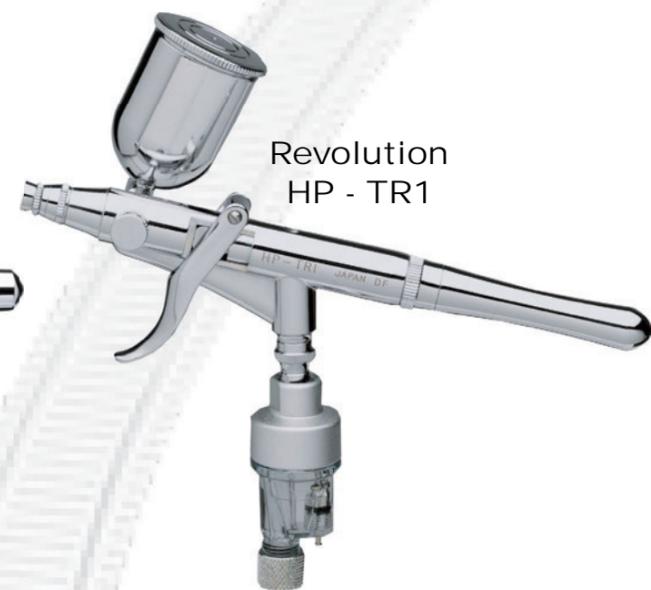
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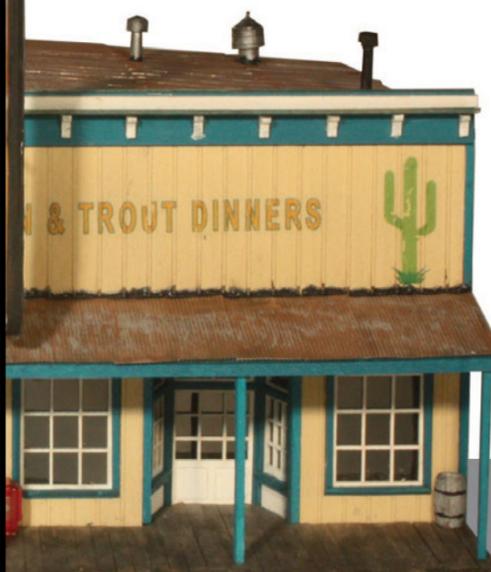
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# DCC Impulses: HO Scale Diesel Installation Examples

## How to Get Your Diesel Running on DCC



### About our DCC columnist



**Bruce Petrarca** is a well-known expert on all things DCC.

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

### Non-sound installations ...

**A**re you a PowerCab user or are you thinking of buying one? Check out this month's SMP sidebar for tips on connecting your PowerCab (see page 39).

In the April 2012 column ([model-railroad-hobbyist.com/magazine/mrh-2012-04-apr/dcc\\_impulses](http://model-railroad-hobbyist.com/magazine/mrh-2012-04-apr/dcc_impulses)), I did an extravaganza of N scale installation examples. The response was heartwarming.

So, in the same vein, let's look at the most popular scale, HO.

These will not be step-by-step installation guides, but rather, an example of how things have been done successfully. Once you know your final target, you can frequently find step-by-step guides on the web.

I will refer to tools and supplies previously discussed in my columns, mostly in January 2012 ([model-railroad-hobbyist.com/magazine/mrh-2012-01-jan/dcc\\_impulses](http://model-railroad-hobbyist.com/magazine/mrh-2012-01-jan/dcc_impulses)).

Some HO scale loco installations require so much work that I will not cover them here. They may get a

column of their own in the future. HO locos such as:

- Kato NW2
- Life-Like Proto 2000 PA units
- Life-Like Proto 2000 S-1 series

I covered the general concepts to install DCC in Athearn blue-box locos in the February 2012 column ([issuu.com/mr-hobbyist/docs/mrh12-02-feb2012-01?viewMode=presentation&mode=embed%pageNumber=49](http://www.model-railroad-hobbyist.com/mr-hobbyist/docs/mrh12-02-feb2012-01?viewMode=presentation&mode=embed%pageNumber=49)).

Here we go – this time in HO, again in alphabetical order:

### Athearn CF7

Installing a decoder into the Athearn RTR locos seems to be pretty straightforward: a simple JST style 9-pin plug-in swap.

Not so fast.

Some of the boards for these locos were not properly etched. In the highlighted section of figure 1, there is a place where the motor trace touches the rail trace.

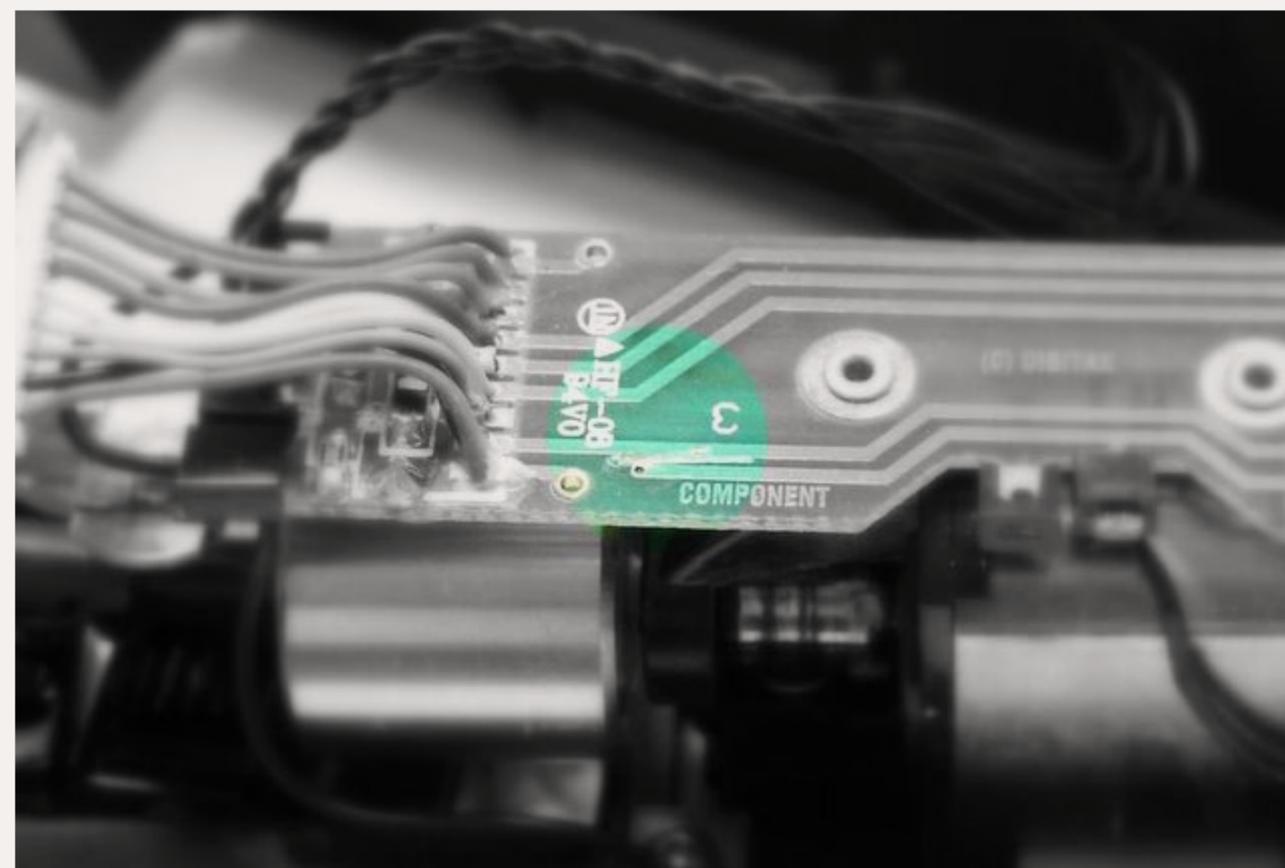


Figure 1: Athearn CF7.

If you simply plug a decoder into this loco, you will have a motor to rail short. Such shorts are frequently fatal to decoders.

I carefully inspected the board for visually obvious shorts. When I found one, I used my hobby knife with a #11 blade (I prefer Excel to X-acto – sharper blades) to carefully slice between the traces as shown in figure 1. Once my buzzer showed no rail to motor continuity without the decoder or jumper board installed, I could continue the installation. Had I been able to see the shorts, I would have tested with my buzzer, as discussed later in this column, before plugging in a decoder.

I plugged in the 9-pin JST style decoder.

*If I were to do this installation today, I would do it exactly the same way.*

## **Athearn RTR GP60M**

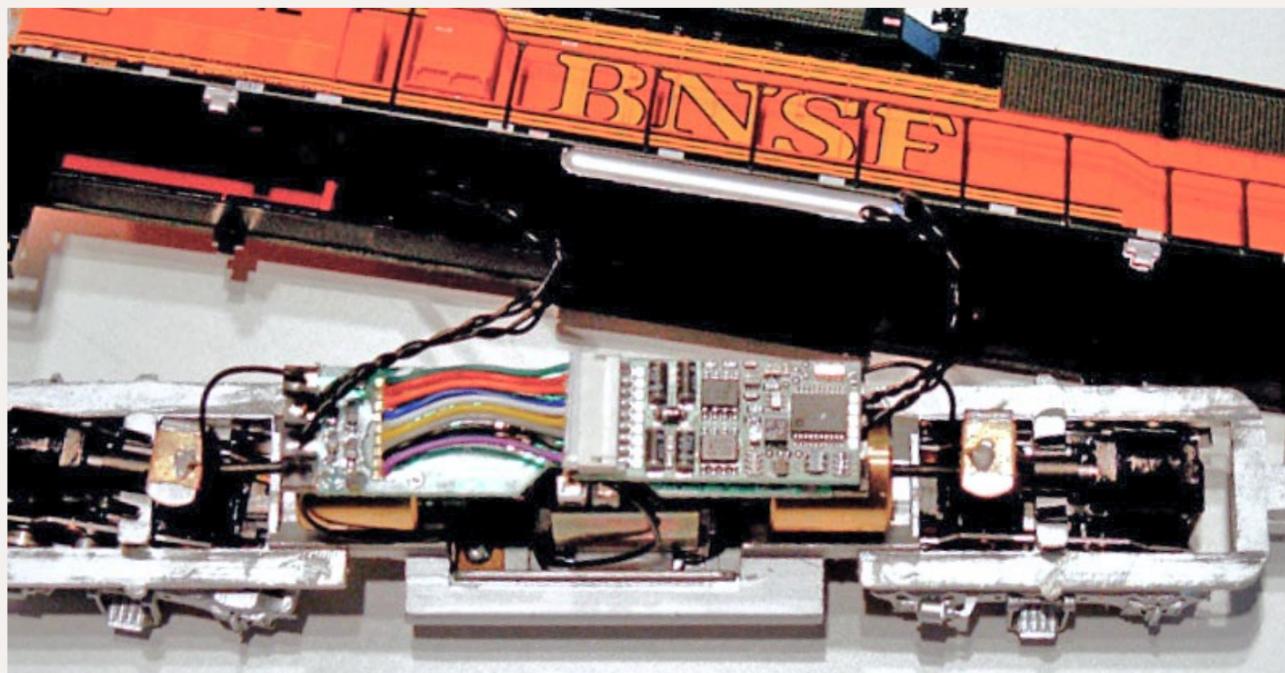
The GP-60M shown in figure 2 has no such issues.

After opening the loco, I removed the JST jumper. As a precaution, I used my buzzer to verify that the rails (red and black) were not connected to the motor (orange and gray); and plugged in a Lenz LE-1024 decoder.

*If I were to do these installations today, I would do it exactly the same way. Any 9-pin JST style decoder will just plug in this way – check for clearance between board and shell*

## **Atlas S2**

The S1 to S4 locos are popular switchers and Atlas makes a workhorse model.



**Figure 2: Athearn RTR GP-60M.**



**Figure 3: Atlas S2.**

The Atlas S series switchers are much more DCC friendly than the Life-Like Proto 2000 units. However, they still need to have the motor isolated from the frame.

The NCE ATL-S4 decoder was designed to work into these locos with a minimum of fuss. But it is a full-wired installation.

I just followed the NCE directions for this installation. These instructions included the steps necessary to isolate the motor from the frame. NCE's kit even includes a plastic motor-mount screw.

Be very careful to follow the directions exactly, especially when is playing the motor.

While there may be less expensive ways to get a decoder into this loco, I recommend one of the decoders specifically designed for it.

*If I were to do this installation today, I would use the NCE ATLS4 or the new TCS AS6.*

## **Bachmann GP30**

This split-frame loco comes from Bachmann with a light board spanning the length of the loco.

I removed and discarded the light board and lights. I then disassembled the loco and installed motor wires that were insulated from the frame – orange for the tab that contacted the

right frame half and gray for the one that contacted the left. The goal here is to isolate the motor connections from the frame.

I used a Dremel cutoff wheel to cut small channels in the frame to provide clearance for the wires coming from the motor. You can see them on the side of the frame in figure 4. The wires are held in place with Kapton tape.

I prepared two LEDs, as detailed in the March column and video ([model-railroad-hobbyist.com/magazine/mrh-2012-03-mar/dcc\\_impulses](http://model-railroad-hobbyist.com/magazine/mrh-2012-03-mar/dcc_impulses)).

Then I wired a Lenz LE1024W decoder to the motor leads, the frame halves and the LEDs. I selected the (now discontinued) LE1024W, as it was one of the thinnest HO-scale decoders on the market at the time.

*If I were to do this installation today, I would do it very similarly. My current choice of decoder would be the TCS A4X. It provides very good motor control and is as thin as the Bachmann*

*light board. Check for clearance between frame and shell.*

## Kato RS-2

At last, here is a fairly simple, drop-in decoder installation.

All the major decoder folks make the “integrated plug” style decoder, used here: Digitrax, Lenz, NCE, SoundTraxx and Train Control Systems.

I have not seen the quality problems with this Kato board that have plagued some of the locos mentioned earlier in this column.

This installation was as simple as removing the shell, pulling out the 8-pin jumper plug and plugging in a Digitrax DH163IP decoder.

*If I were to do this installation today, I would do it exactly the same way. Note: There are both standard and UK version decoders available. There is a 90-degree difference in the plug orientation between them. Do not*

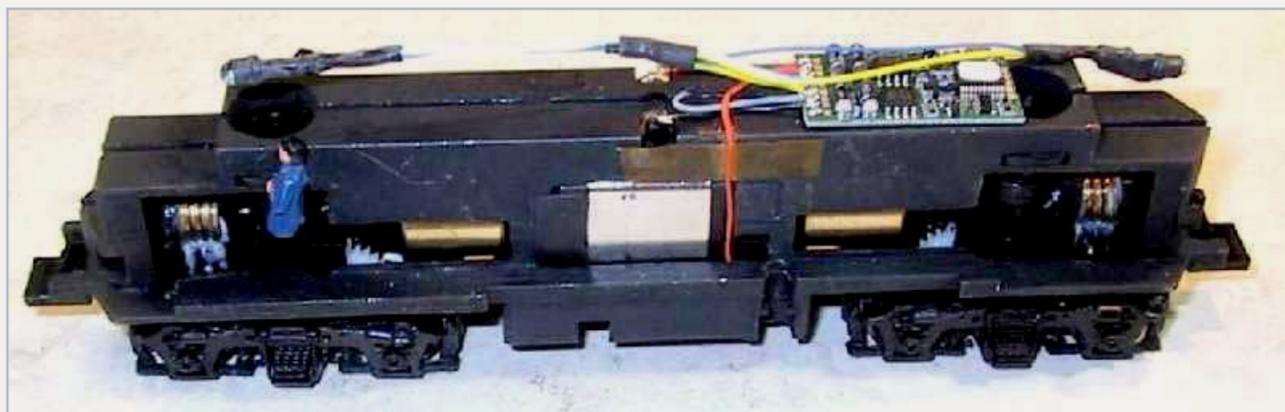


Figure 4: Bachmann GP-30

*use the UK oriented decoders for this installation.*

## Life-Like Proto 1000 (early)

The Life-Like Proto 1000 locos were one of the earliest “DCC aware” locos available.

Figure 7 (next page) shows a top view of the original board. A white X is silk-screened at three places on the board. Cutting the printed circuit trace (wire) at these locations will isolate the motor and lights.

The installation was one of the most straightforward of the early “DCC aware” locos.

I removed the shell and then cut the traces on the board with an Excel knife equipped with a #11 blade at the marked spots. For safety, I used my buzzer to verify that I had cut through the trace.

Then I wired a JST (9-pin) harness to the six eyelets on the rear of the board with the following color code:

- P1 – Orange
- P4 – Black
- P5 – Gray
- P6 – White
- P7 – Blue
- P8 – Red

Now, you have a “DCC ready” loco. Any 9-pin JST style decoder will plug right in. Figure 6 (next page) shows a Digitrax DH163 decoder installed.

Newer Proto 1000 units seem to be “DCC Ready” – just plug your decoder in.

*If I were to do this installation today, I would do it exactly the same way.*

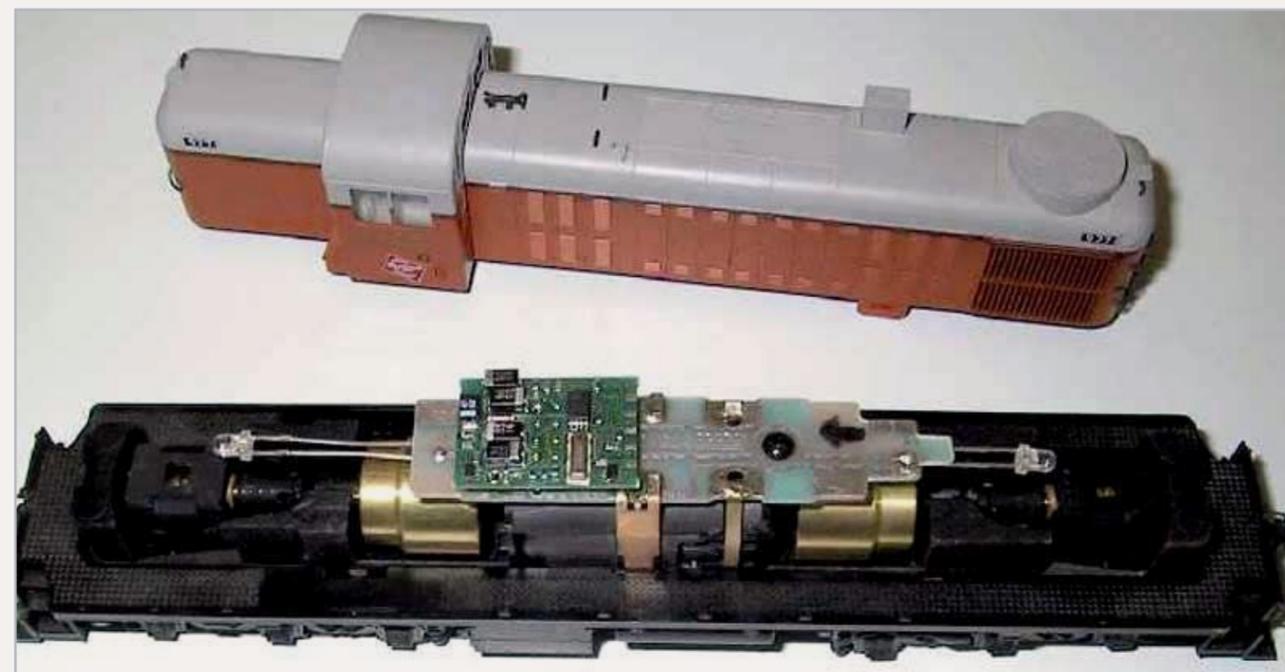


Figure 5: Kato RS-2

## Life-Like Proto 2000 Cab Units

Whether they are E8/9 A units, or E7 A units these are nice running locos: strong, heavy and smooth. My major complaint is the “flick-flick” attempt to

emulate a Mars-light on the appropriate models. Sorry, it just doesn't look like what I want on my railroad.

The 1990s vintage PA units are a DCC installation challenge unto themselves due to excessive motor current. This

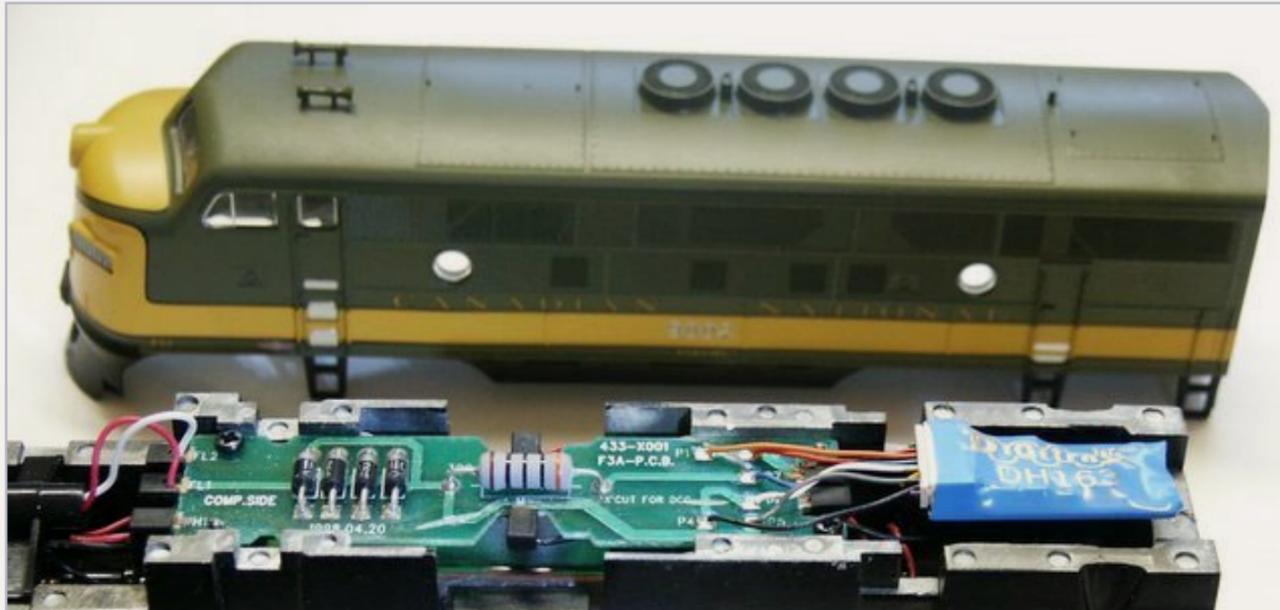


Figure 6: Life-Like Proto 1000 (early) – overview.

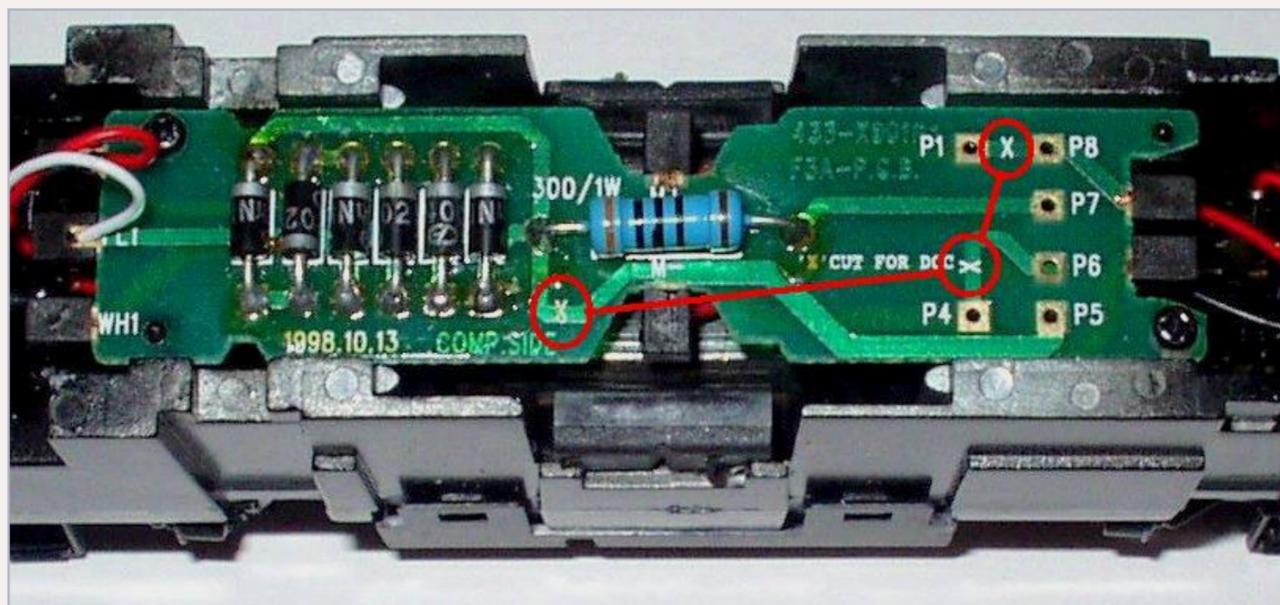


Figure 7: HO scale Life-Like Proto 1000 (early) – board detail with X's.

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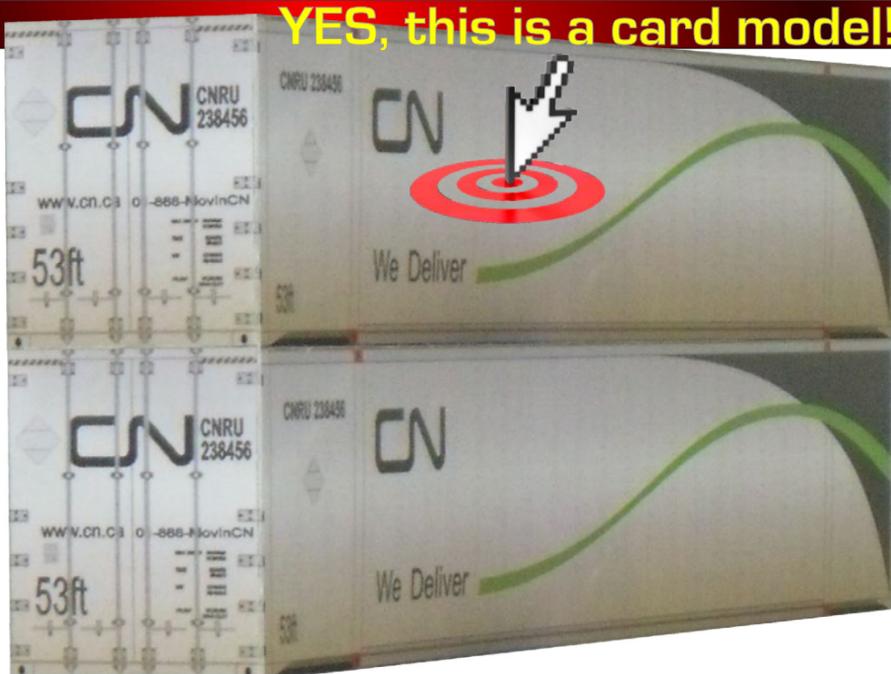
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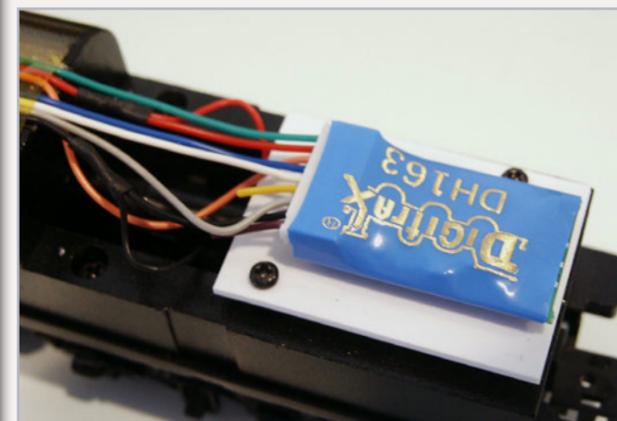


Figure 8: Life-Like Proto 2000 Cab Units – decoder mount.

installation won't work for them without a motor replacement.

Let your DCC decoder generate the Mars-light effect for you. I showed a LED equipped loco with the Mars-light effect enabled in a video with a prior column here in MRH ([youtube.com/watch?v=HvyyttLXagE](http://youtube.com/watch?v=HvyyttLXagE)).

Here's how I did a circa 1995 model.

First I removed all the Life-Like lighting and electronics. When I was done with this, all the wiring left in the loco

was connected to either the motor or to the trucks.

I made a mount out of styrene over the rear truck, as shown in figure 8. It is held down by the screws that held down Life-Like's PC board. White styrene was used for the photo, as it shows up easier – I would use black for a customer's installation. I installed a Digitrax DH163 decoder on that shelf with carpet tape.

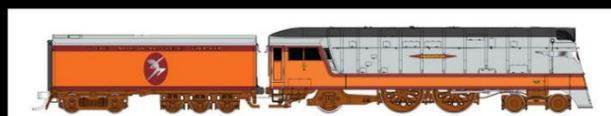
Then I built an assembly of two Sunny White LEDs, with the anode (long)

leads connected to a blue wire, as shown in figure 9. A white wire was connected to the cathode (short) lead of the LED that will be in the lower position (a bit toward the rear of the loco, too). The upper LED got a yellow wire on its cathode (short) lead.

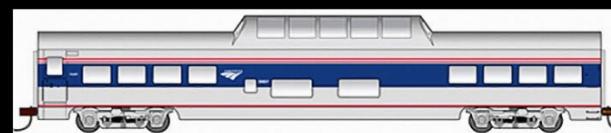
The LED assembly was mounted in place of the Life-Like bulbs, as shown in figure 10 (next page). The upper LED is shrouded with shrink tubing to reduce the bleed over between lights as seen from outside the shell.

The final wiring is straightforward. I connected the red and black decoder wires to the red and black truck wires. The orange decoder wire got connected to the red or orange motor wire (the color scheme varies between runs). The gray decoder wire was connected to the other motor wire.

The LEDs were connected to the decoder – matching colors as I went – and I added 750-ohm resistors in series with the white and yellow leads.



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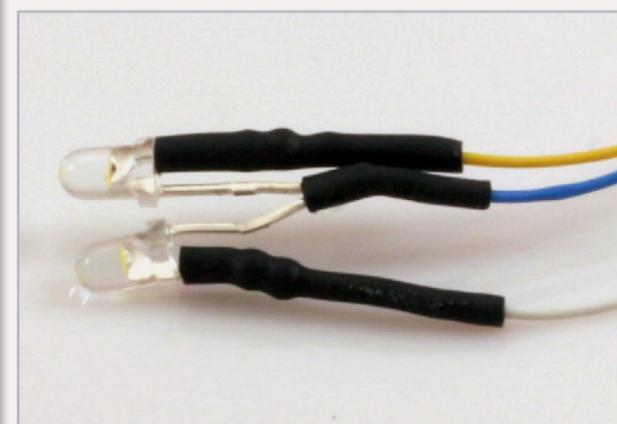


Figure 9: Life-Like Proto 2000 Cab Units – LED assembly.

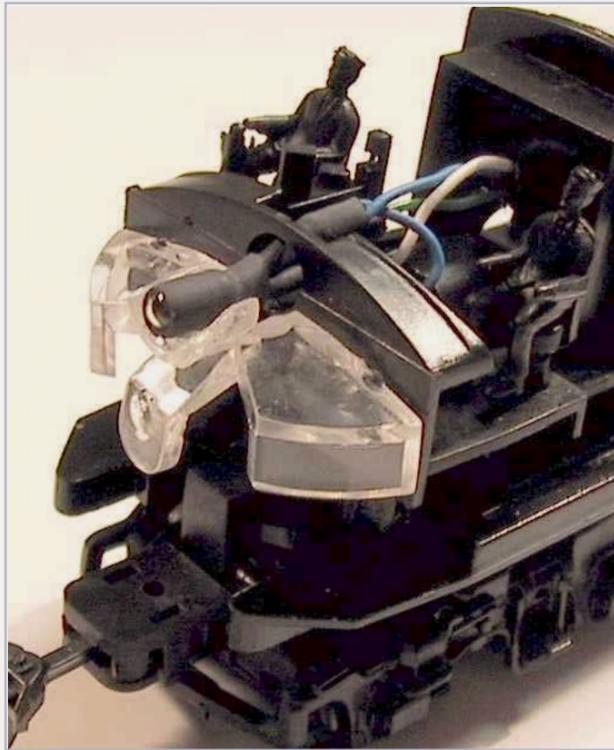


Figure 10: Life-Like Proto 2000 Cab Units – Mars light mount.

All that was left was for me to program the yellow wire to light up going forward and have a LED Mars-light function emulated. This programming varies among decoder manufacturers. I recommend DecoderPro for the task. All you have to do is tell it what you want and it figures out which CVs need to be changed.

*If I were to do this installation today, I would do it exactly the same way.*

### Life-Like Proto 2000 GP's and SD's

Life-Like sold several versions of these popular locos in the 1990s. They had numerous designs for the light boards. The good news is that, if they

are still in the original box, it is easy to see which version of the light board you have, as the shell is not installed.

While there are external differences between the GP7, GP9, SD7 and SD9, the interior of the model is virtually identical for a given production run.

The SD7 in figure 11 is typical of one run, which included the 8-pin NMRA compliant socket.

This was truly a “plug-n-play” installation. The Life-Like board even took care of the conversion to 1.5 volts for their bulbs.

These locos are notorious for cracking the gears on the driven axles. It seems as if the molded plastic gears are not

strong enough to take the expansion of the metal axles imbedded in them.

So, I plan on (and price into my installation budget) replacing the gears with the machined Delrin gears from Northwest Short Line (53-21946). Yes, they are pricey.

There are lots of stories about other options, but I like to fix things once and have them stay that way. I've never seen a NWSL gear crack. And they are smoother and quieter running than the Life-Like or Athearn plastic gears.

*If I were to do this installation today, I would use an Atlas-style light board decoder and replace the Life-Like*

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bulbs with LEDs. The bulbs seem to have a fairly short life and changing them out for LEDs makes for a long-lived loco. This total-replacement installation will work with any of the various "versions" of these locos, not just the version shown here.

## Motor Isolation

Sharp-eyed readers will notice that I rarely talked this time about "motor isolation." Why? Most of these locos have the motor isolated from the frame or the trucks, as they come.

If you have any questions about whether the motor is isolated on the specific unit you are working with, I recommend that you prepare the loco for the installation. Just before you wire the decoder, or plug it in, test between a motor lead and each set of wheels. There should be no continuity – the buzzer won't buzz or the ohm-meter reads infinity. Any other outcome is your signal to dig deeper and

find out what is happening, before you smoke a decoder.

We'll start on sound installations in a column in the near future.

Meanwhile, keep having fun and post any questions or observations on the blog by clicking on the READER FEEDBACK link below. While you are there, please vote for this column. Your votes have kept my column in the top five for every one of the first seven months that I have been writing the column. Thanks.



Figure 11: HO scale Life-Like Proto 1000 (early) – board detail.



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## SMP\* from Mr. DCC – NCE PowerCab Connection

One of the most popular DCC “starter sets” is the NCE PowerCab. Inside the front cover of the NCE manual is a drawing that shows how to connect the hand unit to NCE’s Power Control Panel (PCP). However, sometimes

folks seem to have a hard time making sense of the drawing. Here is a more graphic representation.

A 6-foot flat cord is supplied with the PowerCab. NCE offers an optional

12-foot cord. To avoid problems with your system always use a genuine NCE flat cord, either the 6-foot or the 12-foot version. The system was designed to balance the PowerCab, the supplied power supply and either

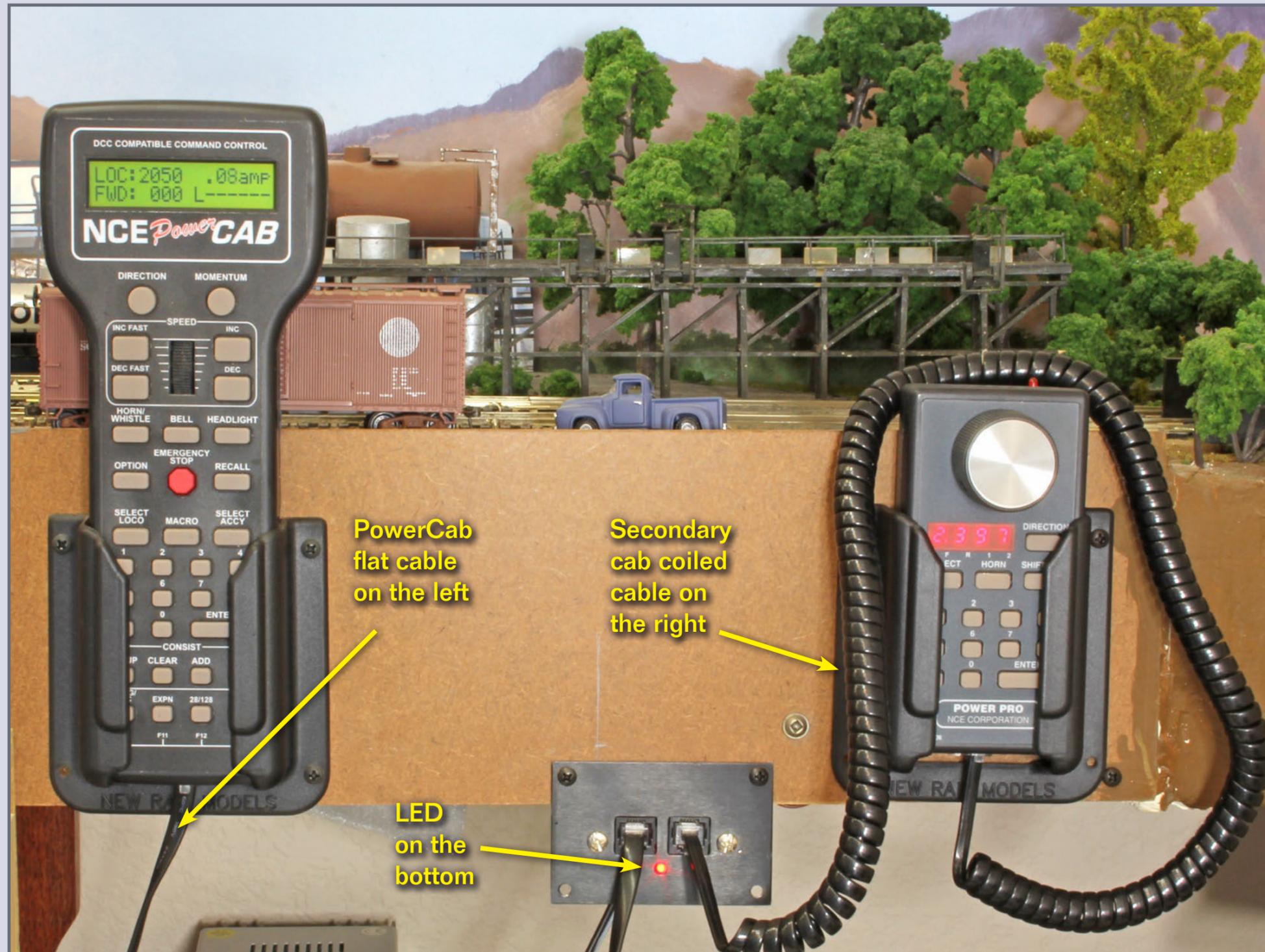
of the NCE cords into a safe and easy-to-use unit.

Orient the Power Control Panel on your layout with the LED on the bottom and plug the flat cord into the left socket and leave it there. This is the connection between your PowerCab system and the track. If you unplug the PowerCab, everything will stop. There will be a delay while the system comes back up when you plug the PowerCab back in.

A secondary cab or radio base unit can be plugged into the right socket or the rear socket of the PCP. Universal Throttle Panels (UTP) can be daisy-chained off the rear socket so you have a place to plug in with the secondary throttle as you move around the layout. I recommend only genuine NCE UTPs.

The photo shows the PowerCab on my layout plugged into the PCP with the flat cord on the left. A Cab-06 with the coiled cord is plugged in on the right. The cabs are resting in a pair of New Rail Models (501-40020) throttle pockets. I especially like the throttle pocket for the PowerCab, as it keeps folks from setting the PowerCab on the layout or dropping it when they are using the other cab to run a train.

\* SMP comes from the Amtrak world and is short for Standard Maintenance Procedure. ■



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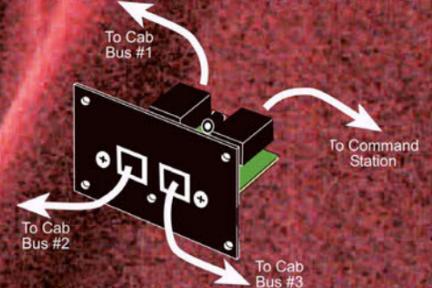
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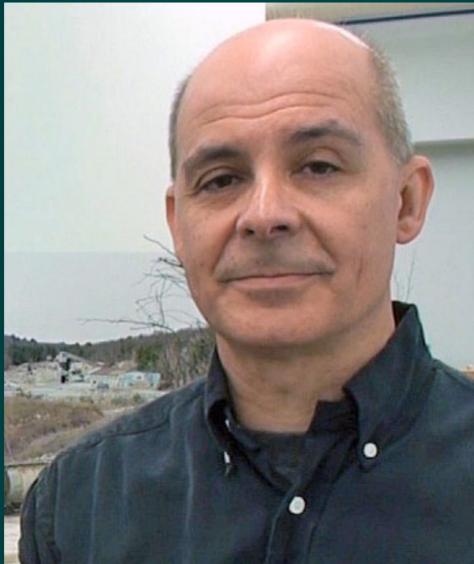
*The Power of DCC*

## Did You Know?



You can use a UTP panel as a three way "Y" splitter and go two or even

## About this issue's prototype modeling columnist



Mike Rose has over 70 published articles in the hobby magazines, and has contributed photos and essays to a number of prototype and modeling books. Mike's a regular on the Prototype Modeling Meet circuit, giving clinics on a variety of model railroading topics.

Mike's also the owner of Mike Rose Hobbies ([mrhobby.com](http://mrhobby.com)).

Photos and illustrations by the author unless otherwise credited.

# GETTING REAL: Showing Progress on Big Structures Adventures in Prototype Modeling

Staying motivated enough to keep making progress on the layout – at least *that was the plan ...*



I'm a project manager by trade, which comes in handy for building a layout. After all, what is a layout but a large, long, complex project to manage to completion, right? And although I delight in telling people that I haven't had a job since 1978, the fact is that I've been self-employed since that time. This has produced ebbs and flows of my time and revenue that somehow works for me, and complements my "sine-wave" style of working. By that I mean that I tend to work in furious spurts of activity until a complete collapse, followed by a period of regrouping my forces, only to have it start all over again. Out of necessity, this often mirrors outside work responsibilities.

Anyone who is on my layout update list knows that from about September 2011 until the end of January 2012, I was on an amazing tear. During that time the new peninsula went from benchwork and track all the way to

finished Scenery Stage 1. The building mock-ups that I made out of cardboard quickly evolved into largely finished structures.

Suffice it to say that it was the longest period ever of sustained layout-building productivity for me. Then the phone call came...

I was offered another project to manage at a former client, but I had to start almost immediately. I hesitated at first since I hated to lose my layout momentum. Then I remembered that pesky bill-paying thing and quickly accepted the position. But this time I was determined to continue progress on the layout, somehow, somehow.



Figure 1A: The building is upside-down on my table saw, which is a nice flat, true surface. I'm gluing the roof to the building. The paint cans are weights while the glue sets. This view nicely shows the internal siding loading dock doors, the cement block walls along the siding, and the interior roof bracing over the tracks.

## Week 1

I managed to come home from work each night and do something on the layout, in this case, involving the continued construction of the Mehoopany, PA, Procter and Gamble manufacturing plant and warehouse buildings.

As you may recall from previous columns, this plant was a major consignee for Lehigh Valley and then Conrail, producing at one time 100 outbound carloads a day and receiving countless in-bound shipments of raw material. This new facility and peninsula on my layout is designed to be the signature

traffic generator. It is also destined to be the one operations job that people will have to draw straws to see who gets the assignment.

Since the work consisted of numerous steps such as gluing walls together and letting them set up, painting parts, installing the painted parts, modifying the walls with certain openings, and final application to the building cores, it lent itself very nicely to the iterative “do something every day” process. By end of Week 1, the project was ahead of schedule and I was pleased with the

*Text continues on page 49.*



Figure 1B: An upside-down view shows the outside of the building. The white areas are to be covered with “galvanized” metal siding.

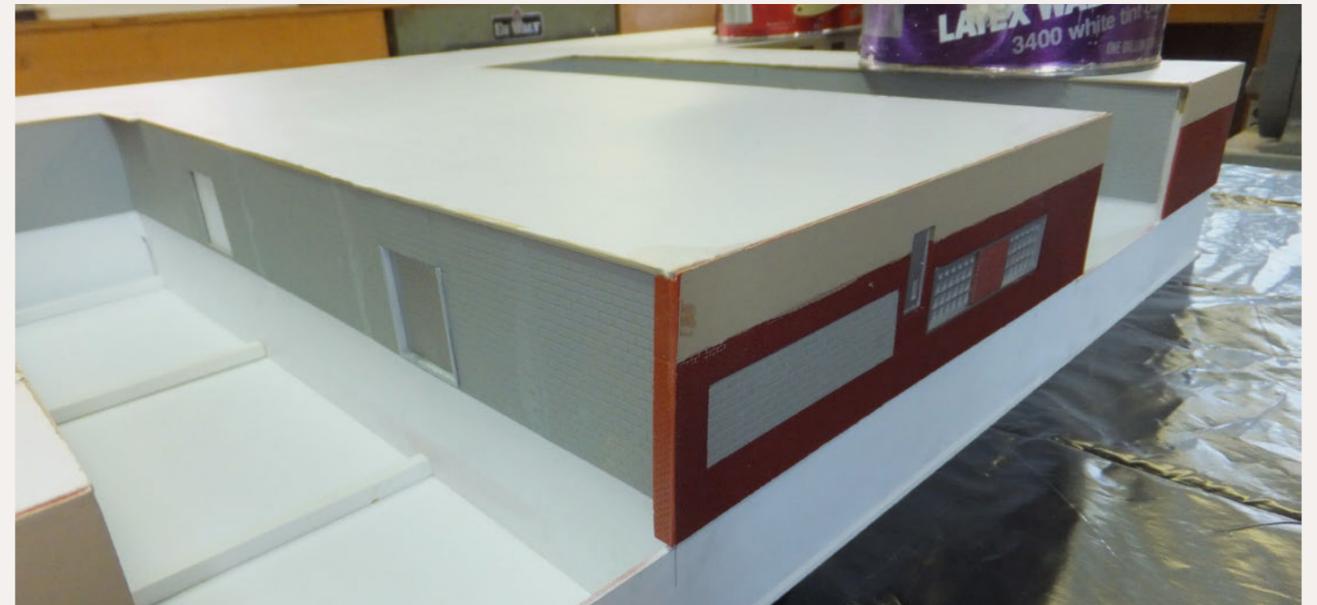


Figure 1C: Trimming of the internal track loading dock doorways has been started. On the prototype there is a large roll-up door on each one, but I’m not modeling these because the doors will always be open.



Figure 1D: Using the table saw table again, I’m beginning to assemble the wall sections, cut from the Walthers Paper Mill kit. Here I’m using a jig to make a nice 90° corner. Plastruct Pro Weld liquid cement was used extensively.



Figure 1E: I have two table saws and used both for assembly! I'm getting ready to add styrene strip to the bottom of the corrugated metal walls, to represent the concrete foundation. Note the magnets inside the window openings to hold the siding in place.



Figure 1G: I cut down portions of the Walthers kit's taller walls to make the material shown above, since most of my building is one story high.



Figure 1F: More magnets are added to hold the siding in place. I'm getting ready to measure the white styrene strip to length before cementing in place. It's important to glue it with the siding good side up so excess cement does not melt the siding into the table top.



Figure 1H: The assembled track dock liners, built up from Pikestuff cement block material, are temporarily placed to check for fit and also to begin to determine the door locations.



Figure 1I: I decided to lengthen these two tracks, so the dock liner will need to extend beyond the existing track. You can see the close tolerances for the track and dock sides.

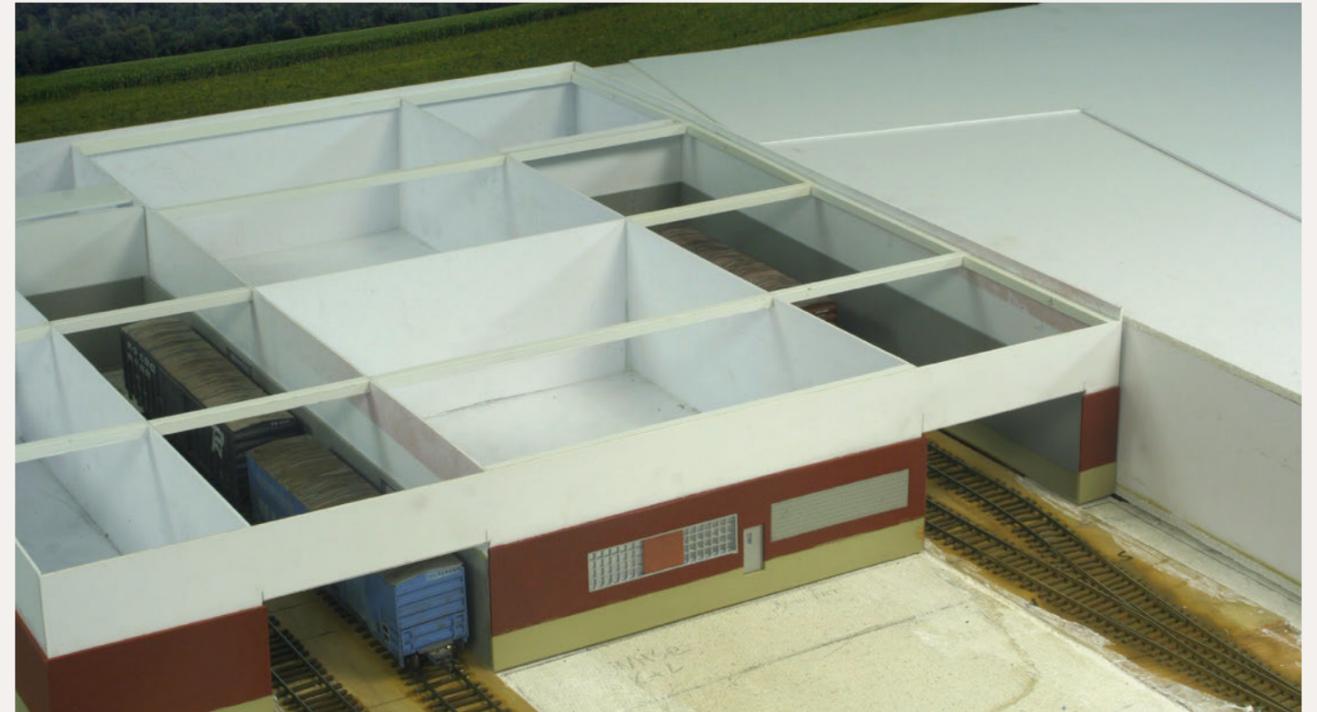


Figure 1K: Interior bracing used on the warehouse building insures that the roof will not sag and makes the entire building structurally sound.

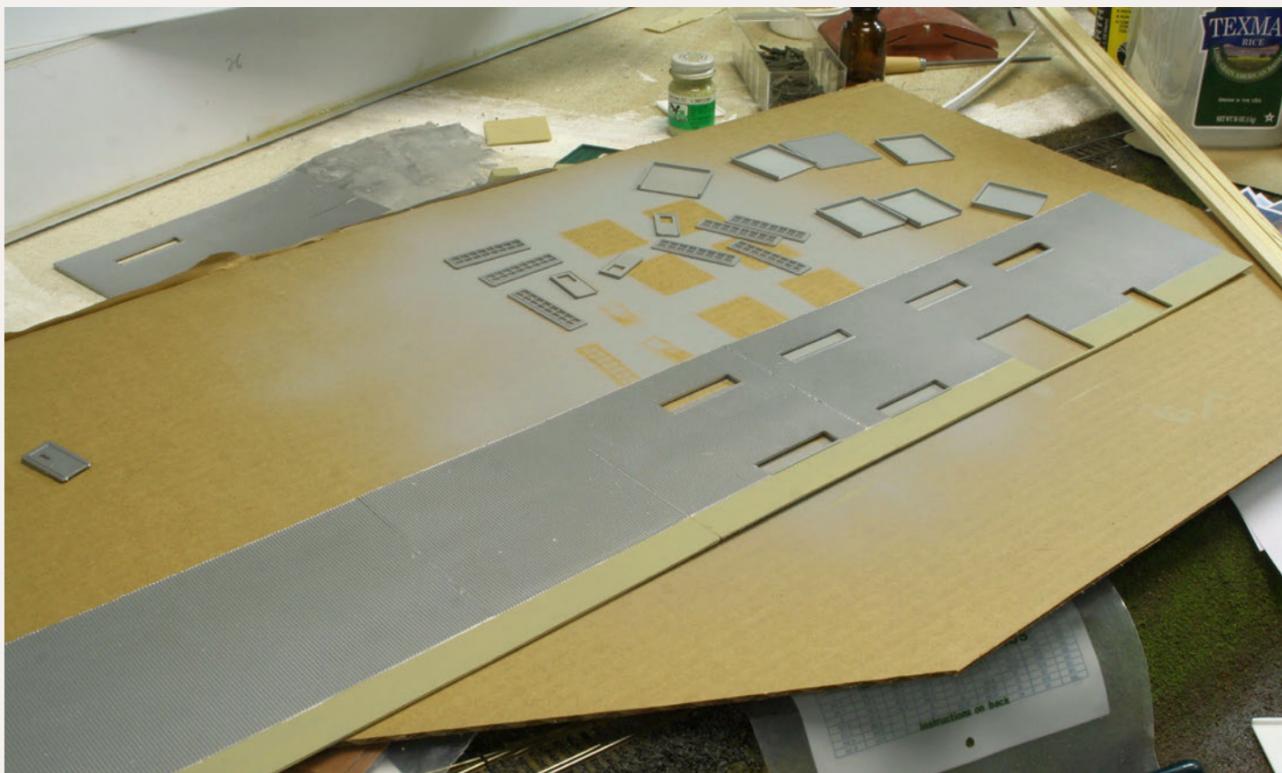


Figure 1J: The assembled left front wall of the manufacturing building is painted silver and the styrene below has been painted with PollyScale Old Concrete. The garage doors, windows, and "people doors" are sprayed prior to installation. This was done simply with a spray can, outside on a decently warm winter day.

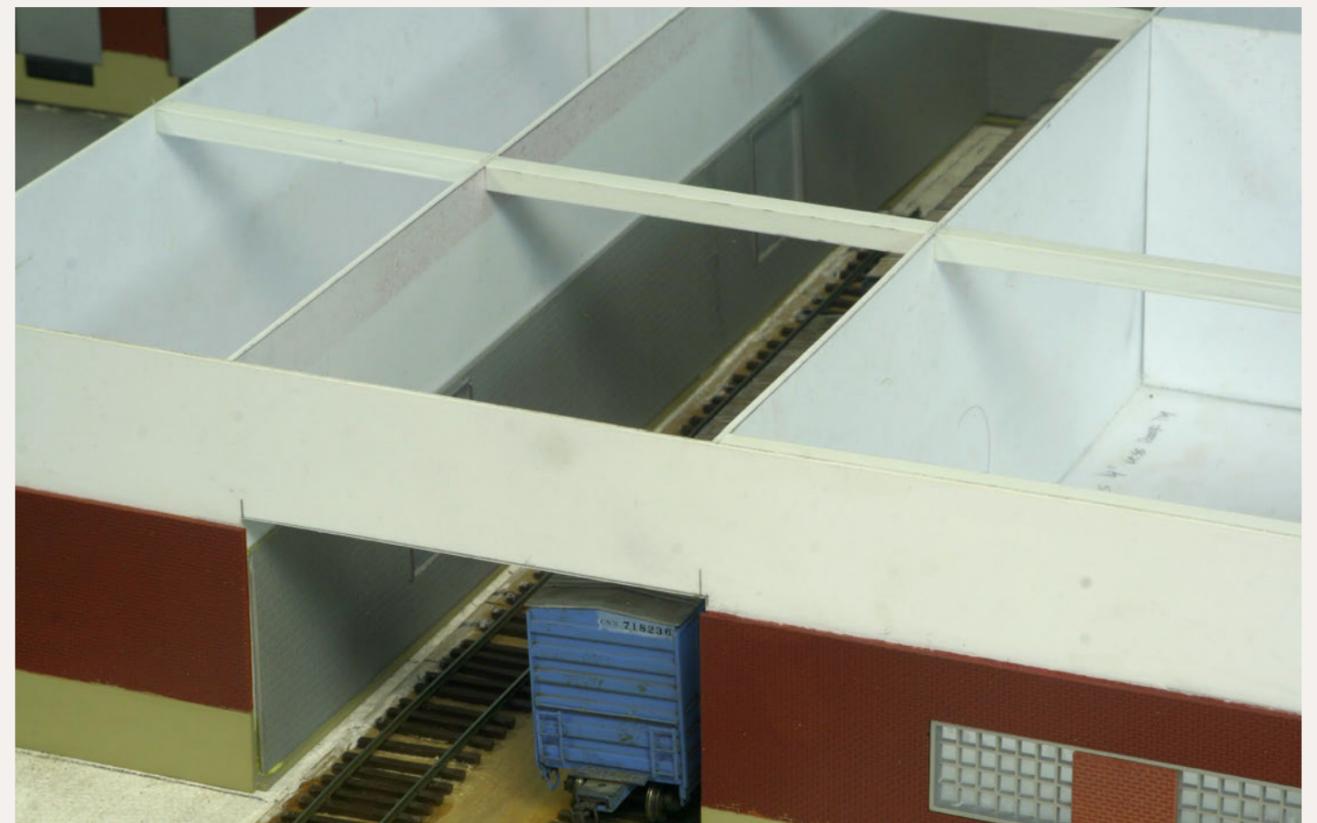


Figure 1L: A rail car gives some perspective to the internal loading dock and dock doors.

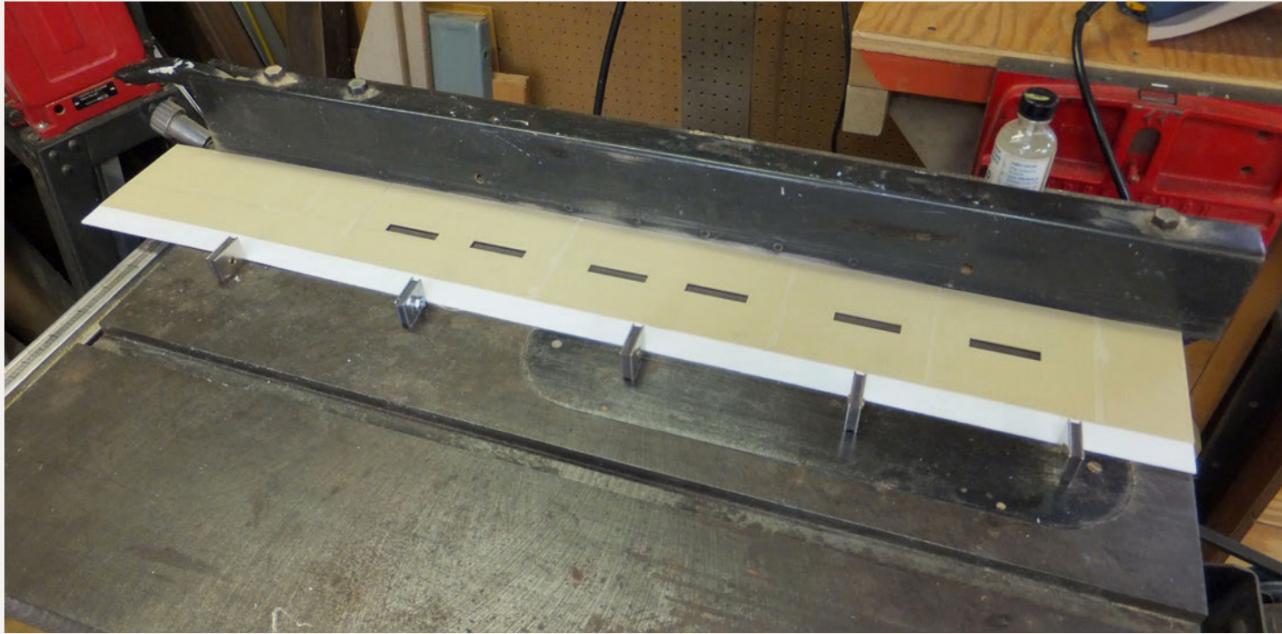


Figure 1M: Magnets hold the styrene “concrete foundation” in place for bonding with Pro Weld. Note that it’s already trimmed for length.

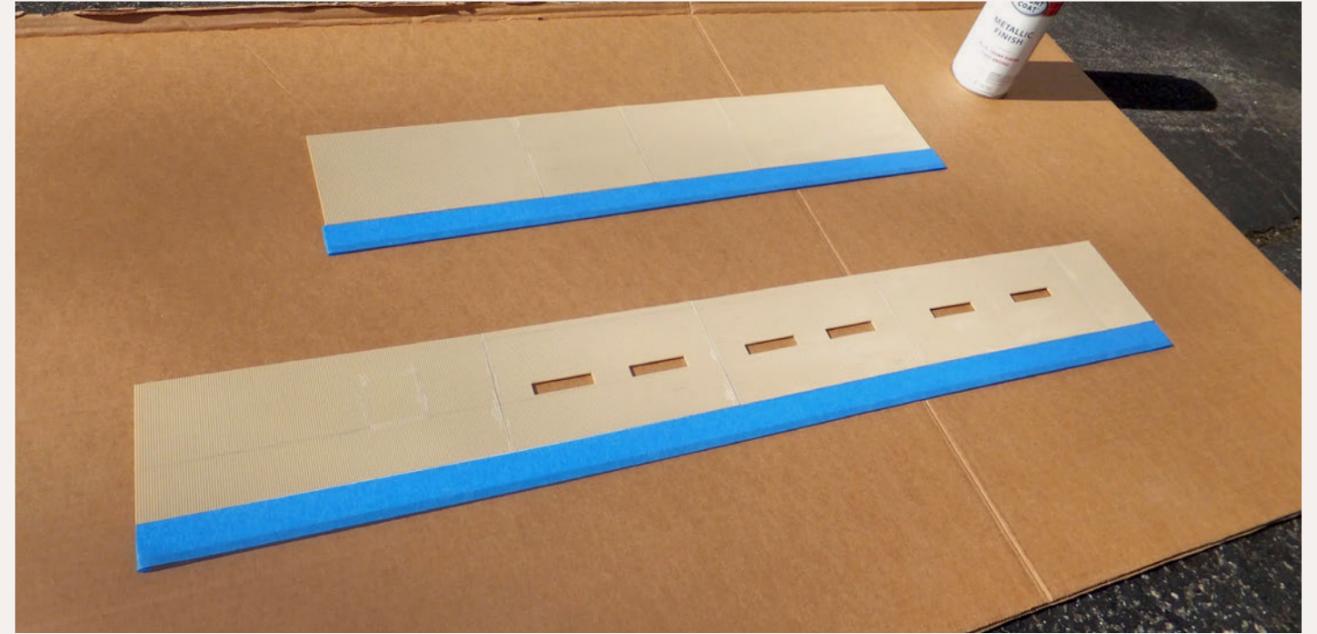


Figure 1O: The styrene portion of the assembled wall section is masked off prior to using Rustoleum Metallic Silver spray paint on the corrugated portion.

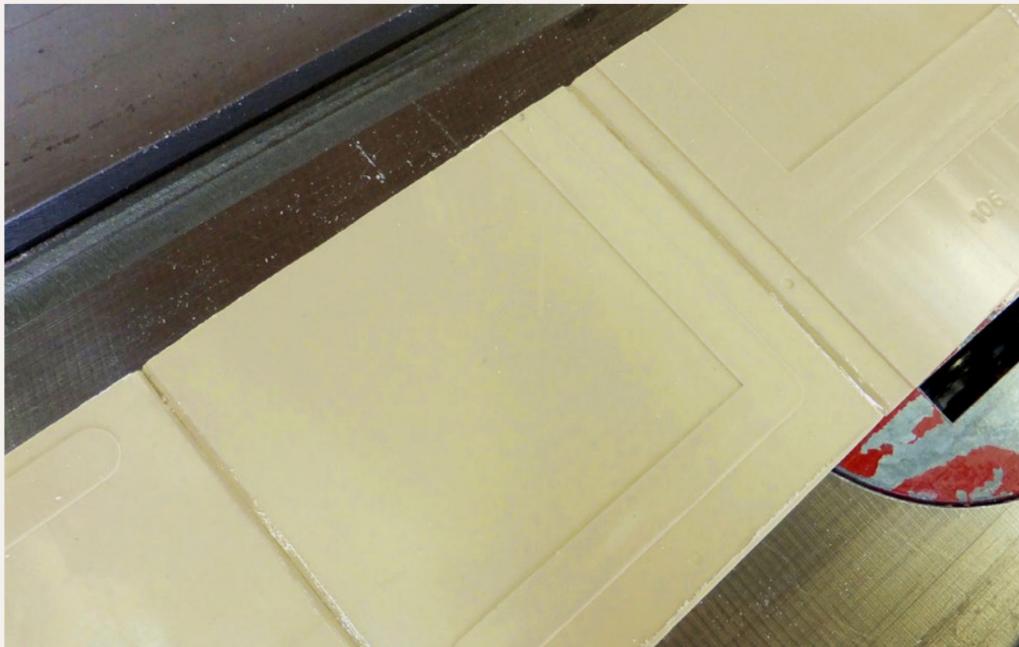


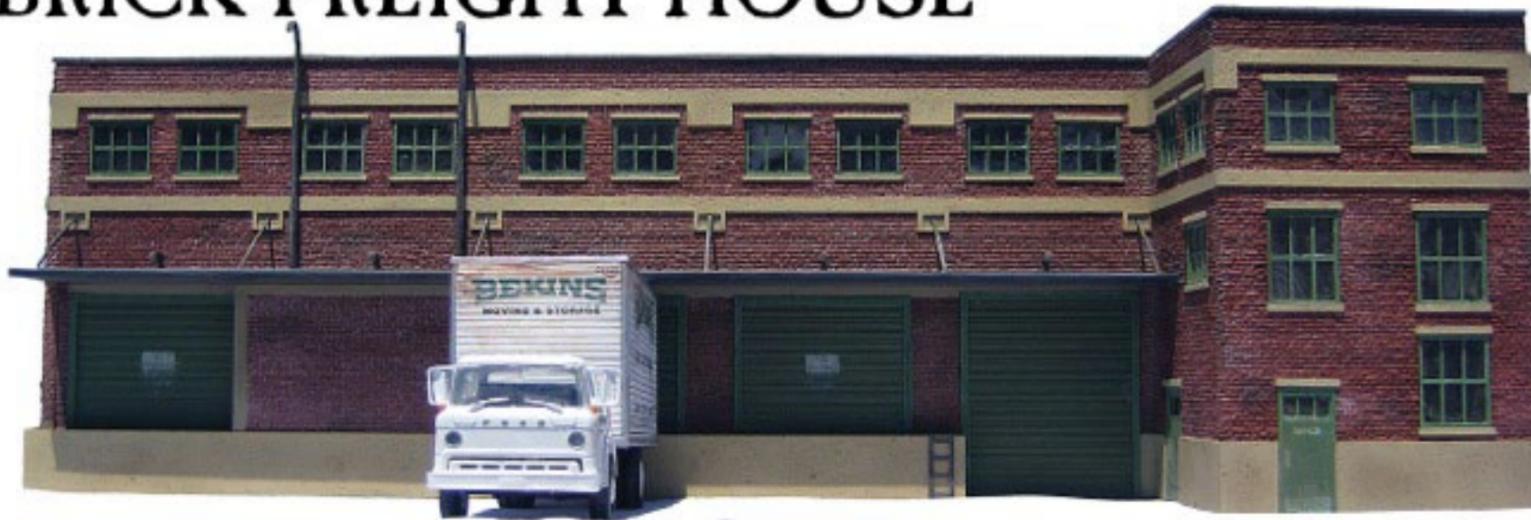
Figure 1N: In some cases I really needed ALL of the length of a panel and didn’t have the luxury of trimming off the angles Walthers designed in for 90 degree corners. So I butted them together after a quick true-up with a file and bonded them with Pro Weld. After they set up sufficiently, I turned the wall section over and filled the leftover trough with Cypox, followed by Activator. I quickly had a very rigid and firm wall section.



Figure 1P: Corrugated siding material has been bonded edge to edge. I’m cutting out the areas over the track dock entries to permit full height to the opening.

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←Figure 1Q: I'm getting ready to bond the corrugated siding in place. The massive scale of these structures forced me to re-think my usual building methods. Here the building is propped on a chair to allow me to work on each side face-up.

Figure 1R: The rear wall of → the warehouse building has been cemented in place with acrylic adhesive caulk. Since it faces the scenic backdrop and will hardly be seen, I chose not to add any detail other than painted siding and foundation.

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Figure 1S: This is the completed structure to date, with the corrugated upper façade in place and the exterior roof trim in place. Styrene angle stock was simply bonded to the walls and styrene roof with liquid cement.

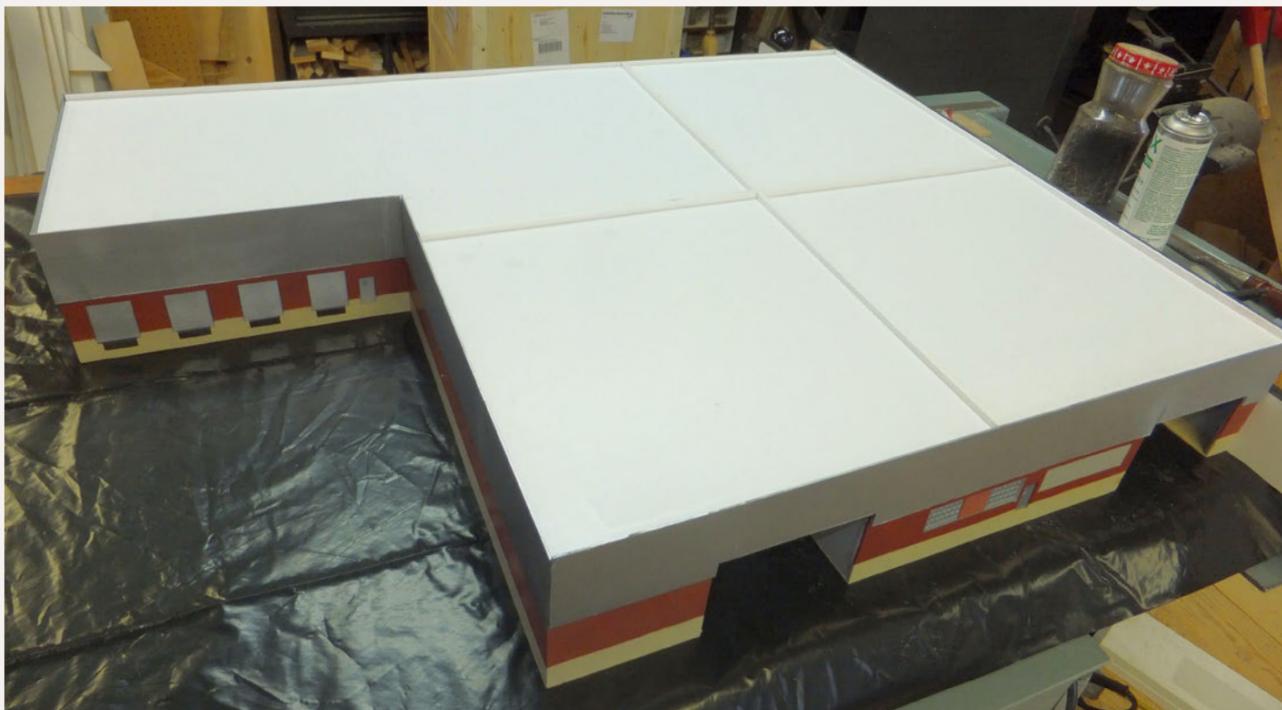


Figure 1T: The prototype structure has a number of roof divisions, and some of these were replicated on this structure with styrene channel stock.



Figure 1U: I couldn't resist trying the structure in place and taking a low-angle shot to see how it looked with scenic backdrop. "So far so good", I thought. Ultimately the structure will be "planted" into the ground with paving and or ground cover brought right up to the foundation to conceal any gaps. Vertical siding seams will be hidden with downspouts. This view shows a combination of factory as-is walls and walls constructed with Walthers matching brick sheet material and styrene. I can't tell the difference, can you?

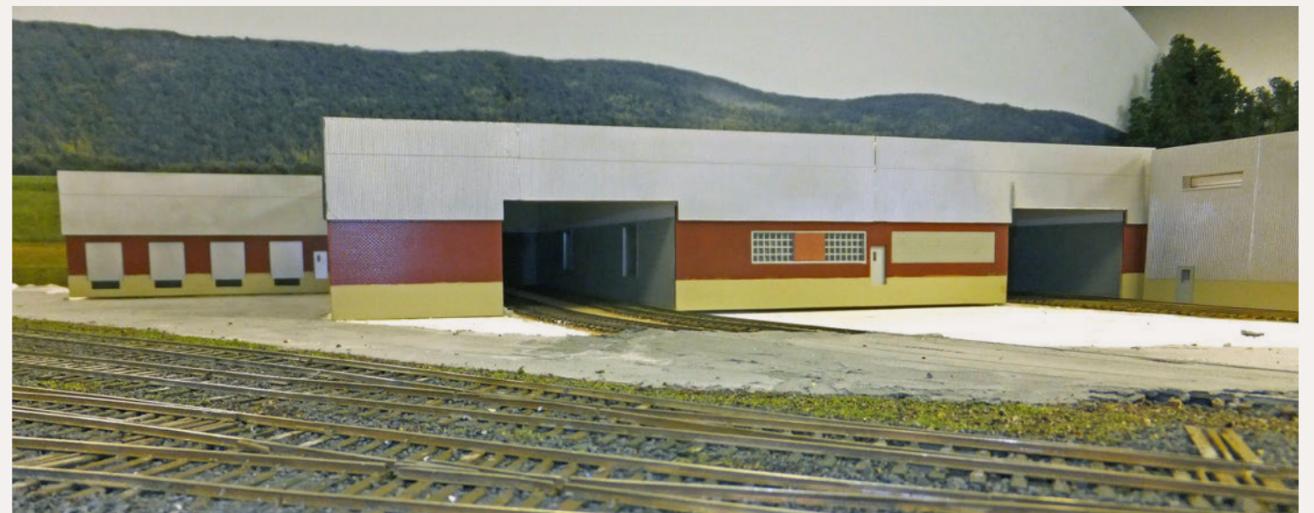


Figure 1V: The warehouse complex in a low angle shot from the front, taken with the camera in West Yard.



Figure 1W: I used my wide angle hand held point & shoot camera to get the entire complex in one frame, very difficult to do with a normal lens due to the lack of sufficient aisle space. You can see how massive this complex is!

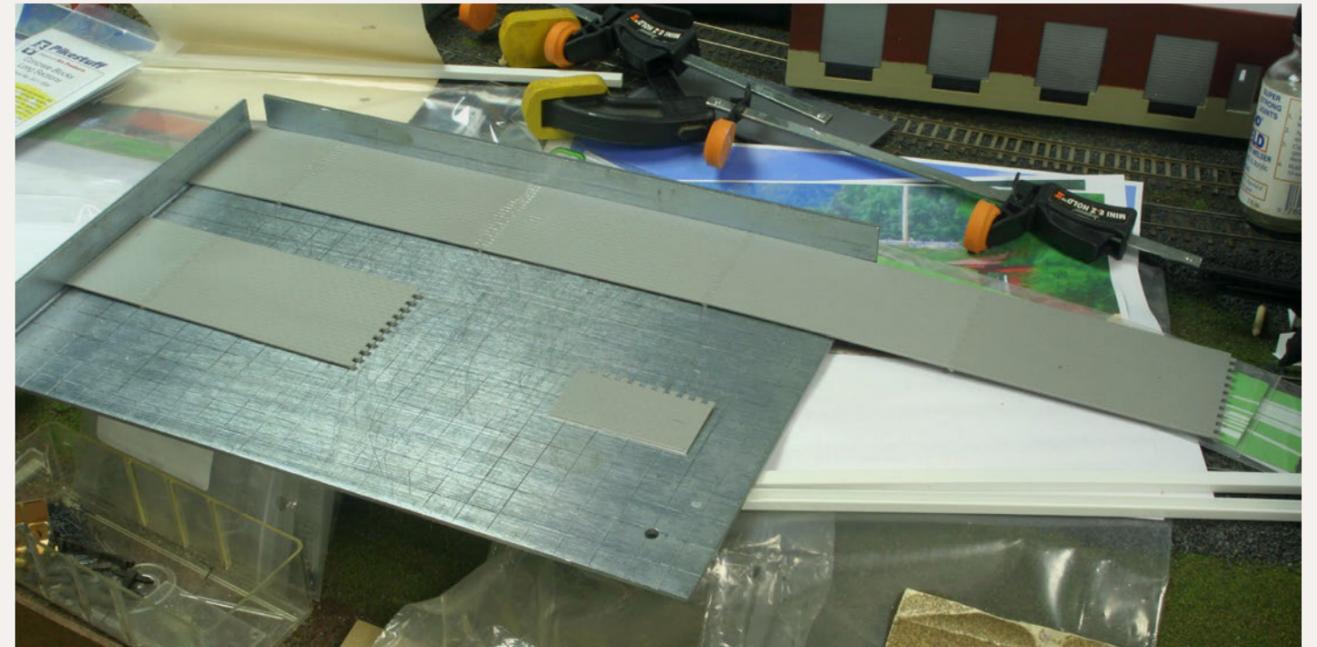


Figure 1Y: I constructed the liners for the interior track loading docks using jig plate, extremely handy for flat and square joints.



Figure 1X: The manufacturing building is in the process of having its siding bonded to the building core, in this case constructed from Gatorfoam Foam Board.



Figure 1Z: To mark the loading door locations for the interior sidings, I first put boxcars in place and used a square to mark the door locations on the ground (see the pencil marks, paired). The right hand long mark indicates the building front. Then I used the same square to transfer the marks to the siding material for the side cuts. The bottom cut was carefully determined using dividers off the actual car, and the height of the opening was determined by the Pikestuff loading doors I used.



Figure 2A: Painters blue tape was used to hold the wall sections to the manufacturing building core until the acrylic adhesive caulk had set. In some cases I used Cypox after the fact reinforce the edge bond.



Figure 2B: The Manufacturing loading dock doors have all been cut into place here, but something seems missing.....so I checked the Walthers un-modified loading dock doors on the warehouse building. These are Pikestuff doors here. I later concluded that the height adjusting dock plates below the doors needed to be fabricated and added somehow.

*Text continued from page 42.*

results. The Week 1 captioned photos indicate the volume of activity during the week and first weekend.

## Week 2

Week 2 brought a slow-down in progress due to the more complex nature of the building assembly and the harsh reality of fatigue creeping in,

but I gamely kept up with the plan. I managed to enter into the second weekend able to continue to achieve acceptable results, as seen in the Week 2 captioned photos.

*Text continues on page 53.*



Figure 2C: For the Pulp Track loading doors on the right hand side of the building, I used roll up doors left-over from my heavily cannibalized Walthers Medusa Cement kit. I sold off the silos when I concluded they were too small for my "Grainzilla" terminal grain elevator project long ago, and used a lot of the other corrugated material from it. Since these were designed to be used on curved silos, I had to first trim off the surrounding material with rail nippers, leaving a flat surface once I'd dressed them with a file.

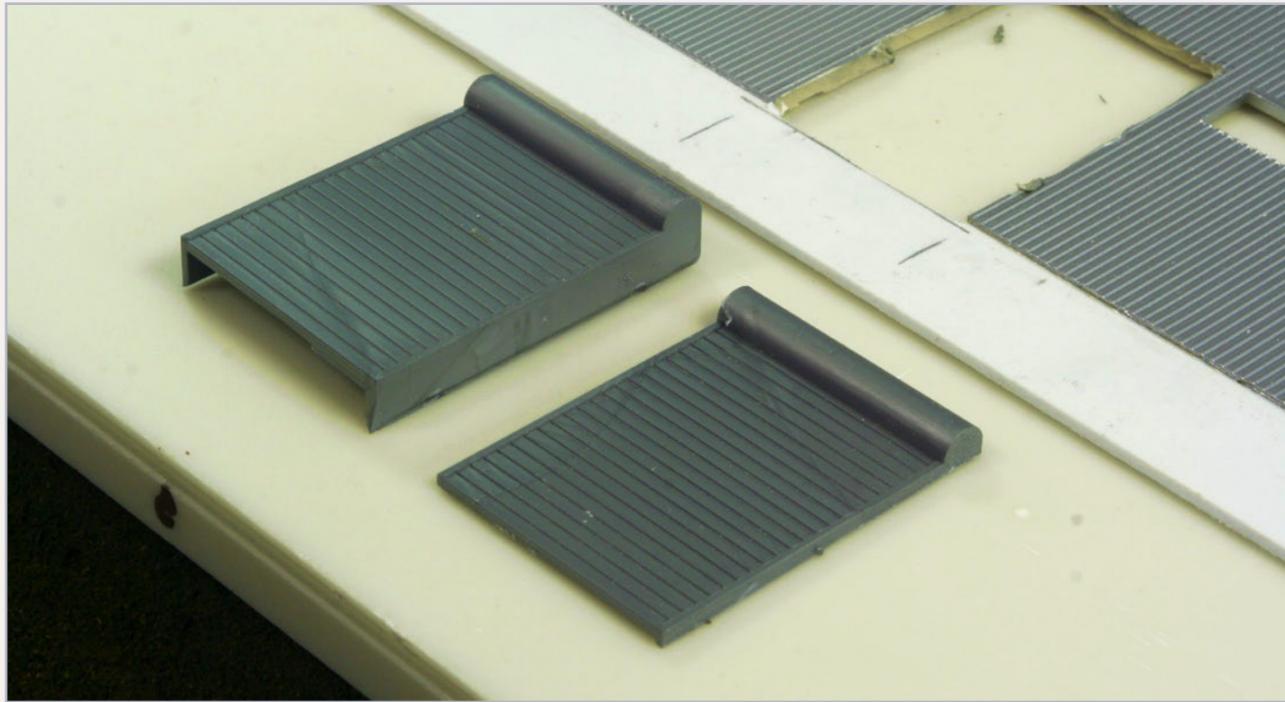


Figure 2D: The original door is on the left, and the modified door on the right.

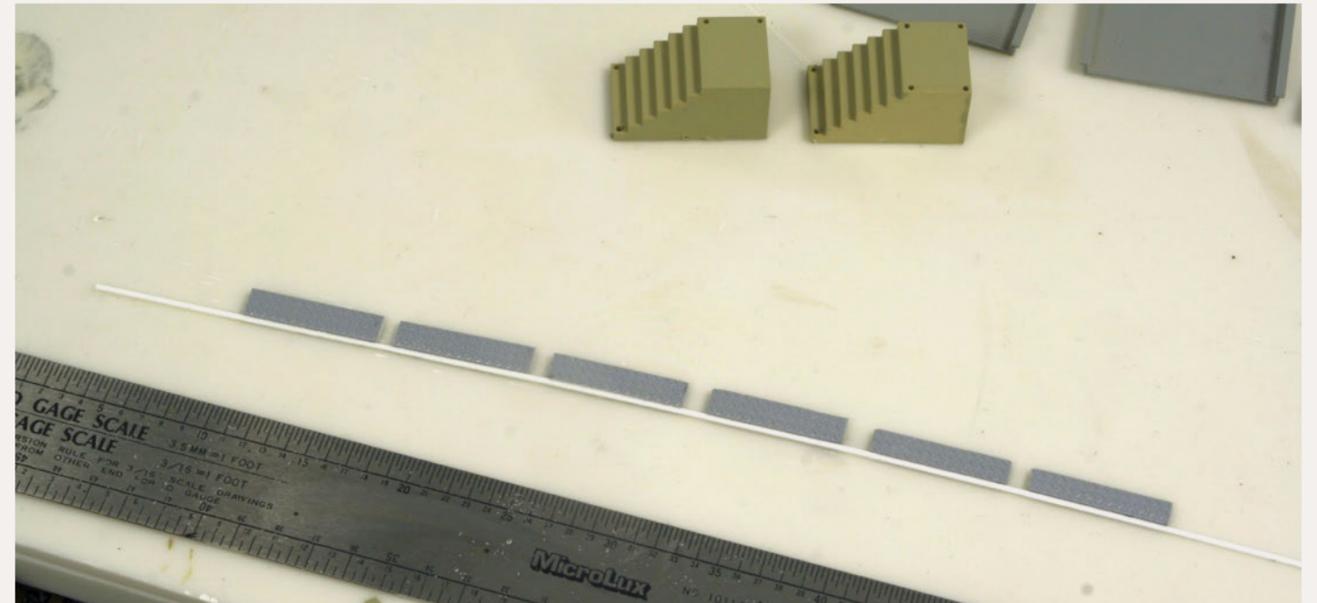


Figure 2F: I created the dock height adjustment plates from some safety tread material in my scrap box. I cut it to the same dimensions as used on the warehouse loading dock doors from the Walthers kit. These plates had a recessed space below them, so I cemented them to an appropriately sized strip of styrene. Once the cement had set, I trimmed the styrene/plate combos into individual units.



Figure 2E: This shot shows the beginning of making up the scratch-built dock plates.



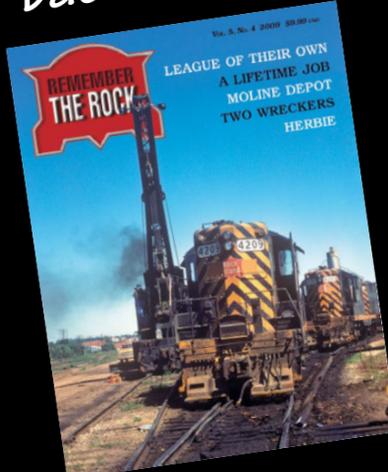
Figure 2G: Now I had to enlarge the existing openings to accommodate the dock plates. Fortunately I had not yet cemented the roll-up doors in place! This shot shows the finished openings.

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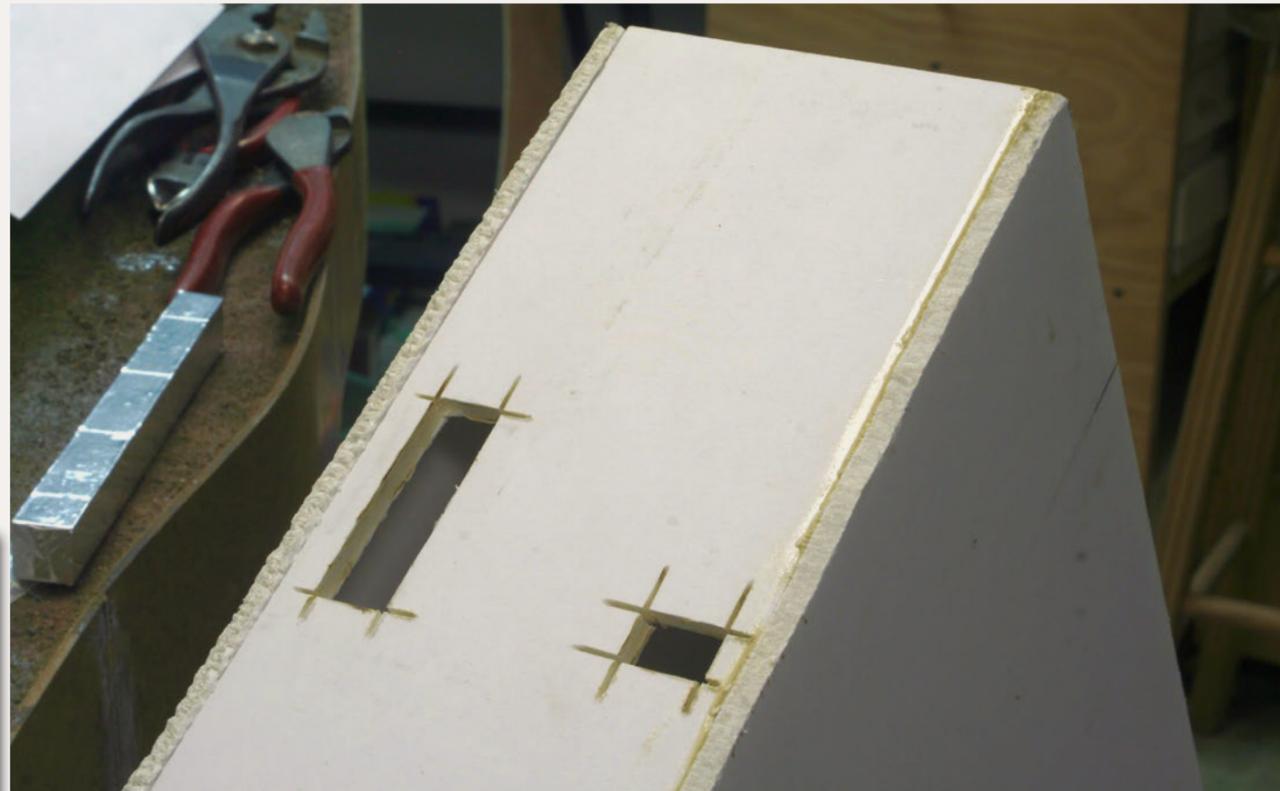


Figure 2H: Prior to cementing the wall sections in place, I decided to cut openings into the Gatorfoam board sides to permit the walls to lay flat. (see video sidebar for how I did this).

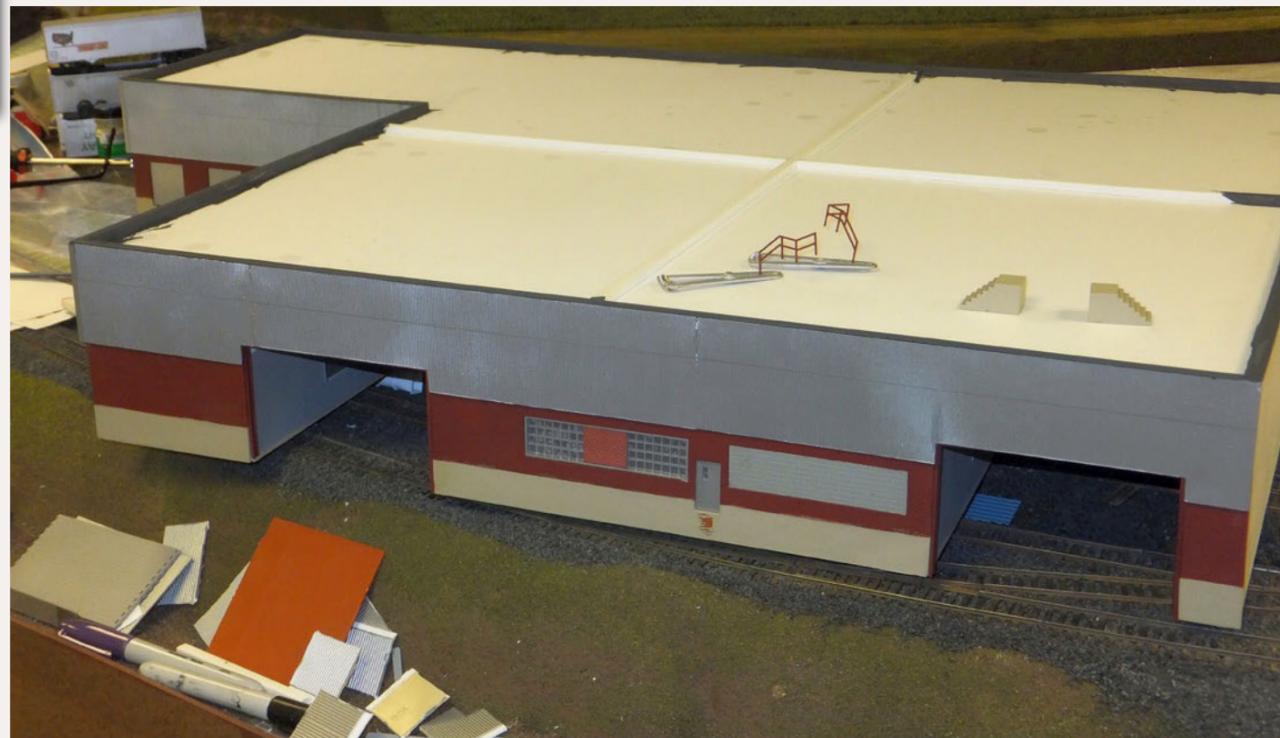
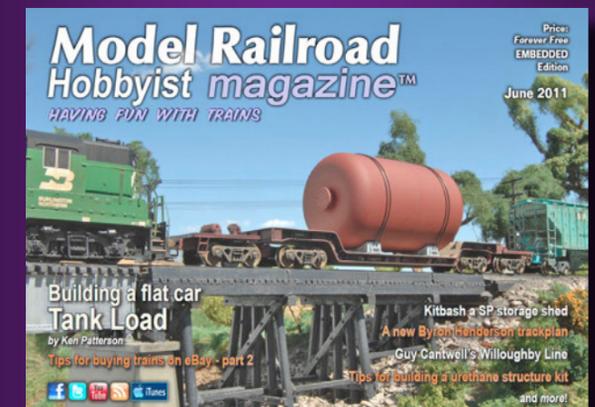


Figure 2I: Back to the warehouse, I've begun to hand-paint the roof and am also painting the railings and steps.

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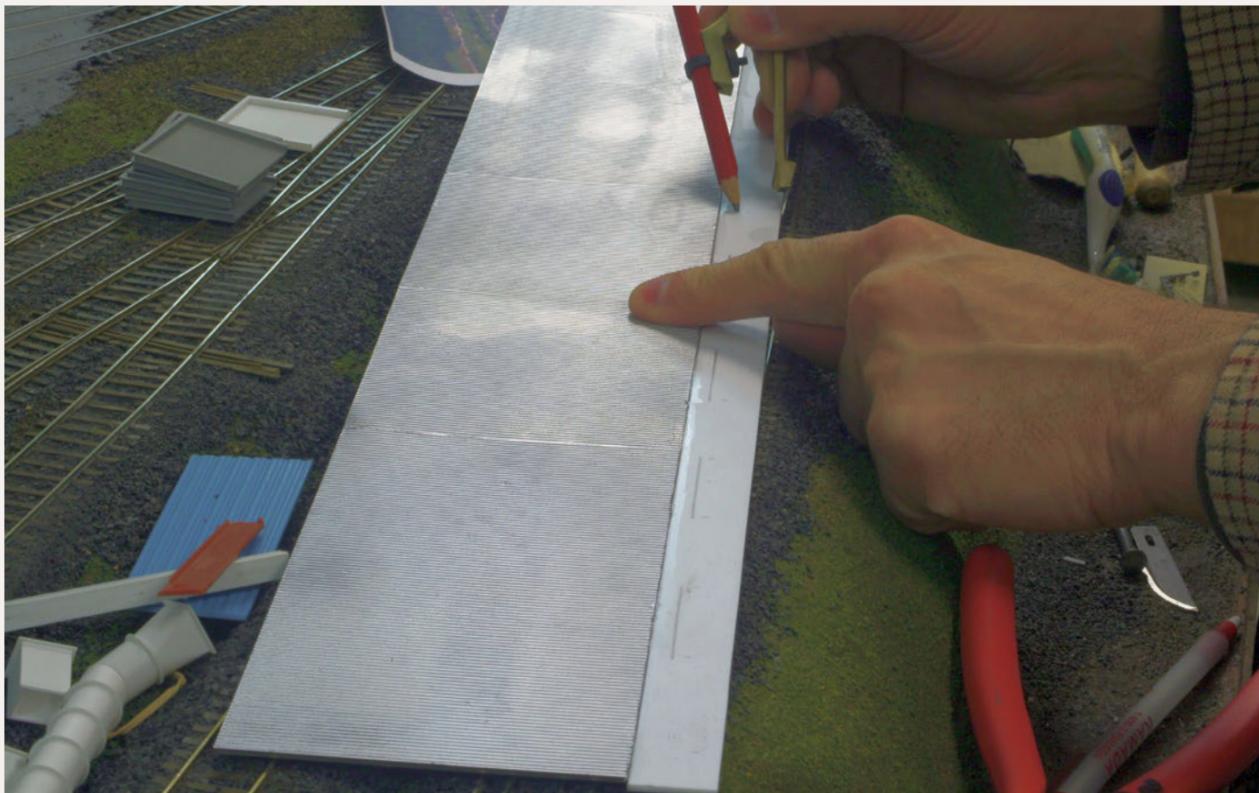


Figure 2J: I used a compass to lay out the areas to be cut for the manufacturing building's loading dock door openings.



Figure 2K: The Pulp Track wall, complete with roll-up doors, ready to have its windows installed.

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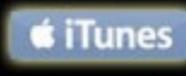
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## Week 3

The pace is dropping off. It's palpable. Responsibilities of the day job are making a real demand on my time but more importantly, on brain. The Week 3 photos indicate what I managed to achieve during this work week and ensuing weekend.

Text continues on page 57.

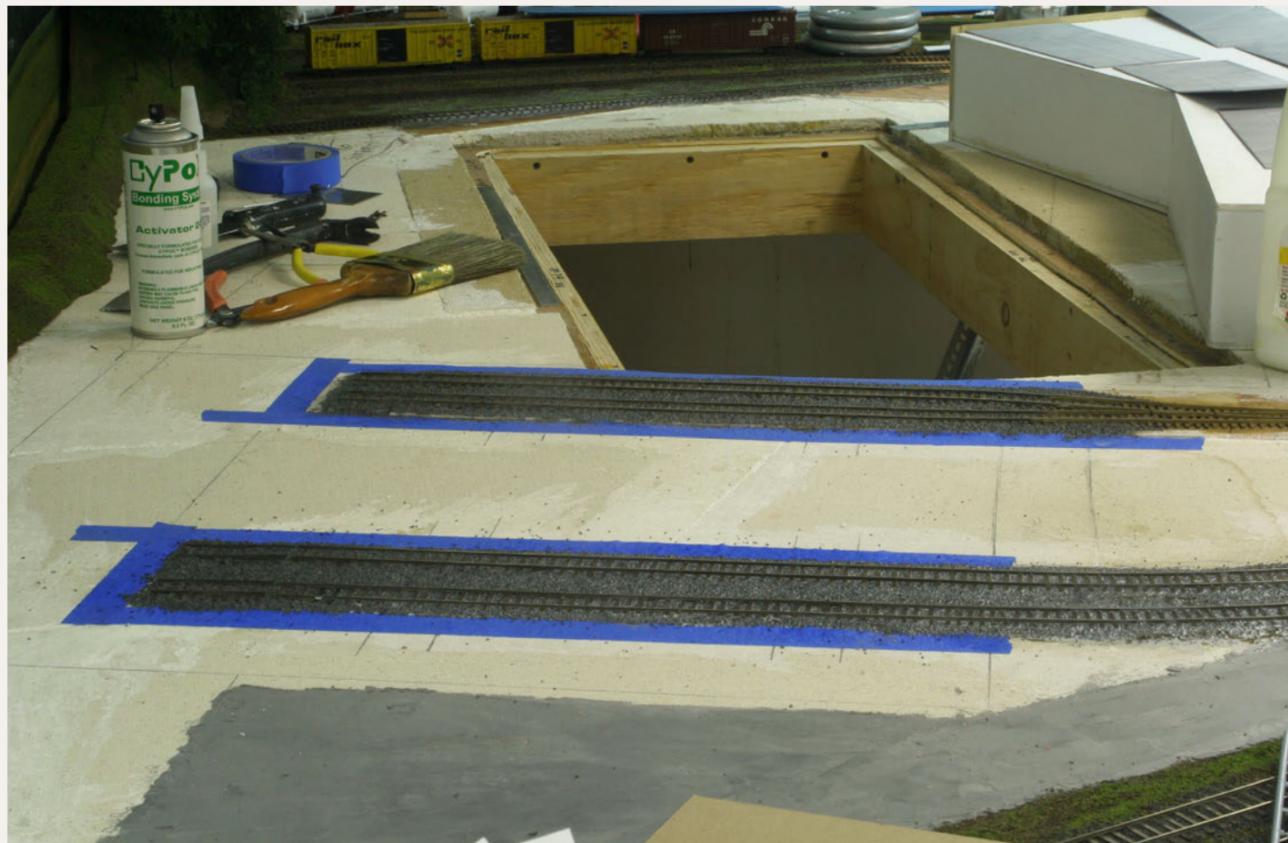


Figure 3A: Prior to installation of the building itself, it was necessary to ballast the tracks. I used blue painters tape to keep the ballast only to the areas inside the cement block walls and not under the building itself. Note also that the track on the first pair of sidings has been extended.

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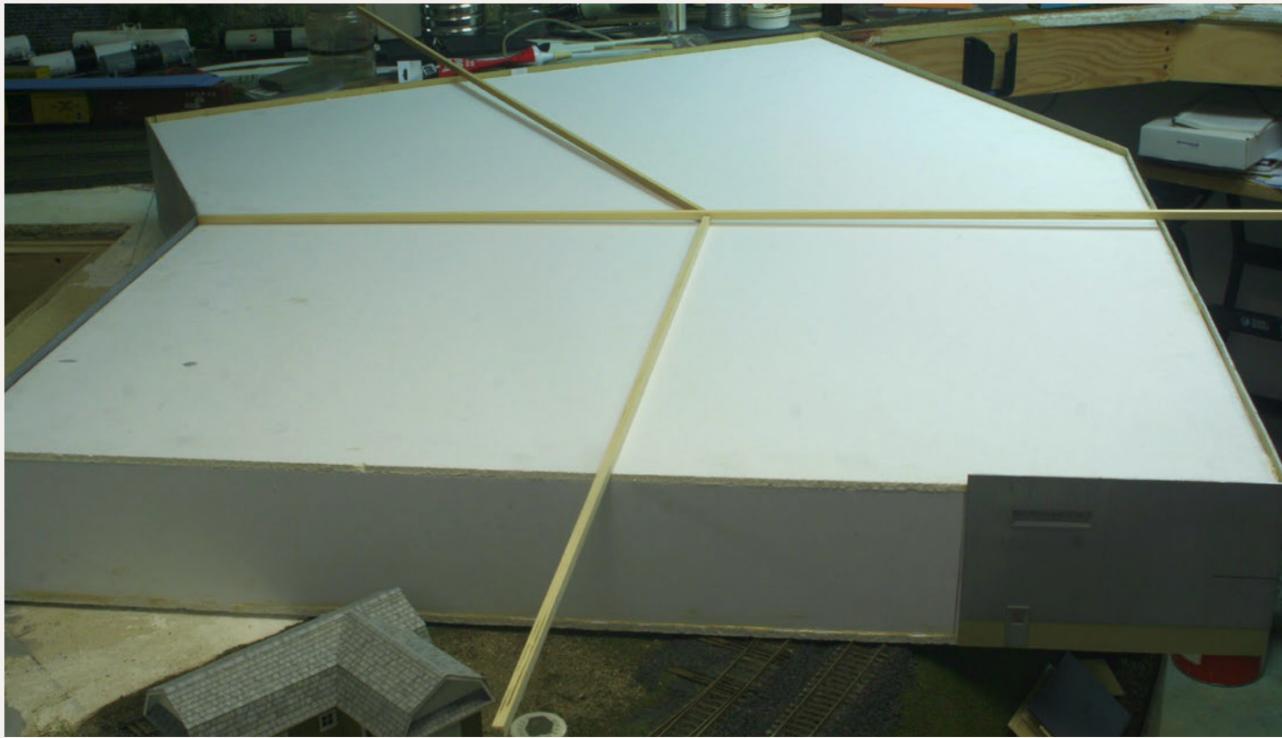


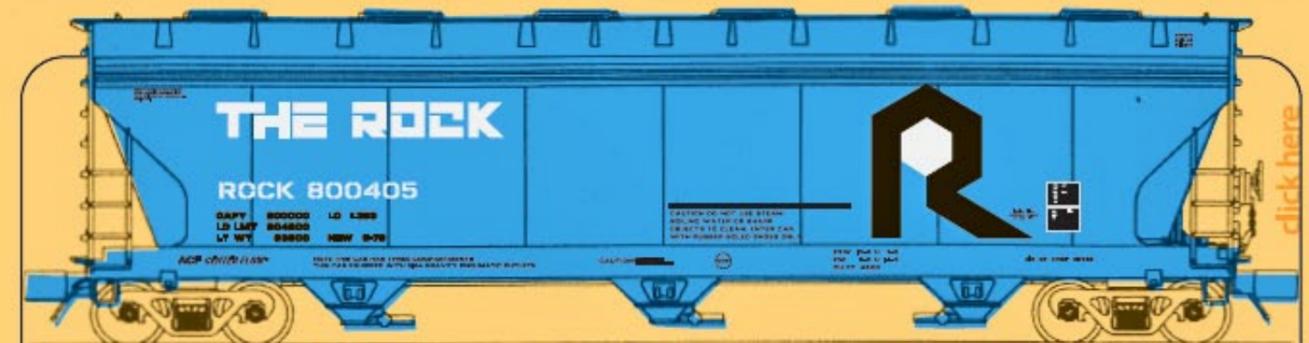
Figure 3B: The manufacturing building roof needed to have its roof divided like the warehouse building's, and I chose to use custom cut wood strips for this. The blank wall in the foreground is where the structure butts up against the warehouse building.



Figure 3C: The siding for the pulp tracks has been straightened. It was originally a more curved track like the others in Chemical Yard to the right. There will be some paved areas created there, along with hoses connected to pipes out of the ground for chemical unloading.

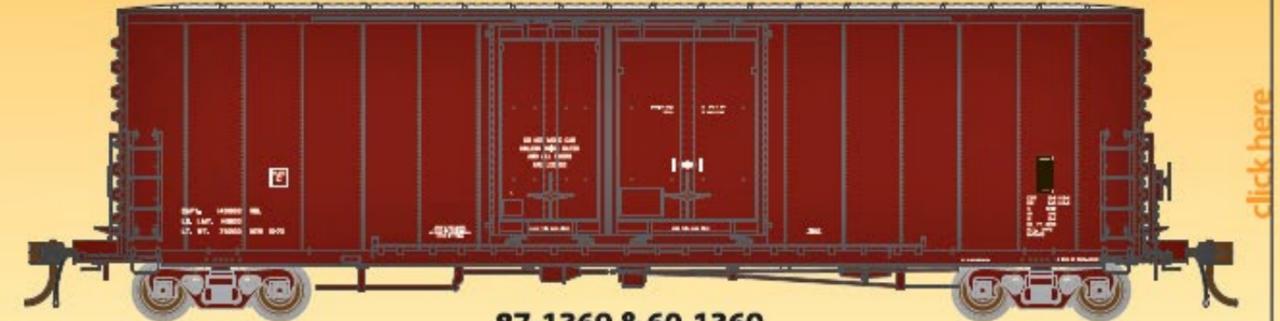
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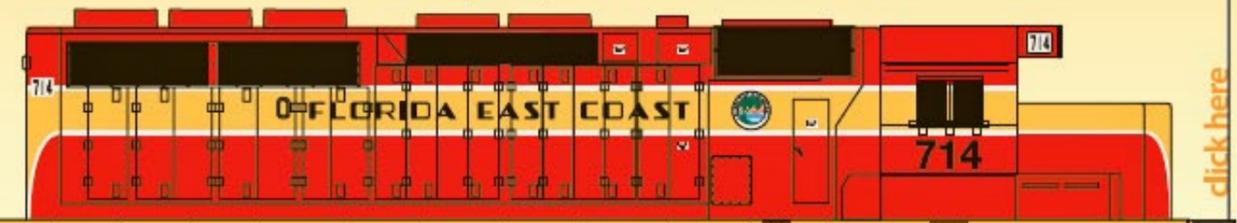
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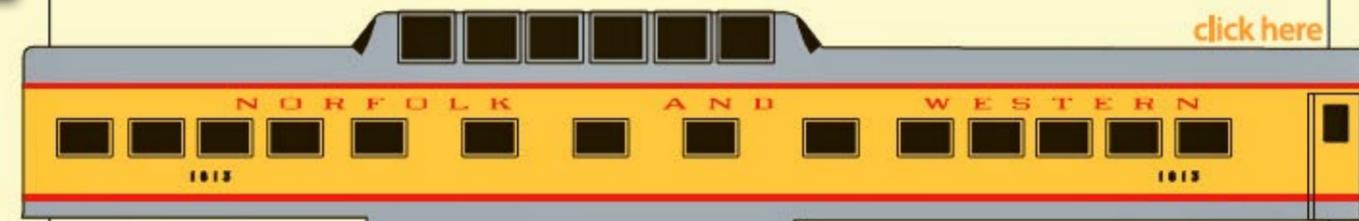
87-1369 & 60-1369

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Figure 3D: An overall shot showing the manufacturing building in place, along with a large storage tank that will later be covered in something to represent insulating material and painted silver. Most of the bare wood area will be a paved parking lot.



Figure 3E: Prolific structure builder Rich Cobb created the Cider Mill Office, going strictly by photos. It has not yet been "planted" into the ground cover. The track to the right with the tank cars is the Sludge Track, for liquid waste material. An overhead pipe bridge and loading racks will be created for this track. A Conrail GP38-2 is idling nearby.

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Figure 3F: This aerial shot shows the entire complex to-date, including the painted warehouse roof. West Yard is in the foreground.



Figure 3G: This is what the warehouse will look like, stuffed full of box-cars! I've decided that the uncovered white area will also be mostly a paved parking lot. Op sessions will feature switching out these tracks and getting empties and loads routed to the proper direction via north- and south-bound road freights. A local will operate out of here as well, handling the town of Kintner Milling and the town of Mehoopany.



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*Text continued from page 53.*

## Week 5

Hey, what happened to Week 4? Beats me. Nothing happened on the layout in Week 4, and my activity consisted of coming home, eating, crashing on the couch with Karen, and watching mindless TV to unwind. Yep, harsh reality had arrived!

But in Week 5, I managed to get on the horse again, in part in full disgust at letting myself so totally off the hook in Week 4. I managed to achieve some important milestones as shown in the photos labeled with Week 5 prefixes.

And then? Well, all projects end, and so did mine. It was a relief actually, since it was demanding and draining, and really did not offer the same rewards (other than financial) as the creative outlet that the layout project had become.

I took not quite a week off to get reacquainted with my plans and also to take care of a number of non-railroad tasks that had built up. Then it was happily back to work. This time the goal was to get to the really fun kitbashing tasks that involve the bustling roof area of the manufacturing building.

My goal is to have it sufficiently presentable and ready to bring with me to the 10-year anniversary of the New England Proto Meet in Collinsville CT

on June 1-2. It promises to be the best meet yet, and they've reserved a very large table for me to display these two buildings. I have already prepared a 7' by 43" piece of half inch foam (the maximum size that fits in my vehicle, flat) and it's a perfect size to act as a simple diorama for the structures.

I'll add simple ground cover, some track stubs going into the building, some rolling stock and have many pleasant conversations with the attendees. I'll also be doing my clinic on this phase of construction. I hope to see many of you there. ☑

*Pictures continued next page.*

**Figure 5B: I had decided that, in order to accommodate the myriad of details to be added to the roof of the manufacturing building, I would add a styrene overlay to portions of it on the right front and right rear. This would also permit the sections to be lifted out, in theory, for painting and detailing. Note the pencil lines indicating where to cut, as the roof dividers were already in place and glued to the Gatorfoam board.**



**Figure 5A: Low angle view of the tank cars on the Sludge Track at the Cider Mill Office. This house was probably a left-over vestige of the original land's purpose, pressed into service by the railroad as a place to house the clerks and crews for this 24/7 staffed location.**



**Figure 5B**



Figure 5C: Can you tell the difference in height between the original roof and the areas with an extra styrene layer? Neither can I!



Figure 5D: What's next? Kitbashing of the vast array of complexity that will occupy the roof of the manufacturing building begins with laying out lots of prototype photos and parts from the scrap bin. Yes, it's a big mess, but it's my method! I have to have it in my head before I can build it, and viewing the prototype photos enables me to absorb the "feel" of the plant in order to do the creative kit bashing required. This is the fun part for me! Stay tuned for an update in Model Railroad Hobbyist ...

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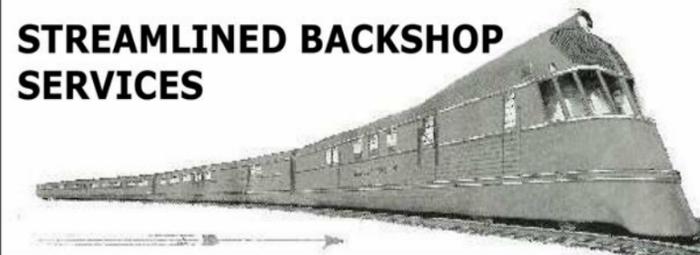
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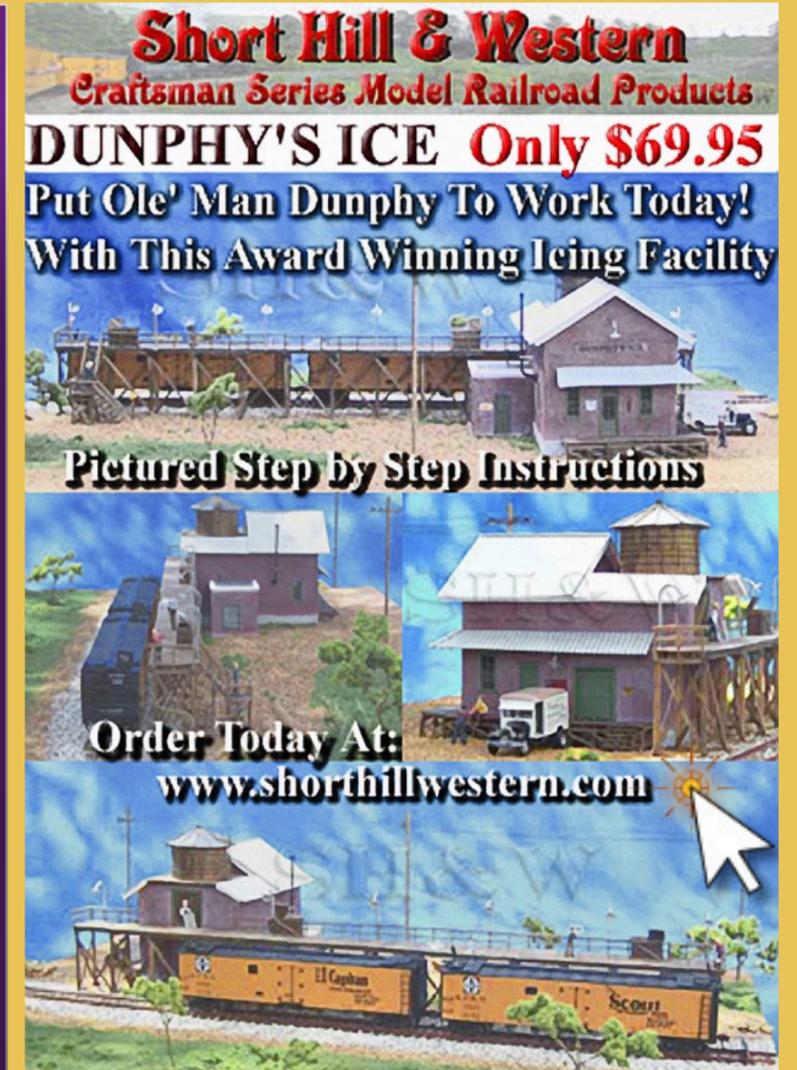
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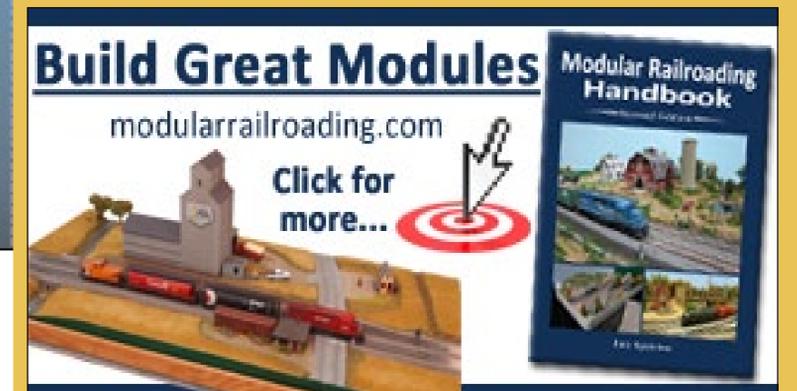
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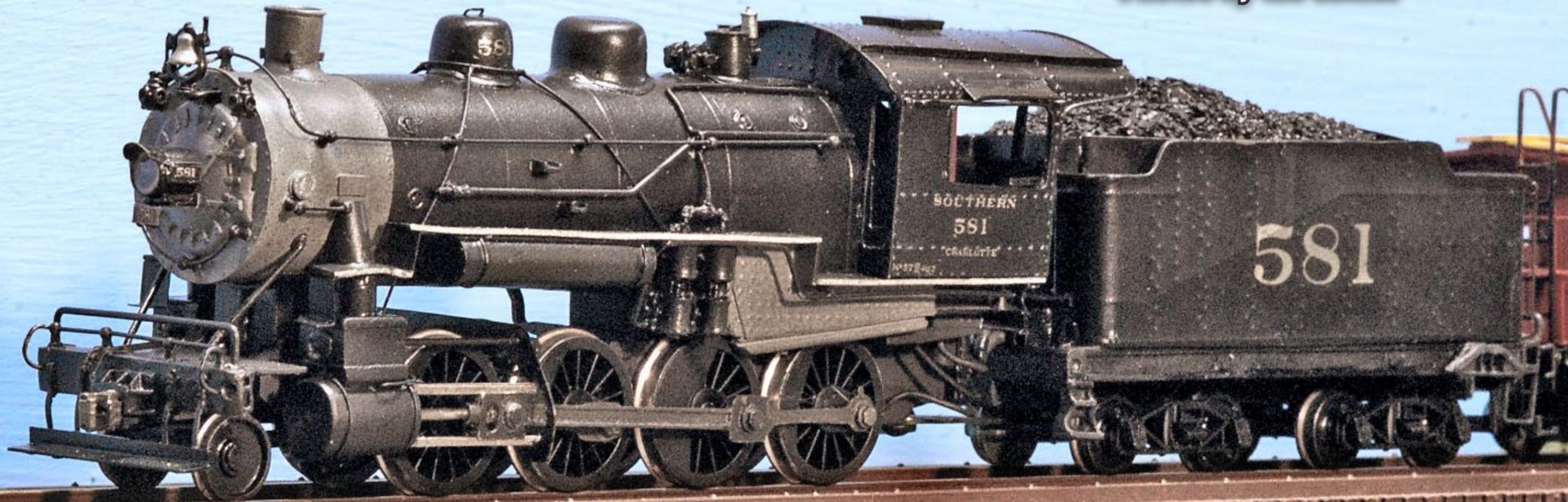
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Figure 1: Even a small engine is useful in a pinch. Here the author's Southern Ry. Ks Class 2-8-0 helps a manifest freight that was stalled on the grade.

— by **Kenneth Rickman**  
Photos by the author



# Scratchbuilding a Steam Loco in Styrene, Part 1

**Building the basic boiler and smokebox, plus prototype information. With these styrene scratchbuilding techniques, you can get exactly the loco you need! ...**

**I** built this steam loco model in styrene to prove a point, and ended up proving another, quite different one. When Bachmann released their Spectrum 2-8-0, they sold it in both black, and green Southern paint. The model is reliable and good looking, and quite popular with Southern modelers.

Unfortunately, the model is much larger than a Southern Ry. K, having a larger tender, boiler, and drivers.

Most people accept the inaccuracies because there is no good model of a K, except for a Ks-1 made some years ago in brass by Overland. Many people have detailed and kitbashed their models to more closely resemble a Ks-1 or Ks-2.

## **Reason for Building This Model**

I originally wanted to demonstrate the difference in size between the

K and the Spectrum model, which I felt was best demonstrated by putting the two side by side. Not having the brass model, I decided to see if I could build my own, or at least something to demonstrate the relative sizes. I also decided that it would be an interesting experiment, to see if I could build even part of a locomotive. I had previously kitbashed my own Spectrum 2-8-0, which involved stripping the

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boiler down to a simple tube. I realized that, if I could make that tube, everything else would be no harder than a kitbash I'd already done.

What I feel I ended up proving, both to myself and anybody else, is that it is not that difficult to scratchbuild a steam locomotive. The old days of lathes, milling machines, complex soldering jigs, rivet presses, and brass construction left most people terrified of the task. Today's beautiful

ready-to-run styrene models made me realize that one can do impressive work in a much easier-to-work medium. This was my first scratchbuilt model, and I think that I am no better a modeler than the vast majority of people out there. If I can do this, anybody can.

I chose to model #581, a Ks class engine, for several reasons. Perhaps most importantly, I was able to find photographs of both sides of

the locomotive, although at different times. As noted in the captions, there was so much variation between engines that the only way to be sure the running boards, ladders, hand-rails, plumbing, air compressors, and various other details are in the correct place is to have a good photograph of both sides of the prototype. Another reason was that this was one of the engines which kept its Stephenson valve gear after superheating,

meaning that I would not have to model the Southern or Walschaerts external valve gear. The fact that #581 worked out of Charlotte, NC, just down the road from me, was a bonus.

**Figure 2: This was the starting point for the model. All Southern's K class engines were built to this drawing, although there were numerous changes over the years.**

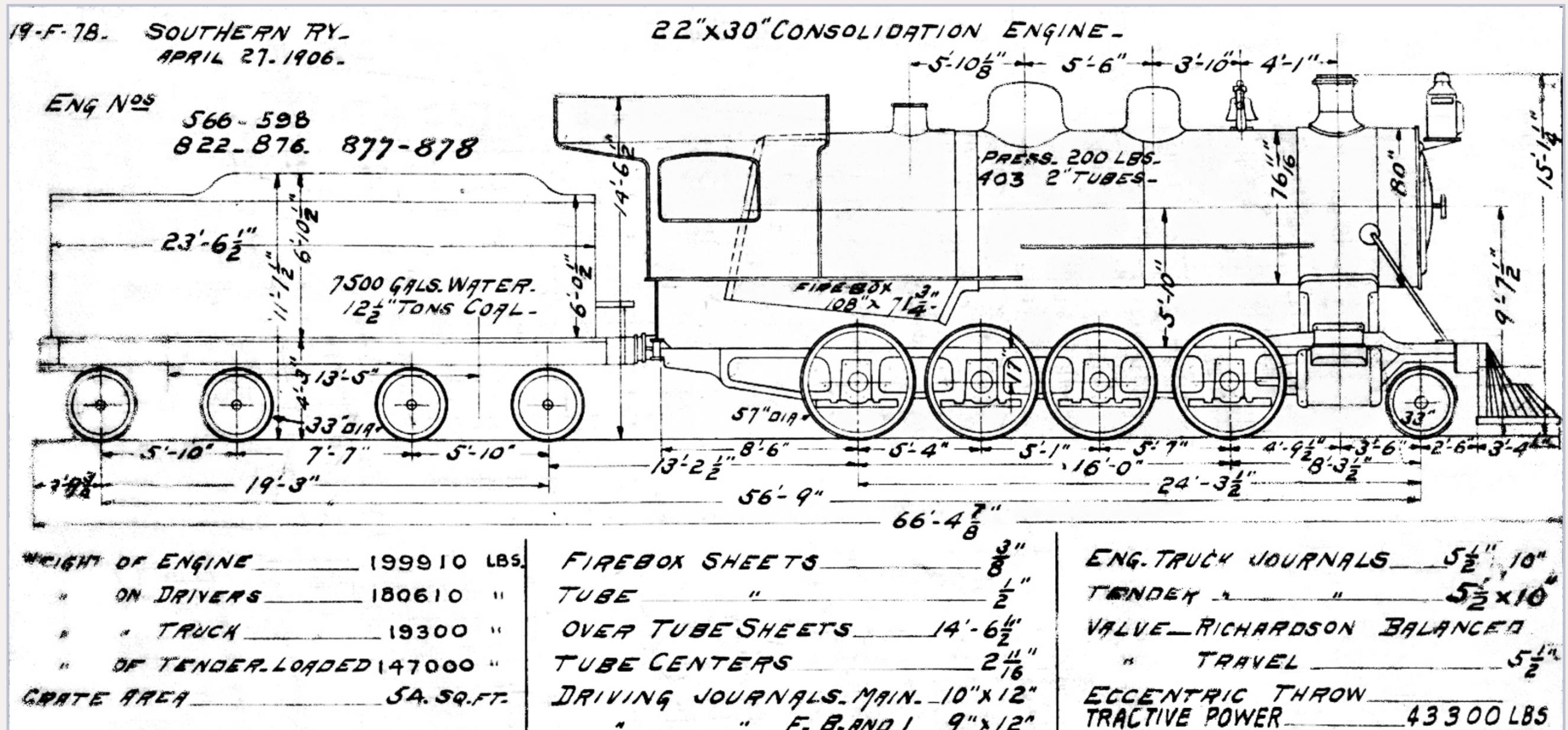




Figure 3

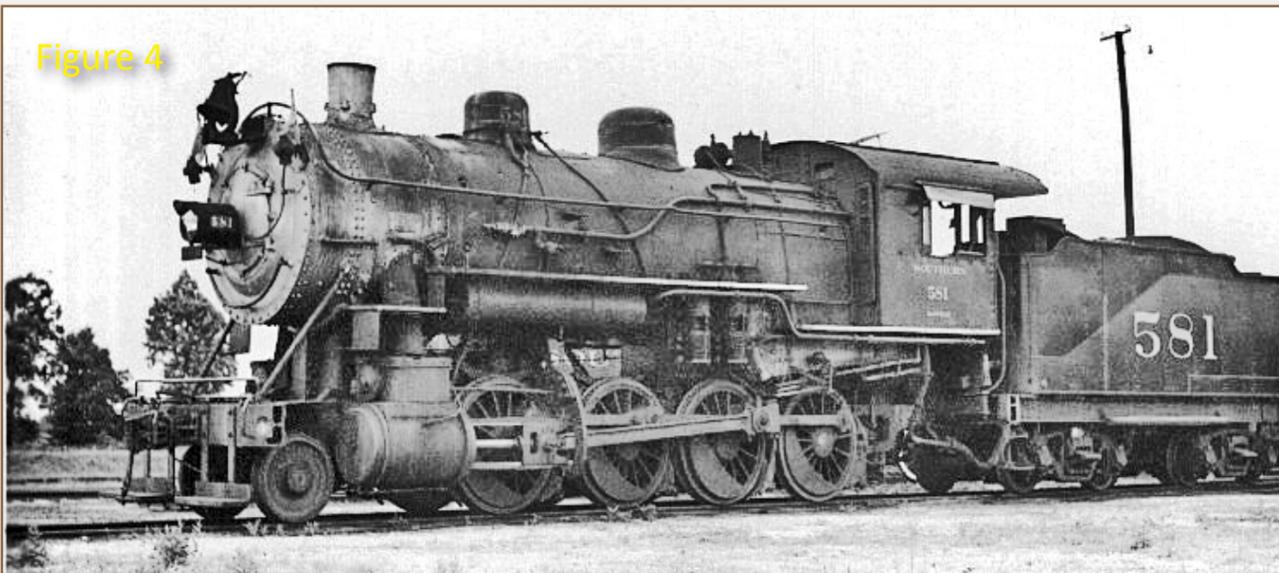


Figure 4



Figure 5



Figure 6

Figure 3: Dates can be notoriously hard to pin down. About the only thing I can say with any certainty is that this was probably taken prior to 1938, because in 1938 #581 had Andrews trucks on the tender. Bud Laws collection.

Figure 4: This photo was taken in July, 1938, in Spencer, NC. Notice the striping on the domes, patches on the tender, Andrews tender trucks (which presumably replaced the older arch bar trucks, although it could be an entirely different tender) and the separate footboards on each side instead of one solid piece. Bud Laws collection.

Figure 5: Ks-1 #630 in Chattanooga, TN in November 2011. Although it has different cylinders, #630 is otherwise very similar to #581.

Figure 6: Ks-1 #630 in Chattanooga, TN in November 2011. The Tennessee Valley Railroad Museum replaced #630's tender with a larger 10,000 gallon version. Notice the similarities with #581, as well as the numerous detail differences. No two steam locomotives on Southern were exactly alike.

## STEP 1: Preparation

There are two basic things to bear in mind when building this model, or indeed any model, in my opinion. For example, the boiler is basically a cylinder, so it is possible to make a cylinder and then add the tapered shape to that. The vast majority of parts on a locomotive were built up from sheets, or turned on a lathe, which means that styrene sheet and tube stock will go a long way toward making those parts. There are very few really complex castings, and many of those are common enough to be available as brass detail parts. Even those really complex and unique castings like the cylinder saddle can be broken down into simpler shaped pieces.

The other, and perhaps most encouraging thing to remember is that you cannot ruin the model. If you make a part once, you can make it again, and usually the second will be many times better. I was very fortunate in building this particular model that I did not have to re-make any of the major parts. The result, however, is that the entire model is essentially a rough draft of the model I would like to have built. I have never had to re-make a part where the replacement was not significantly better than the original. For that reason, have no fear when modeling. The worst thing that could happen (outside of personal injury, of course) is that your model gets better than it would have been otherwise.

Contrary to popular belief, the tools needed to build a model like this are the most basic. The only power tools I used were an electric drill and Dremel

tool. Hand tools include the basic hobby knives (I use a #11 and #17 blade and, occasionally, a single edge razor blade), metal scale ruler, an assortment of drills and taps, pencil type soldering iron, and of course the typical glues, tapes, and clamps. For marking the styrene, I like the ultra-fine Sharpie® brand markers in a variety of colors. In other words, I don't use anything that 95% of modelers would not have in their tool box already.

Perhaps the most important tool when building a model like this is time. I estimate that I spent at least as much time trying to figure out how to build each part as I did actually building it. In some cases, I think I came up with really good ways to do things. In other cases, it became obvious after the fact that there is a better way. Sometimes, the best thing to do is just to jump in, make a mess of things, and figure out how it ought to be done – consider the time spent as research, rather than modeling. This model took me nearly a year from start to finish. Bear in mind though, I spent over 50% of the time in documenting the construction, with photos and text, and also that I was working in random snatches of spare time and would sometimes leave the model alone for months at a time. I think that an active modeler, given the motivation and information here, could probably build a model like mine in a few months.

Figure 7: Building a steam loco in styrene isn't that hard, really. Just take your time and test fit things often. Also, don't be afraid to mark up the model with different colored Sharpies to make it easier to align things as you progress through the build.



## STEP 2: Starting the Boiler – Making the Basic Tube

The boiler is built up by forming styrene around a piece of PVC pipe and then building up the correct profile. The smallest portion of the boiler, generally the smokebox, will determine the initial diameter. The smokebox diameter on a K is a scale 80", which is 0.918" in HO scale. The next smallest size of pipe is 1/2", with a diameter of 0.84". The difference, then is 0.078", or .080" for convenience. Two layers of .015" styrene will be easy to form, and a final layer of .010" will be embossed with rivets and wrapped around. The larger tapered portion of the boiler will be built up out of multiple layers as well. Because of the location of the motor on the IHC frame that I used, the back-head is omitted on my model.

Cut two rectangles of .015" styrene. One should measure a scale 28'-7" X 19'-2", and the other should measure a scale 28'-7" X 20'-0". Using an ultra-fine Sharpie®, or something else that is water-proof and smudge-proof, mark the wider piece in equal scale 5' segments. Determine which end will be the front, and mark a line a scale 61" back from that for the smokebox. Also mark a line a scale 19'-10" back from the front to mark the end of the tapered segment of the boiler.

Bend the narrower sheet of styrene around a length of 1/2" PVC pipe. There should be little or no gap where the ends meet. Using 3M clear Scotch® Tape, tightly tape the sheet around the pipe. Press the tape to one side, then stretch it to the other side and press it in place, and continue down the length of the sheet until there are no gaps or bumps. Repeat the process with the wider sheet, keeping the marks on the outside, and placing the seam directly opposite the first one. Wrap a continuous length of tape tightly from one end of the boiler to the other, with no bubbles or loose areas.

Place the assembly in a microwave safe container deep enough to completely submerge it, such as a pint jar. Fill the container with water, and microwave it for 5 minutes or so. The objective is to get the water boiling, and hold it there for a couple minutes. Carefully remove the container and run cold water in it until you can comfortably handle the pipe. Remove all the tape and separate the sections. The sheets of styrene should hold their shape perfectly without any clamping or gluing.



Figure 8

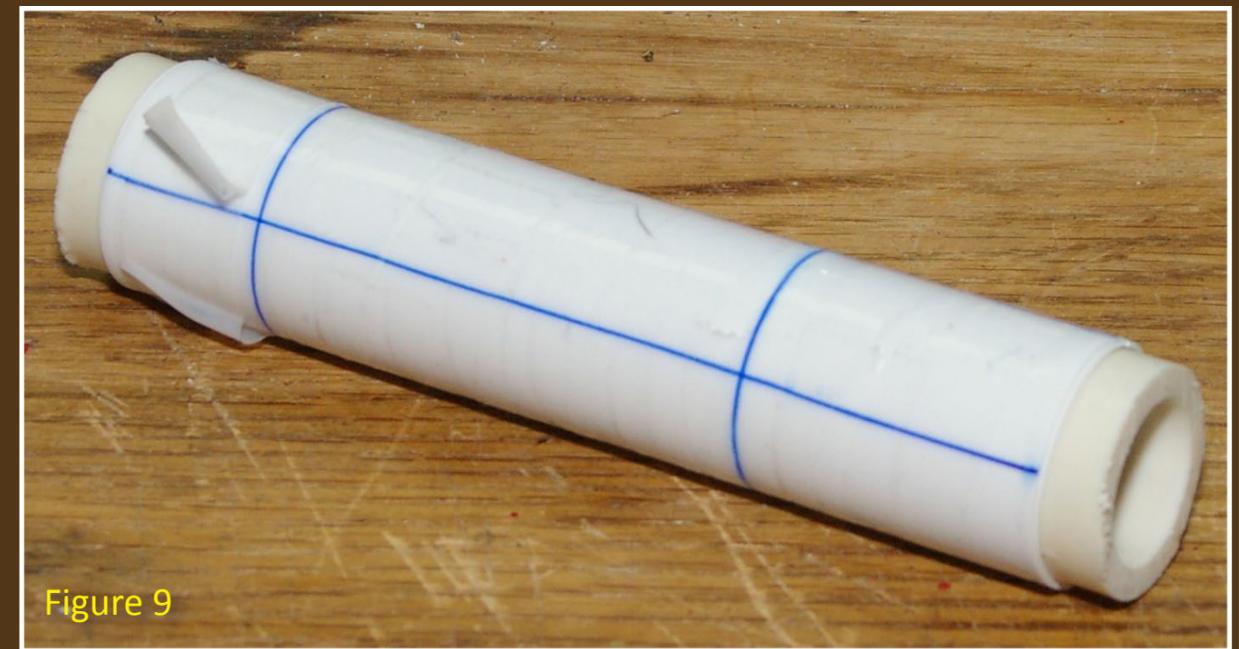


Figure 9

Figure 8: Styrene is remarkably easy to heat and form. Just hold it firmly in whatever shape you want it to have and boil it in the microwave for a few minutes.

Figure 9: When it cools, the styrene will hold the shape of the pipe it is wrapped around. The datum lines are smudged a little but still perfectly legible, and still perfectly located.

## STEP 2: Starting the Boiler – Making the Basic Tube *Continued ...*

After thoroughly drying everything, slip the sheets back over the section of PVC and carefully line them up so that the seams are opposite each other again. Liberally apply solvent between the two sheets, and tape them if necessary to keep them in alignment. Once the solvent cures, remove the pipe. The sheets may be stuck to the pipe by suction, but the solvent should not

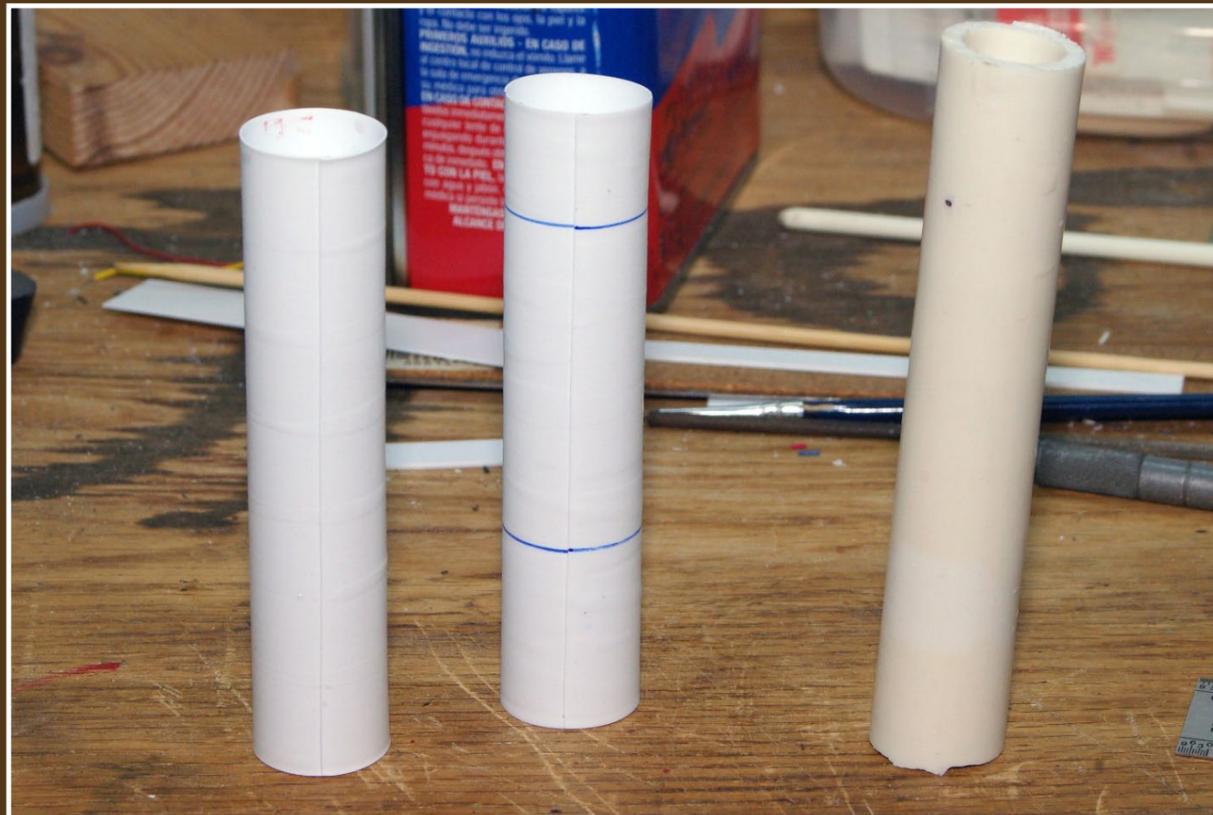


Figure 10: The two layers show some marks from the tape used to clamp them in place, but since these will be covered it doesn't matter. Notice that the tubes are actually closing tighter than the pipe form.

attack the PVC, and a little prying and tapping should free them. The result is a perfect cylinder .030" thick, already marked into perfect quarters. Slide the pipe back inside the boiler, sanding slightly to ease the fit if needed. The pipe will serve as protection and a handle for future work.

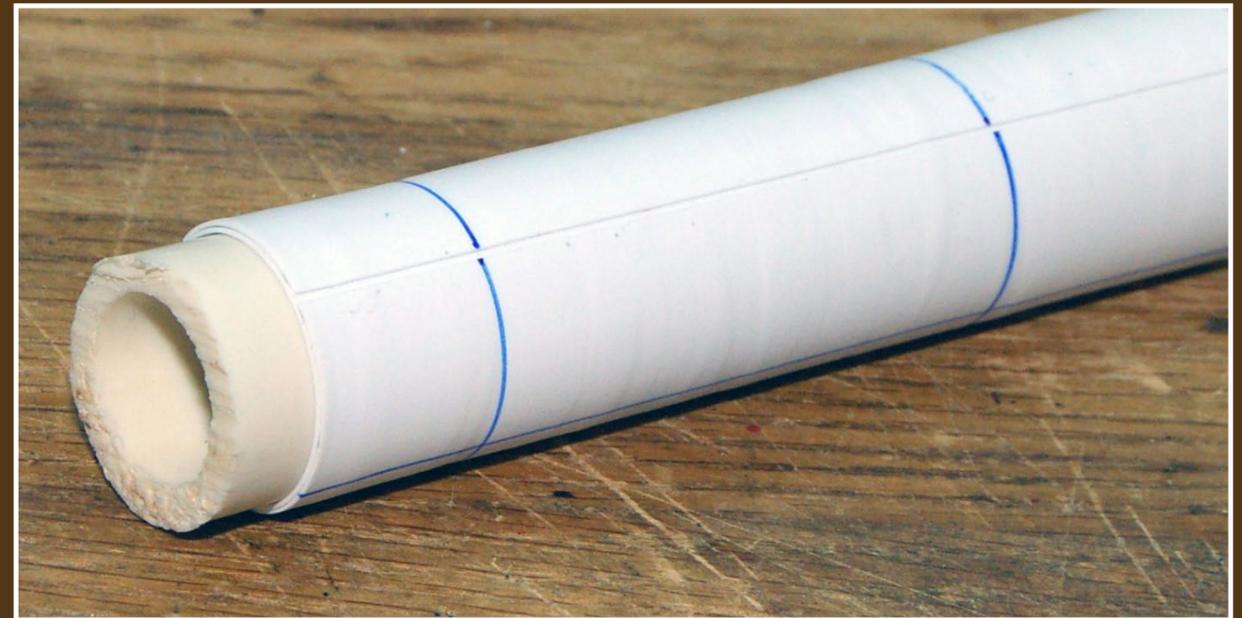


Figure 11: The tubes need to be put back on the form for gluing, to ensure that they keep their shape and size. The pipe also protects the budding boiler from being crushed or otherwise deformed from handling.

### STEP 3: Forming the Tapered Boiler

Gently curve a .030" X .125" styrene strip over a rounded edge or object until you can coil it into a circle. Wrap it around the boiler core and cut a length that will just complete a circle without a gap or overlap (figure 12). A slight gap won't hurt, but there can be no overlap. Make a series of marks 1/16" to the front and back of the rearmost line on the boiler. Wrap the .030" strip around the boiler and glue it into place with solvent, using the marks you made to center it over the line. Use Scotch® Tape to clamp the strip tightly against the boiler. Cut two pieces of strip long enough to reach from the rear of the spacer ring you just installed to the back of the boiler core (figure 13). Glue these in place, aligning one edge of each with opposite centerlines on the core. Both should be to one side of the center line, since they will support the upper half of the firebox only.

Cut a rectangle of .015" styrene, a scale 22'-0" X 15'-0", and mark the short centerline. This will become the conical wrapper, so it must be cut into a portion of a wedge. Looking at the sheet with the scale 22'-0" sides at the top and bottom, one of those will be the front, and one will be the back. The centerline is placed on the top center line of the boiler. Starting at the closest side, which will become the front, measure a scale 10'-3" to either side of the center line. Also measure up a scale 3" from the edge, along the center. Cut an arc out of the front edge, using these marks as a guide. Now measure a scale 3" from the back, along the scale 15'-0" sides. These, with the center of the back edge, mark the arc for the back of the wrapper. Finally, cut either side off, connecting the scale 10'-3" marks at the front with the marks a scale 3" from the back.

Curve the styrene by forming it over some rounded object. It doesn't have to be perfect, just have a gentle curve in the right direction. Wrap it around the boiler, aligning the front edge with the line marking the back of the smokebox. If it needs trimming to fit tightly, remove an equal amount from each side. Once it fits nicely, tape the seam tightly and double check that the cone will fit over the core. It should have a teardrop shape when you tape it, but smooth out into a circle when it's on the core.

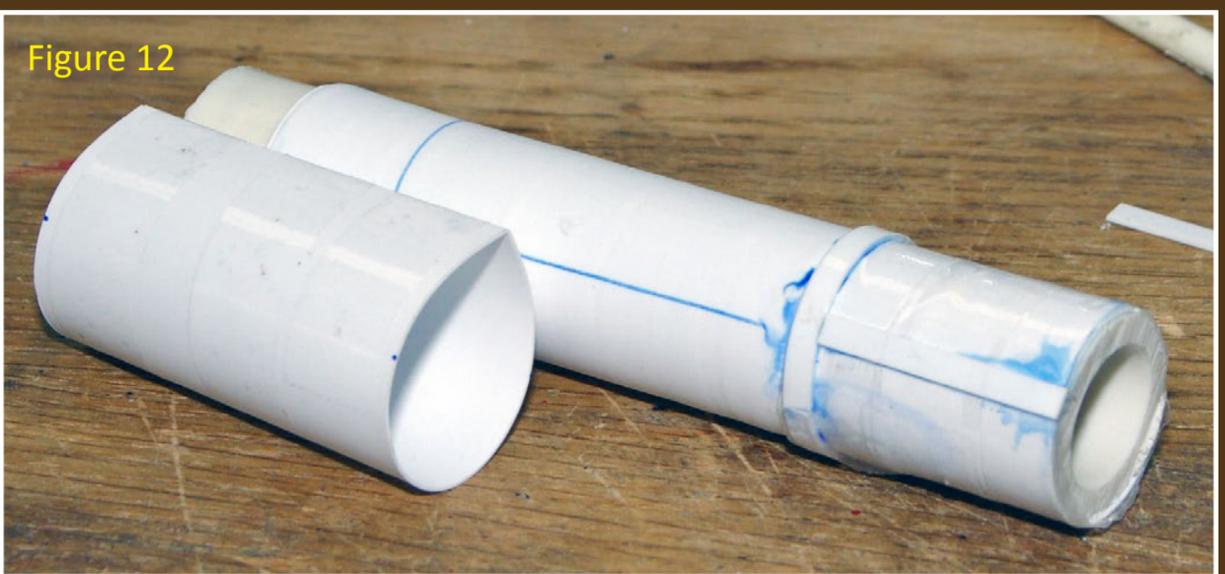


Figure 12: The tapered section is ready to be glued in place, as well as the material added to the core to build up the wider portions of the boiler and firebox. The conical wrapper does not need to be heat formed, since the core will force it to hold its shape.

Figure 13: Epoxy can make a mess, especially if you try to clean it without the right solvent! Wait for it to cure and file or sand it smooth.

### STEP 3: Forming the Tapered Boiler *Continued ...*

Cut a piece of .015" sheet a scale 8'-9" X 12'-0", and mark the short centerline. Using a file or sandpaper, lightly curve one of the scale 12'-0" sides. This will become the front edge, and will mate with the conical wrapper. Gently curve the sheet and lay it on the boiler. Line the centerlines up, and hold the wrapper tightly to either side. Mark the front and back of the wrapper at either side, where they overlap the horizontal strips added earlier, then cut the edges off where marked.

Mix up a good quantity of epoxy, and smear it liberally on the core. Spread it right up to but not over the line for the smokebox, and make sure you get plenty all the way back to the spacer ring. The epoxy will not only bond the wrapper in place, but support it as well, filling the gap between it and the core. Carefully slide the wrapper into place, aligning the top centerline and the front at the smokebox. Rotate the wrapper to evenly distribute the epoxy. Spread more epoxy where the firebox wrapper will go, and hold it in place with tape. Using paint thinner, clean up any epoxy that was squeezed out.



Figure 14: The boiler and firebox are taking shape. The bottom of the boiler (along the seam) shows a little irregularity, but that can be sanded out and it's not very visible underneath the model anyway.

### STEP 4: Shaping the Firebox

Cut away the lower portion of the firebox, leaving a small lip on the sides. Also, remove a section from each side of the .030" strip around the boiler, so that the firebox sides will sit flush with the upper portion later. Test fit the boiler to the chassis, and mark any portions which need to be removed for clearance. Having the pipe inside the boiler will prevent accidentally crushing it while working. Carefully re-mark the centerlines on the boiler if they have faded from handling.

Cut two firebox sides from .015" styrene, according to the drawings. Each side will also need an additional .030" piece (or two .015" layers) in the area above the running boards. Glue the pieces to the boiler, keeping the sides parallel and vertical. A caliper set to the diameter of the boiler core will just fit inside the firebox sides when they are positioned properly.

The front of the firebox needs a gap in the center to clear the gear box.

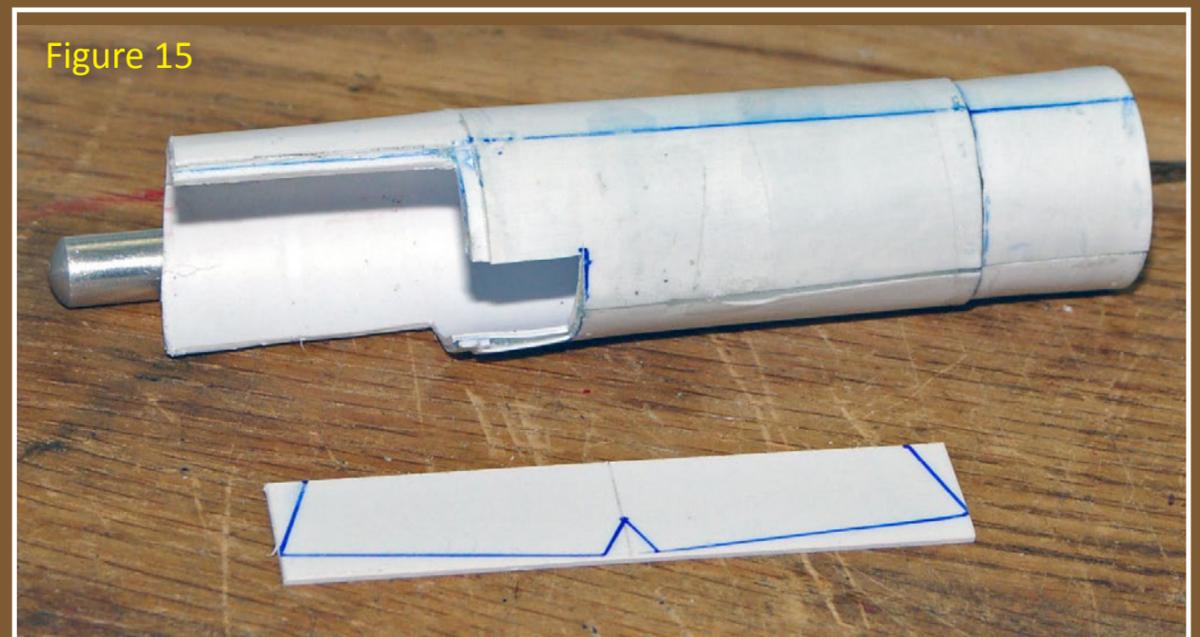


Figure 15: With the material removed to fit around the motor and gears, it's time to start making the firebox sides.

## STEP 4: Shaping the Firebox *Continued ...*

From a piece of .040" styrene, cut two scale 2'-0" squares and a scale 2'-0" X 3'-0" rectangle. Cut the rectangle into triangles. Sand or file the diagonal of each triangle into a curve which fits the boiler shell closely. Glue the triangles to the boiler shell and the front of the firebox sides. Bevel one edge of each square, then glue it to the pieces you just added and the lower portion of the firebox. When the glue dries thoroughly, sand the sides flush, then round over the corners on the lower portion.

On the top center line on the firebox, measure back a scale 8'-0" from the seam. Lay a sheet of sandpaper on a flat surface, and gently sand the rear of firebox until you connect the mark you just made with the ends of the seams on each side. Refer to prototype drawings, but without a backhead the exact angle and shape are not critical. Sand the bottom of the firebox so that the boiler sits level side to side. Putty and sand the seams around the firebox and boiler as needed.



Figure 16

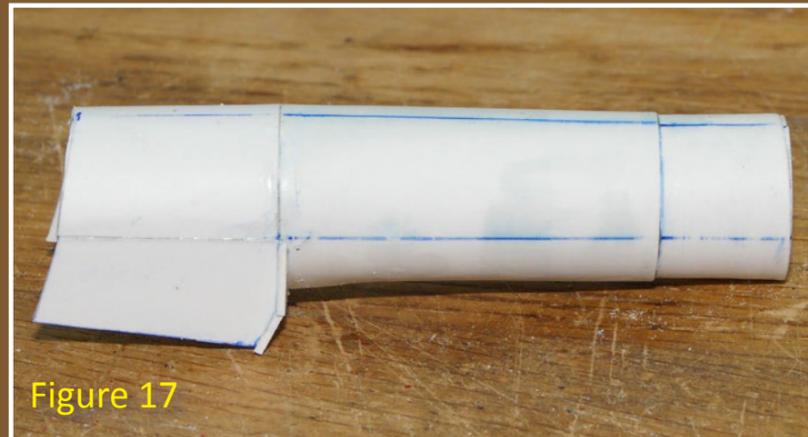


Figure 17



Figure 18



Figure 19



Figure 20

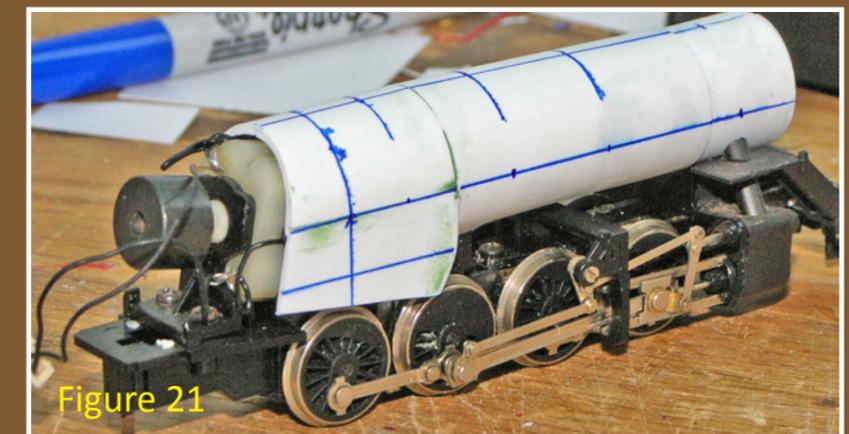


Figure 21

Figure 16: In theory, the firebox should go all the way across the boiler, but it has to be notched to fit around the gears. It is a lot easier to make it as separate halves than to remove the middle later.

Figure 17: The angle of the backhead isn't perfect, but that's easy to address with some sandpaper later on.

Figure 18: You can see how the firebox is constructed, with plenty of material for strong joints. You can also see the epoxy inside the boiler shell, which supports the taper and makes everything very strong.

Figure 19: Since your seams are almost certainly not perfect, this is the time to putty them while things are nice and simple.

Figure 20: It's a good idea to check the fit of the boiler on the chassis. Even though I'll be making my own cylinder saddle, the one on the model is close to the right height, so I can get a feel for how the boiler will look and fit around the various components.

Figure 21: The motor is a tight fit, and there's no room for a complete backhead. That tiny flywheel will have to go as well.

## STEP 5: Making the Smokebox Wrapper

Glue or tape the smokebox wrapper pattern to a sheet of .010" styrene, and emboss the rivets with a press or punch from the back side (the smokebox wrapper pattern file is available in the June issue subscriber bonus extras). The wrapper could be made from .005" brass as well, but that makes attaching parts later more difficult. Editor's note: After Ken built this model, Archer and Micro-Mark released rivets on decal film. Applying decal rivets should be easier than trying to emboss rivets – see the August 2011 MRH for details ([model-railroad-hobbyist.com/magazine/mrh-2011-08-aug/realistic\\_rivets](http://model-railroad-hobbyist.com/magazine/mrh-2011-08-aug/realistic_rivets)).

Mark the centerlines on the face of the wrapper, then carefully cut it out and check that it fits without any gap. As with the boiler wrapper, trim both ends equally if any adjustments need to be made. Wrap the wrapper around the boiler core and tape it tightly, then glue it in place with solvent. When that dries, clean the front edge up if needed, building up the core with putty to match the clean square edge of the wrapper.

For added strength, a disk of styrene could be inserted in the end of the smokebox, flush with the front of the wrapper.

Ken Rickman started with a Lionel train set under the Christmas tree at 2 years old, and has always been fascinated by steam locomotives. Ken models primarily in HO, although he's dabbled

in N, O, On30, and Fn3, as well as HOn3. Ken's currently modeling and researching the Danville & Western Ry., a Southern-owned Virginia short line.

Ken is 32 years old and works as an engineer for Norfolk Southern. Ken's been with the NS for 14 years, starting as a conductor and graduating to engineer in 2005.

Ken's wife Cindy has been a constant support as he spends time on research and modeling projects. His other hobbies include cooking, woodworking, and photography.

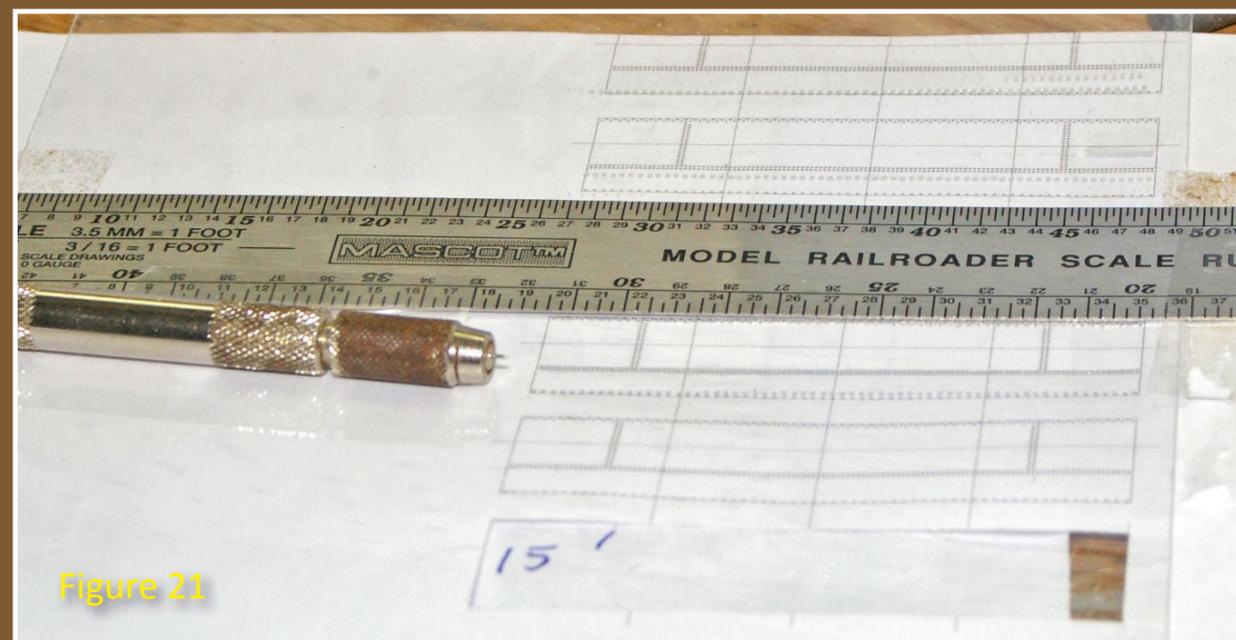


Figure 21

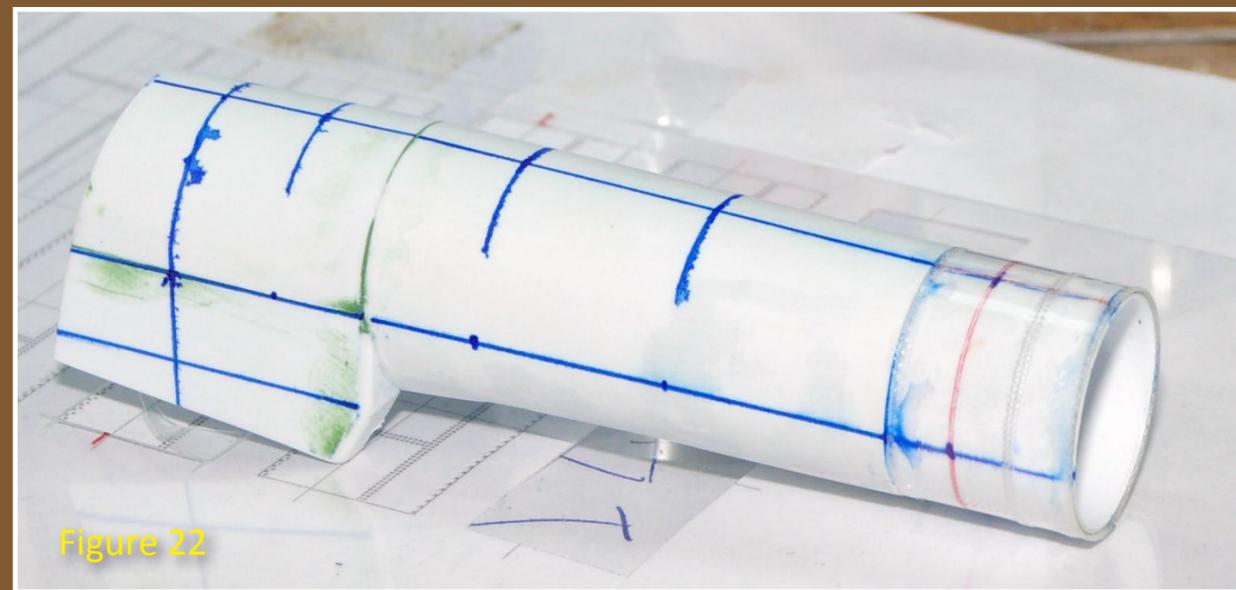


Figure 22

Figure 22: It takes a little practice to make good looking rivets. I used clear styrene so that I could see the plan through it. My rivet tools are simply a sewing pin in a pin vise, and a metal rule to keep the line straight.

Figure 23: That's a lot of rivets! It's worth the effort, though. Note that the datum lines are kept fresh and on the top layer as work progresses.

## STEP 6: Building Up the Smokebox Front

The smokebox front is built up from alternating layers of .010" and .040" styrene. Mark vertical and horizontal centerlines on each piece, to aid in alignment. The first layer is .010" sheet, cut in a scale 80" circle and embossed with rivets as above. Glue this in place on the smokebox.

On a piece of .040" styrene, draw a scale 5'-0" square and mark both center lines. Scribe a scale 5' circle inside the square. On one side, measure a scale 30" and 15" from the centerline in each direction. Cut out the circle, leaving two "legs" where you marked. The result should sort of resemble a little toilet seat. Those legs will support the door hinges later. Round all the edges over, and glue the piece to the previous one, with the legs on the fireman's side.

Cut another circle of .010" styrene with a scale 22" radius for the smokebox door. Mark 20 door lug locations evenly spaced around the circumference, using the drawing as a guide. Glue this piece to the previous one. Cut a disk of .040" styrene with a scale 20" radius, and gently sand the face until it is a bowl, and tapers to a fine edge. Rotate both the disk and sandpaper or file constantly to prevent getting flat spots. Glue this to the previous piece.

Cut 40 or more pieces of .010" X .020" styrene strip, .030" long. Glue 20 around the edge of the door, one at each mark, keeping them pointed straight toward the center of the door. Glue 20 more on top of those, overlapping the door slightly. Cut two pieces of strip a scale 6" long for the base of the hinges, and glue them to the front, centered on the legs made earlier. Cut two strips a scale 16" long and bend them slightly in the center, then glue them to the door and bases. Cut four .020" pieces of strip, and glue them on edge to the top and bottom of each hinge, forming the hinge body at the end.

For the Richmond builder's plates, cut scale 7" X 14" rectangles of .010" styrene and glue them to each side of the smokebox at the horizontal centerline, in line with the stack and cylinders.

**Figure 24:** I've puttied the front of the smokebox/boiler tube to give a good smooth gluing surface. The front is taking shape nicely, with the locations for the door lugs marked out..

**Figure 25:** The lugs are simple to make, but those tiny pieces of styrene can be a challenge to hold on to. I use the tip of a knife to pick them up, and to move them around after touching the area with a little MEK.

**Figure 26:** This is the finished smokebox front, except for the headlight and markers. The datum lines make it a lot easier to get it glued into place perfectly straight.



Figure 24

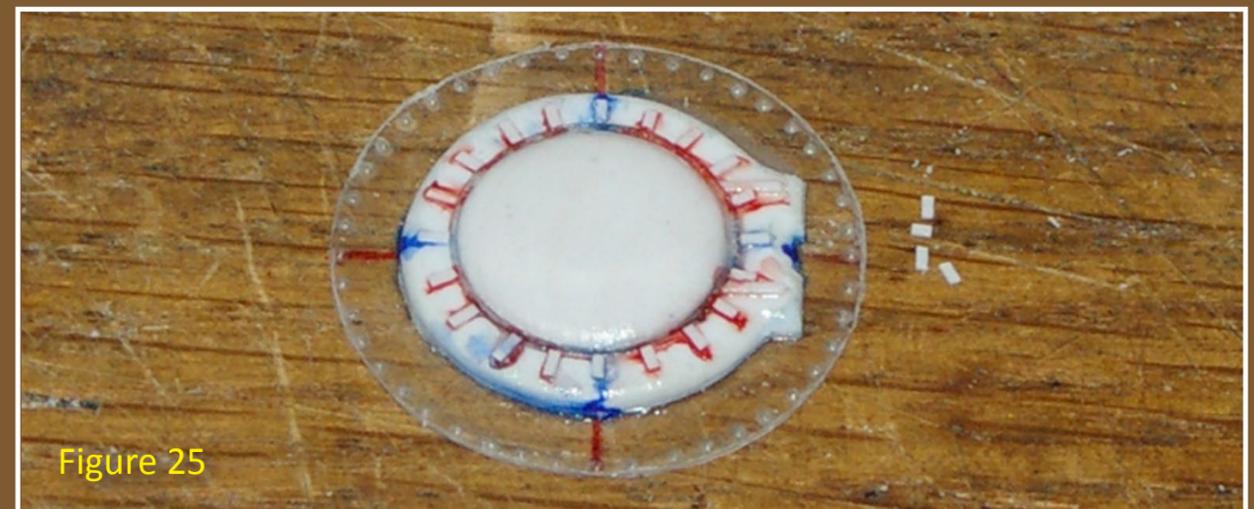


Figure 25



Figure 26

## STEP 7: Shaping the Domes

Re-mark the top and side centerlines again, if needed. On the smokebox, measure a scale 21" forward of the boiler wrapper and mark at all 4 quarters. This is the centerline of the stack and cylinders, and is the mark from which everything else is measured. For the rest of the measurements, mark the top and both sides, then connect the marks to draw a line that is perfectly vertical. The sand box is at a scale 7'-11", the steam dome at a scale 13'-5", the pop valve shroud at a scale 19'-3", and the front wall of the cab at a scale 22'-3". Use tape to connect the marks and draw a vertical line, which will prevent the marks from disappearing beneath parts added later. The first three marks need to extend only about a third of the way around the boiler, but the cab wall should be marked all the way around and down the sides of the firebox.

Cut scale 18" lengths of 3/8" and 7/16" styrene tubes. To make a square cut, measure whatever length you need, and wrap a new piece of tape around the tube. If the tape wraps around and lines up perfectly, it's square. If not, unwrap it and start over. Don't try to pull the tape one way or the other – just let it wrap however it wants to. Once it's square, use the edge of the tape as a straightedge to make the cut. Cut four pieces of .040" styrene, larger than the ends of the tubes, and glue two pieces (forming a cap .080" thick) to one end of each tube.

The steam dome and sand box are made in the same way, though one is slightly larger than the other. Cut and file the caps until they are flush with the edges of the tubes, then taper the sides as much as possible without cutting through the tube. A strong light behind the tube will show when the thickness is even all the way around. Round the top corners, and sand the bottoms to match the boiler diameter. Glue them to their respective bases, then putty as before. Shape the putty as with the stack, but remove a little more of the base, since it should be thinner than the stack's base.

There should be four bolt lugs on the stack. Cut four pieces of .030" styrene rod, about .060" long, and glue them on vertically at the 1:30, 4:30, 7:30, and 10:30 positions, right above the top of the flare at the base.

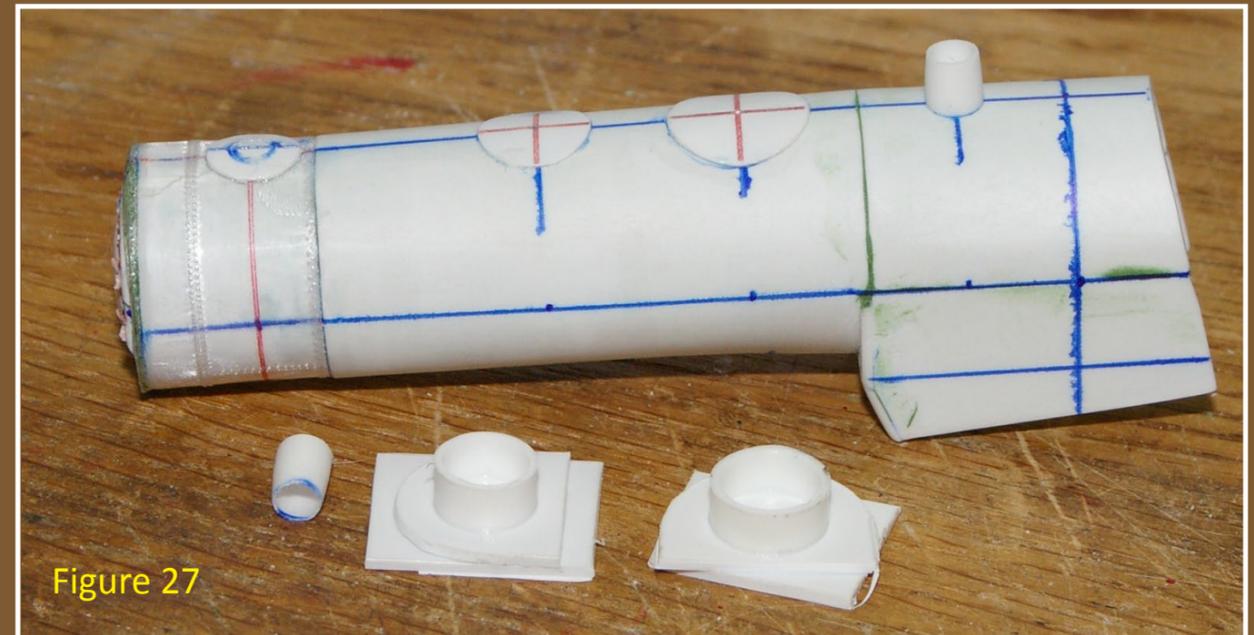


Figure 27

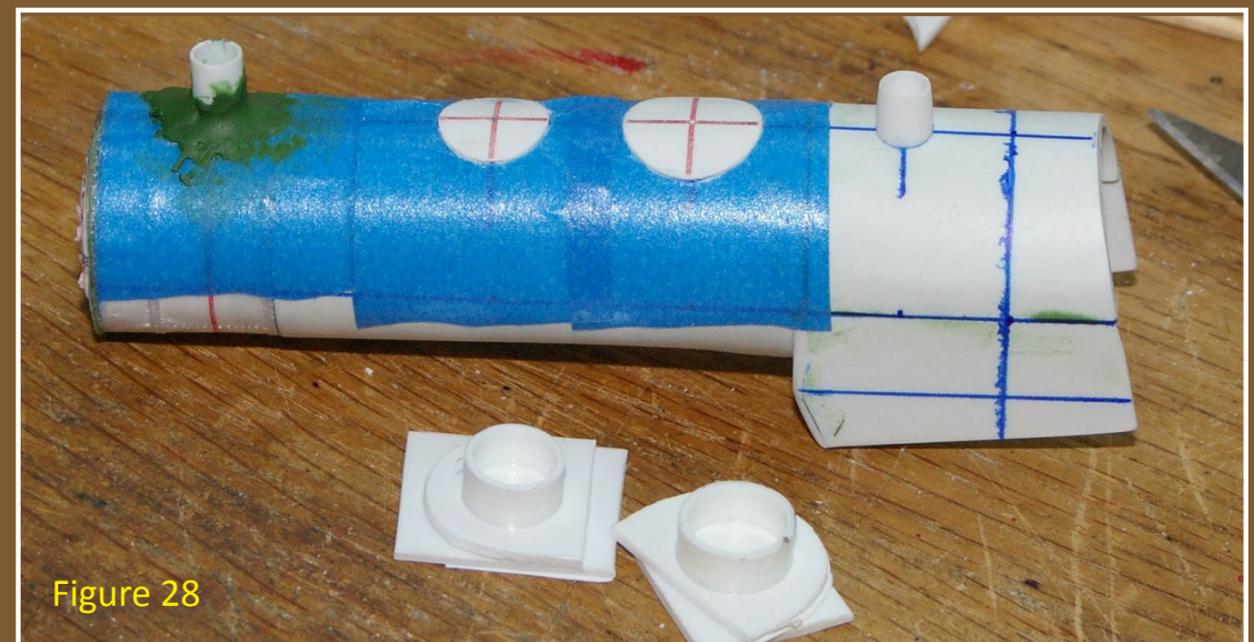


Figure 28

Figure 27: The first step in making the stack and domes is to get the bases glued in place. The base of the stack is large enough that it helps to mark a circle to locate the stack tube.

Figure 28: It looks messy, but the tape protects the boiler while you work.

## STEP 8: Making the Stack, Steam Turret and Flared Dome Bases

Cut three circles of .015" styrene, a scale 30", 36", and 46" in diameter, and mark the center lines on them. Gently curve each circle over a round edge, so that they lay relatively flat on the boiler. Glue them to the boiler at the locations marked previously, using tape to hold them tight. The scale 30" piece is for the stack, 36" for the sand box, and 46" for the steam dome. When the glue dries, carefully cut through the tape at the edges of the circles, and remove the tape from the circles only, leaving it to protect the rest of the boiler.

Measure and scribe a scale 18" piece of 7/32" tube, and a scale 24" piece of 1/4" tube, but do not cut them from the tube yet. Using the tubes as handles, taper the sides of these by rotating them against a file or sandpaper, then cut them free. Sand the large end of the 7/32" piece so that it fits the boiler curve at the mark for the pop valve shroud, and the small end so that it fits the base for the stack. Glue the stack in place, ensuring that it sits perfectly straight and vertical. When the glue dries, liberally apply putty to the joint, completely covering the base. This will form the flared base of the stack.

When the putty is completely dry, use a round needle file to shape the flare. The tape will protect the boiler and smokebox, so work the shape until the edge of the styrene circle is just revealed, and the top of the putty is a level ring around the stack. Lightly sand the flare if needed, then remove the tape.

Glue the pop valve shroud to the boiler last, to prevent it from interfering with making the domes. To make the lips around the tops of the stack and shroud, cut circles of .015" styrene a little larger than the top diameters. Glue them to the top of the stack and turret, and let them dry thoroughly. Carefully shape the outside so that it is just a hair larger than the tube, resembling the rolled lip. Using a very sharp hobby knife, cut away the inside, trimming just to the inside of the base tubes. You should be left with a ring that is about .010" to .015" thick, perfectly centered on the top of the tube. Using a round file, taper the inside edge to thin it until it resembles sheet metal instead of plastic.

Figure 29: You should see an even white line around the base when the flare is consistent all the way around.

Figure 30: Removing the tape shows a perfectly flared base on the domes, and an undamaged boiler underneath.

Figure 31: The stack and turret are capped to make the decorative lip. When the glue dries, it's a simple job to remove the center and clean up the resulting lip.



Figure 29

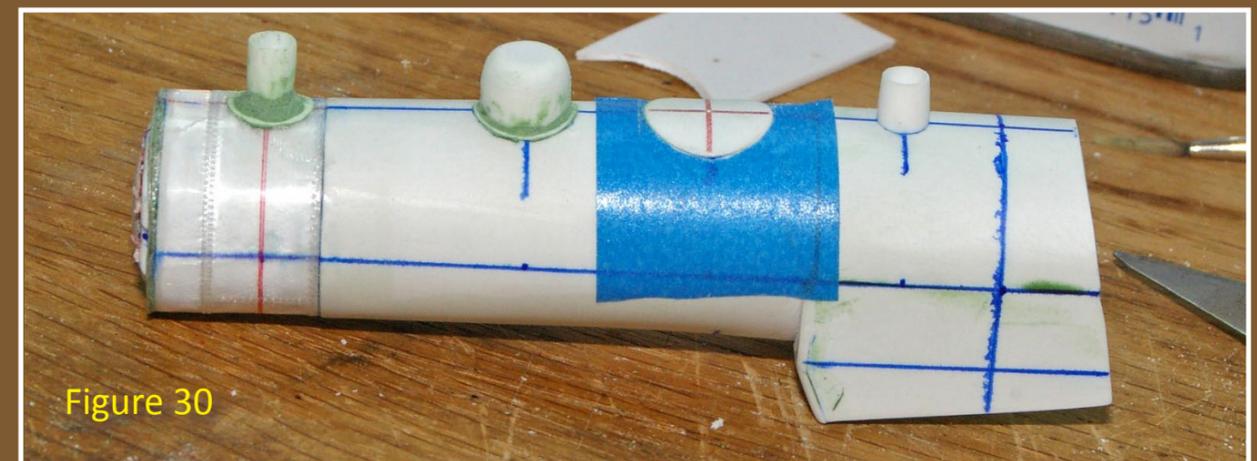


Figure 30

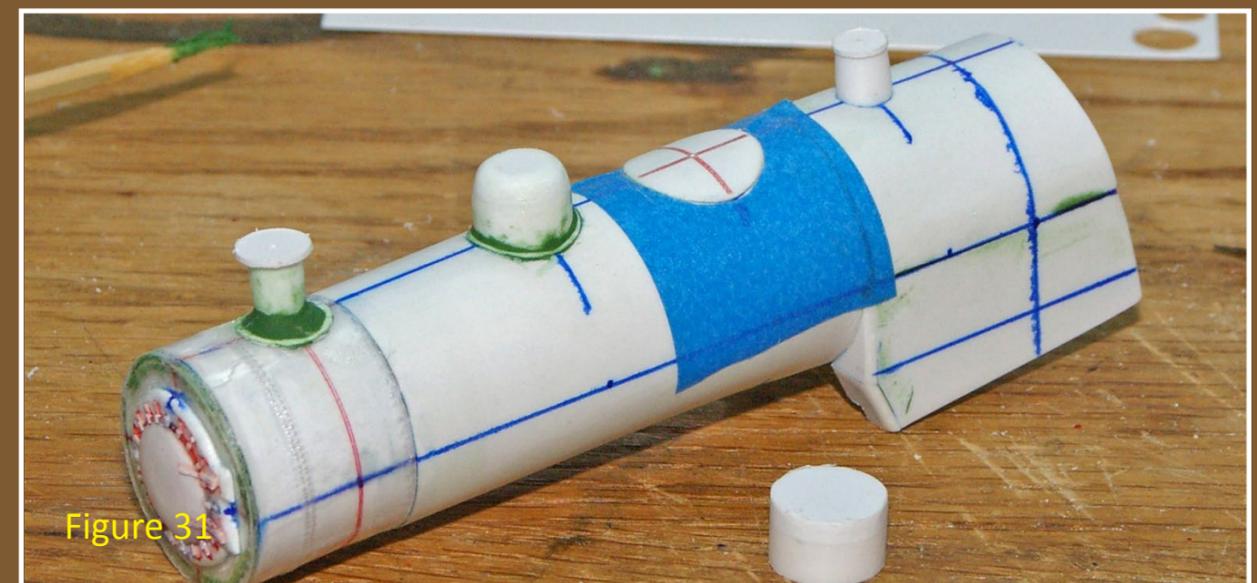


Figure 31

## STEP 9: Making the Stack, Steam Turret and Flared Dome Bases

Scale thickness running boards are a bit thin to be strong. Thicker material is stronger, but the look suffers somewhat. To get the best of both worlds, make the running boards out of .020" styrene, with a second .020" piece underneath, recessed from the edges. When painted black, the second layer will be almost invisible, and the very edge of the running board will be thin.

Mark a horizontal line on the boiler a scale 14" below the centerline. This line marks the top of the running boards, so it needs to be as close to perfect as possible. Any slope will show. On the engineer's side, measure a scale 6" forward of the cab. On the fireman's side, measure a scale 27". These will mark the rear of the running boards. Glue .010" X .020" strips to the firebox, below the running board lines, to register and support the running boards later.

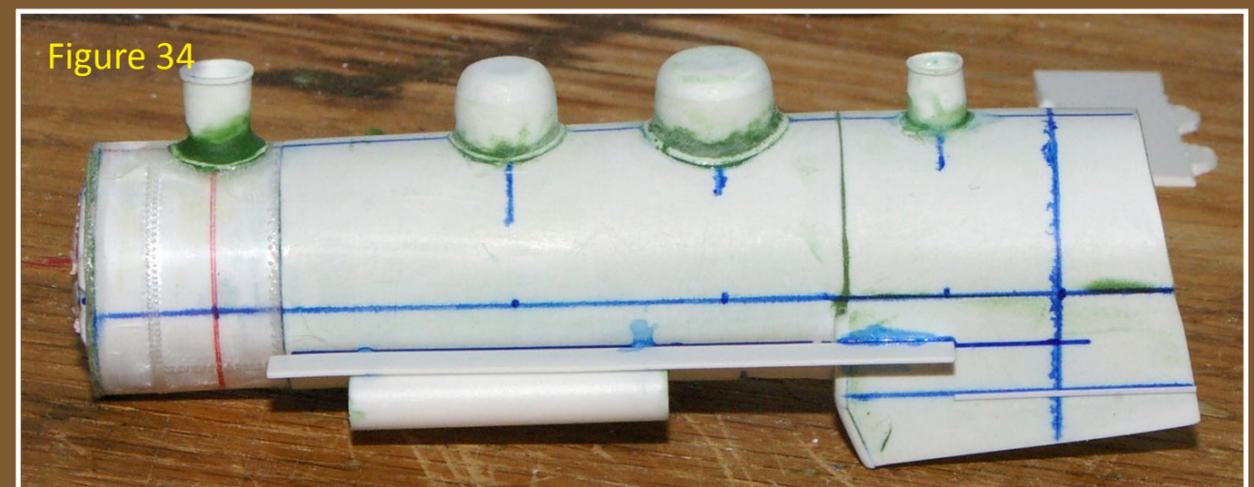
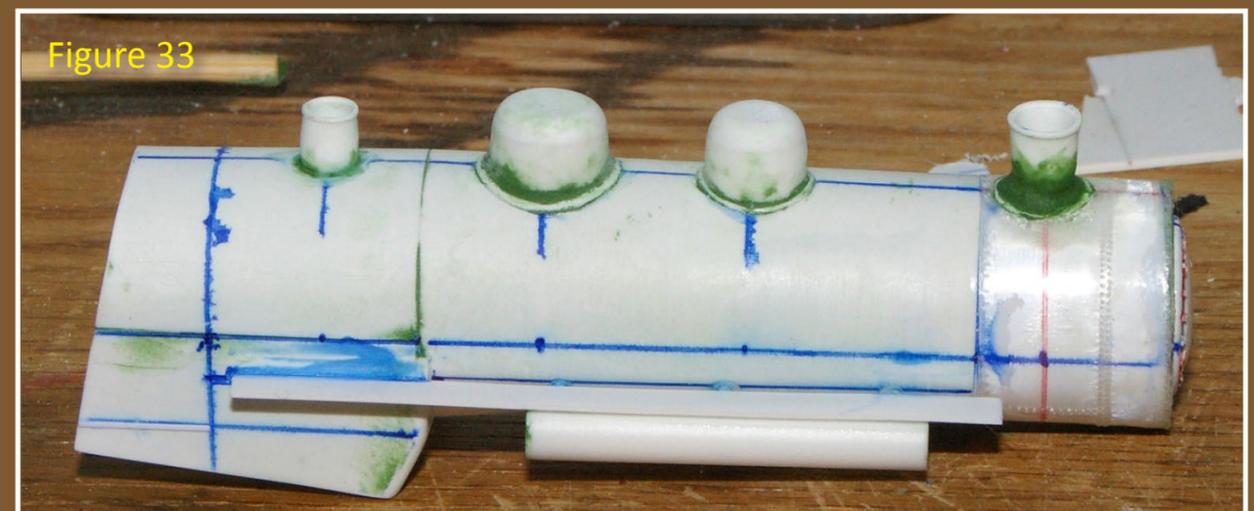
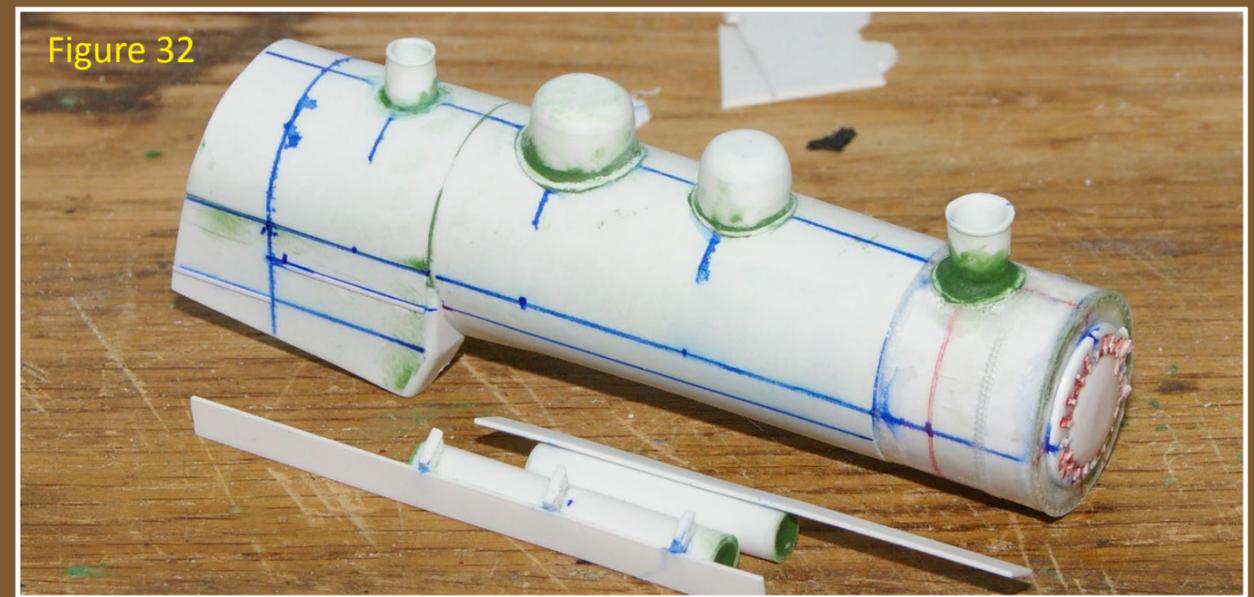
Cut a strip of .020" styrene a scale 14" wide. Cut a piece a scale 18'-0" long for the fireman's side, and a scale 20'-6" long for the engineer's side. Also cut pieces a scale 3" narrower and a scale 9" shorter and glue them to the bottoms. There should be a thin lip at the outside edge, a .020" lip at the rear, and a wider lip at the front. For the fireman's running board, measure and mark on the bottom a scale 8'-0" and a scale 15'-6" from the rear. On the engineer's side, measure and mark a scale 8'-6" and a scale 17'-6" from the rear. These marks will locate the air tanks.

For extra strength, the air tanks are made as integral parts of the running boards. Cut two lengths of 7/32" tube, one a scale 10'-6" and one a scale 8'-6" long. Fill each end with putty. As the putty cures it will shrink a little, leaving a concave end. It may take a little work to let excess air out of the tube, which will otherwise be pushing the putty out making a convex end. When the putty dries, sand it smooth and concave. Glue the tanks to the running boards, centering them between the marks made previously and with the side slightly recessed from the edge of the running board.

Figure 32: Sharp eyes will notice the stack is larger than in previous photos. The first one I made was too small, but it's easy enough to make another. The running boards and air tanks are ready to be glued in place. Notice the locating strips glued to the firebox, which will help align things later on as well as providing a little extra gluing surface.

Figure 33: Engineer's side of the basic boiler and smokebox assembly.

Figure 34: Fireman's side of the basic boiler and smokebox assembly.



## STEP 9: Making the Stack, Steam Turret and Flared Dome Bases *Continued ...*

Wrap .010" X .020" styrene strip several times around a piece of 7/32" tube, and tape the coil in place. Boil it in the microwave to set the curve as with the boiler shell, then cut out rings to go around the air tanks. There are two on the fireman's side, set back very slightly from the ends, and three on the engineer's side, the third being centered. Gluing the rings in place without forming them first results in the thin plastic snapping when softened by the glue.

Test-fit the running boards. They should sit flush against the sides of the fire-box, and have a slight gap between them and the boiler. Sand or shim the air tanks as needed to get both running boards straight and level, then glue them in place.

For the cab running boards, cut a strip of .020" styrene a scale 16" wide. Cut pieces a scale 10'-6" and a scale 8'-4" long. On each piece, measure a scale 92" from one end, and on the other side, measure a scale 6" from the same end. Glue the longer piece to the fireman's side, and the shorter one to the engineer's side, aligning the scale 92" mark with the line for the front wall of the cab. Cut two more pieces from that strip, each a scale 39" long. Leave one end square, but cut the other to match the angle of the backhead. These should go against the backhead and the inside of the pieces you just installed, and end a scale 6" forward of the ends of the running boards.



Figure 35

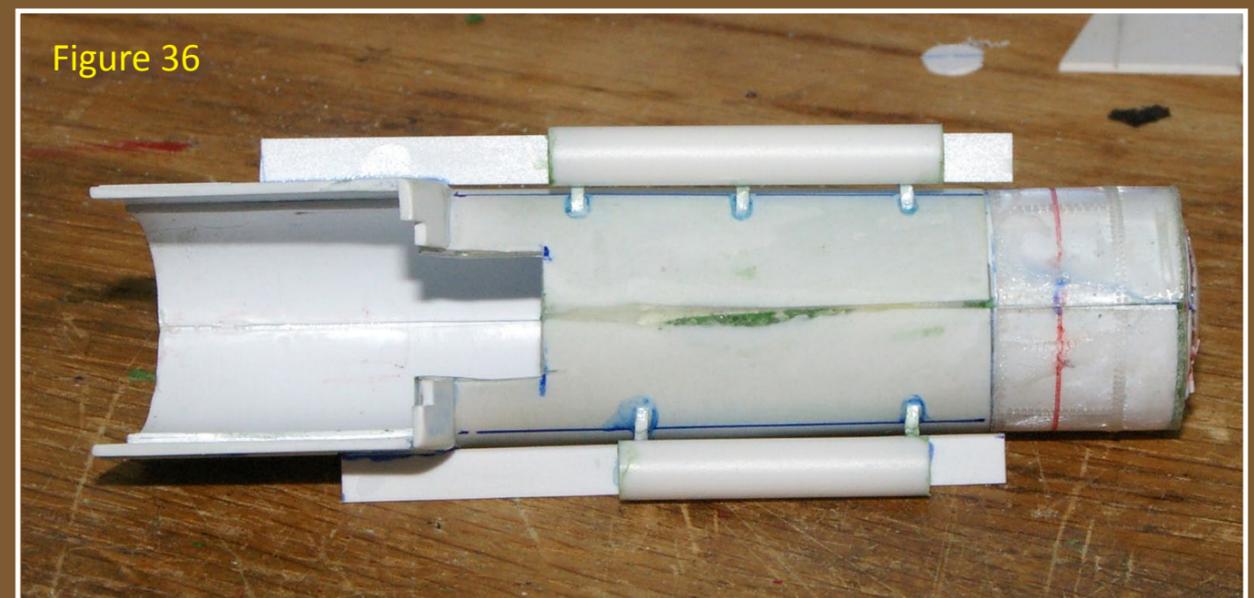


Figure 36

Figure 35: Underneath the boiler, you can see how I cleaned up the seam a little, and also how the air tank ends are made.

Figure 36: The difference in air tank and running board lengths are clear in this view. The front edges of the two running boards really should be even with each other, but the difference is impossible to see on the finished model unless you're looking for it.

## STEP 9: Making the Stack, Steam Turret and Flared Dome Bases *Continued ...*

For the base, cut two scale 16" squares of .020" styrene, and cut an arc out of one side of each. Glue the squares to the bottom of the cab base/running boards, with the arcs facing outward. Cut a piece of .100" styrene I-beam a scale 9'-6" long, and glue this across the back, below the squares added above. Cut a piece of .040" styrene a scale 4'-0" X 2'-6", and drill a hole in the center for a mounting screw. Glue this to the bottom of the I-beam, with the scale 4'-0" dimension horizontal. Reinforce the joints with gussets on the front sides. Check that the assembly fits your frame, and adjust the length of the frame as needed. With the smokebox on the cylinder saddle, the boiler should sit level on the chassis. Mark and drill a mounting hole in the frame to line up with the one in the cab base.

In Part 2, we start adding details to the boiler base. Also, Part 2's subscriber bonus extras includes the author's clinic slides on scratchbuilding a steam loco, which helped inspire this MRH article series.

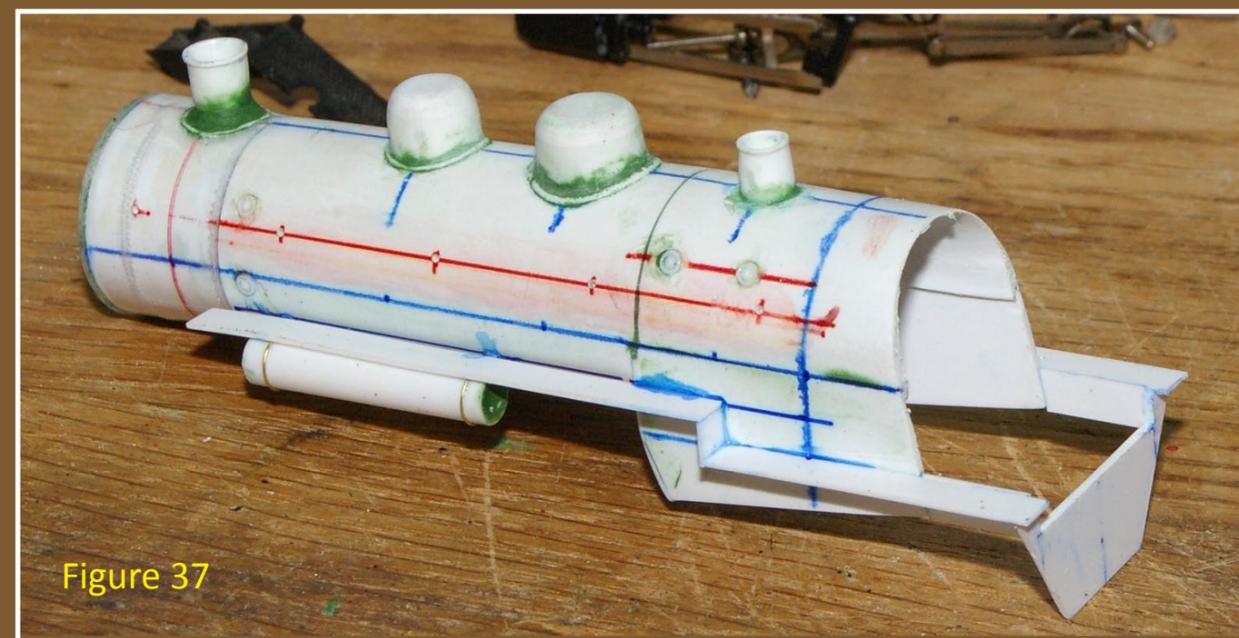


Figure 37

Figure 37: Here you can see the cab base, floor and associated running boards. The base is an earlier attempt, before I decided to replace it with a more prototypical but slightly weaker design. Also, pay no attention to the red lines and cleanout plugs. I built the model slightly out of sync with the text here.

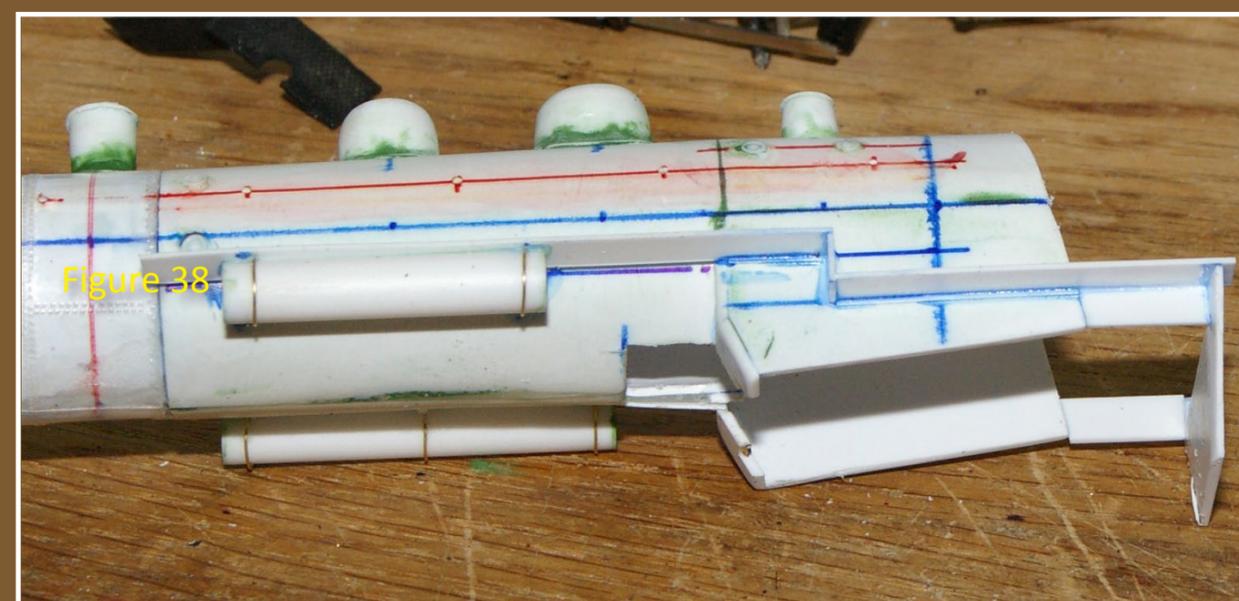


Figure 38

Figure 38: The vertical pieces form the lower cab walls, and also add a lot of strength to the model.



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# Building Frisco's PB Tower

## Techniques for scratchbuilding prototype structures in styrene ...

– by Richard E. Napper, MMR  
Photos by the author

I model the Frisco railroad in Kansas City, MO, and the Sheffield Steel works across town. The Kansas City Terminal Railroad had Tower 4, which was the Frisco interlocking plant where it crossed the KC Terminal RR tracks on the west side of Kansas City Union Station, and allowed the Frisco to operate between the inbound yard at 19th street, and the outbound yard at Rosedale.

The Katy Railroad's Glen Park yard was parallel to and east of Frisco's Rosedale yard. Consequently the Frisco had the 29th Street tower on the North end of Rosedale to control movement in and out of the Katy yard, and in and out of KCUS for both Frisco and Katy passenger trains. At the south end of Rosedale was KY tower to control Katy movement onto the double track Frisco mainline heading south.

I need to scratchbuild these towers for my layout. In this article, I'm building a model of the Frisco PB Paola, KS tower. I have two photographs of the tower taken in June 1957 by Howard D. Killam (see figures 1 and 2 next page).

I'm modifying the tower a little, and calling it Sheffield because it's beside the Sheffield

*Text continues on page 81.*



Figure 1



Figure 3



Figure 4



Figure 2



Richard Napper has been a model railroader for about 50 years. He models the Frisco, Missouri Kansas and Texas, Missouri Pacific, and Chicago Rock Island and Pacific. He is modeling the Kansas City area, including Sheffield steel on the Frisco Northern division, Kansas City subdivision in HO scale. He enjoys scratch-building using styrene. He is a life member of the National Model Railroad Association, Mid-Continent Region, Kansas Central Division.

*Text continues from page 79.*

Steel Works on my model railroad. The tower controls the interlocking of my two mainlines as they leave town and head out to the coal, limestone and iron ore open pit mines in Missouri. I modeled the tower with an open staircase before the little lean-to was constructed over the prototype's second floor door. That keeps it looking more like the other two towers.

I found out a long time ago that no one makes windows and doors for Frisco structures, so I make my own using my special jigs I have constructed. I looked up the specifications for the PB tower in my Northern Division Bridges and Buildings manual. The tower had two doors, plus 40 22" x 36" window sashes, which translates into 20 22" x 6' windows. In HO scale 24" is  $\frac{1}{4}$ ", so I made the windows in my  $\frac{1}{4}$ " jig. I built 27 windows using thirteen pieces of styrene per window (figures 3 and 4 previous page). They were bonded together using MEK. The two doors are 30" wide, so I made them out of sixteen styrene pieces in my  $\frac{3}{8}$ " jig (figures 5-7). They end up being a little wide, but you cannot tell it when they are installed on the tower. I added the knobs to the two doors after they were painted, using straight pins and a #70 Drill. My cost is pennies per window and door, and I get the Frisco style I want. I used both my modified Chopper I and my new The Calibre Cutter to cut the necessary styrene pieces to make my windows and doors (figure 8).

I make my own stairs out of styrene pieces using my special stair-making jig. I cut 4" x 8" styrene pieces three feet long and bond them together on the 41° angle using Tenax-7R. After they dry for a day, I cut them down the middle to make two stair stringers. These I put into the second part of the jig and use 2" x 10"



Figure 5



Figure 8

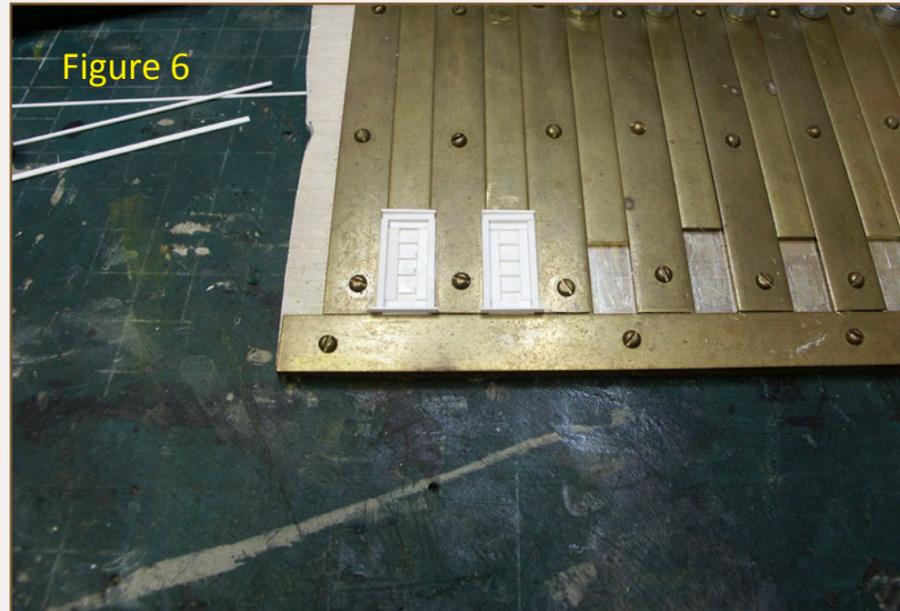


Figure 6



Figure 9



Figure 7

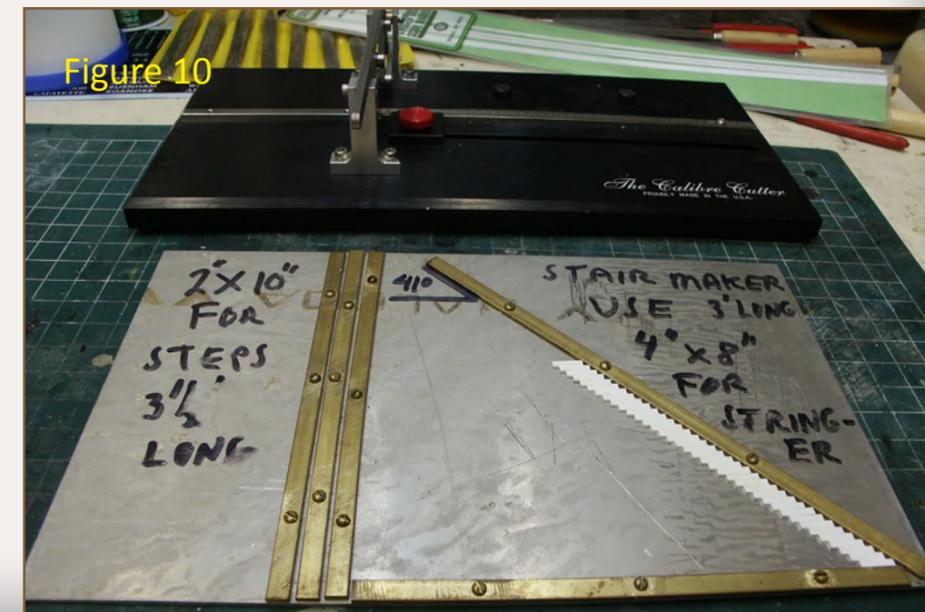


Figure 10

3½' long as the steps. I can make stairs any length I want using this method (figures 9, and 10 previous page, and 11-16 this page).

The tower is 16.3' wide, 32.2' long, and 23' high to the roof eave. I drew the tower plans to scale using a HO scale ruler and figured out the second story window spacing (see my drawing, figure 55). The tower foundation is concrete, so I bonded together four .080" plain pieces of styrene to make the foundation 16.3' x 32.2' (figures 17 and 18 next page).

Using Evergreen #4061 Clapboard siding, I cut the four wall sections (figure 19). While the wall pieces are flat, I cut out the windows and doors. I cut the wall sections apart at 13' and inserted the 4" x 12" piece below the second-story windows. I never cut anything to length that I do not have to do so; I make sure one end is aligned with one end of the side wall and let the other end run long. That way I trim and file the pieces to the correct length without measuring anything. I cut the siding along one of the siding lines below the windows. Using a machinist square, I cut the sides of the door and windows through the .040" styrene pieces and then score the top, and break it out. Using Tenax-7R, I bond the walls back together; once painted, you will never know the wall sections were cut apart (figure 20 next page).

I reinforce all corners on both the inside and outside of the wall sections using .125" square styrene on the inside, and right-angle stock on the outside. I screwed up big-time, and made the first-floor ceiling piece way too big, which made the walls bulge. I had to throw the tower away and start over – yes, even we seasoned veterans make mistakes now and then (figure 19 next page)! The

*Text continues on page 84.*

Figure 11



Figure 14



Figure 12

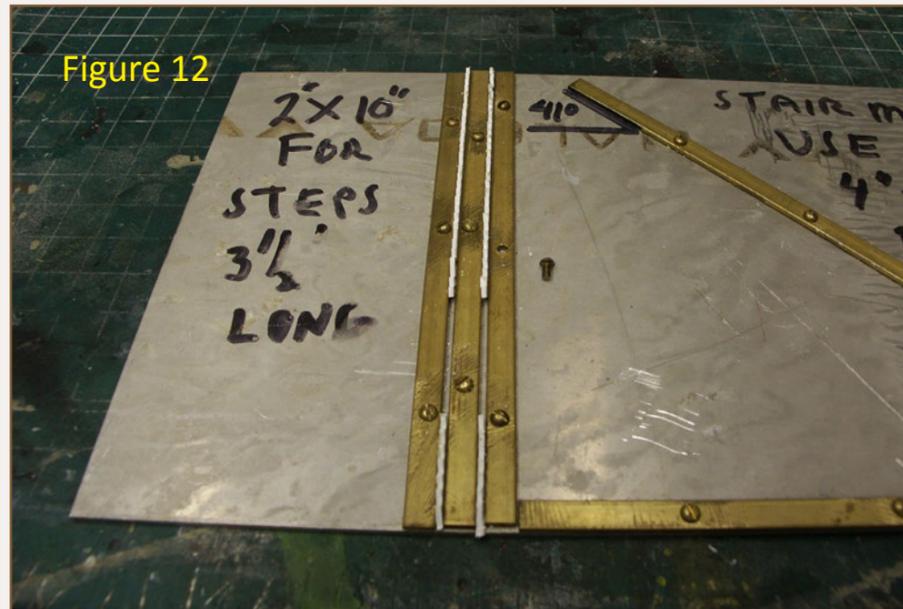


Figure 15

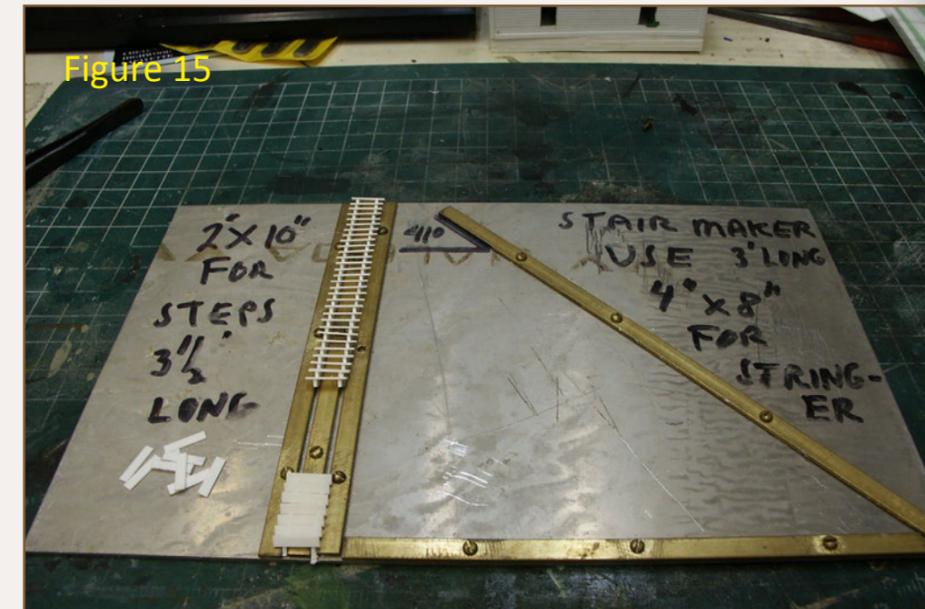


Figure 13



Figure 16

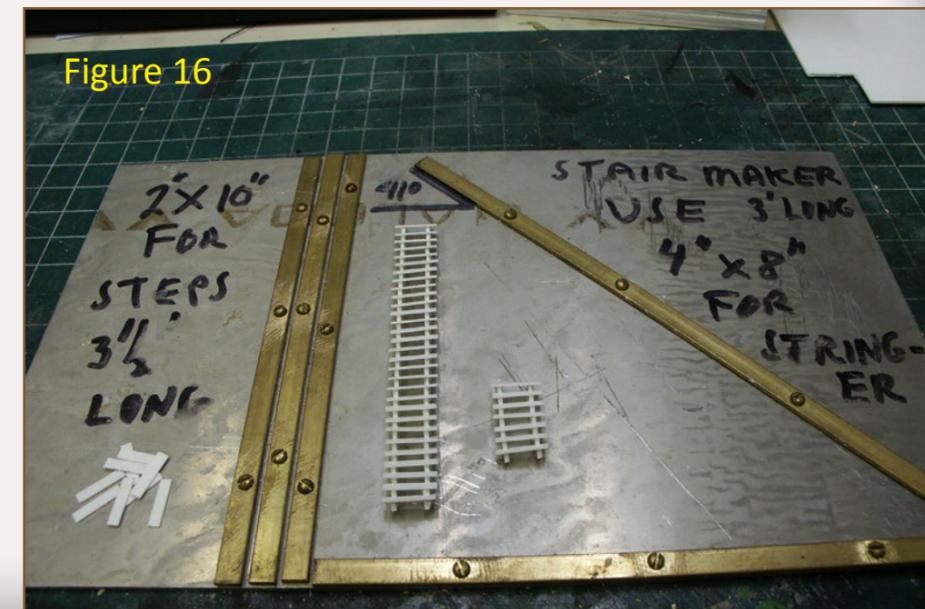


Figure 17

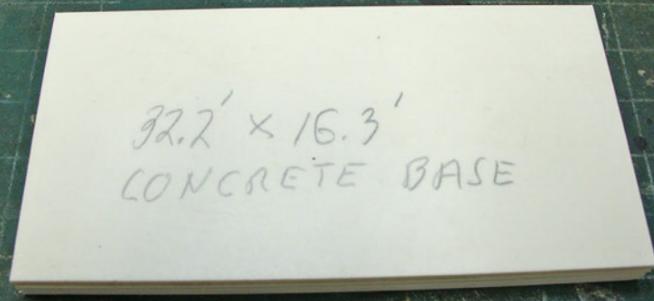


Figure 20



Figure 23

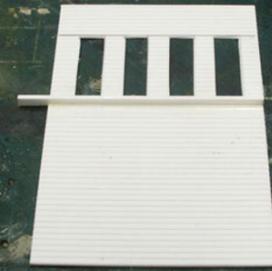


Figure 18

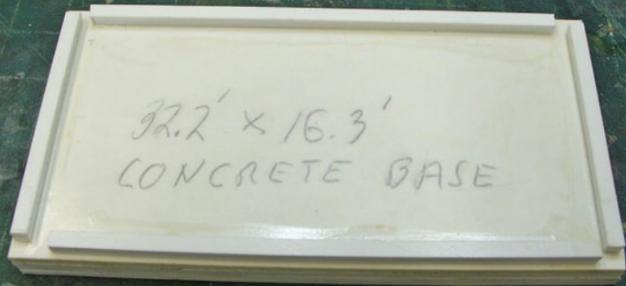


Figure 21

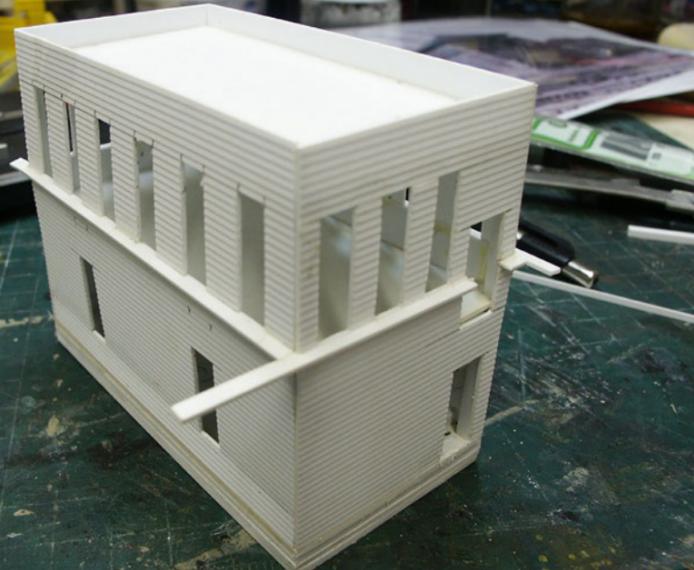


Figure 24



Figure 19



Figure 22

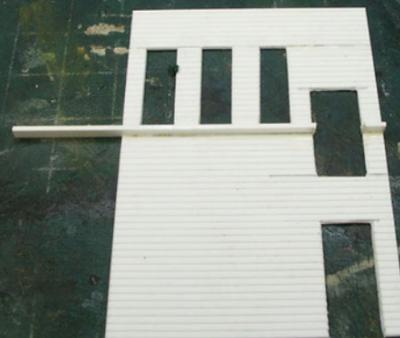


Figure 25



*Text continues from page 82.*

new wall sections are shown in (figures 20-25 previous page).

I carefully assembled the four walls to the new foundations, then carefully measured the floors and installed them. I painted the inside of the floors and walls using Floquil BN Green. By doing this, I keep the styrene from glowing when the structure is lit. Once the outside of the walls are painted, it's hard to tell the structure is made from styrene and not wood. On most structures, I paint the inside with Floquil Engine Black. I cut the second floor trim boards and filed them to correct length, all done without measuring anything. The outside corner boards were installed, along with all of the remaining first-floors trim boards (figures 25 previous page, and figure 26-28 this page).

I installed a ceiling at the very top of the wall sections (figure 27). I placed a 4" long by 1" high piece of styrene on the center line of the sub-roof. I do not know any easy way to make the four roof sub-pieces out of .040" plain styrene. I cut the two end roof pieces first to fit; I then cut the two larger pieces to fit between them, making sure I had the two foot overhang on all sides (figures 28 and 29). I used Plastruct #91630 asphalt shingles for the final roof and used angle pieces over the seams (figure 31). Using a mixture of one-half a paint bottle of MEK, I add styrene scraps to it to make my own styrene putty; I used the putty to seal the roof peak ends.

The roof angle is  $14.23^\circ$  and 1-in-4 pitch. Using an angle of  $75.77^\circ$ , I cut rafter ends long on my modified Chopper I (figure 32 next page). I added the top trim board to seal the wall to roof



Figure 26



Figure 29



Figure 27

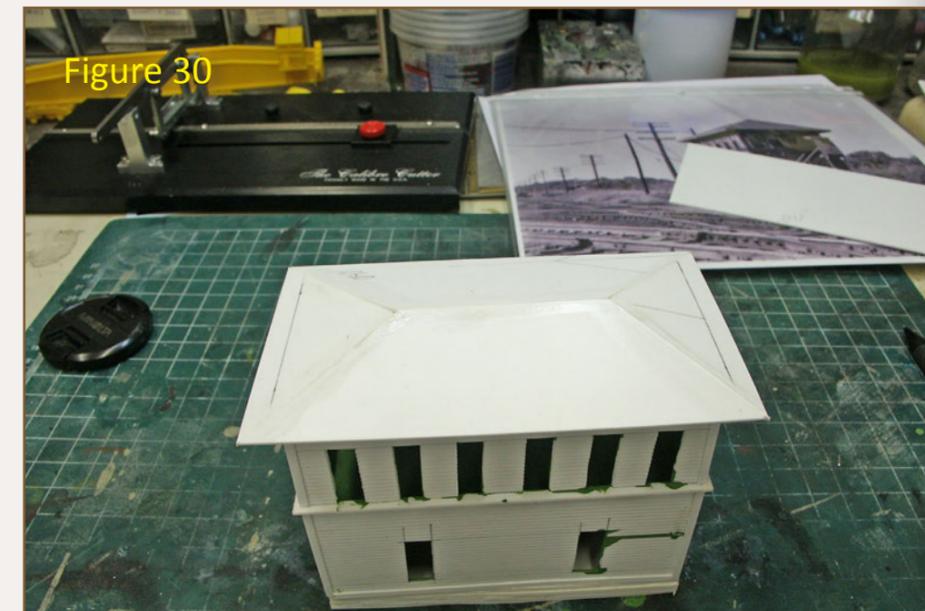


Figure 30

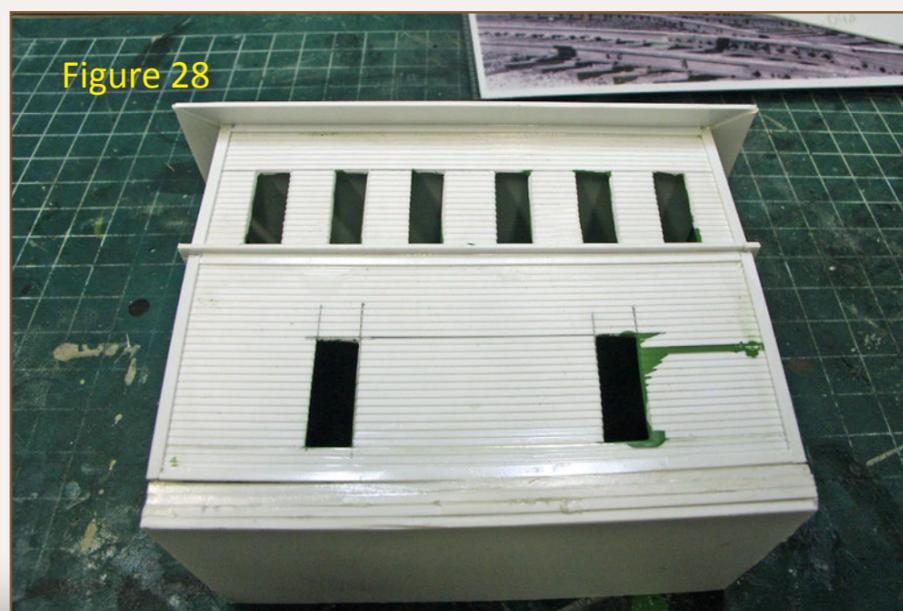


Figure 28



Figure 31

joint. The rafter ends are glued under the roof overhang on two foot centers. After they dry, they are trimmed and filed to length (figures 32 and 33). The roof peaks are also filed to correct length. I then added a 2" x 12" and a 6" square piece on the roof ends. Both were installed long and trimmed and filed to the correct length (figures 34 and 35).

Using Campbell Chimney sections, I added the chimney to the back wall. It was painted using Floquil Signal Red and the clean-out door was painted Floquil Engine Black. The tower walls and roof were painted using Floquil Reefer Yellow and CN&W Green. I have never seen a color picture of a Frisco Tower, so I really do not know what the correct colors were. I have adopted yellow, brown and green as my company colors (figure 36).

Windows usually have the trim boards longer than the window, but after studying the picture some more, I concluded that the windows are flush on all sides; so I had to trim all of my windows before I painted them Floquil Roof Brown while attached to blue painters tape (figures 37 this page and 38 next page).

I put the Tenax-7R in an A-west .020" blue top applicator bottle. I used the Tenax-7R to bond the windows and door in place on the tower. Tenax-7R is the only stuff I have found that will bond styrene to painted styrene walls. The paint will bubble up, and then settle back down as the Tenax-7R evaporates (figures 39 and 40 next page).

I constructed the staircase and second floor platform on the end of the tower. The railings are 6" Square Styrene and 90° angle. All supports are 6" square styrene with 2"x 6" bracing. The stair assembly was painted Floquil Roof



Brown and the foundation was painted Floquil Concrete (figures 41 and 42).

Using Microscale Micro Kristal Klear as window Glass, I finished the widows by using a toothpick and laying the tower on its side (figure 43).

I weathered the tower lightly using black paint powder and gray paint powder on the stairs. I printed the signs on my computer and glued them to styrene pieces using Tenax-7R, then attached them to the tower using more Tenax-7R (figures 44 this page, and 45-53 next page).

The tower was set aside to be installed on my layout at a later date. REMEMBER THE FRISCO!

*Article continues on next two pages.*



Figure 39



Figure 42



Figure 40



Figure 43



Figure 38



Figure 41



Figure 44



Figure 45



Figure 48



Figure 51



Figure 46



Figure 48



Figure 52



Figure 47



Figure 50



Figure 53



# Frisco PB Tower Plans

## Parts List

## FRISCO PB TOWER - Important dimensions

West side:  
Second story has  
4 windows + chimney + 1 window

South end:  
Second story has 4 windows

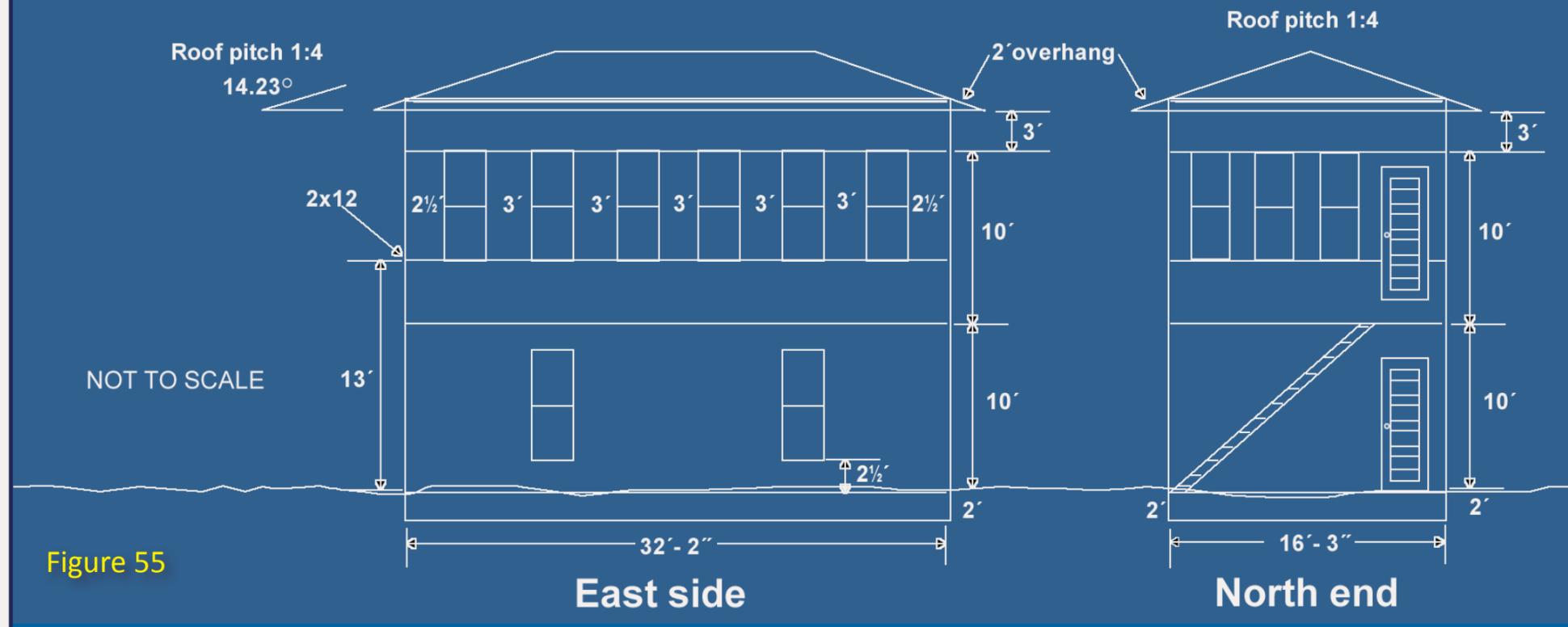


Figure 55

## Chopper 1 Rebuilt

The Chopper I, as it comes from Northwest Short Line, will wear out after just one project; that's why they made the Chopper II.

But I have a better idea; I purchased two 1/4" Square blank pieces of tool

steel. I glued .010" styrene pieces at both ends of the tool steel in order to form a slot. I cut out the Chopper I base and epoxied the tool steel in the base under the razor blade such that it closes down on the blade in the slot.

I added a HO scale ruler to the Chopper I; that finishes the

modifications I made to my Chopper I. Now it will never wear out. ■



- The Calibre Cutter
- The Modified Chopper I
- Special Window Jig
- Special Door Jig
- Special Stairs Jig
- A-west .020" Blue band Application Bottle
- MEK
- Tenax-7R
- Microscale Micro Kristal Klear
- Floquil Engine Black, Signal Red, Roof Brown, Concrete, CN&W Green, Reefer Yellow, and BN Green, Black and Gray Paint Power
- Plastruct #91630 Asphalt Shingles
- Evergreen #9020 .020" Plain Styrene
- Evergreen #9040 .040" Plain Styrene
- Evergreen #9080 .080" Plain Styrene
- Evergreen 34050 .050" spacing V-grove Styrene
- Evergreen #4061 .060" Spacing .040" Thick Clapboard Siding
- Evergreen # 291 .060" Angle
- Evergreen #293 .100" Angle
- Evergreen #186 .125" x .125" Square Strips
- Evergreen #8203 2" x 3" Strips
- Evergreen #8204 2" x 4" Strips
- Evergreen #8206 2" x 6" Strips
- Evergreen #8208 2" x 8" Strips
- Evergreen #8210 2" x 10" Strips
- Evergreen #8212 2" x 12" Strips
- Evergreen #8408 4" x 8" Strips
- Evergreen #8412 4" x 12" Strips
- Evergreen #8606 6" x 6" Strips
- Straight Pins ■



## Speeder Setouts

### A simple lineside detail ...

– by Jack Burgess



I model the Yosemite Valley Railroad circa August 1939 and in those days there were several track crews stationed along the line which

maintained the 78 miles of track and right-of-way. The number of section crews on the railroad varied over the years, determined by distance that a crew could travel to inspect and repair the track, the equipment available (handcars vs. motorized speeders), and the terrain (such as the flat San Joaquin Valley areas vs. the steep terrain along the Merced River along the upper portion of the line). In 1914, there were ten sections and all of the crews were using handcars to reach locations along their section. By 1922,

some crews had motorized speeders which resulted in reducing the number of section crews from ten to nine. Complete adoption of speeders allowed the number of section crews to ultimately be reduced to five sections. These crews were housed in quarters within each section.

A working section crew might have a motorized speeder pulling one or more trailers piled with materials and tools for that day's work. Whereas it was entirely possible to pull a trailer off of the track to allow for a passing train,

Figure 1: A speeder setout is visible on the far side of the mainline to the left of the two men walking along the empties track in this photo looking down the logging incline at Incline on the Yosemite Valley Railroad. While many speeder setouts have wood blocking between the rails to help crews get the speeder off of the rails, the YV didn't bother with such "improvements" as shown in this photo – W.C. Whitaker photo.

Figure 2: Here is the author's speeder setout at Incline near the bottom of the logging incline visible in the background.

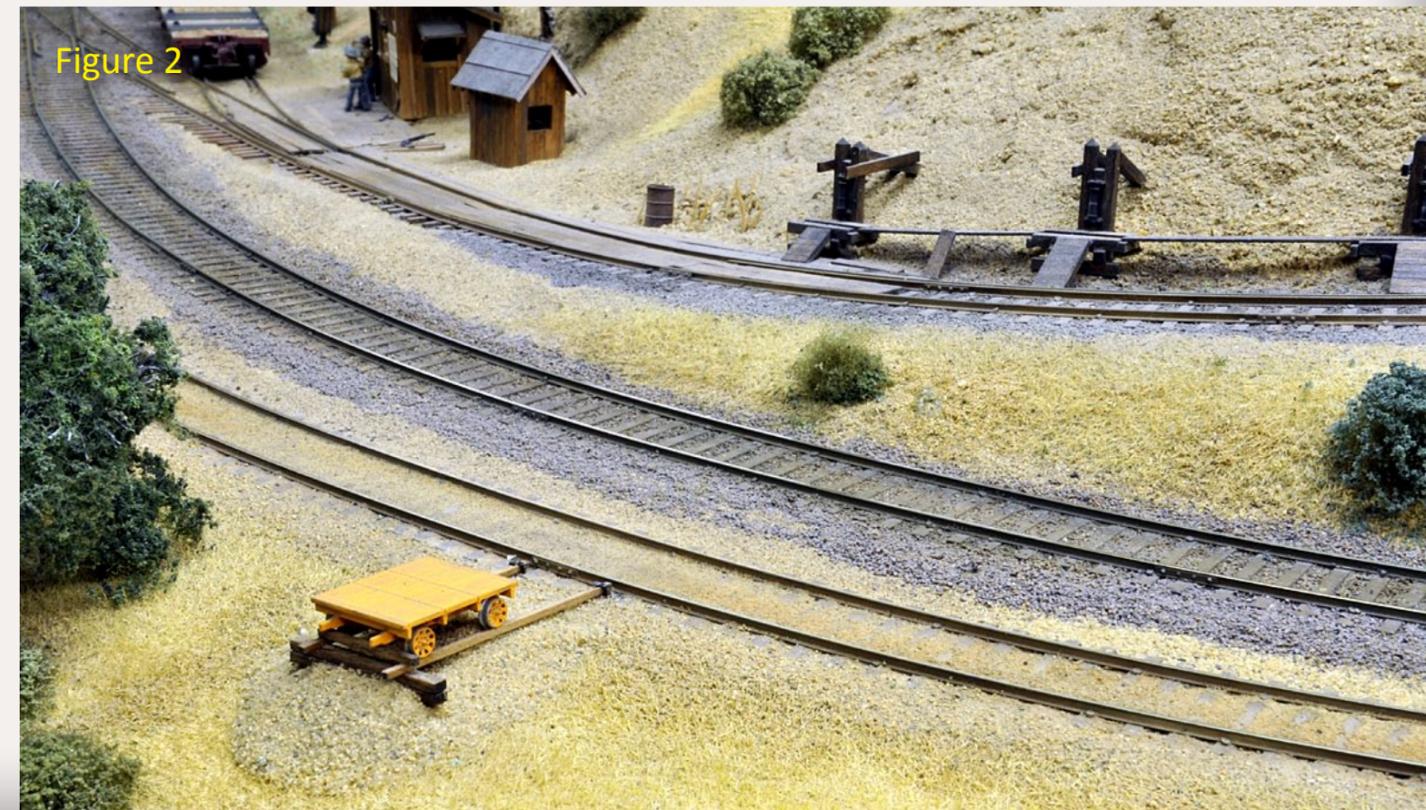


Figure 1

Figure 2

motorized speeders were heavier and more difficult to manhandle on and off of the track. While a crew might work anywhere along their section, prototype photos show a couple of locations where "formal" section car setouts were built as shown in Figure 1 and it can be assumed that there were more.

I've built several speeder setouts on my layout and, while most of them have trailers spotted on them as in the prototype photo, I will eventually build the fleet of a dozen or more speeders owned by the YV in 1939. Of course, one of my setouts is across from the bottom of the logging incline shown in Figure 1.

The construction of these setouts is relatively simple. I used 4x4 stripwood stained with a black shoe dye/alcohol mixture (a ½ teaspoon of Lincoln brand black leather shoe dye to a quart of

70% Isopropyl alcohol) for the main supports which are in turn supported on one or more railroad ties to help level out the main supports. The trailers are from Grandt Line Products.

These setouts are easy, one evening projects appropriate for the decades leading up to the use of high-rail vehicles. 



**Figure 3: Another speeder setout at Milepost 25. The construction of these setouts is simple, consisting of some ties to match the grade and some 4x4s to hold the speeder or trailer level with the track.**



Figure 3

# Take your scenery modeling outside the box ...



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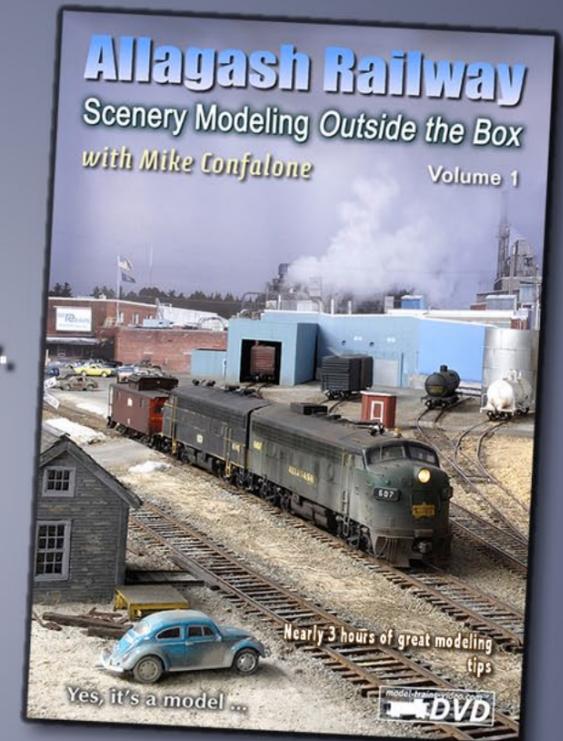


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# Small track plans galore!

Great small track plans from MRH subscriber **Stein Rypern (steinjr)**



— compiled by Joe Fugate

The MRH website has seen a proliferation of great small layout designs posted in recent months. MRH subscriber steinjr's layout plans have been especially enlightening.

We'll proceed from Stein's smaller designs to his larger designs. In most cases they come in at something less than your typical 4 x 8 (i.e., under 32 square feet).

For more layout design insights, see the MRH category: [Layout design](#).

## Micro-layout designs

MRH subscriber steinjr posted the track plans in figure 1 on the MRH thread debating whether or not a 4x8 is a poor layout configuration. You can find the *4x8 sucks* thread here:

[mrhmag.com/node/6437](http://mrhmag.com/node/6437)

**Stein says:** "You can do continuous running loops in HO scale with a very sharp radius, as in so-called 'pizza-box' layouts – see [mrhmag.com/node/871](http://mrhmag.com/node/871) for an example.

But this usually means short locomotives and cars, as well as modifying, scratchbuilding or kitbashing engines and cars. This kind of layout

is not recommended as a first layout for beginners.

Small layouts don't have to be something special like narrow gauge as some seem to think. You can do standard gauge and can do purposeful switching on a small layout. It is easy if you drop the requirement to have a continuous-run loop.

These three layouts I show in figure 1 just barely exceed the 'micro' label (i.e., less than 4 square feet), but these layouts are not exactly huge, either!

As I illustrate with these three layout examples in figure 1, it is quite possible to get a fun layout in a very small space.

I do think the micro format is a little too small (at least in HO scale) for a first layout. But doing a small layout that's say 6-8 feet long and 12-18" deep is well within the reach of most beginners.

It all comes down to what you want from a first layout in terms of scale, footprint and functionality."

Very well said, Stein. We agree that with just a bit of imagination, you can build a near-micro layout project that will keep you happily model railroading for many months!

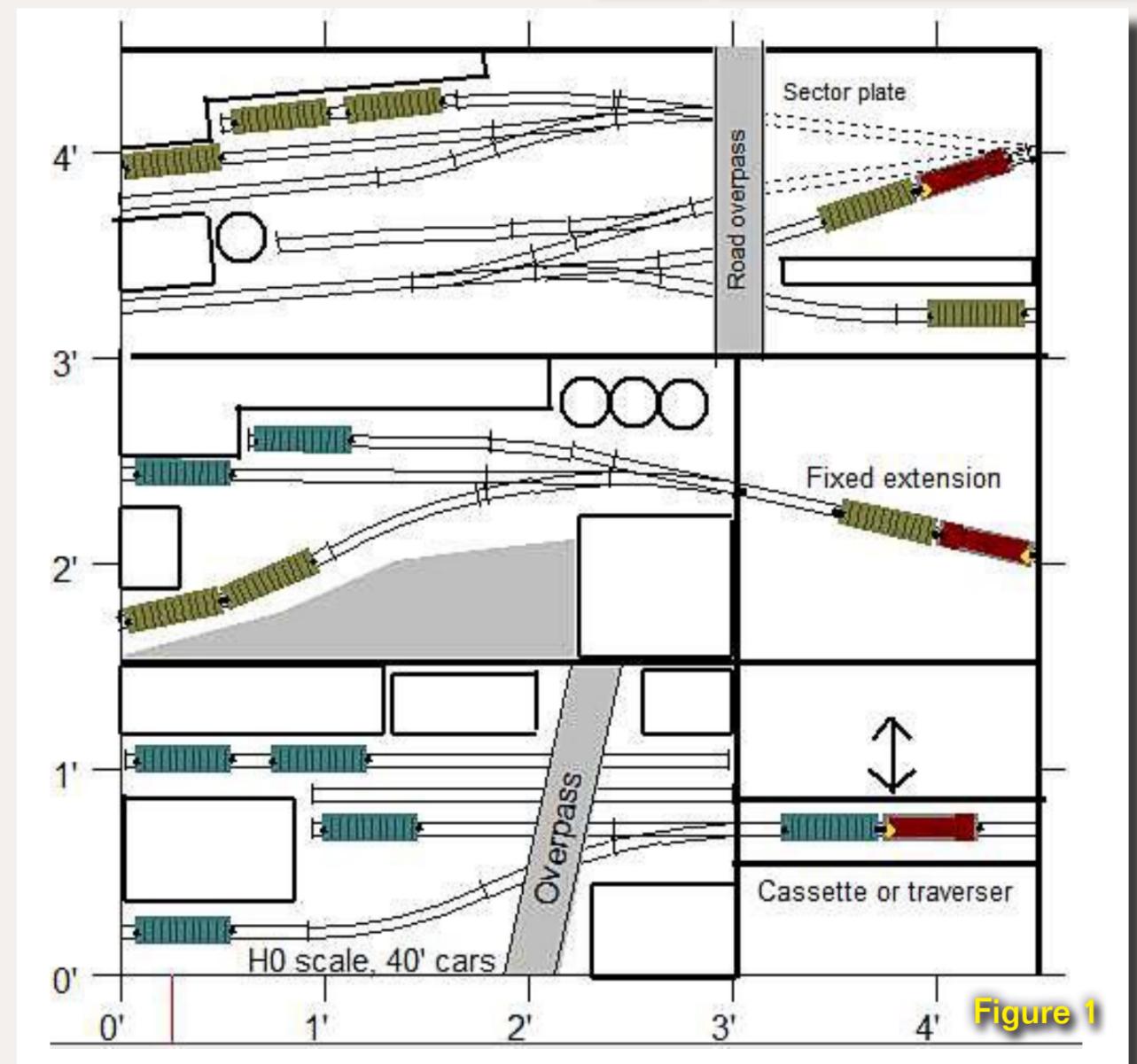


Figure 1: These three near-micro track plans ("micro" plans are considered to be under 4 square feet) by MRH subscriber steinjr illustrate what you can do in a tiny space and still get interesting operation. A sector plate or a cassette/traverser are common tricks used by our fellow model railroaders in the UK to get a lot of operation and modeling in a small space.

If you're really strapped for space, consider building something of this size. Try making it operate as flawlessly as possible, and think in terms of detailing the scene and equipment to a fine level of detail. Not only will you learn a lot in the process, you'll hone your skills and get out of the armchair with something you can operate!

## Shelf switching layouts

The next level up is to make a small shelf switching layout that's in the range of 6-12 feet in length.

Stein presents several different examples of this kind of layout in this MRH thread on shelf layout design:

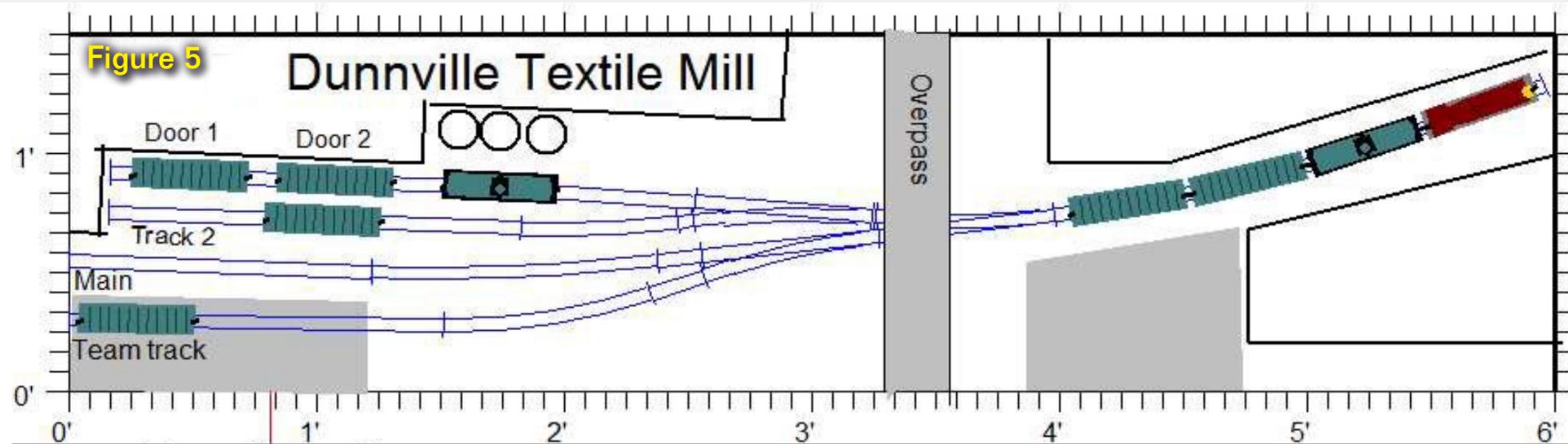
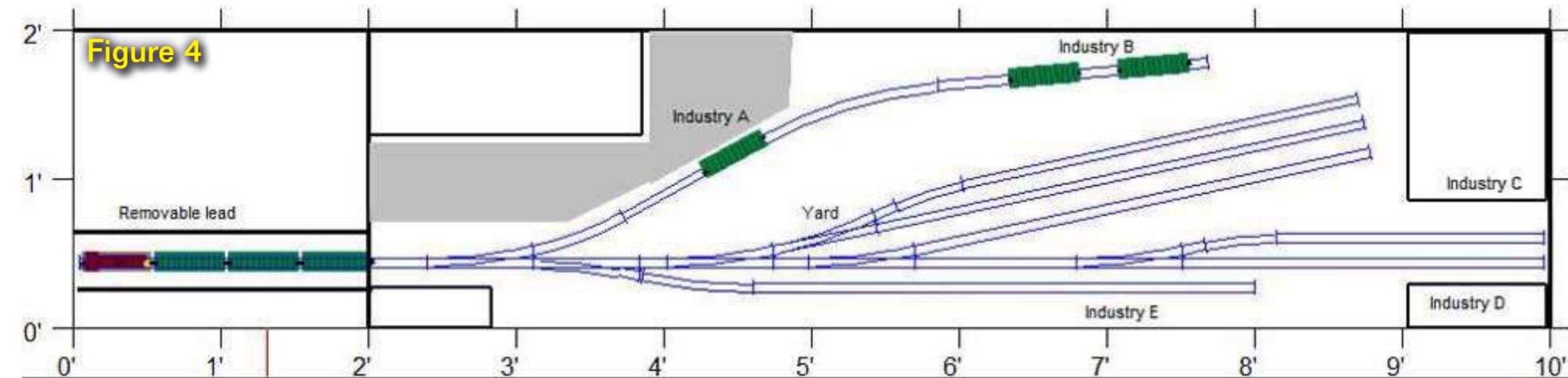
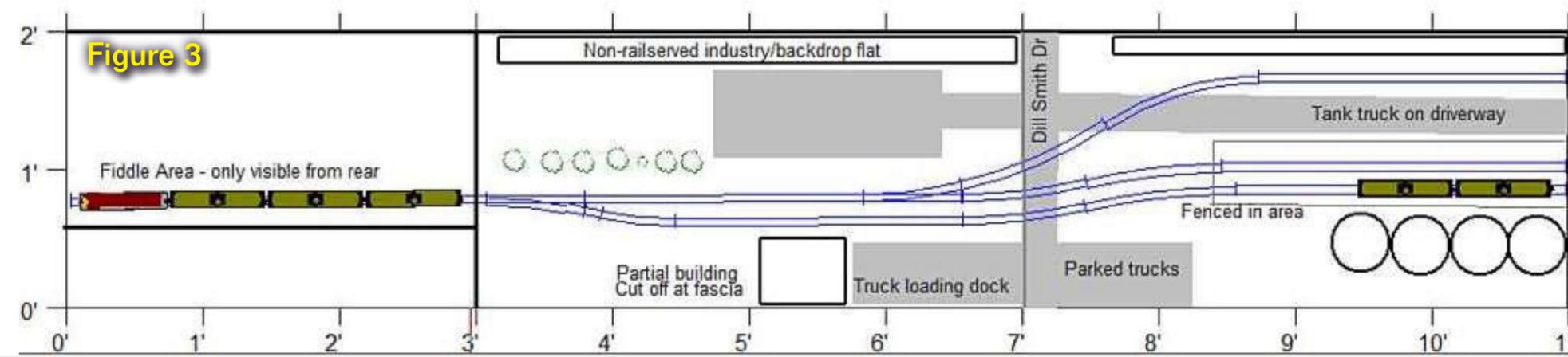
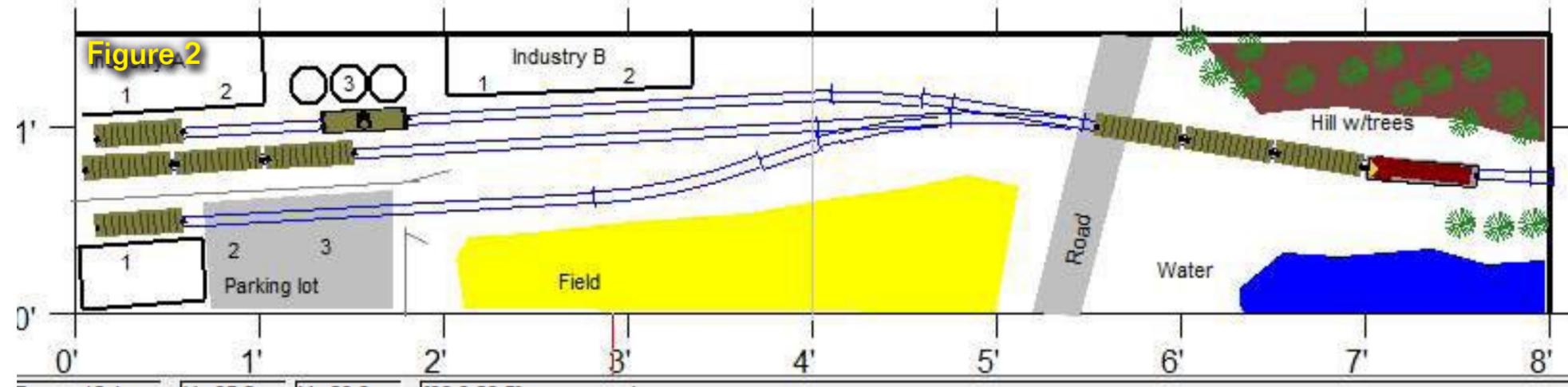
[mrhmag.com/node/7502](http://mrhmag.com/node/7502)

**Stein says:** "Don't assume you always need a runaround on a switching shelf layout. Yes, a runaround is often nice to have (and I have one on my upstairs shelf switching layout), but it is not a necessity.

There are at least two ways of making an interesting small switching layout which does not have a runaround:

1. Orient all tracks so you have no facing spurs. May sound boring, but you actually can get quite interesting switching from a simple track plan. For examples, see the track plans I've done in figures 2-6. These plans have several car spots (sometimes also several industries) per track, and no need for runaround movements.
2. Have both facing and trailing spurs, but vary the initial setup of your train, see figures 7-9 (next page). Sometimes your train will

**Figures 2-5: Trailing-point only layout designs. See text for details.**



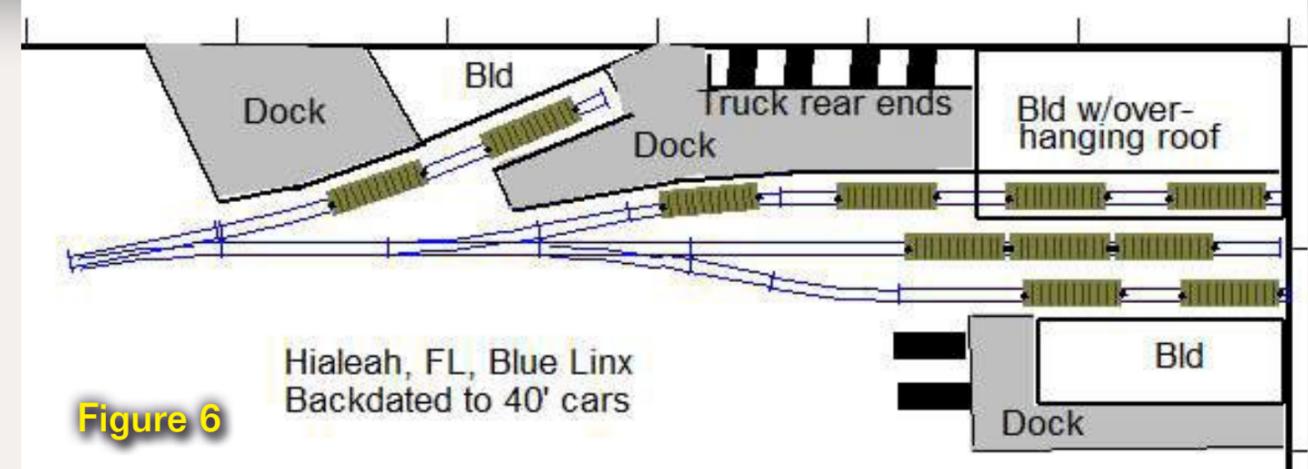
be switching facing spurs only. The scenario starts with the train 'having just arrived' pushing cars ahead of it. Sometimes it will be switching trailing spurs only, as in the scenario starts with the train "having just arrived" pulling cars behind it. Or the scenario starts with the train having arrived pushing some cars and pulling some cars with the loco in the middle."

Stein's insightful comments illustrate how out-of-the-box thinking allows you to "break some rules" such as assuming you always need a runaround on a switching layout. This allows you to get a very workable small layout that's fun to operate.

**Stein continues:** "The small switching layout planning tricks I have applied in figure 9 include:

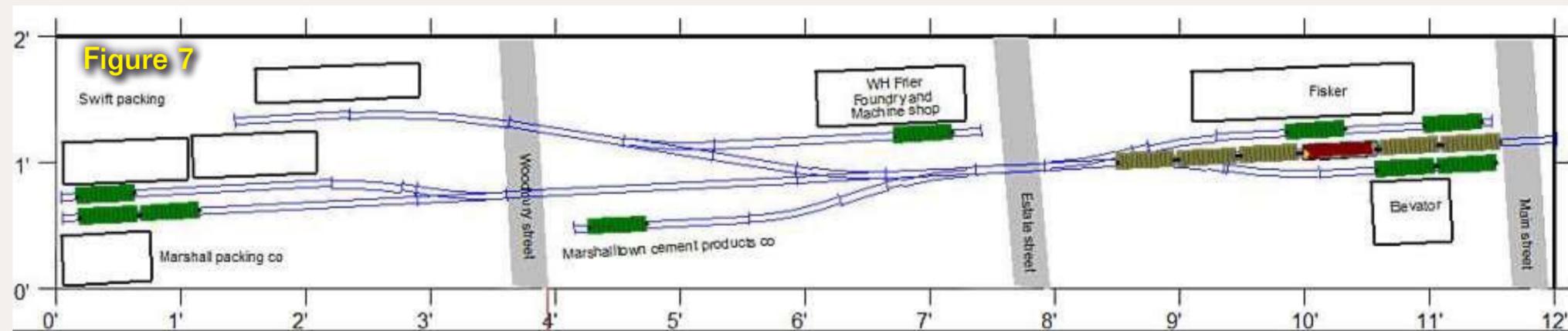
- Spurs branching from the center toward the left or right ends.
- Partially obscure the layout ends with buildings on the front corners.
- Keep the front center as open as possible for view and access.
- Add some non-railserved industries as scenic elements.
- Have both multi-spots spurs and spots not at building doors.
- Use smaller railway cars – tanks and boxcars that are 60-footers. The flat in the lower right is 89 foot.

**Figure 6: Another trailing-point only layout design.**

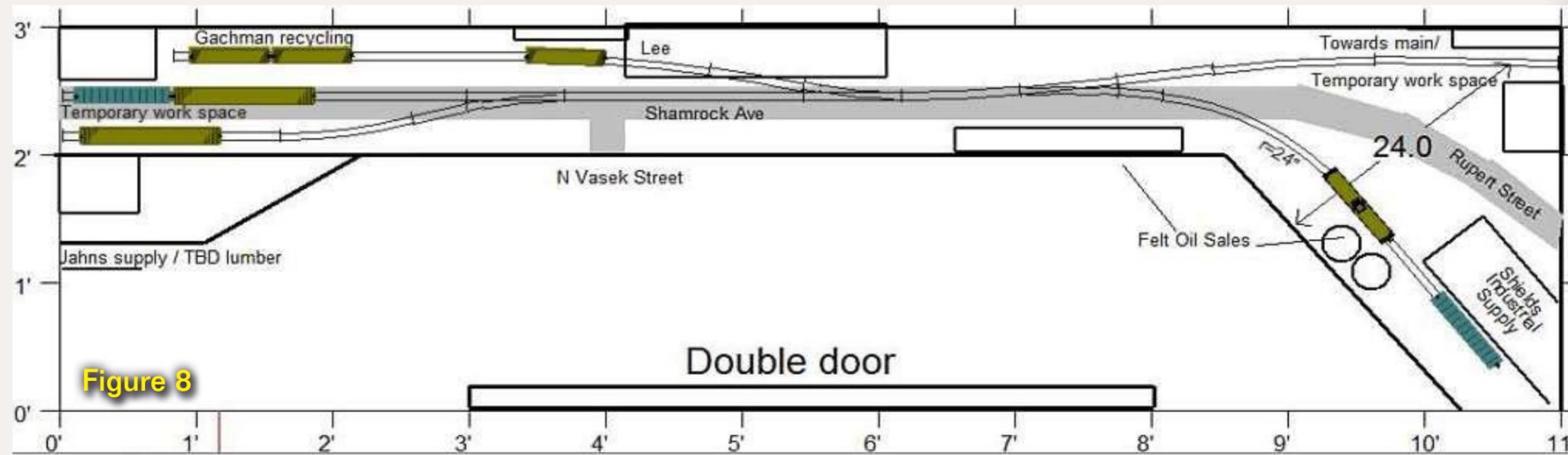


**Figure 6**

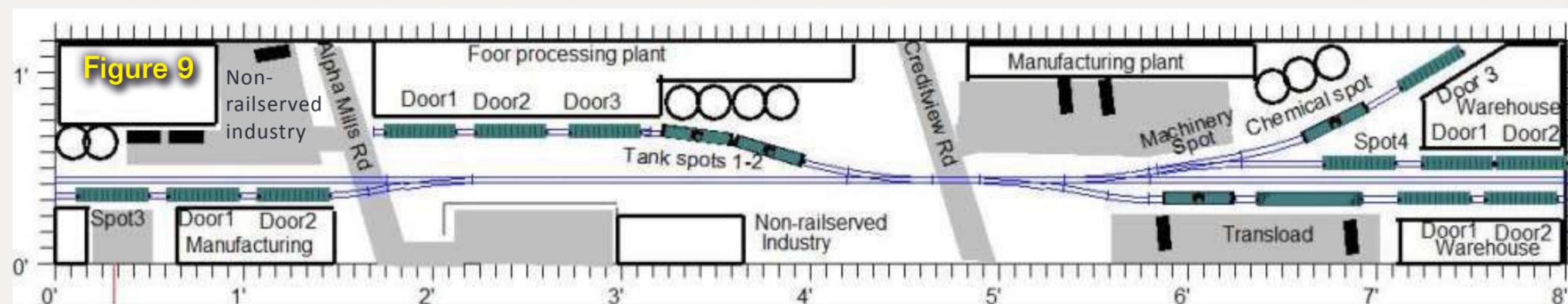
**Figures 7-9: Track plans with both trailing and facing-point spurs, but with no runaround. See text for details.**



**Figure 7**



**Figure 8**



**Figure 9**

The track plan in figure 9 has about 18 defined spots. It does not make sense to have all 18 spots filled at one time.

A decent ratio is having 10-12 cars spotted, and replacing maybe 5-6 of them per session. The idea is to take your time switching – see Lance Mindheim’s book on operating a small modern switching layout for some good switching ideas.

See the following thread for more small layout planning discussion:

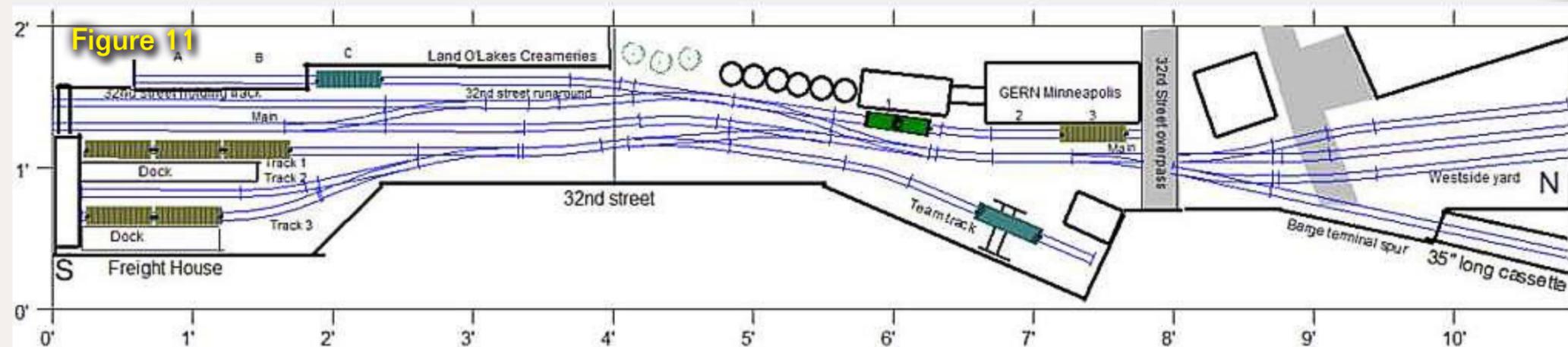
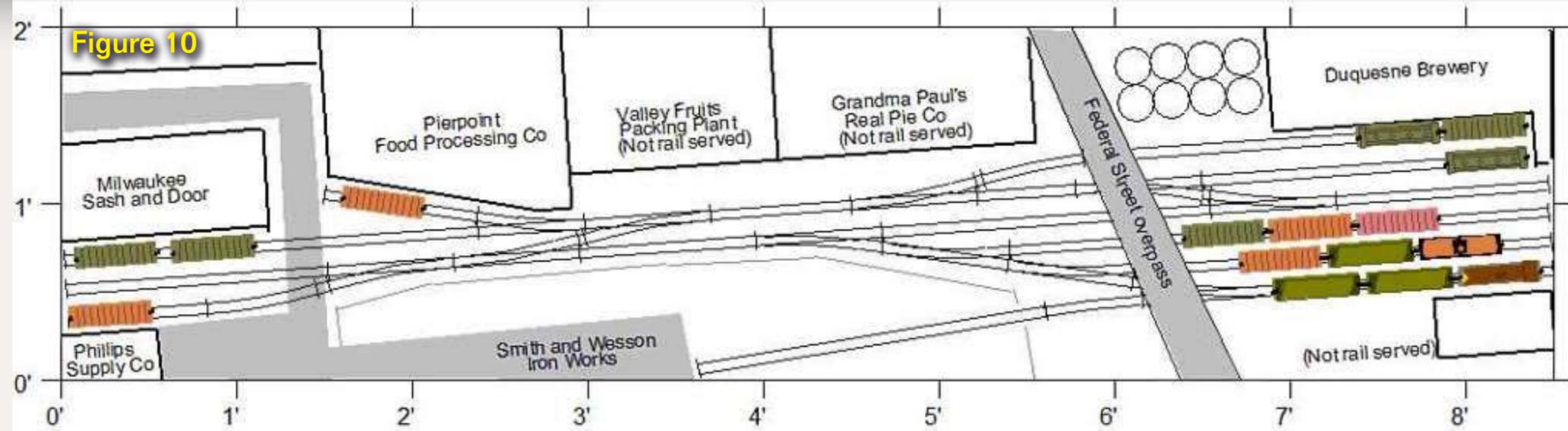
[mrhmag.com/node/7860](http://mrhmag.com/node/7860)

Next, Stein talks about switching layout plans that do have a runaround and he takes a more advanced design approach by avoiding tracks that are perfectly parallel to the benchwork edge.

**Stein says:** “Using the good old trick of placing the tracks so they’re not always aligned to the benchwork edges gives the illusion of more space and adds interest. Knowing your era and locale will help you define your structures and kinds of cars, and can guide your operating scheme.”

Figure 10 is an example plan I have called ‘Federal street overpass’.

And figure 11 is my current 11 foot long x 15-16” urban switching layout plan, where the core of the plan was inspired by Byron Henderson’s N scale track plan ‘San Jose Switcher’.”



Figures 10-11: Track plans with a runaround track and that have track that doesn't always align with the benchwork edges. See text for details.

In the final thread we want to reference, the discussion turns to a larger switching layout modeling southern Brooklyn / New York harbor rail marine operations. From the thread, MRH subscriber *Prof\_Klyzlr* observes:

“The architecture in that area is largely influenced by originally belonging to the integrated Bush Terminal complex, where upwards of 20 ‘loft buildings’ were built to ‘glance and you’ll mistake one for another’ common architectural designs.”

Walthers ‘Hardwood Furniture’ wall castings are a dead ringer of said buildings, compressed to 3 storeys tall.

In the context of street-switching Brooklyn, the key is to keep the ‘square city block’ alignment of the streets and buildings, while leveraging the ability to skew the blocks relative to the layout edge. This opens up more viewing angles while still maintaining the ‘concrete canyon’ feel typical of the area.”

Stein developed the plan shown in figure 12 (next page) to address the thread originator’s design goals.

**Stein says:** “How about getting a more realistic look and feel for such a layout? First Avenue in the Bush Terminal area has the railroad

running between a sea side bulkhead yard and C-shaped loft buildings. You could get something looking similar to First Avenue (without being an exact copy) by doing these things:

- Ending 50th, 49th and 47th street (coming from the wall) at First avenue instead of running to the edge of the layout.
- Minimizing the “non-rail buildings” along the fascia and putting a couple of yard tracks there. Have a runaround along 1st Avenue, possibly making the layout a little deeper here for a third yard track. Yards add to the look and feel of the area.



# Centralia UP CA-4 Caboose



– by Joe Brugger



**T**For years, Union Pacific modelers made do with brass models, kitbashes, or vaguely-accurate Revell CA-1 wooden cabooses from the 1950s. But a decade or so ago, that changed with the introduction of well-designed plastic cars from both Trix/Marklin and Centralia Car Shops, a division of Des Plaines Hobbies.

The Trix/Marklin CA-3 had a few shortcomings in the roof (later corrected) and underframe areas, but they came and went, and are now hard to find and expensive.

Centralia has periodically released new versions, now being distributed by InterMountain. The most recent cabooses have etched metal running

boards, improved paint and lettering, plus metal wheels and Kadee couplers. List price is \$49.95.

This year's release is packaged in a new red-and-white card box with a two-piece pinch-together vacuum-formed plastic cradle. Our sample, bought from a local hobby shop, arrived with no damage and was nicely assembled. The end railings and ladders are plastic, and delicate. The exterior paint is an opaque flat Armour yellow.

The caboose has a correct 8" "Union Pacific" and road number on the sides, with 3" reporting marks and class lettering on the sides and over the end doors. This pattern started in 1952 and lasted well into the 1970s. The CA-4 is available in paint schemes from the pre-1947 red through the white-sided "safety slogan" cars of the 1950s, and up through the final black-edged red 16" lettering scheme. Also listed are Kenefick green and silver cars for maintenance-of-way trains. The current list is at [intermountain-railway.com/distrib/ccs/ccsho.html](http://intermountain-railway.com/distrib/ccs/ccsho.html).

The trucks on the Centralia model represent outside swing-hanger trucks delivered with the CA-5 class in 1952 and later applied to 175 CA-3 and CA-4 cabooses. Trix/Marklin CA-3 cabooses have the as-delivered

wood-beam Q-truck. Modelers of 1969 and later years will want to add an ACI plate to each side.

The basic shell can be used to model the nearly-identical CA-3, as well as later classes which had angled Stanray

roof panels instead of the straight-sided Murphy panels on the CA-3 and CA-4.

Much more information about Union Pacific cabooses is available in "Cabooses of the Union Pacific Railroad" by Don Strack and



Figure 1: Centralia's CA-4 has the correct wooden end platforms and steps, and a rectangular panel Murphy roof.



Figure 2: New red and white packaging replaces the old brown boxes.

James L. Ehernberger, published by the Union Pacific Historical Society. It's available at [uphs.org/store/category/?c=1](http://uphs.org/store/category/?c=1). The price is \$50, or \$40 for UPHS members. The late

Terry Metcalfe published a well-researched article on the steel UP cupola cabooses in *Union Pacific Modeler Volume 2*, now out of print.



Figure 3: Styrene end railings match the prototype. The assembled cars come with Kadee couplers. Lettering matches Union Pacific diagrams for the 1950s, and many cars carried this pattern through the 1970s.



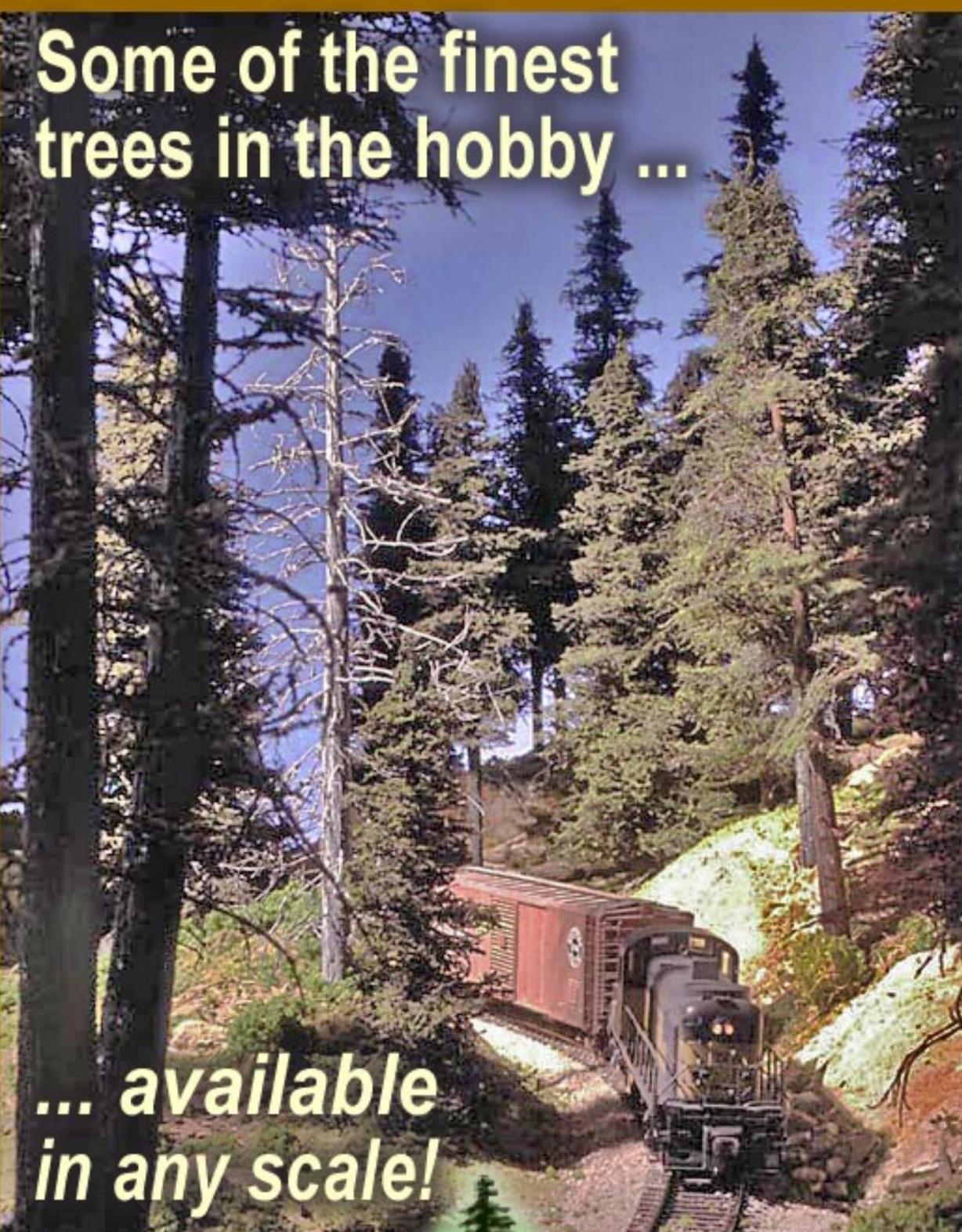
Figure 4: The Centralia model has outside swing-hanger trucks (left) applied in the 1950s to 175

CA-3 and CA-4 cabooses. Trix/Marklin CA-3 cabooses come with the as-delivered wood-beam Q-truck (right).

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# Building the St. Regis Pulp & Paper Mill Part 3

- by Mike Confalone  
Photos by the author



NEW PORTLAND

Follow along as the author brings his Allagash Railway paper mill scene to life...



In the final installment of this series, I finish the St. Regis Paper Mill scene on my proto-freelanced Allagash Railway by weathering the rail, installing the wood chip pile and the melting snow piles, and finishing the structures and forest area.

## STEP 13: Weathering the Rail



Figure 68: To weather the rails, I use AIM weathering powders. I use dark earth and medium earth, and a custom mix of the two to create a range of rust tones that are perfect for weathering the sides of the rail to get a prototypical rusty look. Using a stiff, short brush, I brush visible sides of the rails and tie plates vigorously. The powder creates the look of dry, dusty, flaking rust, and really makes the track pop.

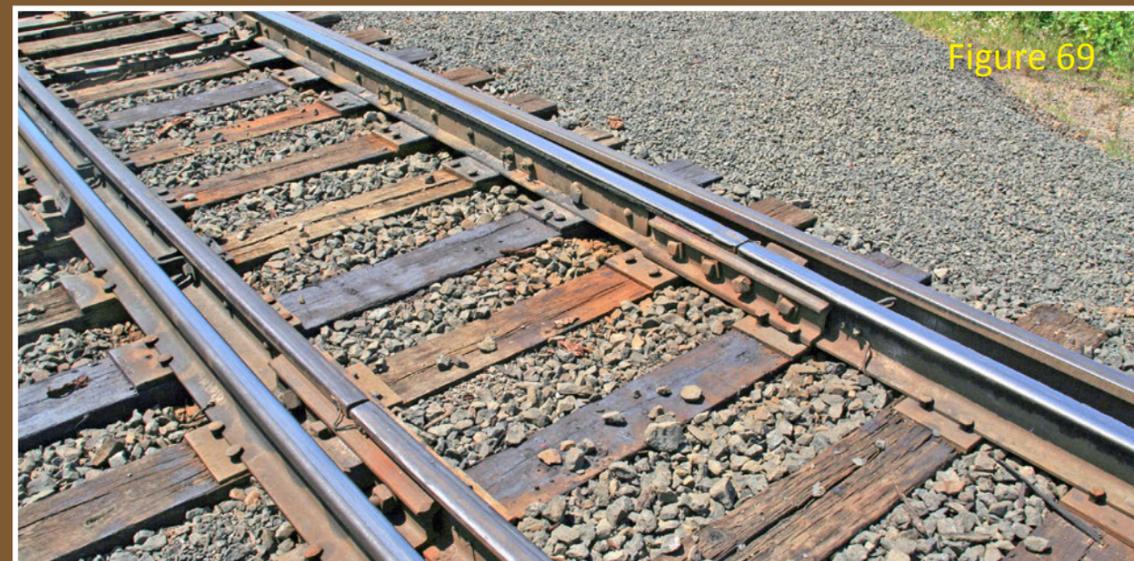


Figure 69: Notice in this prototype trackwork photo how the rail sides get rusty, but the tie plates and even the ties pick up rust. Ideally, refer to photos of the prototype, or track from the region you are modeling and use them as weathering guides.

After the ground cover was completely dry, it was time to once again turn my attention to the track. As previously discussed, I had already weathered the individual ties before applying the gravel and ballast. Now that the gravel and ballast were permanently affixed, I could weather the rail. Some modelers like to paint the sides of the rail with rust-colored paint. I prefer to use AIM weathering powders, this time in the rust color range.

Because the brushing process also gets the rust onto the tie plates, the result is highly realistic (just look at the prototype track shown in figure 69). Depending on the degree of use the track gets, the color of the rust can vary. For well-used track, a nice medium brown works well. For track that is dormant, darker shades of reddish-brown are a better bet.

## STEP 14: Building a Wood Chip Pile

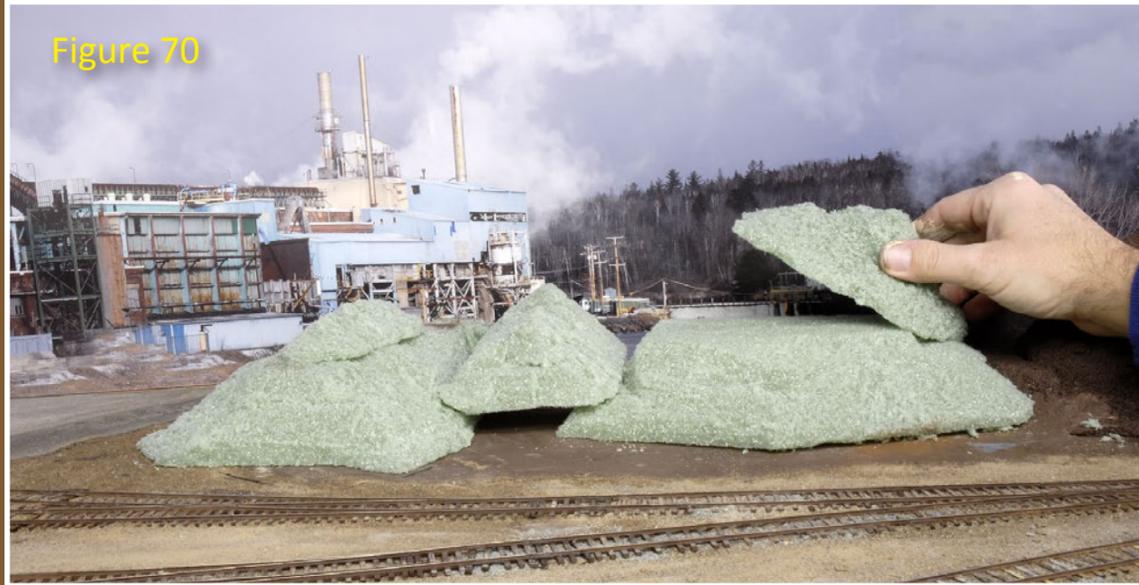


Figure 70

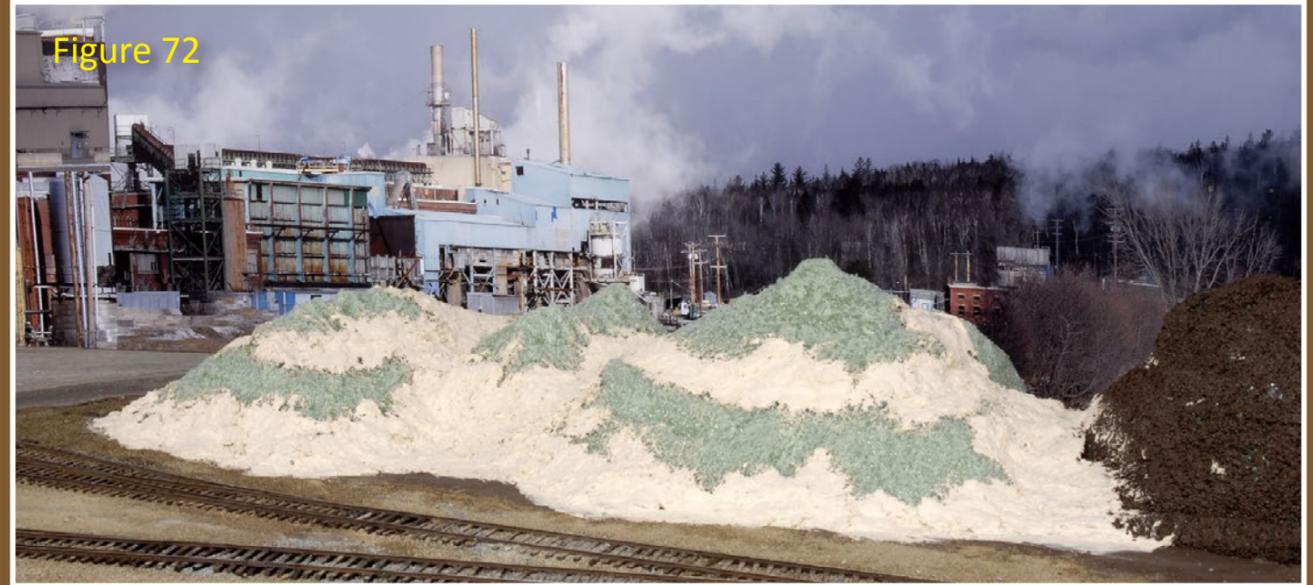


Figure 72



Figure 71

Figure 70: To make an effective pile, I needed to create a permanent structure that would retain the shape of a large wood chip pile and could be covered with a sawdust wood chip material. I once again turned to the tried-and-true green florist foam. I used an X-acto saw to carve several pieces of foam into shapes that resembled a pile of something. I assembled and stacked the foam, then hot-glued the layers and secured the entire mass to the ground with hot glue.

Figures 71-72: I mixed up a batch of mud using a beige-colored flat latex paint to color it. I used clumps of the stiff mud to fill the gaps between the pieces of florist foam and to create a smooth shape to the pile.

Wood chips are a major commodity at most paper mills, especially mills that produce their own wood pulp. For my St. Regis mill, wood chips are brought in by rail and by truck, and are simply piled up in a central location. In order to suggest this, I needed to build a wood chip pile. This pile would not only suggest the inbound wood chip traffic and provide

a location to spot wood chip hoppers and wood chip trucks, but it would also provide an important view block. A portion of the photo backdrop I used for the mill featured a river. I wasn't planning to model this river, so I needed to hide it. A wood chip pile was the perfect solution to the problem.

## STEP 14: Building a Wood Chip Pile *Continued ...*

Figure 73



Figure 75



Figure 74



Figure 73: I painted the florist foam pile with the beige-colored flat latex paint. The pile is now ready for the “wood chips.”

Figure 74: Wood chips can be made from many different kinds of sawdust or wood shavings. For my pile, I secured a lot of good quality, clean hardwood sawdust from my brother-in-law Steve’s wood shop! I collected a couple of bags of the stuff and brought it home. After removing any questionable, out of scale pieces, I sifted it down to a couple of different grades – coarse and fine – using an ordinary kitchen strainer.

Figure 75: After this was complete, I sifted the fine chips onto the still-wet paint until the entire pile was covered with a light layer.

## STEP 14: Building a Wood Chip Pile *Continued ...*



Figure 76: Then I added a layer of the more coarse chips by hand, which I simply left loose. (You can also use the alcohol and white glue solution to fix the chips permanently in place – Ed.) I also spread some chips between the rails to suggest spillage from hopper cars. I secured these chips using the alcohol/diluted white glue method described earlier. A very convincing wood chip pile was now firmly anchored into the mill scene.

## STEP 15: Adding the Box Car Loading Shed

One of the most interesting features of my St. Regis mill is the box-car loading shed. As it stood, I had cut a hole in the photo backdrop and the styrene behind it where the door to the loading shed would be. With this arrangement, I was able to actually spot a boxcar “inside” the building simply by penetrating the photo backdrop. This was useful, but the visual results were mixed.

Despite the high resolution of the photo, there are certain elements that simply don’t look quite right in 2D. Adding 3D elements helps take the edge off the “flatness” of a 2D picture. So I decided to scratchbuild an actual loading shed that could connect to the hole in the photo backdrop, thereby enhancing the flat look of the photo, and at the same time adding additional depth to the loading shed space.

As it stood, I was only able to spot one 40’ boxcar inside the “picture shed.” By augmenting the scene with an actual 3D shed, I doubled the capacity of the space and was able to spot two 40’ boxcars inside the building.



Figure 77: Before building the shed, I painted the area around the door opening on the photo backdrop, and the area on the ground flat black. This absorbs any light that might penetrate the area.

## STEP 15: Adding the Box Car Loading Shed *Continued ...*



Figure 78: I wanted the inside of the shed to be pitch-black. I scratchbuilt the shed using Plastruct siding and some parts left over from a Walthers Tri-City Power kit. I painted the shed to match the industrial-green paint on the backdrop building, and simply placed it over the tracks. I also built a small office building and attached it.

Figure 79: I brushed some loose gravel along the seam where the bottom of the buildings met the surrounding ground. I kept this gravel loose in case I ever need to remove the shed to fetch a boxcar that might have derailed or not coupled properly inside.

## STEP 16: Fixing a Problem With the Backdrop



Figure 80: The next step was to tackle a backdrop problem I hadn't identified until now. To the right of the boxcar loading shed on the photo backdrop was a pair of modern truck doors, a grossly over-sized trailer and what appeared to be the top of the cab of a modern truck! Somehow, all of these elements were missed when I was putting the backdrop together in Photoshop. They looked out-of-scale, out-of-era, and simply needed to go.

Figure 81: Then, using thin Plastruct siding, I scratchbuilt and painted a structure "flat" that included a pair of roll-up doors.

## STEP 16: Fixing a Problem With the Backdrop *Continued ...*

Figure 82



Figure 83



Figure 82: I added folded-up pieces of painter's tape to the backside of the flat.

Figure 83: I carefully stuck the flat to the surface of the photo backdrop, hiding the offending elements. I painted-out the truck cab using a gray paint to match the concrete on the foundation of the building. This simple structure covered the images on the backdrop that didn't look right, and also serves as a place to spot trailer trucks for loading or unloading.

## STEP 17: Adding a Hose House, Track Car Set-out, and Car House/Section Office

Figure 84



Figure 85



Figure 86



Figure 84: Next, I placed a small, unusual, and very distinctive structure scratchbuilt by master structure-builder Rich Cobb. The structure appears in prototype photos of mills and seems to be a

hose house, or fire hydrant house of some sort. In my case, it protects the wood chip pile in case of fire.

Figure 85: I added a section of flex track and some scale lumber planks to simulate the structure for track cars to get on and off the rails. I painted the planks with brown Minwax stain and secured the track and wood planks with CyPOX™.

Figure 86: I added a car house/section office for the MOW track-cars to get into and out of the shed which faces the tracks. This building is scratchbuilt and based on an old Maine Central Railroad design, and works great for a generic railroad car house/office. I secured the building with white glue and brushed loose gravel along the foundation to blend the building into the surrounding ground.

## STEP 18: Modeling Melting Snow

One of the key scenic features of early spring in northern New England is piles of melting snow. By late March or early April, most of the snow is gone, but there are remnants in the woods, out in the fields, in parking lots, and on the sides of roads. Modeling melting snow presents a challenge because the look of melting snow is completely different than

freshly-fallen, powdery snow. Traditional methods of simulating snow, like baking soda, marble dust, plaster and other powder-based products simply don't work. There is a better way.



Figure 87



Figure 88

Figure 87: White craft Styrofoam can be purchased at any craft store. It comes in small sheets that are approximately 1/4" thick. I simply tear off pieces of this foam and shape with an X-acto saw into something that looks like a pile of snow. I then compress the pile between my thumb and fore finger, or lightly step on it. This crushing action compresses the Styrofoam



Figure 89

and improves the look of it. I like to stack several pieces of the foam and glue them together with hot glue to create larger, deeper piles of snow.

Figure 88: Clean piles are great for fields or in the woods where the snow would remain relatively white as it melted away. But for roads or parking lots, or alongside railroad tracks, the snow is more likely to be filthy. To create this effect, I use dilute brown and black alcohol-based acrylic washes. I apply the dirty washes to the edges of the snow piles and brush it in. To further disperse the wash into the pile, I spray the pile with alcohol.

Figure 89: A finished melting pile of dirty snow.

## STEP 18: Modeling Melting Snow *Continued ...*

Figure 90



Figure 92



Figure 91

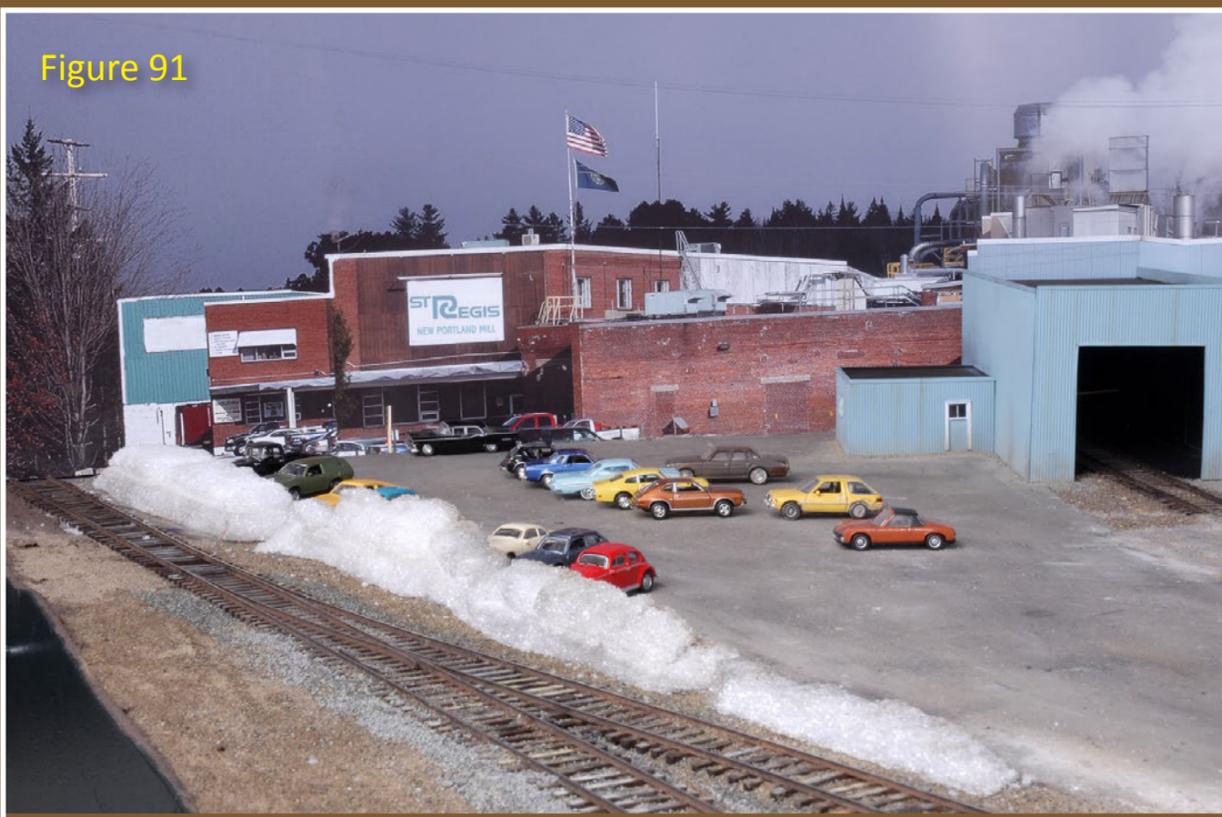


Figure 90: A comparison of a finished, dirty pile of snow vs. a fresh, white pile. The clean pile looks out of place in such a setting. The effect is amazing.

Figure 91: I made a few piles of snow along the tracks and next to the road, and then I added taller snow banks along the front edge of the employee parking lot to simulate snow that had piled up from plowing over time. This also provided a natural boundary for the employees to park their cars.

Figure 92: After the snow piles were secure, I went back and added a few additional details to the mill area, such as a scratchbuilt wooden crossbuck and post for the asphalt road crossings.

## STEP 18: Modeling Melting Snow *Continued ...*



Figure 93



Figure 95



Figure 94

Figure 93: I added head block ties to all switches by gluing some scale lumber right into the dirt with Cypox, and then painting the ties dark brown.

Figure 94: I added sierra-style switch stands by Evergreen Hill Designs to the scene.

Figure 95: After this, I built a few Rix Products oil tanks to different heights, painted them silver, and lightly weathered them before placing them into the scene where tank cars of Bunker C oil would be spotted. Additional details, like ladders and piping, will be added to the tanks at a later date.

## STEP 19: Adding a Horizon Line to Match the Backdrop



Figures 96 and 97: I painted a horizon line above the florist foam land form. This horizon needed to match in general shape and color to the horizon on the photo backdrop. I used some gray acrylic and a medium brush.

Figure 98: After the paint was dry and before I began adding a forest to the hillside, I re-evaluated the horizon line that I had painted. I wasn't happy with the ultra-clean line of the horizon. The point here was to hide the horizon and blend it with what would eventually be a hillside full of foreground, leafless trees. I decided to stipple the surface of the painted horizon line to create a blurry, undefined look that would better match with the horizon on the photo backdrop and would provide a better looking background for the modeled bare deciduous trees.

## STEP 20: Creating the Forrest Floor

Next, it was time to apply the forest floor. Any forest floor consists mainly of dead leaves. What better way to simulate dead leaves than by using actual dead leaves? I like to collect leaves in the fall when we are doing our annual yard clean-up. We have a chipper/shredder, so I start with leaves that have already been shredded. You can use full-size leaves as well. Simply grab a fist-full of leaves and put them in a blender with some water. Grind them up into a nice ball of pulp. Squeeze the excess water from the pulp and spread the shredded leaves on a cookie sheet. Bake

them in the oven for about an hour at 200 degrees. Turn the leaves every now and then, until fully dry. When dry, I sift the leaves into containers of coarse and fine leaves.



Figure 99: To apply the leaves, I generally spray the surface with alcohol, apply the leaves and then secure the leaves with diluted white glue. In this case, because of the slope of the land form, I coated the surface of the previously-painted floral foam with full-strength white glue first.

Figure 100: I prepared both coarse and fine crushed leaves ahead of time and I applied the coarse leaves by hand.

## STEP 20: Creating the Forrest Floor *Continued ...*

Figure 101



Figure 103



Figure 102



Figure 101: I sprayed a thorough coating of isopropyl alcohol on to the hillside until all of the coarse leaves were saturated.

Figure 102: I then blew a fine layer of fine crushed leaves onto the surface using a heavy piece of cardstock, folded down the middle. This helped to aim the leaves where I wanted them.

Figure 103: I sprayed another application of isopropyl alcohol and then I applied a heavy coat of diluted white glue (50:50 water:white glue) with a pipette. I let the hillside dry for a day or two, after which the forest floor was ready for tree installation.

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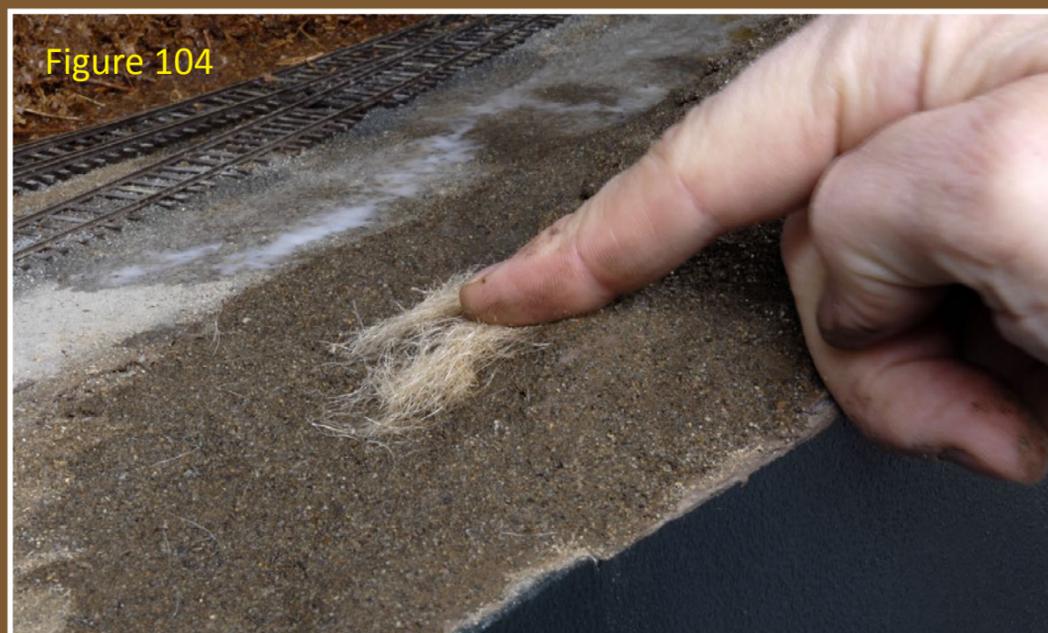


We hope you have enjoyed this series from Mike Confalone.

MRH will be bringing you more great videos and articles from Mike in the next few months.

Use the feedback button below to tell us what you'd like to see!

**STEP 21: Applying Matted Spring Grass**



Figures 104: I also applied some dead spring grass to the ground near the edge of the bench. I use a product by Sweetwater Scenery called "Branch Tree Fibers." This product is marketed by Sweetwater as a tool for making trees, but I found an alternate use for it. In northern New England, spring grass is often matted down after spending the winter under several feet of snow. The Sweetwater product works nicely for simulating this effect.

Figure 105: I covered the hillside opposite the trees with the Sweetwater Scenery fibers to simulate "matted spring grass." I push the fibers into ground which has been doused with isopropyl alcohol. I then secure the grass with diluted white glue. With this final step complete, it's time to make trees.

▶ **Reader Feedback** (click here)

## STEP 22: Building the Forest

Just like in late fall or during the winter, in the early spring, the trees in Maine are still leafless. Making bare, deciduous trees presents a real challenge. Traditional methods of covering lichen or SuperTrees™ or other puffball structures with ground foam are off the table. You need to find bare tree armatures that have a fine branch structure, and they need to stand on their own. I've used many different kinds of armatures over the years. My best advice to anyone who wants to model leafless trees is to get outside into the fields and into the woods and simply look around. There are many different kinds of dried weed structures that make fine tree armatures. The key is finding one with a fine branch structure.

I once used blueberry bushes as a base armature, and then I would attach fine branches garnered from various dried flowers. This was a time consuming affair, but yielded a pretty good-looking tree. Then one day I was walking through an open fallow field near my home and came across a dried weed that answered my prayers! It is perennial and portions of the plant die back each year, leaving a ridged, gray wood-tone weed that renews each year. I have never seen this weed growing anywhere else.

For now, it would appear that I've got a lifetime supply of dried weeds for making leafless trees. On their own, the weeds don't look like much, but if you tape two or three them together with brown floral tape, they make a very respectable tree. When massed in groups of 40 or 50, they resemble a dense forest, and the effect is spectacular!



Figure 106



Figure 107

**Figure 106:** Before beginning the planting process, I made a few dozen trees ahead of time. I used several stalks of this wild weed in combination to make a convincing, bare, deciduous tree.

**Figure 107:** I taped the trunks of the individual stalks together with brown floral tape to form one, solid tree. The floral tape is coated with bee's wax, and sticks to the branches as the tape is twisted around the trunk.

## STEP 22: Building the Forest *Continued ...*

Figure 108



Figure 109



Figure 108: One of the benefits of using the florist foam is you can plant trees into the foam without pre-drilling holes. Unfortunately, I had coated the foam surface with full-strength white glue to apply the dead leaves. The problem is, this sealed the surface of the foam, requiring a quick poke with a Philips-head screwdriver to break the surface of the glue and allow planting the trees. Not a game-breaker, but an additional step that normally would not have been required.

Figure 109: As the trees were planted, I painted the visible brown floral tape portions of each trunk with a thick mixture of gray-brown acrylic, mixed to match the color of the natural stalks. I generally paint trunks after every five or six trees are planted.

Figure 110: As more and more trees are added, the horizon line starts to blend nicely with the foreground. I also added a few pine and spruce trees for variety. Soon my bare hillside was a forest. With the planting of the last tree, the mill scene was complete.

Figure 110



This project has been a most rewarding experience. I hope you have enjoyed following it as much as I have enjoyed building it. The objective of creating a massive paper mill in a very small space, without sacrificing any of the “industrial menace” of a complex like this has been achieved.

The results further underscore the value of utilizing high-resolution photo backdrops for a myriad of different circumstances.

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## PRODUCT SHOWCASE

# Rapido: VIA Rail Canada's Park-series observation dome car

→ [Visit souvenirs.viarail.ca](http://souvenirs.viarail.ca)



This scale model of VIA Rail Canada's Park-series observation dome car was created exclusively for Canada's national railway by **Rapido**. VIA is selling the limited-edition **HO scale** collectible model decorated for Glacier Park, Kokanee Park, and Kootenay Park. The model features Rapido's usual attention to detail including all underbody pipes, conduit and appliances, full interiors, tinted windows with blinds and interior hand rails, operating marker and interior lights, and an illuminated Via drumhead. The exterior is painted in a realistic stainless steel finish. The model is priced at \$100.00 CD and is available exclusively from [VIA Rail](http://VIA Rail).



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## PRODUCT SHOWCASE

### Atlas: Coalveyor Bathtub gondola

→ [Visit atlasrr.com](http://atlasrr.com)

American Car & Foundry introduced the Coalveyor Bathtub gondola in the 1980s for unit-train service delivering coal to power plants. Many of the cars are still in service. **Atlas** has replicated the distinctive prototype in **HO scale** with an injection molded plastic body on a die-cast metal chassis. Like the prototype, the miniature version rides on 100-ton roller bearing trucks. Atlas offers the model decorated for **AIG Rail Services-AIGX**, **First Union Rail-NDYX**, **David J. Joseph-DJIX**, **Sullivan**

**Scrap Metal-EAMX**, **Midwest Railcar-MWCX**, **Transload America-TLAX**, **Wheelabrator Coal Service-RTPX**, **Utility Fuels-UFIX**, **Wisconsin Public Service-WPSX**, and **Kansas City Power & Light-KCLX**.

The ready-to-run model has an MSRP of \$27.95 each.



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## PRODUCT SHOWCASE



### Morgan Hill Models: 16' Industrial Scrap car

→ [Visit morganhillmodels.com](http://morganhillmodels.com)

Morgan Hill Models is selling a relatively simple kit that a hobbyist of even modest experience can turn into a highly detailed showpiece. The **On30 scale** kit is composed of a 16' cast resin frame, a basswood deck, a cast scrap load, and a host of other details including a tool box, barrels, drums, and a Tichy jib crane. Trucks and couplers are not included in the kit, which sells for \$32.95.





## About our News & Events Editor



Richard Bale writes our news column under the byline of *The Old Yardmaster*. He has been writing about the model railroad trade for various hobby publications since the 1960s.

He enjoys building models, particularly structures, some of which appeared in the June 2006 issue of *Model Railroader* magazine.



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# MRH News Desk: The Latest Model Railroad News, Products, and Events

## June 2012

**Congratulations to the Walthers family** as they celebrate 80 years in the model railroad business. On May 10th, Phil Walthers, president and CEO, led a Founders Day celebration in recognition of the family enterprise launched by his grandfather, William Kearney Walthers, in 1932, during the depths of the Great Depression...

**The NMRA has announced the creation of The Dean Freytag Award** to honor the long-time NMRA official and prolific model builder who died in 2011. The annual award will be given in recognition of superior craftsmanship in the construction of an industrial structure entered in the NMRA's national model contest...

**Evergreen Models Inc.**, a major supplier of styrene sheets and shapes for the hobby industry, has been purchased by Chicago businessman Herb Rizzo. Mr. Rizzo is part owner of SIG Manufacturing, a maker of RC hobby equipment. Evergreen was founded by Brian Ellerby who died in April, 2010...

**"PFE Traffic To and From the Pacific Northwest,"** an informative talk presented by Tony Thompson at the recent joint convention of the Pacific Coast and Pacific Northwest regions of NMRA, in Medford, Oregon, may be downloaded at [modelingthesp.blogspot.com/2012/05/hand-out-for-pfe-traffic-talk.html](http://modelingthesp.blogspot.com/2012/05/hand-out-for-pfe-traffic-talk.html)...

**Bachmann's on-line parts catalog**, which lists thousands of items, is now fully functional. Go to [bachmantrains.com](http://bachmantrains.com) and click on "Parts & Service." Questions about specific parts can be sent to [part@bachmantrains.com](mailto:part@bachmantrains.com)...

**Canadian modeler Pierre Oliver** will soon introduce an HO scale kit for a Wabash stock car under the brand name Yarmouth Model Works. The resin kit will include laser-cut and photo-etched detail parts, plus components from Kadee, Tahoe, and Black Car Publishing. The resin castings

will be produced by Aaron Gjermundson. We will have more details next month...

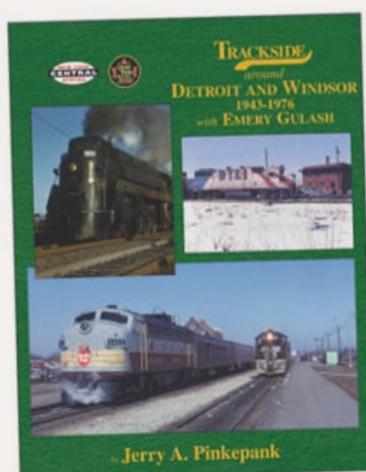
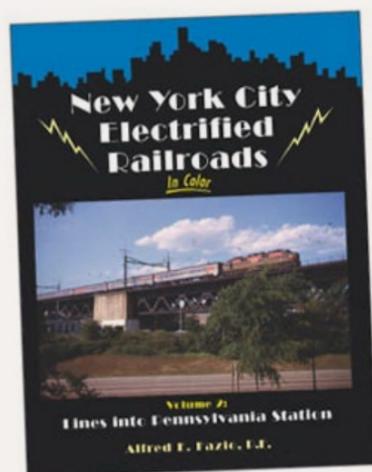
**The packaging for Walthers Cornerstone™ structures** will soon get a bright new look. A full-color photo of an assembled and painted model will be printed on the blue and yellow boxes, along with a clear indication of the scale. A list of basic tools required for assembly will be shown as well as ancillary information such as drill bit sizes or special glues needed...

## NEW PRODUCTS FOR ALL SCALES

**BHI Publishing ([bhipubs.com](http://bhipubs.com))** has released a new series of Folio & Diagram books edited and restored by Tim Mulina. The 8.5" x 11" books are based on manufacturers drawings that provide the data and general arrangement of equipment for building, repairing, and rebuilding specific equipment. As an example, the Folio & Diagram titled "D&RGW Standard Gauge Passenger Cars 1966/1968" includes heavyweight and modernized HW Rio Grande cars including dome cars of the California Zephyr and Rio Grande Zephyr. Other titles cover "New York Central System Freight Cars of 1938 revised 1944", and "Kansas City Southern Freight Cars & Cabooses 1944." Similar books are available for Conrail, B&O/C&O, Erie, GN, IC, WP. The rarest item in the collection is a four-volume set of WWII US Army Military Railway System operating manuals brought home from WWII by Mulina's great uncle who was a locomotive engineer in a railway operating battalion. In addition to US Army rolling stock, the folios detail German, French, and Italian equipment that was captured/liberated and put to use by the US Army. Visit the above web site for pricing and ordering information.

**Kalmbach Publishing ([kalmbach.com](http://kalmbach.com))** has released "Realistic Animation, Lighting, & Sound, 2nd Edition," that details 22 projects for adding life and realism to a layout. A

working windmill, wig-wag crossing signals, simulated neon sign lighting, and a working coal tipple are but a few of the projects in this new edition edited by Jeff Wilson. The 96-page, 8.25" x 10.75" book offers a gadget-lovers paradise of projects that involve a myriad of components such as geared and low speed motors, switch machines, relays, electro-magnets, micro-switches, black lights, fiber optics, printed circuit boards, relays, integrated circuits, discrete components, and a variety of mechanical push-pull, and crank gadgets that would please Rube Goldberg. The book is available at hobby dealers or direct from the publisher at \$19.95.



**Morning Sun Books** ([morningsunbooks.com](http://morningsunbooks.com)) is now selling "New York City Electrified Railroads In Color: Volume 2, Lines into Pennsylvania Station." From the electric-traction point of view, author Alfred E. Fazio, Jr., documents the story of the Pennsy, Long Island Railroad, New

Haven Railroad, and their successors that used Pennsylvania Station. Also new from Morning Sun is "Trackside Around Detroit and Windsor 1943-1976 With Photographer Emery Gulash" by respected railroad authority Jerry A. Pinkepank. Photographs and detailed captions tell the story of the Michigan Central main line from Ann Arbor to Windsor through the Detroit River Tunnel, and the last days of Grand Trunk Western suburban steam. The books are available direct from the above web site at \$59.95 each plus postage.

**Railway Engineering** ([railwayeng.com](http://railwayeng.com)) offers a wide range of handcrafted turnouts in HO, HOn3, S, Sn3, O, On3, and On30 scales. Turnouts are available from #1 through #14 in code 40, 55, 70, 83, 100, and 125 plain nickel silver or weathered rail. Dual gauge turnouts and 3-way stub turnouts are also available. Visit the above web site for more information.

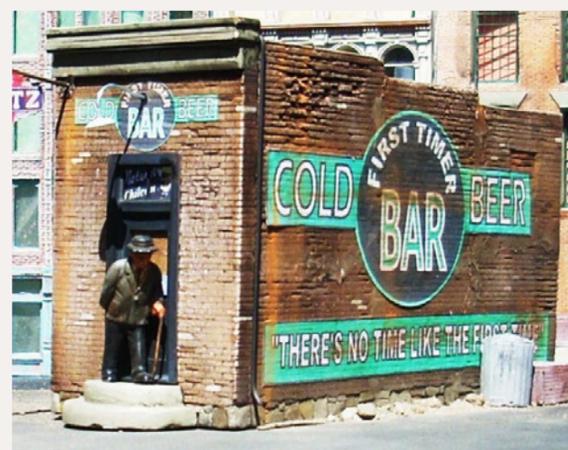
## O SCALE PRODUCT NEWS

**Atlas O** ([atlaso.com](http://atlaso.com)) has announced new road names and numbers for its USRA single-sheathed wood boxcar. The model has a die cast frame, die cast Andrews



sprung trucks, and full brake details. The O scale model comes with either a wood or steel door, and different steel ends depending on the practice of the prototype road. New road names are Erie, Western Maryland, and Virginian MOW.

New numbers for previously released road names include Central Railroad of New Jersey, Reading, and Delaware & Hudson. The ready-to-run models will be available for 3-rail operation at an MSRP of \$59.95, and for 2-rail operation at \$65.95 each. Delivery is scheduled for the fourth quarter of 2012.



**Downtown Deco** ([downtowndeco.biz/site](http://downtowndeco.biz/site)) has an O scale kit named The First Timer Bar. Although designed with beginners in mind, seasoned modelers can turn this basic kit into a highly detailed architectural miniature. The principal components are cast Hydrocal® sides, plastic window frames, and signage. Step-by-step instructions are included.



**Foothill Model Works** ([foothillmodelworks.com](http://foothillmodelworks.com)) has introduced fine scale versions of Griffin 26" single-plate chilled iron wheels. The wheels are scaled from prototypes used on the West Side Lumber Company. The

fine-scale wheel tread matches M.C.B./A.A.R. recommendations of the period – which differs from the NMRAs RP25 contour. The wheels are cast in Celcon®; a high strength, wear-resistant acetal copolymer similar to Delrin®. Like the prototype, the gauge of each wheelset is determined by the shoulder and length

of the axle. Foothill uses thin-walled, stainless steel, hypodermic tubing to replicate the prototypes straight 5" diameter axles. The S/S axles are not effected by under-track uncoupling magnets. The wheelsets are priced at \$10.00 for a set of four and are available gauged for On2, On30, or On3. Note that these are square-end axles suitable for Grandt Line, MacLeod Western, Coronado, and some brass and white metal trucks. Trucks designed for pointed axles, such as San Juan Car Company for example, will require modification in order to use Foothill's new 26" wheelsets.

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## S SCALE PRODUCT NEWS



**Mount Blue Model Company** ([mountbluemodelco.com](http://mountbluemodelco.com)) is selling a craftsman kit for a small Cranberry Warehouse. Based on a prototype building in South Carver, Massachusetts, the S scale kit consists of laser-cut basswood with etched shingle lines, paper corrugated roofing material, laser-cut windows, and photo illustrated instructions. The kit is priced at

\$59.00 and has a footprint of 5" x 5.375" when assembled.

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## HO SCALE PRODUCT NEWS

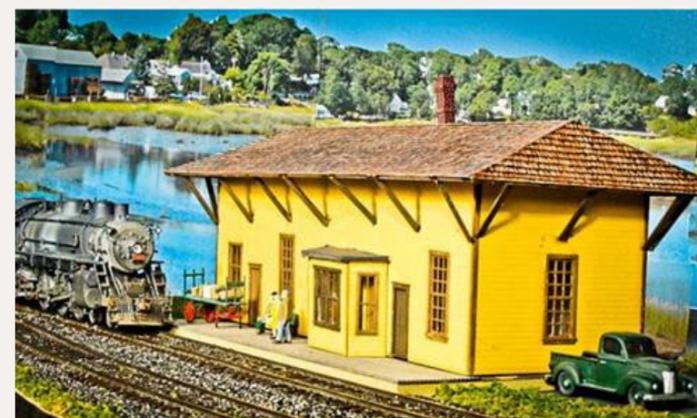


**Accurail** ([accurail.com](http://accurail.com)) is selling a 40' plug-door steel refrigerator car decorated for MNX-National Car Company. The HO scale kit is priced at \$15.98 and comes with all of the parts needed to complete the model including trucks and couplers.



Accurail also has a special 3-pack of kits for ACF three-bay covered hopper cars decorated for Union Pacific. The limited edition three-numbered set has an MSRP of \$46.98.

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**Alpine Division Scale Models** ([alpinemodels.com](http://alpinemodels.com)) has introduced an HO scale structure kit for a New York, New Haven & Hartford Rural Passenger Station. The craftsman-style kit is based on a structure once located in the town of Orleans along the NH&H Old Colony Division on Cape Cod, Mass. The prototype was typical

of structures owned by other railroads throughout the northeastern portion of America. Alpine's new kit is composed of Northeastern basswood clapboard walls with laser-cut window and door openings, glazed plastic windows and doors, laser-cut mat board shingled roof, laser-cut internal partitions, scale trim lumber, and detailed assembly instructions. The kit is priced at \$53.95 and has a footprint of 3" x 9" when completed.

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**Atlas Model Railroad Company** ([atlasrr.com](http://atlasrr.com)) plans to have a new Trainman® series 40' plug door boxcar available in the fourth quarter. An undecorated version of the ready-to-run HO scale model will have a list price of \$15.95. It will also be avail-

able in three numbers each for LOVX–American Colloid (Bicentennial scheme), Northern Pacific, Pennsylvania (shadow Keystone with silver roof), RBNX–Seatrail, RBNX–Fruit Growers Express, and B&O–Fruit Growers Express, at an MSRP of \$21.95.

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**Bachmann Trains** ([bachmanntrains.com](http://bachmanntrains.com)) has introduced a series of six resin false-front buildings. Sold under the name SceneScapes™, the HO scale space saving structures feature realistic cast-in details. Each structure is finished in appropriate colors. The shallow, ready-to-use models include United Trust Bank (6.875" w x 1.125" d x 4.5" h) at \$60.00, Windsor Hotel (above left, 6.75" w x 1.5" d x 5.875" h) at \$70.00, Four-Story Parking Garage with photo background of garage interior (12" w x 3.875" d x 6.5" h) at \$115.00, Regal Cinema (center photo, 6.125" w x 2" d x 7.125" h) at \$85.00, Hobby Store with photo background of shop interior (7.875" w x 1.125" d x 3.875" h) at \$65.00, and Industrial Supply Warehouse (above right, 10.75" w x 2.25" d x 5.125" h) at \$70.00. All prices shown are MSRP.



electrically reliable. The first pieces of track to be released are 228mm straight sections (approximately 9"), and 480mm curves (approximately 19" radius). The track is made with code 70 nickel silver rail. A 4-pack of 228mm straights will have an MSRP of \$18.25. A 4-pack of 480mm radius curves will be priced at \$18.25, and a starter set of four straights and 16 curved sections will be available at \$89.95. Availability is expected this fall. Shown above are unpainted preproduction samples. Final versions will have the ties textured and painted. Blackstone said this is just the initial stage in developing a complete ProTraxx™ system. They plan to announce details on the first switches later this year.



**Bar Mills Models** ([barmillmodels.com](http://barmillmodels.com)) has a new craftsman-style kit for Bull's Salvage, a funky, detail-laden structure. Although the structure has a foot print of just 5" x 7," the scene can readily be expanded into an attractive up-front focal point, as well as serve as the central focus of a detailed diorama.

Features of the kit include full interior studs, white metal and resin castings, special graphics, and instructions. Bulls Salvage is priced at \$44.95. The folks at Bar Mills cautioned that if you're in a rush, or are brand new to building craftsman-style structures, this kit is not for you.

**Blackstone Models** ([blackstonemodels.com](http://blackstonemodels.com)) has introduced the first prefabricated snap-together track system for HOn3. Named ProTraxx™, the system is similar to Kato's familiar Uni-Joiner that has proven to be both robust and



**Bowser Manufacturing** ([bowser-trains.com](http://bowser-trains.com)) has added Southern Pacific locomotive #3100 to the group of General Electric U25B models scheduled for delivery late this year. The HO scale locomotive will be available for DC (with a DCC-ready 8-pin plug) at \$199.95, and with SoundTraxx® DCC sound decoder at \$299.95. Prototype number 3100 (originally #7508) was one of 68 U25B freight engines General Electric built for Southern Pacific in 1963. In 1975 SP's

Sacramento Shops rebuilt the locomotive with EMD electrical equipment, reclassifying it as U25BE. She was renumbered 6800 and came out of the shops decorated as SP's Bicentennial locomotive in celebration of the nation's 200th birthday. In 1979 she was renumbered 3100 and was finally retired in 1987. The Orange Empire Railway Museum (OERM) in Perris, California, rescued 3100 from a scrap dealer the following year and has since kept her in good operating condition. Museum volunteers gave her a fresh paint job in late 2010, and today she is the only operating example of a GE U25B locomotive. Bowser will donate \$15.00 to OERM for each model of SP #3100 locomotive sold.

In addition to SP #3100, road names on Bowser's production run include GE Demo; EL (as delivered); EL (Conrail patch); Maine Central (green stripe); Rock Island (maroon cab); NdeM; Burlington Northern (green); C&O; and Oregon, California & Eastern – with all roads available in two numbers. One road number will be available for Southern Pacific Bicentennial #6800, Maine Central (pumpkin scheme with zebra pilot), Rock Island (The Rock, blue), Maine Central (ex-The Rock, blue), and Weyerhaeuser. A Santa Fe version in blue and yellow will be available in three road numbers.



**Concept Models ([con-sys.com](http://con-sys.com))** has announced the availability of a basic resin kit for an HO scale DUPX 29600 six-axle tank car. Concept owner David Allen says this is the fifth and final kit in the series of distinctive "whale" tankers. All have been based on specialized prototype cars used to transport ethylene glycol for the chemical industry. The kit includes PVC and resin body components, assembly hardware, decals, and instructions. The kit is available at the above web site at \$39.99. Note that hand grabs, ladders, couplers, and trucks are not included.

**D&G Models ([dandgmodels.com](http://dandgmodels.com))** has prototypically accurate HO scale trucks as used on both pre-war and post-war versions of Southern Pacific Daylight and Sunbeam trains. Item P11J represents four-wheel triple-bolster trucks SP used



on the 1937-1939 pool chair cars, Sunbeam, and all lightweight Daylight equipment except the triple-unit articulated diner. Distinguishing features of the P11J trucks are the plain bearings and lack of bolster anchors.

D&G item P21R (lower photo) replicates the Daylight trucks SP modified after the war by

replacing the plain journals with SKF roller bearings and installing bolster anchors.

The fully-sprung model trucks are available in two different spring/weight options for either plastic or metal cars (visit the web site for details). The one-piece truck frame is molded in black styrene with nylon bearing inserts for long-life and enhanced rolling ability. Metal wheelsets come with .110 treads, but .088 treads are available on request. The trucks are priced at \$14.95 pair.

**Details West ([detailswest.com](http://detailswest.com))** continues to expand its selection of precision HO scale detail parts. Items recently added include Leslie L-3 air horn with low profile manifold bracket (item AH-373), Norfolk Southern Dash-9 headlight detail kit (NS-374), EOT bracket for Norfolk Southern locomotives (ET-375), Modern electronic bell (BE-376), General Electric scale coupler buffer plate (SC-377), GRS three-color style-D 3/3 signal with individual visors (SG-941), and GRS three-color style-D 3/3 signal with snow shields.



**Digital Fox ([digitalfox.com](http://digitalfox.com))** is selling Accurail kits for twin-bay wood-side hopper cars custom decorated for Pennsylvania Railroad. The HO scale kits come with all components needed to assemble the car including pre-painted hopper weights, pre-cut printed road number

and name panels, trucks with Delrin wheelsets, and Accumate® couplers. The kits are available in twelve road numbers at \$14.98 each.



**ExactRail** ([exactrail.com](http://exactrail.com)) is now selling a Berwick 7327 cu ft plate-F auto-parts boxcar. Features of the Platinum series HO scale model include narrow-style draft box with Kadee® #58 couplers, wire grab irons, wire uncoupling bars, separately applied air hoses, Morton-style etched-metal brake platform, either 100-ton or 70-ton ASF RideControl® trucks (per prototype road practice) with machined metal wheelsets. Available road names are B&O-Chessie System, C&O-Chessie System, CSXT (SCL/L&N re-stencil), Missouri Pacific, The Rock, and Norfolk & Western. The ready-to-run freight car model is available direct from the manufacturer at \$30.95.

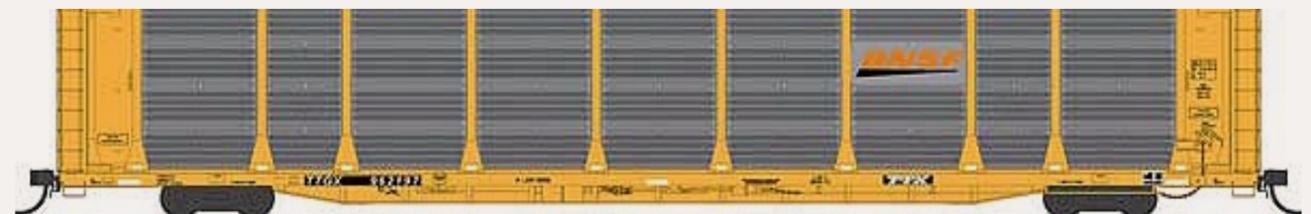


Black Cove Harbor is the newest HO scale kit from **Full Steam Ahead** ([full-steam-ahead.ca](http://full-steam-ahead.ca)). This challenging project comes with a variety of materials and details. Walls are constructed from board and batten material, randomly scribed horizontal boards, laser-etched cedar shake material, and two sizes of clapboard. Doors and windows are laser-cut. Roofing material includes rolled roofing, random cedar shakes, diamond shakes, and corrugated metal. Additional details include ten brass old-style round lobster traps, cast metal roof vents, barrels, trash cans, lobster buoys, crates, tires, cleats, pulleys, life rings, and a dozen seagulls. Additional features are the whale weathervane, cast-resin sea walls, 12 row boats, and the board-on-board wharf construction. The HO scale craftsman-style kit is priced at \$119.99 each.

**Funaro and Camerlengo** ([fandckits.com](http://fandckits.com)) is selling four versions of a Pennsylvania Railroad class X26 single-sheathed eight-panel boxcar that has been modernized with a Hutchins roof and spliced steel doors that replace the original wood variety. Each kit includes wood doors as well as either a Creco or Youngstown steel door that replicate the steel doors salvaged and spliced from class X28 cars when they were rebuilt and classified X28A. In addition, the kits are available with either side grab irons or ladders. The one-piece cast resin kit comes with appropriate decals and sells for \$44.99 each. Trucks and couplers are not included.



**InterMountain Railway Company** ([intermountain-railway.com](http://intermountain-railway.com)) has R-70-20 steel refrigerator cars decorated for UPFE-Union Pacific Fruit Express (red, white, and blue shield), SPFE-Perishable, SPFE (twin black shields), SPFE (twin black shields, restenciled), and SFRC—(large target herald, blue MTC door). The HO scale ready-to-run models come in six different numbers at a list price of \$34.95 each. Special features include cushion underframe, etched-metal details, Kadee® couplers and metal wheelsets.



Also coming from InterMountain this month are bi-level auto racks. Flat cars decorated for TTGX will be available with auto racks lettered for Conrail, CSX,

Norfolk Southern, Union Pacific, and Burlington Northern. Matching flat cars and auto racks will be available for ATSF and Southern Pacific. A nice feature is that the interior decks are visible through the side panels. Other features of the ready-to-run HO scale cars are formed wire and etched metal details, operating end doors, metal wheelsets, and Kadee® couplers. The models come in four road numbers and have an MSRP of \$68.95 each.



InterMountain has scheduled delivery in October/November for a series of 40' World War II, war emergency boxcars. The eight-panel, single sheathed boxcars will be available

in six numbers each for ATSF, CNW, CP, GM&O, and Nickel Plate Road. The HO scale ready-to-run cars have an MSRP of \$29.95 each.

**Kadee Quality Products** ([kadee.com](http://kadee.com)) continues to expand its HO scale 140 series Whisker® couplers. Short, medium, and long versions of both center set and overset shanks are now available. Short and medium underset shanks are also available with a long version of an underset shank expected to become available soon. The 140 series couplers have an MSRP of \$4.27 for two pair.



**Kato USA** ([katousa.com](http://katousa.com)) has released its HO scale EMD SD90/43MAC decorated for Indiana Rail Road #9002 and #9005, Canadian Pacific "Golden Beaver" #9138 and #9152, and Union Pacific "We Will Deliver" #8030 and #8065. The models come with directional headlight, working ditch lights, preprinted number boards, and a standard 8-pin plug for a DCC decoder (not supplied).

Although considered ready-to-run, the models come with several consumer applied details including windshield wipers, MU hoses, and grab irons. The models have an MSRP of \$195.00 each.



**Mount Blue Model Company** ([mountbluemodelco.com](http://mountbluemodelco.com)) is selling a craftsman kit for a Small Cranberry Warehouse based on a prototype building in South Carver, Mass. The kit is consists of laser-cut basswood with etched shingle lines, paper corrugated roofing material, laser-cut windows, and photo illustrated instructions. The HO scale kit has a footprint of 3.5" x 4". It is priced at \$39.00.



**Red Caboose** ([redcaboose.com](http://redcaboose.com)) has a limited supply of HO scale kits for four different versions of 1937 AAR boxcars. The kits are available with either square or "W" corners, and with a choice of

single or double doors. The undecorated kits sell for \$19.95 and come with trucks but no couplers. Decorated ready-to-run models of this car are marketed by Intermountain Railway ([intermountain-railway.com](http://intermountain-railway.com)).



**Rusty Stumps Scale Models** ([rustystumps.com](http://rustystumps.com)) has made another release of Hap Hazard's Hardware-Seed & Feed Store. Components in the HO scale tab & slot construction craftsman kit include prescribed and laser-cut wood and plywood for sub-walls; pre-scribed wood for barn siding, floors, and sub-roof panels; and aged Northeastern Scale Lumber basswood siding for

outside walls. Precision stripwood is supplied for pilings, braces, joists and decking. Other components include Hydrocal® cast stone foundation for the base of the store building, and specialty roofing material including self-adhesive simulated asphalt shingles and RSSM proprietary corrugated metal roofing. The doors and windows are laser-cut from RC board (AKA liner board, a rigid, multiply resin-soaked board rolled to an exact thickness). Numerous lead-free white metal detail castings are supplied, assorted signage, and a 114-page instruction manual with detailed photos. The finished building occupies a footprint of approximately 5.5" x 7". The kit is available direct at \$95.95 plus shipping. Vehicles, figures, and scenic items shown in the photo are not included.



**Side Track Laser** ([sidetracklaser.com](http://sidetracklaser.com)) is selling a kit for a City Fire Station. The HO scale model has been selectively down-sized to a three-bay interpretation of a large stucco prototype that was once the main fire station in Hillsboro, Oregon. The footprint is approximately 8" x 7". The MSRP is \$64.95.



**True Line Trains** ([true-linetrains.com](http://true-linetrains.com)) will soon begin delivery of an 8-hatch reefer used by both CN and CP, as well as several roads influenced by the Canadian giants. In addition to the multiple ice hatches on the roof, a significant spotting feature are doors that are much shorter than other reefers of

the era. CN cars have five equal panels on either side of the door. Cars of this style will be available with improved Dreadnaught ends and hinged doors decorated for CN—noodle, CNR (horizontal maple leaf), CNR (tilted maple leaf), and

GTW. Canadian Pacific cars have two panels on either side of the sliding plug-door that are half the width of the other side panels. This version of the car will be available decorated for CPR (block lettering), CPR (script lettering), Pacific Great Eastern, and BCOL-British Columbia Railway. All versions have a tentative MSRP of \$55.00CD.



**Walthers** ([walthers.com](http://walthers.com)) has announced an HO scale version of Amtrak's Budd-built Metroliner that serviced the North East Corridor from 1968 to 1995. The all-new WalthersProto™ equipment will include a coach, snack-bar coach, and a parlor car. The ready-to-run model will have a metal finish that is said to realistically simulate the stainless steel of the prototype. Additional features include a spring-loaded pantograph, factory installed grab irons, tinted windows, and metal knuckle couplers. All units will be powered and available with either standard DC at \$169.98, or with Tsunami® Sound and DCC sound decoder at \$259.98. The cars will be released one per month beginning in February 2013.

In addition to the three individual cars listed above, a deluxe limited-edition four-car set will be available decorated for Pennsylvania Railroad that was applied to the prototype for testing just prior to the Penn Central merger. Before entering service, the equipment was repainted, making the PRR Metroliner scheme the rarest in the history of the equipment. The deluxe edition consists of four cars (two coaches, a parlor car, and a snack bar coach), with factory-installed LED lighting and a set of Preiser engineer figures inside. Walthers says it will not sell the deluxe edition cars separately. The deluxe edition 4-car set with Tsunami® Sound and DCC sound decoders has an MSRP of \$1,199.92. See your dealer for ordering information.



Walthers is now selling nickel silver code 83 flex track with North American-style concrete ties in 39" lengths at \$11.00 each.

## N SCALE PRODUCT NEWS



Atlas Model Railroad Company ([atlasrr.com](http://atlasrr.com)) has scheduled a fourth quarter arrival date for new production runs on three of its popular ready-to-run N scale freight cars. An Atlas Masters® series 55-ton two-bay open hopper car with

removable coal load will be available with flat ends for Chesapeake & Ohio, Lehigh Valley, Reading, and Western Maryland in three numbers each. A Norfolk Southern car with peaked ends will be available in six different numbers. All versions will have an MSRP of \$17.95. Undecorated cars will list at \$14.95.

New road names for Atlas's Trainman® series 70-ton ore car include Lake Superior & Ishpeming, Missabe "Quad", Missabe "Safety First", and Union Pacific. The production run also includes new numbers for Burlington Northern and Great Northern. All schemes will have an MSRP of \$13.95. An undecorated model will be available at \$10.95.



Two new road numbers each will be available for Atlas Trainman® series "beer-can" tank cars decorated for Brea Chemical, Dow Chemical, Eastman Chemical, Hudson Bay Oil & Gas, Southern Star Lard, and Standard Chemical. The shorty N scale tank cars will have an MSRP of \$12.95 each. An undecorated model will be offered at \$9.95.



BLMA ([blmamodels.com](http://blmamodels.com)) has scheduled another production run of its popular PS-2CD 4000 triple-bay covered hopper. Pullman-Standard built more than 2000 of the prototypes during the early 1960s with many of the cars remaining in service until 2000.



Six road names will be produced including Milwaukee Road, Monon, Nickel Plate Road, NAHX-Great Western Malting, and Wabash. Each road will be available in four numbers. Features of the N scale car include a detailed etched-metal roof walk, 100-ton trucks with 36" metal wheelsets, and body-mounted Micro-Trains® couplers. The ready-to-run cars will have an MSRP of \$26.95 each. The deadline for dealer orders is July 1st with delivery scheduled for late this year.

The next production run of **Centralia Car Shops** 56-seat lightweight coaches are scheduled to arrive by November or December. They will be decorated for Chicago & North Western - 400 scheme (top), Chicago & North Western - streamliner scheme (bottom), Great Northern - Empire Builder scheme, and Great Northern - Big Sky blue scheme. Cars decorated for Union Pacific - gray scheme (middle), and Chicago Burlington & Quincy - silver scheme, are



available now. The models have wire grab irons, interior lighting, and Micro-Trains® couplers and trucks with low-profile wheels. The N scale ready-to-run cars are priced at \$39.95 each. Centralia Car Shops brand products are distributed by InterMountain Railway ([intermountain-railway.com](http://intermountain-railway.com)).



**ExactRail** ([exactrail.com](http://exactrail.com)) has released an N scale model of Evans USRE 5277 cu ft plate-C boxcar. This is the Evans early version with the sill reinforced under

the door and notched below the ladders. ExactRail's ready-to-run model is available decorated for BN-Burlington Northern; RBOX-Rail Box; LEF-Lake Erie, Franklin & Clarion Railroad Company; The Rock; and LOAM-Louisiana Midland. Features include box-corrugated non-terminating ends, Stanray X-panel roof, etched metal sill steps, body-mounted draft boxes with Micro-Trains® #1015 couplers, and 70-ton ASF Ride Control® trucks with machined metal wheelsets. The model is available direct from the manufacturer at \$22.95 each. \*(Later versions of Evans 5277 had a full-width sill and shallow sill steps).



**InterMountain Railway Company** ([intermountain-railway.com](http://intermountain-railway.com)) has N scale ready-to-run cylindrical covered hopper cars with round roof hatches at a list price of \$22.95 each. Road names with six numbers each are available now for Potash, CSX, CP (script), CP (silver), CNIS, CNLX, and Procor.



InterMountain has scheduled delivery in October/November for a series of 40' World War II, war emergency boxcars. The eight panel, single-sheathed boxcars

will be available in six numbers each for ATSF, CNW, CP, GM&O, and Nickel Plate Road. The N scale ready-to-run cars come with Micro-Train® trucks and couplers. They have an MSRP of \$21.95 each. Photo shows HO version.

Eight variations of NYC Pacemaker boxcars are due to be released this month by InterMountain. The selection includes the 1945/46 scheme shown here with a Superior door. The 10' inside height post-war boxcars have etched metal



running boards, and Micro-Trains® trucks and couplers. They will be available in six road numbers at a list price of \$21.95 each.

by General American in 1925 and repainted in 1931. The ready-to-run model has an MSRP of \$26.95.



Micro-Trains has also released a 40' hy-cube St. Louis Southwestern Railway - Cotton Belt boxcar at \$28.45. Built by Pullman-Standard in 1951, the car was rebuilt with a Hydra-Cushion system and DF-2 loaders for appliance service in the owner's shops in Pine Bluff, Arkansas in 1965.

A brand new Series of Starter Sets from Kato USA!

**Inside:**

3' x 4' overall size

M1 basic N scale UNITRACK oval with Kato Power Pack, N Mixed Freight Train Set, containing 6 assorted freight cars, and one N GE ES44AC "Gevo" locomotive:

Kato USA ([katousa.com](http://katousa.com)) has introduced five N scale boxed freight train starter sets that include a GE ES44AC GEVO diesel locomotive, six freight cars, an oval of track, and a power pack: all at an MSRP of \$265.00 each. The choice of locomotive road names are CSX Dark Future, Canadian Pacific, Union Pacific (shown here), BNSF (swoosh scheme), and GE demonstrator.



Additional items available from Micro-Trains this month include 50' class BI-10-11 rib-side boxcars built at UP's Omaha freight car shop in 1971. The cars are available in two road numbers at \$23.50 each.

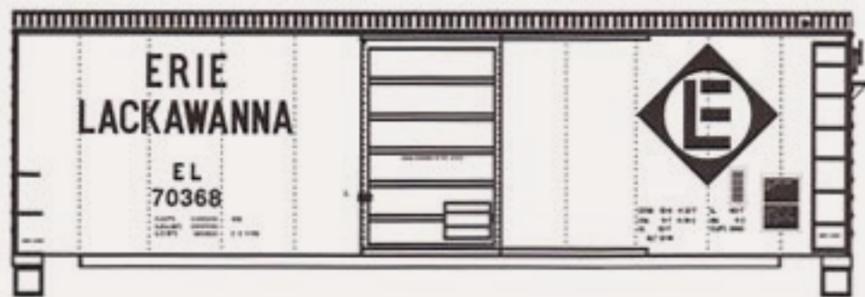
## NEW DECALS, SIGNS AND FINISHING PRODUCTS



Micro-Trains ([micro-trains.com](http://micro-trains.com)) is selling an N scale ready-to-run model of a 36' double-sheathed wood billboard reefer car decorated for MAHX-Miller & Hart "Berkshire Ham and Bacon." The prototype was built



Highball Graphics ([mgdecals.com](http://mgdecals.com)) is selling white decals for HO scale black Erie Lackawanna P-S 53' mill gondola.



Also new from Highball Graphics are white decals for an Erie Lackawanna 40' steel boxcar. The sets are available in N scale (\$6.00), HO scale (\$7.00), and O scale (\$14.00). Each set will letter two cars.

**Mask Island Decals** ([maskislanddecals.com](http://maskislanddecals.com)) has added HO scale lettering sets for DMCU Central of Georgia, and Southern "extension-cord cars" -- idler cars equipped with MU equipment to separate locomotives operating on rail or bridges subject to weight limitations. The decal set sells for \$6.00 and has enough material to letter two cars.

**Microscale Industries** ([microscale.com](http://microscale.com)) has released HO and N scale decals for Southern Pacific 40' and 50' boxcars including data markings, Burlington Northern gondolas and wood chip gondolas, and SAL-Seaboard Air Line covered hoppers. Also new are decals for 50' and 52' boxcars, and 60' bulkhead flat cars for OCE-Oregon, California & Eastern; CLC-Columbia & Cowlitz; and APA-The Apache Railway. HO decal sets have an MSRP of \$7.00. N scale sets are \$5.75. Scheduled for release soon are Florida East Coast Heritage diesels; Cotton Belt 40' and 50' boxcars; Rock Island covered and centerflow hoppers; and Milwaukee, Chicago North Western UP-style passenger cars.

**Mount Vernon Shops** ([mountvernonshops.com](http://mountvernonshops.com)) has an HO decal set that will letter all classes of blue Conrail cabooses. The set is priced at \$11.00 and includes enough material to accurately letter up to four cars.

**Pacific Models** ([pacificmodels.co.uk](http://pacificmodels.co.uk)) of Lincolnshire, UK, offers a selection of HO scale diesel number boards for several American roads including Erie Lackawanna, Lehigh Valley, Reading, Delaware & Hudson, and Central of Jersey. The self adhesive sheets are priced at \$10.00USD each. Visit the above web site for details on specific locomotive types currently available.

**San Juan Decals** ([sanjuandecals.com](http://sanjuandecals.com)) has introduced lettering sets for 15mm UTLX frameless GRAMPS tank cars. The material will letter one GRAMPS car, and one Road Oil Service car, or two plain UTLX cars (one in the 1947 scheme and one in the 1956 scheme) at \$14.95. Also new are three 15mm D&RGW sets for coach/business cars, baggage cars, and a short RPO car at \$12.95 each. Coming soon are lettering sets for a 15mm D&RGW drop-bottom gondolas and passenger cars, along with an Nn3 scale D&RGW passenger car set.

With assistance from noted historian Ed Hawkins, **Tru-Color Paint** ([trucolor-paint.com](http://trucolor-paint.com)) has developed special freight-car brown colors matched to prototype railroad color chips for nearly 50 railroads. Tru-Color paint is an acrylic solvent based paint that dries to a high gloss finish. It is based on a formulation similar to the old Accupaint product line but has been modified to produce a better flow for application with an airbrush directly from the bottle without thinning. The paint sells for \$ 4.99 for 1 ounce bottle, \$8.95 for 2 ounce bottle, or 16 ounces at \$74.95.

Tru-Color plans to introduce two new colors each month. Freight car brown for Union Pacific 1944-1960s (TCP-180), and Kansas City Southern 1944-1960, were released in May. Scheduled for release this month are Atlantic Coast Line 1944-1960's (TCP-182), and Chicago & Northwestern 1944-1960's (TCP-183). The July release will include Frisco 1944-1960's (TCP-184), and Central of Georgia 1944-1960's (TCP-185). Louisville & Nashville 1944-1960's (TCP-186), and Grand Trunk Western 1944-1960's (TCP-187), are scheduled for release in August.

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## Selected Events

### June 2012

**CANADA, SASKATCHEWAN, REGINA**, June 28 - July 1, Living Skies Express, a joint CARM National/PNR 6th Division Convention, at University of Regina Campus. Info from Tyler Smith at [smithtyler@sasktel.net](mailto:smithtyler@sasktel.net).

**CALIFORNIA, ONTARIO**, June 2-3, The Big Train Show, Ontario Convention Center, 2000 E. Convention Center Way. Info at [bigtrain-show.com](http://bigtrain-show.com).

**CALIFORNIA, RICHMOND**, June 23, Bay Area Prototype Meet, St. David's School Hall, 871 Sonoma Street.

**COLORADO, COLORADO SPRINGS**, June 2-3, TrainExpoCO, swap meet, operating layouts, clinics, manufacturers presentations. Financial Services Expo Center, 3650 N. Nevada. Info at [tecoshow.org](http://tecoshow.org).

**CONNECTICUT, COLLINSVILLE**, June 1-2, 10TH Annual New England/Northeast RPM, featuring clinics, model displays, and vendor displays. Attendees are urged to bring models. Layout open house tours on Sunday June 3. Canton Community Center, 40 Dyer Avenue. Info at [neprototypemeet.com](http://neprototypemeet.com).

**FLORIDA, TALLAHASSEE**, June 16, 21ST Annual Tallahassee Model Railroad Show & Sale, North Florida Fair Grounds, Bldgs 2 and 4. Info at [bbmra.org/show.html](http://bbmra.org/show.html).

**KANSAS, MERRIAM (Shawnee area)**, June 23, 10th Annual Narrow Gauge Meet, sponsored by Kansas City Area Narrow Gaugers. Includes clinics and layout tours. Johnson County Library, Antioch Branch, 8700 Shawnee Mission Parkway. Inquiries to Larry Alfred at [captlalfred@gmail.com](mailto:captlalfred@gmail.com).

**MARYLAND, TIMONIUM**, June 23-24, The Great Scale Model Train Show, with more than 350 vendor tables. 30th year hosted by Howard Zane. Maryland State Fairgrounds. Info at [gsmts.com](http://gsmts.com).

**NEW MEXICO, CHAMA**, June 8-10, 2012, Big Horn Mixed NMRA-RMR 2012 Convention aboard a chartered mixed freight on the narrow gauge Cumbres & Toltec Scenic Railroad. Featured dinner speaker is NMRA president-elect Charlie Getz. Complete details at [BigHornMixed.com](http://BigHornMixed.com).

**OREGON, MEDFORD**, June 27-July 1, 20th Annual National N Scale Convention, with auctions, more than 100 tables of N scale items, clinics, model contests, operating layouts, and home layout tours. Also tours of Micro-Trains plant, Medford Railroad Park, and live steam at Train Mountain. Red Lion Hotel. Info from Dick Ollendorf at 610-923-7535 (evenings, Eastern time) or visit [nationaln-scaleconvention.com](http://nationaln-scaleconvention.com).

**TENNESSEE, GATLINBURG**, June 1-3, NMRA Southeastern Region 'Tracks to the Smokies' Convention, at Glenstone Lodge. Info at [ser-nmra.org](http://ser-nmra.org).

**WISCONSIN, WAUPACA**, June 16-17, 23rd Annual Strawberry Fest & Train Show, model contests, operating layouts, vendor displays, Thomas the Tank Engine, and strawberry shortcake. Waupaca Recreation Center at State and Badger Streets. Info at [wamrltd.com](http://wamrltd.com).

### July 2012

**CANADA, BRITISH COLUMBIA, SQUAMISH**, July 13-15, Pacific Great Eastern Railway 100th Anniversary Convention, sponsored by PGE-BCR Modellers Group. Clinics, operating layouts, displays, model contest, prototype displays, and rides on 7.5" gauge Mini Rail. CN Roundhouse & Conference Centre, West Coast Railway Heritage Park, 39645 Government Road. Info including registration fees and options available from Brian Clogg at [bcclogg@shaw.ca](mailto:bcclogg@shaw.ca) or phone 604-588-2194.

**ILLINOIS, COLLINSVILLE (St Louis area)**, July 27-28, 6th Annual St Louis RPM Meet, hosted by Lonnie Bathurst, John Golden, and Daniel Kohlberg, with clinics, local and national vendor displays and sales tables, representatives from railroad historical societies, Freemo display, and more. Gateway Convention Center, One Gateway Drive. Info available from John Golden at [Golden1014@yahoo.com](mailto:Golden1014@yahoo.com) or Dan Kohlberg at [paducah@mindspring.com](mailto:paducah@mindspring.com).

**KANSAS, OVERLAND PARK**, July 14, Annual Train Show sponsored by Turkey Creek Division, MCoR, NMRA, Shawnee Mission North High School. Info at [tc-nmra.org/tc-meet/tc-meet-2012.html](http://tc-nmra.org/tc-meet/tc-meet-2012.html).

**MICHIGAN, GRAND RAPIDS**, July 29-August 4, NMRA National Convention and National Train Show. Info at [gr2012.org](http://gr2012.org).

**MICHIGAN, GRAND RAPIDS**, July 29 - August 3, Operations Road Show, a hands-on clinic learning time table and train order operating techniques while operating on the Wabash 2nd Division modular railroad. Extended clinic sessions Monday through Thursday in conjunction with the NMRA Grand Rails 2012 National Convention. No fee but clinic reservation and convention preregistration is required. For details contact John Young at [cdjhyoug@yahoo.com](mailto:cdjhyoug@yahoo.com).

**MONTANA, BUTTE**, July 21, Annual Swap, Sale, & Railroad Prototype Modelers Meet; sponsored by Northern Pacific Railway Historical Association. Celebrating all railroads, all scales. Clinicians include Richard Yaremko, Aaron Gjermundson, Jim Ruffing, Bill Seifert, Chris Frissell, and Dean O'Neill. In the restored Northern Pacific Depot, 800 E. Front Street. Info from Chris Frissell at [leakinmywaders@yahoo.com](mailto:leakinmywaders@yahoo.com).

## FUTURE 2012

**COLORADO, PUEBLO**, August 11-12, Colorado Rail Fair featuring clinics, operating layouts, sales tables, manufactures displays, and more, at Occhiato Center, Colorado State University. Sponsored by Pueblo Model Railroad Association and Arkansas Valley Division NMRA RMR. Special rates available at Clarion Inn, 4001 N. Elizabeth St. Info from John Denny at 719-547-7990

**COLORADO, COLORADO SPRINGS**, September 14-15, TrainExpoCO, swap meet, operating layouts, clinics, manufacturers presentations. Financial Services Expo Center, 3650 N. Nevada. Info at [tecoshow.org](http://tecoshow.org).

**COLORADO, COLORADO SPRINGS**, December 15-16, TrainExpoCO, swap meet, operating layouts, clinics, manufacturers presentations. Financial Services Expo Center, 3650 N. Nevada. Info at [tecoshow.org](http://tecoshow.org).

**NORTH CAROLINA, BREVARD**, Oct 12-13, Narrow Trak 12, annual narrow gauge and logging mini-convention with model displays, operating modules, seminars, and popular-vote model contest. Speakers include Matt Bumgarner, Jerry Ledford, and Tom Yorke. Transylvania County Recreation Center, 1078 Ecusta Road. Send inquiries to Frank Pearsall at [plans@citcom.net](mailto:plans@citcom.net).

**OHIO, CLEVELAND**, October 11-14, iHobby Expo, annual hobby industry trade show, IX Center.

**OKLAHOMA, TULSA**, October 19-20, Oklahoma Narrow Gauge Meet. Clinics include Bob Hyman on 20.3 scale outdoor RGS layout, and Chuck Lind on logging and sawmills, plus op sessions. Progressive meet in private homes requires RSVP as early as possible. Info at [okng.org](http://okng.org) or e-mail Ken Ehlers at: [ehlerskd@hotmail.com](mailto:ehlerskd@hotmail.com).

**PENNSYLVANIA, STRASBURG/LANCASTER**, October 11-13, Fine Scale Model Railroader Expo, with manufacturers displays, clinics, dioramas, display layouts including Muskrat Ramble On30 layout, plus others activities at the Strasburg Railroad, and The Pennsylvania State Railroad Museum (PSRM). HQ at Lancaster Host Hotel & Conference Center, Strasburg, with special awards dinner at PSRM. Info at [modelrailroadexpo.com](http://modelrailroadexpo.com).

**PENNSYLVANIA, LEESPORT**, August 10-12, Greater Reading Narrow Gauge Meet. With operating displays, dealers, clinics, and demonstrations. Leesport Farmers Market Banquet Hall, Arlington Drive. Info at [nateslightironhobbies.com/narrowgagemet.htm](http://nateslightironhobbies.com/narrowgagemet.htm).

**SOUTH CAROLINA, MYRTLE BEACH**, October 13-14, Grand Strand Model Railroaders 3rd Annual Model Train Show, at Lakewood Conference Center, 5837 S. Kings Hwy. Info at [isfans.com/gsmrrc](http://isfans.com/gsmrrc).

**WASHINGTON, BELLEVUE**, September 12-15, 32nd National Narrow Gauge

Convention, with 50 clinics, 35 layout tours, and 80 plus vendors. Meydenbauer Convention Center. For info visit [seattle2012.com](http://seattle2012.com).

## FUTURE 2013

**AUSTRALIA, MELBOURNE**, April 12-14, 2013, 13th National Australian N Scale Convention, Rydges Bell City Event Centre, Preston, Melbourne. Info at [convention2013.nscale.org.au](http://convention2013.nscale.org.au) or send email to [nscale2013@bigpond.com](mailto:nscale2013@bigpond.com).

**CALIFORNIA, PASADENA**, August 28-31, 2013, 33rd National Narrow Gauge Convention. Hilton Hotel, 199 S. Los Robles St. Info at [33rdnngc.com](http://33rdnngc.com). Send inquiries to Jeff Smith at [jeff@railmasterhobbies.com](mailto:jeff@railmasterhobbies.com).

**MINNESOTA, BLOOMINGTON**, April 25-28, 2013, 28th Annual Sn3 Symposium. Ramada Mall of America Hotel. Info at [Sn3-2013.com](http://Sn3-2013.com).

**NEW MEXICO, ALBUQUERQUE**, June 6-9, 2013, Rails Along the Rio Grande, NMRA Rocky Mountain Region, Rio Grande Division 6, convention with clinics, layout tours, train show, OpSig sessions, UPRR and BNSF modelers showcase night, and banquet. Marriott Pyramid North. Info from Al Hovey at [alhovvey@comcast.net](mailto:alhovvey@comcast.net). ■

## Briefly noted at press time...

... Athearn Division of Horizon Hobby has recovered its product tooling that was impounded when one of its Chinese manufacturing partners went bankrupt last January (for background see page 103, MRH February 2012). According to Vic Audo, Horizon's Director of Railroad Products, Athearn has successfully retrieved all of the tooling for ready-to-run models that was impounded by Chinese authorities when Creative Masters Limited (CML) shut down its large manufacturing facility in Guangdong Province.

Athearn has taken physical possession of the tooling which is currently being inspected by Mike Hopkin, Athearn's

product development director, who flew to China mid-May.

Impounding the tooling interrupted the scheduled arrival of several ready-to-run models, however, Audo told MRH that Athearn's upscale-Genesis products and production schedules were never in jeopardy since they only used CML to manufacturer items in their ready-to-run line.

Although final decisions are pending, Audo said that future ready-to-run items will probably be manufactured by the same Chinese partner that has been successfully manufacturing Athearn's Genesis line. A revised fall delivery schedule is expected to be released within a few weeks.

Meanwhile, Athearn has released the January, 2013, delivery schedule

for its Genesis-series locomotives. The venerable EMD F3A and F3B will be offered in Santa Fe's classic warbonnet scheme. Paired F3A/F3B sets with both units powered will have an MSRP of \$309.98 for standard DC versions or \$489.98 for units equipped with Tsunami® digital sound and SoundTraxx DCC decoders. Single F3A units will be priced at \$169.98 and \$269.98.

Also coming in January are Genesis GP9 locomotives in four road numbers each for B&O, Conrail, Chicago & Eastern Illinois, and Chicago & North Western. DC units will have an MSRP of \$189.98. Units with Tsunami® digital sound and SoundTraxx DCC decoders will list at \$289.98. Athearn's Genesis GP15T will be available in four road numbers for

CSX. DC units will list at \$189.98. Units equipped with Tsunami® digital sound and SoundTraxx DCC decoders will list at \$289.98.

HO scale versions of SD70ACe diesels decorated in UP's Western Pacific heritage scheme as well as a BNSF swoosh scheme complete the list of Genesis locomotives due to arrive in January. The SD70ACe models will have an MSRP of \$199.98 for DC versions and \$298.98 for locomotives with Tsunami® digital sound and SoundTraxx DCC decoders. ■

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# REVERSE RUNNING: EBay to the modeler's rescue

## Stepping outside the box with a contrary view



— by Joe Fugate

If you see what weathered rolling stock sells for on eBay, you will quickly realize there may be a silver lining in that Internet cloud (the Internet is being called the “cloud” these days, in case you haven’t heard).

I’ve seen nicely weathered rolling stock sell for well over \$100 on eBay, especially if the photos are nice. If the weathering is very realistic and the photos are exceptionally good, I’ve seen one piece of rolling stock go for as much as \$800!

Just think of it: you buy a nice \$25 piece of plastic rolling stock, put metal

wheels, Kadee #158 couplers on it, weather it up nicely, and sell it for a sweet profit on eBay.

eBay is one of those things that’s come along in our modern world that many of us wonder how we ever did without it. I personally have found many otherwise hard-to-find items on eBay, for instance.

A few clicks of the mouse and a few days later the item’s on my doorstep. It’s almost too easy.

I’ve even bought a car on eBay (no kidding). I seldom have been sorry about my purchases, and even in the rare times I was sorry, I was able to get a full refund without hesitation.

So the stories about “getting ripped off on eBay” are generally overblown if you ask me.

It’s like any time you conduct business – caveat emptor – buyer beware. But that’s always been true since the first person sold their neighbor a nicer looking hunting tool.

You just need to use a reasonable amount of caution. If the deal sounds too good to be true, it generally is, especially if the guy selling it hasn’t got much of a track record on eBay.

With the Internet, it’s now possible to conduct business with people

anywhere in the world if you want. Or at least across the country if you’d rather keep it more “local”.

The model railroading and railroad collectible goodies you can get off eBay will boggle your mind. Just doing a quick search as of this writing shows almost 73,000 model railroading items and almost 25,000 railroad collectibles including timetables, photos of the prototype, calendars, old annual reports, china ... it’s like the ultimate swap meet running 24 x 7.

I’m not necessarily telling you to turn your hobby into an eBay profit center, but there’s another angle on this eBay thing that could be interesting.

Let’s say you have some rolling stock in your collection that doesn’t really fit into your current layout scheme any longer. Perhaps you changed your mind on what road or what era you want to model, for instance.

Thanks to the Internet and eBay, you may have a great out, especially if the next swap meet isn’t nearby or isn’t for another 9 months.

Take those cars that to you are now white elephants, weather them up nicely and sell them on eBay.

If you do a decent weathering job, put some good wheels and couplers

on them and take some nice pictures, you should at least break even, and you may even make a profit!

Yes sir, thank God for eBay – the hobbyist’s easy out if you change your mind about what to model.

A couple decades ago it was pretty much the local modelers or classified ads in the back of the hobby magazines if you changed your mind and wanted to “dump your stuff”.

You get a lot better traction today on eBay with some nice weathering and some nice photos!

If you’re the least bit Internet savvy and you’re wringing your hands over what to model ... then relax.

Go do something! Get going on some modeling, even if you don’t yet have space for a layout or aren’t exactly sure what you like the best. You don’t need much space to work on rolling stock or locos!

You’ve got one less excuse for not modeling *something* now. What are you waiting for? You learn best what you like by doing, not by just thinking about it some more.

And remember, there’s always eBay if you change your mind or if things just don’t work out with your modeling choice. 

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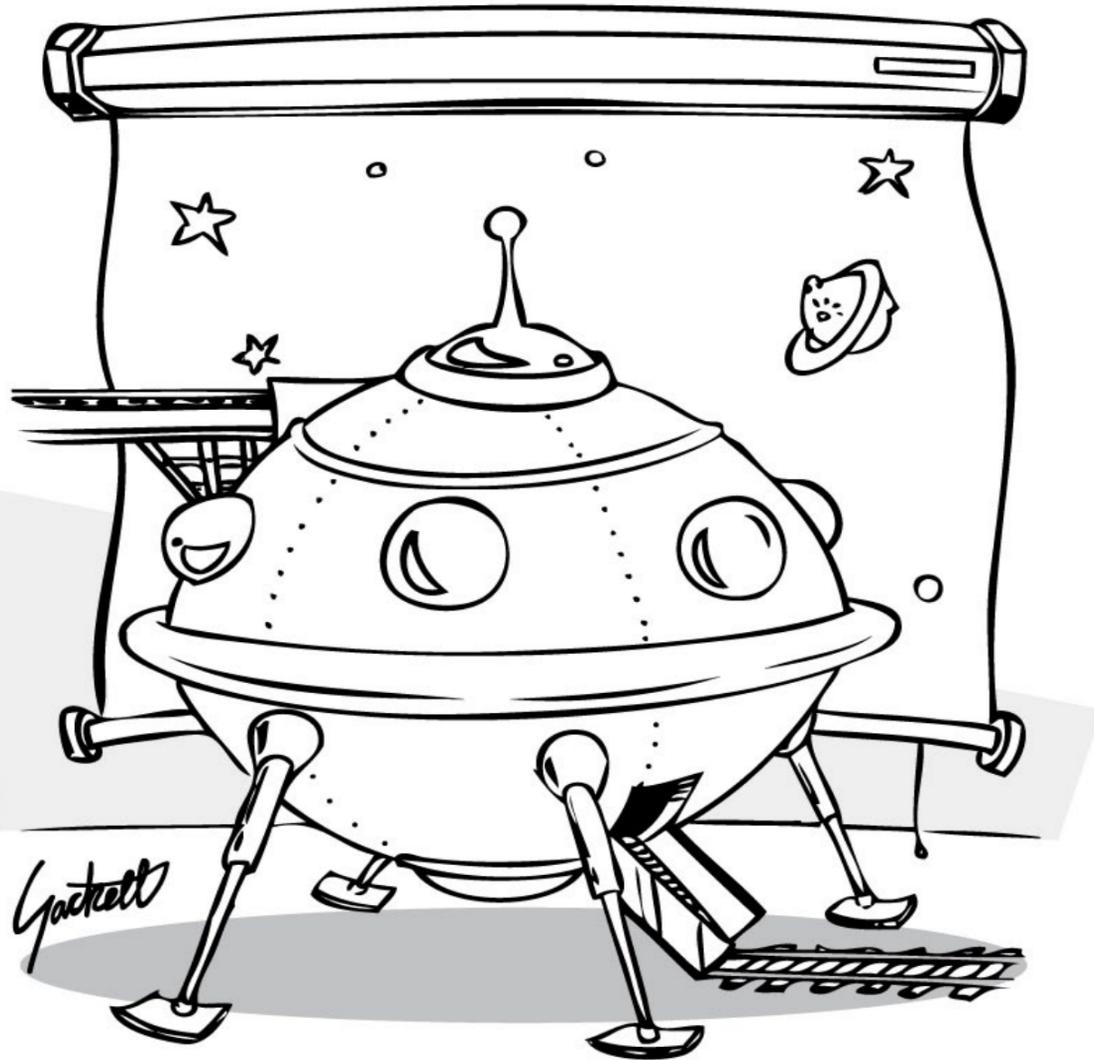
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