

Model Railroad Hobbyist magazine™

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Edition

July 2012

HAVING FUN WITH TRAINS

- Building a backwoods crossing signal
 - Grand Rapids layouts
 - Scratchbuilding a steam loco, part 2
- ... and lots more, inside!

Gorre & Daphetid
Resurrected?





Front Cover: When we saw this photo of Tom Hokel's HO Gorre & Daphetid look-alike layout, we thought John Allen himself had been resurrected! MRH is delighted to bring you Tom Hokel's beautiful Pine Ridge Railroad, inspired by the work of famed model railroader John Allen.

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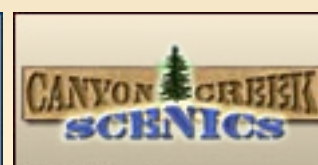
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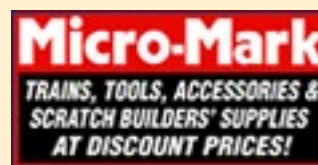
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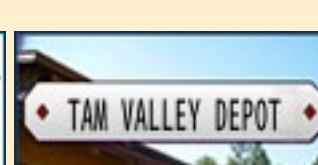
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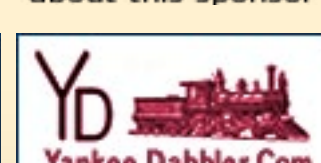
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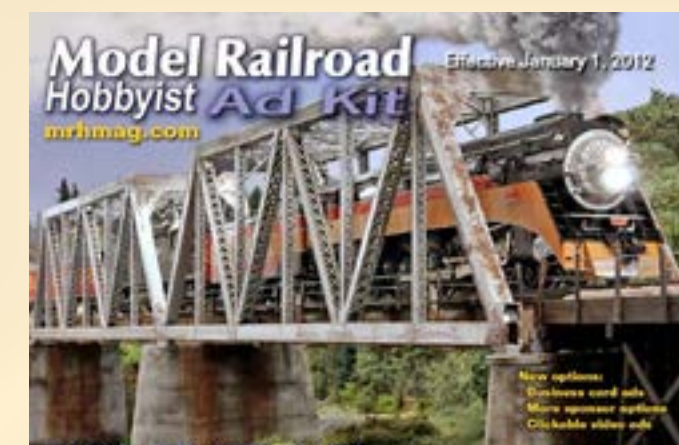
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Main Features



Scenery scene: Tie piles
Adding a simple lineside detail
by Jack Burgess



Creating a realistic pipe load
Tricks for making this flatcar load
by M. R. Snell



Railfanning the Pine Ridge Railroad
An amazing Gorre & Daphetid look-alike
by Thomas A. Hokel



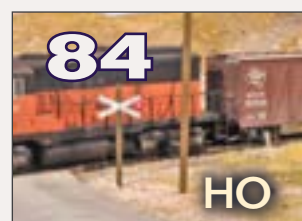
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Preview of the NMRA National
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by Kenneth Rickman



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Exceptional products photo gallery



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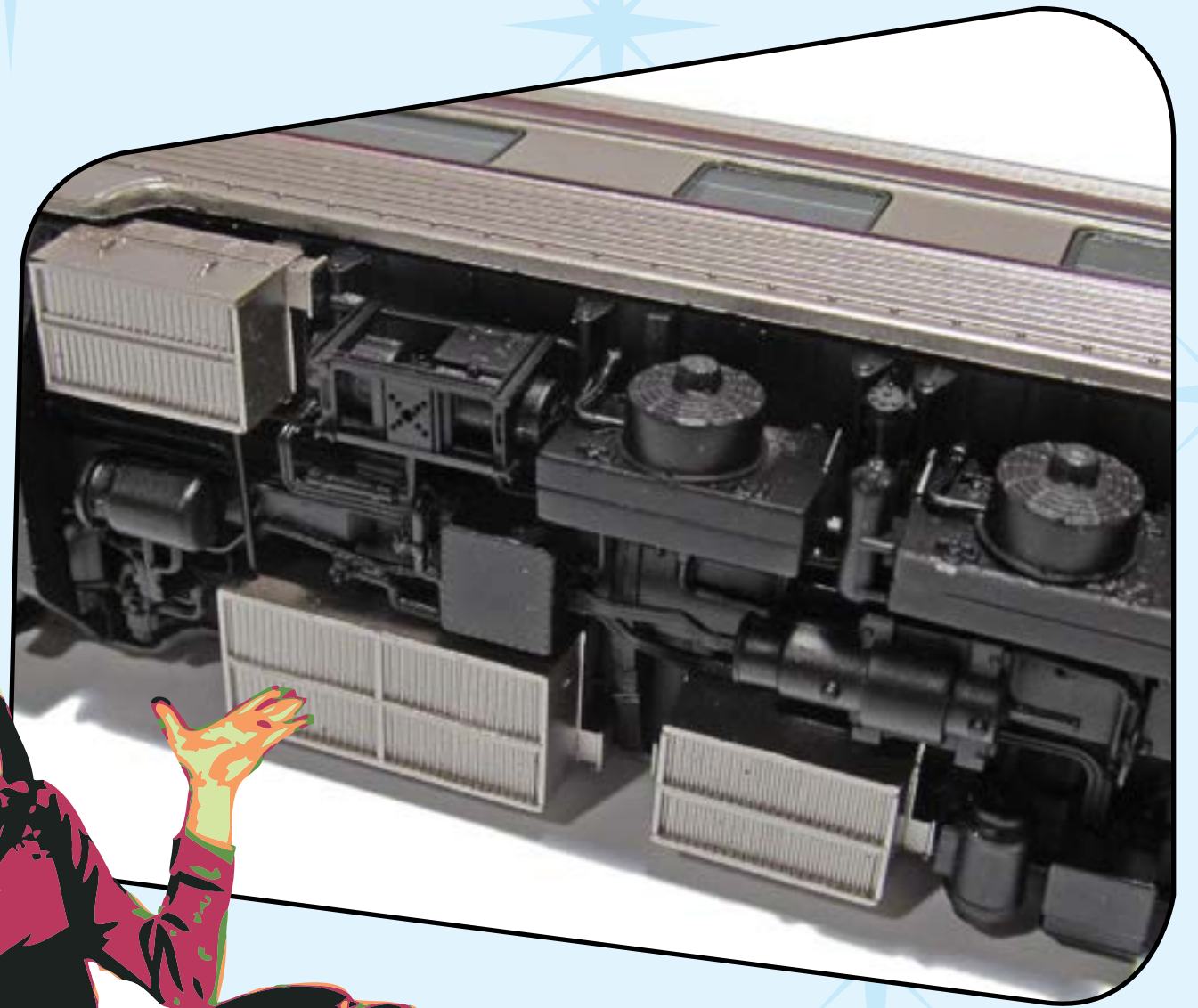
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"honey...

those model trains from Rapido are so detailed, I've decided to stop buying new shoes so you can afford more model railroad supplies."



About the Publisher



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

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

PUBLISHER'S EDITORIAL: The Wizard of Monterey

Musings from MRH's founder



This month marks the 99th birthday of John Allen, known in his heyday as the "Wizard of Monterey". John passed away in 1973 at the age of 59, after greatly influencing the hobby for nearly three decades.

John pioneered a number of things we take for granted today. His HO Gorre & Daphetid (pronounced "Gory and De-feated", a play on words) captured the imagination of model railroaders from the mid-40s to the early 1970s.

John used code 70 nickel silver rail hand spiked to wood ties in the late 40s when brass code 100 rail stapled to fiber ties was in vogue. John standardized on an early form of operating coupler when most still used non-operating dummy couplers.

John stunned modelers with the weathered models in his photos. Making models looked *used* came as a new concept. Some of his cars and buildings showed sags or were clearly out-of-square from age. John also pioneered using forced perspective and visual tricks such as painting out backdrop shadows and using mirrors to expand a scene.

John's more visual approach to the hobby meshed well with his skill as a professional photographer. He used people and animals regularly in his model scenes. Coupled with his consistently weathered and detailed models, John's miniature living scenes told captivating stories about his trains and their world.

This visual flair with his modeling took our imaginations to new levels. John didn't just portray toy trains on a table – he portrayed a grand empire full of life and magic. The hobby of model railroading became so much more through John Allen's wizardry.

John's sense of greater purpose didn't end with his still imagery. John promoted running a layout as a transportation system. He loved car forwarding and switching. In fact, John invented the famous Timesaver switching puzzle. John also invented an early momentum throttle system using something of a Rube Goldberg rheostat mechanism.

As a new modeler in the late 1960s, I discovered John's Gorre & Daphetid in *Model Railroader* and *Railroad Model Craftsman*. John's larger-than-life visual artistry fired a passion in me for model railroading that remains to this day.

When I first saw Tom Hokel's Gorre & Daphetid look-alike layout, I thought

the wizard himself had been reincarnated. Only if you compare Tom and John's scenes side-by-side do the slight differences become apparent.

Much of Tom's layout evokes déjà vu feelings for those familiar with the Gorre & Daphetid. The late Lew Matt worked with Tom and helped develop this cover story for us, and we only wish Lew could have seen this cover story debut.

We're thrilled to bring you the Wizard of Monterey's heir-apparent, Tom Hokel, and his fabulous Pine Ridge Railroad – one of the best Gorre & Daphetid look-alike layouts we've seen. Tom's clearly an accomplished modeler in his own right, and modeling another modeler's work so well takes a very special kind of skill.

It's only fitting as we approach John Allen's 100th birthday that we remember the Wizard and his many contributions to the hobby.

Thanks, John, for helping transform playing with toy trains into the captivating hobby of model railroading, and for being an inspiration to a generation of modelers through your magical modeling and imagery.


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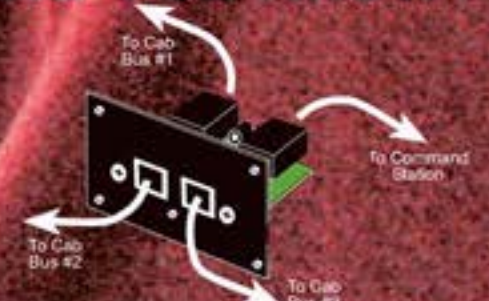
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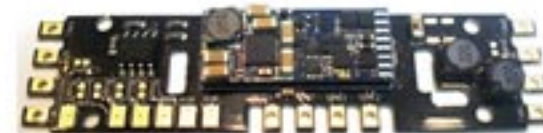
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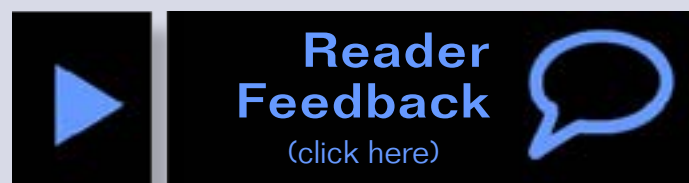
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Notes from the

MRH STAFF

**MRH Generation 2 coming,
New sponsors, Viewing
MRH on tablets ...**



MRH Generation 2 coming

We designed MRH's original computer-friendly eZine format back in 2008. At that time, the first smartphone – the iPhone, was a few months old. And tablets like the iPad were still two years off.

We feel fortunate that MRH works well on an iPad as-is, but it doesn't display worth a darn on a smartphone without scrolling and zooming. And MRH only sort of fits onto a Kindle Fire screen – you have to scroll a bit to see the full page.

If you haven't noticed, changes are afoot in how people connect to the Internet. Always on, always connected mobile device usage is growing so fast that it's expected to exceed desktop Internet usage in the next 18 months.

Given these changes in how people connect to the Internet and consume content, MRH's current format is due for an overhaul.

We're now planning what we're calling the second generation of MRH now, and expect to debut it by January 2013.

What will it look like? It will be readable on a smartphone without scrolling or zooming but will work well on a tablet or on your desktop computer.

We'll be moving away from the PDF format to the more open and modern HTML5 format. HTML5 actually makes things easier because this format will display on any device that has a web browser. You don't need any special software like Adobe Reader to view it.

HTML5 documents natively support embedded video and animations similar to Flash, but without the proprietary (and sometimes quirky) Flash player.

In short, HTML5 means fewer moving parts to view MRH. If that's not enough, with the HTML5 format for MRH, an advertiser's ad can literally be their web page, *right in the magazine!* You don't even have to leave the magazine to see an advertiser's web page!

And there's more, lots more.

We think you'll find MRH gen 2 to be full of new features ... so stay tuned.

New sponsors

We have two new sponsoring advertisers this month!



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pwrs.ca/main.php): North American Railcar does

very detailed railcar models in HO and N scale. They intend to continue releasing each of their new products simultaneously in both HO and N scales, and in multiple road numbers where appropriate. NARC expects to add an e-survey feature to their website soon, allowing modelers to offer input regarding potential future products. Make sure you check them out for worthwhile additions to your model railroading equipment fleet.

The O Scale Resource:



(oscaleresource.com): If you have any interest in O scale, then the

O Scale Resource is for you. They maintain up to date listings for model



June 2012 MRH Ratings

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

- **4.7** Building a paper mill complex, pt 3
- **4.7** Scratchbuilding a steam loco, pt 1
- **4.4** Small track plans galore
- **4.3** Getting Real - Building big structures
- **4.2** Publisher's musings - Common mistake
- 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!**

railroading in 1/48 (also known as 1/4" to the foot.) The O Scale Resource has classified listings for Manufacturers, Dealers, Publications, Estate Liquidations, and of course, Proto 48. Go visit their website to find out what you may have been missing as someone with an interest in O scale. Make sure and tell them thanks for becoming an MRH sponsor!

Hobby Marketplace ([page 46 this issue](#)): We also have other new advertisers in our MRH Hobby Marketplace, which houses our economy ads.

Remember to look beyond just the sponsors page if you want to see all the new advertisers who have products you might need!

Help secure our future

MRH comes to you totally free because we're ad supported. The more people we can reach, the more attractive we become to hobby advertisers.

So anything that gets the word out and grows our readership is like money in the bank to us, because more advertisers will want to get in our magazine.

Our latest website improvement makes it easier than ever for you to get the word out: we've added easy Facebook, Twitter, and Google Plus links to our website.

[Share on Facebook](#) [Tweet](#) [+1](#)

Figure 1: New share links on the MRH website

If you see something interesting on our website, then please click one of these share links and tell others about us on Facebook, Twitter, and/or Google Plus.

These share buttons are more than just decoration. They're a very important way you can tell others about us, and create more links back to our website in the process.

The Google search engine takes things like Facebook links back to a website very seriously, and the more of these link-backs we get, the better our site rates in Google searches and the more new visits we get each month.

If you're not a Facebook person, you're in the minority. There's almost a billion members on Facebook, making it the largest website on the planet!

So please share good MRH website content with your friends on Google Plus, Facebook and Twitter. You're helping secure our future.

Viewing MRH on tablets

Every so often we get an email from an iPad or a Kindle Fire user who would like some advice on how to get the best MRH viewing experience.

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Naturally we're glad to share this insight because we're avid iPad and Kindle Fire users ourselves.



For the iPad, you want to get the GoodReader app. It will cost you a few dollars, but it's one awesome app! Not only does it do a fantastic job

with viewing MRH, it will open website links when you tap them, and not lose your place in the magazine.

GoodReader will also download and display just about anything you can imagine. It handles zip files, and it plays videos, just to name a couple of

the amazing things this app will do! Even if you weren't an MRH reader, the GoodReader app is a great app to have on your iPad!



For the Kindle Fire, you want to get the ezPDF Reader app. It handles the hyperlinks in our magazine very

well, much better than the Adobe PDF reader app, as a matter of fact. This is surprising, but Adobe's PDF reader app for Android is weak, and ezPDF does a much better job with PDFs.

We find tablets to be the ideal MRH reading device. Tablets make it easy to

read an issue in our easy chair, in bed or any place we enjoy reading regular paper magazines. It's the best of both worlds, with the ease of reading a magazine and the power of one-tap access to websites.

Can you download one article?

A common question we regularly get is, can you just download a single article? Why do you need to download the entire magazine if all you want is a single article?

Part of the question is how to be frugal with your computer storage resources. The other part of the question deals with how to get a faster download,

which can be important if you're on a slow Internet connection.

The short answer is no, we can't offer just a single article for download – and still keep it free.

The agreement we have with our advertisers is you, the modeler, get a free magazine, and in exchange for getting all this content free, the ads come along for the ride and pay for the magazine production.

If we split out individual articles so you can just cherry pick articles, then you won't get all the ads and those paying for this content to be produced don't get the value they've invested.

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Thinking as a modeler for a moment, this doesn't seem like an onerous requirement in order to get a completely free quality model railroading publication with professional editors.

I like the ads, myself. They help me keep up with what's coming out for the hobby, and the MRH one-click-and-you're-there capability is darn handy when you're shopping for hobby goodies.

Plus I've been in the hobby long enough now that my interests have changed over the years. I find articles I passed up years ago are now of interest to me. By downloading the entire magazine, I'll get a searchable collection of articles that may be of interest later.

Disk space is pretty cheap these days. An entire collection of all 28 issues to date will take about 2 GB. Gee, you can get a \$5 thumb drive that will hold that much these days - and your entire collection of MRH magazines can go on the road with you in your pocket.

Try taking 28 issues of the paper mags with you on the road ...

In this issue

We've been looking forward to this month for a while since many of the staff are fans of John Allen's

memorable Gorre & Daphetid. Tom Hokel's done an amazing job with his G&D look-alike layout, and well he should - some of his equipment is the real deal, coming from the Wizard's actual layout! We hope you find this article to be inspiring and brings you a touch of delightful déjà vu nostalgia.

Nick Muff, our newest guest Getting Real columnist, shows you how he redid one end of his layout to get something a lot more operationally effective.

We've been promising the Backwoods Crossing Signal article for a couple issues now, and we finally made good on that promise. We think you'll find this "prototype kitbash" article to be interesting, and the crossing circuit tips the author shares are most helpful.

Bruce Petrarca's DCC column looks at how to do more with your DCC system this issue. Bruce has lots of great DCC experience in the trenches, so his advice will really help you get the most from your system. Make sure to give Bruce's column a read.

We continue the series we started last month on how to kitbash / scratch-build a steam loco using styrene. Ken Rickman shops you more great techniques this month! Regardless of what you're building in styrene, there are some really helpful tips in this series.

Jack Burgess gives us another one evening project this month, this time offering useful tips for adding stacks

of ties to your layout scenes. This is one of those railroad details that is fun and easy to build.

Matt Snell shows how to build a great pipe load for your flat cars. Open top cars can be challenging to detail properly with loads, and running them empty all the time just doesn't cut it. Thanks to Matt's dandy article, you can soon have a great flatcar load or two for those empty flats!

With the Grand Rapids NMRA National upon us in a few short weeks, we've got some eye candy videos for you on the grand layouts you can take in at Grand Rails 2012.

In this issue's Reverse Running "devil's advocate" column, Joe Fugate wonders if model railroading isn't getting too serious. Joe recalls how the "caricature modeling" of the 1960s (of which John Allen's layout was exhibit A) seemed to be a lot more inclusive and filled with magical fun than today's proto-fetish.

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

Enjoy the July issue of MRH! ☒



July 2012 Premium Extras!

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DVD and HD quality versions of:

- Pine Ridge Railroad layout overview
- Grand Rails - Bill Heiden's Milwaukee
- Grand Rails - Thom Post's C&O
- Grand Rails - Wade Griffith's BN

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Questions, Answers and Tips



QUESTIONS AND ANSWERS

Q. With mainline rail in Code 83 and sidings in Code 70, how can I make a smooth joint between the rail sizes? Ordinary track joiners make a bump.

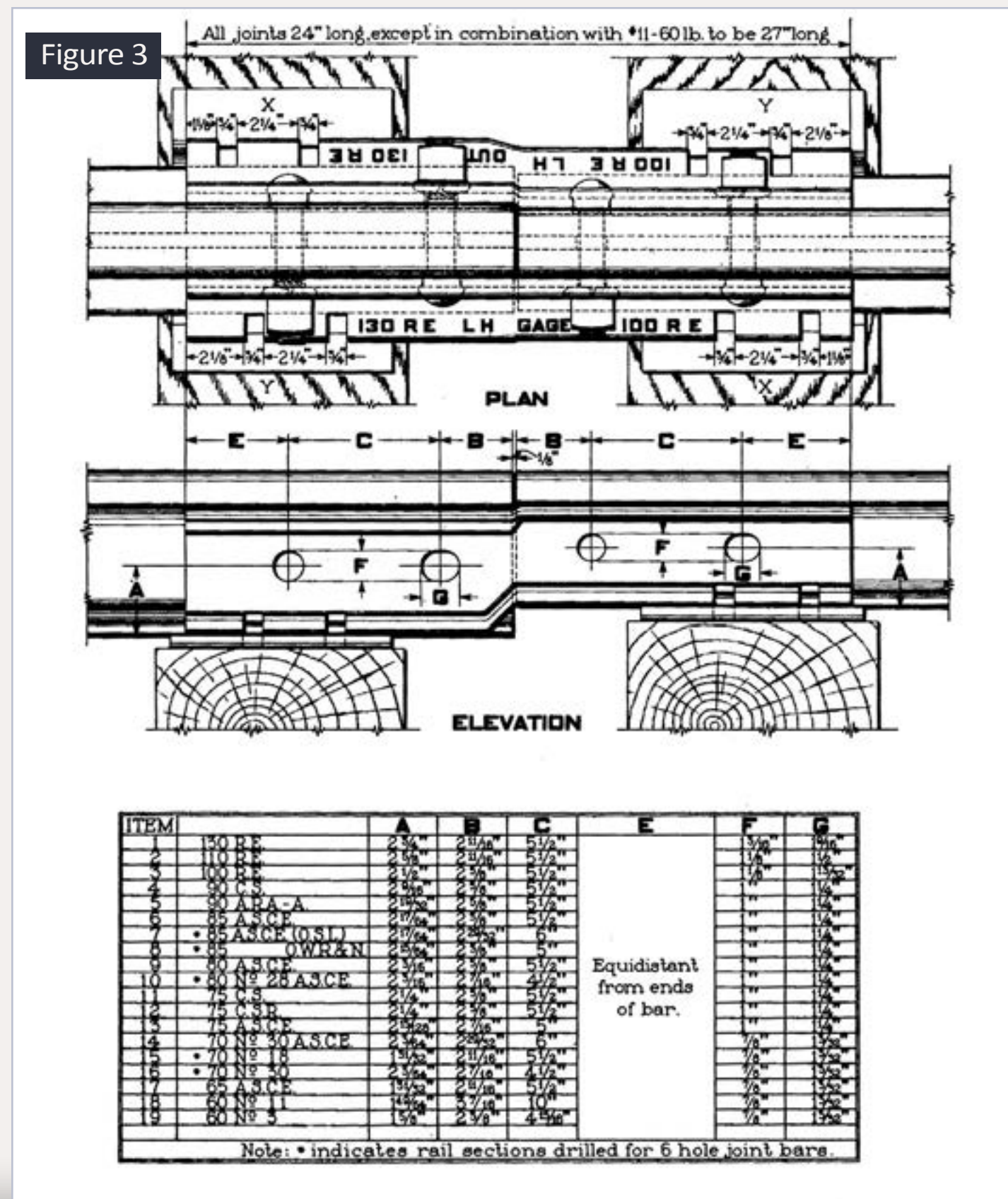
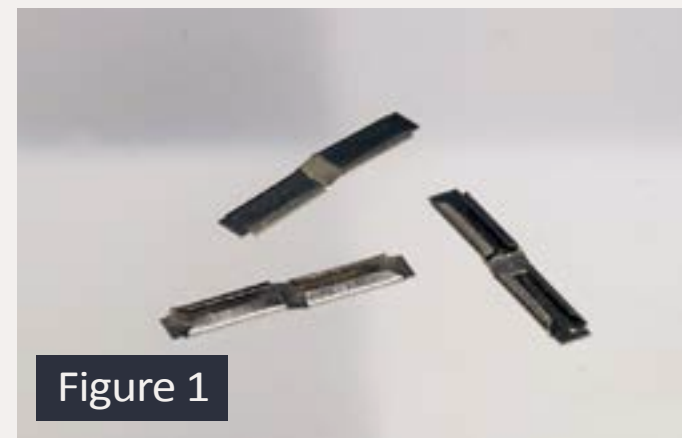
A. There are several ways to approach this. 'Code 83' means the rail is .083" high. Code 70 is .070", so there is a difference of .013" to make up.

The cleanest way is to solder a piece of .010" brass shim stock to the base of the code 70, file it to match the base of the rail, and just use a conventional Code 83 joiner.

Figure 1: The Atlas Code 100 to Code 83 Transition Rail Joiner comes in a blister pack at model train stores or online. The part can also be used for a Code 83 to Code 70 joint.

Figure 2: The step in the Atlas #551 joiner must be inspected and adjusted as necessary to be sure that the rail head is level across the transition joint. Shinohara Code 70 is on the left, Atlas Code 83 on the right. Soldering will make the joint more secure.

Figure 3: Prototype railroads also use transition joints. Notice that the joint bars are not symmetrical; they are offset to compensate for the difference in the width of the rail heads and base between different weights of rail. (Union Pacific Common Standard Drawing; James L. Ehernberger Collection)



Atlas produces item #551, an HO Code 83/100 transition joiner. A package of a dozen will cost between \$3 and \$5 at model train shops and online.

The Atlas #551 is stepped to accept Code 100 rail on one side and Code 83 on the other, but also works for the transition from 70 to 83. Because it's designed for Code 100, the joiner is loose on many brands of Code 70, so it helps to solder the joint after the rails have been carefully aligned both up-and-down, and side-to-side.

There's more. Shinohara Code 70 flex track is .13" tall, Micro Engineering Code 70 is .135", and Atlas Code 83 flex is .16" tall. Use styrene or paper under the plastic tie strip to shim adjoining pieces and make the rail head level.

— MRH

Q. I have a couple of HO scale Details West kits I'm putting together and the supplied screws to mount the trucks to the frame are too short. The supplied screws are larger than the 2-56 screws I already have for my Accurail and Athearn kits. I was wondering what anyone else was doing with these kits or if you have even had this problem.

A. Yep ... I had the same problem. I drilled out the hole to the size of some styrene rod I had on hand, put a couple drops of MEK in the hole and poked a length of styrene rod in the hole and let it set up over night. Then I trimmed the rod off flush with the bolster on the frame, drilled and tapped it for 2-56 screws I have on

hand. Worked very well and I've not had a problem since.

On one car I tried to make-do with the existing screws, but the car didn't last the op session before it was bad-ordered because a truck came off. So take the time to do it right and you'll never have a problem again.

— Joe Fugate

If you have built plastic kits, you don't even need to buy styrene. Use a piece of waste styrene sprue to the fill the hole. If it's too fat, heat it briefly over a candle (don't set anything on fire) and stretch it as it warms. You can then cut it off, stuff it in the hole until the taper fills it, center a hole, then drill and tap for the 2-56 hardware.

— Joe Brugger

Q. I plan to hand-lay code 55 and code 40 track for N scale in the near future. I just can't decide where on my plan to start. I'm not sure if I should start at some complex switching area (like my yard) or some simple trackage. I'm hoping someone out there can tell me where they wish they had started when they did some hand laying!

A. Chris NH said "My feeling is that while it makes sense to place the complex stuff first, the reality of the learning curve dictates other choices at times. I also hope to do some hand-laying on my next 10x10 N layout, but plan to get some experience in a small diorama first, then start with one of the easier sections of the layout plan."

"I had read, and agree, that you should start from complex track which

can be assembled on the workbench, put it down, and radiate outward. I followed this on my layout by assembling three switches and a short straight track.

"It worked out well from a track-fitting perspective, but I wish I had put down some simpler track elsewhere first so I could get warmed up before I tackled the somewhat trickier track work. That section of track work is the trickiest, but is also my most poorly-done. In contrast, the last track work I did on the far side of the layout is much better."

Riley Triggs offered some more thoughts:

"I usually lay the part that has the least amount of error/tolerance allowable in relation to the rest of the layout first. This usually happens at either yard throats/ladders or particular radii that must align properly.

"Minor alignment problems add up along the way and can throw off your plan if you are tight to begin with. Set those points that must be where you planned them to be, then connect them. So, you might end up setting two turn-back loops on far ends of the aisle first, then connecting what comes in between.

"Good luck with the hand-laying – it is a very satisfying experience! (At least that is what I hear...)"

Q. I saw someone mention that team tracks were a feature of the steam era, and got worried since I included

two such on my 1958 track plan. Should I change my plan?

A. Team tracks did not disappear along with the steam locomotive. There are many in use today. Team tracks are used by businesses and industries that don't have their own sidings – maybe they are too far from the rails, or don't get enough carloads for a siding to make economic sense. A team track may receive cars for several different customers.

The name "team track" dates to horse-and-wagon days. The team track was in a flat, open area big enough to let wagons get alongside a freight car to transfer cargo.

A newspaper in West Virginia in the 1970s received its newsprint by rail. The press room crew hauled it on a flatbed truck from the Baltimore & Ohio team



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track to the printing plant, a couple rolls at a time.

At Oxnard, CA, flat cars carrying new John Deere tractors are spotted at a Union Pacific spur with a concrete dock, and usually unloaded within a day.

Team tracks are open to multiple customers. At a leased spur, customers will often install specialized ramps, or pumps and pipes to transfer liquids, or portable augers for unloading dry bulk products. To create variety on a model railroad, the "lessee" can be changed from time to time to accept different car types.

Check out Lance Mindheim's photo at lancemindheim.com/team_track.htm

and his discussion at lancemindheim.com/operations.htm.

Modelers, especially modelers interested in railroad paperwork, can look at the UP's standard team track agreement at uprr.com/customers/ind-dev/attachments/uprr_27.pdf. It spells out terms and restrictions for team track customers.

— MRH

Q. I need to haul freight cars and locomotives back and forth to our club's layout and a modular set-up for shows, but getting them in and out of the factory packaging takes forever and the fine details are getting knocked off. Is there a better way?

A. Special boxes are available from Axian (axiantech.com/ModelRR.html) and A-Line (ppw-aline.com/hobbytote.htm). Axian boxes are designed for the models to lie on their sides, and foam strips in the box lid keep them from shifting around. A-Line boxes store the models on their wheels (or roof, if you prefer) and are available in multiple heights to fit different scales and different eras of equipment.

The Plano 2-3730 Pro-Latch Stowaway box is molded plastic and measures 14" long, 9 1/8" wide and 3 1/4" high. There are four compartments running the length of the box, and dividers supplied. The similar 2-3701 is the same

length and width but 1 3/16" tall, and the 2-3700 falls in between at 13 3/4" long, 8 1/2" tall and 1 1/2" deep. Plano makes dozens of other boxes. They can be found at sporting goods stores, some big box stores, and at online sellers. There are many similar boxes from other makers, but be sure to check for rigid construction and foolproof latches.

Wrapping models in paper or clear plastic film can help keep small details from snagging, but stay away from clingy plastic film.

Check out the full discussion at model-railroad-hobbyist.com/node/428.

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TIPS

Wire Management

As the number of wires increased in my locomotive shells, for headlights, ditch lights and decoders, I was looking for a way to keep wires from rubbing against drive components and from showing through cab windows.

On my work bench, I had a bottle of Sticky Stuff from Busch, which is designed for use with scale figures. It looks like white glue but when it dries, it goes clear but stays tacky, allowing figures to be re-positioned. Busch no longer sells this product, but Woodland Scenics Scenic Accent Glue and Aileen's Tacky Glue appear to be similar.

The solution was to apply small blobs of the glue to the inside of the shell wherever I wanted to route the wires. Once the glue turns clear, start placing the wires and stick them to the glue blobs as you go. If wires need to be repositioned, just lift them off the glue and re-stick them as necessary.

The advantages to using these products are that they also allow easy removal of the wires for maintenance or repair. A dab of the glue is easier to place inside a locomotive shell than pieces of tape, and the wires stay in place as long as needed.

This technique can also be used to keep wiring hidden in structures and rolling stock. The glue also is good for installing windows that have an overlap or flange inside of the window opening.

– Mike Pebesma



Figure 4: Busch Sticky Stuff isn't available any longer, but Woodland Scenics and Aileens's market similar products.

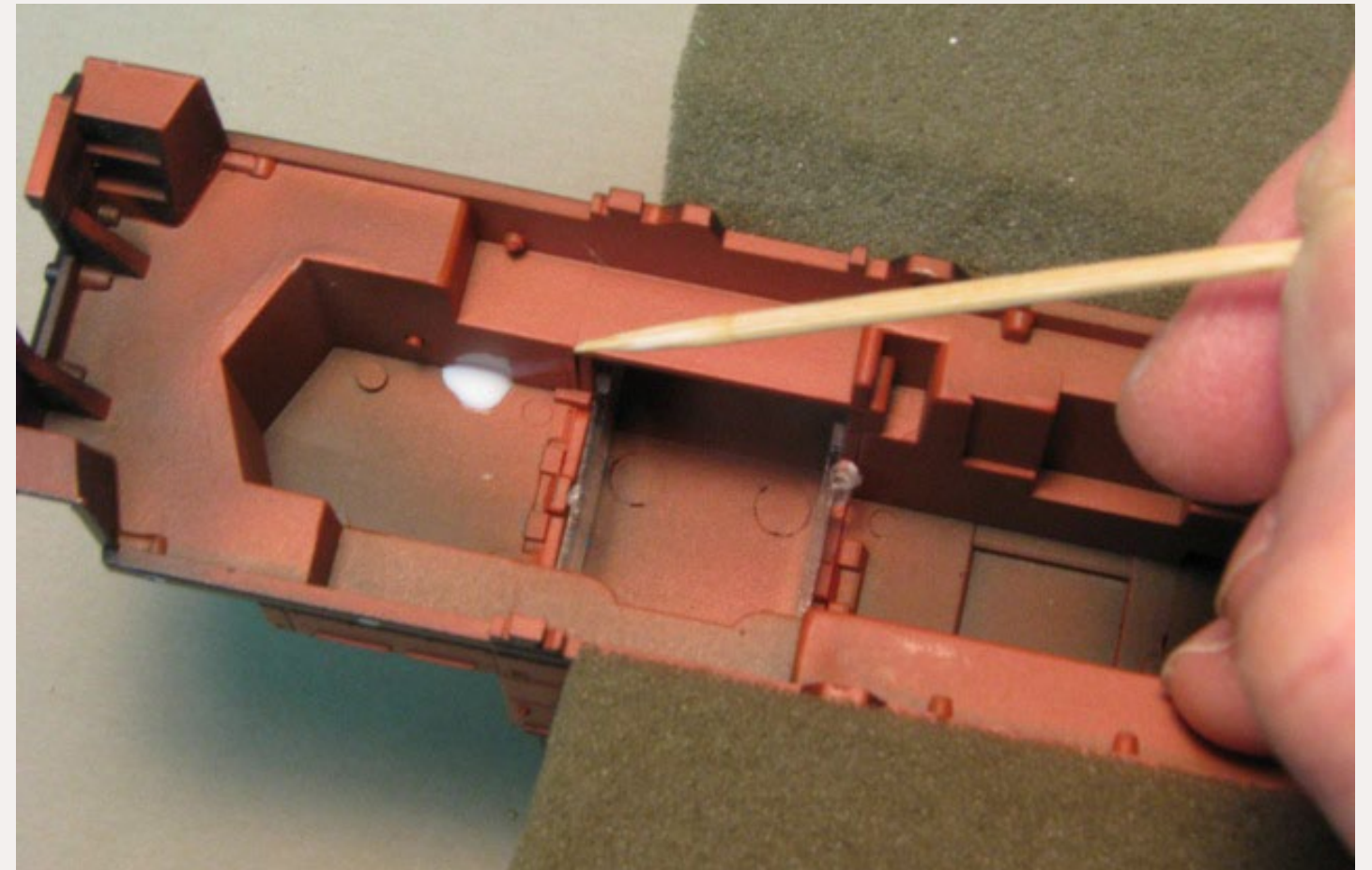


Figure 5: Apply the glue with a toothpick or Microbrush. Neatness isn't critical, but try to keep the blobs small.

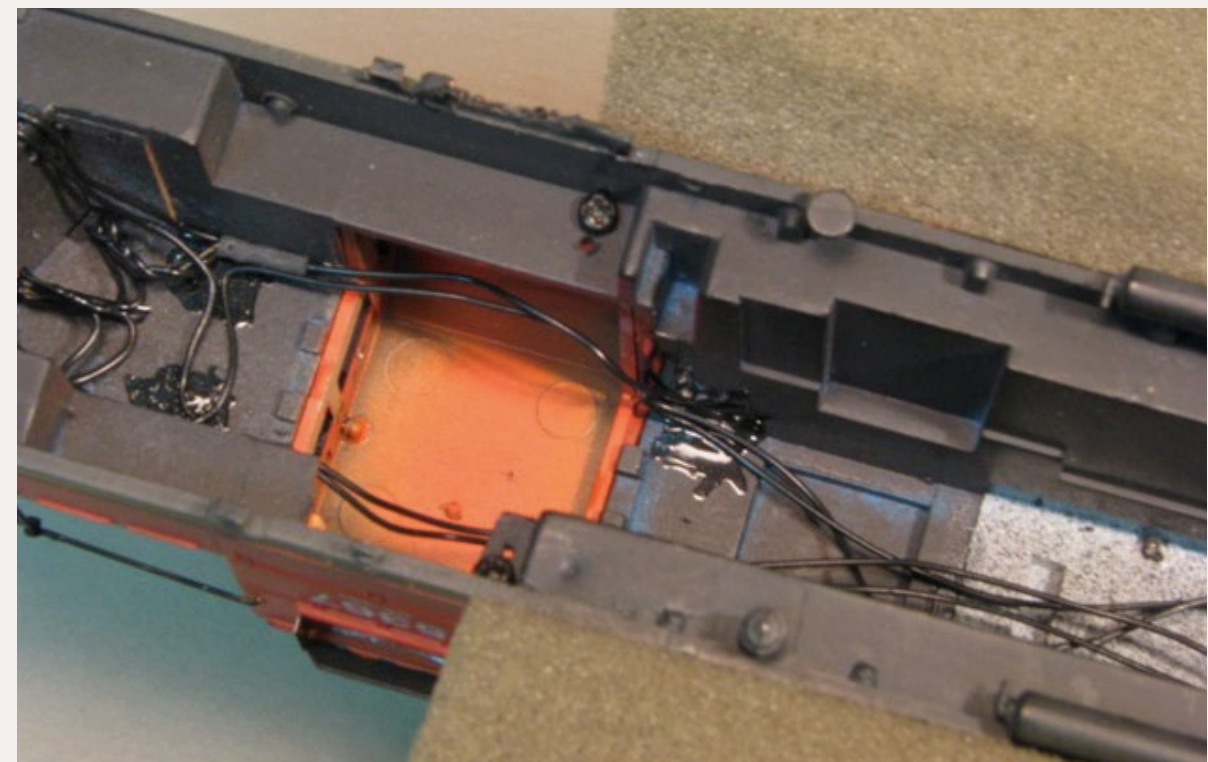


Figure 6: Wires are placed to clear the front truck gear tower. The shiny areas are the 'dry' (sticky) glue areas.

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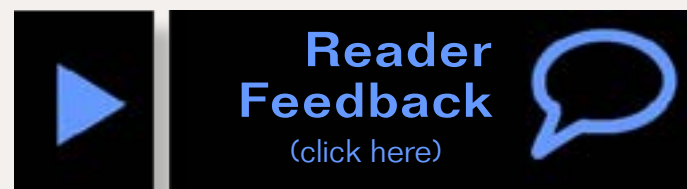
About our DCC columnist



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

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

DCC Impulses: Enhancing Your System Going Beyond the Basics



Computer interfaces and programming track boosters ...

On the web blog after an earlier column, one of the writers suggested that it would be a good idea to discuss computer interfacing and programming sound decoders.

So let's talk about some of the ways to make your system more fun and easier to use.

The SMP (Standard Maintenance Procedure) for this month involves those times that you just have to have two decoders in your loco. See page 28.

Computer Interface for Your DCC System

Several times I have recommended the JMRI suite of computer programs. It includes PanelPro, for making control panels. DecoderPro is valuable for speed matching or speed tables or sound programming. One of the features of the JMRI suite is support for "WiThrottles" - apps that turn your Android or iPhone or iPod Touch or iPad into a throttle.

I mentioned in an earlier column that the JMRI suite of programs is free to the user. Yes, volunteers do do the work. But there are costs involved in the assembly and distribution of this software, plus some lingering legal expenses resulting from a lawsuit with KAM Industries. I highly recommend that users contribute to the ongoing cost of JMRI. You may do so at their website (jmri.sourceforge.net). Even \$10 per year for each user would be significant. Thank you for your help.

Installation of JMRI and the Java software to support it are covered on the JMRI web site referenced above. There is a Yahoo group for some hands-on help, if you need it

(jmriusers-subscribe@yahoogroups.com).

I frequently hear folks report that they cannot do such-and-such with their system and DecoderPro. Remember this: DecoderPro only electronically pushes buttons on your throttle. If you cannot do something with your throttle, you won't be able to do it with DecoderPro.

Some folks think DecoderPro will allow them to program sound decoders that they cannot program with their throttles. Won't happen. This is probably a case where a programming track booster will be required. See the discussion about these later in this column.



Figure 1: LocoBuffer-USB at PebbleCreek Club.

Another frequent complaint is that folks can't read back CVs with their Digitrax DB150 (Super Empire Builder system box). The DB100 does not have a programming track connection. A programming track is necessary to be able to read CVs, short of complicated bi-directional communication – beyond the scope of this column. In short, you cannot read CVs with a DB100 and a throttle. DecoderPro won't change that.

Interconnection Hardware

What good is a computer program unless you can connect your computer to your DCC system? So let's look at interconnection hardware.

How you will connect your computer to your DCC system is a function of the specific DCC system that you have. Let's take a look at a few of the more popular DCC systems and their computer interfaces.

CVP

The Easy DCC system from CVP has an RS232 port built in. However, this port uses a non-standard RJ style connector, so you will probably need to make your own cable.

Later in this column, I'll discuss the RS232-to-USB adapter to get CVP and other systems talking to modern computers.

Digitrax

There are two major ways of connecting your computer to your Digitrax system. The Digitrax-manufactured PR-3 (street price about \$68) and the LocoBuffer-USB (street price about \$58), manufactured by RR-CirKits.

Personally I prefer the LocoBuffer-USB, as shown on my club layout (pcmrc.org) in figure 1. I like its lower price and simple operation. You can see how easily it connects. Since I am not a Digitrax sound user, I do not need the sound-loading capabilities of the PR-3 (figure 2).

So what are the advantages of the PR-3 programmer over the LocoBuffer-USB? As previously mentioned, the PR-3 allows you to install Digitrax sound projects into Digitrax sound decoders. It can also function as a stand-alone programming track driver. You can connect your computer to the PR-3 with a USB cable and then connect a programming

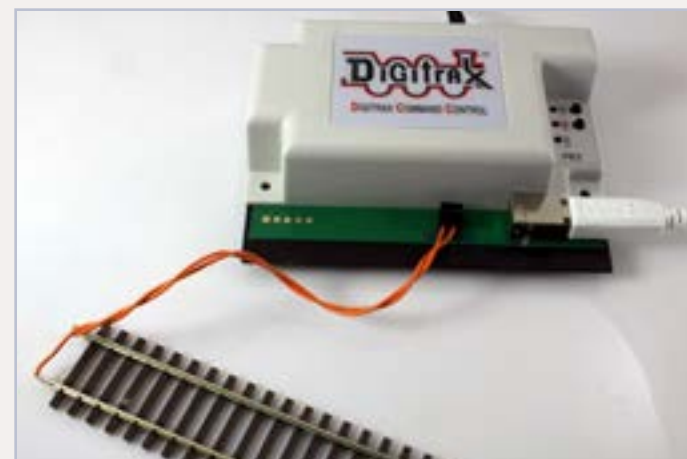


Figure 2: Digitrax PR-3 connected to USB and programming track.

track to the PR-3. No command station is needed.

Earlier Digitrax computer interfaces are not recommended these days. If you have one and it is working, fine. If you have any problems, change to either the PR-3 or the LocoBuffer-USB.

Lenz

Lenz currently offers only a "full service" interface for its system. The LI-101-USB (street price about \$180) connects to your computer via a

USB connection and to a network router via an Ethernet connection. As shown in figure 3, this configuration allows use of WiThrottles without the need for a computer and intranet WiFi setup.

MRC

MRC offers a computer interface for its Prodigy series of sets. However, it is only compatible with MRC's own software. MRC has made it clear that they won't share the interface

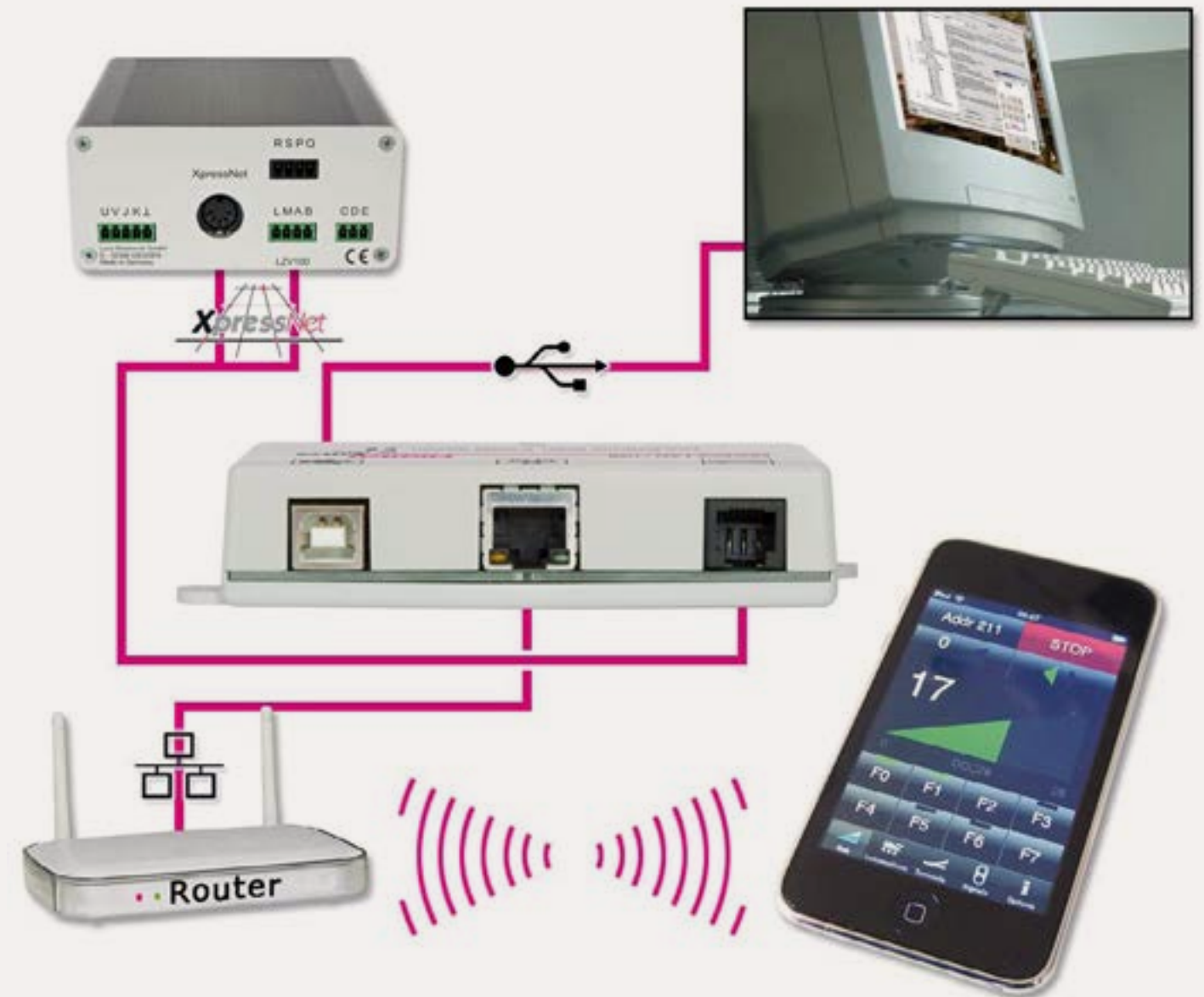


Figure 3: LI-101-USB connecting computer, Lenz DCC system and wireless router – drawing courtesy American Hobby Distributors.

specifications. This means that programs like JMRI cannot interface with them. So, if you are looking at an MRC system, you might want to review their software to make certain that it meets your needs before you finalize your decision.

NCE

There are two ways of connecting a computer to your NCE set, depending upon which type you own.

The PowerCab and the NCE USB adapter (about \$40 street price) were designed for each other. Working together with DecoderPro, they allow you to program any present decoder.

The PowerCab even has the programming-track-booster functionality built in, so you don't need that extra hassle or expense. Thus, you can have a complete programming solution for a street price under \$200.



Figure 4: The NCE USB adapter in use with the PowerCab on my layout.

Figure 4 shows the PowerCab and USB adapter connection on my switching layout.

I know many folks who have one brand of DCC on their layout, but have a PowerCab and NCE USB adapter for their programming track.

A nice side benefit, you can use the JMRI throttles, either WiThrottles, or the basic throttles available in DecoderPro, to run more trains than the two-cab limit currently supported by NCE for the PowerCab.

The Power Pro (5 amp) and Power House (10 amp) NCE systems use the same command station board, whether it is bundled with a booster in a system box or the separate CS-02 box. This command station has a RS232 serial interface as part of the board as shown in figure 5. This interface can be connected to a computer with a serial port using a straight through RS232 cable. This cable will be a male-female.



Figure 5: NCE command station with RS232 cable interface.

I'll discuss RS232 to USB adapters later in this column.

Yes, the NCE USB adapter can be plugged into a cab-bus port with the Power House or Power Pro systems. However, due to the NCE system architecture, this connection will only allow you to run trains and throw turnouts. You cannot program decoders from the computer with this setup.

SPROG

SPROG-II is a stand-alone interface that comes from the UK (sprog-dcc.co.uk). It allows you to connect your computer USB port to a programming track. It is independent of your DCC system.

SPROG-II is fully supported by JMRI.



Figure 6: SPROG stand-alone programmer – photo courtesy Andrew Crosland.

North American SPROG distribution is by Bill Chown (sprog.us.com). The SPROG models are available at many stores and websites.

The SPROG II, shown in figure 6, connects with two sets of wires (power and track) and costs about \$100.

Zimo

The Zimo MX-1 system has a USB interface built in.

RS232 to USB Adapter

Several systems have RS232 ports on them. Easy DCC, NCE and Wangrow are the most common.

Finding a new computer these days with an RS232 port is like seeing a pterodactyl flying around. What is needed is an adapter that speaks RS232 on one side and USB on the other. This way, your computer can talk to your RS232 equipped DCC system.

Many RS232 to USB adapters only partially emulate the standards and may not work.

The Tripp-Lite (Keyspan) USA-19HS has been proven over the years to work with the NCE system and others. It is on the high end, price-wise, over \$30, but it comes with really good diagnostic software and seems to work just fine with all computer operating systems, both Windows and Mac.

I use an adapter that I took a chance on and purchased from EasySYNC, their EX-U-1001-B10. In the two years

that I've owned this unit, it has given me flawless performance with my NCE system and several computers, all running Windows XP.

The EasySYNC low price (below \$20) is a reason to buy. It doesn't have the support and proven long-term consistency that the Keyspan unit does.



Figure 7: RS232 to USB adapter – ES-U-1001-B10 from EasySYNC.

Figure 7 shows what comes with the EasySYNC unit. It may be purchased directly from the manufacturer's website (easysync-ltd.com/product/528/es-u-1001-b10.html). They have a 30-day refund policy, as long as you return the unit and packaging – shipping's not refunded in either direction.

So, you have your choice of two directions to go. The Keyspan is well respected and includes lots of diagnostic software for a higher price. The EasySYNC doesn't have the reputation or diagnostic support, but provides an inexpensive solution.

Verify Communication

Once you have your computer (with JMRI and Java installed) connected

to your DCC system, let's make sure that the computer is talking to the DCC system.

Open DecoderPro. There you will find a menu bar with an entry that varies in name depending upon what DCC system you selected in the preferences. I'm going to press forward with the Digitrax LocoNet selected.

When you pull down the menu, select Monitor LocoNet, as shown in figure 8. A new window will open and you will see the network commands being sent on the DCC system.

Grab a throttle and run a loco; watch it go and stop. You should see the system commands necessary for this motion in the window that you just opened. If not, your computer is not talking

to your command station and you need to do some troubleshooting. If you need help with this troubleshooting, see the Yahoo group for some hands-on help: (jmriusers-subscribe@yahoo.com).



Figure 8: DecoderPro Screen shot with Monitor LocoNet selected.

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While I used Digitrax in this example, the same selection exists for other DCC systems. It will be named differently, but it will be in the same place on the DecoderPro window menu bar.

Once you know that the computer is talking to the system, you can use DecoderPro, PanelPro, Railroad & Company or any other software to run trains, build panels, automate your layout or program decoders.

Programming Sound Decoders

There are two needs with sound decoders: 1) programming CVs and 2) loading sound files into those decoders that are user-loadable. In this column, I'm going to deal with programming, not sound loading.

Programming Track Boosters

As sound decoders evolved, manufacturers were left with an issue: a brief interruption of track power could result in a complete restart of the sound – a diesel going through a prime mover start up sequence as it was going down the track at 40 scale miles per hour, for example.

The solution was to add power storage (in the form of larger power supply capacitors) to the decoder, making the sound decoders less susceptible to the power dropouts. Many even allow the user to add more capacitors, if desired and if space will allow.

The result of this advance in decoder design is a very large inrush of current

when power is applied to the decoder – energy filling up the added storage.

One of the side effects of this inrush is that, when viewed from the standpoint of the original NMRA DCC recommended practices (RP), it looks like a short-circuit.

In 2006 the NMRA RP was adjusted to cover these new decoders. Many command stations on the market today were designed before the new RP. Thus, they see what they have been told is a short when trying to program many of today's sound decoders. So they do what they were trained to do - shut off the power before something gets hurt.

A programming track booster (PTB) can interface with these older command stations and allow programming of all decoders. I talk about them in detail on my web page (mrdccu.com/curriculum/ptb.htm).

On that page, I have installation diagrams for connecting a PTB to



Figure 9: SoundTraxx' PTB100 Programming Track Booster.

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Digitrax, Lenz and NCE systems. Also, there is a bit of their theory.

What systems do not need a PTB? As of this writing:

- Lenz with version 3.6 command station software or later
- NCE PowerCab
- Zimo

As more systems comply with the 2006 RP, I'll update my website at the address above.

There are two PTBs on the market today. The first came from American Hobby Distributors, called the PowerPax. Then SoundTraxx introduced their PTB-100 when they began shipping their Tsunami decoders.

While these two units are similarly priced, about \$50 street price, there are some differences.

The PowerPax is enclosed in a box and includes a power supply for 110-volt power mains. It is simple in operation and has one red LED to tell you what is happening. Generally, I find that the LED either says the PowerPax is working or not, without providing much diagnostic assistance.

I find the PowerPax useful when connecting to a Digitrax Zephyr system, as you don't have easy access to the command station power. In figure 10, you can see the black PowerPax supply cable coming in from the left and the black Zephyr power cable coming in from the right.

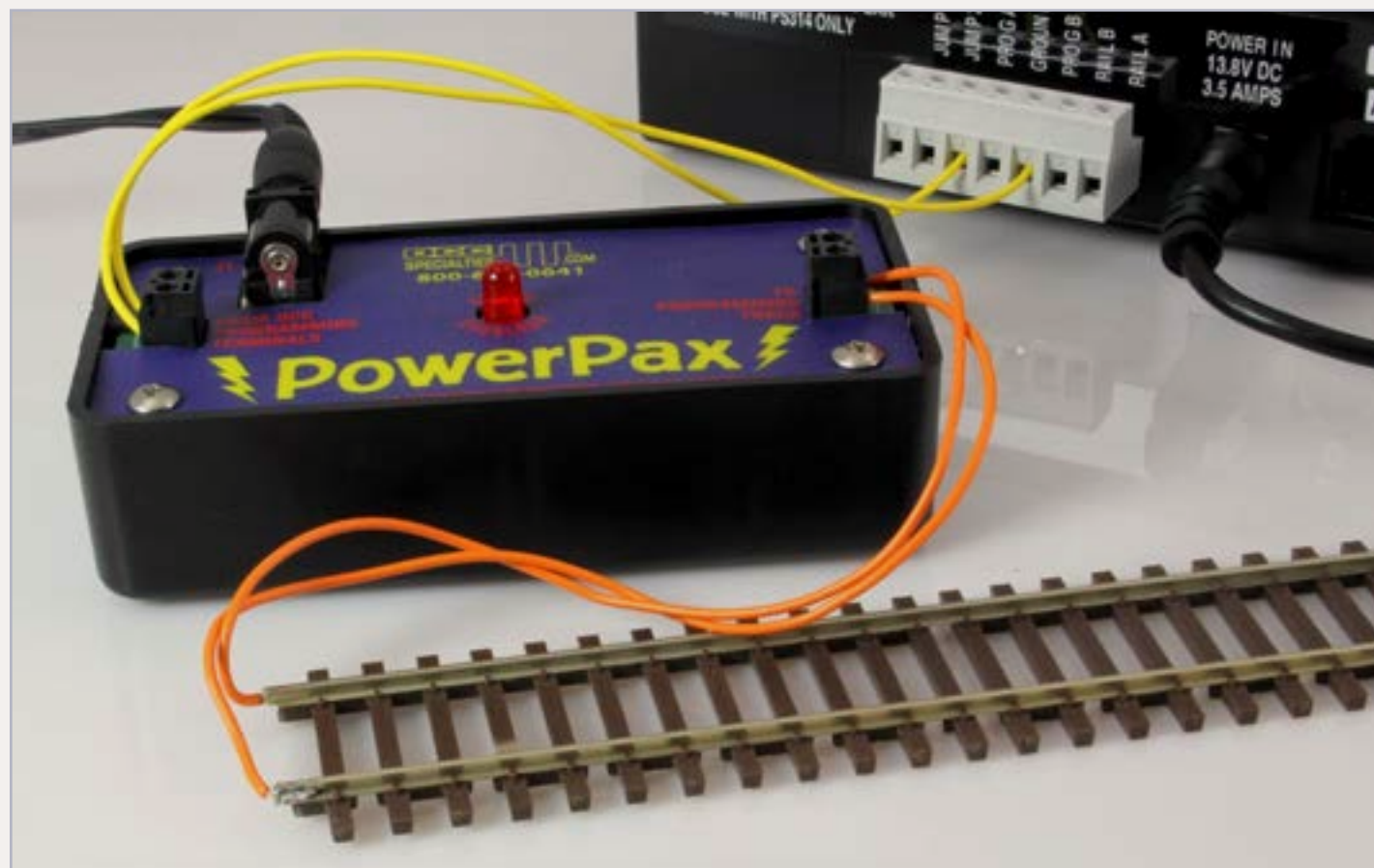


Figure 10: Digitrax' Zephyr connected to a PowerPax PTB.

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The SoundTraxx PTB-100 is a circuit board wrapped in clear shrink tubing, allowing the three LEDs to shine through. See figure 9. It is designed to connect to the same power that is running your command station - helpful if you don't have 110-volt power mains. The multiple LEDs show you lots of what is happening in the PTB-100, helpful in diagnosing issues.

Figure 11 shows the PTB100 connected to a Digitrax DCS100 command station. It is an easy six-wire connection – black (power); yellow (programming track output); orange (programming track itself).

“Okay, I understand that I need a PTB for my system to fully interact with my sound decoders. But it is a hassle

connecting it and removing it,” I hear you say.

Leave it in the line. It won't damage any decoder and it will make your system as compatible as possible with all decoders.

DecoderPro

I'm going to be redundant here. If you are programming sound decoders, you need DecoderPro. It will significantly reduce the hassle and make setting up your locos fun.

I have almost forgotten which CVs do what since I've been using DecoderPro for about 8 years. I just tell DecoderPro what I want – for example, the sound level of the coupler clank to 25% – and it sets the

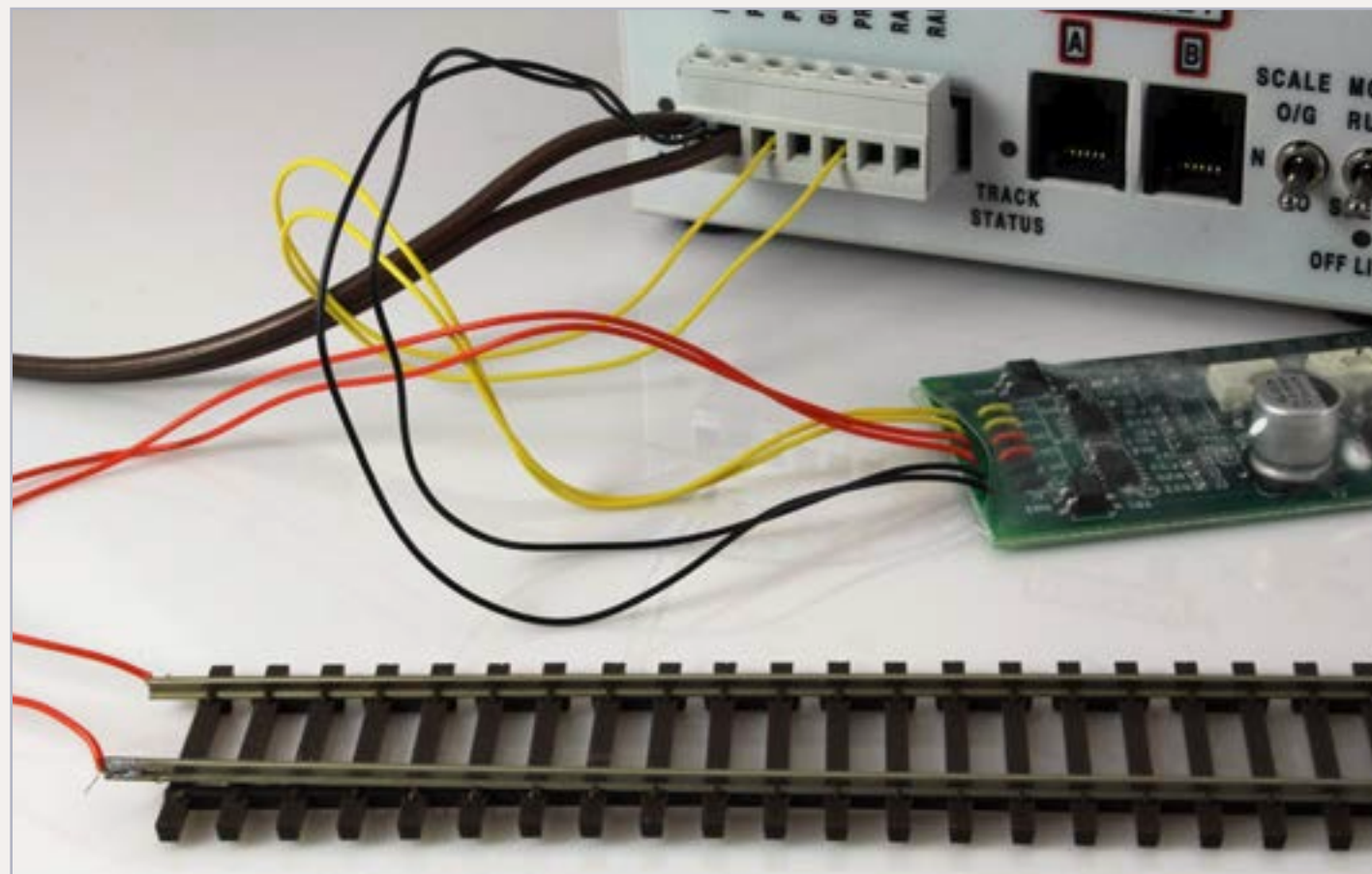


Figure 11: Digitrax DCS100 connected to a PTB100.

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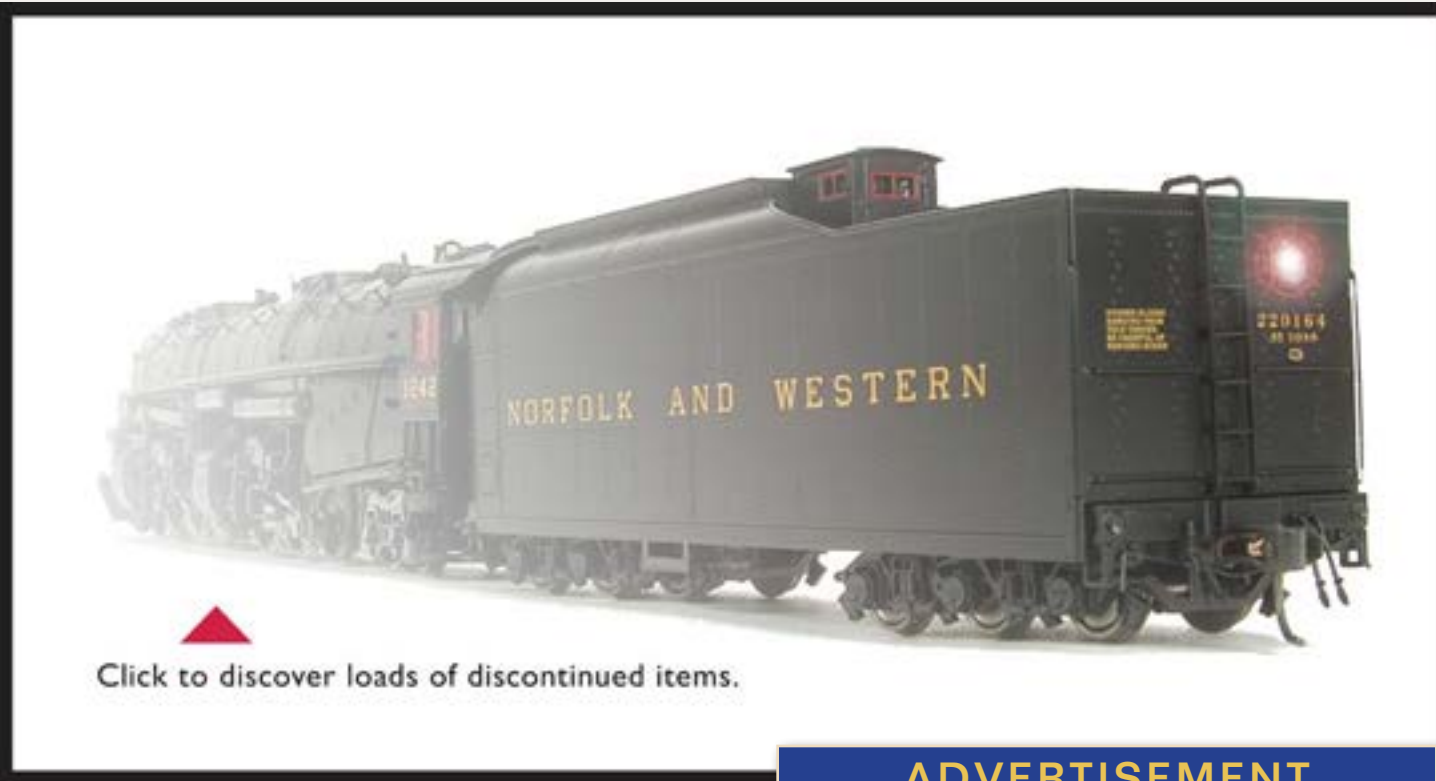
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necessary CVs. With over 100 CVs in many sound decoders, any automation is very welcome.

Figure 12 shows the “sound mixing board” page in DecoderPro for SoundTraxx’ steam Tsunami.

QSI decoders use indexed CVs. This means that two or three CV values must be entered to write or read one value. DecoderPro does this automatically!

Hint, with QSI decoders, turn off the audible CV reporting on the QSI page of DecoderPro. Why? DecoderPro sends commands as quickly as it can.



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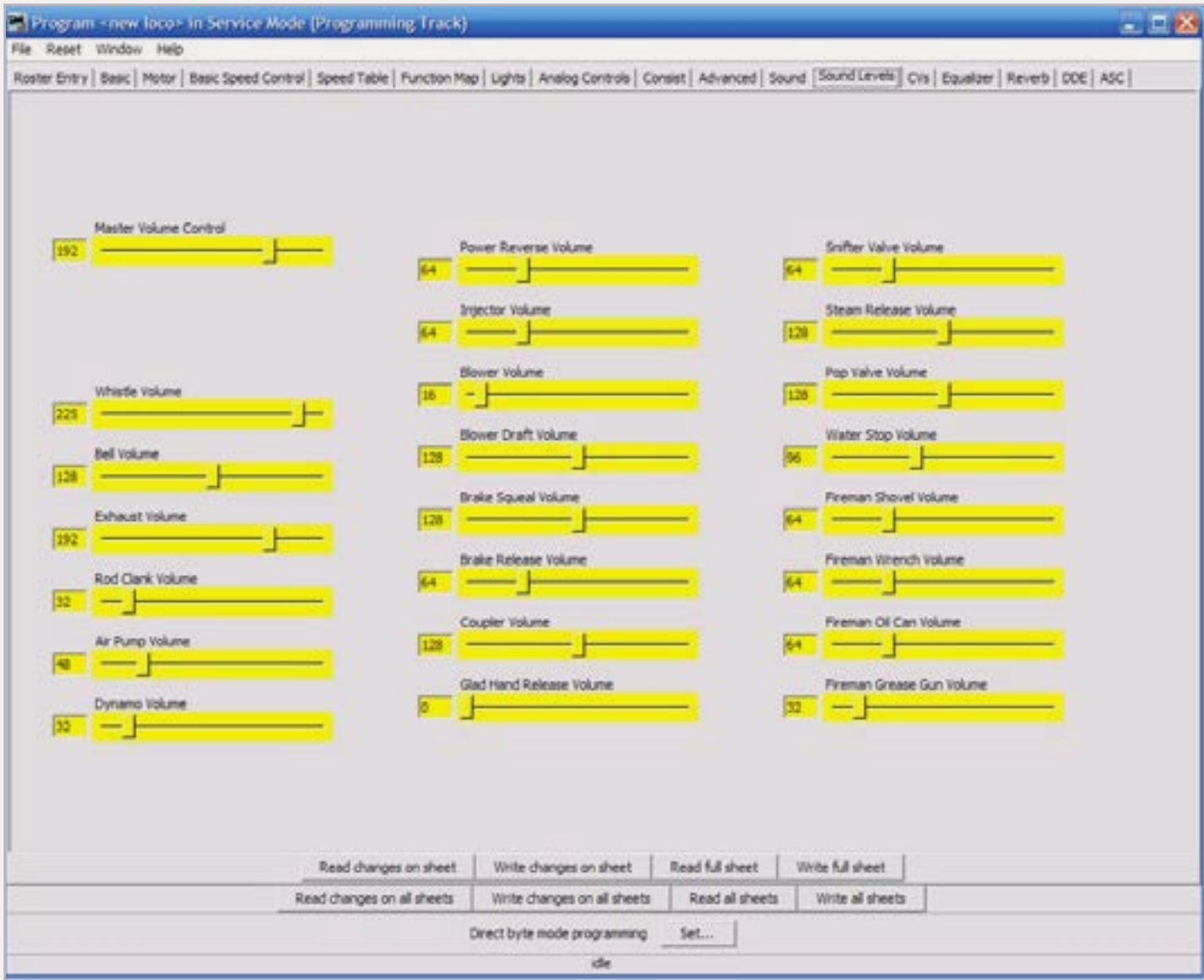


Figure 12: Tsunami Sound level page in DecoderPro.

If the decoder is reading back a CV value, it isn’t listening. Any incoming CV values will be ignored while it is talking to you.

One more reason to use DecoderPro: you can keep a copy of every CV for every loco.

I’ve had customers come back to me years later, having issues with their locos. I could put the loco on the programming track and use the compare feature to find what CVs had changed. Frequently, the ones that have changed relate to the customer’s complaint.

If you have a copy on your computer, you can restore the loco any time you wish. Just put the loco on the

programming track and hit WRITE ALL SHEETS.

So there you have the icing for your DCC cake: a computer interface, DecoderPro and a programming track booster (if your DCC system needs one).

Thanks to Jack at Litchfield Station (litchfieldstation.com) for the loan of many of the products that were photographed for this column.

Thanks to you readers whose votes have kept the first eight of my columns in the top five. That makes me feel really great.

Click on the link here to vote for this column and make any comments or suggestions or to share your experiences.



A Sidebar continues on the next page.

SMP* from Mr. DCC – Dual Decoder Installations

There are times that you put two decoders into a single locomotive. For example, you want more lighting or control functions than the motor decoder has and you add a function-only decoder. Or you add a sound-only decoder to a loco that already has a motor and light decoder.

It seems easy enough, just wire both to the track pickup, give them the same address and then set them up for the operations you want. Oh, NO! That won't work; frequently some of the CVs are common between the two decoders. If you do it this way, you may think you are setting

the headlight functions and you are adjusting some of the sounds, too, or some such.

Here is how I get around this:

I use clip leads to connect the secondary decoder to the programming track. Then I do the basic set

up. I give both decoders the same long address. I give them distinct two-digit addresses. For Example, with loco 1234, I'd set the primary (motor) decoder to address 34 and the secondary decoder (sound) to 12. I then set CV29 so that both decoders respond to the short address.

After I wire the secondary decoder into the loco, I'm ready to tweak the decoders independently. I select SHORT addresses and consist the two addresses.

Then I program on-the-main either decoder without affecting the other. All I do is select the two-digit address of the decoder I want to tweak.

After I have all of it running as I desire, I clear the consist and set CV29 for both decoders to long addressing and run the loco on the long address.

If I want to fiddle later, I just change CV29 back to short addresses, put them back into a consist and tweak some more.

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

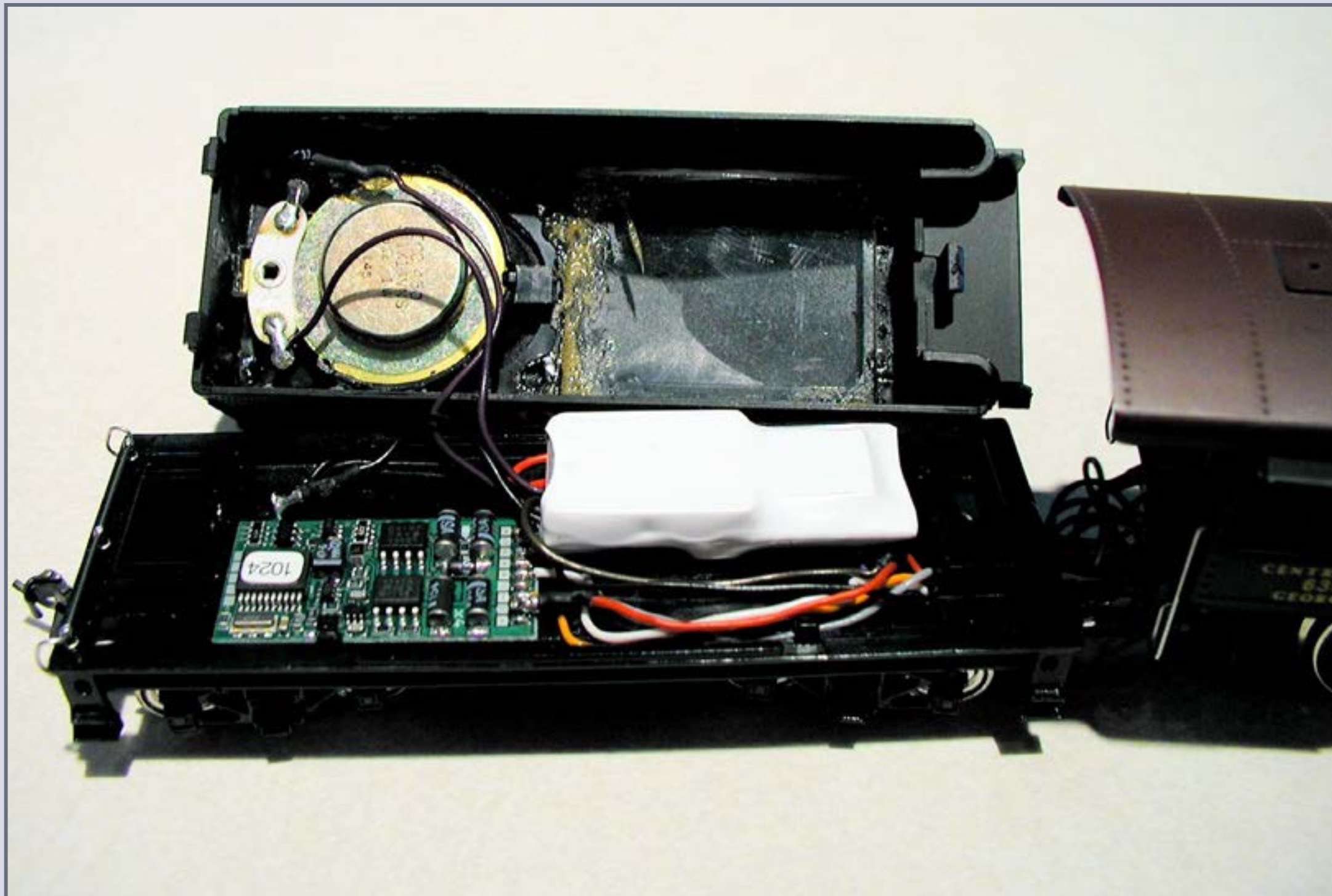


Figure 13: HO steam loco with two decoders – open board is motor & lights, white wrapped unit is sound.



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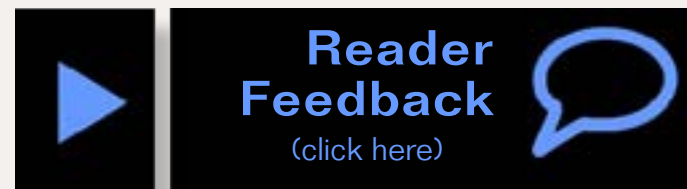
Nick Muff has been modeling in HO scale for over 50 years. His interest in the Kansas City Southern and Kansas City Union Station developed from summer train trips to the Northwest Arkansas including the KCS Southern Belle.

Nick enjoys using CAD and has produced over 100 plans and articles for rail magazines. He is a practicing Radiation Oncologist in Washington State.

Photos and illustrations by the author unless otherwise credited.

GETTING REAL: Mainline South – the New Benchwork Adventures in Prototype Modeling

Modeling the Kansas City Terminal Railway – Kansas City Southern Railway ...



It took nine years, but now the scenery, structures and detail are complete on the existing portion of my layout. This includes downtown Kansas City, from the Terminal Railway roundhouse and coach yard to Sheffield Junction. There the Kansas City Southern mainline branches south. From here on, it would be necessary to construct new benchwork, part of the original track plan. When people asked me what I am doing, I tell them, tongue-in-cheek, “I modeling the Kansas City Southern Railroad. The finished part is the “Kansas City” portion, the new benchwork is the “Southern part!””

One of the first decisions to be made was, what to do with the remaining portion of a previous layout, originally planned to be part of the mainline. I figured when I got to this point, I would make the final decision. It became clear that, in order to use this section, the trackwork would need to

be upgraded, the wiring would need to be upgraded and the scenery would need to be renovated. The entire section of old benchwork would have to be modified to fit the new low-profile required by the addition of a second lower level. In short, it would be easier to just to tear it down and start over, and that is what I did (figure 1 this page, and 2 next page).

The next challenge would be to create the new benchwork, in the layout room, without covering everything else with a layer of dust. There could be no major sawing, drilling or sanding! I chose to build the new benchwork in modules fitting on a 4' x 8' piece of plywood. This way they could

be constructed in the shop, then carried down to the basement and assembled. Also when the time comes for disassembling, portions could be easily salvaged. The basic tools that I used were a table saw, chop saw and jigsaw. A handheld Skill Saw could be used in place of the table saw (figure 3 next page).

For construction of downtown Kansas City, I printed the layout plans full size and laid them down on the plywood to layout the complicated track work accurately. I did the same for the new benchwork. This paper plan determines the exact shape of each 1/2 inch sheet of plywood

Figure 1



and where the tracks and structures would be located (figure 4).

I carefully determined the size and footprint of all of the structures in advance, and transfer them to the CAD drawing. The CAD drawing from long ago, was my first and is still, the master plan for this new section. A 2 1/2 inch wide by 3/4 inch thick piece of plywood strip was added around the edges of each section, to stiffen it and across the center of the larger sections, for the same purpose. This edge piece was then glued and screwed to the plywood top using a combination pilot drill/countersink and sheet rock screws. Clamps helped to hold the edge pieces in place as screws were added.

A pounce wheel was used to transfer the marks from the printed plan through to the plywood. I then used a black Sharpie pen over the pounce wheel marks to outline the track plan and basic scenic features on the plywood (figures 5 and 6 next page).

The lower return loop, located beyond Shreveport Union Station, was created on a 1/2 inch sheet of plywood cut to shape. This piece was fitted and screwed to the adjacent benchwork, while in the shop to, avoid having to do the fitting in the basement (figure 7 next page).

The completed benchwork sections were then carried down to the basement and laid out on the floor in approximate position for a final

Text continues on page 33.



Figure 3



Figure 2

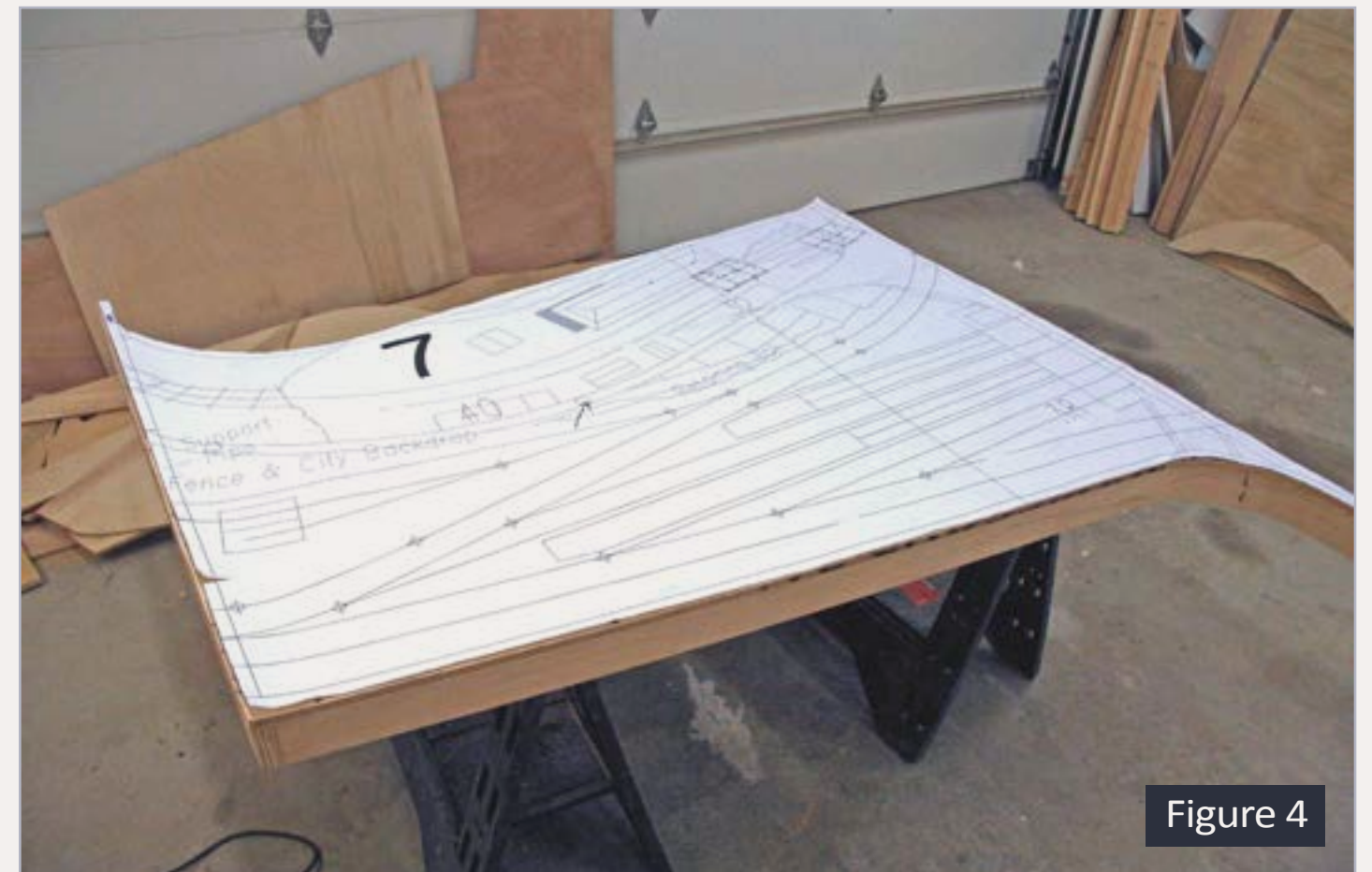


Figure 4



Figure 5

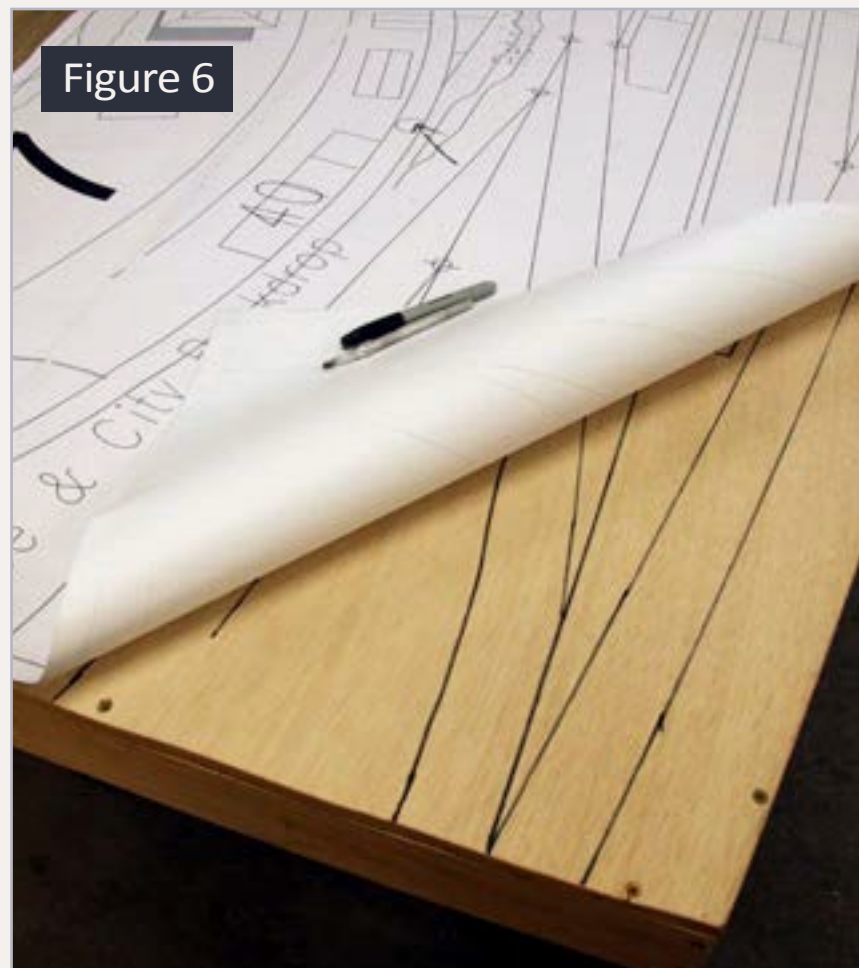


Figure 6

Figures 5-6: A pounce wheel was used to transfer lines from the plans to the plywood base.



Figure 8

Figures 8-9: Completed layout sections were placed on the floor of the layout room in their approximate positions.



Figure 7

Figure 7: The lower return loop beyond Shreveport Union Station.



Figure 9

Text continued from page 31.

check that all was well (figure 8 and 9 next page).

Of course, there were certain special applications and complications in the construction of each section. Where the edge of the benchwork was rounded concave, or convex, the back of the plywood edge piece was notched about three-quarters of the way through with the table saw to allow the plywood to bend. The width between the saw cuts could vary from 1 ½" inches for a sharp bend to 3 inches or more for a broader curve. When screwing the top sheet of plywood to the curved edge, a screw hole was drilled and countersunk to

place a sheetrock screw in the middle of each section of the curved edge piece (figures 10 and 11).

Another adaptation was required, to allow for placement of Tortoise switch machines under the benchwork.

On both the upper and lower decks the track work starts at 4 inches above the deck and tapers down to 0 inches. Where the track is located directly on the deck, the switch machines can be applied from the bottom in the usual way. However, in the elevated sections, a 4" x 4" access hole was cut into the ½" plywood to allow access to the underside of the roadbed (figure 12).

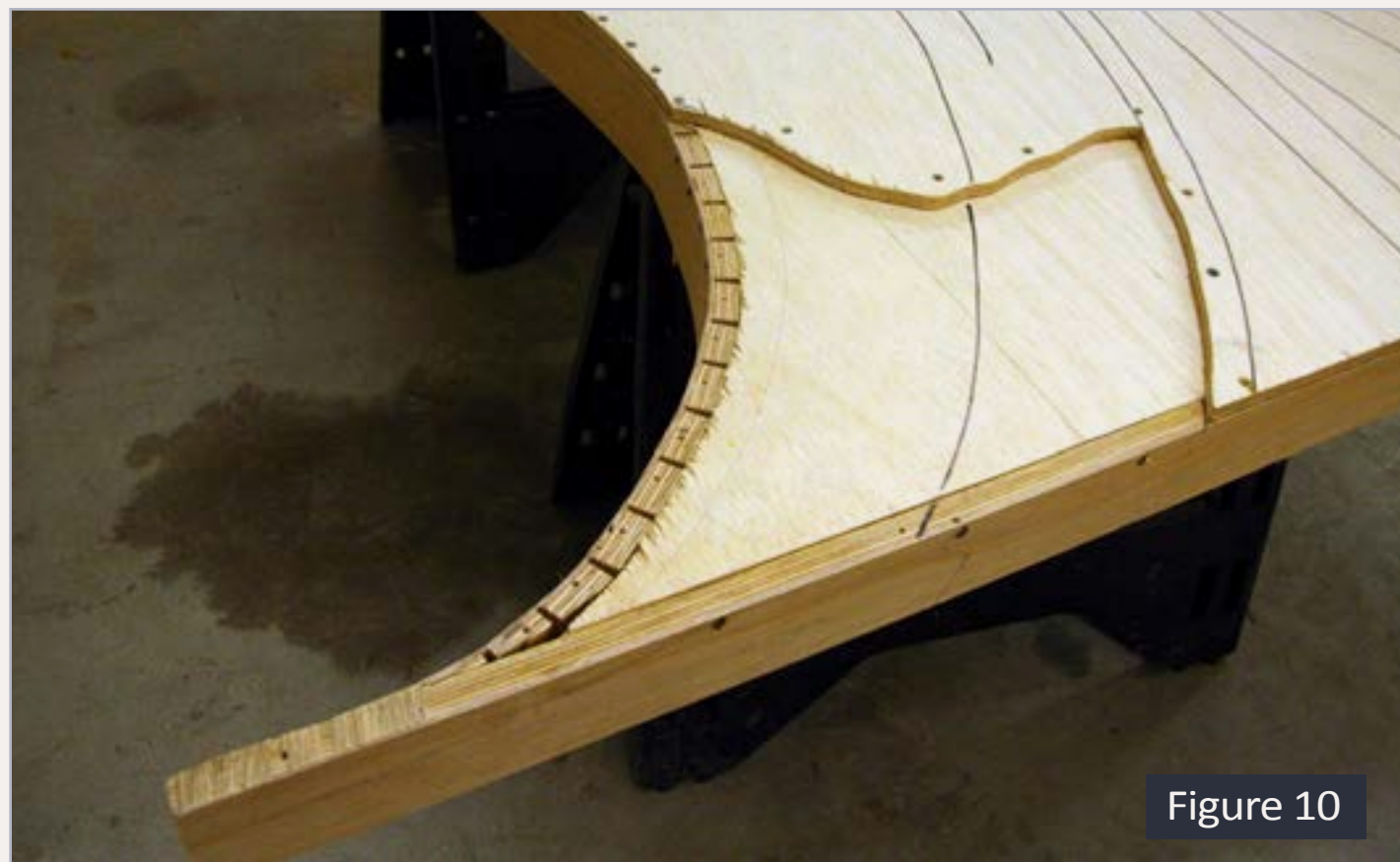


Figure 10

Figures 10-11: These photos show the notched curves created in the plywood.



Figure 11



Figure 12

Figure 12: 4' by 4' access holes for access to the underside of the roadbed.

To assemble the benchwork sections, I began by positioning and clamping the portion of the upper deck that adjoined to the existing layout benchwork. Two-by-four legs were placed, and everything leveled and screwed together using sheet rock screws (no glue). Once this section was in place the plywood benchwork for the lower return loop could be positioned under this (figures 13 and 14).

One advantage of creating the benchwork in this way, was that track for

the lower return loop and it's sound deadening cork roadbed, could be laid out in the middle of the room in a more convenient position. Then the return loop could be inserted and positioned under the upper benchwork. The cork roadbed was glued down with Liquid Nails Project cement. The track was glued to the cork roadbed using clear Silicone I Rubber Cement (figures 15 and 16).



Figure 13



Figure 14

Figures 13-14: Placing the 2x4 legs, and the second level underneath.



Figure 15



Figure 16

Figures 15-16: The cork roadbed and track.

From then on it was simply a matter of positioning each adjacent piece of benchwork, then clamping it, and screwing it in place. In a matter of a week or so all the benchwork was in final position, with no sawing or sanding in the basement.

Figure 17 shows the view of the new benchwork from the fireman's side of the F7 cab.

Figure 18 shows the view from the lounge of the Pullman car. When

standing, you are looking at Siloam Springs, Arkansas. While seated, you're looking at Shreveport, Louisiana.

Figure 19. The lower level benchwork is at 30 inches, desk height, so that it can easily be worked on from an office chair. Also the lower level height was designed so that plastic storage containers could slide under it. Here is an ideal place for all the tools, scenery supplies etc., that are part of model railroading!



Figure 17: This is the view of the benchwork from the firemen's side of the F7 cab.

Figure 18: This photo shows the view from the lounge of the Pullman car.

Figure 19: This view shows the desk height of the layout, and the storage space below.

Figure 20: This shows the aisle between decks.

Figure 20. The aisle between the Gravette, Arkansas and Leeds, Missouri (previous page).

Figure 21. The curved end of the aisle between Gravatte, Arkansas and the Elk River, Missouri.

Figure 22. Grandview, Missouri and the underpass.

Figure 23. The plywood under the Spavinaw River, has been lowered 1 inch, in half-inch steps profile fashion, to add depth to the scene.

Figure 24. The roundhouse and servicing area at Shreveport, on the lower level.

Figure 25. Shreveport Union Station platforms, the lower end of the track



plan. The return loop and helix are located behind the Union Station and backdrop.

Figure 26. Special benchwork was needed to allow the upper portion of the helix to drop down through the benchwork. Overhead plywood

braces strengthen the plywood deck at this point.

Figure 27. The underpass at Grandview was created using sections of three-quarter inch pine.



Figure 25



Figure 26

Figure 28. A close-up of the swimming pond at Decatur, Arkansas. Here the plywood has been depressed again

by ½", to increase the depth for the bridge.



Figure 27



Figure 28

Figure 29. Elevated portions of the benchwork here, will be used to create the Butler Bluffs at Noel, Missouri.



Figure 30. Here is a close-up of the depressed benchwork for the streambed at the Spavinaw, River.



Figure 31. Tapered foam sections from Woodland Scenic's Incline 2% Starter set were used to bring the roadbed down the last one half-inch to the level of the plywood surface.



Figure 32. A piece of one quarter inch Masonite was used to carry the track from the lower end of the helix to the 1/2" plywood benchwork.



Figure 33. In the helix, still under construction, the lowest track is the return loop located beyond Shreveport Union Station. The next level up is the lowest level of the helix. The helix is constructed using materials supplied by Easy Helix. The



Figure 33

system uses molded plastic subroad-bed pieces, 12 per circle and 4 inch PVC spacers with long lengths of one quarter inch threaded rod, nuts and assorted hardware.

Figure 34. The underpass at the Deramus freight yard in Shreveport



Figure 34

is lowered below the benchwork. The fascia at this point will be finished to appear as concrete to heighten the illusion.

Figure 35. Additional support was needed at the far left and far right corners of the layout facing the F7. Rather than trying to conceal these as smokestacks I chose to use 1 inch clear acrylic rod which will lessen their visual impact.

Figure 36 (next page). One by four pine was used to support the middle section of the benchwork in this report area above Shreveport. This will also support the dividing backdrop of 1/8 inch Masonite which will run on both sides of the support.



Figure 35

Figure 37 (next page). The area of the helix takes up quite a bit of space in the layout room so I tried to compensate for this by making this area serve multiple purposes.

1. The long length of track in the helix provides an ideal staging area for trains between the two levels of the layout.
2. In the middle of the helix the platform tracks for Shreveport Union Station extend right through the station and into the middle of the lower return loop allowing the station to handle long passenger trains.
3. Underneath the return loop provides a great storage area for large pieces of maintenance equipment such as the shop vacuum.

4. On top of this area a large section of the Ozark Mountains is modeled. This serves to balance out other sections of the layout more involved with structures and towns.

5. Lastly openings in the middle of the helix and the benchwork above allow access to the far back tracks.

Figure 38. The paper plan was then placed back on the top of the layout again to allow me to visualize the position of the highways and structures.

And so in about three months all the new benchwork for the new mainline



Figure 36



Figure 37

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portion of the layout was completed. Yet to be added are front fascia pieces for the upper and lower levels of the layout. Masonite backdrop material will be added to divide the lower-level of the layout. Then it's time to lay Homasote, sub roadbed, and start putting down track! ✓

Reader Feedback

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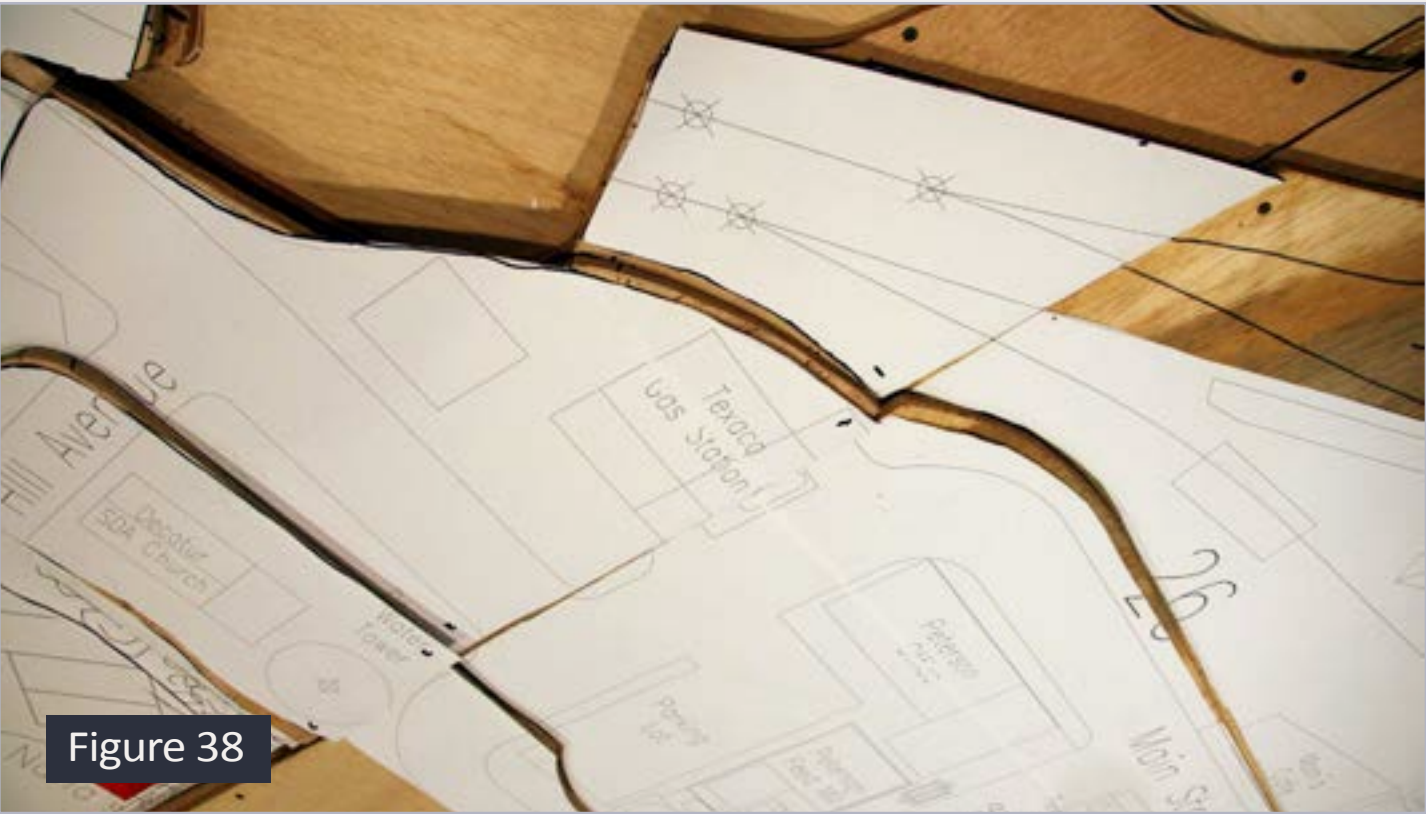


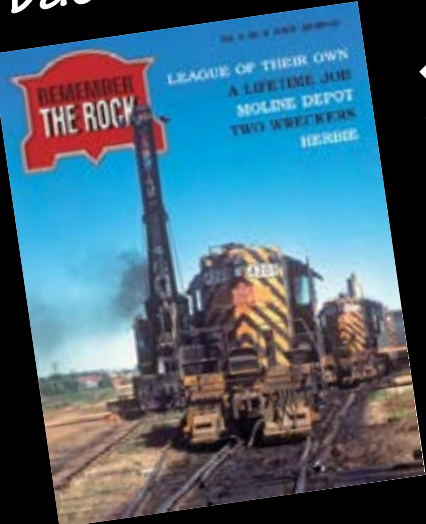
Figure 38



Figure 39

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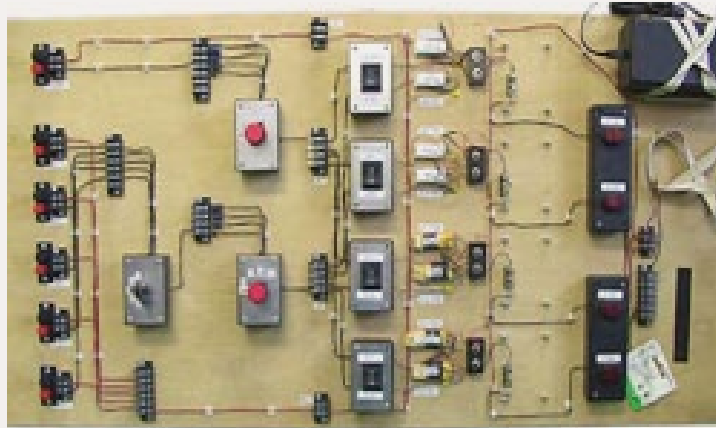
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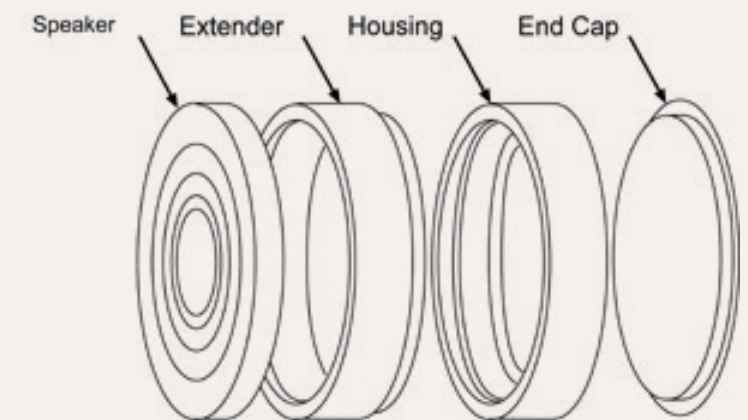
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John Drye is our N scale editor and columnist.

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COMME-N-TARY: What Do You Do With an Old Box Car?

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Interesting uses for cars that do not fit your era ...

Like many of us, I have rolling stock from a number of eras. Actually, I probably have rolling stock from EVERY era, except maybe the Jurassic. Like the prototype, we can look for ways to utilize a car that is no longer permitted in interchange service. Retired cars are often used to store the same sort of materials they carried along the rails, but in a fixed location. Since boxcars are essentially sheds on wheels, it is not surprising that retired cars are often parked by the side of the tracks and used for that purpose.

Sometimes the alterations are simple: the car is de-trucked and either set on a ground-level foundation or on wood or concrete pilings. If an older car, the running board might be removed, or the roof could be patched with tarpaper or other material. The lettering could be left to fade (but don't forget to line out the car number). Alternately, the car could be repainted. Silver is a common color, as is white or a new coat of freight car

red. More recently, such cars might be painted industrial green, or blue.

Here are some examples of old boxcars turned into trackside storage sites.

Outside-braced car

This is an ancient AHM car that I was originally going to re-truck and use in revenue service. It got a new running board and brake wheel along with a fresh coat of paint, but was retired when newer models of similar prototypes became available. The new paint and details were too good to waste, so the railroad sold the car to a local industry to store paint and supplies. This car rests on a concrete

foundation to keep it out of the mud. It was placed right next to the existing structure and a door was cut in the interior wall to allow access (figure 1).

B&O wagon top car

This resin car was displaced in main-line service by an up-to-date plastic model. It was repainted industrial grey and is in use by a local industry. The door was lettered to help employees find the right location. This car rests on wood pilings chopped from stripwood, and includes a small loading dock to allow easy access. A stove-pipe casting could be added to the corner of the roof to keep occupants warm in the winter.



Figure 1: An old outside-braced car was added to this industrial facility to provide additional space.

36-foot wood-truss car

Not sure just why I picked this one up; although a decent model, it is about 10 years too old for even my earliest era. However, it makes a fine trackside storage shed. Modification was simple – the trucks and stirrups were removed and the roof reinforced. A new tarpaper roof was created out of masking tape painted black. This car sits on the ground atop a concrete foundation made from styrene and painted/ weathered gray. The existing lettering was left on the car and distressed with a rubber pencil eraser, and then the car was weathered. A few oil drums and crates could be stacked next to the car in its new role as a place for the MoW crew to store track supplies and tools (figure 3, next page).

Other ideas

Cars other than boxcars can also be turned into off-track usage. Tanks cars can easily be de-trucked and used to store oil, fuel or other liquids. Covered hoppers can be used to store locomotive sand in a small refueling facility. Flatcars can even be used to make a rudimentary bridge, especially to take a railroad service road over a small gully. Next time you go rail-fanning, keep an eye out for out-of-service cars to see how the prototype does it (figure 4, next page).

Old and damaged freight cars can be provided with new roles off the railroad with a few modifications and maybe a new roof or coat of paint in order to get additional years of service out of the car. ☒

Photos continue on the next page.



Figure 2: This retired B&O wagon-top car was repainted in industrial colors and used to provide a loading platform for this facility.

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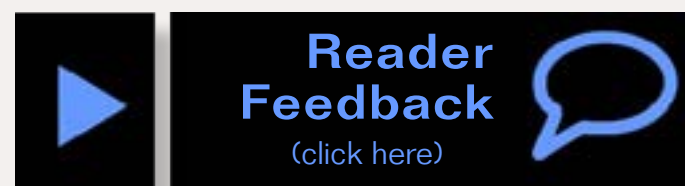
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Figure 3: This old wood car had its trucks removed and is placed on a concrete platform to provide storage for the car shops.



Figure 4: Here's an example of how the prototype uses old boxcars, taken on the former B&O (photo by Jeff Peck).



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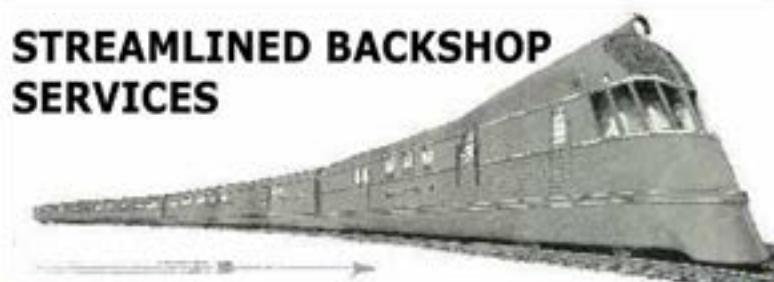
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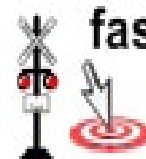


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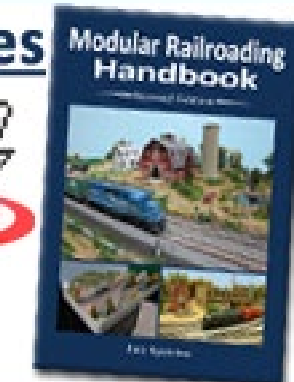
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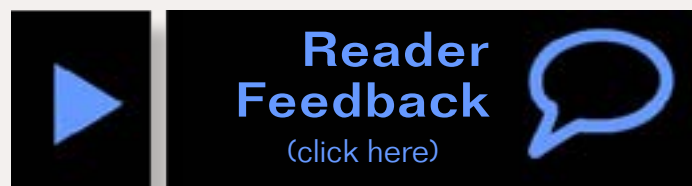


Figure 1: This photo, circa the early 1940s, looks up the abandoned logging incline at El Portal, which was in operation between 1912 and 1923. Note the piles of ties stacked along the spur in front of the shed. The incline was just west of Yosemite National Park.

Tie Piles

A simple lineside detail ...

– by Jack Burgess



Stacks of railroad ties along a mainline are an easy scenic detail to add to a layout. The simplest approach is to stain some wood ties, glue them into stacks several ties high, and place these piles at a few locations along the line.

I used this approach many years ago, using a dark brown stain on them to represent creosoted ties. While my tie piles were a quickly-finished detail, they were overly uniform and looked too perfect. I later learned that my prototype, the Yosemite Valley Railroad, used untreated redwood and cedar ties into the mid-1920s. I'm sure that the YV was using treated ties by 1939, the date that I'm modeling, but I reasoned that some piles of untreated ties would still be around and could be

more interesting than the piles of creosoted ties.

I started with some 7"x9"x8' Mt. Albert ties. I used a single-edged razor blade to quickly knock down all four edges of each tie, followed by a quick sanding to smooth the edges. I didn't use a razor saw to score the surface of the ties since I think that technique results in over-exaggerated wood grain in HO scale for relatively new wood.

I then dipped each tie in Dr. Ben's Aged Driftwood alcohol-based stain (debenllc.com). The color of this product matches the popular Floquil Driftwood stain of the 1980s which was eventually discontinued by Floquil. I let each tie stay wet for a few minutes on a paper towel before using another paper towel to suck up some of the excess stain, leaving some of the surface of the ties just raw wood. After letting the ties dry for 30-45 minutes, I dipped each tie quickly in an alcohol/brown shoe dye mixture which consisted of about a ½ teaspoon of Lincoln brand brown leather shoe dye to a quart of 70% isopropyl alcohol. The result was more complex color variations which were

more interesting than if the ties had been dipped in just a brown shoe dye alcohol stain. I then built up the tie piles.

Once the glue dried, I applied a little light grey or light brown Bragdon Enterprises (bragdonent.com) weathering powder to the top of each tie, "grinding" it into the surface of the tie with a stiff brush. This application smoothed out the surface of the ties and filled the pores of the wood, creating a more "to scale" tie surface. They were then ready to be glued down at El Portal on my layout.

These tie piles looked much better than my earlier efforts and this prompted me to add a variation of this idea to another location on my layout. Instead of piles of ties, I decided to replicate a location where section crews had just finished replacing ties. The result would have been a number of old ties left waiting for a section crew to retrieve them.

Figure 1



For these ties, I lightly scored the tops and sides of each tie with a razor saw before sanding the edges and roughing up surface with sandpaper. I replicated the weight and loading of the rail/tie plates by placing a piece of appropriately-sized brass bar on each tie, then hitting it with a hobby hammer to create indentations equal to the distance between the rails. I then stained the ties with a black shoe dye/alcohol mixture. To reinforce the fact that these were "used" ties, I added some Bragdon Enterprises rust to the tops of the ties, showing where the tie plates had been located. These ties were then glued in place along a section of the mainline to suggest that they had been pulled out and piled nearby as part of a tie replacement program. ✓

Figure 2: This scene at Hopeton (right) shows some old ties which have been removed and left along the right-of-way to be later picked up by the section crew. Note the rust stains from the rail.

Figure 3: Here are some completed piles of used, untreated ties at El Portal. The shed visible in Figure 1 is to the left of this scene on the layout (bottom-left).

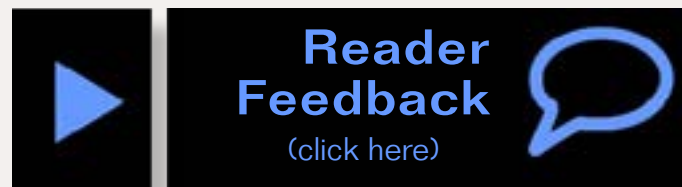


Figure 2



Figure 3

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Railfanning the Pine Ridge Railroad

– by Thomas A. Hokel
Photos by the author



Come along with MRH as we
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Tom Hokel's amazing Gorre &
Daphetid look-alike layout ...



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THE EVENING NEWS SUNDAY, JULY 4, 1954 FIVE CENTS

The Pine Ridge Railroad (PRRR) had announced earlier this year that it would be running a special train on July 4th – just for railfans. The trip was, in part, to honor railroad visionary John Allen, whose birthday was on Friday.

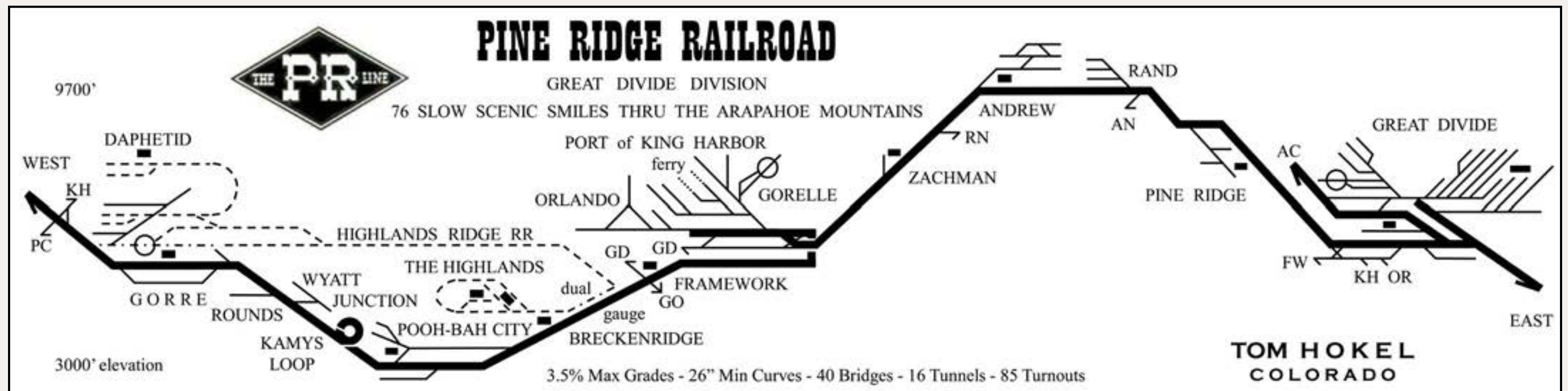
The PRRR wants this trip mainly to highlight the re-opening of the old Devil's Gulch & Helengon narrow gauge line, now the Highlands Ridge Railroad (HRRR), running from the town of Gorre to the town of Breckenridge and The Highlands.

Breckenridge plans a Grand Opening for its new ski resort this winter. As part of this event, the PRRR will add a “Ski Train” from Great Divide to Gorre where passengers will transfer to the HRRR.

For the railfan trip, the PRRR added an extra caboose at the rear of the train pulling a string of freight cars – not passenger cars. Because seating is limited for this trip, the railroad sold tickets using a raffle, with the proceeds going to the restoration of Sgt. Ennis, Number 8.

Number 8 is a historic maroon-colored steam locomotive donated to the city of Great Divide by the Gorre & Daphetid RR prior to the purchase of the GD Line by the PRRR.

Luckily, this reporter was able to get one of the winning tickets for the Pine Ridge Railroad 4th of July Railfan Trip! What follows is my trip report ...



Black rectangles represent railroad stations.
ferry = Railroad car ferry or car float
----- = narrow gauge

AC = Angels Camp
FW = Framework
GO = Gorre
OR = Orlando
RN = Rand

AN = Andrew
GD = Great Divide
KH = King Harbor
PC = Pooh-Bah City

Figure 1: Pine Ridge Railroad route schematic (from the railfan packet).

We lucky raffle ticket winners started the morning off by gathering at the Austin Street Station in Great Divide. Across the street, Gower Drugs opened early for the holiday and quickly ran out of coffee and film. We would be riding in the trailing caboose and taking the 152-mile trip over the Great Divide Division to Gorre and back. The railroad planned several stops for “run-bys” and photo ops, but the exact locations were also being kept a “big surprise.” Figures 1 and 2 were part of our Railfan Packet.

Great Divide

The biggest suspense was finding out what locomotive would be chosen for the occasion. We all had our favorites ... and we all thought we knew “for sure” who she was. At 7:00 am, all eyes were straining to see what loco would back out the five-stall roundhouse.

A loud cheer went up! Most of us were right — #34, the 4-10-0 Mastodon, would be heading up our freight! Some had hoped for a double-header. There were rumors that

the DGLocos Western Division facilities at Gorelle, where she had been stored, had a “secret project” getting her back on the road. It seems they moved her into town last night under the cloak of darkness. Our recent trips snooping around the Great Divide engine terminal did nothing more than annoy the work crews (figure 3 next page).

The Mastodon backed out of stall #5, took a short spin on the 105’ turntable, loaded coal from the 200-ton Ogle coaling tower, took a drink of

water, topped off with sand, backed onto the turntable, spun 180 degrees, and finally backed into the Great Divide yard. Phew!

After coupling onto the waiting freight cars, #34 pulled them through the crossover and past us until the switcher added some caboose (sic) [plural of caboose], directly in front of the station. I counted eleven freight cars.

Our conductor, a knowledgeable and humorous fellow named Findley, introduced himself and after a brief

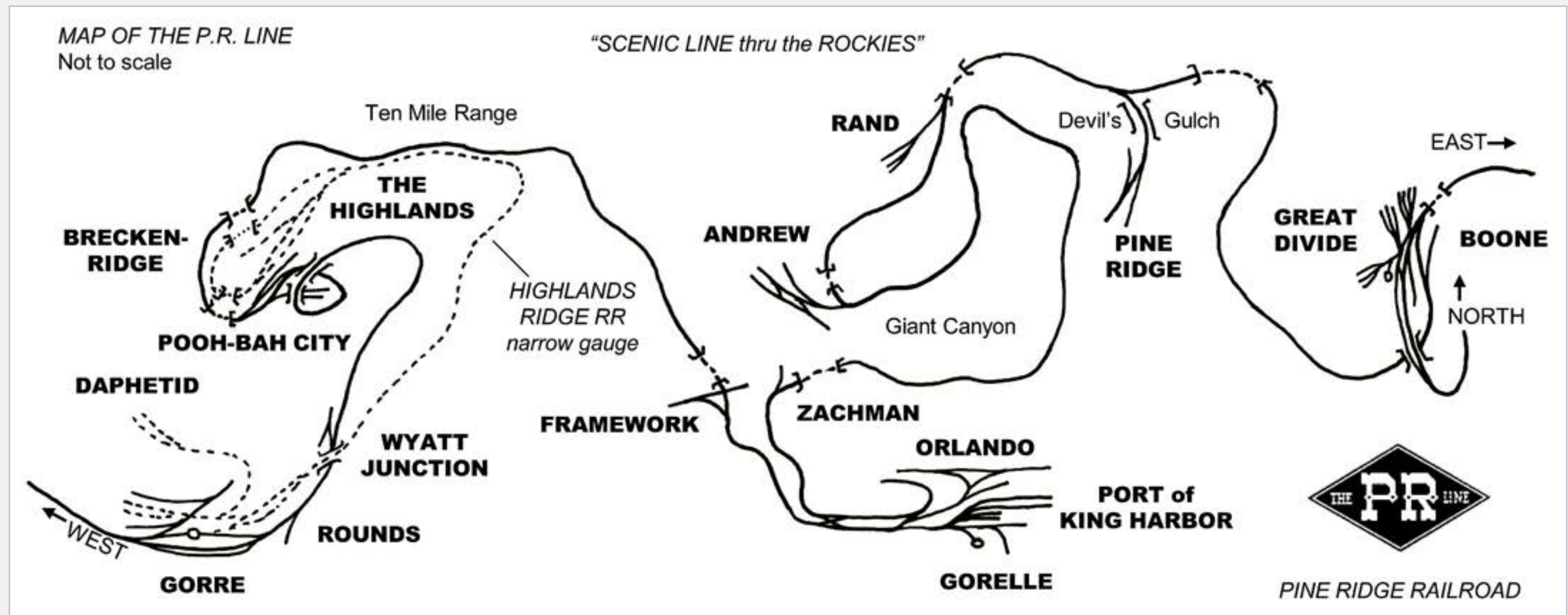


Figure 2: Map of The P.R. Line.

safety reminder said, “Well, we better get on board ... The Great Pooh-Bah always leaves on time.” Laughter and a roar of approval went up!

My buddy, Dave, asked, “So, what’s that all about?”

I said, “John Allen, himself, would be our engineer today!”

As we were piling into the rear caboose (#12, an ex-Santa Fe), although a few fans climbed into the other caboose (#14, an ex-Great Northern), Dave asked conductor Findley who John had picked as his fireman.

Findley replied, “Rod Smith.”

Dave cracked up. I didn’t know why, but I was too busy finding a seat to ask.

With her bell ringing, #34 let out three long toots and started backing us into the Mount Whitby tunnel. After the mainline switch was thrown, #34 blasted her whistle twice and we started on our journey.

Proceeding slowly forward, we made a wide sweeping turn to the north before climbing upgrade on the “Lower Summit Tier” that runs west from Great Divide to the Port of King Harbor (formerly, Port), Gorelle and Orlando.

Well, I’ll let the photos, many of which were taken by others not on the fan trip, do most of the talking (figure 4).

Continuing upgrade heading west, the main line crosses through the



Figure 3: Across the mainline from Austin Street Station, GD #34 is being serviced at Great Divide Terminal.



Figure 4: GD #34, pulling us out of Mt. Whitby, starts on her way to Port of King Harbor and Gorelle.

branch line connection to Pine Ridge and over one of four bridges spanning French Gulch. Looking across Devil’s Gulch, I noticed, for the first time, that the sign on the lumber yard at Pine Ridge reads “Findley Building Supply & Construction Company” and wondered if there was any connection to our conductor.

We proceeded over the steel span arch bridge at Kelleher Canyon and then wound through a series of s-curves before exiting the tunnel (there are 16 of them on the Great Divide Division) leading into Rand, a coal mining town and home of

Dannager Coal Mines, the food source for all those hungry steam engines.

We exited the tunnel at Andrew (formerly Andrews). Leaving Andrew, we crossed the Dana-Shelly High Bridge, a series of three girder bridges and a deck truss spanning over 340 feet. From Kelleher Canyon past the High Bridge, we were at the highest point on the line at an elevation of 9,735 feet.

A log train, headed by PRRR Heisler #6 and Shay #5, crossed the wooden Howe deck bridge on the River Tier (figure 5, next page).

At French Gulch, we looked down to see the double-headed log train.

We wound our way through the mountains downgrade, eventually reaching the city of Zachman (formerly Corsa). The two-level station, serving Zachman on the upper level and Framework on the lower level, is another classic GD station built by Findley Construction. Leaving Zachman, our train drifted downgrade just above The Ledges on our way to

the Port of King Harbor, Gorelle and Orlando.

Port of King Harbor, Gorelle and Orlando

Once we had finished the downgrade run at the west end of the “Lower Summit Tier,” we passed through the double crossover and arrived at the

Port of King Harbor on the Redondo River and the industrial city of Orlando. Tugboat “Leila Jane” had just left Port with a railroad car float in tow. The DGLocos Western Division at Gorelle came online just a few months ago (figure 6 next page).

After our locomotive was serviced and turned on the DGLocos 90’ turntable at

Gorre, we continued west on the “River Tier” that runs downgrade from Port to Pooh-Bah City and then upgrade to Gorre, the Great Divide Division’s western-most terminus (figure 7 next page).

Framework

On our way to Pooh-Bah City, the first station we encountered was the two-level station at Framework (formerly, Cross Junction). Leaving Framework, we passed through a 60° crossing, headed into a tunnel and proceeded downgrade through the wood-braced John Wooden Tunnel. We then merged with The Highlands Ridge RR on dual-gauge track, crossed French Gulch on the 187-foot Howe truss wooden-deck bridge, and continued west until the narrow gauge line cut off south to The Highlands just past the wooden trestle over the Blue River.

Breckenridge

We passed through the old mining town of Breckenridge, a small flag stop and up-and-coming ski resort, nestled between four tunnels — two narrow gauge tunnels on the upper level just in back of the station that serve the Highlands Ridge RR, and two standard gauge PRRR tunnels on the lower level. Passenger trains will only stop here if the red flag is out. If this Ward Kimball-designed station looks familiar, it is because it was in the 1949 Walt Disney movie “So Dear to My Heart.”

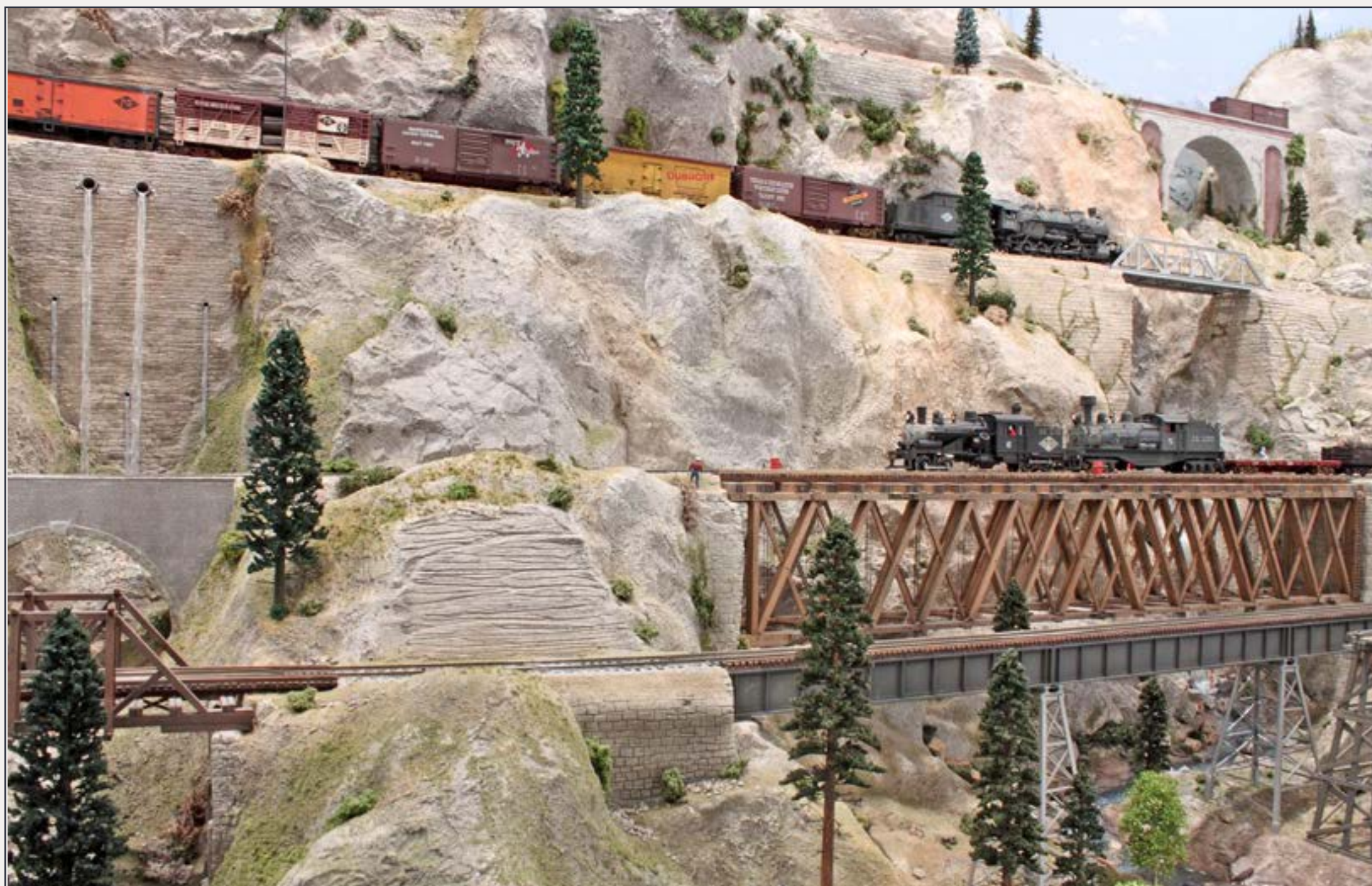


Figure 5: GD #34 running downgrade on the Lower Summit Tier over French Gulch.

Pooh-Bah City

After we daylighted out of the tunnel, we arrived at the lowest point on the line, Pooh-Bah City (formerly, Squawbottom). On the left, were the waterfall and rapids of Squaw Creek.

Pooh-Bah City, fondly named after The GD Line founder John Allen, is home to the Silver King Coalition Mines Co. We stopped at the triangular-shaped station to take on some water. We then climbed out of Pooh-Bah City on Kamys Loop (formerly, Sims Loop), a hair-raising 360-degree spiral around K-Dogs Peak (AKA Scalp Mountain), (figure 8).



Figure 6: GD #34 runs downgrade through the city of Zachman.

Wyatt Junction

After passing over Gorelle Gap and French Gulch (for the fourth time) on a three-section girder deck bridge, we passed through Wyatt Junction (formerly, Sowbelly), an oil pumping and storage facility owned by Wyatt Oil. Continuing slightly upgrade through Devil's Gulch, we passed the facing turnout for the Rounds Logging spur and over the Rio Animas ("River of the Lost Souls") just before reaching Gorre, the west end of the "River Tier" (figure 9 next page).

Gorre

We pulled into Gorre, the westernmost town on the Great Divide



Figure 7: After being turned, GD #34 gets serviced at DGLocos Western Division facilities.



Figure 8: GD #34 below on the River Tier crosses Uppa Ships Creek over a stone arch bridge enroute to Gorre. The PR #26 work train above heads for Andrew on the Lower Summit Tier.

Division, just before noon. The original Gorre & Daphetid RR two-stall wooden engine house still stands and has been well maintained with the original wood shingle roof replaced with tar paper. The strong influence of the D&RGW narrow gauge was evident here in the locomotive servicing facilities.

We had 90 minutes for lunch and some “run-bys” before heading back to Great Divide. After grabbing a quick lunch at Boji’s Maid-Rite (I love those loose meat sandwiches), we walked back to the engine facilities to take some more photos.

The town of Daphetid, seen on a distant plateau, is served by the Highlands Ridge RR. Our loco was

serviced and turned on the 75’ turntable ... she was a tight fit (figures 10 and 11).

Once #34 was turned at Gorre and the cabooses placed on the end of the train, we began our trip east back to Great Divide (figures 12, 13, and 14 next page).

After arriving back at Port of King Harbor, #34 was uncoupled, turned at Gorelle and took on some water. The PRRR #13 0-6-0 switcher moved our cabooses to what had become the rear of our train. #40, an ex-ATSF 2-8-2 still lettered for the GD, having just dropped off its block of stock cars at Bulline Packers, was sitting on the other turntable lead. Bell ringing,



Figure 10: The crowd greets us as we arrive at Gorre station.



Figure 9: GD #34 crossing French Gulch on the three-span girder bridge along the route to Gorre.



Figure 11: #34 is getting ready to take on water at Gorre. Daphetid station can be seen on the plateau in the distance.

she let out two short toots and pulled forward onto the mainline, then backed up and crossed to the passing track, pulled ahead, proceeded through the crossover, and coupled to the front of our train.

More than one fan exclaimed, “Hey, we’re getting a new loco and crew!”

We wondered why Conductor Findley wasn’t shuttling us back into the cabooses. Then, we heard two whistle blasts coming from DGLocos and noticed that #34 was pulling forward. Simultaneously, Dave and I looked at each other, smiled and said, “Are you thinking what I’m thinking? Double-header! Wow!”



Figure 12: At French Gulch, #34 passes #40 above, an ex-ATSF 2-8-2, pulling a stock car drag on its way to Orlando.

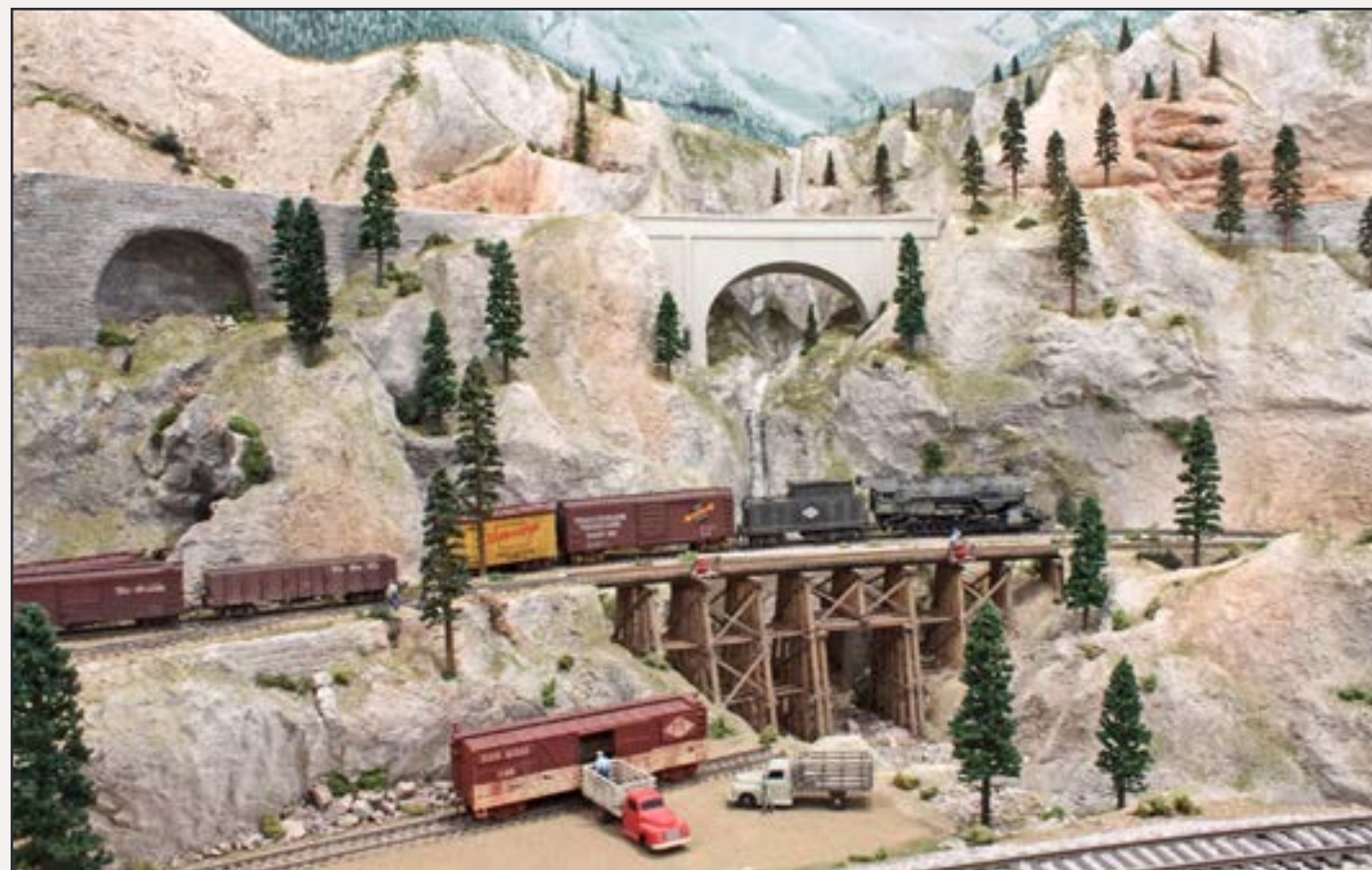


Figure 13: #34 pulls out of Pooh-Bah City at Kenter Canyon in the foothills of the Ten Mile Range, heading to Port of King Harbor and Gorelle.

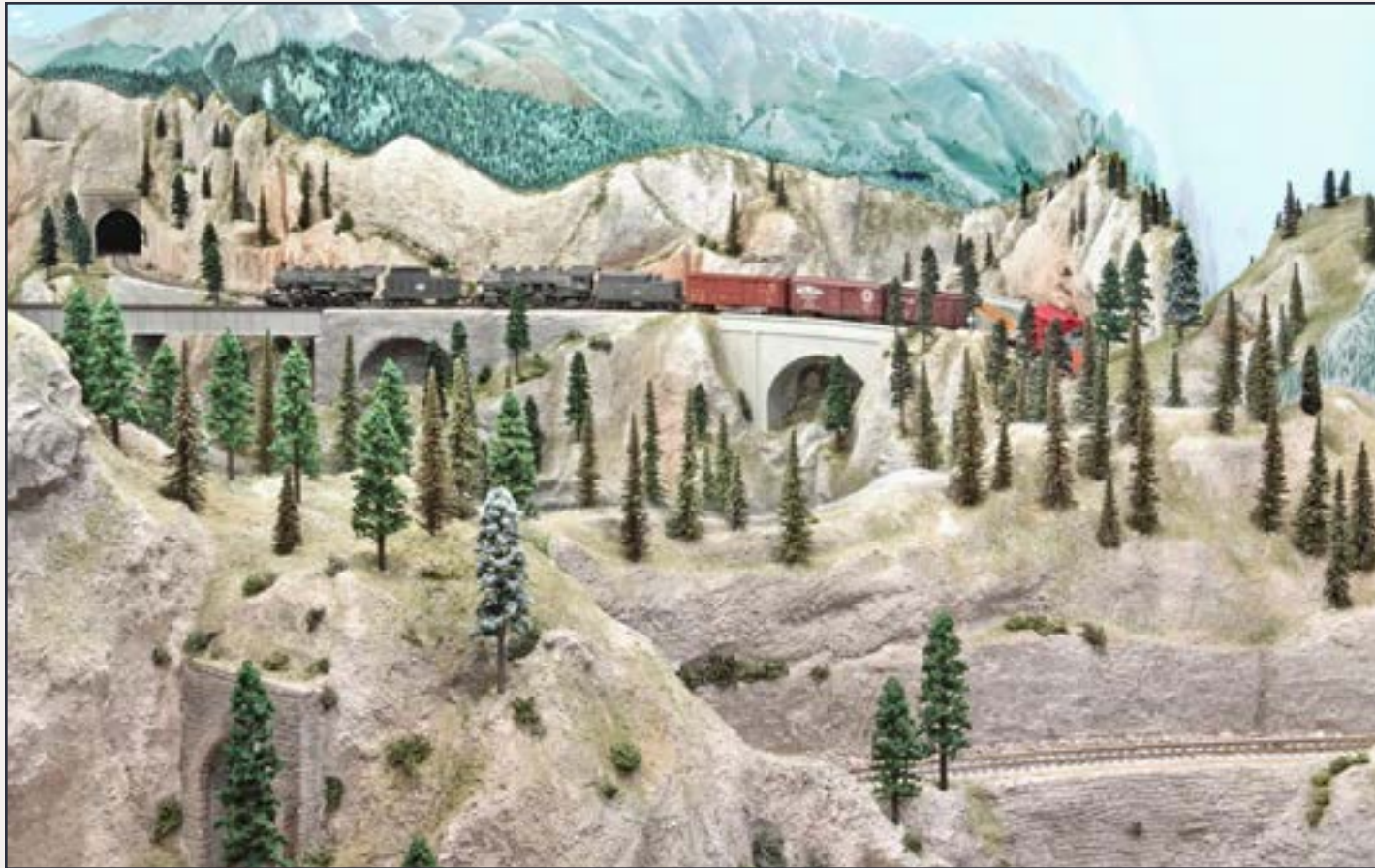


Figure 14: #34 rolls over Boyer Creek at French Gulch, enroute to Port of King Harbor and Gorelle.

The fans went crazy! In few minutes, we were on our way east to Pine Ridge (figures 15 this page, and 16a and 16b next page).



Figure 15: Above, #34 and #40 crossing Twin Falls. Below, #38 crossing over Kenter Canyon. Ullman Trestle on the Highlands Ridge RR narrow gauge line is in the foreground.



Figures 16a and 16b: The double-header slows down on Dana-Shelly High Bridge heading into Andrew. In 16a, Mount Reflection is in the foreground. (Train in 16a is actually a reflection in a mirror, with the photo reversed: the original 16a photo is reproduced below.)

Below us on the “River Tier” was a freight train pulled by GD #38, an ex-Sierra 2-6-6-2, that had stopped for unknown reasons (figure 17).

Figure 17: Double-header rolls across Dana-Shelly High Bridge. GD #38 freight waits for clearance on the River Tier below in Kenter Canyon.



16a Original



We stopped at Andrew for some “run-bys.” After taking on some water and sand, we were on our way again (figure 18).

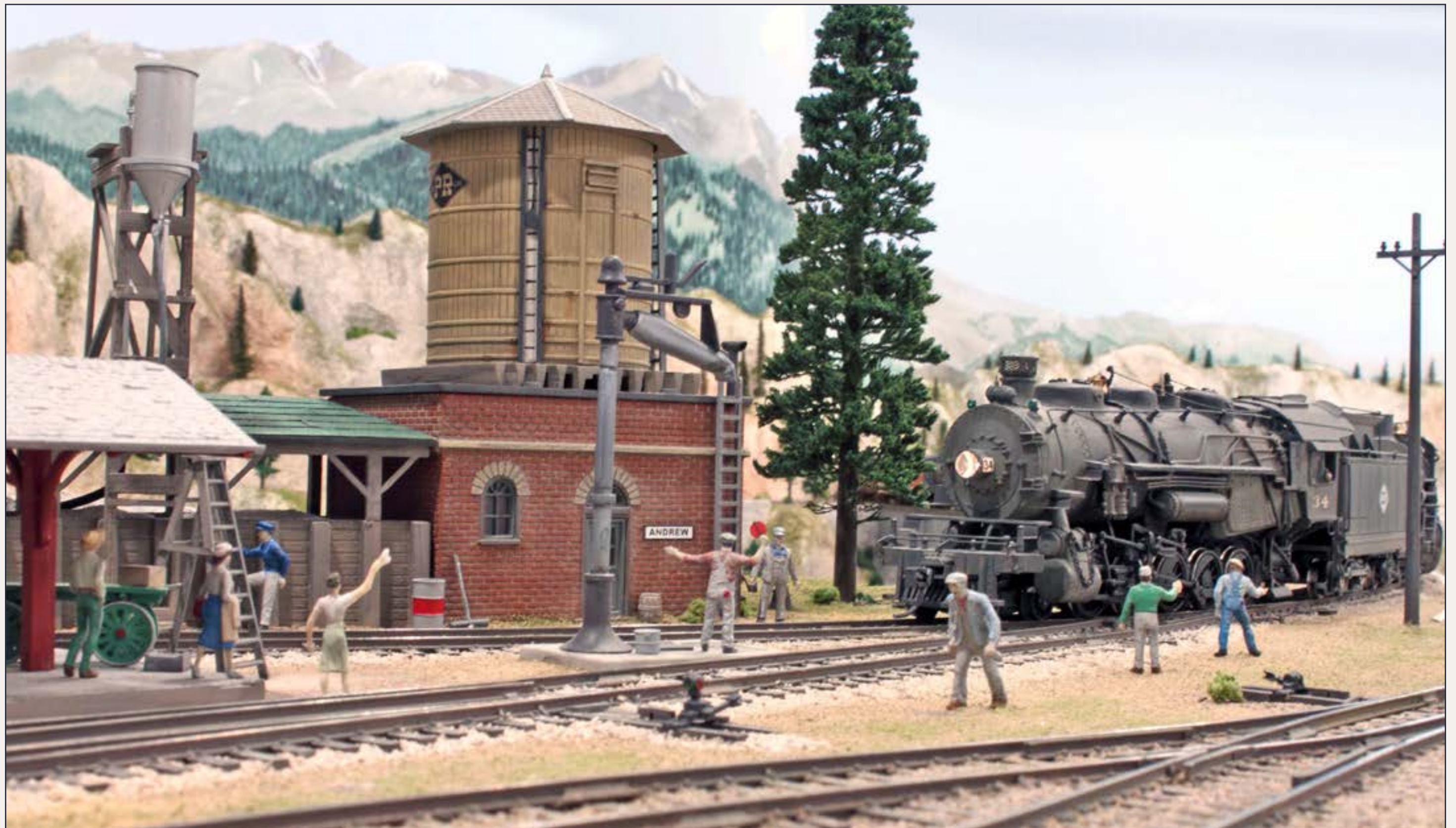
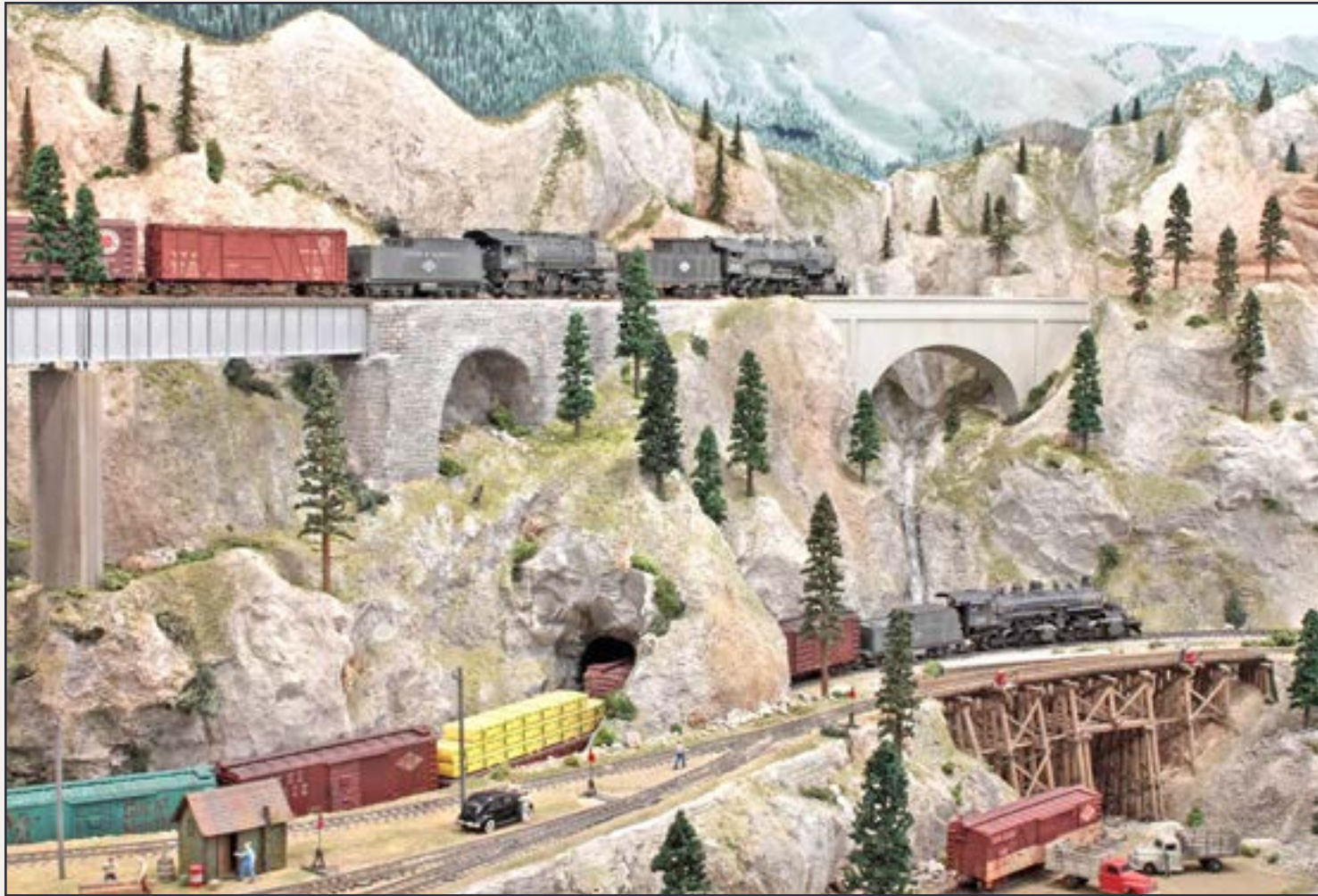


Figure 18: #34 getting ready to take on water and sand at Andrew.



Now we all knew why #38 was waiting on the “River Tier” below us ... she was racing us to French Gulch! What a great surprise! Both locos stopped and performed “run-bys” for us and some train chasers (figures 19 and 20).

Figure 19: Our double-header approaches concrete arch bridge. Meanwhile, GD #38 freight begins to move on River Tier below in Kenter Canyon.



Figure 20: We have a race! Our double-header above at Gorelle Gap heads to Pine Ridge for a short stop. GD #38 freight on “River Tier” below at French Gulch rolls along enroute to the Port of King Harbor.

Pine Ridge and Highlands Ridge Railroad History



The Pine Ridge Railroad (PR Line or PRRR), founded in 1947,

purchased the Gorre & Daphetid Railroad (GD) after its brass hat, John Allen, retired to pursue his interests in model railroading and photography. The PR Line serves the western connection from Great Divide to the town of Pine Ridge and from Pine Ridge to Andrew.

After the GD purchase, the PRRR sold the “Upper Summit Tier” line from Great Divide to Angels Camp and Cold Shoulder to the Tioga Pass RR, since traffic to Angels Camp is in decline and the PR Line already has access to Andrew via their own Pine Ridge route.

The PRRR, whose logo is inspired by the GD logo, is still in the process of re-branding/re-lettering much of the GD equipment.

In addition to transporting oil and cattle, the narrow gauge Highlands Ridge RR hopes to receive a substantial part of its revenue from running passenger excursions, particularly for the increasingly popular winter sport of skiing. The tracks from Gorre to Daphetid were converted from standard gauge to narrow gauge due to sharp curves and steep grades to allow less expensive narrow gauge equipment to be used on the route. PRRR is still in the process of re-branding/re-lettering much of the GD equipment. ■

We crossed Devil's Gate Bridge over Devil's Gulch just before entering Pine Ridge for a short stop and a couple of "run-bys." Since GD #40 was dead-heading back to Gorelle, it was cut off from our train. We walked over to the edge of Devil's Gulch and watched #34 back all the way over to the other side of French Gulch. Got some great shots from this location (figures 21 and 22)!

I must admit ... I just had to duck into Duna Babe's Kringla Café, for a kringla (a Norwegian pastry) and wolfed it down on my way back to our train. Before re-boarding, we thanked and said our good-byes to #40's crew, engineer Andy and fireman Linn. After leaving Pine Ridge, we headed down-grade, passing through the city of Zachman. At the city limits of Great Divide, we slowly entered the Mount Whitby tunnel until the last cabooses cleared the mainline switch, then backed up until the cabooses reached the Austin Street station. It was pushing 5:00 pm.

After stepping down from cabooses #12 and thanking Conductor Findley, I remembered to ask Dave why he laughed when he heard that Rod was our fireman.

Dave said, "Well, Rod thought John was going to pick Glenn to be his fireman, so he had made a bet with John that today — for a change — his photos would be better than John's. I don't think Rod had a chance to take any photos, do you?"



Figure 21: #34 run-by on the way to Pine Ridge. Freight cars above are spotted just west of Angels Camp in the Norwegian Mt. Man Range.



Figure 22: #34 run-by on Devil's Gate Bridge over Devil's Gulch on the way to Pine Ridge. Sorefeets Brothers provide a nostalgic and humorous atmosphere.

“No,” I laughed, “but Glenn sure did!”

After saying “thank you” and “see ya later” to engineer John and fireman Rod, Dave and I talked our friends, Bart, Bill, Chuck, Davey, Gary, Greg, Jacques, Joe, JR, Keith, Kevin, Lew, Peter, Rick and Ron, into heading over to the Townhouse Café for a great dinner and a piece of Bertie’s Tweedy Pie.

I thanked Lew for encouraging me to buy a raffle ticket. On that note, we all wondered when Sgt. Ennis would take to the rails again, but Dave, head of DGLocos, just looked at us, smiled and then quickly changed the subject.

After dinner, we picked up John and Rod, who were glad we brought them some take-out meals. Then, all of us met up with family and friends at the drive-in theater to celebrate our country’s freedom, and watch the fireworks display.

I can’t wait to ride the inaugural Pine Ridge Railroad “Ski Train” this winter! Well, it certainly lives up to its tag-line as the “SCENIC LINE thru the ROCKIES!” ☒

Track Plan continues on page 66.

Tom lives in Colorado and is a business consultant, architect and software developer specializing in enterprise architecture and business intelligence systems. Tom has admired the Gorre & Daphetid RR ever since he first saw photos of it in a 1953 Varney catalog that his brother purchased at a drug store. (He still has that catalog.) Seventeen years later, he had the pleasure of meeting John Allen and seeing John’s G.D. Line in person. The Pine Ridge RR is Tom’s fourth HO scale layout. For Tom, his layout keeps the memory of the GD alive and lessens the sadness of it and its creator being physically gone.



Finding original Gorre & Daphetid equipment



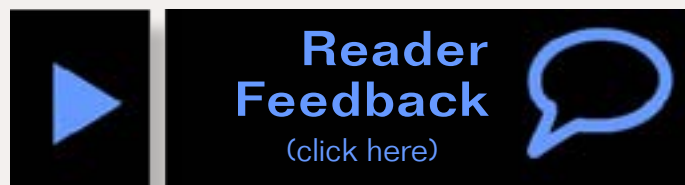
John Allen’s Gorre & Daphetid RR

#43 Locomotive: My friend, Dave Gorelle, recently purchased the late John Allen’s (1913-1973) Gorre & Daphetid locomotive #43 from Keith Blanchard. #43 was one of only a few locos that survived the fire that destroyed John’s layout! Keith was told that, since John traveled with #43 when visiting layouts, it might have been stored in a box on the floor in another room ... or it might have been left at a visitor’s home.

John presumably used this loco along with a string of his four or five short green Walthers Pullman heavyweight passenger cars. [This loco may have been used in tug-of-war pulling contests. See Railroad Model Craftsman June 1981.]

After John’s passing, the former GD operators visited Keith’s layout and operated several times. On one occasion, sometime around 1976, the operators invited John’s brother, Andrew, to attend.

Sidebar continues on next page.



The crew, which included Earl Flaws, secretly placed #43 on the layout. Keith said, "I just looked up at the layout and there it sat with a few guys looking at me to see my reaction. To say I was surprised would be an understatement!"

The plan was to have a memorial run on Keith's Pine Canyon Railroad layout, since it was conveniently located and built in the style of the G&D. The GD #43 loco was given to Keith; however, he never saw the box used to transport it. For all of these years, Keith took great care of #43, having stored her in a dust-free display case, totally untouched.

GD #43 is a United/PFM AT&SF 2-8-4 class '4100' prototype. This loco, in AT&SF #4100 lettering, is pictured in PFM's 1958 4th edition catalog sitting on a RIP track next to the Great Divide turntable. The price? \$49.50. According to *"Pacific Fast Mail ... 25 Years of Fine Models,"* this would have been a first-run 1957 or 1958 model.

She can also be seen in the 5th and 6th editions against a background pencil sketch that certainly looks like it was drawn by John. Keith said he spoke with PFM and they confirmed that John retained the loco shown in their advertising. Later PFM models had updated details and in the 8th edition and beyond were listed as class '4101', the actual prototype class.

In the book *"Model Railroading With John Allen,"* there's an entry in the GD locomotives roster (p. 125) that is more than likely this loco. It reads, "Road: #43, Wheel Arrangement: 2-10-2, Acquired or Built: 1970, Notes: John mentioned this engine twice in notes and letters. Engine number, date purchased not certain. It probably would have been a United, AT&SF prototype."

This loco is also shown in the March 2001 issue of *Model Railroader* lettered as she is today. The satchel of burned GD locomotives, now in Rod Smith's possession, contained no AT&SF 2-8-4 or 2-10-2 prototype, nor any loco numbered as "43."

She still runs smoothly, but has some gear growl. Her mechanism needs cleaning and a lube job. Both lights work and dim in the reverse direction. Thanks to the lead poured in the boiler, she tops the scales at a whopping 1 pound 14.3 ounces! Typical of all GD locos, the tender shell has been electrically insulated.

The base coat and weathering on #43 is truly amazing when you consider that John painted the loco with a brush. The biggest issue with this loco is that someone re-lettered the tender with individual decals for each letter.

These letters were subsequently painted over and then re-lettered and logoed with dry transfers. The lettering is clearly not the work of John

Allen. So there remains some mystery surrounding this loco prior to Keith's ownership. Nevertheless, it is great to find another surviving GD loco.



GD Butler Mines Ore Cars: Along with GD #43, Keith also included two surviving, slightly smoke-damaged and very fragile Butler Mines ore cars. Keith said when he received them, he had to glue several parts back together ... and I had a few parts to glue after unwrapping them. The only number that I could distinguish was "37" on one side of the foreground car. *"Model Railroading With John Allen"* (p. 85) said, "John's Aunt Mie married Percy Butler."



Jim Findley's Tioga Pass Railroad #31 Locomotive: Dave also purchased Tioga Pass Railroad loco #31 from Keith. This loco, once owned by the

late Jim Findley (d. 1994), is a United/PFM Frisco 2-10-0 Russian prototype. Although not the latest run, she was re-powered with a can motor prior to Keith purchasing it from a Dallas, TX hobby shop in 2003.

As mentioned in *"Model Railroading With John Allen"* (p. 115), this locomotive was frequently run on the Gorre & Daphetid RR as the Andrews Peddler. The original box included the set of Baker couplers that were used for operating on the GD Line.

This loco runs amazingly smooth and quiet. Jim contributed over two dozen model railroading construction articles and also built several structures for the GD. The underside of the tender clearly shows how Jim electrically insulated the shell per his *Railroad Model Craftsman* March 1980 article.

Dave plans to add a decoder, but no sound because we don't want to structurally modify the tender. We'll probably just pull a sound-equipped Tioga Pass RR stockcar behind her when running her for special occasions on the Pine Ridge RR. ■



Layout Statistics

Era: 1954

Locale: Colorado Rockies

Style: Free-lance based on selectively compressed and modified version of John Allen's Gorre and Daphetid Railroad and narrow gauge Devil's Gulch & Helengon Railroad.

Scale: HO plus an 11-foot N straight section at Angels Camp and a small Nn3/Z oval above Andrew and Rand, serving the towns of No Place Special and Stewart.

Trackplan: HO point-to-point, with loops and backdoors; HOn3 point-to-loop

Room size: 425 sq ft (approximately 19' x 21' plus 4' x 8' nook)

Min. radius: 26" (standard gauge)

Track: Shinohara (code 70) and Walthers (code 83) flex

Turnouts: #4, #5, #6, and various curved thrown by SwitchMasters

Control: DCC - Digitrax radio

Credits: My wife, Janet, painted the beautiful backdrops and assisted with numerous other projects. Dave Gorelle is the builder and owner of those magnificent locos: GD # 34, 38 and 40.



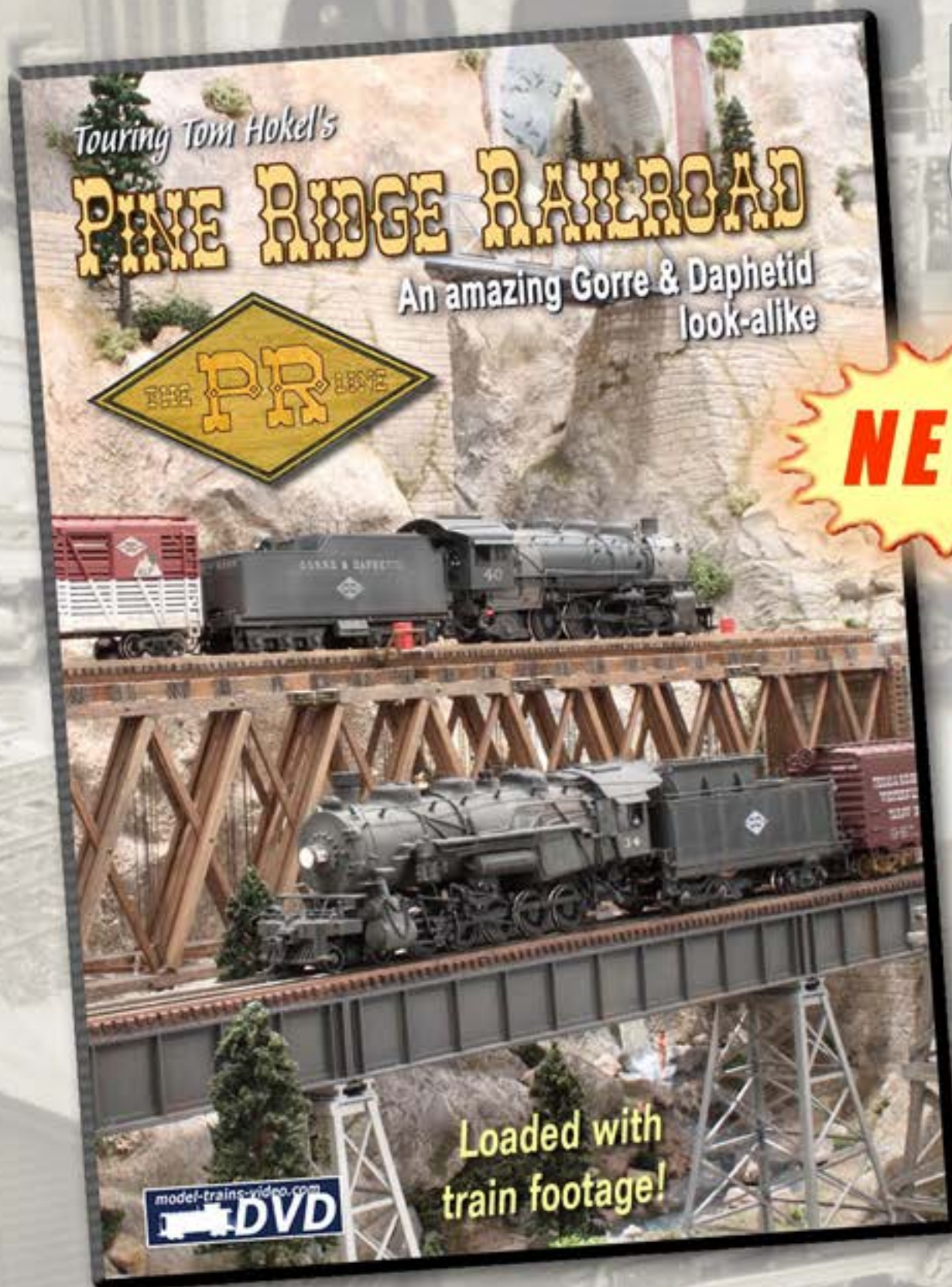
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Scratchbuilding a Steam Loco in Styrene, Part 2

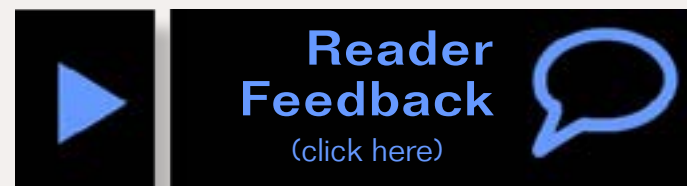


We continue with the styrene techniques for getting exactly the loco you need! ...

– Kenneth Rickman
Photos by the author

In part 1 of this series, Ken introduced you to the prototype for this steam loco, and the process of building a steam loco boiler out of styrene. Here in part 2, Ken continues by adding details to the boiler,

and then proceeds to improving the stock chassis to improve pickup and to make it look more like the prototype loco he's modeling.



Ken Rickman started with a Lionel train set under the Christmas tree at two 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. He has been with the NS for 14 years, starting as a conductor and graduating to engineer in 2005.

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

STEP 10: Make the Cleanout Plugs

Draw a horizontal line on the firebox, a scale 12" above the handrail line, and a vertical line a scale 12" behind the back of the smokebox. On the firebox, measure back from the vertical joint a scale 12" and a scale 3'-6". On the boiler, measure up a scale 24" and down a scale 3" from the center line. Drill $\frac{3}{32}$ " holes at each location on both sides, being careful that the hole will be a very snug fit on a $\frac{3}{32}$ " styrene tubing.

Cut short lengths of $\frac{3}{32}$ " tubing and glue them into the holes, such that they sit just proud of the surface of the boiler. When the glue dries, enlarge the hole slightly with a drill, but only to about half the depth. Glue short pieces of $\frac{1}{16}$ " styrene rod into the holes, flush with the outside face. The result should be cleanout plugs consisting of an outer ring and an inner plug, with an open ring between them.

To make the smokebox cleanouts, cut two slivers of $\frac{1}{8}$ " styrene tubing, and sand them until they're around .015" thick. Glue them ahead of the builder's plates, making sure that they clear the handrail holes you drilled earlier. Sand or file the end of the rod a bit so that it is smaller in diameter, then slice off two more rings, sand them down, and glue them on top of the first pair. Fill the hole in the center with putty, smooth it with some MEK, and add handles made of a $\frac{1}{8}$ " length of .010" X .020" styrene rod.

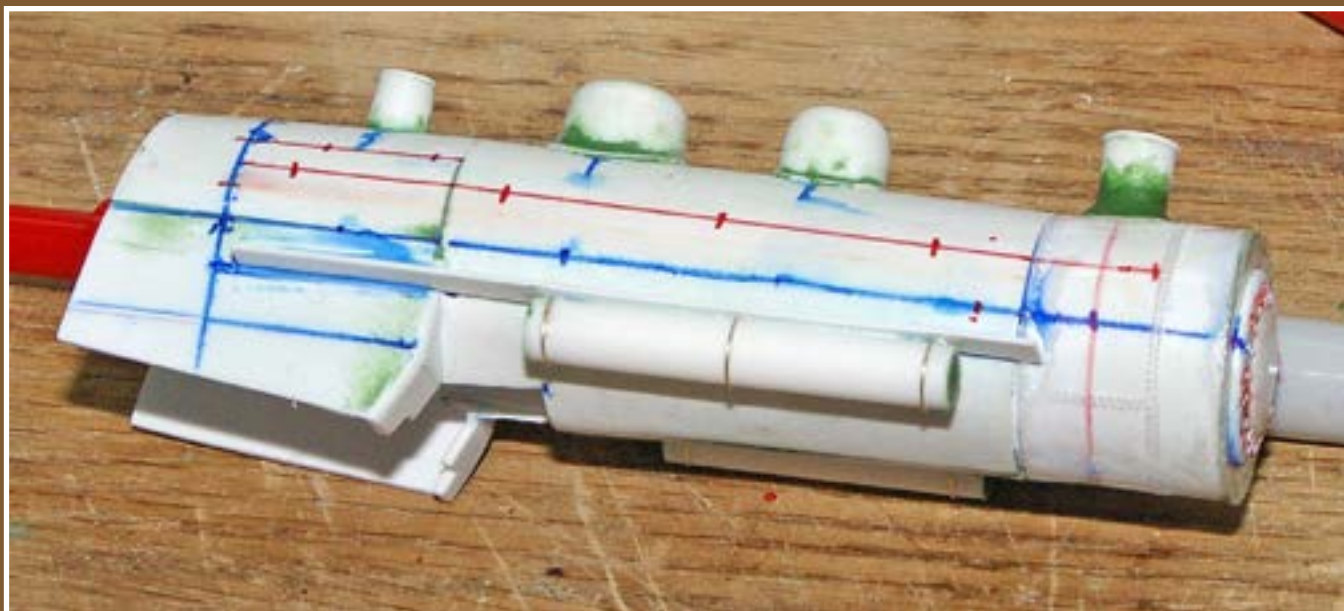


Figure 1: I marked out the locations for the handrails and cleanout plugs using a contrasting color marker (red), so they would show up among all the other marks.

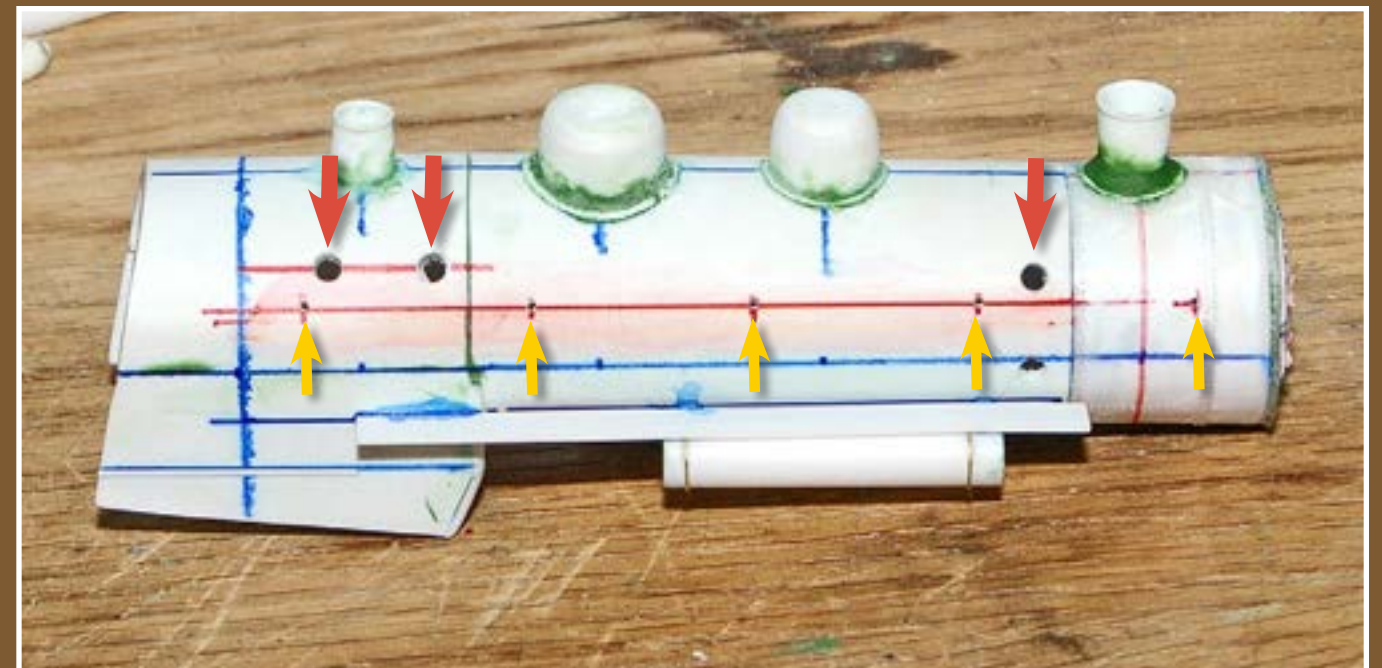


Figure 2: The holes are drilled for the cleanout plugs (marked by red arrows). They look large now, but they will look smaller when they're filled in. I have also drilled the holes for the handrail stanchions (yellow arrows).

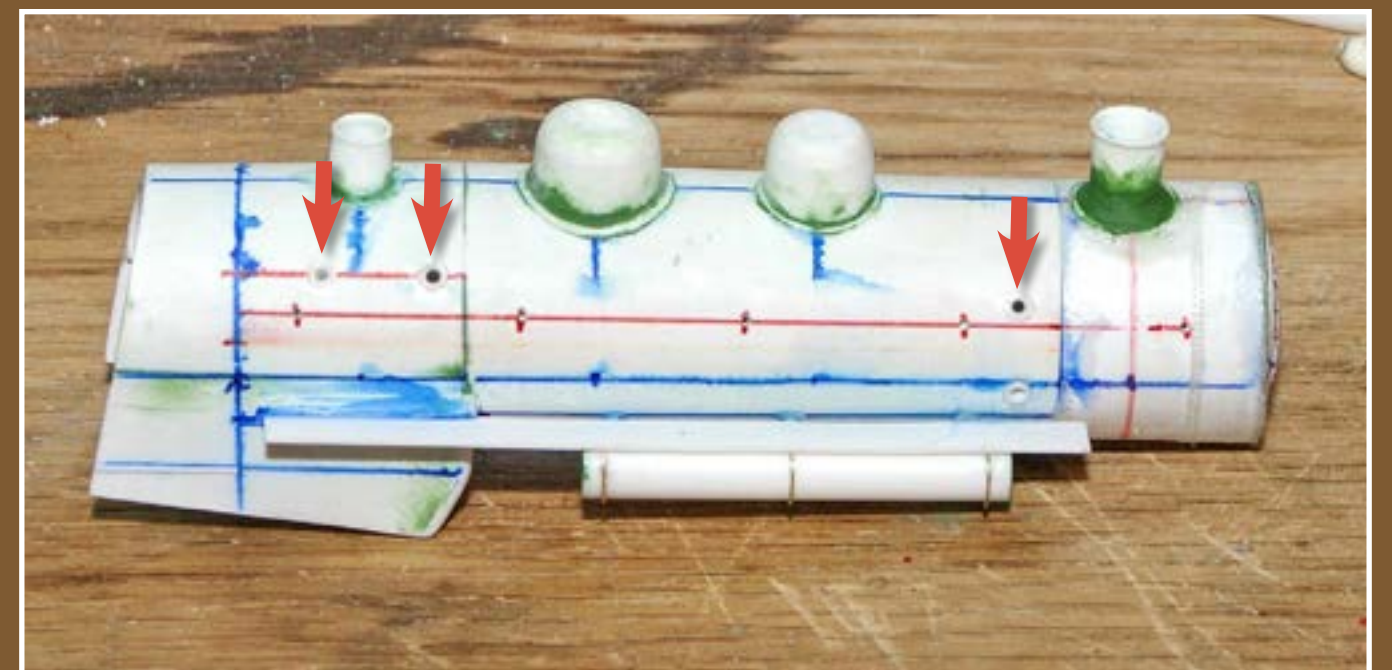


Figure 3: The first step in making cleanout plugs is to make the plug body by gluing in sections of styrene tubing, and then enlarging the opening slightly (red arrow locations).

STEP 10: Make the Cleanout Plugs *Continued ...*

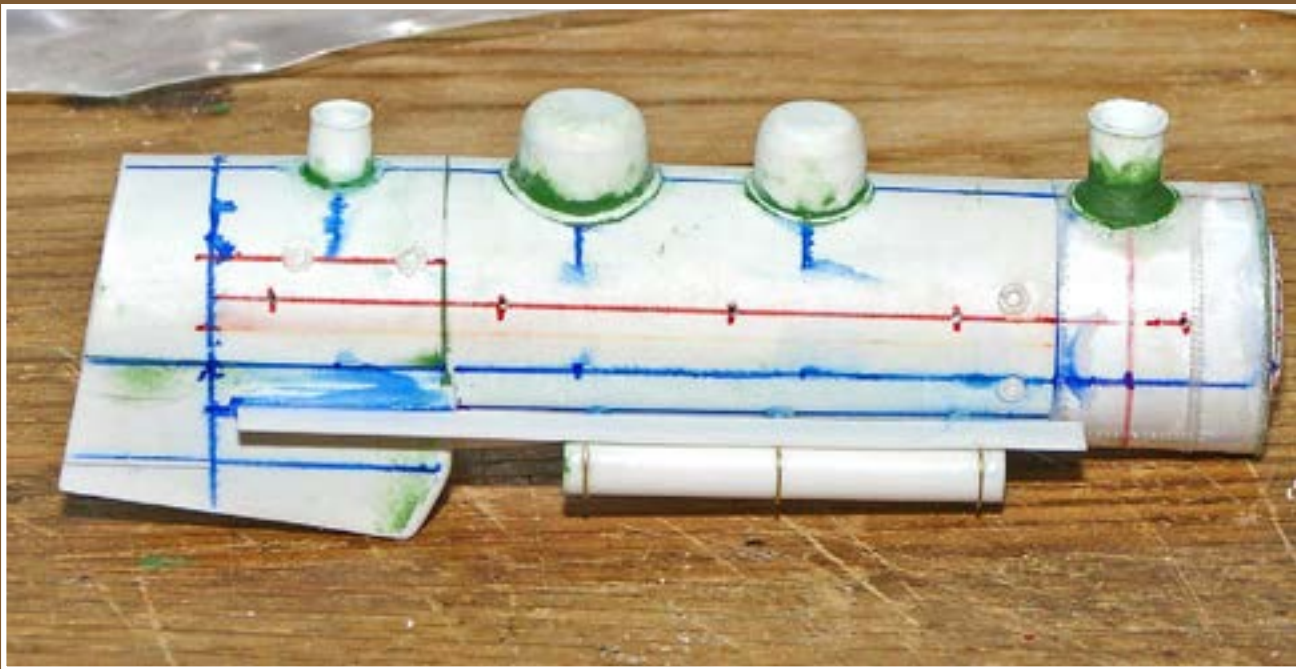


Figure 4: Filling the holes leaves something that resembles a cleanout plug, and is remarkable easy to make.

STEP 11: Make the Boiler Steps

Cut four scale 9" lengths of .100" styrene I-beam. Taper the flanges on one side, so that it appears to be a "C" channel from the front, but an "I" from the back. Bevel the back edges slightly, two with the top long to go above the center of the boiler, and two with the bottom long to go below the centerline. The upper steps should be centered beneath the sand box, and halfway between the centerline and the handrail. The rear of the lower step should be aligned with the handrail stanchion hole behind the sand box, and it should be a little above halfway between the centerline and the running board. Be sure to get the tops level and keep the steps square to the boiler. Glue them liberally, then let them cure. They protrude enough that they need to be strong, or they will get broken off easily.



Figure 5: The steps are glued in place. Rather than mark their locations, I simply measured as I glued them in place, making sure to keep them level.

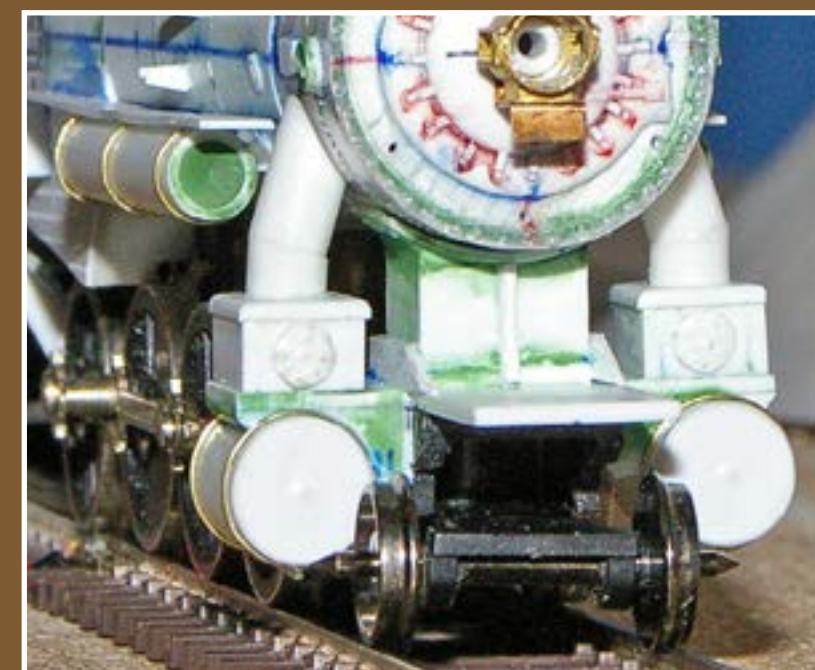


Figure 6: This gives a good idea of the size and shape of the steps. I've also started adding some of the smokebox details. In particular, you can see the tubing that the headlight is mounted on.

STEP 12: Add Rivets to the Firebox

The firebox was not lagged below the running boards, which is the reason for the recessed areas there. Cut pieces of .010" styrene to fill the openings, and emboss a row of rivets around the front, bottom, and rear sides, as well as a scale 6" grid across the whole piece. The embossed rivets represent the heads of the stay bolts, and should actually be in an angled pattern, but I got lazy and I really cannot tell the difference on the finished model. Glue this in place, letting the front edge show against the rounded edge, to represent the way the firebox was constructed.



Figure 7: The firebox overlay is in place here, along with the smokebox cleanout and builder's plate. Also clear in this angle is how the #3 driver is recessed into the firebox, a compromise required because the drivers are too large and too widely-spaced, compared to the prototype. Many commercial models are lengthened to disguise this, but I chose to make the boiler the correct prototypical length.

STEP 13: Add the Lagging Bands

At this point, the boiler must be washed in warm soapy water. The oils and dust on it would otherwise prevent the boiler bands from adhering well.

Lay a piece of Scotch® tape, about 2" long, on a sheet of glass. Cut the tape into strips a scale 2" wide. Carefully pull up one strip, and wrap it around the boiler right behind the smokebox. Lay another at the seam in the boiler shell at the front of the firebox, trimming it to fit snugly against the running board. Place a third strip right in front of the mark for the cab wall, again trimming it against the running boards.

Now, measure the distance between the first and second bands. Divide that measurement into thirds and mark the boiler below the domes and above the running boards. Place the end of a strip of tape into the seam between the running board and boiler, then lay it up to the mark below the dome. When the strip is perfectly vertical and straight, press it firmly against the boiler using a fingernail, toothpick, or other firm blunt object, and carefully trim the band where it meets the base of the dome.



Figure 8: While they are difficult to see (marked with red arrows), the lagging bands have been added. The black marks on the boiler were used to get the correct spacing.

STEP 14: Add Details to the Boiler

A decent power-reverse can be built with relative ease. Start with two telescoping styrene tubes, the larger one being 3/16" diameter. Using the edge of a mill file, reduce the wall thickness of the larger tube by half, but leave a flange full thickness at the end. You need at least a scale 16" or so of length, but you can cut it to length later. File the flange away on one side, so that it will fit flush against the firebox later. This is the main cylinder. Cut it from the tubing now.

The crosshead guide is made from the smaller tubing. File a notch halfway through the tubing, about a scale 24" long, and leaving a solid ring about a scale 3" thick at the end. File another notch a scale 3" wide, leaving another scale 3" ring between that and the longer notch. Slide the cylinder over the tube, line up the flange end with the rear of the smaller notch, and glue them together, making sure to keep the openings in the crosshead guide opposite the flat on the back of the cylinder. Cut the assembly from the tube, and fill the rear end with putty. Glue a sliver of .030" styrene to the back of the crosshead guide, then glue the assembly to the engineer's side of the firebox. The cylinder

should be below the lower portion of the running board, and the front edge of the crosshead guide should be about a scale 6" behind the front of the firebox.

The exact design of the reverse lever will depend on your chassis, but the basics are the same. File two flats on the end of a 1/16" brass rod, about 1" long or so, and bend the resulting flat bar 90 degrees to the rod. Bend a "Z" shape into the rod. Find a location to mount the lever on your chassis, between the #2 and #3 drivers. Cut the rod to length so that it does not interfere with anything on the opposite side, then dry-fit the chassis and boiler together. Cut the top of the lever slightly above the center of the power-reverse cylinder, making sure that it will not hit the bottom of the air tank. Glue the lever/rod to the chassis.

Cut the reverse rod from .030" brass or styrene rod, and glue it into place so that the end overlaps the reverse lever on the chassis. For the valve body, use a square of styrene on top, with a slightly longer piece of rod running lengthwise. The crosshead is a piece of .015" sheet with one side tapered and bent out at about 45 degrees. The rods and levers are very basic, and can be estimated from photographs or more specific sources.



Figure 9: This is the scratchbuilt power reverse, in all its glory. By imagining it as a collection of basic shapes, it's simple enough to build.



Figure 10: The power-reverse lever is glued to the chassis (red arrow). This interfered with the electrical contacts on the frame, so I removed them and made my own.

STEP 14: Add Details to the Boiler *Continued ...*

The air pumps mount on a bracket under the running board on the fireman's side. Cut a piece of .040" styrene a scale 3' square, and bevel one edge at about 45 degrees. Mount the two air pumps on this square with the beveled edge up and away from the pumps. Line the tops of the steam cylinders (NOT the plumbing on top) with the top of the square. Cut two notches in the fireman's side running board to allow the compressors to fit just ahead of the firebox, with the plumbing protruding through the running board. Glue the beveled edge of the square to the boiler shell, and the rear edge to the firebox.

The generator mounts on top of the boiler, just ahead of the pop valve shroud. The marker lights go in holes on the smokebox front, roughly half way between the vertical and horizontal center lines.

The whistle mounts differently than the whistle on a K, so I had to modify it. I cut the whistle from the rest of the casting, leaving about 1/8" of extra material. I straightened the end, and filed it into a roughly round shape,

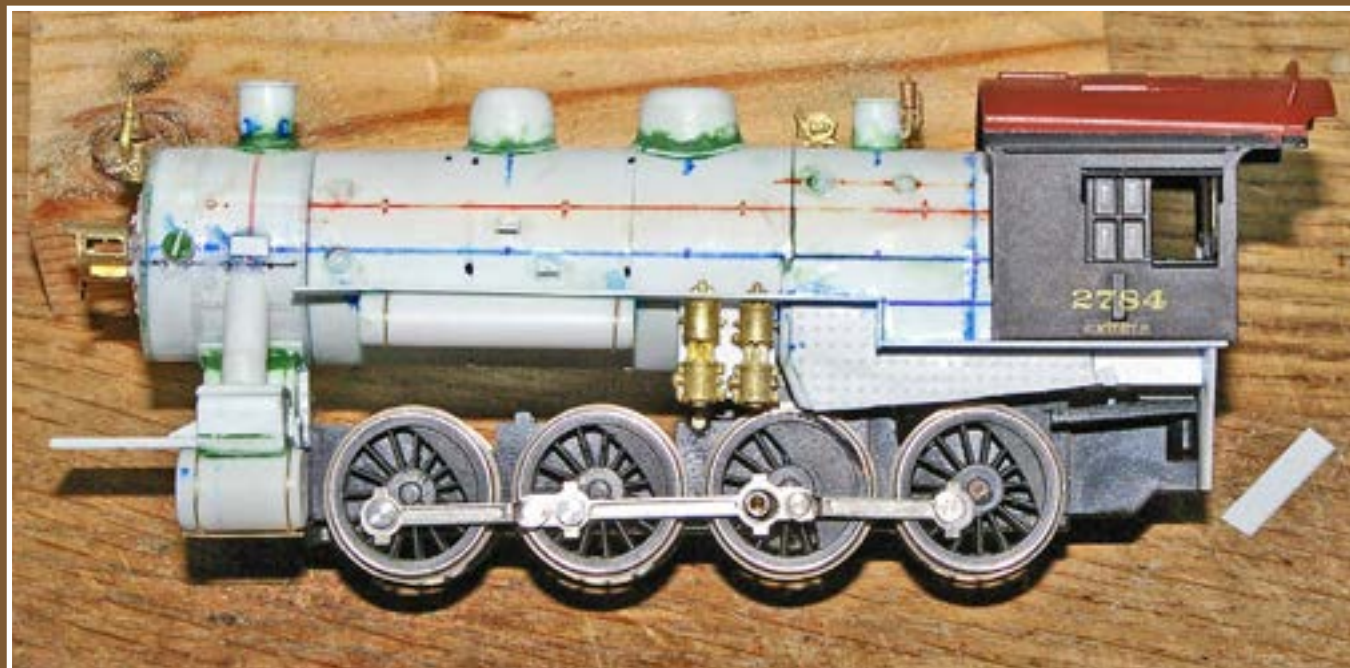


Figure 11: The dual air pumps are mounted on a scrap of styrene, and the tops protrude through the fireman's side running board. The cab is not the one that will be used on the model, but I used it to get a feel for how things would look, because it is close to the right size.

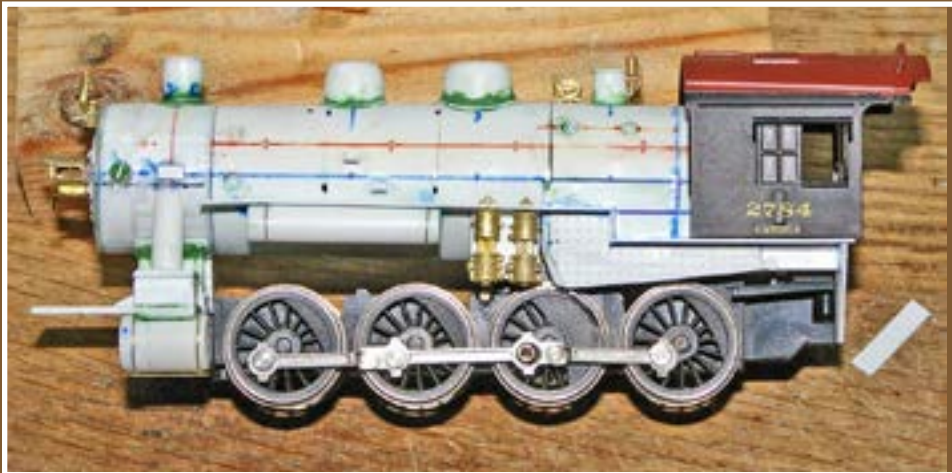
representing the pipe feeding the base of the whistle. Then I gently bent it 90 degrees, pointing away from the handle. I glued the bent end into a hole in the rear base of the pop-valve shroud, leaving the whistle vertical.

I cleaned up the headlight casting and drilled a 1/8" hole centered in the back. Using a round file, open this hole until it is a snug fit on 1/8" styrene tubing. Glue the tubing in place, making sure that it is straight and does not protrude inside the headlight. When the glue dries, cut the headlight off, leaving about 1/4" of the tubing attached. Drill a 1/8" hole in the center of the smokebox front, and open it up until it also just fits the tubing. Glue the headlight in place, pushing the casting up against the smokebox front and making sure it is level, straight, and square. Cut a strip of .005" brass a little wider than the base of the headlight. Make a "Z" shape, with a scale 3" vertical for the back, a horizontal section a bit longer than the headlight base, and another vertical segment about a scale 6" long for the number plate. Solder or glue the base to the bottom of the headlight casting, slipping the rear lip behind the headlight and against the smokebox front. Drill the hole in the headlight to whatever diameter is needed for your bulb of choice.

The bell sits on a stubby platform at the top of the smokebox. Cut a piece of .020" styrene about a scale 12" wide, and drill a hole close to the end, centered, large enough for the post on the bottom of the bell casting. Round that end into a half circle, and cut it off about a scale 12" long. Cut a second piece about a scale 6" X 10", and glue it to the bottom for extra support. Glue this to the smokebox front, just above the first smaller course. Trim the post on the bottom of the bell casting, glue the bell into the bracket, and mount the whole thing in the platform.

To make the ash pans, cut two square strips of .040" styrene as long as the firebox. Round over one of the long edges on each strip, turning them into quarter-round strips. Cut two strips of .015" styrene as long as the inside of the firebox. The width is not important, but 1/4" would work fine. Glue these to the inside of the firebox, with .060" exposed at the bottom, and glue the quarter round strips to those, with the rounded edge facing down.

STEP 14: Add Details to the Boiler *Continued ...*



The pop-valves are made from the same tubing and rod used to make the clean-out plugs in the boiler. The tubing should be just over half the inside diameter of the turret. Cut

two short lengths of tube and flatten them slightly with a pair of pliers so that they will fit together inside the turret. Glue them in, one in front of the other, with their tops even and a little below the rim. Glue two short lengths of rod into the holes, protruding slightly above the tubes and roughly even with the rim of the turret.

There is a step below the engineer's side of the cab. Bend it from a length of .015" steel wire, and mount it in holes drilled in the floor. Take care not to let the wire extend up through the floor, or it will interfere with the cab later.

The sand dome needs a hatch. Scribe a circle into the top to represent the edge of the hatch. Make a handle from 28 gauge brass wire and glue it into place, running front to back, in holes drilled in the hatch.

Make the power line for the headlight and markers from a piece of 28 gauge brass wire. It should run from the back of the headlight, up to the fireman's side marker, then over the top of the smokebox to the engineer's side marker. Glue a short piece of wire from the top of the center handrail stanchion to the wire, right behind the bell. Use liberal drops of glue to represent junction boxes on the conduit.

Drill a hole in each side of the smokebox, just forward of, and above the front upper corners of the saddle. Bend braces from .030" brass wire so that they run from those holes down to the holes in the pilot, just behind the beam. They should toe-in slightly when seen from the front.

STEP 15: Make and Mount the Hand Rails

Draw a horizontal line on the boiler, a scale 18" above the center line and extending from the cab wall to the middle of the smokebox. Mark on this line a scale 23'-6" forward from the cab wall, then make four more marks behind the first, spaced a scale 5'-6" apart. Drill holes for handrail stanchions at each mark. Also drill a hole at the top center of the smokebox, a scale 9" back from the front edge. On the smokebox front, drill three, centered between the outside edge and the first raised portion; one centered at the bottom, and one on either side, roughly at the 4 and 8 o'clock positions. On either side of the smokebox, measure down a scale 6" from the center line, and a scale 12" forward and back from the middle row of rivets, and drill four holes for the lower handrail.

The boiler hand rail runs forward from the rearmost stanchion, up over the smokebox, and back down the opposite side. There are three hand rails on the smokebox. One curves between the three stanchions on the front, and there is a short horizontal rail on each side.

The main hand rail along the boiler also serves as an electrical conduit for the headlight and marker lights. When you have mounted the other details (especially the lagging bands), glue the hand rail in place. Add a small square of styrene to the center of the hand rail, ahead of the stack, to simulate the junction box. From there, fine wires are run to the headlight and both markers.

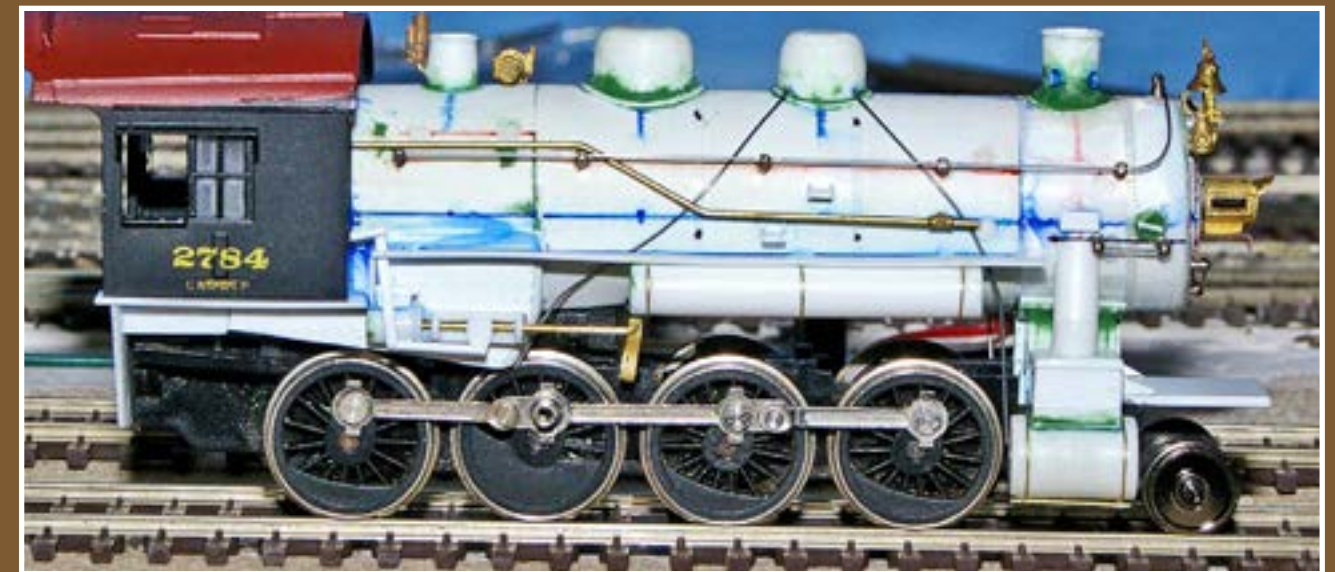


Figure 12: I've added the handrails, sand lines, and feedwater pipes. You can also see the generator and modified whistle.

STEP 15: Make and Mount the Hand Rails *Continued ...*

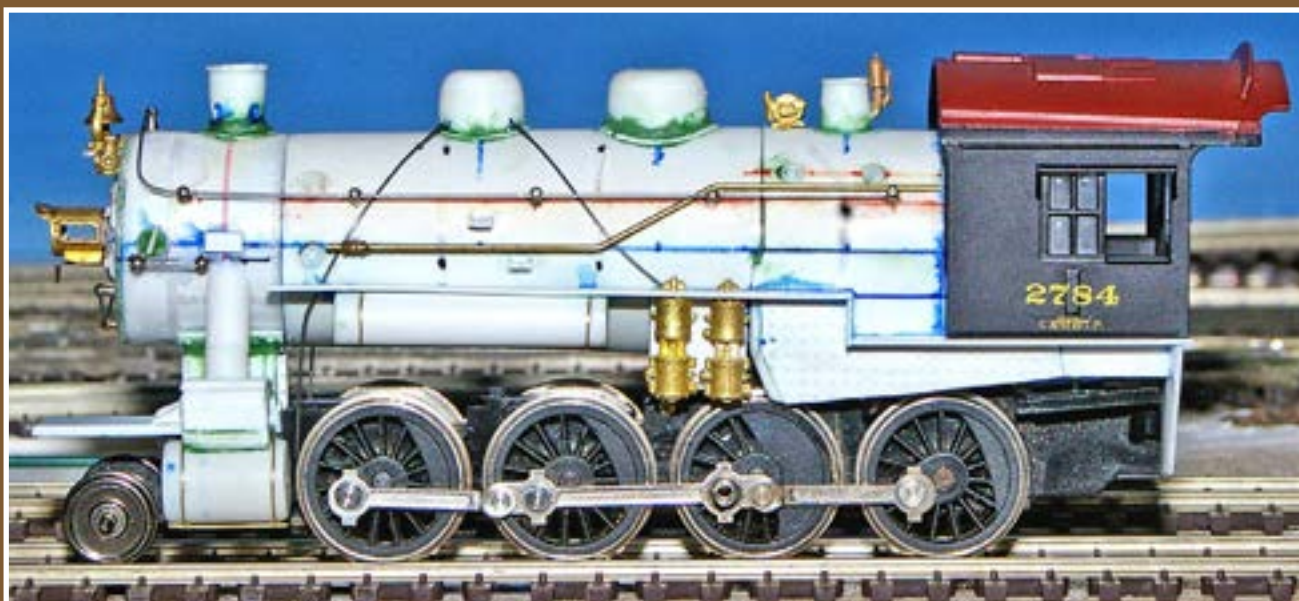


Figure 13: Fortunately the fireman's side is more or less a mirror-image of the engineer's side.



Figure 14: The smokebox detail parts are installed, along with the handrails.

STEP 16: Add the Plumbing

The air compressor plumbing is made up of cast brass pipe fittings below the feedwater pipe and 22 gauge copper wire above. You can use solder or CA to assemble the fittings – I find CA easier to work with in this case, because of the trial and error nature of the construction. The copper wire is used because it is the same size as the pipes cast on the fittings, and because it is much easier to bend to shape.

The sand lines are made from .015" piano wire. Drill four holes in the base of the sand dome, at the 1:30, 4:30, 7:30, and 10:30 positions. Bend the end of a piece of piano wire over, about 30 degrees, then form a curve in the wire to conform to the boiler. Wrap it around a hobby knife handle, then straighten it a little if it is coiled too tightly. Refer to photos for placement. The front sand lines should pass just behind the first handrail stanchion hole in the boiler itself. Try to get the lines even on both sides.



Figure 15: The power lines have been run to the headlight and marker lamps.

COMMERCIAL AND SCRATCHBUILT DETAIL PARTS

Sometimes it is easier to let the professionals do what they do best, and that includes lost wax brass detail parts. Unless you feel the need to make every visible item from scratch, commercial parts look as good or better than what the average modeler can build and save a lot of time.

Cal-Scale

- #256 9 1/2" Air Pump (2 needed)
- #285 Air Ringer Bell
- #307 Whistle for Saturated Steam

Precision Scale

- #3095 Pyle National Generator
- #3493 Pyle Headlight w/Visor
- #4839 Pipe Fittings
- #31334 HO Marker Light w/Jewels
- #48171 Pipe Tees, cored .018" ■

STEP 16: Add the Plumbing *Continued ...*

Drill a hole on the boiler center line, in line with the first handrail stanchion. This will locate the check valve. To make the check valve, drill completely through two of the pipe tees, large enough to pass .030" brass rod. Also, drill into the stub leg, and glue or solder a short length of rod into it. Glue these into the boiler, taking care to keep the holes horizontal. The pipe itself should run between the handrail and the cleanout plugs on the firebox, angle down right above the handrail stanchion, and then bend again to run along the centerline. It needs to be a little longer than the distance from the cab to the pipe tee, as the additional length will simulate part of the check valve. Leave the pipe flat – do not try to curve it to fit the boiler. Make a second pipe to match the first. Slip the pipes through the tees, line the back ends with the front wall of the cab, and glue them in place. They should fit snugly against the firebox, and line up nicely with the tee, leaving an even gap between the pipe and the boiler.

The rest of the plumbing is pretty much a cut-and-fit process, using 28 gauge brass wire, 22 gauge copper wire, and .015" steel wire. Refer to photos for the appropriate routing. There is one air line on the fireman's side, and two on the engineer's side, both below the running boards. The generator needs steam and electrical lines, both running to the cab. The ringer on the bell needs a line running back to the cab on the engineer's side, and beneath the sand lines. The sanders need an air line running parallel to the line for the bell, and circling around the dome to connect with all four sand lines.



Figure 16: Here you can see the brake pipe, cooling line for the main reservoirs, air lines for the bell ringer and sanders, and the ash pan fitted to the bottom of the firebox. There are also lines running to the generator and power reverse. The engineer's side detailing is done at this point.



Figure 17: This is the finished fireman's side. You can see the steam and air lines for the compressors.



Figure 18: Rather than continue the plumbing inside the cab, with the associated challenge of fitting it through the cab wall or fitting the cab around it, I chose to simply end the plumbing at the cab wall. It's nearly invisible unless you look very closely, and it made construction a lot easier.

STEP 16: Add the Plumbing *Continued ...*

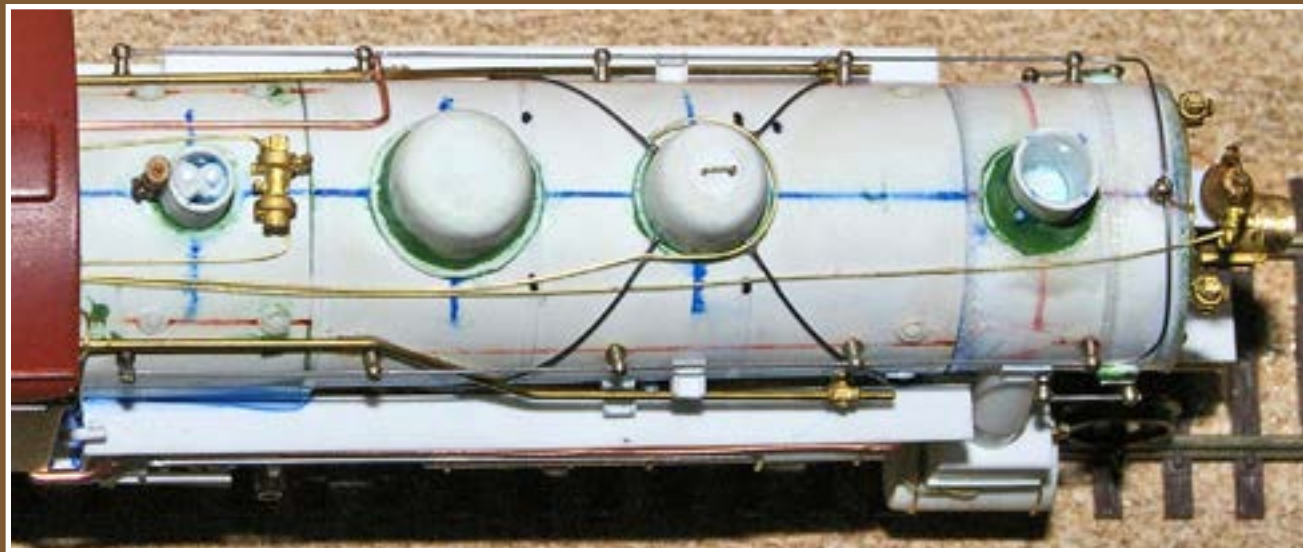


Figure 19: This is a good top view, showing the arrangement of the plumbing as well as the homemade pop valves. It also shows how thin the lip of the stack can be made, even in styrene.

STEP 17: Remove Unnecessary Chassis Parts

I used an IHC Premier 2-8-0 steam loco as the base chassis for this model (see sidebar).

The rear of the chassis extends too far back, so I cut it off just behind the motor mount screw holes. I glued a piece of styrene into the gap in the rear, and glued a piece of 3/32" brass tubing in the bottom for the draw-bar connection. At the front of the chassis, I cut off everything ahead of the cylinder saddle. You'll be making a new deck and beam as part of the cylinder saddle. Trim the "springs" from above the first driver, leaving the top of the frame smooth.

LOCO CHASSIS OPTIONS

In addition to the drivers, one of the critical parts of any steam locomotive model is the frame. The frame determines the driver spacing and the way the motor, gears, superstructure, and rigging are connected. For those interested in scratchbuilding their own frames, I suggest that you look to other articles and keep in mind that the frame requires accurate cuts (for the location of the drivers), square connections between the two frame sides, and very accurate spacing between the two side frames.

While a scratchbuilt frame is the best way to have an accurate model, those willing to compromise can save a lot of work and frustration by using a commercial frame and drivers. The diameter and spacing of the drivers will be determined by what is available, rather than what you can make. However, it might be close enough for your needs, and can either be used as-is, or with some improvements. I describe the work I did to an IHC Premier 2-8-0, which is typical of many inexpensive models. Re-motoring is outside the scope of this article, but may be desirable.

Obviously, it is important that your choice of motor will fit inside the finished model. You could leave re-motoring until at least the boiler is built, so

that you know exactly how much room you have available, although you risk spending a lot of time building a model only to find out that you cannot easily re-motor it, and it ends up a static display.

Better to have the new motor on hand first, and build the rest of the model around it. The IHC motor is as large as will conveniently fit inside the boiler, so any replacement should be the same size or smaller – otherwise it may require compromises in the final model. ■

STEP 17: Remove Unnecessary Chassis Parts *Continued ...*

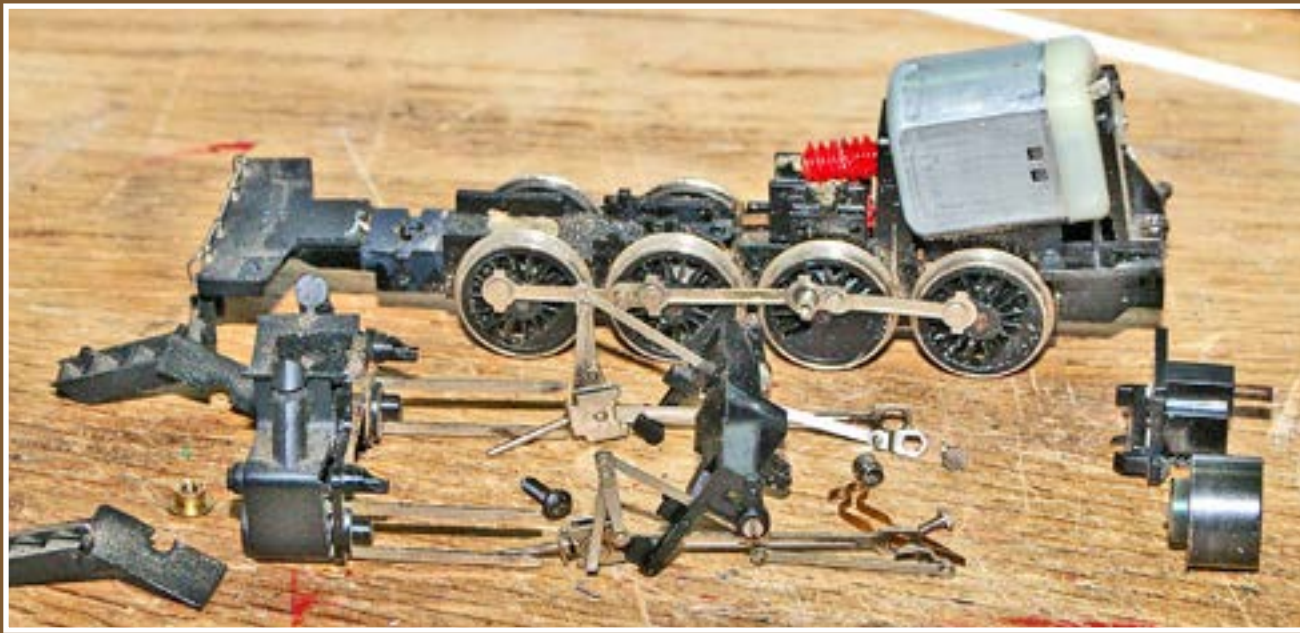


Figure 20: There is a lot on the chassis that is going to be replaced or is in the way. I left the pilot deck for the moment, until I knew exactly how much had to be removed and how I was going to design the cylinders and new deck.

STEP 18: Improve Electrical Pick Up

Replacing the plastic bottom plate on the frame with one made of PC board makes it easier to add electrical pickups, springs, or anything else which is conveniently soldered to a model. Use the one on the model as a pattern, and cut out the basic shape. Using epoxy or CA, glue styrene spacers to hold the axles in place, and to the areas around the mounting posts. Cut a hole for clearance around the axle gear, and solder a brass cover plate over it. For extra clearance, the cover plate can be dished using a hard round object such as a tool handle and pressing against a soft surface. If you want to solder wipers to the bottom cover, carve a gap down the length of the copper cladding to insulate one side from the other. A simple spring for the pilot truck can be made from brass or steel wire bent into a “U” shape and soldered to the front of the cover plate.

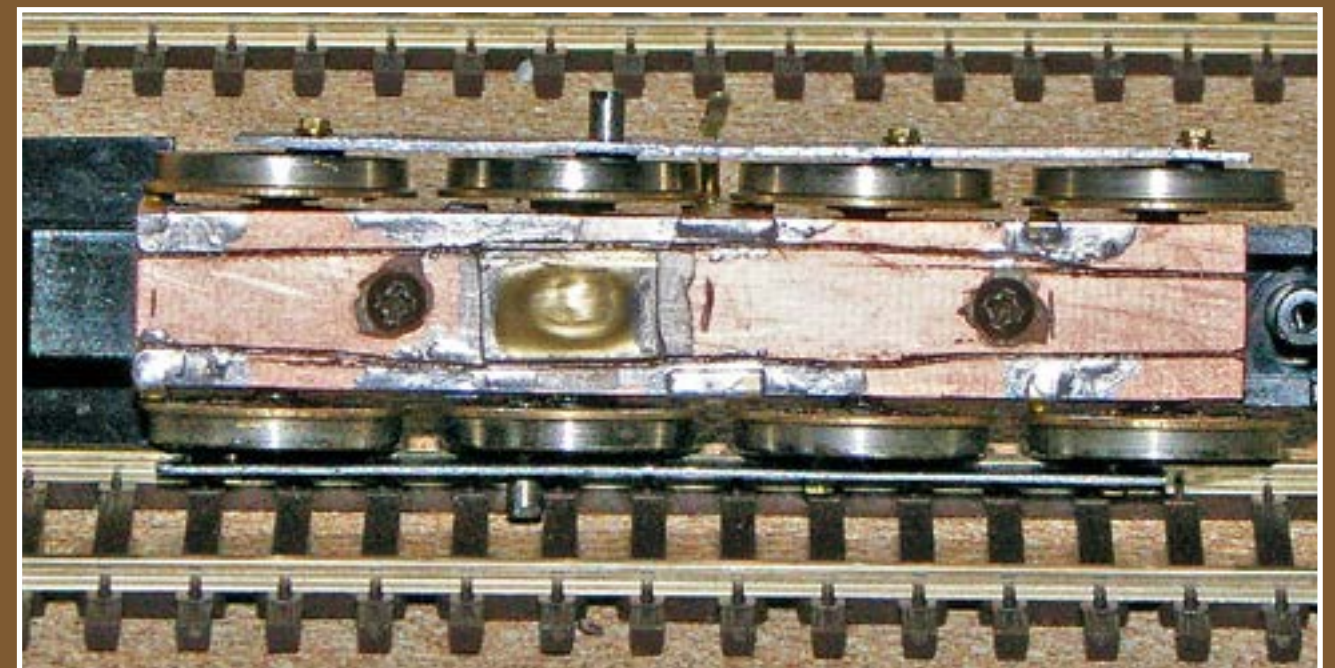


Figure 21: My replacement bottom plate is not pretty, but it works. I carved the gaps with a hobby knife and a file.

STEP 18: Improve Electrical Pick Up *Continued ...*

There are numerous ways to make pickups to get power from the track to the motor. The chassis probably has some provision already, although it may be inadequate or inconveniently located. In my case, the power reverse which I added to the chassis would have shorted-out the factory contacts, and I did not feel that they were adequate in any case. Wipers made from phosphor bronze, brass, or steel wire, or Kadee centering springs can be soldered to the bottom plate and rub against the back or flanges of the wheels. They should have enough flex in them to maintain contact as the axle moves, but not so much that it makes the wheels difficult to rotate smoothly. For less drag, and to keep electrical connections on the chassis itself, spring-loaded wipers can be made. The advantage of this is that they can move with the axles, keeping drag low and consistent as the axles slide in the frame.

Drill a 1/8" hole behind each driver tire. Glue a 1/8" styrene tube into each hole, and file the ends flush with the frame. In each end of the tube, enlarge the hole to 3/32", but do not drill completely through. Cut pieces of 3/32" brass tubing to fit into each hole, but do not glue them in place yet.

Make sure the ends are flush with the edge of the frame, then remove the pieces and keep them in order. Solder a fine wire to one end of each piece, then insert it and glue it place with epoxy. When the glue cures, drill the hole completely through until a 1/16" rod slides through easily. The wires can be soldered together, and can be buried in the plastic chassis by heating them with a soldering iron.

Cut four lengths of 1/16" styrene rod and four pieces of 1/16" copper or brass rod to a third of the width of the frame. Cut four more lengths of copper or brass roughly a quarter of the width of the frame. Bevel the ends of the pieces by holding them in a pin vise and rubbing them over a file or sandpaper. Assemble the wipers with a Kadee coupler spring between the styrene and short metal pieces. The spring should hold the wipers against the tires without excessive drag. If they have to be compressed completely just to fit (or don't fit at all), shorten the metal pieces. The styrene insulators must be long enough to prevent a short even when the axle slides all the way to one side, so do not shorten them.

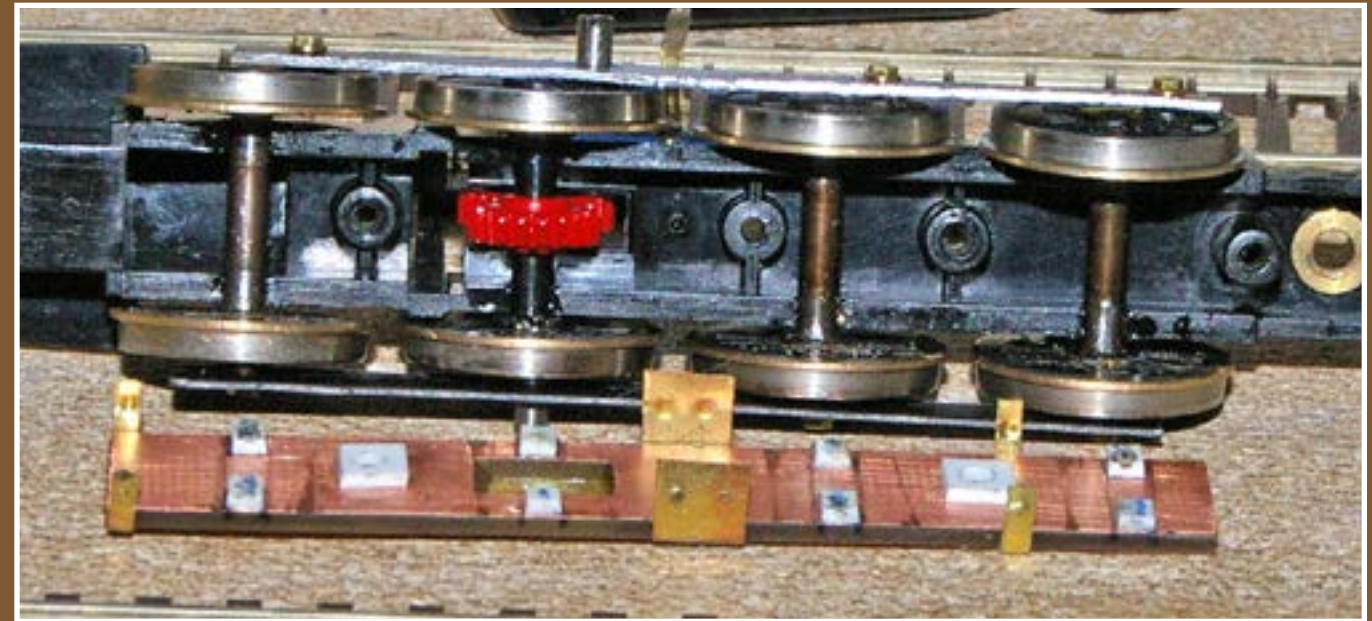


Figure 22: Before going to sprung plunger contacts, I made some simple wipers out of brass. They probably would have worked better if they were a little thinner, but these were too stiff and caused too much drag. You can see the styrene pieces I added to keep the axles in place, replicating cast on nubs on the original piece.

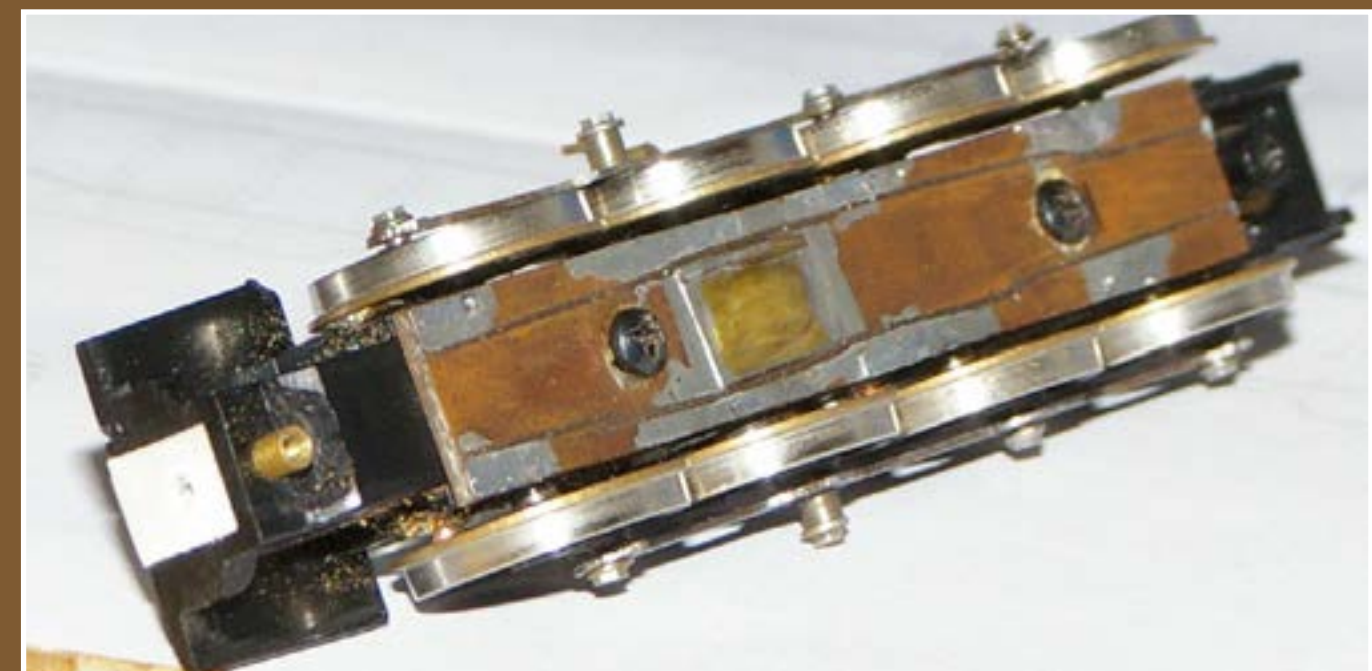


Figure 23: I ended up removing the first wipers, leaving the bottom cover a lot uglier than it needed to be.

STEP 18: Improve Electrical Pick Up *Continued ...*

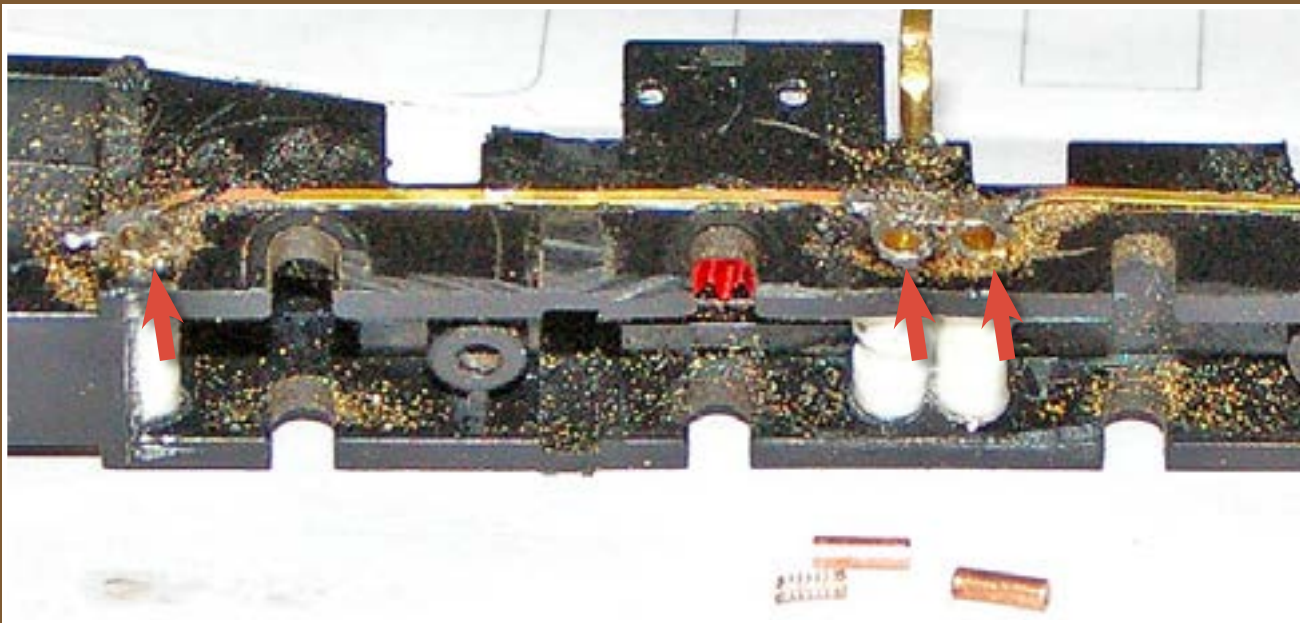


Figure 24: The plunger type wipers (at red arrow locations) are remarkably simple and effective, although the springs cause pieces to go flying when the drivers are removed! The white tubes inside the frame hold and insulate the brass contact tubes.

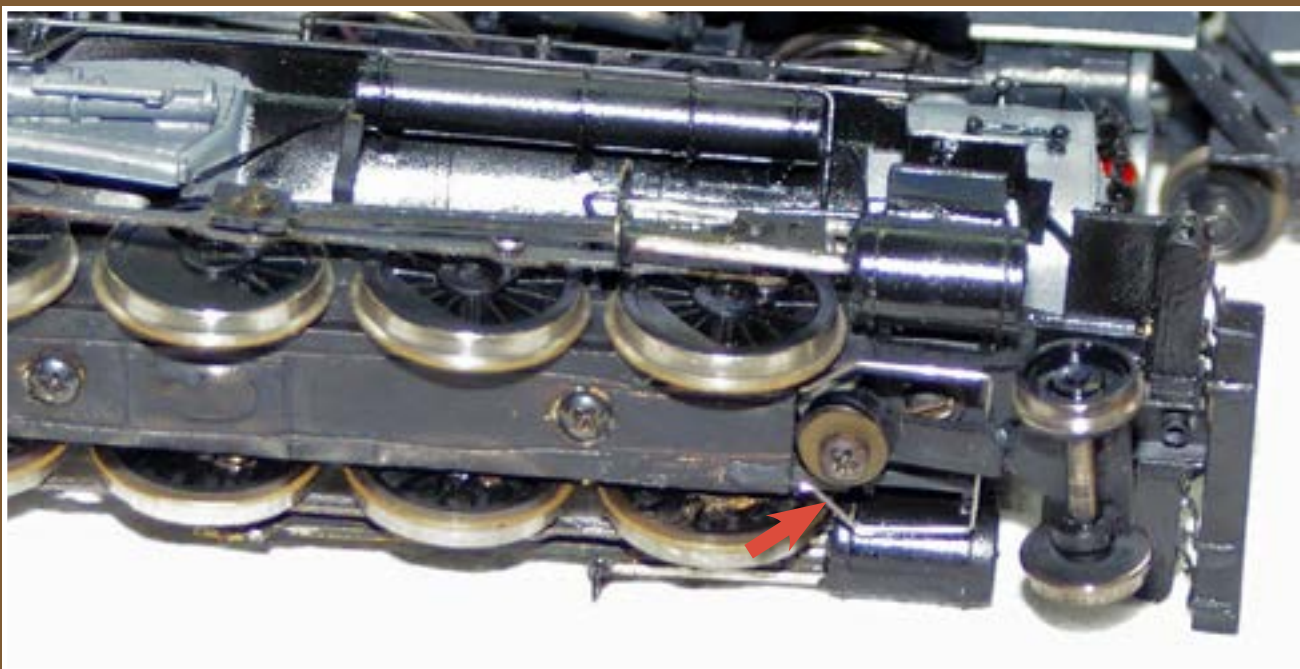


Figure 25a: The spring on the pilot truck (marked by red arrow) is a simple loop of steel wire that presses down on the truck frame. It is soldered directly to the bottom plate.

STEP 19: Reduce the Flanges

The IHC loco flanges are too large – they need to be reduced to approximate an RP-25 profile. Do not do this with the wheels in the chassis or powered by the motor. The model's motor, gears, and rods are not strong enough to withstand the strain, and you will end up with filings in the motor, gears, and bearings. A lathe is the best tool for the job, but if you don't have one, you can use a flat mill file. Hold a driver in one hand and stroke the file over the flange in a curved motion. Rotate the driver slightly and repeat. Remember to curve the front and back edges of the flanges. Use an NMRA gauge to check the progress and help keep everything even. The flange does not have to be perfect, but it does need to be close.



Figure 25b: Filing down too-deep flanges on a driver.

STEP 20: Make New Crank Pins

The crank pins on the IHC model are overly-large, and are friction fit in the drivers, which means that they can (and probably will) work out at some point. I made new crank pins by enlarging the holes in the drivers with a 1/16" bit. I glued short pieces of 1/16" copper or brass tube into the holes so that they protrude by at least the thickness of the side rods.

Drill and tap the holes in the tubes for 00-90 screws. File the back flush with the back of the wheel, and the front so that it is square and .001-.002" longer than the thickness of the rods. In a block of wood, drill a hole just large enough to pass a 00-90 screw. Put a washer over a hex head screw, and

insert it in the hole. Solder the washer in place and file the head down to about half its original thickness. Put the screw into the crank pin and trim the end flush with the wheel.

The main driver has a larger-diameter crank pin already in place. Drill and tap it as above, and make a screw using a 0-80 washer to cover the larger pin.

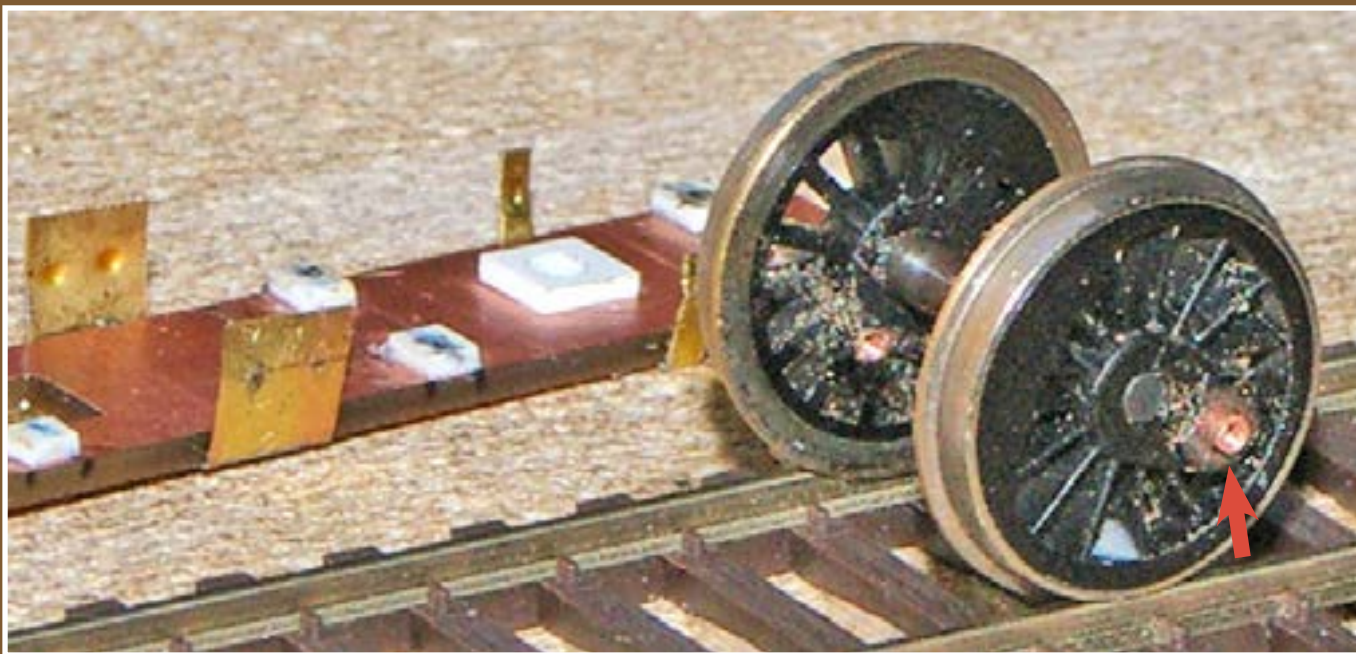


Figure 26: I made new crank pins from 1/16" copper tubing (red arrow). It just happened to slip into the original crank pin holes with almost no modification, and it's the perfect size to drill and tap for a 00-90 screw.

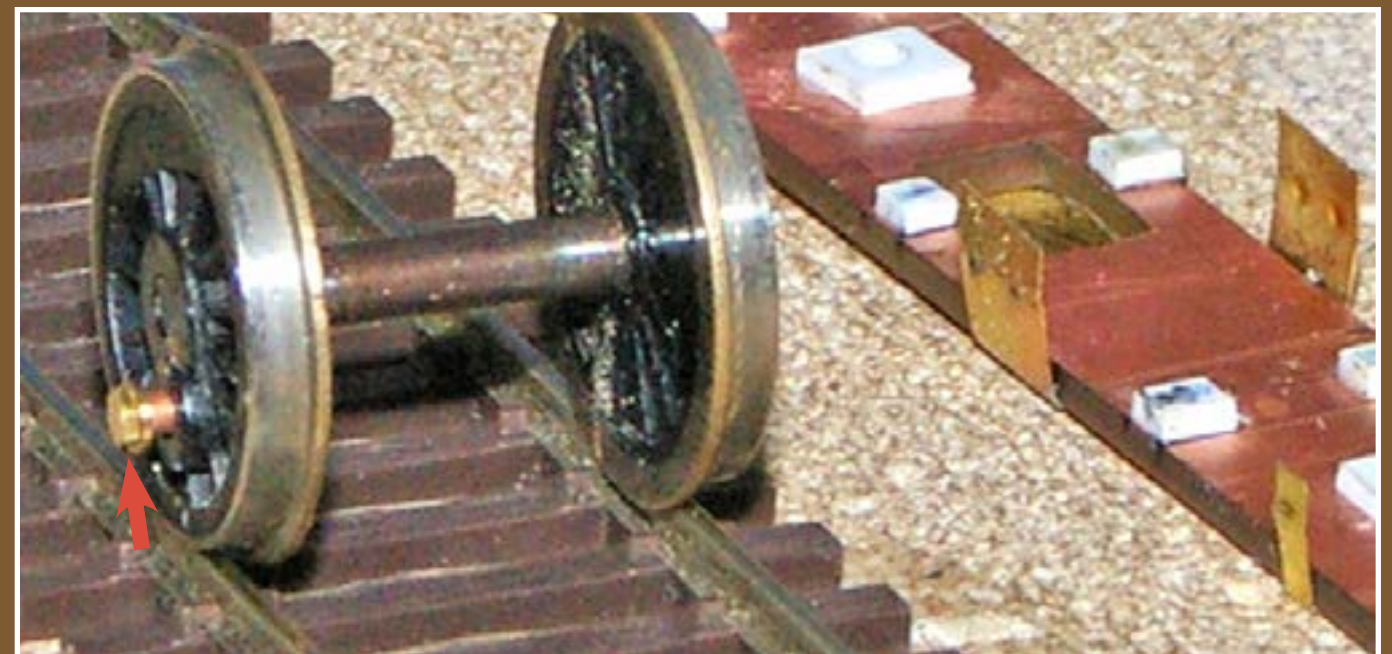


Figure 27: Since the rods fit the crank pins closely, the washers on the crank pin screws can be much smaller than they used to be. Also, you can see the brass around the flange (red arrow), where I filed it down to a lower profile.

STEP 21: Making New Side Rods

Since the chassis is rigid, the side rods can be a single piece instead of jointed as on the prototype. 24 gauge steel or .030" brass work well, but styrene is NOT strong enough. Cover the metal with machinist's layout dye or with a permanent marker. Using a knife or sharp point, scribe two parallel lines a little longer than the total wheelbase. Measure the axle spacing, and scribe corresponding marks perpendicular to the first lines you scribed. Punch dimples at the intersections of the lines, then drill holes at each dimple. Start with a small bit and slowly work up to the finished size. It is very important that the finished holes be spaced exactly the same as the axle slots in the chassis, and in a straight line.

Cut the rough rods from the sheet, and check that they fit the chassis and run smoothly. If not, try them with two axles at a time, trying different combinations until the problem is found. If the drivers are quartered properly, any driver pair should work in any location equally well (or poorly). If the problem is always in the same location, the rods are not quite perfect. Enlarging the holes slightly can help, but too much makes a poor-running engine. If the problem is too bad, make new rods.

To shape the rods, solder the blanks to either side of a sheet of brass, keeping the holes aligned. Steel can be soldered easily if it is clean and tinned properly, and if you use a hot iron. Clamp the sheet in a vise and file the side

and ends of the rods. De-solder them, flip them over, and finish the work on the other side. Do not try to work on the rods individually, because they are too small to resist bending while being filed, and the rods will no longer run properly. The ends should be curved concentric with the crank pin. Leave the rod wide toward the outside of the center crank pins, to simulate the joint. There is a small nub for a grease cup over each crank pin. The remainder of the rod is straight and a relatively thin cross section.

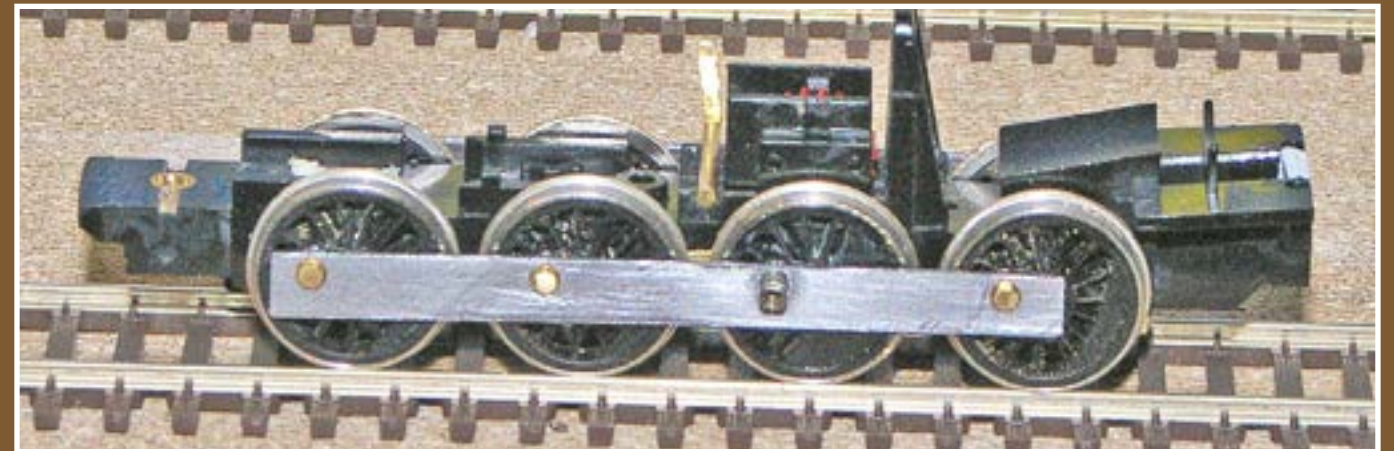


Figure 29: It's not exactly prototypical, but this side rod runs smoothly and that's all that really counts. There's no point spending time dressing it up unless it works well, so testing and fitting are important.

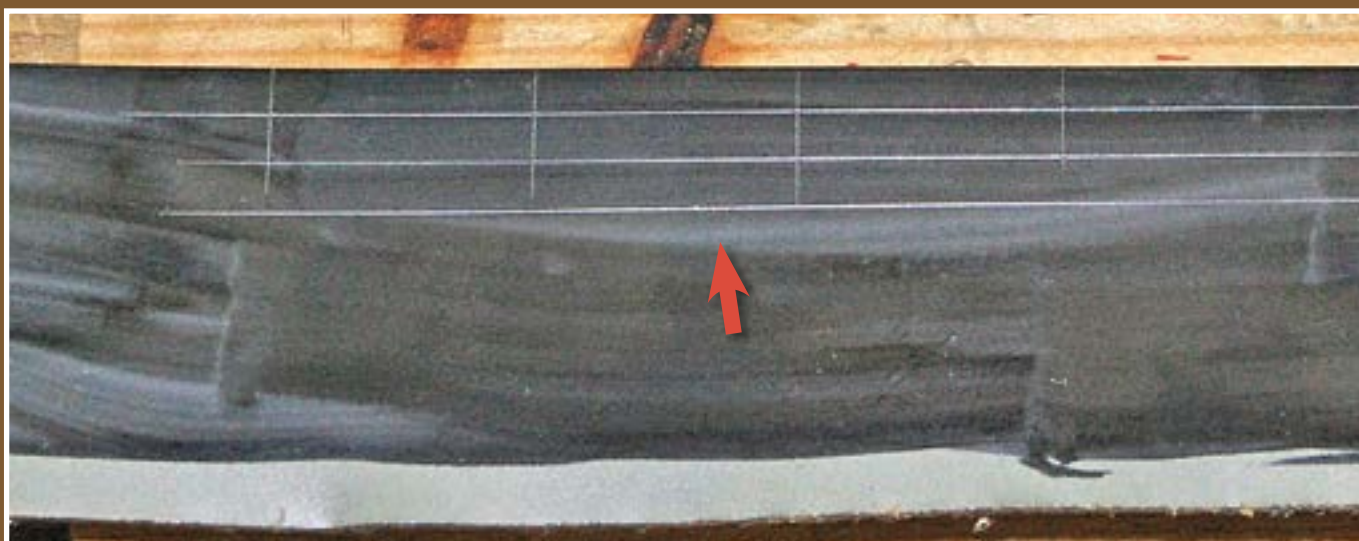


Figure 28: Here I have scribed marks on the steel plate for the new rods. Working on a larger piece like this makes it easier to measure accurately. Note: This photo shows a sheet of steel, covered in black permanent marker and scribed for cutting out the side rods.



Figure 30: The new rods have a much finer profile than the originals did.

STEP 22: New Pilot Truck Wheels

The pilot truck wheels are too small, and have the same deep flanges found on the drivers. I filed the pointed ends of a scale 33" freight car wheel set until they were flush with the outside faces of the wheels, and fit that into the truck. I found it necessary to enlarge the axle hole slightly.

In part 3, we build the cylinder saddle and pilot. See you then!



Figure 25b: Finished pilot wheels after modifying the axles.



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She Rides The Dunes, You Ride The Rails

A Backwoods Crossing Signal for a Logging Shortline

– *by Thomas Hillebrant*
Photos by the author



Figure 1: This rustic looking crossing signal and simple flashing circuit works perfectly on Thomas Hillebrant's small layout.

Come along with MRH as we add this rustic-looking crossing signal and simple flashing circuit to your layout ...



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The Washington, Idaho & Montana Railway was a small logging shortline with big aspirations. Even when it became clear the road would never reach Montana, its managers continued running it like a first class line.

The need for a nickel-plated railroad in the woods of North Idaho was practically nil, and the WI&M gradually settled into a more makeshift, and make do, existence.

The WI&M was incorporated in 1905 after its parent company, the Potlatch Lumber Co., could not convince either the Northern Pacific or Union Pacific to build a branch to their new mill at Potlatch, Idaho. Being rebuffed by the bigger lines helped develop an independent, do-it-ourselves attitude on the WI&M.

The train crews, maintenance workers, and local managers convinced themselves they could accomplish any task, without any help from their bigger neighbor railroads. And, they proved it on numerous occasions.

Even in later years, when the WI&M became a subsidiary of the Milwaukee Road, that independent streak still held sway.

I came across a classic example of this independent approach while reading about the WI&M in an old issue of Model Railroader. It seems that sometime in the late 1950's, the WI&M realized they needed a flashing warn-

ing signal where the tracks crossed a highway at a blind corner in Palouse, Washington. Rather than purchase new signals and detection equipment from the normal suppliers, or even used equipment from a neighbor railroad, the WI&M chose to go it alone. This is a good point to note that after searching many sources, I have found no other references to this signal installation.

For now, at least, the short description and fuzzy photo in the MR article gave me some idea what it looked like and how it worked. Someone in the shop rigged up a pair of tail lights from a highway truck, and attached one to each side of the crossing sign post.

Power came from a nearby line pole. And, instead of the usual detection circuits, the crews installed a radio control device. Once installed, the engine crews kept the remote control with them in the cab. Each time they approached the crossing; they simply flipped a switch to turn on the flashers, and then blew their horn to add further warning. About the time they figured their caboose had cleared the crossing, they switched it off.

I needed a simple highway crossing feature on my layout, so I started thinking of ways I could incorporate the crossing signal inspired by the Washington, Idaho & Montana Railway into this scene, and into my operating practices..

Originally, I planned to use an inexpensive DCC mobile decoder, with a flashing ditch light feature, to operate the signal. This way, I reasoned, I could program a macro into my NCE DCC system and allow an operator to use their handheld throttle to start and stop the flashers in similar fashion to the radio control on the prototype.

What I learned, however, is that there is a difference between mobile decoders and stationary accessory decoders. Nearly all accessory decoders are designed to drive switch machines, and they use a different type of address than that used for mobile decoders. The macro building function of my NCE DCC system is intended for programming a series of switch machines to actuate together, to align to a specific yard track, for instance, based on a single command. And, apparently, the macros only work with accessory decoders..

It was still possible for me to use a mobile decoder to drive the flasher, but I wouldn't be able to program a macro to make turning it on or off a "one touch" function. Instead, it would involve a complicated series of commands from the operator each time to make it work, and I wanted to keep it as simple as possible in keeping with the character of the WI&M.

So, with some guidance from my local hobby shop proprietor (shout out to Bob at Parkade Hobbies!), I implemented a simpler solution to operating my crossing signal.

For many years Circuitron has manufactured a basic circuit for crossing flashers, the FL-2. It's designed to be actuated by one of several detection circuits, but is also easy to wire to a switch on the layout's front fascia panel. In many ways, this has proven even simpler, both to install and to operate, than a DCC approach.

What follows is how I fabricated and installed an HO version of my crossing signal.



Figure 2: Backwoods crossing signal "prototype kitbash" using truck tail lights.

The Washington, Idaho & Montana Railway and their Homegrown Crossing Signal



Philip C. Johnson.

A westbound freight train, behind engine 21, is approaching Potlatch with logs for the sawmill and cut lumber bound for the interchanges.

A railroad you can model

Washington, Idaho & Montana Ry.

A western short line serving Princeton, Yale, Harvard, Vassar, Stanford, and Cornell

BY FRED BENDIX

IF you wanted to visit Princeton, Yale, Harvard, Vassar, Stanford, and Cornell in a single day by train, without changing trains, which railroad would you choose? If you said Amtrak, you're wrong, because passenger service to these points ended many years before Amtrak was created.

You could visit all of these places by train if you were lucky enough to get a caboose ride on a Washington, Idaho & Montana Ry. freight train. Young engineers surveying and building the WI&M almost 70 years ago named station sites and sidings for the famed colleges and universities. They are referred to as "Idaho's Ivy League cities," but "cities" is a gross overstatement.

WI&M, now a subsidiary of the Milwaukee Road, still operates as a separate railroad over 49 miles of track extending from Palouse (pronounced Pah-loose), Wash., to Bovill, Idaho. WI&M still owns 2 miles of track north of

Bovill, to Purdue, but has not operated trains over this segment for some time. However, the 2 miles are used by the parent line as part of its Elk River Branch. One would think that with Milwaukee ownership the segment would become part of the bigger system. However, according to page 9 of Milwaukee Road's timetable no. 5 of the Coast Division, Elk River trains must get clearance to Bovill from the WI&M operator. WI&M charges the Milwaukee Road 50 cents a train (about \$3 a week) for usage.

A capsule history of WI&M

The history of the "White Pine Route" is an often repeated story throughout the West. Potlatch Lumber Co. decided to move its mill from Palouse to the present site at Potlatch in 1905. Northern Pacific determined that there would not be enough traffic to warrant construction of a spur line. Therefore, the lumber company was forced to "do it itself." And, as the script goes, the lumbermen not only planned to connect Palouse and Potlatch but decided the

railroad would span the panhandle of Idaho to Montana: thus the name Washington, Idaho & Montana.

By 1906 trains were running between Palouse and Princeton. Construction to Harvard was fairly easy, following the middle fork of the Palouse River. It took 2 years to finish the line from Harvard to Purdue. In 1908 the line was complete, well short of Montana.

The Milwaukee Road built south from Saint Maries to meet WI&M at Purdue. A short time later the Milwaukee Road purchased Potlatch Lumber's logging line to Elk River and started operating trains over WI&M trackage through Bovill. In 1909 the Spokane & Inland Ry. (electric) was completed through Palouse. WI&M could bypass NP, but there was no room for revenge or bad feelings. Potlatch Lumber built another mill at Lewiston, Idaho, and the only direct route between the company's mills was the NP.* In 1931, Potlatch Lumber Co. became Potlatch Forests Inc. (PFI).

*NP's Palouse & Lewiston branch line was described in the January 1974 issue of MR.

The Washington, Idaho & Montana Railway was a small logging shortline with big aspirations. Even when it became clear the road would never reach Montana, its managers continued running it like a first class line. However, the need for a nickel-plated railroad in the woods of North Idaho was practically nil, and the WI&M gradually settled into a more make-shift, and make do, existence.

The WI&M was incorporated in 1905 after its parent company, the Potlatch Lumber Co., could not convince either the Northern Pacific or Union Pacific to build a branch to their new mill at Potlatch, Idaho. This early rebuff by the bigger lines helped develop an independent, do-it-ourselves attitude on the WI&M. The train crews, maintenance workers, and local managers convinced themselves they could accomplish any task, without any help from their bigger neighbor railroads. And, they proved it on numerous occasions. Even in later years, when the WI&M became a subsidiary of the Milwaukee Road, that independent streak still held sway.

I came across a classic example of this independent approach while reading about the WI&M in an old issue of Model Railroader. It seems that sometime in the late 1950's, the WI&M realized they needed a flashing warning signal at a blind road crossing in Palouse, Washington. Rather than purchase new signals and detection equipment from the normal suppliers or find used equipment from a neighbor railroad, the WI&M chose to go it alone. This is a good point to note that

after searching many sources, I have found no other references to this signal installation. For this project, the short description and fuzzy photo in the MR article gave me some idea what this signal looked like and how it worked.

Someone in the WI&M shop rigged up a pair of tail lights from a highway truck, and attached one to each side of the crossing sign post. Power came from a nearby line pole. And, instead of the usual detection circuits, the crews installed a radio control device. Once installed, the engine crews kept the remote control with them in the cab. Each time they approached the crossing; they simply flipped a switch to turn on the flashers, and then blew their horn to add further warning. About the time they figured their caboose had cleared the crossing, they switched it off. ■



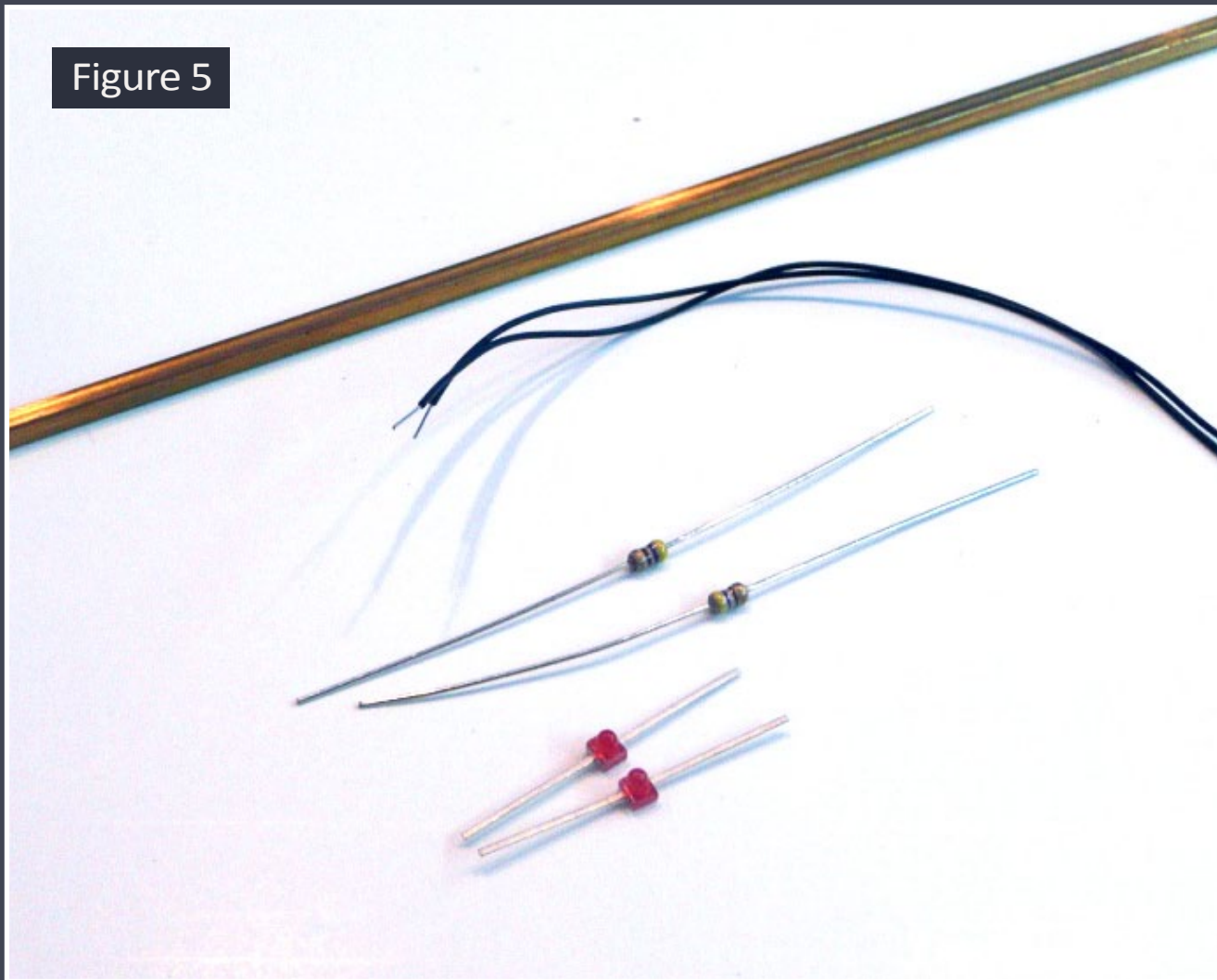
Figure 4: Makeshift crossing signal on the WI&M.

Figure 3: Washington, Idaho & Montana Railway article from the September 1975 issue of Model Railroader [mrr.trains.com].

STEP 1: Collect the Components

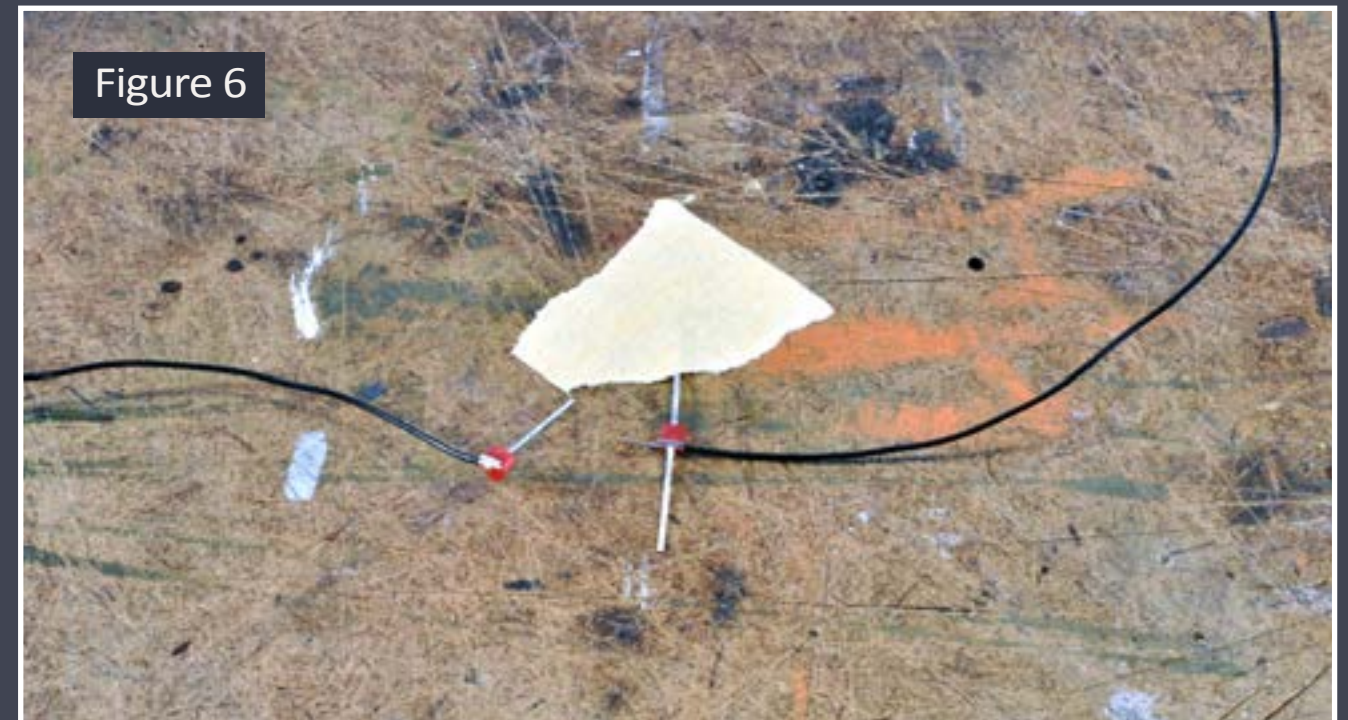
Here are the main components I used to fabricate the signal. The Miniatronics 1.5 mm LEDs are just about the right size for HO scale truck tail lights. The 3/32" square brass tube is slightly out of scale - 8 scale inches makes a pretty hefty sign post - but I couldn't fit two wires down the middle of any smaller tubing, so this had to do. The wire I used was scavenged from the leads of grain-of-rice bulbs. The 470 ohm resistors shown came with the LEDs, but I later replaced them with two 1000 ohm resistors in series to achieve an appropriate brightness.

Figure 5



STEP 2: Prepare the LED Leads

Figure 6



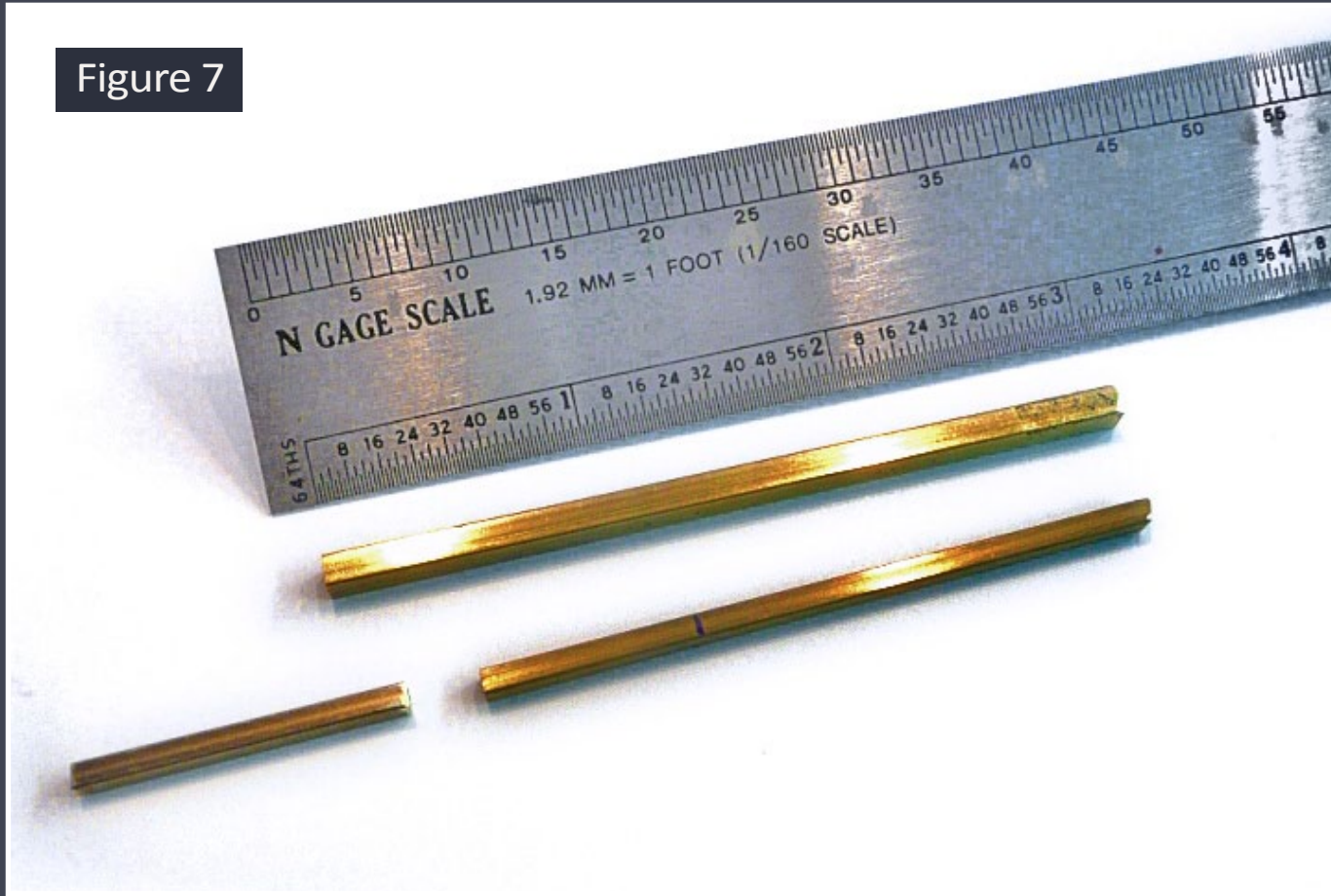
I started by using my ohmmeter to identify which lead on my LEDs was the positive (anode) and which was the negative (cathode). Because the common terminal on the FL-2 is positive, I had to make sure I solder the positive anodes of both LEDs to the brass mast for my flasher to work.

With the red meter probe touching the anode and the black on the cathode, the meter will indicate minimal resistance. With the probes swapped, the reading will show infinite resistance. For these LEDs, it turned out that the side with the metal panel on the base is the cathode. The opposite lead, the anode, is the one I want to attach to the mast.

To prepare the LEDs for this project, I modified the leads. Using a hot 15W soldering iron with a small tip, I quickly and carefully applied a small amount of solder to the top surface of both leads. I stripped about 1/8" of one wire and tucked the end into the corner where the cathode meets the base, then soldered it there with a quick touch of the iron to avoid melting the LED housing. Once the wire is secure, I nipped off the rest of the cathode as close as possible to the wire. I then trimmed the anode about 3/16" from the base. The second LED was modified the same way, just with the wire projecting in the opposite direction away from the cathode.

STEP 3: Prepare the Post and Base

Figure 7



With both LEDs prepped, I began work on the sign post and mounting base. I cut two lengths of 3/32" tubing, one 2-1/2" long and the second about 1". I also cut a 3" length of 1/8" tube. The 1/8" tube will be the base of the sign post, and since this will form part of the conduction path for the common lead, it has to be long enough to extend below the layout. My benchwork is 2" extruded foam glued to 1/2" plywood, so I cut my base tube 3" long, but this will vary for other types of benchwork.

On the sign post tube, I first glued a short length of .060" square styrene into one end. Once dry, I filed this end to a slight bevel and made a mark about 1-3/4" below the point to make the post about 12 scale feet tall.

Figure 8



Figure 9



Figure 8: The shorter piece of 3/32" tubing acts as a depth stop inside the 1/8" base tube. I tinned all four sides of the stop, then fit it into the larger tube. I used the sign post tube to help insert the stop tube to the proper depth.

Figure 9: Applying a hot 40-watt iron to the outside of the 1/8" tube then letting it cool fixes the stop tube in place permanently. Also, tinning a spot on the bottom end of the base tube makes it easier to attach the lead from the blinker circuit at installation.

STEP 3: Prepare the Post and Base *Continued...*

Figure 10



Figure 11



Figure 10: About 10 scale feet above the mark on the sign post tube, I drilled a 1/32" dia. hole cross-wise through the tube. Slightly below these holes on the sides, I drilled a 1/16" dia. hole through the rear wall of the tube. I used a round needle file to help smooth the edges of this larger hole.

Figure 11: The leads seemed too flimsy to support the LED for very long, so I cut a length of .032" brass rod 5/8" long. I tinned the rod and the square tube at both side holes, centered the rod, and soldered it in place.

STEP 4: Install the LEDs

Figure 12



Figure 13



Figure 12: Then, using a small hole drilled in my work surface as a pocket for the LED lens, I arranged each LED so that its anode lay along the rod with the base butted up to the rod end, and with the cathode wire pointing down. Using bits of tape to hold the pieces in place, I then carefully soldered the anode to the brass rod. After rearranging the pieces, I attached the opposite LED in the same way.

Figure 13: Finally, I gently threaded the wires through the hole in the back and out the bottom of the tube.

STEP 5: Paint the Final Assembly

Figure 14



Figure 15



Figure 14: I slipped the sign post down the larger tube, and then painted the whole assembly a dark gray automotive primer. I “masked” the LEDs with bits of tape, then came back and brush painted them with PollyScale Tarnished Black, which is close to the color of the spray paint.

Figure 15: After the gray paint dried, I then applied a coat of Rail Brown to the mast to make it look more like a treated wood sign post.

STEP 6: Install the Signal on the Layout

On the layout, I drilled a 1/16” pilot hole all the way through the foam and plywood. I followed this with a 1/8” hole down through the foam and a 3/16” hole up through the plywood. I worked the 1/8” base tube down through the foam and the plywood. The round hole in the foam gripped the square tube just enough to hold it while I twisted it for the proper sign orientation and to make sure the top edge sits just below the scenery surface. A dot of silicone adhesive or hot glue under the layout is enough to fix it in place more permanently. Next, I soldered a length of hookup wire at the tinned spot on the base tube.

Figure 16

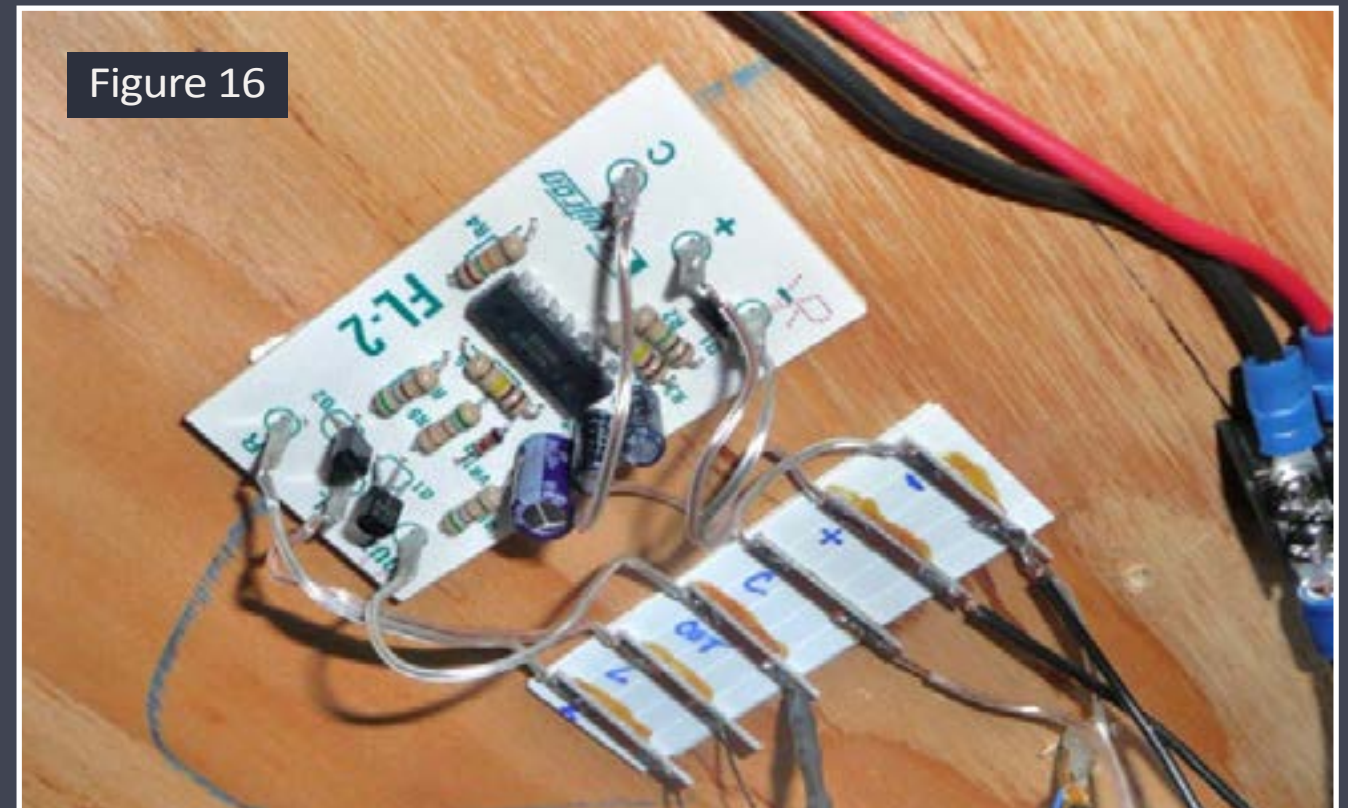


Figure 16: To install the flasher module underneath the layout, I first assembled a simple terminal strip using six 1” lengths of PC tie strips spaced evenly and glued to a 3/4” x 3” section of .040” sheet styrene. I tinned both ends of each strip and soldered six lengths of braided stereo hookup wire from the spade lugs on the FL-2 to the ties on my terminal strip. I marked the terminal strip to show which tie matches which lug on the FL-2 (+, -, Out, C, L, R). Then I applied double-sided foam tape to the backs of the terminal strip and the FL-2 and pressed them up against the underside of my layout.

STEP 6: Install the Signal on the Layout

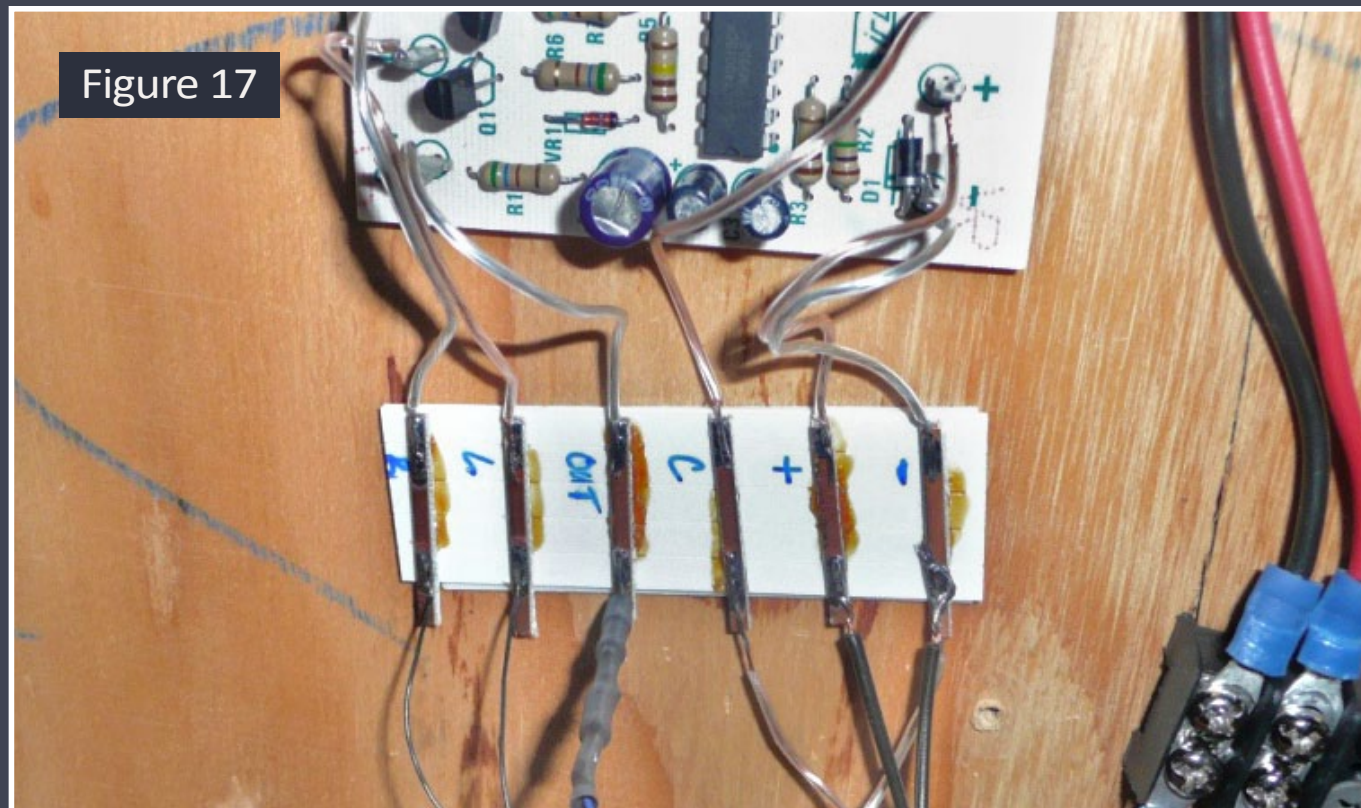


Figure 17

Figure 17: I carefully threaded the wires from the signal post down through the base tube, and then soldered one each to the L and R ties on my terminal strip. I also soldered two 1000K resistors in series to the end of the common (base tube) lead, encased them in heat shrink insulating tubing, and soldered the other resistor lead to the Out terminal.

Power for my FL-2 came from a “wall wart” DC power supply that I scavenged from some long-forgotten device. The unit was marked as 9V, but when I checked this with my voltmeter, it measured closer to 15V. The FL-2 will accept between 10 and 18 volts AC or DC, so this was perfect. However, it pays to not accept the marked rating as gospel and double check the output voltage, to avoid possibly ruining the FL-2 or other circuit. The voltmeter also confirmed to me that the wire with the white stripe was the positive lead, so I soldered both these wires to their respective terminals.

I have not yet investigated this possibility, but because the output of my DCC system closely approximates 16 VAC, it may be possible to tap into the DCC bus to power the FL-2. For my small layout, the current draw of the flasher would not significantly drain the available 5 amps from my system. This may not be a good idea for larger layouts with multiple trains running at once.



Figure 18

Figure 18: Front panel push button installed on the fascia.

The final connection I needed to make was to a push button on the front panel. The flasher circuit activates when the “C” terminal is shorted to the negative input. I picked up a push-on-push-off SPST switch from Radio Shack, and soldered a length of paired stereo hookup wire to each lead on the switch. I drilled a 7/16 hole in my fascia, and a 3/16” hole in my steel stud benchwork member to pass the wires. I popped in a rubber grommet to the hole in the steel stud to prevent it from abrading the wire over time and shorting out the switch. With the switch fastened in place, I soldered one lead each to the “C” and “-” terminals.

STEP 7: Test Your New Crossing Signal




Figure 19: Final crossing signal installation on the layout.

Finally, I tried it out. Pressing the switch brought the blinking LEDs to life. Of course, this circuit does not include any sound feature, but for my prototype, which had no bell, this is just what I wanted. The engineer will just have to lay on the horn (or whistle) a little extra to make sure motorists notice the blinking lights!

On the prototype, it appears this flasher only faced one direction - approaching trains were more visible to motorists driving in the opposite direction. However if this crossing were on a part of a layout that operators would see from both sides, the 250 mA capacity of each leg of the blinker circuit would support the additional load of LEDs if I chose to install flashers on both sides of the crossing.

In operation, this push button flasher circuit works quite well. As the engineer approaches the crossing, he reaches over to actuate the flasher. On my layout the trains are usually pretty short, so the engineer is still within reach of the switch to turn it off as his caboose clears the crossing.

This rustic looking crossing signal and simple flashing circuit works perfectly for me and my small layout. Of course, the majority of layout builders may prefer installing automatic detection circuits so their layout operates more like their prototype. However, for others who may want to control their crossing signals from a handheld DCC controller, perhaps a DCC decoder manufacturer might consider creating an accessory decoder with built in flasher and sound circuits for applications like this. 

If you count running trains on his grandfather's 4'x6' HO scale pike, Thomas Hillebrant has been a model railroader for almost forty years. Thomas, a mechanical engineer, lives in Richland, WA with his wife, Nici, four kids and three cats, although the kids are now heading off to college.

His 12' x 18' layout focuses on the Washington, Idaho & Montana Ry., which reached from the rolling Palouse wheat fields into the white pine belt of North Idaho, and interchanged with the NP, GN, and Milwaukee Road. In addition to modeling this shortline railroad, Thomas also edits the quarterly newsletter for the WI&M Ry. History Preservation Group.

Thomas' other interests include photography, history, and writing.

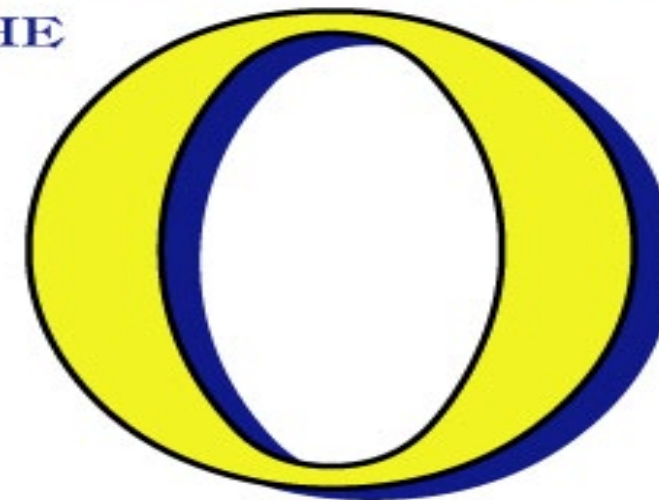


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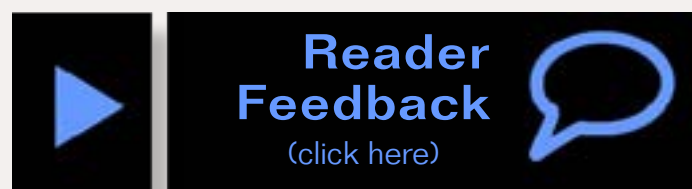
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Creating a Realistic Pipe Load

Wood stakes, runners and straps, with metal strapping, match prototype practices ...



One goal of every model railroader is to maintain an interesting balance of equipment. Whether stationary in a yard or moving in a train, nothing helps to enhance that balance like open loads. They immediately draw us in, beckoning a closer look. However this is also where many of our models lose their realism. A load

lacking in size or bracing often projects a toy-like appearance. However, some understanding of how a prototype load is put together will enable us to improve our loads. To illustrate this, let's follow along as I replicate a large steel pipe load, first breaking it down into components to better understand how it was put together. Since every project begins with a plan

or illustration, we'll base ours on this photo of TTPX 804062, a bulkhead flat-car carrying a beefy load of steel pipe.

The first component of this load is the railcar itself - a bulkhead flat car. Why a bulkhead style? One can surmise that the use of a bulkhead car may have been safety-related. If there was a concern about the load shifting from



Figure 1

– by M.R. Snell
Photos by the author

end-to-end the bulkheads would prevent either single or multiple pipes from traveling into the adjacent cars.

Next there is the load comprised of steel pipes stacked seven tiers (layers) high, almost to the top of the bulkheads. Unlike many model loads, the pipes occupy almost the entire width of the flat car deck, leaving just enough room for stakes in the stake pockets. Once again we'll ask why. The answer is simple. Shippers use rail to maximize the weight of a load, making it more economical than shipping by truck. For example, this car has a load limit of 202,700 lbs. Once you deduct the 83,300 lbs. light weight of the car, that allows for 119,400 lbs. of pipe. That's a lot of pipe! Traffic managers will utilize the entire car until they are out of space or weight capacity.

Finally, there are multiple methods used to keep the load from shifting, including wood blocking and steel banding. Close examination of the load will reveal:

- Runners (boards) placed between each tier of pipe. This provides a solid surface to support the tier, while also allowing loading or unloading using chains or fork lift blades under the pipes (figure 2a).
- Blocks of wood attached to each runner, forming a chock, placed against the outermost pipes of each tier. Placing a chock at the outermost top and bottom edges of each runner will prevent the round pipes from rolling outward (figure 2b).

- Upright wood bracing used to insure that one tier cannot 'kick' to one side, causing the load to become imbalanced.
- Banding securing each tier of pipe to the next. Metal banding is what really holds the load together, and securing one tier to another insures that they cannot come apart if the car receives some rough handling. At the same time, it also prevents the pipe from rolling, which would

have catastrophic effects in a load this size (figure 2c, next page).

- Stakes placed in the stake pockets to prevent the lower tiers of pipe from shifting on the deck. Similar to a construction project, everything depends on a good foundation and the foundation for this load is the bottom tier of pipe (figure 2d, next page).



Figure 1



Figure 2a – Runners



Figure 2b – Chocks



Figure 2c – Band

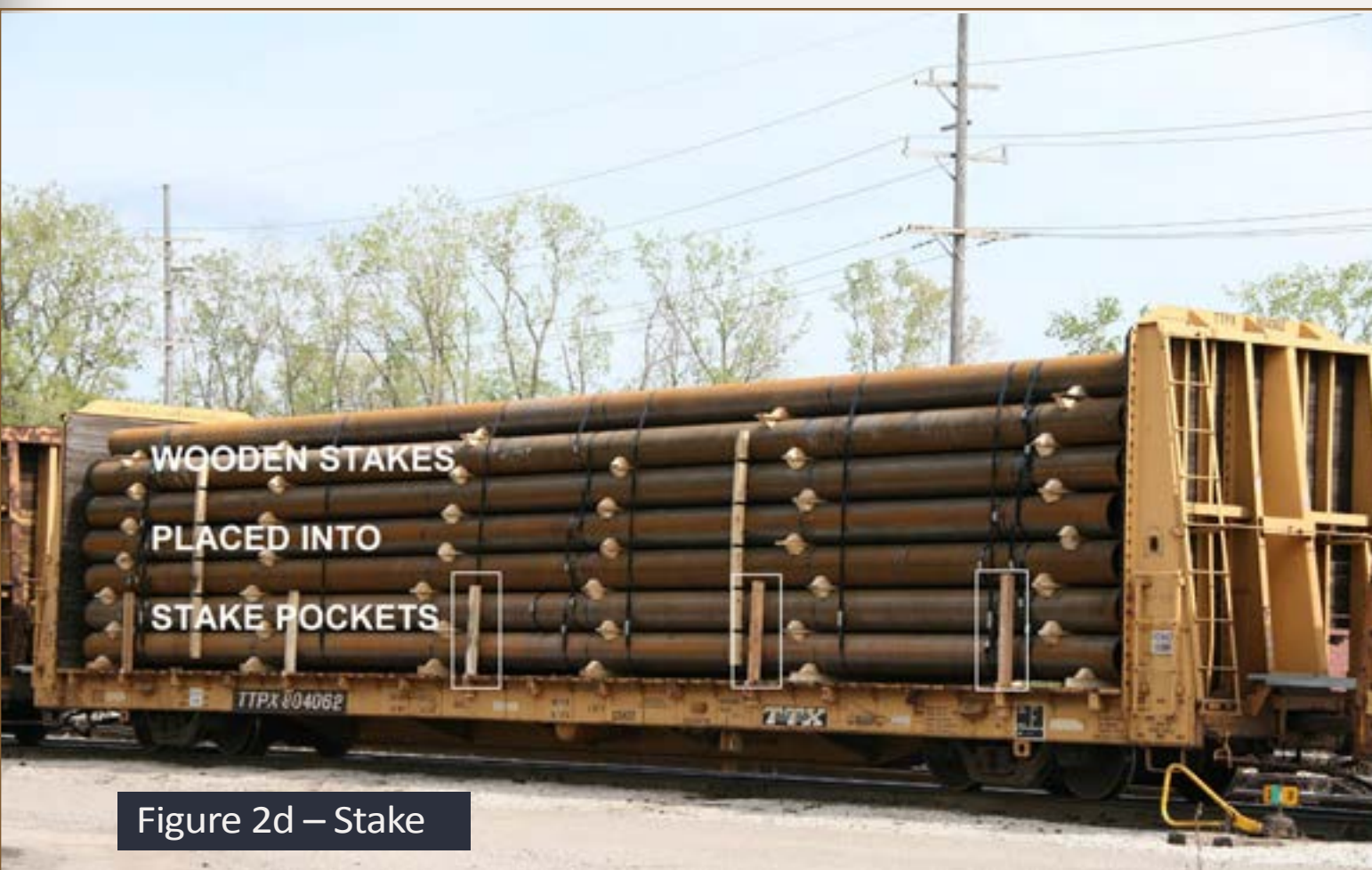


Figure 2d – Stake

STEP 1: Determine the Car and Load Type

Now that we have a better understanding of how this load was built, we'll have an easier time replicating it, beginning with a choice of pipe material. In looking over the prototype load, I determined that each pipe was several inches smaller in diameter than the height of the flatcar sidesill. Using the 18" sidesill height of an Athearn/MDC flat car as a guide, I determined that the best choice for replicating the pipe was 3/16" round styrene tubing, which would scale out to 16 1/4" in HO scale, slightly less than the sidesill of the model.

From here it became a matter of simple math to calculate how to construct the load. Since the deck of the flat car is 9' wide between the stake pockets, we can simply divide the 108" deck width by the 16 1/4" diameter of each pipe to determine that 6 pipes will fit across the deck, forming a single tier. Next we can calculate how many tiers will fit onto the car which is slightly more difficult.

While it's easy to divide the 10'9" height of the flat car bulkheads by the pipe diameter, we must also account for the runners between each layer. For this load I chose 3"x3" scale lumber strips, so the height of a tier could now be recalculated as PIPE+RUNNER or 16 1/4"+3". Now we can divide this new figure – 19 1/4", into the 129" height of the bulkheads, to determine that 6 tiers will fit between the deck and the top of the bulkheads without extending over the bulkheads. Now we're off to the races – or so it would seem.



STEP 2: Construct the Pipe Tiers

In constructing this load, I chose Plastruct #90605 tubing, which is packaged as eight lengths of 15" tube. With 35 pipes to cut (the top tier has 1 fewer as shown by the prototype photo), it was time for some cost control. I could either cut each piece of tubing to 56 scale feet, which would fit snugly within the bulkheads, or I could cut each tube in half, which would result in each pipe being 52 scale feet. I felt that the visual difference would be negligible, so I opted for the shorter pipe length, which doubled my yield and reduced the cost of the load by almost half.

Now construction could begin in earnest, and this can be done amazingly fast using a few tricks. After cutting each of the 15" tubes in half with a razor saw and mitre box, I cemented each individual tier of tubes together using Plastruct Plastic Weld. This created five separate tiers of six tubes, and a single tier of five tubes (to be used for the top tier). Once each tier had been assembled, they could all be trimmed. As you'll notice, no matter how carefully everything was aligned, some parts are slightly longer than others. This is a consequence of the styrene production process. Fortunately this is easily corrected with a mitre box, razor saw, and some tape. Simply gather all the tiers and stand them on end on a hard flat surface, tape them together, then place them into the mitre box and make a cut where the shortest pipe is. This will even-up the edge, leaving all the pipes the same length. This should be done for each end.



Figure 3

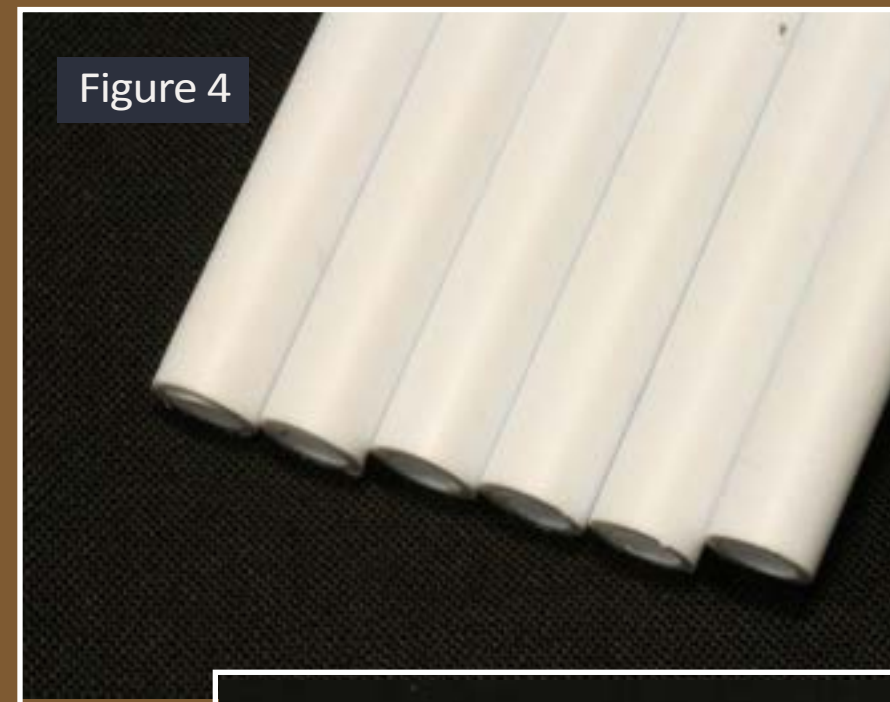


Figure 4

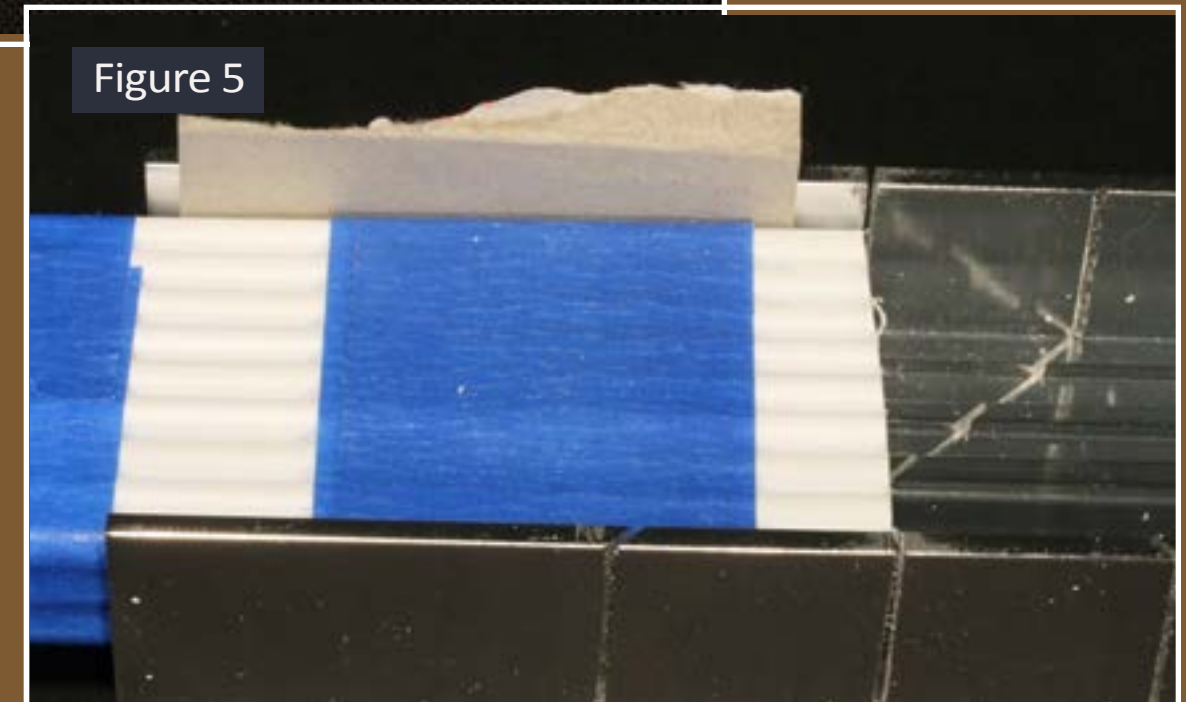


Figure 5

Figure 3: After cutting the tubing to length, it can be placed on a flat surface. Each tier can be constructed, combining the individual tubing sections into one solid layer that is easier to handle.

Figure 4: Often factory lengths will not be exact, a consequence of the production process.

Figure 5: Cutting each tier to the exact same dimensions is easy if we cut them all simultaneously using a mitre box and razor saw.

STEP 2: Construct the Pipe Tiers *Continued ...*

Finally we can finish our pipes by cleaning and thinning the ends. As molded each length of tubing has a wall thickness of .027". The finished pipes can be made more realistic by thinning this down. While this may sound complicated, all we must do is place an X-Acto #11 blade into the end of the pipe, then gently turn the blade and spin it. This will shave material from the inner edge, leaving a thinner pipe wall. We can then complete the piping, by carefully removing any fuzzy edges from the tubing with a hobby knife. This will leave clean-edged even lengths of pipe.

Figure 6



Figure 7



Figures 6 and 7: Thinning the ends of the tubing will leave a more realistic thin wall look, and can be easily done by shaving the interior of the round pipe with a #11 blade.

STEP 3: Prepare the Load Blocking

With the pipes complete, we can now focus on the next component of the load – blocking. Simply defined, blocking is what keeps load components in place, preventing them from moving. Studying the photo of the prototype load reveals several types of blocking including runners, chocks, upright supports, and stakes. In modeling this load, we'll replicate most, but not all of the blocking, and we'll start with the runner boards placed between each tier. Since nothing replicates wood like true wood, we'll use 3"x3" stripwood (Northeastern Scale Lumber #2020) for our blocking materials. Knowing that the maximum deck width is 10 scale feet (9' between stake pockets), we can begin by cutting 35 10' lengths of stripwood – six per tier, except for the top tier, which only uses five.

Next we can cut the seemingly endless quantity of end chocks. In replicating this load, there are 128 end chocks used, four per runner, except for the bottom tier which only requires two. These runners are flush with the flat car deck. One realization that quickly surfaces is that attempting to cut 128 identical end chocks is nearly impossible and time consuming. A simple cure is to construct a cutting jig using thick sheet styrene as a base, and thick strip styrene .100 x .100 as cutting guides. Simply place a piece of stripwood onto the sheet styrene base, then cement a length of styrene strip on each side to form a feeding guide. Next cut two lengths of styrene strip, and cement these at the angles that form the upper sides of the triangle. Now we can quickly mass-produce identical pieces by simply feeding the strip through the cutting jig, and making one cut along each angle with a #18 chisel blade.

Figure 8



Figure 8: When cutting large quantities of identical pieces, a jig will help insure identical cuts, while saving much time.

STEP 3: Prepare the Load Blocking *Continued ...*

Once the supply of end chocks is cut, the blocking can be assembled beginning with cementing one end chock to each of the wood runner strips, and allowing these to dry. Next space out the wood strips for each tier, placing them in the locations you'll want when the load is complete. Now lay a tier of the piping onto the strips and cement the end chock to the opposite end, pushing it up against the piping. After the top side of each runner has been completed, we can stack the tiers and add the end chocks to the underside of each runner (except the bottom tier). To complete the runners we now trim the excess from each runner, then square-off each chock. Remove the top of the large triangles to give them a smaller perspective in relation to the pipe. Now separate the pipe and blocking, then head to the paint shop to transform the white piping into a realistic rusty color by airbrushing it with a mixture of Floquil Rust and Grimy Black paints.

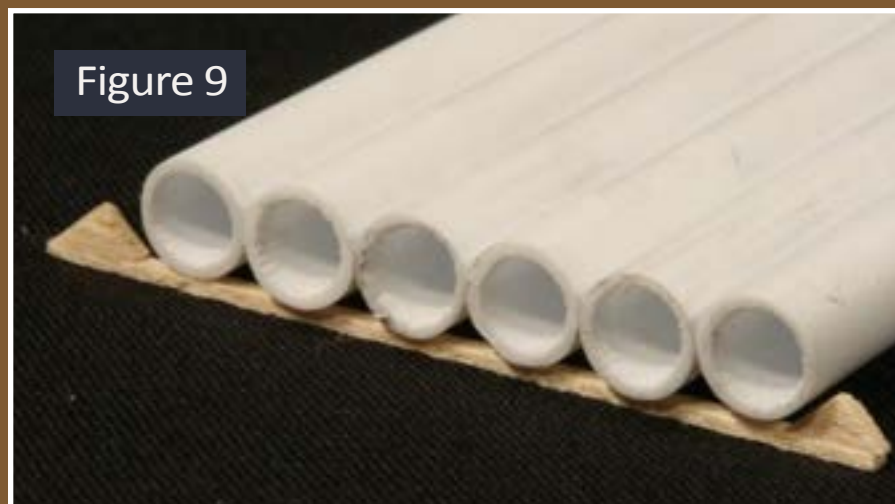


Figure 9

Figure 9: The first step in applying end chocks is to add them to the top of the runner strip along the edge of the two outermost pipes.



Figure 10

Figure 10: After the chocks are in place on the top of the runner strip, additional chocks can be added to the underside. This prevents shifting since it locks one tier into another.



Figure 11

Figure 11: Once each runner has been completed, it can be trimmed, removing excess length and squaring-off the tops of the triangles to make them appear smaller.

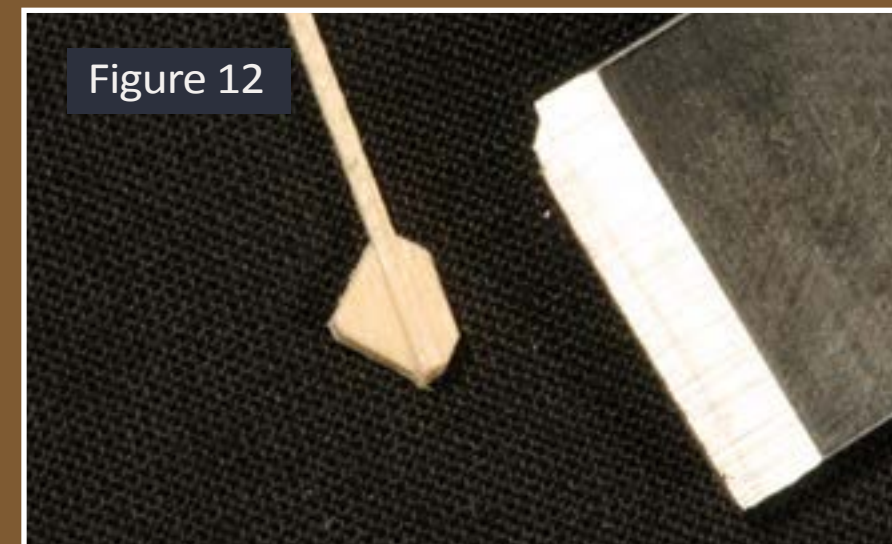


Figure 12

Figure 12: When working with wood strips, a #18 chisel blade is an excellent tool to use, as one side of the blade is flat, which allows a perfectly even cut.



Figure 13

Figure 13: Once all the runners are complete, the individual tiers can be 'test-stacked' to determine if any additional trimming is necessary.

STEP 4: Assemble the Load

With the blocking constructed, and the piping painted, we can now move on to actually assembling the load using a combination of glue and 'banding' to hold it together. To ease in handling during construction, we'll first glue the runners to the underside of each tier, securing them with Elmers White Glue, and allowing them to dry overnight. Now we can add banding to the load.

Prototype banding consists of thin metal strips wrapped around portions of the load then pulled tight, and held in place with metal clips which are crimped, securing the metal band to itself. While banding is an effective way to bind objects such as steel beams, lumber, or pipes together, it can also be easily broken under stress. One method to reduce stress on the bands is to band small rather than large quantities, such as banding a tier of 6 pipes in

three groups of 2 pipes each. Once the three groups have been formed, they can then be banded together. This creates a stronger bond than attempting to band all 6 simultaneously.

A second way to reduce stress on individual bands is to band in multiple locations. Dependent on the size and weight of the objects being banded, a general rule is to use no less than 1 band at each end, and another in the middle. Examining the prototype load reveals three groups of banding, one group at the left, another in the center, and the third on the right side of the load. Within each of these groups we can count no fewer than 10 bands, a far cry from the three or four we often see on model loads.



Figure 14: Gluing the runners to the tier of pipe will make handling easier while the load is still under construction, and will also make the load sturdier once it is complete.



M.R. (Matt) Snell has been a model railroader and railfan for 30 years. His interest in railroading grew while growing up in New Jersey surrounded by freight and passenger rail lines.

Presently residing in Ohio, Matt and his wife Debie share the hobby, modeling the area he grew up in: north-central Jersey.

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

STEP 4: Assemble the Load *Continued ...*

Fortunately, adding banding to our model loads is easy, using flat finish black chart tape that can be purchased from art or office stores. Available in 1/32" and larger widths, all we have to do is cut lengths of tape and wrap them around the tiers of our load. So far this seems pretty easy. However there's a twist. Where are we going to put the joint where the tape meets itself while forming the loop around the tiers?

The best way I've found to band a multi-tier load such as the pipes is to cut the lengths of band required for each tier, then place them across the top of the tiers, locating them so they will be staggered with the tiers above and below. Next stack the tiers as if the load was complete, then turn it upside down and remove all but the top two tiers of the load. Now the banding from the top tier can be wrapped to the underside of the second tier, and secured with a drop of glue at the joint which is on the underside of the tier. Next add the following tier, wrapping from the second tier to the third, and so on, until all the tiers have been banded to each other. Finally add several bands that encompass the entire load from top to bottom, securing all the tiers simultaneously and creating one solid load.



Figure 16



Figure 17

Figure 15: In order to wrap from one tier to the next, we must first add all the bands, allowing them to hang free until it is time to wrap them to the tier below.

Figure 16: When adding the bands, it's wise to stagger them. Not only will this look better, it will also make wrapping from tier to tier easier.

Figure 17: Once all the inter-tier banding is complete, the load can be finished by wrapping several bands around all the tiers simultaneously.



Figure 15

STEP 5: Prepare the Car for the Load

We've now constructed a large rock-solid load that's ready to be mounted upon a flat car. Or is it? Earlier we looked at several things that are often overlooked when constructing an open load. One final item is staking the load. This may possibly be the easiest of the bracing methods to add to a model, yet it is also one that is consistently unrepresented – adding stakes in the stake pockets of the flat car.

To keep the load from shifting on the flat car deck, prototype loads are secured by nailing the bottom runners to the flat car deck. Then wooden stakes are inserted into several of the stake pockets along the flat car sill to provide additional support. Unlike a 1:1 scale flat car most models have closed stake pockets that are filled with styrene from the molding process. These can be easily opened with a small drill. Wood strips can then be cut to length and inserted into each newly-opened pocket, and held in place by the pressure of the wood stake against the styrene carbody.

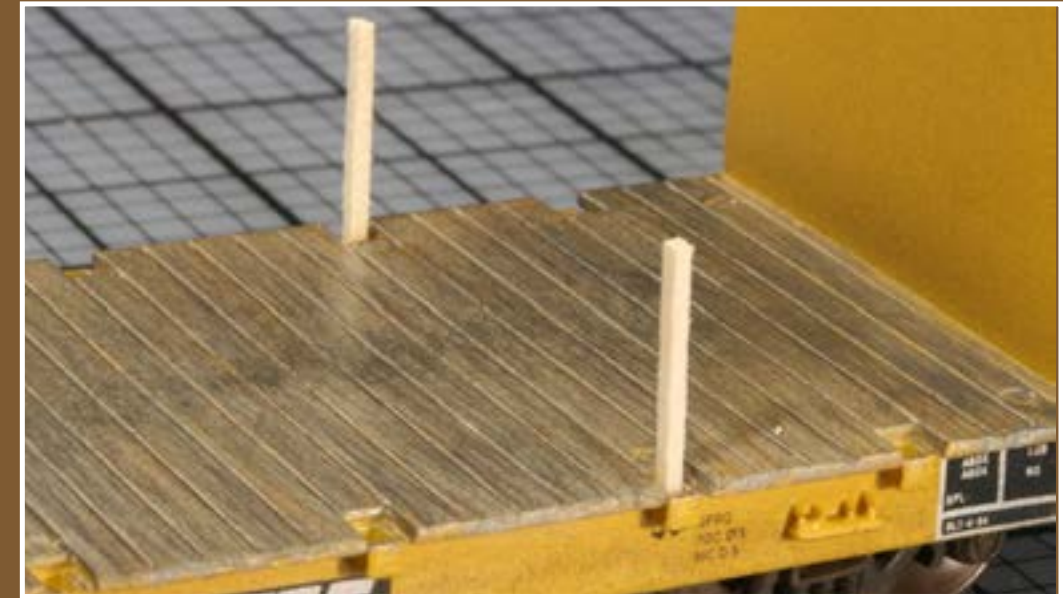


Figure 18: Upright stakes placed in the stake pockets may be the easiest blocking to add to an open load, yet it is often overlooked by modelers.

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STEP 6: Mount the Load on the Car

Now flat car and load are both complete, and all we must do is join them together and place them into service to provide a unique eye-catching car. Hopefully you've enjoyed this look at constructing a realistic pipe load, and have come away with a better understanding of the components of an open load. Employing this school of thought will not only help create better models, it will also change the way you look at prototype loads in the future, leaving you curious – how did they put that together? ☑



Figure 19: The finished car.

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Grand Rails Layouts



Preview of the 77th Annual National Model Railroad Association Convention

— by Skip Luyk, Convention Chairman

Video by Larry Evey, West Coast Media, narrated by John Matlak

So what makes this summer's NMRA Convention, Grand Rails, so grand?

Grand Rails 2012 will feature two very special model railroads known around the world as the best in their field: Russ Eldred's White Creek Line, 125 acres of 7 ½" gauge splendor, and the 2600 sq. ft. incomparable Sunset Valley Oregon System of Bruce Chubb.

Both of these spectacular layouts will be open all day every day for you to enjoy as often as you wish. Both offer you an opportunity to participate in their week long operating sessions. Everyone can and should visit the life's work of these two giants in the hobby.

In addition to these tours, there will be several conventional bus tours to incredible layouts all around the West Michigan and northern Indiana area.

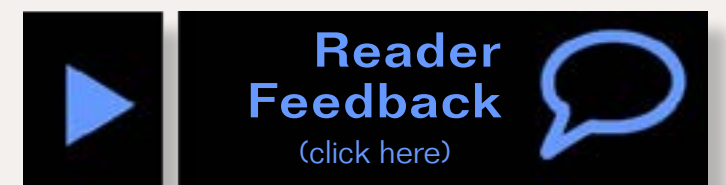
But the big news is that Grand Rails 2012 will feature dozens of great layouts, most less than an hour's drive from the convention hotel. These layouts will be open for your inspection on a self-guided basis.



Figure 1: Russ Eldred's 125 acre 7-½" gauge White Creek Line.



Figure 2: Bruce Chubb's 2600 square foot Sunset Valley Oregon system.



We feature three of the layouts on our self-guided lists here with video previews. See Figures 3-5.

Think of Grand Rails 2012 as your first “Super Regional”. You can search our extensive list of high quality layouts to find the ones that interest you the most and visit them whenever they are open at a time that works best for you. An “any six layout” ticket assures you of getting the best “six pack” ever at Grand Rails 2012!

To help cut down on cost, the Grand Rails 2012 Tour Desk will help you find others to car pool with as well as help you find the most efficient way to get to each layout on your list.

Don’t want to drive? Choose any of our conventional bus tours mentioned above or go in style with one of our 7 hour Limo Tours. Limos will be available for up to six people who want to see some layouts while leaving the driving to someone else. You can also work with the Tour Desk to find someone for you to ride with.

For those interested in the prototype we have scheduled a tour of a Great Lakes car ferry, a railroad maintenance equipment manufacturer, a fire fighting equipment manufacturer and new world vs. old world furniture manufacturing for starters.

You can also ride the Coopersville and Marne Railroad, tour their facilities and visit three great museums all on one great tour.

Figure 3: For spectacular scenery, broad flowing curves and long trains it’s hard to beat Bill Heiden’s Milwaukee Road. All you scratch builders are sure to appreciate the massive bridges Bill has constructed for this beautiful layout.

Video by Larry Evey, West Coast Media.

Narrated by John Matlak.



Figure 4: Those interested in mini scenes with meticulous detail will love Thom Post's C&O layout. Thom's incredible talent at building and detailing makes this layout very inspirational.

Video by Larry Evey, West Coast Media.

Narrated by John Matlak.



Want some steam? How about a ride behind the smallest Pacific locomotive that Baldwin Locomotive Works ever built? We'll visit the Little River Railroad where you can see and touch that little beauty and get photos of her steaming by during one of several run-by sessions.

While there you can also get up close and personal with the Little River gas powered Plymouth and an O-4-OT.

How about a ride in the cab of their little Pacific? A drawing will be held to find two riders for each leg of the trip so get signed up soon. You may be one of them.

We are continuing to work on more places to visit that are sure to interest you so be sure to check our web site www.gr2012.org often for the latest updates.

Other special events will include The Old Road Dinner Train on the Adrian & Blissfield Railroad, where you will be part of solving a murder mystery and the Port City Dinner Cruise where you can enjoy a great dinner and watch the sunset over Lake Michigan.

The banquet will return for Grand Rails 2012 but with a bit of a twist. We will recognize those who have attended the earliest or most conventions, with prizes awarded to the "he and she who have the most fun" at Grand Rails 2012.

What's this? Each registrant will have the option of purchasing (at a very

Figure 5: Operators will really enjoy the BN of Wade Griffis. Often teased about the size of his stable of motive power, Wade has detailed many specific locomotives owned by the railroad. Wade has created an impressive roster of accurately detailed and/or scratch built rolling stock as well.

Video by Larry Evey, West Coast Media.

Narrated by John Matlak.

minimal fee) a passport. Get your passport stamped or punched at each layout you visit and the one with the most stamps or punches will win a full or companion registration for the convention in Atlanta in 2013!

To be recognized for attending the most and the earliest conventions you will have to add your name to a banner that will be prominently displayed listing past conventions. Our crew will tally up the conventions your name was added to and determine who should be recognized at the banquet.

As you can see we have a lot planned for Grand Rails 2012 with much of it being done for the first time at a national convention, so come on aboard for a grand time in a grand city. We look forward to meeting you at Grand Rails 2012. ☒



GRAND RAILS 2012 SPONSOR

We are **The Grand Rapids Model Railroad Historical Society**, established in 1992. We currently reside in a beautiful Craftsman Style structure built by the state of Michigan in 1914 as a fish hatchery. We acquired the building in 1994 and in 1996 began constructing our version of the Pere Marquette Ry. System circa 1945.



We are joined by a group of dedicated modelers from all across Michigan in our quest to bring you a convention you will remember fondly for years to come. We have many levels and areas of talent on our team and with this blend we will strive to provide the most enjoyable experience you can have at an NMRA National Convention.

We believe that the number of great layouts we have in a concentrated area is only one of the many reasons that Grand Rails 2012 will be more than just another National Convention. ■





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PRODUCT SHOWCASE

Auscision Models: 80-ton 4-bay Hopper



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→ [Visit auscisionmodels.com.au](http://auscisionmodels.com.au)

Auscision Models, New South Wales, Australia, has recently introduced this HO scale model of an 80-ton 4-bay hopper car designated for NGGY (sugar cane) service. The injection molded ready-to-run plastic model replicates the 14.3 meter (50 ft) aluminum alloy prototype built in large quantities in 1976. Similar freight cars designed for transporting cereal crops, grains, and flour are also available from Auscision. For additional details visit auscisionmodels.com.au.





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PRODUCT SHOWCASE

ExactRail: Greenville Double-plug Door Boxcar



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

This HO scale model of a Greenville double-plug door boxcar was among the first items introduced in 2009 by newcomer **ExactRail**. Chris Clune, who has since retired from ExactRail, designed and prepared the tooling for this beautifully-detailed replica of the 60' prototype. In addition to the Detroit, Toledo & Ironton paint scheme shown here, ExactRail also issued the Platinum Series model decorated for Norfolk Southern, NYC, and Conrail. See exactrail.com.



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PRODUCT SHOWCASE

3rd Rail Division of Sunset Models: Canadian Pacific Railways 4-8-4 K1 Class Steamer

→ [Visit 3rdrail.com](http://3rdrail.com)

3rd Rail Division of Sunset Models (3rdrail.com) introduced this all-brass O scale model of Canadian Pacific Railways 4-8-4 K-1 class steam locomotive number 3100 in 2010. Both 2-rail and 3-rail versions of the model were initially offered at \$1499.99 each. The handcrafted model recreates the prototype Northern-type locomotive CPR ordered from its Angus Shops in 1928 to handle the heavy night train service between Montreal and Toronto – a duty she performed with her sister K-1 #3101 for more than 25 years. Number 3100 is preserved in the Locomotive Hall at the Canada Science and Technology Museum in Ottawa.





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.



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

July 2012

WrightTRAK Railroad Models has purchased the HO scale product line of Smoky Mountain Model Works (SMMW). WrightTRAK is an established supplier of HO scale polyurethane resin kits, based in Clarksville, Georgia. WrightTRAK's management team includes owner Gary Wright, and Denis Blake who is responsible for marketing. The sale includes all HO scale kits, photo-etched parts, decals, and cast urethane details previously produced by SMMW with the exception of the SAL class B7 turtleback boxcar. Jim King, SMMW owner, said the company will continue to fulfill current and new orders received for the B7 for the next three months, or until they run out of decals. In addition to focusing on industrial customers, King said SMMW will continue providing S scale products and CAD-created rapid prototype patterns as well as design, pattern, and casting service to the hobby trade...

Congratulations to Charlie Getz on being elected president of the National Model Railroad Association. I can't think of a better man for the job. Ably supporting Getz will be Dave Thornton, who was elected vice president of administration...

MTH Electric Trains has purchased the tooling and production related assets of The Showcase Line, and S-Trax System, from S Helper Service Inc. of Cliffwood, N.J. The sale includes designs, tooling, and all marketing and trademark assets related to 1:64 scale model railroad items previously produced by S Helper Service. MTH currently manufactures model railroad products in three-rail O gauge, two-rail O scale, 1/32 Gauge One, and HO scale. MTH also produces and sells reproductions of standard gauge tinplate equipment. A revitalized S scale product line, including items gained through the acquisition of S Helper Service, will be announced by MTH later this year. Initial delivery of the new S scale items is planned for 2013...

George Huckaby Jr., owner of CustomTraxx Decals and well-known in the modeling industry as a traction equipment expert, has been named President/CEO of the Orange Empire Railway Museum in Perris, California. The museum restores, maintains, and operates one of the largest collections of equipment in the nation. More than 250 pieces of steam, diesel, passenger, freight, traction, and narrow gauge rolling stock are on site at the 100-acre facility. The annual "Day Out With Thomas the Tank Engine" is one of the museum's most successful fund-raisers. The five-day event introduces more than 30,000 kids and their parents to the fun of model railroading...

Colorado Capital Value Advisors has recognized SoundTraxx as one of the 50 companies to watch in 2012. The award recognizes small companies developing valuable products and services, creating quality jobs, and generating new industries in Colorado. Since its founding in 1990 by Steven Dominguez, SoundTraxx has become the leading OEM supplier of DCC sound systems to model railroad equipment manufacturers. The Durango-based company currently reports a full-time staff of 29 employees. Congratulations to the SoundTraxx team...

ExactRail will soon introduce an N scale version of the distinctive Pullman-Standard 50' 5277 cu ft "waffle-side" boxcar the company has offered to HO scale modelers since early 2010...

Getting it right. Last month we made an error in listing the switches available from Railway Engineering (railwayeng.com). The correct turnout numbers available are #6, #8, #12, and #4 wyes. Our apologies for any inconvenience we may have caused...

Now let's take a look at what's new this month....

NEW PRODUCTS FOR ALL SCALES

Digitrax (digitrax.com) has introduced Zephyr XTRA, a basic starter system for modelers new to DCC. The starter set



includes a DCS-51 controller that supports 30 functions and 20 addresses/throttles, a PS514 70-watt power supply, a simplified Quickstart guide, a detailed set-up manual, a decoder program manual, and an LT1 LocoNet/Decoder tester. The Zephyr XTRA has an MSRP of \$225.00. A step-by-step video for the Zephyr XTRA system is available on the Digitrax' website.

Grand Scales Gift Shop (grandscales.com/index.html) has a new DVD that celebrates the restoration of a narrow gauge combine originally built for the Disneyland Railroad. Titled "The Favorite", the 60-minute DVD tracks the history of the combine that began life under the watchful eye of Walt Disney. Of the four cars built for Disneyland, the combine was clearly Disney's favorite since it reminded him of the railroad cars he worked on as a boy selling newspapers and candy. Beginning in 1955, the car served Disneyland riders until 1974 when it was put into storage. Years later it was acquired by the Carolwood Foundation and was fully restored for display at Travel Town in Griffith Park, Los Angeles. The DVD documents the history of the car including an exciting weekend of operation behind steam on the Pacific Coast Railroad near San Louis Obispo, California in 2011. The DVD is available for \$29.95.

O SCALE PRODUCT NEWS



100-ton roller bearing trucks with rotating bearing caps. Available road names

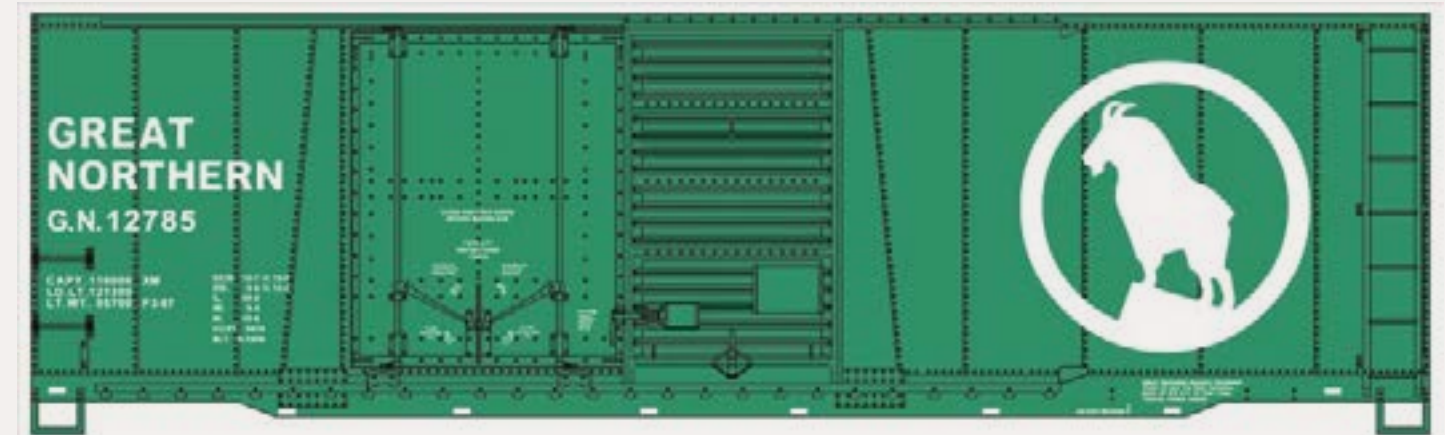
Atlas O (atlaso.com) has released ready-to-run models of a 60' high-capacity boxcar as built by Berwick Forge & Fabricating in the late 1970s. The O scale Hy-Cube model features double-plug doors, waffle-pattern sides, etched metal safety platforms, a die-cast underframe, and

are Norfolk & Western, Conrail, Milwaukee Road, Rio Grande, and Santa Fe. The 3-rail model has an MSRP of \$82.95. The 2-rail version lists for \$88.95.



Morgan Hill Models (morganhillmodels.com) has introduced a kit for a 20' blacksmith car. The On30 scale kit includes a cast resin frame, pre-cut 2" x 12" basswood decking, basswood shed material, work bench, and a water tank with skids. Detailing parts include nut-bolt-washer sets, barrels, and drums. The kit is sold direct at \$39.95. Trucks and couplers are not included.

HO SCALE PRODUCT NEWS



Accurail (accurail.com) is selling a 40' steel boxcar with a combination door decorated for Great Northern at a suggested retail price of \$14.98 each. Also available at \$14.98 are a Maine Central 40' wood stock car (mineral red with white graphics), and a Kewaunee, Green Bay & Western 40' 6-panel single-sheathed wood boxcar.

A new 40' swing-door steel refrigerator car is available for Rock Island (mineral red/black body with black and white graphics), and Bangor & Aroostook (reefer yellow body with black graphics). Both road names have an MSRP of \$15.98. Accurail is selling a special 2-car set of C&BQ single-sheathed wood boxcars. One car has six side panels, the other eight panels. The 2-car set has an MSRP of \$29.98. Also available is a 3-car set of USRA twin-hopper cars decorated for Interstate, Montour, and Berwind Coal. All of the cars are black with white graphics. The 3-car set has an MSRP of \$41.98.

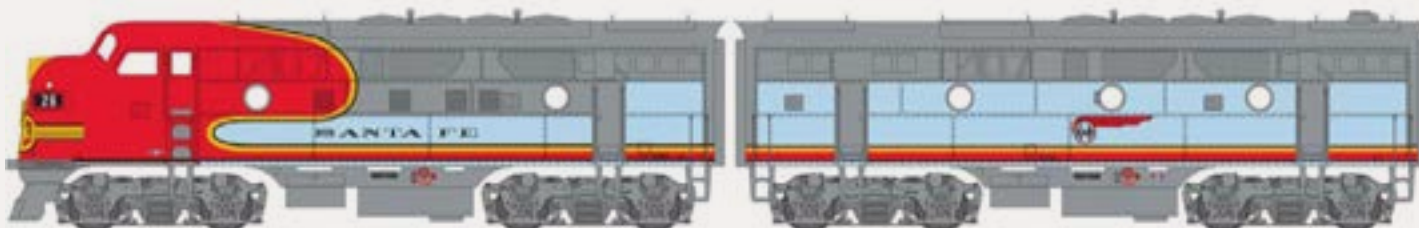
Accurail has also released a 3-car set of Santa Fe 50' exterior-post steel boxcars decorated for Santa Fe featuring "Super Shock Control" graphics in yellow and white. The MSRP is \$42.98 for the 3-car set.



41' steel gondolas kits lettered for the Pennsylvania RR are available as either a single unit with an MSRP of \$14.98 or as a 3-Pack for \$42.98. Also available with an MSRP of \$14.98 are 50-Ton offset-side twin hopper lettered for the Minneapolis & St Louis, a 50' insulated plug-door boxcar in Erie Lakawanna and a 50' exterior post boxcar lettered for Penn Central. An American Refrigerator Transit 40' plug-door steel reefer retails for \$15.98.



Accurail's Limited Run model for July is the #8031 Pacific Fruit Express 40' wood reefer three number, which retails for \$47.98.



Athearn Division of Horizon Hobby (athearn.com) is scheduled to deliver its HO scale Genesis-series F3A and F3B diesel locomotives decorated in the famous Santa Fe warbonnet paint scheme in January. 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 Soundtraxx Tsunami digital sound DCC decoders. Individual F3A units will have an MSRP of \$169.98 and \$269.98 respectively.



Also scheduled to arrive in January are detail-laden Genesis series GP9 locomotives in four road numbers each for Baltimore & Ohio, Conrail, Chicago & North Western, and Chicago & Eastern Illinois. For February delivery, Athearn is bringing out four road numbers in BN Cascade Green, three of which represent ex-NP units with NP steam engine bells. The fourth is an ex-CB&Q unit with extra signal lights.

In February Athearn plans to deliver four road numbers each of Milwaukee Road and Missouri Pacific GP9s and DT&I GP7s. Units for standard DC operation will have an MSRP of \$189.98 each. Units with Soundtraxx Tsunami® digital sound DCC decoders will list at \$289.98.

Additionally in February, Athearn expects the arrival of Pennsylvania RR F7A and F7B locomotives in the DGLE (Dark Green Locomotive Enamel) freight scheme. Sporting the iconic Trainfone antennas on the F7A units, the paired F7A/F7B and F7A/F7A sets with both units powered will have an MSRP of \$309.98 for the standard DC versions, or \$489.98 for units equipped with Soundtraxx Tsunami® digital sound DCC decoders. Individual F7A units will have an MSRP of \$169.98 and \$269.98 respectively.



February will see the arrival of the sixth Union Pacific Heritage series locomotive, with a SD70ACE model of UP 1996, the Daylight-inspired SP Heritage locomotive. Athearn is also releasing four new UP "Building America" road numbers of a new version of the SD70ACE, featuring a low headlight, isolated cab, and retrofitted side vent, the correct current appearance of these locomotives. Featuring Soundtraxx Tsunami digital sound DCC decoders, the MSRP is \$299.98 with the standard DC model listing at \$199.98.

Athearn has also scheduled a February delivery of the Genesis GP15-1 in three California Northern road numbers. Former C&NW units, they include the C&NW style nose bell and have since been transferred to the Dallas Garland & North-eastern (DGNO) in Texas, where they still wear their California Northern paint and road numbers. Units equipped with Soundtraxx Tsunami digital sound DCC decoders MSRP for \$289.98 and standard DC models will retail for \$189.98.

Athearn continues to release new models of Genesis Southern Pacific bay window cabooses, with eight numbers spread across four different versions of C-50-4 due in February. Defined by different styles of COTS plates, clear or blanked side windows, different styles and locations of marker lights as well as the presence or absence of ACI plates, these cabooses portray the results of a variety of modernization programs between their introduction in 1972 and the SP/UP merger in 1996. Soundtraxx on-board lighting equipped models retail at \$99.98 and the non-lighted units have an MSRP of \$69.98.

Utilizing ex-MDC tooling, Athearn is forecasting a February delivery for both ribbed and offset side 24' taconite ore cars. Available in both a single road name as well as four 4-number car packs, the offset-side car comes lettered for the Bessemer & Lake Erie as well as the Duluth Missabe & Iron Range. The ribbed side car comes lettered for the Chicago and North Western and the Lake Superior & Ishpeming. The DM&IR four-packs include uninstalled drawbars in order to model their standard 4-car drawbar sets. MSRP for the single cars is \$21.98 with the four-packs retailing for \$79.98.



Completing Athearn's January delivery schedule is a Genesis series GP15T locomotive decorated for CSX. It will be available in four road numbers. DC units will list at \$189.98. Units equipped with Soundtraxx Tsunami® digital sound DCC decoders will list at \$289.98.

Atlas Model Railroad Company (atlasrr.com) is scheduled to deliver two versions of HO scale Trainman series 62' bulkhead flat cars during the third quarter of this year. Cars with short bulkheads will be available for TTX. Full-height bulkheads will be available on cars decorated for AOK, FCEN, and TR. Both versions



of the ready-to-run models will have an MSRP of \$21.95. Three numbers will be available for each road name. Flat cars without bulkheads will be available for BNSF, Santa Fe, TZPR, and UP (MW) at \$19.95.



Blair Line (blairline.com) is now selling a kit for Greene's Feed & Seed that can be easily re-signed for a variety of small trackside industries. Components in the HO scale craftsman-style kit include laser-etched vertical planks with nail holes, knots and imperfections in precision

fit tab and slot walls. The loading dock and porch floors have laser-cut random-length boards with nail holes. The doors, windows, and corner trim are laser-cut adhesive peel-n-stick material. Also included are laser-cut handrails, stairs, and a stair assembly jig. The peel-n-stick pre-weathered corrugated roofing material and rooftop sign are also laser-cut. Windows may be installed open or closed. Additional details are a metal smoke jack, pallets, feed sacks, eave brackets, and a soda pop machine. A variety of signs are included. The finished building has a footprint of 7.20" x 2.80". The loading dock, which can be built on either side of the building, measures 5.60" x 1.10". The kit is priced at \$69.95.

Bowser (bowser-trains.com) has released new road numbers for three of its popular HO scale freight car kits.



First up is a Pennsylvania class H-21a four-bay open hopper decorated with a PRR-Circle Keystone herald as built

in March 1914. Available road numbers are 727106, 727184, 727192, 727212, 727243, and 727279.



Also available is a Pennsylvania's class H-21a four-bay open hopper with PRR Shadow Keystone herald as built in November 1912.

Road numbers

are 723033, 723039, 723461, 923250, 923259, and 923303. Bowser's website currently reports that all of the new road numbers for the PRR H21a hoppers are sold out. Please check with dealers for available stock.



The third new car from Bowser is a 70-ton covered hopper with open sides decorated for Louisville & Nashville "Dixie Line" as built in February 1943. ACF introduced the prototype of this model in

1936. They were 35' 3" in length and had two bays with four discharge openings and eight square roof hatches. The cars had a rated capacity of 70 tons. Through the years they were copied by several other manufacturers with few visible differences. Between 1936 and 1957 more than 21,000 of the ACF designed cars were built some of which can still be found in home-road service. The kit is available in road numbers 38328, 38330, and 38344. All of Bowser's new car kits are composed of a one-piece plastic molded body, separate underframe, a brake wheel, air tank, brake cylinder, triple valve, knuckle couplers, and appropriate trucks with 33" wheels. The kits have an MSRP \$14.95 each.



Photo courtesy of George Huckaby

The next production run of Bowser's all-electric PCC cars is scheduled to arrive this fall.

Decorating schemes will be Philadelphia Transportation Company (1948 scheme), Shaker Heights Rapid Transit, Birmingham Electric Company,

Pittsburgh Railways, Boston Elevated Railway, and San Francisco Muni F-line as illustrated here. Each road name will be available in two car numbers. The models feature window glass, dummy roof poles, operating headlight, and a can-motor flywheel drive system. They will be offered both DCC ready at \$149.95, and with a Soundtraxx Tsunami sound/decoder at \$259.95. The special PCC Tsunami™ includes the sound of a motor-generator, door opening, door closing, brake lights operating during slow-down and stop, tail lights, and interior lights. Bowser does not plan to re-run any of these paint schemes.



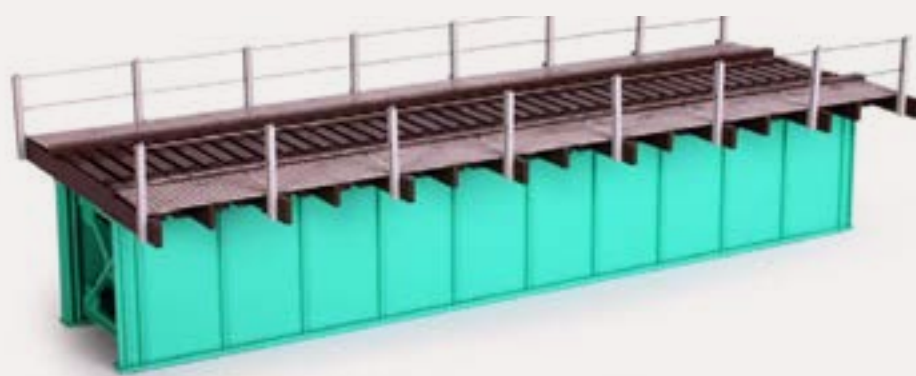
Concept Models (con-sys.com) is selling a body kit for Pennsylvania Railroad's unique well car number 470248. The prototype was designed to carry a large load suspended in the center well which rides on two bolsters mounted on a pair of four-axle assembly trucks. This is a basic body kit consisting of resin castings and assembly hardware. It is available direct from the manufacturer at \$69.99. Decals and photo-illustrated instructions come with the model. Trucks, couplers, hand grabs, ladders, and related detailing parts are not included in the kit.



ExactRail (exactrail.com) has HO scale ready-to-install deck plate girder bridges in two versions: early (wooden guard timbers, wood plank walkways, and wood

handrails) and late (wooden guard timbers, etched metal walkway, and cable handrails). Undecorated kits are also available. The ties are molded in place. Exact Rail suggests that hobbyists remove ties from a section of flex-track and bond the rail to the molded-in bridge ties using Barge cement or a similar adhesive.

Early style 72' bridges are available at \$31.95 decorated for D&RGW, GN, CN, ATSF, and N&W. The model is also available in black, silver, and green with no road name. An undecorated kit is available at \$29.95. Late style 72' bridges are available decorated for UP, ATSF, CN, BN, Chessie, and in black, silver, and green with no road name at \$35.95.



Ready-to-install girder bridges decorated in silver, black, or green with no roadnames are also available in 30' and 50' lengths. Early-style 50' bridges are \$29.95 each; 50' late-style bridges (above) are \$32.95 each.

Early-style 30' bridges are 27.95 each; 30' late-style bridges are \$29.95 each.



Fos Scale Models (foslimited.com) is selling a new HO scale craftsman kit for Panzera's Delicatessen & Canavan Law. The interesting building is based on a real structure in Bridgeport, Connecticut. The kit includes laser-cut clapboard walls and storefronts, Tichy plastic windows, cast metal details, a variety of color signs, and detailed instructions. The

completed HO structure has a footprint of 6" x 4.5". Panzera's Deli is available

direct from Fos Scale at \$89.95 plus shipping. Scenery, vehicles, figures, and the fence shown in the photo are not included.



InterMountain (intermountain-railway.com) is taking reservations for delivery this winter of its SD40-2 diesel locomotive. Road names include SCL Family Lines (above), L&N, Ferromex, Grand Trunk, CN/IC, and BNSF (Heritage 1).



In addition, Kansas City Southern will be available in both the standard gray as well as the colorful "Belle" scheme illustrated here. Details such as radiator grilles, dynamic brakes, headlight location and nose configurations will vary depending on the practice of the prototype road. The HO scale ready-to-run SD40-2s will be available for DC operation at an MSRP of \$149.95 and with Soundtraxx Tsunami® digital sound DCC decoder at \$224.95.



The July release of HO scale ready-to-run models from **Kadee Quality Products** (kadee.com) includes this 50' PS-1 boxcar decorated for Detroit, Toledo & Ironton. Built in 1962, the green car features a prominent Hydroframe slogan and distinctive galvanized roof. Kadee item #6355 has an MSRP of \$35.95.

The July release of HO scale ready-to-run models from **Kadee Quality Products** (kadee.com) includes this 50' PS-1 boxcar decorated for Detroit, Toledo & Ironton. Built in 1962, the green car features a prominent Hydroframe slogan and distinctive galvanized roof. Kadee item #6355 has an MSRP of \$35.95.



Pullman Standard introduced the prototype in 1954. The model has an MSRP of \$41.95.



A similar PS-2 two-bay covered hopper decorated for Rutland will be released this month at an MSRP of \$42.95. The 50' DSS&A PS-1 boxcar with 15' doors scheduled for arrival in June has been rescheduled to arrive this month.



Kato USA (katousa.com) says it will release its HO scale EMD SD80MAC decorated as CSX locomotive 4594 in the Dark Future scheme. Kato will also re-run the popular Norfolk Southern and Conrail paint schemes with new numbers. The ready-to-run locomotives will have an MSRP of \$195.00 each.



Rusty Stumps (rustystumps.com) has made a limited rerun of Ships Chandlers, a popular HO scale craftsman kit originally introduced several years ago. The kit includes all parts needed to create the three-story structure including pilings, braces, joists, and decking for the multilevel dock, and materials needed to complete the railroad spur trestle and

bulkhead. Building components include laser-cut 1/32" birch plywood laminated with prescribed Northeastern Scale Lumber basswood for the siding, floors, and decking. Doors and windows are laser-cut from 1/64" birch plywood. Corrugated roofing material, multiple signs, and a variety of nautical-themed details cast in white metal are included in the kit. The assembled building, including the dock, has an 8" x 12" footprint. The kit is available direct from Rusty Stumps at \$249.95 plus shipping and handling. Figures, vehicles, track, and scenic items in the photo are not included in the kit.

In October, Walthers (walters.com) will release two starter train sets for the holiday shopping season. The Rail Tech Digital Trainset includes a Trainline™ series GP9M, three 50' freight cars (flat, gondola and boxcar), a wide-vision caboose, 38" x 54" oval of Bachmann EZ-Track, a 60-minute World's Greatest Hobby DVD, a power supply, and Digitrax DCC controller and sound system. The starter set has an MSRP of \$225.00 and will be available with the locomotive and caboose decorated in matching road names for BNSF, CN and NS.



Walthers has an HO scale structure kit for an auto dealer that includes signs for multiple brands of imported automobiles. The Cornerstone kit has an MSRP of \$39.98. In announcing the kit, Walthers noted that it also sells HO scale models of

Volkswagen, Mercedes-Benz, and Volvo automobiles that would be ideal for the dealership.

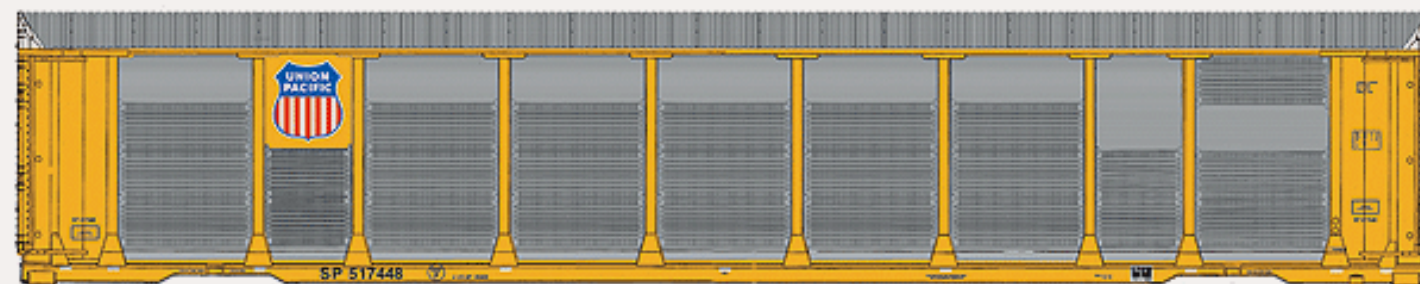


New road numbers will be available in December on Walther's Mainline™ series 40' 50-ton drop-bottom gondola. Road names will include Chicago North Western, Milwaukee Road, Great Northern, New York Central, Rock Island, and Santa Fe. The HO scale ready-to-run model will have an MSRP of \$19.98.



Walther's is finalizing new tooling for a 54' UTLX 23,000 gallon Funnel Flow tank car. Delivery is scheduled for January 2013. Special features on the HO scale ready-to-run model are etched metal walkways and platforms, factory-applied grab irons, full brake and underbody detail, road-specific placement of manways and safety valves, trucks with 36" metal wheelsets, and metal knuckle couplers. Road names include ADM (leaf logo), Cargil (Vegetable Oils), Celtran/CELX, Kerr-McGee/SHPX, Procor (green), and Sunoco/SUNX. The Walther's PRO-TO™ series model will have an MSRP of \$37.98.

Also scheduled for release next January are Walther's PRO-TO™ Thrall 89' Tri-Level enclosed auto carriers with new road numbers. Priced with an MSRP of \$41.98 each, the HO scale ready-to-run models will have factory installed grab irons, separately molded side ladders, 28" metal wheelsets, and metal knuckle



couplers. Road names will be Illinois Central/ETTX, C&O/ETTX, CNW/ETTX, CSX/ETTX, N&W/ETTX, and UP/SP.



Walther's plans to release its 40' Mather double-deck stock car with all new numbers. The PRO-TO™ series HO scale models will be available in January decorated for B&O, CB&Q, GSX, and Northern Pacific. Among the model's features are factory-installed grab irons, brake and underbody details, 33" metal wheelsets, and metal knuckle couplers. The ready-to-run cars will be available singly with an MSRP of \$29.98 or in 6-packs with different road numbers at \$149.98.



Walther's is booking dealer orders for a Mainline™ series 50' RD-4 hopper car in 6-packs decorated for BNSF, CNW, NS, and UCEX. Priced with an MSRP of \$129.98, each pack will have six cars of one road name with six different numbers. Availability is planned for January.

N SCALE PRODUCT NEWS



American Archetype Models (americanarchetypemodels.com) is selling an N scale Bandstand produced by a rapid prototype process using a 3D printer. The bandstand is available as shown at \$40.00. It is also available without the railings and stairs at \$34.00. Visit the above website for information about ordering as well as helpful information about working with items created by the rapid prototype process.



Blair Line (blairline.com) is now selling a kit for Greene's Feed & Seed that can be easily re-signed for a variety of small trackside industries. Components in the N scale craftsman-style kit include laser-etched vertical planks with nail holes, knots and imperfections in precision fit tab

and slot walls. The loading dock and porch floors have laser-cut random-length boards with nail holes. The doors, windows, and corner trim are laser-cut adhesive peel-n-stick material. Also included are laser-cut handrails, stairs, and a stair assembly jig. The peel-n-stick pre-weathered corrugated roofing material and rooftop sign are also laser-cut. Windows may be installed open or closed. Additional details are a metal smoke jack, pallets, feed sacks, eave brackets, and a soda pop machine. A variety of signs are included. The finished building has a footprint 3.90" x 1.51". The loading dock, which can be built on either side of the building, measures 3.05" x .60" x 1.10". The N scale is priced at \$39.95. The illustration is an HO scale version of the kit.

Fox Valley (foxvalleymodels.com) has expanded its NS Heritage of GE ES44AC diesel locomotives to include Pennsylvania #8102, Norfolk & Western #8103, Lehigh Valley #8104, and Norfolk Southern #8097 and #8112. These are in addition to the previously announced GEVO locomotives decorated for Conrail, Southern, Nickel Plate Road, and Central of Georgia. Fox Valley's ES44AC quickly earned high praise from both reviewers and consumers when the N scale model was introduced in early 2010. The current NS Heritage project includes new cab tooling with high headlight mounting and a notch in the GEVO's nose. Other features include Hi-Adhesion trucks, directional headlights, illuminated ditch lights, MU hoses, and separate uncoupling levers. The model has an MSRP of \$130.00 and includes a detail pack containing wire grab irons, etched windshield wipers, and sunshades for those who want to add them to the otherwise ready-to-run locomotive. Fox Valley's GEVOs are DCC-ready and can be easily converted to DCC by removing the roof panel and plugging in a Digitrax DZ1251N or TCS EUN651 decoder (not included). Delivery is planned for the fourth quarter of 2012.



BLMA (blmamodels.com) is currently taking dealer orders for delivery late this year on another production run of its Pullman-Standard 2CD 4000 cu ft three-bay covered hopper. Four road numbers will be available for six decorating schemes including Milwaukee Road, Monon, NAHX-Great Western Malting, Wabash, and Nickel Plate Road as shown here. Features of the N scale ready-to-run model include an etched-metal roof walk, 100-ton trucks with 36" metal wheelsets, and body-mounted Micro-Trains® couplers. The models have an MSRP of \$26.95 each.

The next release of Fox Valley's N scale Trinity RD-4 coal hoppers is due this fall. Single cars and two 12-packs (total 24 numbers) will be available for VAPX-Virginia Power, TXUX-Texas Utilities, and CEFX (CIT Group-leasing). Twenty-four new numbers will also be available for reruns of BNSF (brown scheme) and CMO-Union Pacific cars. Single cars and one 12-pack (total of 12 numbers) will be available for NCUX and MPWX-Muscatine Power & Water. A single car specially decorated to celebrate the 2 millionth carload of coal on the CEFX-Indiana Railroad will also be available. A plastic interior brace is included for those who want to detail an empty car. The 12-packs are \$227.40 each with single cars priced at \$18.95 each.

InterMountain (intermountain-railway.com) has scheduled a December/January release date for a newly-tooled N scale 53' 6" AAR 70-ton flat car. Road names will be New Haven, Central of New Jersey, Erie, DT&I, Baltimore & Ohio, and Penn Central. The new car comes with Micro-Trains® trucks and couplers. The MSRP is \$22.95.

Also coming in December/January is a 70-ton bulkhead flat car decorated for Erie Lackawanna, Baltimore & Ohio, New York Central, or New Haven. The N scale ready-to-run cars will be available in six road numbers at an MSRP of \$22.95 each.



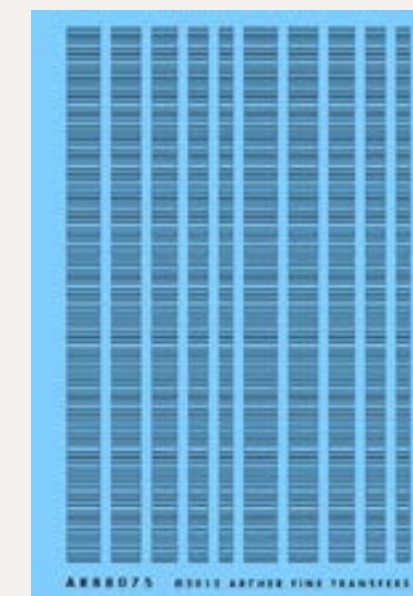
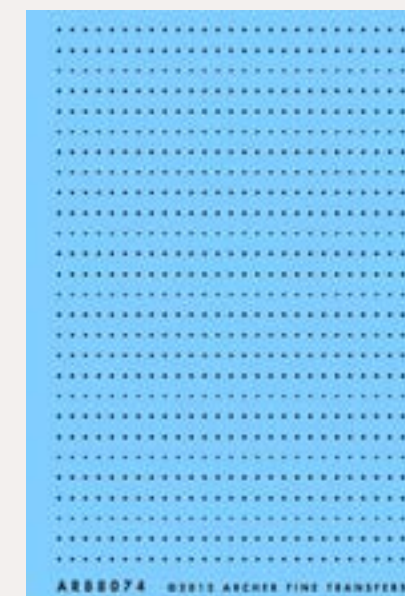
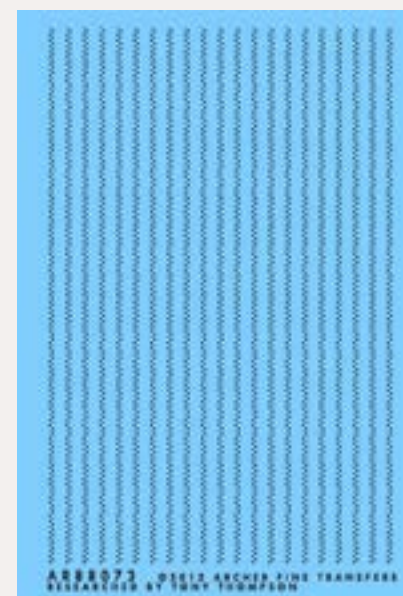
Kato (katousa.com) is selling three 5-unit sets of Gunderson MAXI-I double-stack TTX well cars. Ten APL 40' magnetic containers are included with each set. Each of the three different sets of the N scale ready-to-run intermodal cars have different road numbers. Each 5-unit set has an MSRP of \$150.00.

Kato also has two new 8-car sets of Bethgon Coalporters painted in BNSF mineral red. Each 8-car set has an MSRP of \$135.00 for a total of 16 different car



numbers. The N scale ready-to-run cars come with perma-lock couplers that are said to keep the cars close and reduce uncoupling incidents. The cars come with a removable coal load.

NEW DECALS, SIGNS AND FINISHING PRODUCTS



Archer Fine Transfers (archertransfers.com) has three new S scale sheets of 3-dimensional resin decals of interest to model railroaders. Item AR88073 (above left) contains 80.6 linear inches of tank car rivets that are .014" in diameter. They are spaced .043" vertically and .021" horizontally. The project was researched by Tony Thompson. Item AR88074 (middle) contains the type of rivets used on heavy structural steel including bridges. The clear sheet has 103" of 3-D resin rivets that are .022" in diameter and spaced .146" apart. Item AR88075 (above right) has five different size louvers. The sheet has 7.8 linear inches louvers that are a scale 16", 14", 12", 9", and 6" wide. The sheets are priced at \$17.95 each. Although suggested for S scale, the new 3-D material may also be useful for hobbyists working in standard and narrow gauge O scale.

Fos Scale Models (foslimited.com) is selling a set of six two-ounce jars of Weathering Powders in the most commonly used colors. The powders are well-suited for weathering and aging structures, rolling stock, details, and scenery. The six colors are Chimney Black, Rusted Red, Low Tide Green, Filthy Brown, Muddy Yellow, and Rusted Orange. The six-jar set is priced at \$19.95. The colors are also available individually at \$3.95 per jar.



Jerry Glow (home.comcast.net/~jerryglow/decals) has resolved his production problems and has announced availability of several new HO scale lettering sets. They include decals for a Milwaukee Road stockcar suitable for a Mantua kit-bash project, and decals for an EJ&E modified AAR 1937 boxcar that has been reconditioned and repainted dark green with a map and other

graphics in orange. Also new is a decal set for a W&LE 1921 gondola using an Accurail kit. All items mentioned are sold direct at \$4.50 each.



Microscale Industries (microscale.com) has new decals for Cotton Belt (SSW) 40' and 50' boxcar data, Florida East Coast (FEC) Heritage GP40-2 and SD40-2 locomotives, and covered and Centerflow hopper cars for The Rock. HO scale decal sets are \$7.00. N scale versions are \$5.75. Still on the drawing table but expected later this summer are

decals for BN Airslide hoppers, BN passenger car names, CNW GATC 50' insulated boxcars, and demonstrator schemes for NRE Genset switchers.

Mount Vernon Shops (mountvernonshops.com) has added a new decal lettering set for an HO scale Pennsylvania Railroad X29 Railway Express Agency boxcar with circle keystone herald. The set has sufficient data to number four cars either assigned to the passenger roster, or freight service cars that were converted to passenger service but retained their freight number.

San Juan Decals (sanjuandecals.com) has 15mm (1:20.3) decals for D&RGW drop-bottom gondolas, and D&RGW 3000 series boxcars with a Moffat herald. The decal sets are \$12.95 each. Lettering layouts and detailed instructions are included with each SJD lettering sheet.

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Selected Events

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 or phone 604-588-2194.

CALIFORNIA, McCLELLAN (Sacramento area), July 18-22, National Summer Steamup 2012, operating 15mm and 32mm live steam from around the world, plus clinics, exhibits, and door prizes. Lions Gate Hotel. Info at summersteamup.com.

ILLINOIS, BELLEVILLE, July 28-29, The Great Train Expo, Belle-Clair Fairgrounds. Info at greattrainexpo.com.

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 or Dan Kohlberg at 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.

MICHIGAN, GRAND RAPIDS, July 29-August 5, NMRA National Convention and National Train Show. Info at 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.

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 restored Northern Pacific Depot, 800 E. Front Street. Info from Chris Frissell at leakinmywaders@yahoo.com.

TEXAS, LIVE OAK (San Antonio area), July 28-29, 10th Annual Train Show, Live Oak Civic Center, 8101 Pat Booker Road. Info at samratx.org/announcements/Summer2012Flyer.pdf.

August 2012

COLORADO, PUEBLO, August 11-12, Colorado Rail Fair featuring clinics, operating layouts, sales tables, manufacturers 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.

GEORGIA, NORCROSS (Atlanta), August 11, 43rd Atlanta Train Show, North Atlanta Trade Center. Info at gserr.com/shows.htm.

NEW JERSEY, EDISON, August 11-12, Greenberg's Train & Toy Show, New Jersey Expo Center. Info at greenbergshows.com.

OHIO, NILES, August 19, Niles 30TH Annual Train Show, McMenamy's Banquet Center. Info at gserr.com/shows.htm.

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/narrowgaugemeet.htm.

FUTURE 2012

CALIFORNIA, COSTA MESA, September 8-9, The Great Train Expo, Orange County Fairgrounds. Info at greattrainexpo.com.

CALIFORNIA, OXNARD, September 6-9, NMRA Pacific Southwest Region "Ventura Flyer" 2012 Convention featuring clinics, prototype tours, layout tours, swap meet, and hobo auction. Scheduled banquet speaker is Michael Gross. Courtyard Marriott, 600 East Esplanade Drive. Info at psrnmra.org.

CALIFORNIA SAN JOSE, September 15-16, The Great Train Expo, Santa Clara County Fairgrounds. Info at greattrainexpo.com.

COLORADO, COLORADO SPRINGS, September 14-15, TrainExpoCO, swap meet, operating layouts, clinics, and manufacturers presentations. Financial Services Expo Center, 3650 N. Nevada. Info at tecoshow.org.

COLORADO, COLORADO SPRINGS, December 15-16, TrainExpoCO, swap meet, operating layouts, clinics, and manufacturers presentations. Financial Services Expo Center, 3650 N. Nevada. Info at tecoshow.org.

ILLINOIS, NAPERVILLE, October 18-20, 19th Annual RPM-Naperville Conference with blue ribbon panel of speakers including Jack Burgess, Paul Dolkos, Stephen Funaro, Glenn Guerra, Dick Harley, Richard Hendrickson, Bob Hundman, Tony Koester, Martin Lofton, Brian Marsh, Scott Mason, Lance Mindheim, Pierre Oliver, Frank Peacock, Mike Rose, Stan Rydarowicz, Bill Schaumburg, Andy Sperandio, Mont Switzer, Tony Thompson, Bill Welch, and more. Hosted by Joe D'Elia at Naperville Marriott Conference Hotel. Info at railroadprototypemodelers.com.

NEW YORK, LIVERPOOL (Syracuse area), September 6-9, Empire Junction '12, NMRA Northeastern Region Fall 2012 Convention, Holiday Inn Hotel & Convention Centre on Electronics Parkway (info at empirejunction.org/home.html).

NEBRASKA, NORTH PLATTE, September 14-16, Rail Fest 2012, multiple events including tour of UP Challenger 3977, DDA40X Centennial 3922, and dozens of railcars at Cody Park, model train expo, tour of diesel shops, car repair facility, and Bailey Yard that processes 150 trains and 10,000 railcars each day. Details at nprailfest.com.

NORTH CAROLINA, BREVARD, October 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 narrowtrak@mac.com.

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 1:20.3 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 or e-mail Ken Ehlers at: 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 other 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.

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.

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.

WASHINGTON, SEATTLE, October 13, Rails By The Bay 2012, Pacific Northwest Railroad Prototype Modelers meet. Info at northwestrpm.com/RPM_Meet.html.

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 or send email to 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. Send inquiries to Jeff Smith at jeff@railmasterhobbies.com.

GEORGIA, ATLANTA, July 14-21, 2013, National Model Railroad Annual Convention and National Train Show (info at nmra2013.org).

MINNESOTA, BLOOMINGTON, April 25-28, 2013, 28th Annual Sn3 Symposium. Ramada Mall of America Hotel. Info at Sn3-2013.com.

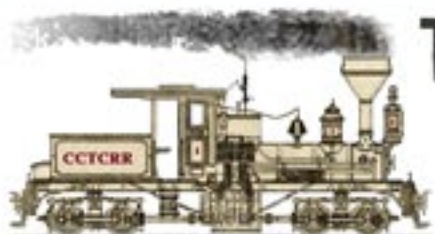
NEW MEXICO, ALBUQUERQUE, June 6-9, 2013, Rails Along the Rio Grande, NMRA Rocky Mountain Region, Rio Grande Division 6, convention with clinics, layout tours, train show, OpSig sessions, UPRR and BNSF modelers showcase night, and banquet. Marriott Pyramid North. Info at rarg2013.org. ■

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- Wire grab irons, brake rods, and coupler cut levers
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Available in Burlington Northern, Burlington Northern Santa Fe, Union Pacific, Western Pacific, and in the Milwaukee Road in "As Delivered" and Billboard paint schemes.

Please visit exactrail.com to watch the video announcement and view pictures of production samples.

... **TCS** (tcsdcc.com) has announced the availability of their KAT-Series

decoders with built-in Keep-Alive functionality.

The KAT1-Series decoders feature 2-5 seconds of backup power and the KAT2-Series decoders will continue running for 6-15 seconds without track power. Each series contains three decoders with 2, 4 and 6 functions respectively. All decoders include auto-adjusting BEMF for smooth slow speed performance and "Quiet Drive" for quiet motor operation. The dimensions for all the decoders are the same at 1.315" x 0.65" or 33.4mm x 16.51mm. MSRP's are \$49.95 (KAT12/22), \$52.95 (KAT14/24) and \$56.95 (KAT16/26). ■



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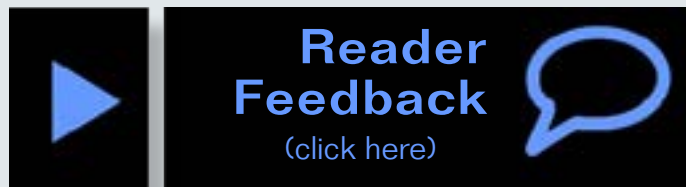
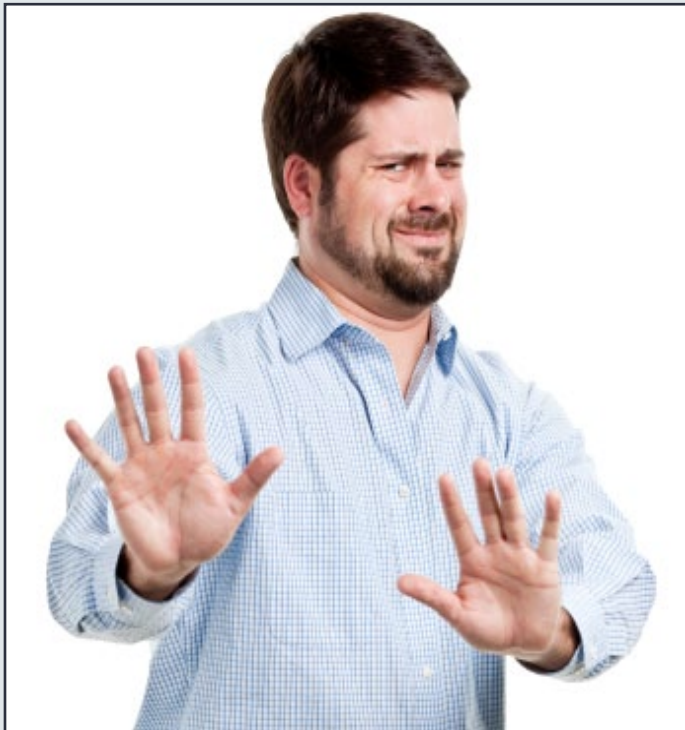
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REVERSE RUNNING: Has the hobby gotten too serious?

Stepping outside the box with a contrary view



— by Joe Fugate

I remember when I got into the hobby back in the 1960s how most modelers saw their layout as their own little empire. This viewpoint gave you a lot of freedom as to how you approached the hobby.

For instance, when I'd look at articles in the hobby magazines, almost anything was potentially useful. If there was an article on modeling a gas station, for example, I'd start considering where I could put this gas station on my layout.

But with today's trend of modeling a prototype accurately, this has all changed. Like many of you, I too now model a prototype – in my case the Southern Pacific of the 1980s in southern Oregon.

When I look at that same article today, if it's not a 1980s gas station typical of what I'd see in Oregon, with the proper gas brand, then the article's not interesting and I move on. If the article doesn't suit my prototype and era, I often consider it a waste.

What is this serious prototype modeling mindset is doing to the hobby? Might it be a total turnoff to potential hobby newcomers?

Back in the 1960s when I got into the hobby, modelers like John Allen (Gorre & Daphetid), Whit Towers (Alturas & Lone Pine), and Bill McClanahan (Texas & Rio Grande Western) set the pace. Their layouts appeared in the hobby press with some regularity, and they were *all freelanced*.

On some forum discussions recently, I've seen some from the prototype crowd refer to this more loose freelance approach to model railroading as "cartoon modeling". While there certainly can be a tongue-in-cheek

element to wide-open freelancing, taking a holier-than-thou stance toward other modelers who don't do the hobby the same as you can't be healthy for the hobby.

If model railroading is to have a strong future, there's one core value that must remain true: model railroading needs to be fun! When wide open freelancing was mainstream a few decades ago, I don't think any would question the hobby saw having fun as a core value.

I don't recall freelancers during those days ever taking a holier-than-thou attitude toward the prototype modelers. Maybe it's time for us (and I include myself) prototype modelers to lighten up a little when we comment on the work of the freelancing modelers?

That's one reason why we made Tom Hokel's Pine Ridge Railroad the cover story this issue. If such freelance modeling isn't your cup of tea, then at least recall the hobby is first about having fun with trains (hey, now there's a great slogan) and appreciate the museum-quality work that Tom and his cohorts have done.

We should appreciate the artistry and creativity needed to model trains in any form, no matter how

fanciful or serious, because that's the truth!

I mean come on now, fellas. How much sheer artistic skill and creative genius does it take to model a "believable copy" of the Gorre & Daphetid, so that it evokes déjà vu when you look at it? Do you think Tom Hokel's having fun with trains?

Why can't we all share and join in this fun of model railroading with the other guy, even if he's not modeling the 1952 Clinchfield like we are?

As always, we look forward to hearing your comments on the feedback thread to this commentary. But let me add that if you're a hard-nosed prototype modeler who feels freelance modelers aren't in the same hobby as you, then before you comment, please remember back to why you got into this hobby.

Wasn't your entry into the hobby originally motivated by having fun with trains, a value we all share? Isn't it about time we reestablish the pre-eminence of this core hobby value?

By refocusing on this core value as the primary motivation for the hobby, don't you think our hobby will appeal more to the general public once again? ☒

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For the love of model trains

Coming in the August 2012 issue

- Animating an Athearn crane
- Mike Confalone builds a quarry scene!
- Kitbashing a Norfolk Southern GP38
- Great Western layout streamlined ops
- Building a steam loco, part 3

... and lots more!

**Derailments, humor,
and Dashboard on
next page ►**

HOW TO HIDE A HELIX: #22



At the Office.

Cartoon by
Scott Sackett

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