Model Railroad Hobbyist magazine™

HAVING FUN WITH TRAINS

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STANDARD Edition

January 2012

- Columbia River N Scale club
- Scratchbuilding a car float
- Passenger car truck conversion
- MRH looks at RailPro

and lots *more, inside* ...

Lance Mindheim builds
Photo-laminated structures

Model Railroad Hobbyist *magazine*™

Front Cover: Lance Mindheim's HO scene shows us how some clever photo-lamination techniques can produce stunningly realistic model scenes. This is truly an MRH "Yes, it's a model!" photo by *Lance Mindheim.*

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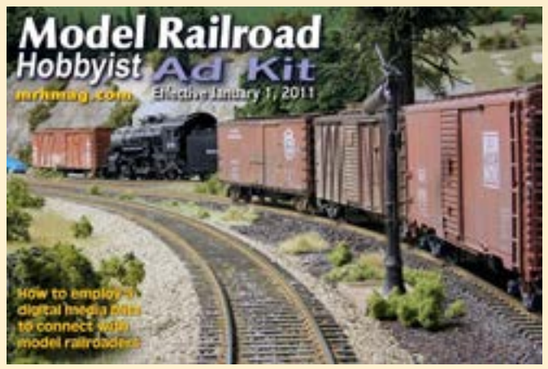

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HO SCALE

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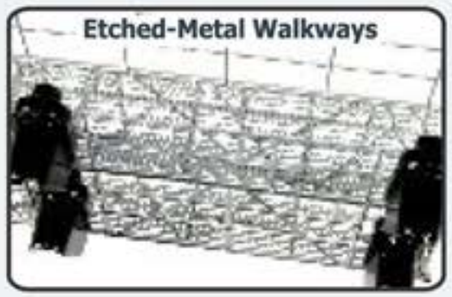

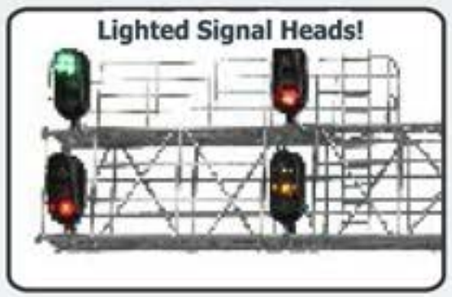

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THEY'RE BAAAAAACK!

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About the Editor

Charlie Comstock has been a regular columnist, author, and editor of ***Model Railroad Hobbyist Magazine*** since its inception.

To learn more about Charlie, click here.

EDITOR'S SOAPBOX: Sharing Our Passion

Good things get better with friends ...

Reader Feedback (click here)

By the time you read this, Christmas will have come and gone. Some folks like to predict what the new year will bring, but I'm going to resist that urge. Instead, I'd like everyone who's reading this to reflect on the things that make our hobby so great.

Some say it's the fact that our trains move. Others say it's because of all the skills you pick up while building layouts. Yet more like the creativity involved. Still others are sure the fellowship we get with other modelers is what makes it great.

All of these are great reasons why model railroading is a way cool hobby. But because this is my column, I'm going to tell you what I think.

I really like building things. That's been true since my Erector Set and Lincoln Log days. Apparently I have a creative streak that won't let me sit still. Later on that streak turned me into a software designer. Yeah, I know, you can't really "see" software, but programming is definitely building stuff. Eventually, the genes that lit up when I received my first 4x4 piece of plywood with a circle of HO track on it reasserted themselves and I started building "serious" model railroad layouts.

Having a dad who showed me how to run the tools in his shop undoubtedly helped me learn the necessary wood working skills, and all the Heathkits (remember those?) I built as a young teen helped with wiring.

However I think even the nicest looking, most complete, layout isn't really complete unless trains are running on it. Did you notice the plural there – trains? While possible, it's definitely hard to run more than one train at a time (unless you're into automated computer train control). The easiest way to run multiple trains at one time is with the help of a friend or two, or 16.

I believe model trains and the layouts we run them on are meant for sharing. Sharing construction with some trusted friends. Sharing operation with "the gang." Sharing ideas with whoever will listen in the basement, down at the club, at the local hobby shop, or even (gasp) on a model railroad forum.

Getting together with like-minded people (also known as train nuts, in our case) is really a great way to use our hobby time. Notice, I'm not suggesting

disappearing into the basement and abandoning your wife, children, or household responsibilities!

But there's another dimension. We tend to share our hobby mostly with train believers. "I believe I'll go over to Fred's house and see how he's doing on that turntable installation" or "I believe I'll give Joe a call and ask for help with gapping a double return loop."

What happens when we go beyond our circle of "believer" friends and venture out into the great un-trained (pun intended) masses? Is there a kid you know in the neighborhood? Invite him (or her) over to see the trains. Don't restrict "kid" to the under-16 crowd either – I've known many who were much closer to the century mark.

Sharing can be as simple as "Ya wanna take a look-see at my model trains?" to "My club is sponsoring a day of layout tours and clinics on model railroading. I'd love to have some company?"

Or "I'm one of those nut case adults that still plays with toy trains. I'm having a dozen guys over tonight to run my model railroad like it was the real thing. I have it on good authority that everyone has had their rabies shot and taken a shower recently. Why don't you come along and see what makes model railroading great?"

Who knows, you might meet a great new friend, introduce someone to a wonderful hobby, or just add some fun to an otherwise unremarkable day.

I dare you to reach out a little. And if you feel like it, post your results on the forum.

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

Notes from the

MRH Staff

MRH turns 3, Lew Matt update, Survey Reminder, Standard or Embedded?

Reader Feedback *(click here)*

MRH gets three candles

Model Railroad Hobbyist is three years old! It's appropriate we stop and take a look at where we've been and where we see hobby publishing going.

Figure 1: Reading MRH on an iPad and an iPhone. You can also read MRH quite well on the new Amazon Kindle Fire (not shown).

Let's get one question settled immediately. Do we see paper publishing going away? No.

Did television eliminate radio? No. Have DVDs eliminated movie theaters? No.

In both examples, the new media form greatly altered the market and how media is produced, but the new medium did not *eliminate* the old one.

There's no question the economics of paper publishing keep getting tougher. Just look at the recent demise of *Model Railroad News.*

Paper will continue in some cases, but the scope and breadth will be forever altered as digital media become ever more accessible by individuals.

I don't think anyone would question the economics of publishing these days favors digital, and as the mobile Internet gains momentum, any remaining barriers to consuming digital media are coming down.

For example, a common complaint on the modeling forums against MRH is "I can't read it in my easy chair, in bed, or in the bathroom. I also can't read it when I'm on the go."

Well, I *can read* MRH in my easy chair, in bed, in the bathroom, and on the go. In fact, I can take the entire MRH collection since we started in 2009 with me – it's at my fingertips!

I do this using my iPad. I can do this on our $199 Kindle Fire. I can even read MRH on my iPhone!

MRH is about giving you instant access to hobby resources. That means free, well-vetted how to articles, illustrated with video and interactive media (like our click-n-spins) and live hyperlinks to resources.

And it also means, among other things, *instant one-click access* to vendor web sites that have products you need for your modeling projects.

December's ratings

The five top-rated articles in the December 2011 issue of MRH are:

- **4.6** Signs for your buildings
- **4.6** Upper Bear Creek gets water
- **4.5** DCC Impulses - Layout wiring
- **4.5** Modeling a flat car load
- **4.3** The 35 dollar challenge, pt 3
- Issue overall: **4.5**

Please rate the articles in each issue! We depend on your feedback to help us plan future issue content. If you're *not rating* the articles and you wish we'd cover something different, your rating can alert us to this wish.

Update on Lew Matt

Lew missed the column deadline for this issue, with good reason. If you frequent the MRH web site, then you know Lew landed in the hospital recently with acute liver failure, which is very serious.

Fortunately, after many tests and a number of surgeries, Lew is on the mend and his liver's back doing its usual good job again.

We appreciate your prayers and get well wishes for Lew. We're likewise thrilled to see he's doing so well and we're looking forward to having him back to his typical good-natured self soon!

Standard or Embedded?

Every so often we get people who ask us what the difference is between the Standard and Embedded edition.

In short, one has all the media embedded in it (which makes for a much larger download) and the other has the media on the web – like the videos are on YouTube, for instance.

By leaving the media on the web, the download is a lot smaller, but you need an active internet connection if you want to view the media.

By not embedding the media in the PDF file, we can also use an older version of the Adobe PDF standard, which makes the Standard Edition more likely to work on more machines without a problem.

The Embedded Edition uses more bells and whistles, and works best on a PC. You can get the Embedded edition to work on a Mac as well, but it messes up your Mac's standard PDF preview function if you're not careful. So we don't recommend the Embedded Edition for use on Macs by mere mortals!

Finally, because the Embedded Edition is always expected to be a much larger download with all the embedded media, we also use a higher resolution on the photos in the issue.

Figure 2 shows a sample of an ad image blown up so you can see the difference between the photo image quality in the two editions.

Figure 2: This illustrates the image quality of the Embedded edition versus the Standard edition. Both images have been zoomed to 200%. Notice the Embedded edition image quality holds up much better.

Reader survey reminder

We've been running a survey since November to find out how and why you, our readers, access and read MRH.

We'dlike to know which devices you use to read MRH, whther you're downloading to multiple devices, and so on. We're also asking why you read MRH and what points you might make if recommending MRH to a new modeler.

These answers will help us plan MRH's direction in 2012 and beyond, and what to tell visitors to our website about why to become a subscriber.

Sure, we're free, but the value we provide to you, our readers, better be more than the zero cover price, or we're just heading down a dead-end spur at run 8!

So please take the survey – it shouldn't take you more than 10 minutes.

Our web hobbyshop finder

You may not be aware we have a hobby shop finder on our web site! Hobby shops that promote MRH (ask for some free flyers for your counter if you're a hobby shop owner who's not listed), are listed.

Consistent with what you'd expect on the internet, clicking a state takes you to the hobby shops for that state, and if you click the hobby shop name, we take you to Mapquest for the shop and you're all set to get directions to the shop.

Very nice!

If you didn't know we have this feature on the MRH web site, now you know.

Just go to **Community > Hobbyshops** and voila!

In this issue

As mentioned previously, Lew Matt has no column in this issue. But we have some other great columns for you this month.

Up the Creek: Charlie Comstock's making sawdust in his basement again! For several years now, Charlie's been hosting op sessions using just the along-the-walls part of his layout plan. He's using a temporary flattop staging yard on his west end where the track would run out into the helix and onto the peninsula in the middle of the room.

Well the peninsula construction has started, and Charlie shares his usual clever benchwork engineering techniques for this project.

Getting Real: Our Getting Real guest columnist, Mike Rose, is back with another installment on his layout op session learnings. Mike isn't bashful about sharing the good, the bad, and the ugly of his op session lessons learned, all to the benefit of you, our readers!

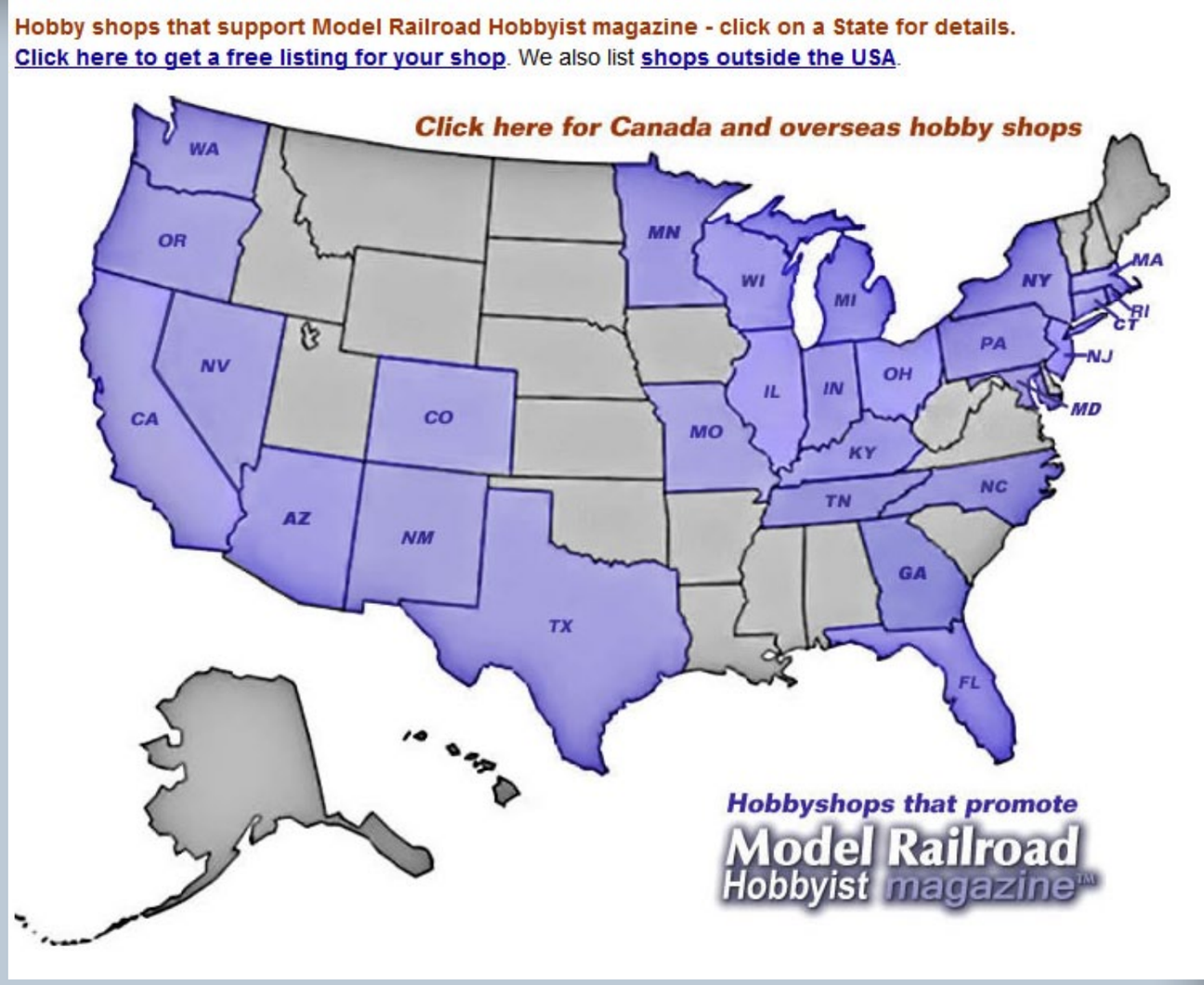


Figure 3: With MRH's hobby shop finder, just click on any state that's purple with the state abbreviation and we'll jump to a listing of the hobby shops in that state that promote MRH. Click on the shop listing to get Mapquest driving directions to the shop. The listings are free, so if your favorite shop's not listed, go tell them to sign up for a free MRH listing!

DCC Impulses: Our DCC guru, Bruce Petrarca, wades into the ins and outs of hard-wired DCC decoder installation in his column this time. He covers the essential planning of the installation in part 1. Bruce's column gets rave reviews from readers. We think you'll agree, this installment continues Bruce's tradition of giving you practical DCC how-to information you can sink your teeth into.

First Looks: Jeff Shultz outdid himself this issue with a couple of great product First Looks. Jeff did an extended First Look on the new paradigm-changing RailPro system. It uses a touch screen throttle and direct to the loco wireless communication so the signal no longer needs to go through the tracks. You still need track power for the motor, but the system can run on anything, DCC

or DC. Jeff tells you all about it, complete with a deluxe demo video.

Jeff also shares the details of a new LED passenger car lighting kit from ESU. Modern LED technology is making inroads in a lot of areas, and this is an interesting use of LEDs for modeling purposes.

Photo-laminated structures: Lance Mindheim's cover story illustrates the simple power of modern digital photography and tools like Photoshop for modelers. If you can get decent photos of a prototype structure, then you can use some clever bas relief techniques to make a model that will simply knock your socks off with realism. Lance show you how it's done in our cover story this issue.

Rivorassi 4 to 6 wheel conversion: Jim Duncan shows you some simple techniques for changing out the 4-wheel trucks on a Rivarassi passenger car and replacing them with 6-wheel trucks. This is our new "Modeler's Workbench" series, which you can think of as a beefier version of our popular one-evening project series.

Simple car card system: Tom Driscoll shares how he developed a simple car card system for running the trains on his N scale layout, the TJ&H. Tom's system uses a single car per train, giving you all the instructions needed to run the train and do the switching along its route.

Build a car rail barge: If you're a regular on the MRH web site, then you know about M. C. Fujiwara's fabulous posts on his N scale layout pursuits. In this article M.C. shows us step-by-step how he build a great little rail barge car float.

Columbia River N scale modular group: This issue has three (count them, three) modeling articles that use N scale layouts as the illustration. This group's modular layout has the added bonus it's got a coherent theme, making it a real visual delight.

January News: The amount of new product coming to the market has never been more varied and amazing. We're not sure how our news edtor Richard Bale manages to keep up with it all, but his news is complete with nice images, hyperlinks and more. With today's limited run approach to releasing models, the news section should be required reading!

Reverse Running: While we're thrilled MRH has reached the ripe old age of 3, the Reverse Running this times takes a look at the perils of getting overconfident with our success to date at this still tender age. We're asking for you, our readers, to help in making sure we don't fall flat on our face in the future! ☑

MRH
Questions, Answers and Tips

Reader Feedback *(click here)*

QUESTIONS AND ANSWERS

Q: What's the best way to light a layout if you want the ability to dim the lights for night running?

A: While you can use fluorescent "shop light" tube fixtures, getting dimmable fixtures can be costly, and these days you have many other options. Yes, LEDs are coming, but they're new, and the jury's still out on using them for layout lighting. Plus LEDs are still novel and not cheap.

One good option is to go with low-wattage incandescent lights or with dimmable compact fluorescent lights (CFLs). If you wire the lighting valance with standard screw light sockets that can be plugged in, wiring codes are more flexible.

You have several options for the light sockets themselves. On my HO Siskiyou Line, I'm using Leviton porcelain sockets, spaced 24" apart (figures 1 and 2). Depending on the depth of the scene, I use a mix of 15 watt and 25 watt incandescent bulbs. By keeping the wattage low, I don't have a problem with room heat buildup, and I can easily dim the lights using an adjustable dimming light switch.

I like these little guys because you simply unscrew the collar, wire in the socket, and screw on the collar. The wire connection is covered and protected.

Just Google "Leviton porcelain socket 9880" and pick the best price. If you order several at a time, you can save on shipping.

Figure 1: Joe Fugate uses Leviton porcelain sockets spaced 24" apart on his Siskiyou Line layout for lighting. Joe puts 15-watt and 25-watt bulbs in the sockets.

Figure 2: Here's the same area on the layout in figure 1 above, to show how the scene itself looks when using this lighting method.

Another option is what Cliff Powers did on his Magnolia Route, see: magnoliaroute.com/magnolia_route_132.htm.

A recent discussion on the MRH forum (see mrhmag.com/node/6510) revealed a new pre-wired set of light sockets in 48 and 96 foot lengths, spaced 24" apart – perfect! These plug in, so they have more lax code requirements and make wiring the layout valance light sockets quite straightforward:

http://www.partylights.com/Strings-Bulbs/CommercialStringers-Medium

Party Lights also sells the 15 watt and 25 bulbs.

Besides low-wattage incandescent light bulbs, you can also use dimmable CFLs.

A great source for every kind of dimmable CFL you can imagine is the 1000 Bulbs website (see www.1000bulbs.com). They sell dimmable CFLs in the 15-30 watt equivalent range for $9-$11 a bulb.

These dimmable CFL's aren't cheap, but if you start with incandescents and slowly replace them with CFLs, you can

Figure 1

Figure 2

Figure 3: These pre-wired party lights come in strings 48 feet or 96 feet long and spaced 24" apart, just perfect for model railroad lighting!

get up and going, all-the-while evolving to a long-term lighting solution based on dimmable CFLs.

— Joe Fugate and the MRH forum

Q: How can I temporarily glue a plastic model together so that it can be taken apart later without too much damage?

A: For semi-permanent assemblies, I use office paper rubber cement. The cement solvent does not seem to affect any of the typical plastics in the hobby, but it may attack some paints. (Side note: I have actually used rubber cement thinner to remove lettering, and after a long soak, the paint.)

I apply a thin coat of glue to each plastic part and allow it to dry to the "just sticky" stage, then place the pieces together.

You have no leeway to adjust or reposition; if you must move the parts, you'll need to start the gluing process over again. I use this method to assemble plastic models to check for fit and to see what everything looks like before final gluing.

I had a plastic boxcar "temporarily" glued together for eight years as an extreme example. It is easy to take everything apart with minimal force, and any pieces of glue still adhering may be removed by rubbing.

Beware however, that paper and wood will be glued permanently with this technique! ***— Lew Matt***

Q: Before the advent of the center-beam flatcar for the transportation of lumber and plywood, what type of freight car did the railroads use to transport these items? I assume it was some type of boxcar to protect the lumber and plywood from the weather.

A: The ubiquitous 40-foot box car was used for lumber loading into the 1960s. Some had a small end door for access. Because most dimensional lumber is 10 feet long or less, the common six-foot door wasn't as big an obstacle as you might think.

Two-man crews loaded 40-foot box cars one piece at a time through the side door, one in the car and the other sending lumber into the car on a roller. Pitch and catch. A forklift brought lumber to the car according to what was ordered.

The cars were under cover, as the lumber was kiln-dried and planed.

Beams and timber were loaded on flat cars on another siding in the open.

MEC573 reports loading bundles of 4x8 laminated strand board onto 40' and 50' boxcars at Louisiana-Pacific in New Limerick, Maine in 1995, with never a center-beam car in sight.

The complete thread, with information on more recent lumber loading practices, is at mrhmag.com/node/5605

— Joe Brugger, Terry Roberts, and the MRH forum

Q: I am planning the staging for my layout and I'm unsure how much staging I need. I know about Tony Koester's 2n+1 staging formula, but does that really work? Please help!

A: One of the great developments out of the famous V&O series from the 1980s is the concept of staging. Let's review how staging works for a moment, so we better understand the problem. Often understanding the problem gets you halfway to the solution.

Most real-world railroads are part of a larger network. Our model railroads typically represent one small piece of that larger network, so it makes sense that we somehow model the "rest of the network" as a source or destination for our trains.

That's where staging comes in. Staging is simply storage for trains that are to enter our layout "from the rest of the network" or for trains that are leaving our layout onto the rest of that network.

It's been called the "beyond-the-basement" concept.

The trick is to figure out how many trains you want to run on your layout in a typical operating session. Once you know that, then you can ask:

- Where does the train originate? On the layout or off the layout (from staging)?
- Where does the train terminate? On the layout or off the layout (in staging)?

Once you know how many trains you think you will be running, and where they originate or terminate, determining your staging requirements becomes a fairly easy problem to solve.

Tony Koester's 2n+1 formula is a tongue-in-cheek way of saying don't underplan the staging you will need. Because not all trains in staging will be on the layout yet, staging should always leave room to receive trains as well as store trains waiting to enter the layout.

If you ever decide later you would like to run a new train, and if you haven't allowed for room in staging, you could find that staging has become a major constraint because it's already full.

If you double the train capacity in staging over what you think you will need, then it's likely you won't find yourself constrained later as you adjust the train mix on your operating layout.

The plus-one in Tony's formula contains a bit of staging track wisdom that may not be obvious until you have some model railroad operations experience.

The plus-one is a reminder to always leave one staging track open to receive a train, while keeping the staging yard fluid. If you always have a staging track open, then staging can *send or receive a train* and remains fully functional.

A staging area with no open tracks has lost 50% of its value, so always add one more track just to make sure you have an open staging track!

Okay, so what if you don't have any idea how many trains you might want to run, or even how many trains your track plan might support?

I've got a layout formula process I've developed that helps you determine how many trains a track plan can support, and can give you the insights you need to make informed decisions about staging, as well as the mix of industries, yard tracks, and passing sidings on your layout.

I call it Layout Design Analysis and I **explain the process here**. Like any tool that uses statistics, it's only numbers and they don't tell the whole story. Tools are assists, not a straight-jacket.

As long as you keep in mind that these formulas are for insight and to aid in layout planning, they can be helpful. They are not the end-all-be-all in planning.

One thing that's often true about those who struggle with track planning is they have little or no realistic op session experience. If that's you, then you don't really know what those lines on a track plan are for.

Real railroads don't put track down just because it adds variety, looks cool, or might be fun to operate. Every track has a purpose. To help you in your track planning pursuits, do a couple things:

Join the **Layout Design Special Interest Group** and get as many of their back issues as you can, especially the yard-planning issue.

Get yourself a copy of John Armstrong's *Track Planning for Realistic Operation* and read it through. Once you've read it completely, then read it again.

Once you can look at a track plan and start to see in your mind what the trains are doing on those lines, then you will be equipped to design a layout that's fun to operate and will truly satisfy.

Also check out this thread on the MRH website: **mrhmag.com/node/6306**

— Joe Fugate

If you don't visit the MRH web site at least once in a while, you are missing out on some helpful, fun content.

Here's a few of the better threads on the MRH site as of this writing.

N scale modular project
mrhmag.com/node/5666

M. C. Fujiwara has a delightful N scale blog on this innovative modular project. Well-illustrated with images, it's a real delight to see his young daughter helping him in many of the tasks. M.C. also has an article in this issue on building a railroad car barge.

Narrow gauge layout expansion project
mrhmag.com/node/5117

Master Modeler Wolfgang Dudler is a frequent poster to the MRH site and his Silver Valley RR thread is great fun.

Truck dumps, tipples and prep plants
mrhmag.com/node/6643

You may recognize Tom Patterson as the author of the November 2011 cover story on kitbashing a Central Valley bridge. Tom's posts are always well illustrated with some fantastic modeling, and this thread is no exception.

Merit of modular layouts?
mrhmag.com/node/6562

If you like lots of pro and con discussion around an approach to building a layout (with a little heated debate thrown in) then this thread is for you.

Watching a layout design develop
mrhmag.com/node/6618

Ever wanted to watch a track plan develop from concept to the final plan? Then this thread on Rob Proctor's in-development layout plan is for you. Learn some good insight on how to fit a plan into a room from this thread!

TIPS

Turntable dust cover

Both protect and keep dust-free: I have the large Walthers HO 130' programmed turntable. It's about 19" edge-to-edge. Walther's encourages keeping the pit clean and frequent comments from users on forums are that it *must* be kept clean to ensure proper operation. And of course, a basement is not the cleanest environment.

I used to cover the turntable with plastic bags or other makeshift covers -- it looked bad and was hard to put on or take off without damaging things.

My wife, Cheryl, suggested using a deli food tray cover from the grocery store.

We went to our local Jewel Food Store and got their deli's largest food tray cover. It measures about 18.5 inches in diameter and about 4.5 inches tall. It is really quite sturdy and clear plastic. It cost us only 50 cents and it is perfect!

It covers the pit completely, except for a small part of the very outer edges. It rests on the rails so there is a slight 1/8" or so gap on the bottom. I find the gap inconsequential, but an industrious individual might cut slots in the cover for the rails to eliminate the gap.

The 4-1/2" depth gives plenty of room for the turntable itself, both lengthwise and height-wise.

GET $25 PER TIP

We pay $25 USD for each tip we publish. **So send in your modeling tips to Model Railroad Hobbyist** and we'll get your payment to you upon acceptance.

Just think, for only a few minutes effort, you could fund your next piece of rolling stock – or even pay for an entire train if you send in several tips and we publish them!

If you include any photos with your tip, we pay a bonus of $10 per photo we use with the tip. ■

I like that the turntable is clearly visible when the cover is on. I can easily lift the cover off with the little tab on the cover when I will be using the turntable and roundhouse. It is very easy to put back on without damaging anything.

This size should also work for turntables from other vendors, as well as smaller turntables. However, there are smaller sizes of these covers so maybe one of those would work better for shorter turntables or in other scales.

— Kenneth D. Kalitowski

Reader Feedback *(click here)*

The Amherst Railway Society Railroad Hobby Show

Our 2012 Show will be

January 28 & 29, 2012

Save the dates!

About The Show

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

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

Click to learn more ...

About our layouts columnist

Charlie Comstock became the MRH editor in the March 2011 issue.

Click here to learn more about Charlie.

Reader Feedback *(click here)*

UP THE CREEK: Peninsula Construction!

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

Part 1 - After a 3-year hiatus, peninsula construction has recommenced on the Bear Creek & South Jackson. The first step is building the helix ...

Figure 1

I don't know how many of you have experienced that sinking feeling in your stomach that comes when your boss calls you into his office for a meeting, closes the door, and you know something bad is going to happen. Three years ago I found out what that's like when I was laid off from my nice job as a senior software engineer at a leading electronic design automation company. I guess sometimes it doesn't pay to finish your project.

The good news was I suddenly had a lot more time to devote to my layout and to MRH which was preparing for Issue #1 – January 2009. Bad news was I suddenly found myself without an income in a very uncertain economy

Figure 1: The first project tackled before connecting the peninsula to the rest of the layout was the helix. This will be a two-lap, dual track helix with a 40" inner radius and 43" outer radius with railhead to railhead separation of 4-1/4" providing access to the main staging area on the lower deck of the peninsula.

in which an almost 60-something programmer didn't have an easy time finding new work.

Prior to this, I'd been going gangbusters working on the BC&SJ's peninsula. The basic benchwork was in place as was the support table for the helix. And there it sat for three years while I worked on other projects, mostly scenery, for which I had most of the supplies already on hand. I also wrote a lot of articles for MRH.

Enough is enough

A few months ago, I decided enough was enough, and it was time to get construction going again. The lure of more than doubling the run of the "bare creek" was strong.

I called up some friends and asked if they were interested in some work sessions. Foolish question – three sheets of plywood later benchwork progress was visible again.

Starting with the helix

After a discussion we decided the first project to tackle was the helix. The top of the helix would connect to the existing portion of the layout, and was therefor elevation critical. It would be a big mistake to build the peninsula first and only then discover whether it was the right height. Much better to start close to where the peninsula would meet the existing layout and ensure things would be "on the level".


Figure 2

Figure 2: Cleaning up has to be one of my least favorite parts of model railroading. The 8'x 8' helix table demonstrates the tendency of horizontal surfaces to collect an excess amount of stuff. It all had to go to make room for the helix.

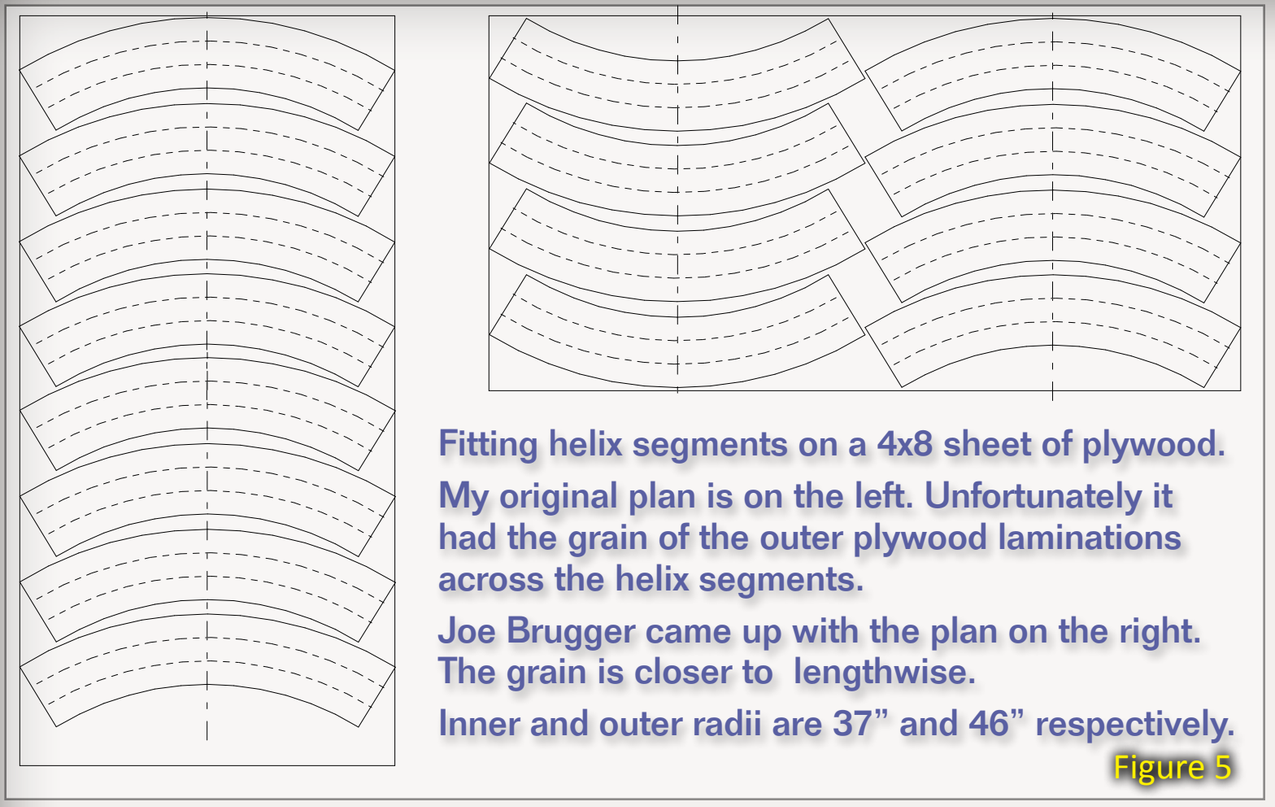

Figure 3

Figure 3: It's a miracle. The helix table is once again visible, and I got it done before Joe (left) and Mike (right) arrived to the first helix party (or is that "work session").

Figure 4: The first helix session we carefully measured where the center of the helix would be, and drilled a small hole, just the size of a 6d finishing nail, and made a trammel to mark the inner helix roadbed edge, outer edge, and track centers. We actually wore out a ballpoint pen doing this. I guess BICs aren't what they used to be! The result of this step was a set of pretty circles telling us where the helix would be located.


Figure 4

I've been thinking for a long time about how I wanted to build the helix. I figured using all-thread, long 3/8" diameter rods threaded over their entire length, to support the helix roadbed would be good,



Fitting helix segments on a 4x8 sheet of plywood.

My original plan is on the left. Unfortunately it had the grain of the outer plywood laminations across the helix segments.

Joe Brugger came up with the plan on the right. The grain is closer to lengthwise.

Inner and outer radii are 37” and 46” respectively.

Figure 5

offering infinite adjustability. The main staging area is designed on a balloon loop on the lower deck of the peninsula. A double track helix with the inner track operating “downward”, and outer track (with a slightly shallower grade) operating “upward” was part of the original track plan (see the discussion in MRP 2004). I decided to space the track centers 3” apart to eliminate clearance problems for long wheelbase equipment passing on the two tracks.

Two laps are required to get from the 36” elevation of staging on the peninsula’s lower level to the 48” elevation where the tracks arrive on the “real” layout. Railhead to railhead separation would be 4-1/4” for grades of about 1.5% and 1.7% for the inner and outer tracks.

Helix segments

I toyed with the idea of using splines for the helix, but keeping a precise radius with splines is tricky and there’s nothing to catch derailing equipment. Plywood was the alternative. Home Depot had a special on “cabinet grade” fir plywood. At $25 per sheet it was much less expensive than their

Text continues on page 27

Figure 6

Figure 5: How to fit the maximum number of helix segments possible on a 4x8 plywood sheet.

Figure 6: Using the trammel to make a 1/4” hardboard template for the helix segments.

Figure 7: Marking helix segments using the template is a lot less work than swinging a trammel for each piece.

Figure 7

Figure 8

Figure 9

Figure 8: After three years of construction inactivity, sawdust production commenced with Mike and Joe slicing a lot of helix segments.

Figure 9: Here's one of the "special" pieces for the top and bottom of the helix. The flare will let us put all-thread in "nice" locations instead of spreading them too far apart and drilling them through the center of the track below.

Figure 10: We did our cutting in the garage to keep dust out of the train room. Back in the basement, Mike Talviste is fitting some helix segments to the helix location circles we drew earlier on the helix table.

Figure 10

Text continued from page 25

hardwood plywood and it wasn't as badly warped as the other fir plywood they stocked. I decided to go with 3/4" thick helix roadbed.

The next decision was how to cut the plywood to make the helix roadbed segments. Using straight pieces beveled at the ends would make the most efficient use of a sheet, but I wasn't very keen on all the angles and the "points" sticking out would interfere with adjacent tracks.

Finally it occurred to me, why not use arcs of plywood instead of straight pieces? No corners, no angles, and easy to figure out how wide they should be. I spent some time in 3rd Planit and made a pleasant discovery – I could fit eight helix segments onto a sheet of plywood with relatively little wastage (figure 5). Construction buddy (and MRH copy editor) Joe Brugger came up with an even better way to fit those eight segments on the plywood and it was time to make some sawdust.

Rather than measure each segment individually, Mike Talviste insisted we should make a template from a piece of 1/4" hardboard. Then we could trace around its edges for each helix segment – much faster than using a trammel to hand draw each piece on the plywood. It pays to have friends like these! Figures 6 and 7 show making and using the template.

I bought three sheets of the cabinet grade plywood the afternoon before the work session and it was still in the back of the pickup truck. It seemed easiest to just use the truck as a workbench (figure 7 and 9)! After tracing the outlines of a bunch of helix segments, out came the Porter Cable saber saw and sawdust production commenced.

Although most of the helix segments are the same size and shape, I wanted the segments at the top and the bottom to have flare to them. This would allow better location of the all-thread support rods during assembly (figures 8 and 10).

Joining the segments

Unfortunately using 3/4" plywood for helix roadbed reduces the clearance between helix laps for the trains. With a 4-1/4" railhead-to-railhead separation, the roadbed and track thickness reduces the clearance by about 7/8" leaving only 3-3/8" above the railheads on the lower lap. That's enough to clear any equipment I could foresee – my 85' hi-cube clearance testing cars had a LOT of headroom with this.

But if I glued 3/4" plywood splice plates under the helix segment joints, clearance would be drastically reduced. I could use thinner splice plates but was there another way?

Figure 11

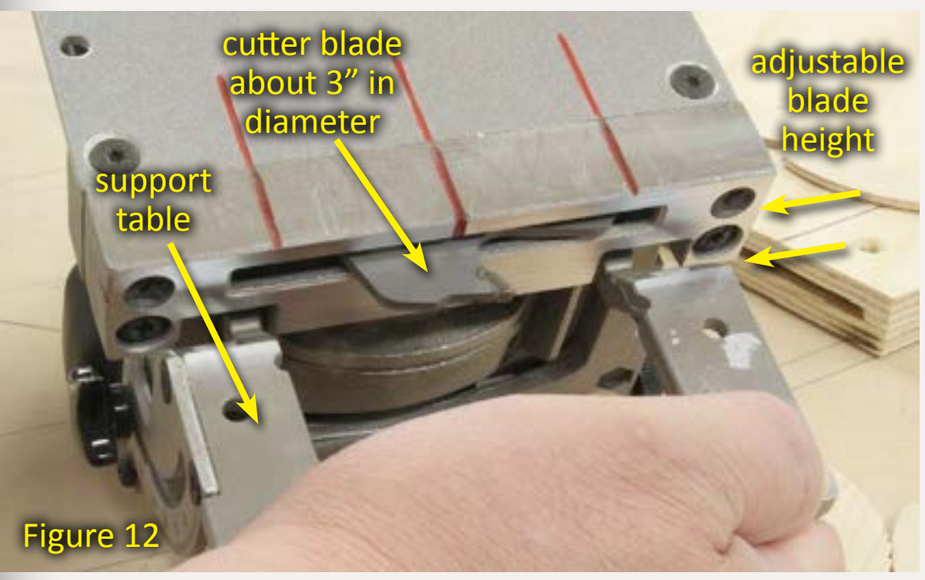


Figure 12

Figure 13

Figure 14

Figure 15


Figure 16

Have a biscuit!

Woodworkers who make furniture sometimes need to join multiple pieces of wood edge to edge. Just gluing such a joint would not be terribly strong. In fact it would be quite weak so they resort to biscuits (figure 11).

Figure 11: Counter-clockwise from the left: biscuit joiner, jar of hardwood biscuits, the end of a helix segment prepared for three biscuits, and a few extra biscuits.

Figure 12: The business end of the biscuit joiner. The “table” in my hand rests on the surface of what’s being joined to guide the vertical depth of the cuts.

Figure 13: The biscuits are made of hardwood and compacted. The moisture in the carpenter’s (yellow) glue causes them to expand making them fit tightly in the cut-outs. It’s important to use plenty of glue.

Figure 14: The three biscuits set in the end of a helix segment.

Figure 15: The other helix segment. Did I mention to use plenty of glue?

Figure 16: It’s hard to grip the helix segments and force them together. My solution was to drive screws into the helix segment plywood (but NOT into the surface underneath). They I could use a set of Channel-Lock pliers to pull the pieces together.

Figure 17

Figure 18

Figure 17: I work the pieces together with the Channel-Lock pliers, going from one side to the other. To ensure the pieces are lined up correctly I'm working on top of the circular helix location lines we drew on top of the helix table.

Figure 18: Note the wax paper underneath. We didn't want to glue two helix pieces to the top of the helix table! These two segments are lined up. Time to let the glue dry overnight.

Figure 19: Biscuit joints are much stronger than you might expect as this piece of helix demonstrates. Still I wouldn't recommend this except for all the support the helix will receive from the all-thread rods (shown in figure 1).

I just happen to have a biscuit joiner. This device has a small circular saw blade set horizontally to make cuts into the side of a board – or the end of a helix segment. Could I use biscuits to butt-joint the helix segments together? The answer was yes!

The key to a strong biscuit joint is having the two pieces being joined mate exactly (figure 20). Mike came up with a clever method for getting the two helix segment ends at each joint to match even though they were originally cut with a hand-held saber saw (figure 21).

Because Mike's method custom-mates each pair of helix segments, we labeled the adjacent ends so if the pieces got moved around they could easily be put back in the right place.

Another thing biscuit joints need is glue and lots of it. The moisture in the glue makes the biscuits expand – especially

Figure 19

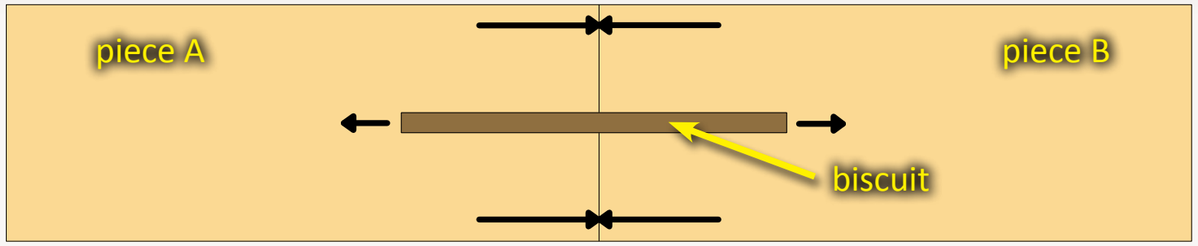
their thickness. This locks the two pieces being joined firmly into position.

I had a lot of trouble with the first joint shoving the two ends tightly together. Then it occurred to me: since this isn't going to be a finished area of the layout visible to the everyone, why not put a pair of screws in the end of each segment? The extra holes wouldn't matter. We were careful to not run the screws all the way through the helix roadbed segment into the wood below. A pair of Channel-Lock pliers was just wide enough to grab the two screws and pull the ends together (figures 16 to 18).

Here are some joinery hints:

- There's lots of yellow glue in one of these joints. Put waxed paper under the joint unless you want to glue the helix roadbed to the top of the helix table. Use a wet cloth to wipe up any glue oozing out the top of a joint.
- It's much easier to add a single segment of helix roadbed to a multiple segment piece of roadbed than it is to join two longer pieces. The Channel-Lock pliers can mangle the screws if you try to pull a couple of three-segment pieces together (ask me how I found this out).
- Use the circles drawn on the helix table to ensure the glued-together helix roadbed has the correct radius.
- Let the glue dry overnight, then use some 80-grit sandpaper wrapped around a 3"x15"x3/4" sanding block to smooth the joints between the segments. Pull the waxed paper

What makes a biscuited joint strong?



Refer to the cross-section of a biscuited joint above. After a biscuit swells from the moisture in the glue, it is embedded in the joint extremely tightly. This prevents pieces A and B from shifting vertically as well as preventing them from pulling apart from each other.

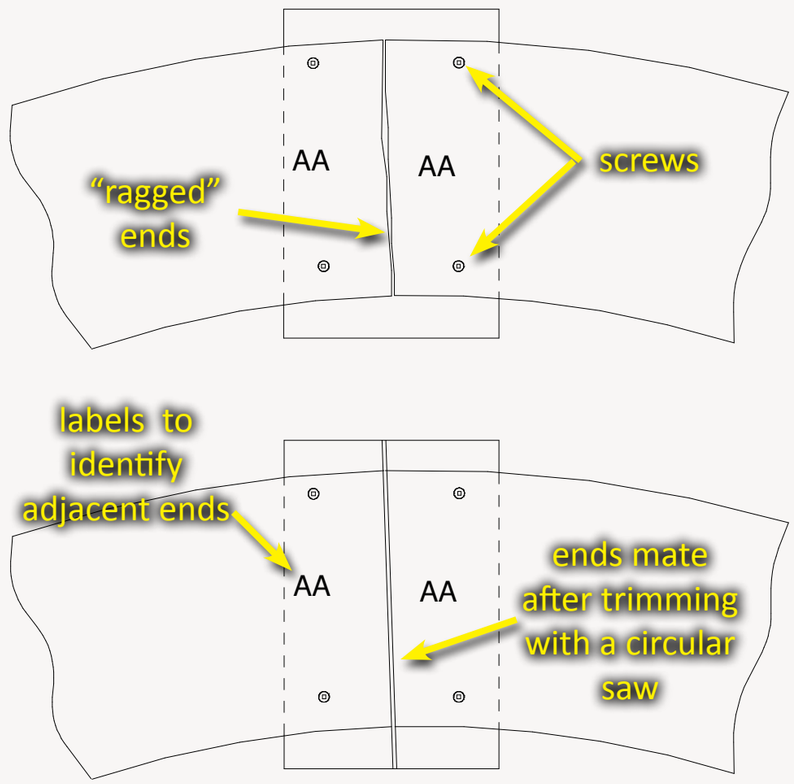
When a deflection force is applied to the joint, either the top or the bottom edge under compression while the biscuit is under tension. If the two ends are well mated, deformation of the joint requires either the wood ends to crush or the biscuit to fail.

If the ends are not well matched and there is a gap between them, a bending force applied to the biscuit greatly increases the chance of failure of the biscuit or the wood surrounding it. Glue in the joint gap helps, but glue tends to be more compressible than wood, resulting in a suboptimal joint.

For maximum strength, it is important the ends being joined mate well with a minimum gap.

Figure 20

Making helix segments mate



For a strong biscuit joint, the ends of the two pieces need to very friendly. Large gaps in between the two pieces will significantly weaken the joint. Mike came up with a simple way to trim the ends of adjacent helix segments to mate nicely with each other.

Since the segments were cut free-hand with a saber saw they don't mate terribly well in their original state.

Put a splice plate under the ends, and using another segment as a guide, line them up for the proper curvature. Screw each end to the splice plate using 1-1/4" screws.

Set a circular saw for a cut depth about 1/16" deeper than the thickness of the plywood roadbed and cut across the joint. The two ends should now mate pretty well.

This method isn't absolutely exact, but it's darn close and we got good results with it.

Mark the ends of the adjacent pieces to identify them – it's very easy to get them mixed up later and different pieces won't necessarily mate well.

Figure 21


Figure 22


Figure 23

Figures 22 and 23: With the first pieces of the helix joined, I ran more 9”-wide roadbed to connect the helix and the main peninsula staging leads.

Figure 24: Using a trammel to draw track centerlines on the roadbed to main staging on the lower peninsula deck. Note the hacked-together pivot point.


Figure 24

off the bottom and use the sanding block to remove any that stayed glued to the bottom of the roadbed.

If all went well you should have some strong butt joints (figure 19). Don’t deliberately stress test these unless you’re destruction testing.

Joining the Peninsula

Once the first few pieces of helix roadbed were glued together, I wanted to double check the span of roadbed between the bottom of the helix and the main staging area on the lower deck of the peninsula. I used a couple of helix segments and some other custom pieces to bridge the gap between the helix and peninsula. Phew! It all seemed to fit well (figures 22 and 23).

I used the trammel to draw the track centerlines on the roadbed. Since the center of the curves was in the aisle, I clamped a piece of stock to one of the peninsula joists in an appropriate place and turned it into the pivot point for the trammel (figure 24).

Helix Tracks

With everything checking out OK, it was time to add more roadbed to the helix. Problem is, it’s awfully hard to lay track with the sub-4” overhead clearance of the lower laps of a helix. The solution is to lay track on the helix as you go.

Before starting to lay track, we made sure the helix roadbed was properly positioned (remember those circles we drew to locate the helix?), and used the trammel to draw 40” and 43” radius centerlines.

I use code 83 Atlas flex track in the helix and staging. As the track extends around the helix, the inner rail goes farther than the outer rail providing the perfect opportunity to stagger rail joints – joints opposite each other on a curve is a recipe for rail kinks.

As the track gang ran rails around each lap of the helix, we used some helix segments to provide a smooth surface for making more biscuit joints on the upper lap of the helix (remembering to use wax paper).

I used extra pieces of helix roadbed as base plates for biscuit joining helix


Figure 25a


Figure 25b


Figure 25c

After the track has gotten halfway around the helix, the inner and outer rails are a bit different in “length”. I took advantage of that to stagger the rail joints since rail joints directly opposite each other are not a good thing – especially on curves.

Figure 25a: Two pieces of flex track with some overlapping rail. Note removed ties on the right making room for a rail joiner.

Figure 25b: The bare rail of the left piece threaded through the spike heads of the right piece of track.

Figure 25c: Rail joiners have been added and soldered. The track is not yet on its centerline.


Figure 26

Figure 27

A clipping from the

South Jackson Gazette

The Universe Is Expanding!

After being stable for a long time, it seems the universe near the BC&SJ railroad is growing again. Some train crews report looking across the trackside chasm in places and seeing something out there.

Some local scientists are speculating the existence of a parallel universe. Others, are predicting a coming cataclysm although when pressed they couldn't name specifics of what would happen, nor would they say when it would occur.

Down at the South Jackson Tavern, Horace Fithers was holding forth, espousing yet another crazy theory. "I were out the other day and saw that Mr. Comstock talking with a couple of engineering types. They all looked really excited and Mr. Comstock, he was looking downright pleased. I'm kinda figuring that they're working on some way to make the universe bigger so we can run more trains."

Another local, who preferred to remain unnamed, claimed he'd overhead a couple of the local ugly giants talking about expanding the universe.

Can it be true? Only time will tell, but this reporter hopes so!

* Enjoy the Gazette? Read more at bcsjrr.com

Figure 26: The helix roadbed made it around the first lap and track is being installed. If there are holes to be drilled in the roadbed, now is the time to do it, before they get covered by another lap. Ditto for track feeder wires.

Figure 27: The opposite view shows the helix roadbed propped to approximate elevation using pieces of 2x4.

Reader Feedback *(click here)*

segments on the upper lap. Trying to work directly on track isn't a good idea.

There is a turnout at the top of the helix. I cut an extra-long piece of helix roadbed to avoid having a segment joint and potential vertical kink under any of the turnouts at the top of the helix. Vertical kinks are bad. Vertical kinks on a curve are worse. Vertical kinks under a turnout are a recipe for disaster.

In the next part of this series I'll write about drilling holes for optical train detection in the helix, installing all-thread to space the helix laps, and track wiring. Bye until then.

Train Service
November 18, 2011

Arrive in
Concord, Ontario

Depart to
Local Stores

HO SCALE MP40-3C

About this issue's prototype modeling columnist

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

Mike's also the owner of Mike Rose Hobbies (mrhobby.com).

Photos and illustrations by the author unless otherwise credited.

GETTING REAL: Is it time to run trains yet?

Adventures in Prototype Modeling

The continuing saga of Mike Rose's attempts to get it right (eventually!) ...

Reader Feedback *(click here)*

I've been thinking a lot about prototypical operations recently. This has been driven out of necessity and experiences, but perhaps a bit of background is in order first.

I've considered myself a Prototype Modeler going way back to my early childhood play memories. In fact, it was typical for me to be out riding with my parents in the car and see some factory with trucks at a loading dock, or a busy construction site, and when we got back I'd be busily re-creating what I'd seen. Sometimes brown paper grocery bags with small pillows stuffed inside served for "embankments" at the construction site I would create at home, for example. In other words, I've always been heavily influenced by the things I see in the real world.

My first layout came around age 12, starting as the typical 4x8, and in fact was based on Linn Wescott's "HO Railroad That Grows" book that became so dog-eared over time that it basically disintegrated! Yet even then I was aware that I needed some way to run more than one train at a time, and the dual cab control bus methodology using DPDT center-off toggle switches served me well, at least for a while. It wasn't long before I had an engine track, divided into engine-length sections with one rail controlled by a simple on/off toggle so that I could make up "consists." I'm old enough that all of this was sufficiently long ago to remember that pulse power was considered an innovation. But it never did make those old Tyco growlers do what I wanted, and the brass-railed sectional track I initially used was part of that poor-running conspiracy.

Eventually my local hobby shop owner introduced me to nickel silver flex track, Champ decals, and Athearn engines, and I never looked back. In fact, my first published articles on kitbashing were soon published in the old Railroad Modeler magazine at age 16. But let's fast-forward a bit.

Figure 1: Professional railroader Leo Landry finds planning his moves for his local crew at the town of Vosburg an engrossing task. The former town of Vosburg is in front of him, and Hammill Yard is to the rear. This is the original section of my layout.

The ages of 17-24 were all about getting a car, getting out of high school and quickly into (and out of) college, employment, starting my own business, building a house, getting married, and having a child. So when it was time to plan and start constructing a large, basement-filling layout in the new house over 20 years ago, my problem was that I didn't know what I didn't know. The fact is that the only layout I'd built was the original 4x8 plus many add-ons, back in my early teens.

The result of all this is that I've done a major rebuild to my present layout three times. The first was to enlarge the radii of curves in my hidden track areas, an Achilles heel of operation once I finally got to the stage of running real trains. The second major rebuild involved removing about half of that hidden track, as the maintenance of it had become a real liability. This was definitely a Great Leap Forward, allowing further operations and more learning about what was desirable and what was, well….. less so!

The last major rebuild vaulted the layout to the stage it remained in until last winter, when I began the final addition to my railroad. The big complex peninsula project has been the subject of ongoing clinics at prototype modeling meets in Collinsville Ct. last June 2011, Lisle, IL in October of the same year, the Craftsman Structure Convention in Mansfield, MA in November 2011, and upcoming at Cocoa Beach in January of 2012 and the Valley Forge, PA meet in March of 2012. The clinic is never the same twice, as it reflects progress on the new section, de-emphasizing some of the earlier photos. This peninsula and the construction pertaining to it will all be covered in Model Railroad Hobbyist as time permits.

Figure 2: Trainmaster (Mike Rose) is talking with Leo Landry and Mike Confalone (left to right) prior to the start of the Op session, about assignments. I refer to myself as "Trainmaster" because the hosting layout owner rarely gets to run trains and generally spends his time expediting things and solving problems.

I'm well used to not being an expert on something when I start it! The above examples speak to the learning process as it pertains to building the layout itself, but also to operations of model railroads. It's only in the last few years that I've been actively attending Op sessions as often as my schedule and invitations permit. I find that I learn a tremendous amount from each and every one I attend, even if it's what's not for me, and I've learned a great deal from the three that I've held on my own layout too.

The very obvious conclusion I drew from my first real Op session was that it was a tremendous amount of work for me, prior to the session. And it wasn't the issue of physically staging the trains, but more one of creating the paperwork needed in order for the operators to know what they had to accomplish. Basically, I manually typed up switchlists for each job, and it probably took me between three and four hours to do all of that preparation. When I was done, it was obvious that this would be a definite dis-incentive to hold Op sessions unless a better way was employed. I started looking into all of the systems that people used, and also looking into how the prototype did/does things. The more I looked into it, the more complex it all seemed!

There are things in the model world that "scale" well from the prototype and things that don't. One example is time vs. distance. Clearly our trains

don't travel nearly as far as prototype trains do from city to city, and to help compensate for that, a fast clock often is used. When I went to the Lisle prototype meet recently, I was graciously invited by Bill Darnaby to operate at his Maumee Lines layout in a nearby town. I'd heard a great deal about his fine layout both in print and from friends, so I quickly accepted. Since I was traveling with my friend Scott Mason to the meet, Bill quickly agreed that he should attend the Op session as well.

Figure 3: The Trainmaster (Mike Rose) explains some nuance to attending engineer Scott Mason. In all probability Scott is wondering where the heck his train is!

Bill's layout represents the Midwest in convincing fashion, and is located in a large basement. It's a beautifully-done double-deck layout without a helix, using instead the length of the runs to gradually get from one level to another. The way that he situated the benchwork made me feel, upon initial inspection, like there were unusually large distances between the towns, and when I began to run trains, I really had the sense that I was going somewhere. The modeling was first-rate and the railroad ran like a Swiss watch.

This layout is set in the steam-to-diesel transition era, and uses timetable operation as the basis for controlling the trains. Since I'm a modern diesel guy and had no experience with using a timetable, I found this very interesting, though clearly out of my comfort zone! The truth is that I could not make heads or tails out of the timetable, eventually evidenced by the "cornfield meet" that I found myself in with Tony Koester……

Operations Schedule Page _____

	Train No.	Originates	Destination	Description	Departure	Arrival	Track
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
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40							

Figure 4: Operations Schedule: This is an example of printed output from the program Pro Track, and is a document generally used to plan the scope of an op session by the layout owner.

We all had a laugh about that one, but it definitely drove home to me the point that on a model railroad such as this, where you have multiple trains and multiple operators, operational control of the trains to avoid things like cornfield meets (nose-nose encounters) is a must. And it's something we have in common with real railroads. I learned a lot at Bill's session, not the least of which is that when you enter Andy Sperandeo's yard, you'd better know how many cars are in your train! It's a stimulating experience to know nothing about the railroad and procedures you're operating on, and it was quite evident that Bill's regulars (many friendly locals, plus some fellow travelers like Richard Hendrickson and Tony Thompson) really knew their stuff. And there IS a lot to know about running a railroad prototypically, plus it differs quite a bit depending on the era.

Other model railroad activities don't "scale" nearly as well from the prototype, and an example of this is switching. While it's true that we are not walking hundreds of yards to get from car to car, engine to car, etc., the fact is that it takes almost as long to switch an industry on a model as it does to do the real thing. One of my regular operators and the fellow who expertly built all the custom turnouts on my new peninsula, Jim Lincoln, a railroad conductor who attested to

Switch List

SWITCH CARS CAREFULLY AND SAFELY
AVOID ROUGH HANDLING

Train | Arriving At: | Seq. No.

Train Number	Engine Number(s)				Time
	Rd. Name	Car No.	Contents	Destination	Track
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
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23					
24					
25					

Switch List

SWITCH CARS CAREFULLY AND SAFELY
AVOID ROUGH HANDLING

Train | Arriving At: | Seq. No.

Train Number	Engine Number(s)				Time
	Rd. Name	Car No.	Contents	Destination	Track
1					
2					
3					
4					
5					
6					
7					
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Figure 5: Switch List: Pro Track can also output switch lists, and the example here shows how it prints two per standard page.

that very thing. In my opinion then, a fast clock is considerably less appropriate for switching activities, and my conclusion is that I probably won't have one in my future.

Bill's layout was definitely one example of how to competently and realistically control and run a layout. But what else was out there for me? Well, I'm now a regular operator on Mike Confalone's proto-freelanced Allagash Railway, set in New Hampshire and Maine. Many readers are no doubt familiar with Mike's layout which has been featured in many model railroad magazine articles, and you can look for an upcoming piece he's doing for Model Railroad Hobbyist on a paper mill complex that's in progress. There are several fully and expertly scenic-ed areas on his layout and perhaps even more of it yet to do, but the entire layout runs – and runs very well. I've learned a lot from operating on his layout, and much of it is applicable to my own.

Most readers have at least some familiarity with the so-called "four-cycle" car card system. In a nutshell, each car on the layout is associated with a small card with four destinations and ladings printed on both sides. after each session, the card is rotated or flipped-over to reveal the next sesion's movement. This system produces four movements before repeating. Since Op sessions are usually not on consecutive days, and for the most part are not even on consecutive weekends, it's less repetitious than it might sound. The methodologies are well established, there are groups on the Internet for the discussion of and dissemination of information pertaining to car card operation, and lots of modelers using the system.

The problem for me and many others is that it's not prototypical! There is no analogy to car cards in the prototype, at least not directly. Mike Confalone addressed this by going with a waybill system. To understand how this works, one only needs look at how the prototype used waybills. Essentially, a consignee would purchase a load of goods from a shipper, for example, a load of corn. The shipper would contact the connecting railroad's freight agent, and a waybill for the product would be created, essentially a packing list.

The waybill information, listing among other things Product, Buyer and Seller, would eventually be used to assign the load to a particular car that would carry the load. These waybills would travel with the train crew from pick-up point to delivery point. And railroads employed literally armies of clerks to deal with all the paperwork.

Mike handled this on his layout by creating an empty and a loaded waybill for each car on his layout. For each Op session, a train in staging has a bundle of waybills on a small clipboard, and the crew determines, based on information about routing and destination on the bills, what they

will do with their train once they get underway. Similarly, when a yard job crew reports to duty, they have their waybills in small layout-side boxes that correspond to each track, and the waybill information is examined to determine the order of business for the yard crew. While I'm over-simplifying a bit for clarity, you can see how the use of waybills on his model railroad is directly related to a similar prototypical function. Control of trains on his layout is handled with a human dispatcher (played by Mike C. himself, behind a black curtain under the basement stairs!), handheld radios, and track warrants where permission is given to occupy or work a segment of track between two points. There are no lineside signals as there are on Bill Darnaby's layout.

As usual, although I find all of this quite interesting and engaging, the "what's in it for me?" quotient is never far from my mind! Lively discussions with many other operating modelers made me really think long and hard about what I wanted to do for my own layout. The waybill approach has obvious merit in my era, although I'm at least a decade later than Mike's AGR and as a result things would be a lot more computerized than his prototype would have been. Lacking those armies of clerks and facing that computerized reality, I started looking into what my options would be for some digital assistance with my car/train management tasks. And the possibilities seemed endless.

I know of at least two friends (Craig Bisgeier and Brian Bennett) who are intent on writing their own systems, and I have no doubt they'll succeed in doing just that. But although I've worked in Information Technology as a project manager for more than two decades, I'm definitely not a developer. I'd started a system with one developer friend quite some time ago, but it's really only an inventory program at this time. Surely there must be something else out there ready to go! One program I initially looked into, after conversing with a user at a recent Op session, was something called Protrak. (**www.protrak.cc**) This is one very impressive system that looks comprehensive enough to run, say, Norfolk Southern! It definitely seemed heavy-duty, and some correspondence with the developer showed me unusually attentive response time from him. The more I looked into it though, it seemed like overkill for me and I began to think about why it hit me that way.

The fact is that I'm not modeling the great 4-track main across Pennsylvania during World War II, I'm modeling a secondary line in the mid-eighties. The time period I'm modeling is after the former Lehigh Valley signal system was devastated during a storm and basically turned off, during Conrail days. Not only were those operations consequently much more casual, but in fact the operations on the local New Haven/Penn Central lines that I grew up with were much

Allagash Railway

SWITCH AND INTERCHANGE CARD

JOB - DATE

ENGINE NO. -

CONDUCTOR -

NOTES:

INITIAL	CAR NO.	KIND OF CAR	ORIGIN	DESTINATION
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
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24				
25				
26				
27				
28				
29				
30				

WOODSVILLE TERMINAL RAILROAD

Hardwick & Woodbury Division

SWITCH LIST

Engine No. Date

Woodbury yard - W

Powerplant - NEKP
Chipper - Buck
Log Yard - TRG
Concrete plant - Carroll

Granite Jct. yard - GJ

Pulpwood yard - St. Regis
Gravel pit - MSU

Report. Marks	Car No.	Kind of Car	Pull	Place
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
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30				

Figure 6a and 6b: SwitchList AGR waybill-left and SwitchList WTRC: Mike Confalone sent me these examples of switch lists he was considering using for his railroad prior to making the commitment to waybill operations. These are generated from a spreadsheet.

the same. It was this feel that formed the basis for my frame of reference, and was what I chose to recreate on my layout.

The more I thought about it, the more I became convinced that I just needed a simple way for me to create switchlists for the crews rather than have packs of waybills. Dispatching could be easily handled by Mike C.'s track warrant system, so that would be no problem. But, I wondered, how best to create these switchlists without becoming a slave to them? With Google as my friend, I entered the search term "railroad switch lists", as I wanted to see some examples. I quickly realized that I wasn't the only person with this problem!

The search not only turned up dozens and dozens of printable examples of switch lists, there were also many examples of computer programs designed to generate these lists. I examined several of them. Robert Bowdidge was kind enough to allow me to use some examples from his website and provided the following links:

The official page for SwitchList is here:

www.vasonabranch.com/railroad/switchlist.html

If you're talking about open-source and the chance for folks to help out on model railroad-related software, then the code.google.com site might also be interesting.

code.google.com/p/switchlist

It was not long, however, before my thoughts turned back to my own program.

One issue for me, and it's not a trivial one, is that I have a lot of rolling stock! A quick check of my rolling stock inventory shows over 1400 cars!! Admittedly not all of those are built, ready to run, but it forced me to think about how many cars one actually needs to operate a layout like mine. Not too long ago I asked Mike Confalone to count how many cars were on his layout for the Op session, and it was about 275 cars. I then counted the cars on my own layout, and it was a similar number, about 325.

My logic is that I don't want to be looking at the same cars all the time, and a number that is three times larger than that, or about a thousand, is defensible. That's my story and I'm sticking to it! Even at that, I have perhaps three or four hundred cars too many, and that's why I'm in a continuing effort to winnow that number down through regular sales over the Internet.

No matter how you look at it though, were I to have to create over a thousand waybills for those cars (twice that actually, since you'd want it for a loaded and an empty car by Mr. Confalone's method), it would be a huge job. And I had all of these cars in my own railroad database inventory already. Clearly there was no choice but to schedule a meeting with my

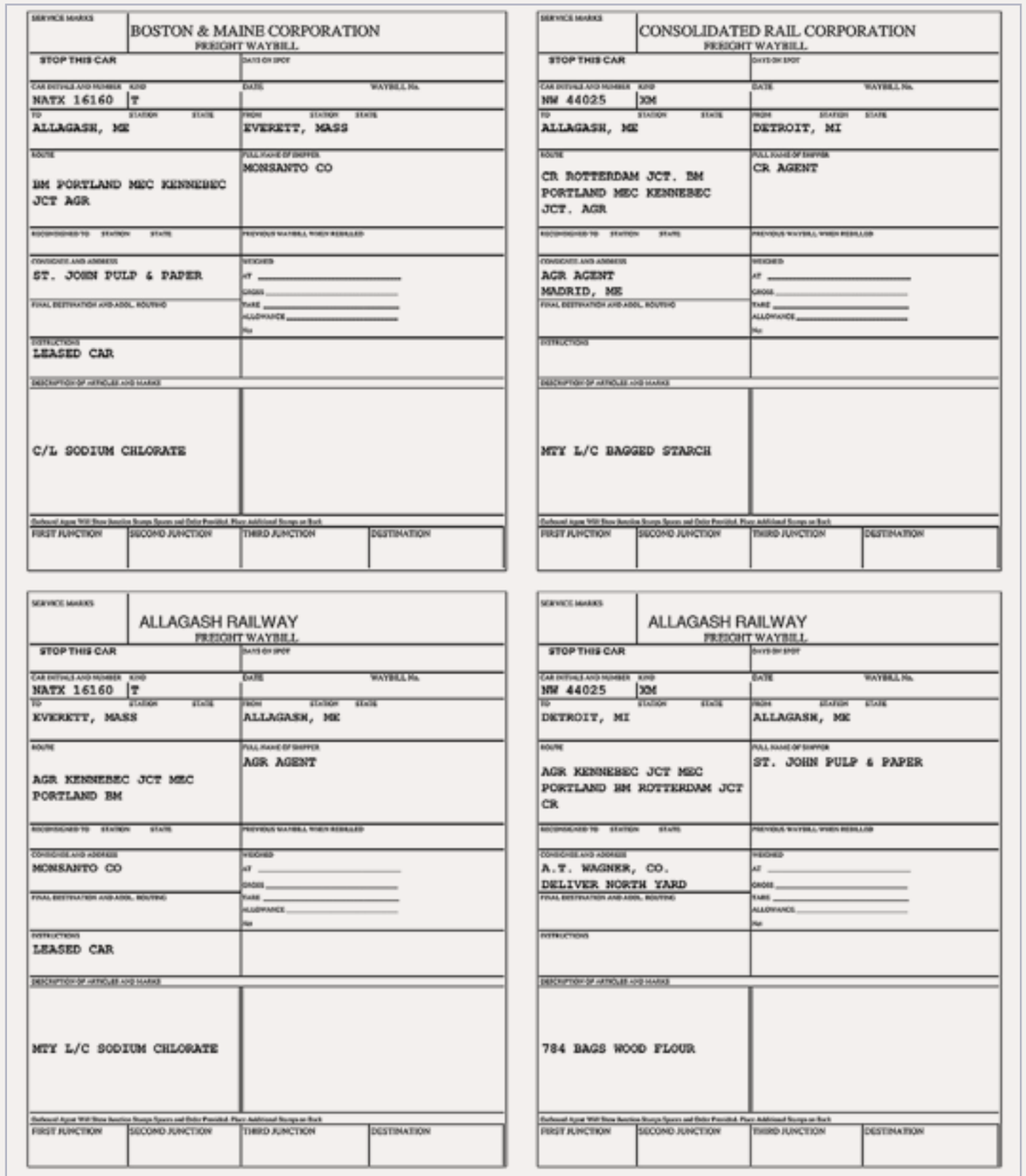

Figure 7: Waybill AGR TEMPLATE SIDE 1: This is what Mike Confalone is using and a variation of which I'm planning to use. Again produced by a spreadsheet (he feels was originally sent to him by Tony Koester and created by yet another individual), my plan might be to generate these with my inventory program.

friend Warren who wrote the program, explain my dilemma, and see if I could prevail upon him to make some modifications to it that would allow me to print up switchlists out of the database.

Initial responses look promising, no doubt due in part to the dinner and wine also employed during this discussion! But right now it's on me to map out what I want a switch list to look like, identify what fields I already have and where they would go on the list itself, document what additional fields need to be added to the program, and give him all of this in an organized, understandable fashion. He agreed that it would be easiest to use the existing program with a new print routine that would create the paperwork needed rather than reinvent the wheel. So the onus is mine alone at this time.

I thought I had this all determined until I did a one-hour-plus walk-through of the issues in a telephone with Mike Confalone. The conclusions drawn from the call are as follows:

1. His waybill system could actually work fine for my railroad.

2. For "run through" trains I'd simply create a manifest for that train.

3. Cars that left the layout from staging would be kept in A-Line boxes and stored in a more-organized fashion in the special plywood carts I'd created for this purpose.

4. I would use my existing database of cars, modified, as the source to populate and print the waybills.

5. Different industries on the layout would be served with "pools" of cars dedicated to that service. As an example, I have over 300 covered hoppers. It would be easy to designate a pool of, say, a dozen cars to service the small Kintner Milling operation in Meshoppen, giving me four or five op sessions before you'd see the same car there again. Likewise the huge Cargill grain mill (aka "Grainzilla") would get a dedicated pool of perhaps 100 cars, and the boxcar sidings at the Mehoopany Proctor and Gamble plant would get 88 cars, etc. This would allow prototypical practice, variation, and most importantly be a very simple system to administer.

While some people no doubt take great pleasure in the paperwork or computer aspect of train control, it's just not a strong interest for me. That's why I'm leaning towards the above scenario for my next op session, scheduled possibly for early spring 2012.

Stay tuned, this could be interesting ... ☑

Reader Feedback (click here)

About our DCC columnist

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

Click here to learn more about Bruce.

DCC Impulses: Wired Decoder Installation Part 1

Planning the Install

Reader Feedback (click here)

Don't heat up the soldering iron yet!

In last month's column I approached layout wiring from a bit of a philosophical viewpoint. Starting this month I'm going to analyze wired decoder installations in a similar fashion.

If you don't plan to hard-wire some decoders in the near future, you may want to skip this column and next month's and we'll see you in March!

This column deals with what I find works best for me. These techniques have lasted for years. There are other ways that work, too. But folks also do a lot of things that don't stand the test of time.

If you read what I say and feel that I'm over the top, you are right! In my prior life I worked in the computer and aerospace industries. Reliability was job #1. That's just the way I'm wired. It only takes a bit more thinking and work to have a really reliable installation.

This column will deal with the tools, supplies and some basic concepts that will help your installations be more successful. Next month I will discuss specific loco types and their needs.

Skills

You need to be able to take your loco apart and put it back together and have it work. If you have not successfully torn down and reassembled an engine, I suggest that you try that first. If you can get it apart and back together and have it run well and quietly, then you have the skill and experience in that area to tackle an installation. A thought: why not clean and lube it while you are inside it?

Next, consider your electronic assembly skills. Have you successfully cut, stripped and soldered very small (30 AWG – 0.255 mm diameter) wire? If not, then practice until you are comfortable with this skill before you tackle your prized loco. Decoder wire is available from Digitrax or TCS through your DCC dealer. You will want some for your installations any way!

Depending upon what type of decoder you are installing, you will be shrinking tubing or soldering to contacts on circuit boards or both. Why not practice these skills in advance, too? You can get copper-clad boards from electronic surplus stores for a few dollars. Great practice material!

Tools

Since you are working on an electronic project here, consider only tools or supplies that are sold by an electronics store, like Radio Shack, or from a DCC supplier. While building Litchfield Station, when I found a tool that worked well for me at a reasonable price, I put it in stock! You may want to look in Litchfield Station's Tool Crib and Supplies category to see what they are still stocking!

Tools make the job easier. In addition to your normal modeling tools, you will need some specialized electronics tools. While you may not need all these tools and supplies for every installation, they will make most installations easier.

With some careful buying, you can equip yourself with the basic tools for about $150. However, if you are planning on doing a lot of installs, the tool bill can run appreciably higher.

Figure 1: My dirty, old wire strippers are Klein Tools #11047 – specifically designed for 22 AWG to 30 AWG wire.

But, that covers tools for daily use for professional installation work in many scales. I estimate the replacement costs of my tools at about $4000.

I like:

Wire strippers designed for the small wire found on decoders are essential, in my view. One of mine is shown in figure 1. Adjustable strippers just don't work well, especially on small wire.

Small (4 to 6 inch) needle nose pliers

Small (4 to 6 inch) wire cutters

Tweezers – I like one set with a curved tip and another with a broad tip, in addition to the normal fine point model. I use all these in my general modeling, but really like them for installations.

A soldering station designed for electronic work. ***Do NOT use*** a soldering gun or large iron! Adjustable or fixed thermostatic temperature control will help. Otherwise, a 25-watt range soldering pencil will do. These units can run from $25 to well over $100. I recommend the smallest tip that you can get for your particular iron. Personally, I use a Weller WTCPT soldering station, as shown in figure 2, with a PTS8 tip. This setup is priced toward the high end, but is thermostatic and durable.

A foam cradle helps to protect the shell when you take your loco apart or are working inside the shell. Its use in a recent install is shown in figure 3. Bowser makes them in N-, HO- and O-scale sizes. I often use a size for another scale, as it may work better for what I'm doing. For example, just yesterday, I had a G-scale Dash 9 in the O-scale cradle.

Clamping tweezers help hold wires while you solder them.

Heat gun to shrink tubing – I use a unit designed for heating embossing powders. I bought it at a local craft store where it sells for about $25. Local craft stores run 40% off coupons in the paper, so the price was VERY reasonable.

Volt-ohm-meter – this may be an analog or digital unit. They are frequently called VOM or DVM. Look for one with a low ohms scale (200 ohms max) and a high DC current scale (10 amps max). I use a Velleman DVM850BL, which is widely available for under $20.

Dremel tool (with cutoff wheels and sanding attachments) for light machining and (with a brass brush) for wheel cleaning.

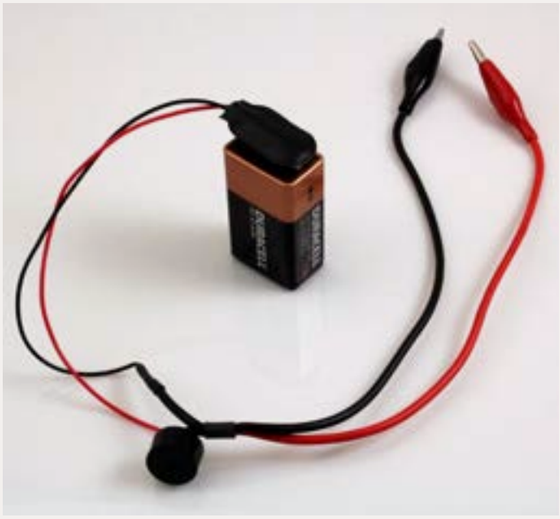

Figure 4: My very useful home-made buzzer.

Figure 2: The Weller WTCPT soldering station I use. A less expensive unit would suffice, as long as it has a sharp tip (Weller photo).

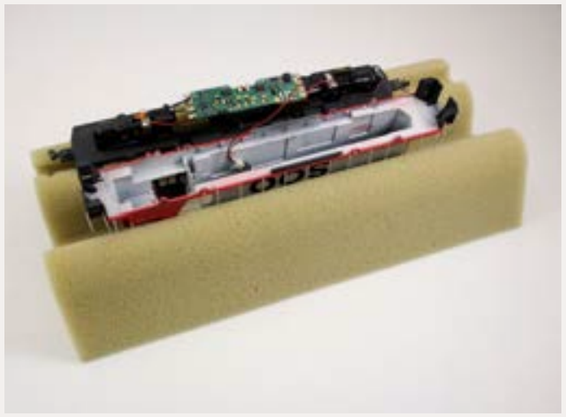

Figure 3: A foam cradle helps to protect your loco shell when you are working on it.

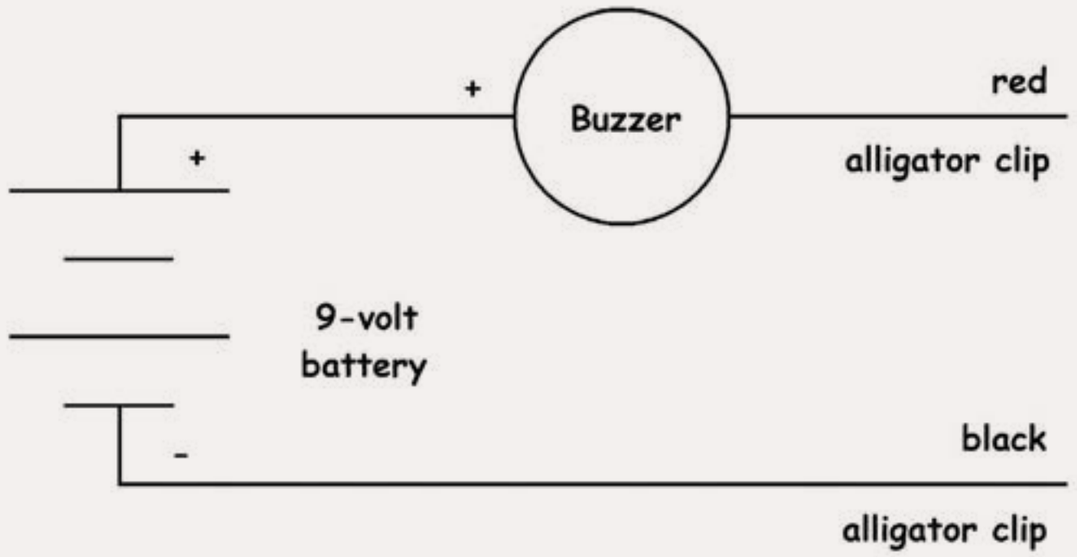

Figure 5: Schematic for my buzzer.

Buzzer – I have a buzzer that I bought from a surplus store wired to a 9-volt battery and a set of alligator clips as a continuity tester. My DVM has a buzzer setting that works in a pinch, but is very quiet, so I use my little buzzer frequently. You can see its simplicity in figures 4 and 5 previous page.

End Mill or Belt Sander – One or the other or both are needed if you get into some installations that require reducing the size of the loco weights to make room for the decoder or speaker(s).

Supplies

In addition to the tools, you will need some supplies. For safety, don't buy any of these supplies from a hardware or home improvement store. Many of the things they sell are for plumbing and have acid flux – which is damaging to electronics! Again, an electronics store or your DCC supplier is the place to shop!

Solder – I like 60/40 solder with rosin flux imbedded. The trend today is away from tin-lead solder. I find it harder to make a good connection with the more expensive lead-free solders. So, I recommend you buy the traditional solder while you can. Get the smallest diameter solder you can find. Smaller makes for better control of the quantity applied. My favorite is 0.022 inch (0.56 mm) in diameter.

Shrink Tubing – the cleanest and simplest way to insulate your connections is with shrink. I use a collection of sizes from 3/64 to 3/16 inch, with 3/64 and 1/16 being the most commonly used.

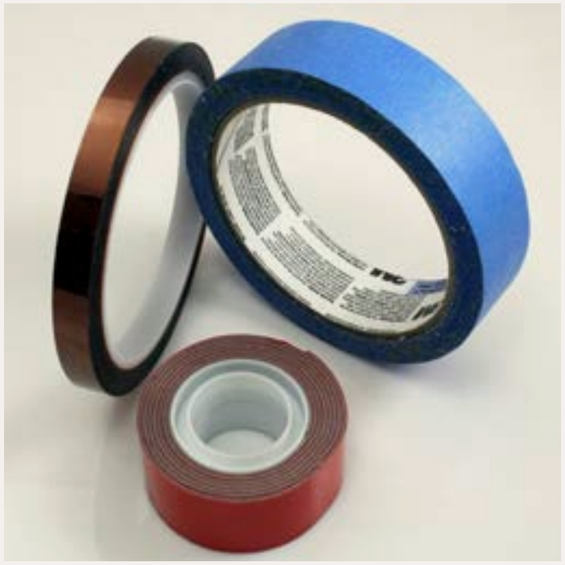

Figure 6: Tapes that I use. Kapton and Gray stay in the loco when I'm done – the blue comes out!

Kapton Tape – this is MIL-SPEC insulating tape. Kapton is a Dupont trademark. The tape is semi-transparent yellow gold, as shown in figure 6. I use the 0.001-inch thick version in three sizes from ¼ to ½ inch wide. It isn't very sticky, but it does hold. It won't break down with heat. I demonstrate that by putting some tape on a ceramic tile. Then I build a pool of molten solder on it. When the solder cools, I knock the blob off and clean the residual flux with denatured alcohol. There won't even be a mark where the solder was. If you can only have one width, go with 3/8 inch for HO-scale and ¼ inch for N-scale.

Double-sided (gray) tape – 3M Scotch 4011 Exterior Mounting Tape is its official name. It has a red backing as seen in figure 6. Other brands may work. I have only used Scotch and it is reliable! This double-sided tape is what I use to stick decoders down. The "life test" for this came with a G-scale installation I did a few years ago. I installed a NCE D808-SR decoder with a 30-amp stall rating into a USA GP loco. The loco ran outdoors in the Phoenix area for about a year. Here the internal temperatures push 200°F in the summer. The decoder output transistors toasted themselves. When I removed the decoder the clear shrink tubing over the transistors was black from the heat. The gray tape next to the toasted shrink-wrap was unfazed!

Figure 7: Caulk is one of my favorite adhesives; I use it for more things than I can count, as you can see by this folded, almost empty, 6-ounce tube.

Masking (blue) tape – this painters' masking tape is shown in figure 6. It is what I use as a second set of hands to hold things in position while I work. I recommend against the brown version, which leaves too much residue behind. ***Do not leave this tape in the loco when you are done – heat and time will make it VERY sticky.*** The only tapes I leave in a loco are Kapton and the gray tape.

Caulk – nothing fancy, just clear bathtub and tile caulk to use as an adhesive when you stick something that you may want to remove later. I use acrylic caulk instead of the more expensive silicone – nothing to be gained by spending more money. I have the most experience with the Polyseamseal brand, as shown in figure 7. Buy a small (6 ounce) tube, not a caulking gun sized cylinder unless you are planning lots of layout work or have other needs.

Denatured alcohol – in addition to doing a bang-up job getting gunk off wheels, it cleans up solder flux very well! Get it at a home improvement or hardware store.

Decoder wire – Yes, many decoders come with wire. However, there are times that it helps to have (30 AWG stranded) decoder wire in stock. Keep at least the colors that conform to the basic DCC standards: black, red, gray, orange, blue, white and yellow.

Digitrax makes a kit of all nine DCC standard colors. TCS sells individual colors in all the DCC standard colors and a few more.

Flexible wire – I find it very helpful to replace the wire to the trucks on many locos. The factory wire is frequently stiff enough to hamper the motion of the trucks. It also breaks easily. I also use it between steam locos and tenders. I use 29 AWG 51 strand rubber insulated wire (figure 8). It is available from Northwest Short Line dealers. It is good for most S scale and smaller installations – about 1 amp maximum current. Caution, the rubber insulation can chafe easily – possibly causing a short. Use shrink tubing over the insulation where it might be rubbed.

Styrene solvent – MEK (methyl ethyl ketone) is available in quart cans at hardware stores for about the cost of a small bottle of Testors from the hobby shop. Keep your old bottle with the brush in the cap and refill it.

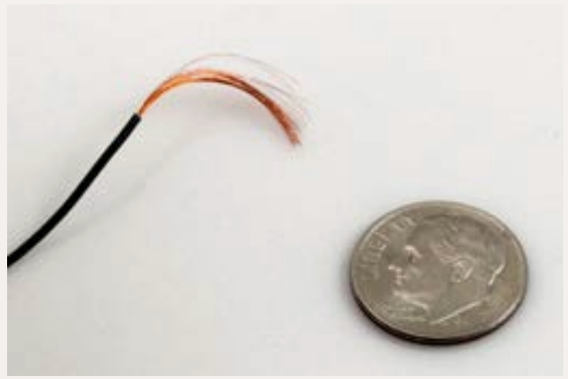

Figure 8: Extremely flexible wire: 29 AWG with rubber insulation and 51 strands of wire. Photo from Litchfield Station; equivalent to NWSL 99007-9.

Faller Expert cement – This is a styrene cement that has some specific uses different from MEK. We will talk more about it when we discuss lighting!

De-soldering wick – magic in a roll! The brand name is Solder Wick. There are others that are not as good! You use this to remove solder from a joint you want to undo. It is very good for wires soldered to tabs on circuit boards. You don't need it when unsoldering a wire-to-wire connection. See figure 9 (next page).

Flux – many folks say you cannot do a good solder job without flux. I am not one of them. I have a tube of Kester water-soluble flux that I use in extreme cases where I need to clean up a dirty contact or wire – like once a year! I've been doing electronic soldering since I was 7 years old and, yes, if you look at the photo at the front of this column, there is gray hair on my head! Perhaps my 50+ years experience helps me do the job without external flux.

One more comment on soldering supplies. Kester and Alpha are well known names in the electronic soldering industry. I would trust anything sold under their brands for decoder installation use.

What not to use

I have a few prejudices against certain supplies sometimes used in decoder

Figure 9: Solder Wick is the magic way to unsolder wires from boards.

installations by hobbyists, manufacturers and some professional installers.

Office supplies belong in the office, not in your loco.

Scotch Magic Tape or cellophane tape doesn't handle heat well (and your motor gets hot)!

White foam tape breaks down with heat and time and becomes little crumbles that can ruin gear trains. Meanwhile, whatever it was holding is flopping around loose inside the loco.

Cardboard and paper don't handle humidity well and can catch fire.

Vinyl tape (usually black) is a major no-no. It seems like a natural – they call it electrical tape! However, it is thick and doesn't handle heat well. I've opened many locos and found it in a blob at the bottom of the loco, frequently gumming up the drive train, sometimes dried out. Since it was there to insulate, frequently its departure results in a short circuit.

A few years back, I reworked an N-scale loco. The decoder toasted when the vinyl tape that had been used in the install failed and shorted the motor to the rails. This decoder was supplied with Kapton tape, but the owner chose not to use it and substituted vinyl!

Motor Isolation

This brings us to one of the most crucial issues in decoder installation, motor isolation.

This term is bandied about quite a bit, but what does it really mean?

The concept of a decoder is that you insert it between the rail pickups and the motor. See figure 10.

The goal is to make sure that there is no electrical path between the motor and either rail.

My suggestion: disconnect the obvious places and then set the loco on a piece of track that isn't part of the layout. Put one connection of your buzzer to the motor and probe both rails with the other buzzer clip. If you get a beep, you aren't isolated. Then, if you think you are isolated,

connect the buzzer to one wheel and the motor and wiggle the trucks and make sure that there isn't some contact throughout their range of movement.

SoundTraxx puts it bluntly in their Micro-Tsunami Quick Start Guide: ***"Failure to properly isolate the motor will damage your decoder and turn it into an effective, but short-lived, smoke generator."***

I'll get more into the isolation issue as we discuss various types of locos next month.

Decoder selection

One of the most frequent questions is, "What decoder will fit my . . .?"

Most decoder manufacturers offer suggestions for using their decoders in various models. You may want to start there.

Here are some ideas to help you to decide for yourself.

Loco specific

I look first for what I call loco-specific decoders. Some decoders are designed for a specific model or series of models.

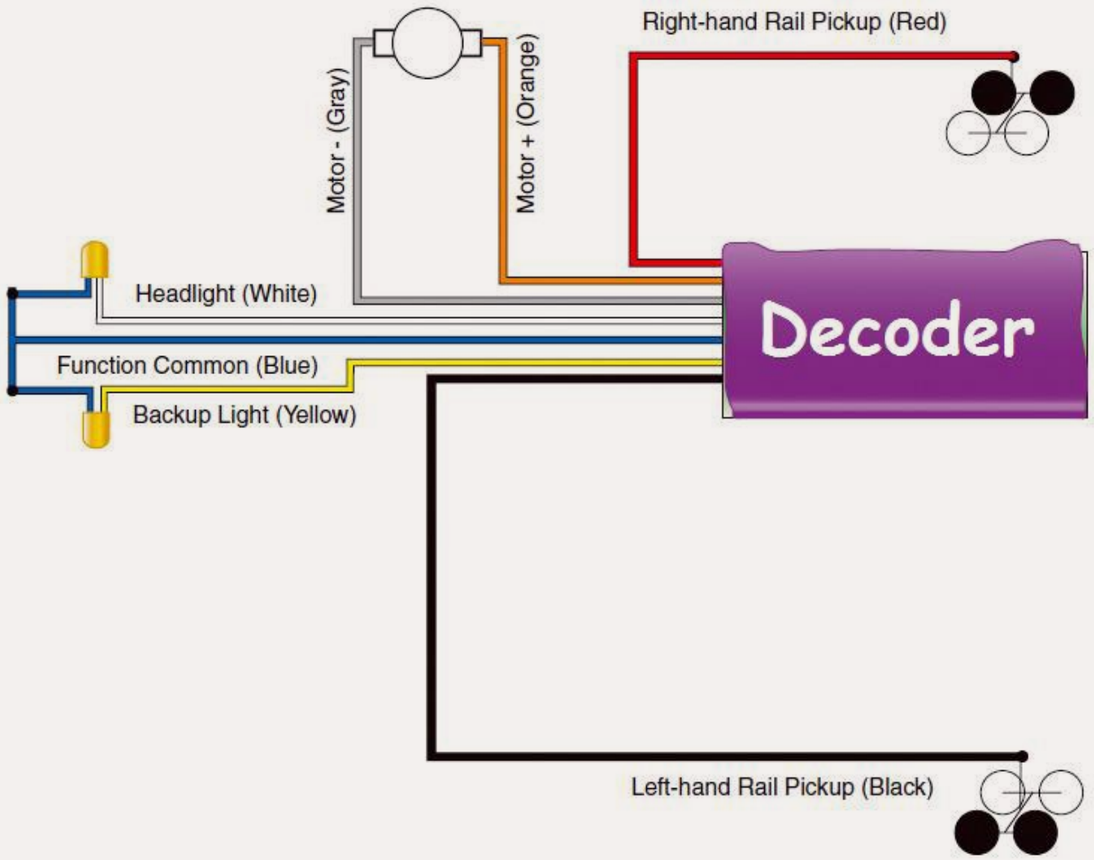

Figure 10: Schematic for DCC decoder connection – adapted from a SoundTraxx drawing

I find that, while these are frequently promoted as no soldering, drop-in units, they frequently need some wiring help for the best install. So, check with your dealer and see if there is a loco-specific decoder for your application. Or go to the web site of your favorite decoder manufacturer – most have a guide to fitting decoders.

Figure 11 shows the before and after of an installation using an Atlas light board-style decoder. Atlas-style light board decoders fit many locos, but soldering is required.

Some of the most popular wired loco-specific decoders fit:

Many N-scale diesels

HO Atlas-style light boards

HO Atlas S-1 to S-4 diesels

Many HO Life-Like Proto 2000

Current

All decoders have a current rating. Some rate running current, some rate maximum current, some rate both. What does this all mean?

The current (measured in amps or thousandths of an amp, called milliamps) drawn through the decoder will cause heat buildup inside the package. If more current is drawn than the decoder is designed for, it will fail.

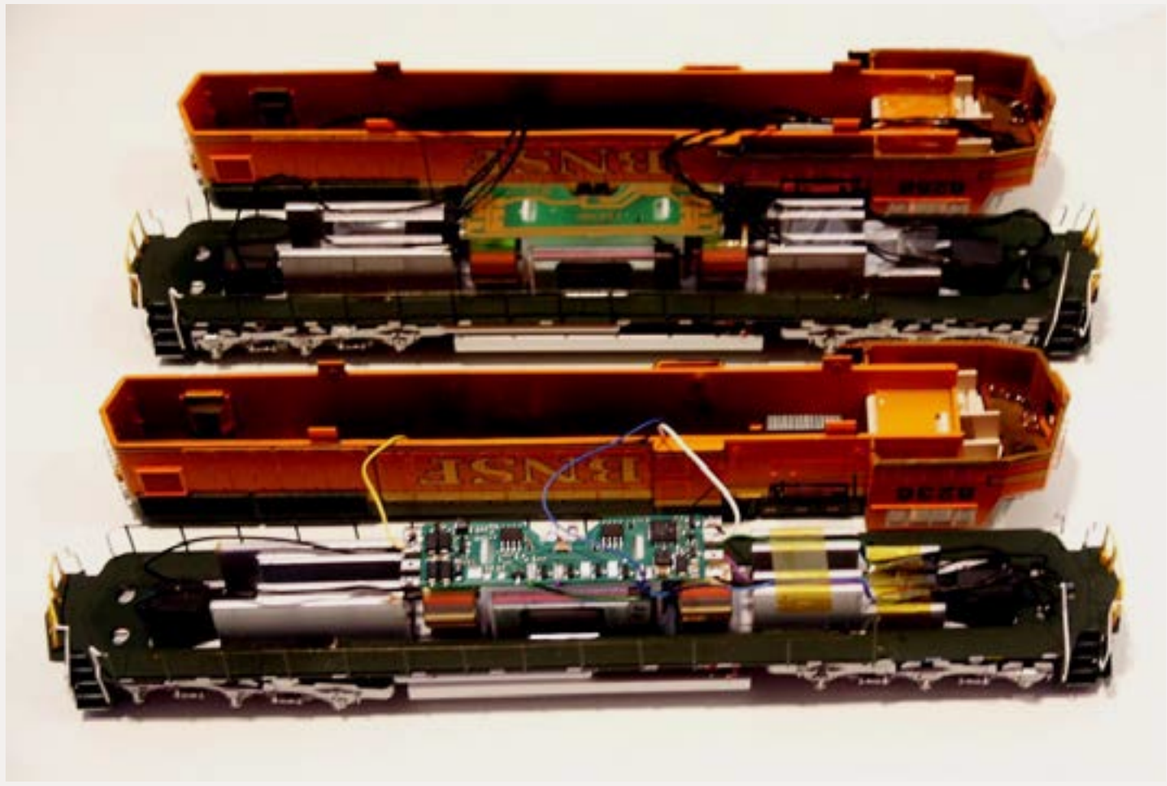

Figure 11: TCS A6X Atlas light board replacement decoder installed in an Athearn Genesis SD-75M loco. Top unit is as delivered. Bottom unit has decoder installed.

This current rating is for all current passing through the decoder: lights, smoke units, motor drive, etc. ***This is not just motor current.***

Some decoders sense rising internal temperature and shut off the flow of current before they overheat. This protects the decoder. However, nobody likes to have a loco just stop in the middle of a run!

Others, especially older decoders, won't protect themselves and will slowly fry, frequently leaving abstract art in the form of burn marks on the shrink tubing encasing the decoder.

What you need to do, if you are as anal-retentive as I am, is to measure the stall current and running current of your loco. Then you match your decoder to the results. I have instructions on my web site for this: (**www.mrdccu.com/curriculum/stall.htm**). If you do so, you will know that you have chosen a decoder that is adequate to your needs.

Alternatively, most modern decoders will handle an amp of current (1000 milliamps). Modern HO and N locos draw less than one amp. Even if you have 5 or 6 lights, you probably won't overload the decoder. So, if you just ignore the current rating and install a current-vintage decoder in your modern HO or smaller loco, you will probably not have an issue. If you do, I warned you in the prior paragraph!

Many manufacturers are following TCS' lead and offering to replace decoders that are destroyed on the initial

"So, if you just ignore the current rating and install a current vintage decoder in your modern HO or smaller loco, you will probably not have an issue."

installation. TCS has offered a "one-year, no questions asked" warranty on their decoders since day one. That, coupled with their fine motor control at a reasonable price has made them a favorite amongst my customers.

Size

The next question is whether the decoder will fit in your loco. There is only one sure way to know: measure!

When I burn out a decoder that I can't return for a replacement, I paint it red and keep it in a drawer on the workbench. When I'm planning an install, I drag it out and see if it will fit. Otherwise, rulers, calipers and modeling clay come into play.

Modeling clay? Yes! You can put a blob on top of the weight. Put the shell on and take it off. The clay will be squashed down to show exactly how much room you have!

Functions

This term is confusing to newbies. Here is the quick rundown. A function controls a light, in the simplest terms. So, let's see: front light, rear light, two ditch lights and a strobe. That's 5 functions.

How about front light, Mars light, rear light and fire box flicker? That would be a minimum of 4 functions, but I'd go for five. Why? I like to set up an alternating firebox flicker with a red and a yellow LED, which takes an additional function.

In the first few generations of decoders, the less expensive units had one or two or three functions. Premium decoders had more. Folks got the idea that additional functions were expensive, when what they were really paying for was mostly the other features. For example, if leather seats are only available on the model of car that includes sunroof, premium stereo and a larger engine, the price for the leather seats could be incorrectly viewed as the total cost for all those other extras.

Manufacturers are learning that folks use functions if they are available, so newer decoders frequently have 6, or even 8 functions.

Select a decoder with adequate functions for your needs. If you goof, all is not lost, as many manufacturers make "function only" decoders that can be added to bring in an additional 1 to 4 functions!

Upwardly Mobile

Earlier, I mentioned that I own a lot of tools. One of my favorites is a turntable that I fashioned from an Amaco No. 5 Decorating Wheel, as shown in figure 12.

Decorating wheels are designed to spin to allow painting horizontal stripes on pottery.

There are various levels of quality from relatively hard to turn plastic models to the ball-bearing aluminum version that I use.

"Modeling clay? Yes! You can put a blob on top of the weight. Put the shell on and take it off. The clay will be squashed down to show exactly how much room you have!"

Figure 12: Amaco No. 5 Decorating Wheel modified by adding foam placemat material to the top surface.

The modification was to apply foam placemat material (glued down with caulk) to the metal top of the turntable. Why? Cushion the surface AND insulate it, so that there isn't a rail-to-rail short when a loco stands on it.

As I was writing this article, I found the exact same model on Dick Blick's web site for under $30 (www.dickblick.com/products/amaco-decorating-wheel).

Why would you want one? I find two things it does for me.

1) I can put a loco (in a cradle or not) on it and quickly turn it around to work on both sides. I am very right-handed and that lets me quickly get my good hand in action.

2) It raises the work a few inches. Thus, my elbows and shoulders aren't cramped.

Lots of little tools like this make the job easier for one who is doing a lot of installations. But the dollars do really add up!

"Manufacturers are learning that folks use functions if they are available, so newer decoders frequently have 6, or even 8 functions."

Coming up . . .

Okay, now we have done a lot of the prep work and planning. Next month we talk about various styles of locos and what you need to do to put your decoder into them. ☑

"Lots of little tools like this make the job easier for one who is doing a lot of installations. But the dollars do really add up!"

Reader Feedback (click here)

Remember to visit the MRH website at mrhmag.com! The MRH family is *full* of great ideas!

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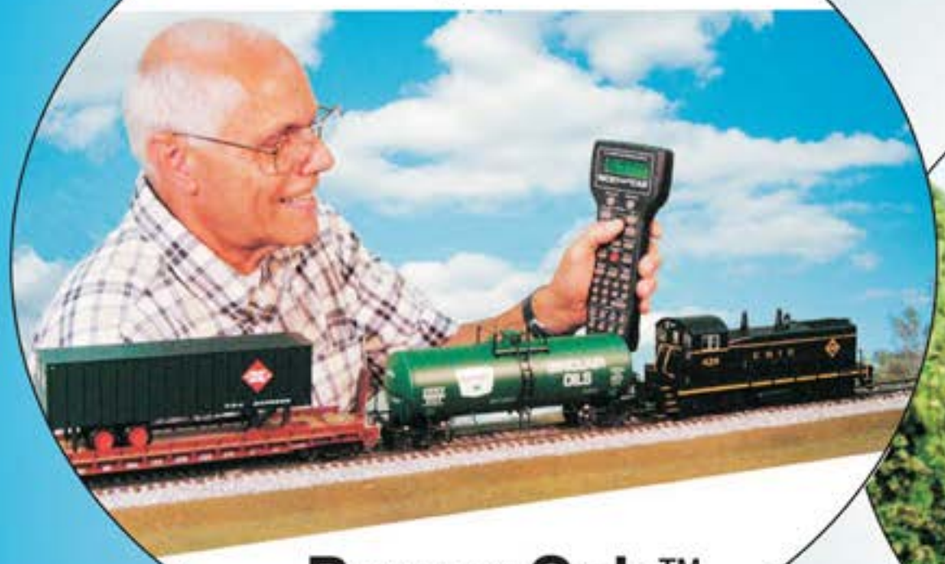

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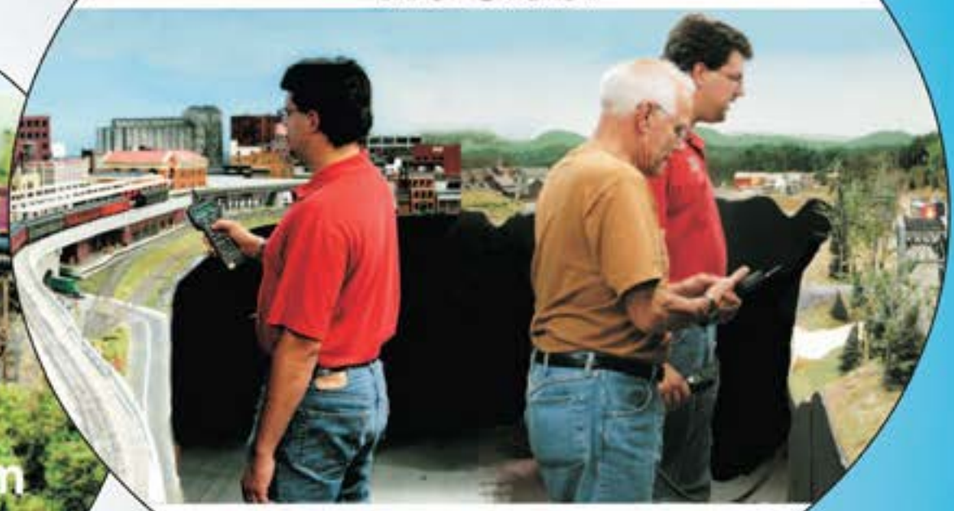

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RailPro: wireless locomotive command system

Reader Feedback
(click here)

– by Jeff Shultz

MRH was recently provided with a Ring Engineering (www.ringengineering.com/RailPro.htm) RailPro system. Unlike DCC, RailPro uses radio signals to send commands directly to your locomotives. There are no command stations or signals through the rails.

MRH received an HC-1 handheld throttle/controller and several locomotives with RailPro LM-1 locomotive modules (the equivalent of a DCC decoder) installed. The locomotives also included RailMaster speakers.

All that is needed in addition to this is track power. Since all of the layouts on which I'd be running the RailPro-equipped locomotives were DCC equipped, I depended on their DCC systems for track power instead of using a RailPro PWR-75 model railroad power supply. RailPro is compatible with DCC systems putting less than 20 volts peak-to-peak on the track. HO layouts shouldn't have a problem with this. For larger scales, it would be best to measure the voltage. Both DCC and RailPro equipped locomotives can be operated simultaneously though DCC locos can't be controlled with a RailPro throttle and vice-versa.

HC-1 handheld controller

The RailPro HC-1 box contained the locomotive controller (figure 1), a battery charger, USB cable, and user manual. The HC-1 throttle weighs 10.8oz (306 grams) and measures roughly 3-1/3" x 6" x 1-1/4" thick. Instead of the buttons and rotary switches usually found on a DCC throttle, the HC-1 has only three physical controls:

- power on button
- 1-1/2" diameter metal throttle knob
- 2-1/4" x 3" color touch screen

There is no external antenna and the rechargeable battery is permanently installed. According to Ring Engineering, battery life from a charge should

Figure 1: HC-1 RailPro throttle.

Figure 2: RailPro splash screen.

be more than 12 hours with screen brightness set to dim and between 6 to 9 hours for more typical use. This pretty much matched my experience with the unit – the first charge only lasted a couple of hours, but after a recharge, I found myself wondering when the battery was finally going to run out. I used it for an afternoon running trains for an open house and for around 3 hours on Joe Fugate's Siskiyou Line layout while making the video at the end of this First Look. Several weeks later the battery life indicator still shows just under half charge.

When you press the Power On button, you are greeted with the RailPro splash screen (figure 2). Tapping this screen takes you to the Main Page (figure 3) from which you can select among "Locomotives," "Turnouts," "Accessories,"

Figure 3: Main page.

Figure 4: Loco selection screen.

Figure 5: Loco control screen.

Figure 6: Loco information screen.

"Find Product, "Tools," "Stop All," "Adjust Settings" and "Power Off."

HC-1 Locomotive Control

Tapping "Locomotives" on the main page brings up the "Select Locomotive" screen (figure 4). From here you can select which locomotive you wish to operate by tapping on one of the configured-locomotive icons. The HC-1 comes with generic locomotive icons but it is possible to create custom icons for your locos by snapping a photo of your loco and sending to Ring Engineering. They process it and send you back an icon file via their website that is suitable for your throttle which you upload to the throttle via the USB cable and RailPro software downloaded to your PC.

As new features, sounds, and lighting effects are developed, the HC-1 throttle can be used to update locomotive and other modules.

Tapping a locomotive icon on the select locomotive screen moves you to the "Control Locomotive" screen for that locomotive (figure 5). From here you control direction, consisting (referred to a "Link" by RailPro), headlights on and off, configuring a headlight as a Mars or Gyralight, turning on engine sounds, sounding the horn or bell, and other similar functions.

An interesting feature is the ability to configure multiple horn sounds or perhaps a horn and whistle for steam engines such as the SP 4449 which has both.

Two additional functions are available from the "Control Locomotive" screen – "Locomotive Information," selected through the icon of a blue circle with a large "i" in it, and "Locomotive Setup," reached through the icon of a blue circle with a screwdriver and wrench.

"Locomotive Information" (figure 6) shows the power a locomotive is consuming, the voltage it's receiving, and the temperature inside the locomotive – like most electronics, LM-1s respond poorly when overheated.

"Locomotive Setup" (figure 7) page allows a locomotive to be named or renamed, a password can be assigned (so that someone with another HC-1 can't "steal" your locomotive), sound

Figure 7: Loco setup screen.

Figure 8: Advanced setup screen 1.

Figure 9: Advanced setup screen 2.

Figure 10: Advanced sound screen.

volume can be set, and the setup and more advanced features pages can be reached. After making any changes, tap the "Save" button or your changes will be lost when power is removed from the locomotive. A locomotive must be stopped with all sound effects off for the save to complete.

Tapping the "Advanced Setup" icon brings up the "Loco. Setup Advanced 1" page (figure 8). This page is where you set speed curves and acceleration/deceleration characteristics for the selected locomotive. From here the user can also access the "Advanced 2 Setup" and "Sounds Setup" pages as well as resetting everything back to default values.

"Loco Setup Advanced 2" (figure 9) allows you to run the Motor Full Load Current Test (enabling the LM-1 and HC-1 to determine the performance capabilities of the selected locomotive), turn Low Speed Enhance on or off, set the motor direction to normal or reversed, and configure some lighting features. Other icons on this page include "Advanced 1 Setup" and "Sounds Setup" as well as the aforementioned Default Values icon.

The "Loco. Advanced Sound" page (figure 10) allows configuring auto-notching for diesels. Other settings are available through the "Buttons Setup" page, but that is best left for the HC-1 manual, available online at www.ringengineering.com/RailPro/Documents/DOC1019Rev1_01-HC-1UsersManual.pdf

LM-1 Locomotive Module

The LM-1 Locomotive Module is 2.03" x 0.69" x 0.28" in size – roughly the same size as a larger DCC sound decoder. It's capable of four-channel sound and a growing library of sounds is available from Ring Engineering.

To install an LM-1, solder the speaker wires to your choice of speakers, and plug it into an 8-pin or 9-pin NMRA socket. If necessary an LM-1 can be hardwired into a locomotive without a NMRA socket or where the socket is awkwardly located. A color wiring diagram is included.

If you use LEDs instead of incandescent lamps in your locomotive see the

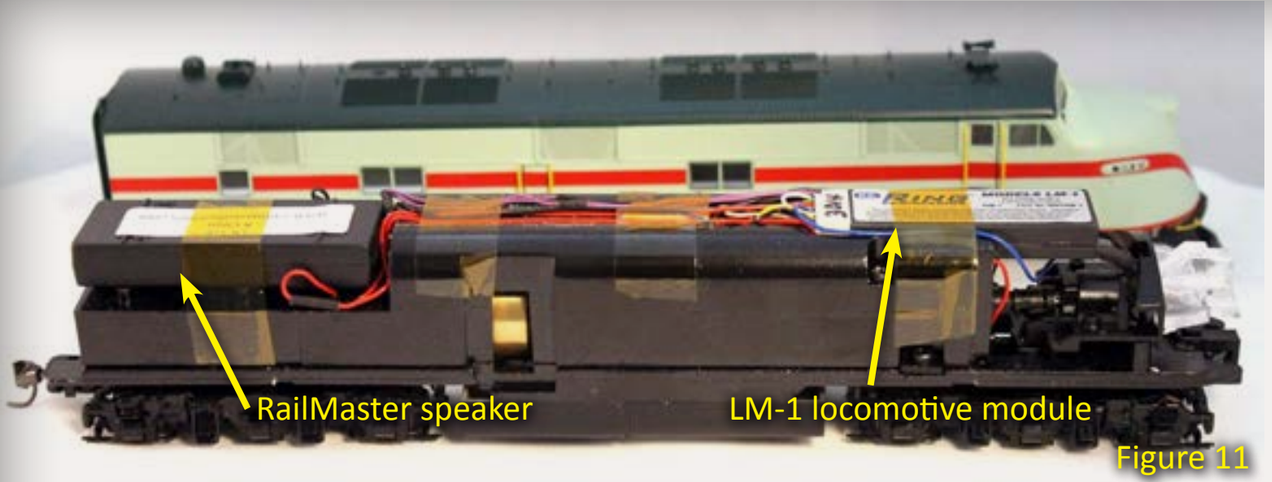

Figure 11

Figure 11: Side view of P2K E6 with LM-1 locomotive module (decoder) and RailMaster speaker installed.

Figure 12: Close-up of installed LM-1 from the top.

Figure 13: Close-up of installed LM-1 from the side.

Figure 12

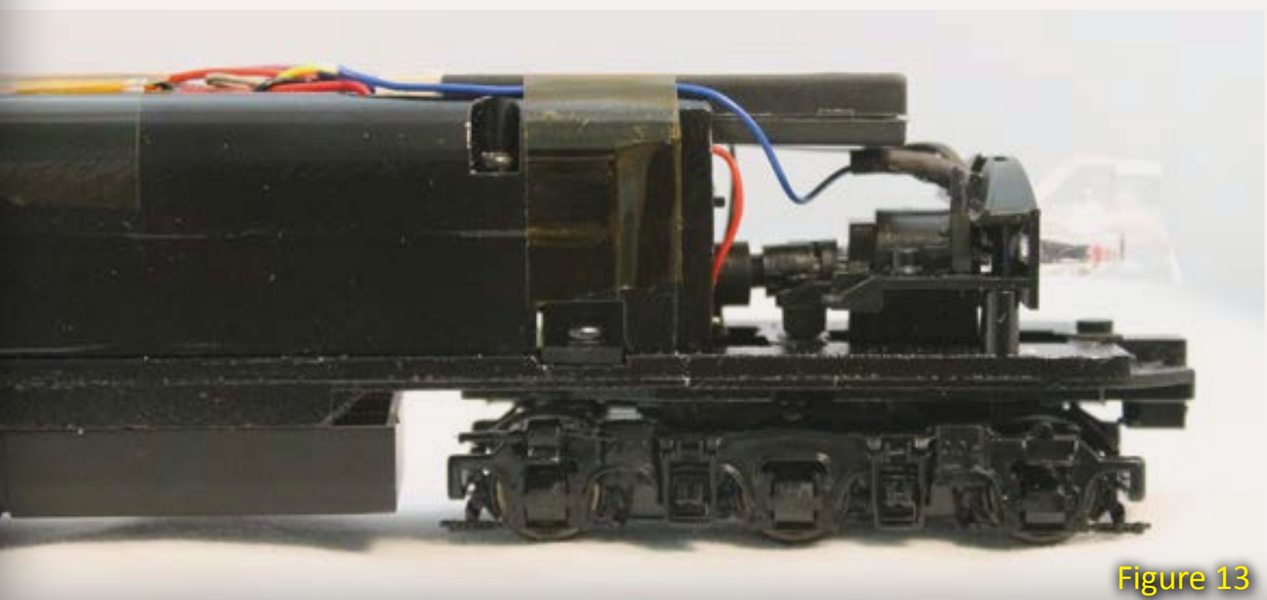

Figure 13

instructions regarding installation with series resistors. Speakers must be rated for at least 1 watt and have an impedance between 4 and 16 ohms. Figures 11 to 13 show an LM-1 and RailMaster speaker installed in a HO scale LifeLike Proto2000 E6 locomotive.

While the LM-1 is designed for HO scale locomotives, I don't see any reason that it couldn't be used in S or O scale units as long as they don't have too high a current draw. If your O or S locomotive can use an HO scale DCC decoder, it can probably use an LM-1. When using a LM-1 in S or O scale with tracks powered by a DCC booster, be sure the track voltage is less than 20 volts peak-to-peak.

Unfortunately, N and Z scalers will probably not be able to use LM-1 controllers at this time due to their size. RailPro's radio system is currently licensed only in the USA. In other locations you'll need to wait.

MRH would like to thank The Yankee Dabbler (yankeedabbler.com) for providing the RailPro equipment for this First Look article. ☑

RailPro component MSRP:

HC-1 Wireless Controller - $399.99

LM-1 Locomotive module - $99.99

PWR-75 Power Supply - $269.99

TC-4 Turnout Controller - $74.99

Reader Feedback *(click here)*

Click to visit the Ring Engineering website and watch the RailPro videos.

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ESU Passenger Car Lighting

First Look

– by Jeff Shultz

Reader Feedback (click here)

Most times when you see passenger car lighting kits, they come from the same companies that manufacture passenger cars. In this case, ESU GmbH & Co, which is primarily an electronics and DCC manufacturer from Germany, has introduced a series of LED passenger car lighting systems that can be adjusted for use in a variety of cars and scales.

MRH received the #50700 - "11 LEDs, 'warm-white'" for this First Look article. This lighting strip is 255mm (just over 10") in length, 7mm (1/4") in width, and includes cut lines between each LED allowing you to customize the length of the lighting strip for whatever application you need it for. It also includes two red LEDs for use as taillights.

I chose to install the lighting strip in the only passenger car on my layout, a Walther's HO Scale Milwaukee Road Hiawatha Skytop lounge car. Straight out of the box the lighting strip was too long for the car because of the car's downward curving rear end. Cutting a couple of the LEDs off the end of the strip opposite the power connections with a fine-tooth razor saw allowed me to use double-sided foam tape to secure the lighting strip in the removable roof of the car. Since I did not need the taillights I also cut them off and put the lighting strip in "backwards" to reduce the wire run between the end of the lighting strip and the metal tabs in the car that carried the power up from the wheels. I did have to wrap the tabs in wire in order to give me something to solder the lighting strip's wires to. This also helps keep everything removable. Looking at the lighting strip, it also appears that if you had an application that required a gap in lighting you could cut the strip appropriately and run wires between the two (or more) sections. This might even be appropriate for multi-room structure lighting.

I also soldered ESU's #50706 "PowerPack" capacitor to clearly marked spots on the lighting strip. While the lighting strips are a constant voltage design and contain a small capacitor, the PowerPack can compensate for longer interruptions in power – it also has the effect of letting the lights in the car glow for up to several minutes after I turned the track power off. The PowerPack is small enough that it drops neatly into an interior (no windows) compartment in my passenger car.

According to the documentation on the ESU website, the lighting strips can use between 4 and 24V power and are constant brightness above 6V.

There are currently six products in the ESU passenger car lighting line (MSRP is in Euros):

#50700, 255mm (~10") in length, 7mm (1/4") in width, 11 "warm-white" LEDs and two red taillights, recommended for N thru O scales (MSRP: 17.49 €);

#50702, 255mm (~10") in length, 7mm (1/4") in width, 11 "yellow" LEDs and two red taillights, recommended for N thru O scales (MSRP: 14.95 €);

Figure 1: #50700 passenger car lighting strip in its retail box (left). Out of the box (right).

#50703, 380mm (~15”) in length, 15mm (~2/3”) in width, 16 white and 16 yellow LEDs in pairs and includes the PowerPack and two red taillights built into the strip. It is recommended for #1 and G gauge applications (MSRP 39.95 €);

#50704, single warm-white LED “cabin” lighting strip for locomotives, cabin’s, cabooses, or van’s, depending on your railroad’s linguistic heritage (MSRP 7.95 €) ;

#50705, which consists of two red LEDs for taillights (MSRP 7.95 €).

#50706 PowerPack capacitors (0,1F), 2ea. (MSRP 5.95 €), www.esu.eu/en/products/innenbeleuchtungen. ☑

Reader Feedback (click here)

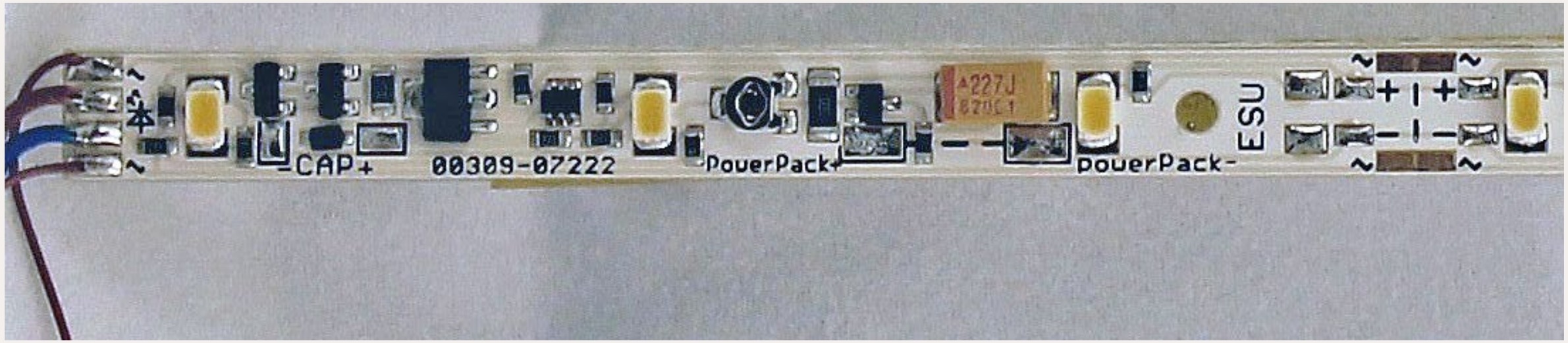


Figure 3: Closeup of the lighting strip showing PowerPack solder pads and cut marks.

Figure 4: Lighting strip installed and illuminated.

Photo Wallpaper For Structure Surfaces

– *by Lance Mindheim*
Photos by the author

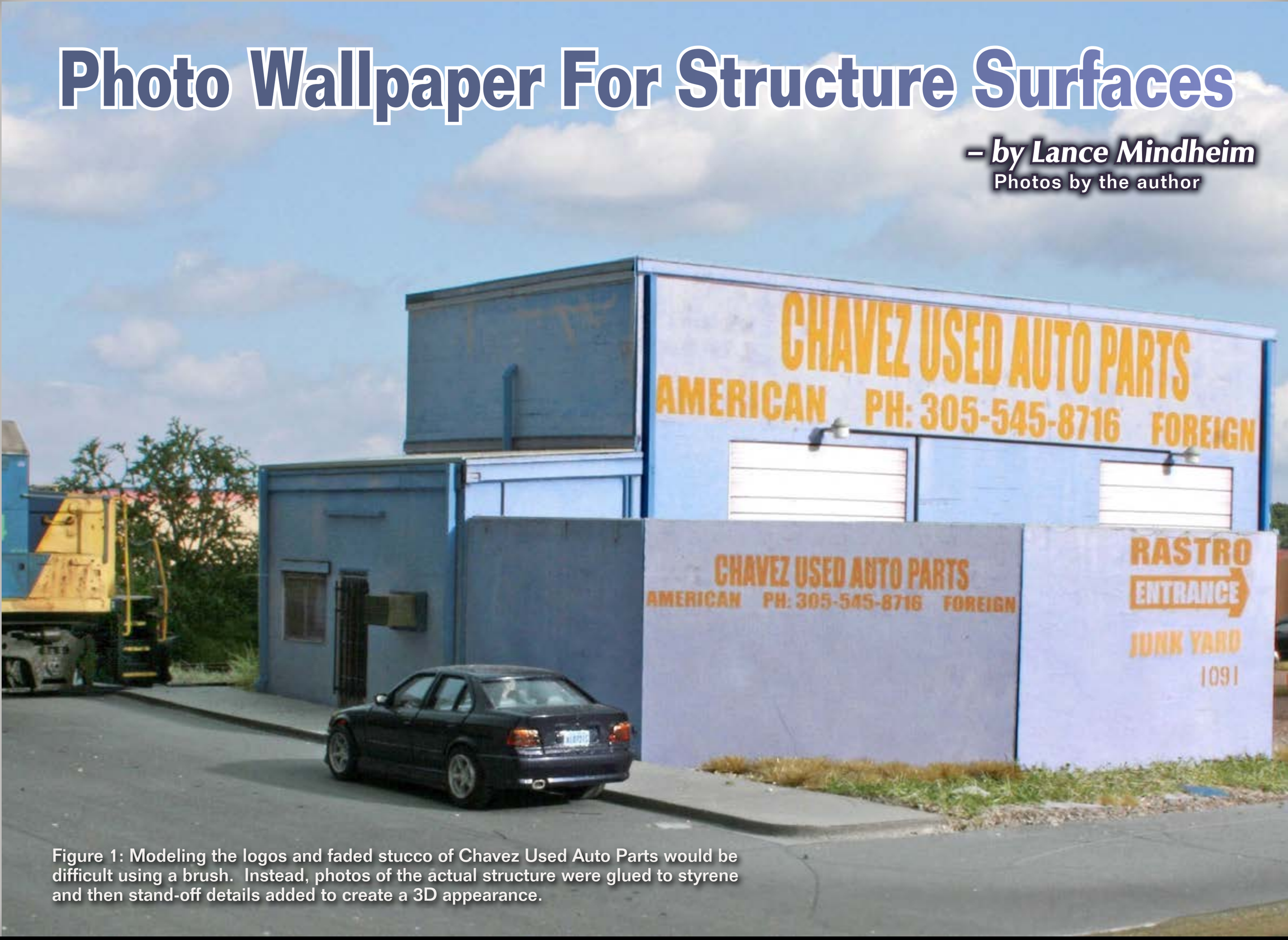


Figure 1: Modeling the logos and faded stucco of Chavez Used Auto Parts would be difficult using a brush. Instead, photos of the actual structure were glued to styrene and then stand-off details added to create a 3D appearance.

Reader Feedback (click here)

Learn the secret to getting amazing structure realism using Lance Mindheim's photo-lamination tricks ...

Certain surfaces have always been a challenge to model. Intricate weathering patterns of peeling paint and stains streaking down a wall, subtle color variations on a brick or masonry wall, murals, and graffiti are a few such examples. No matter how skilled the modeler, there are limits to how accurately we can capture complex color patterns using traditional methods. For many years our only available option for creating what we wanted was paint on styrene.

When we step back, though, and think about what we are really trying to do, the task boils down to applying a color to a surface by any effective means available. There really is no reason why the method for doing so needs to be a brush. It can also be a printer. For some prototype surfaces, specifically those that are essentially flat with very little surface relief, we can get better results by using a photograph for the surface instead of painted styrene. The idea is certainly not new. What has changed is the ease of implementing the technique. The prices of printers, cameras, and photo editing software have dropped to the point where they are within the reach of anybody's budget.

The coming of the digital age to our hobby has put some of these previously impossible modeling tasks within easy reach. For some surfaces, using a photograph produces a far more accurate result than what we could get with a brush. All you need is a computer, photo editing software, and a printer. You may not even need a camera if you can get the photos elsewhere. Follow along as I walk you through the process of 'wallpapering' photos onto a model surface in lieu of paint.

Before we get into the step by step, I caution you not to get lost in the details. At the most basic level all we are doing is taking a photograph of a surface, printing it to scale, and gluing it to styrene. No more, no less. The biggest obstacle all modelers face is getting over their natural inertia of trying something new. I suspect that after reading this article the reason folks won't try it is that it's out of their comfort zone, particularly when it comes to photo editing software. However, those that are willing to get their feet wet and try something new will find that, in the right instances, the technique produces surfaces far more accurate than can be accomplished with paint, is much faster than traditional techniques, and is far less expensive.

Match the Method to the Task

As with any modeling project, it comes down to picking the right tool or method for the job. Photo wallpaper isn't the best technique for every situation. In general, substituting photos for paint works best in cases where the prototype surface is relatively flat. Examples include doors, windows, walls, and flatter structure faces. Brick and cinder block walls and rollup doors are ideal candidates. The effect is not as convincing for high relief surfaces such as ribbed siding or board and batten siding. Certainly you wouldn't try it for modeling an oil refinery! Also, the photo wallpaper method makes the most sense for surfaces that have difficult to model color patterns. If the prototype has a simple color pattern, you may as well just use paint.

The Downside of Using Photo Wallpaper

No method is without its drawbacks. If I could sum up those of the photo wallpaper technique it would be durability. Paint on styrene is more durable and robust than ink on paper. Ink does fade over time. In my case I've noticed it in a few locations starting at about the five year mark. Reducing exposure to sun and fluorescent lighting can slow the process down. So can using better inks and papers. Long term fading is something to consider if you plan on a layout that will last decades. My attention span for a project is generally only five to seven years so I didn't even go to the effort to track down more expensive inks and paper.

Water damage is another issue. Spots of water from scenery work, plumbing malfunctions, etc. will ruin many photos. Coating the photos with Dullcote offers virtually no protection. A little care during scenery work as well as putting plastic over the layout beneath our bathroom solved my water damage issue. Finally, some – not all – inks, react to Dullcote and change color. Always test a sample first and if you have a problem use acrylic flat spray.

Photo Editing Software

There, I said it. "New software", that nasty word that will have many saying, 'interesting idea ... or somebody else besides me'. Without the use of a photo editor you won't be able to implement the techniques we will be discussing. Photo editing software is a basic tool, the key functions of which are no more difficult than MS Word. If you can copy, cut, and paste with Word you can do the basic photo editing tasks. In addition, unlike an airbrush, photo editors have an undo button!

Before purchasing your software a few points need to be made. First, even old editions of basic software have far more capability than you will ever use. It makes no sense to buy an expensive, latest and greatest editing

program. Doing so will likely bog you down in elaborate tool bars. I suggest picking up one (or even several) used or old editions and keep the cost in the $20 to $30 range. Amazon.com is a good starting point for making your purchase. For this article I suggest Paint Shop Pro X as it has a few tools that apply particularly well to what we will be doing. Adobe Photo Shop Elements is another good choice. If you can get a good price, pick up both as they each has its selling points.

The fastest way to learn how to use a photo editing program is to load a copy of a photo (always work with copies), open it in the editor, start pushing buttons and play around with the tools to see what happens. If you get stuck click the help bar for a quick clarification.

Getting Started

The process for photo wallpapering a structure is as follows:

1. Buy a basic photo editing software program. As a minimum you need something that can correct for perspective distortion. (Paint Shop Pro X and Adobe Photoshop Elements have this feature)

2. Take or obtain a photo of the prototype surface. Although not ideal, I have used photos captured from Google Streetview. Photos taken by others or obtained on the net are other sources in addition to taking the shot yourself.

Figures 2: I can't imagine a project more difficult than trying to model this roll-up door with paint. The color combinations are very complex. The shallow relief between the slats is minute and typically not realistically produced with commercial door products. Time for the computer and printer.

Figures 3: Because of natural perspective issues, the photo of the door is slightly trapezoidal in shape and noticeably tilted to one side. In many cases you'll find that your photos have an even more pronounced perspective distortion. Paint Shop Pro has a very simple and effective tool called 'Perspective Correction' that quickly cleans up the distortion. 1. Click the perspective correction icon. 2. A box will appear on the screen. Drag each dart on the screen box to a corner of the door in your image. 3. Hit the green check mark. That's it! Almost like magic the distortion has been fixed.

3. Build a blank core of your structure out of styrene.

4. Edit your photo to correct for perspective distortion and other needs.

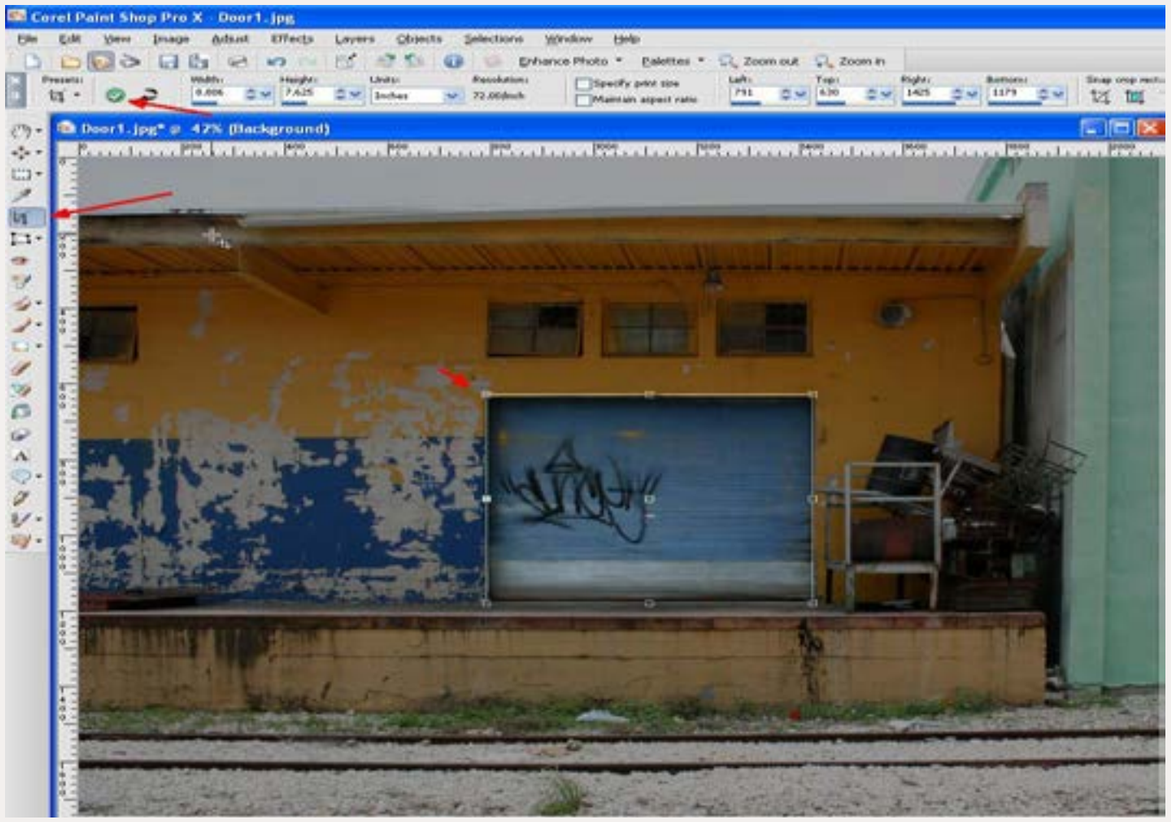
5. Print the photo to the size needed.

6. Glue the photo to the surface of your core with 3M Super 77 spray adhesive.

7. Add traditional three-dimensional details such as gutters, conduit, and downspouts to the structure.

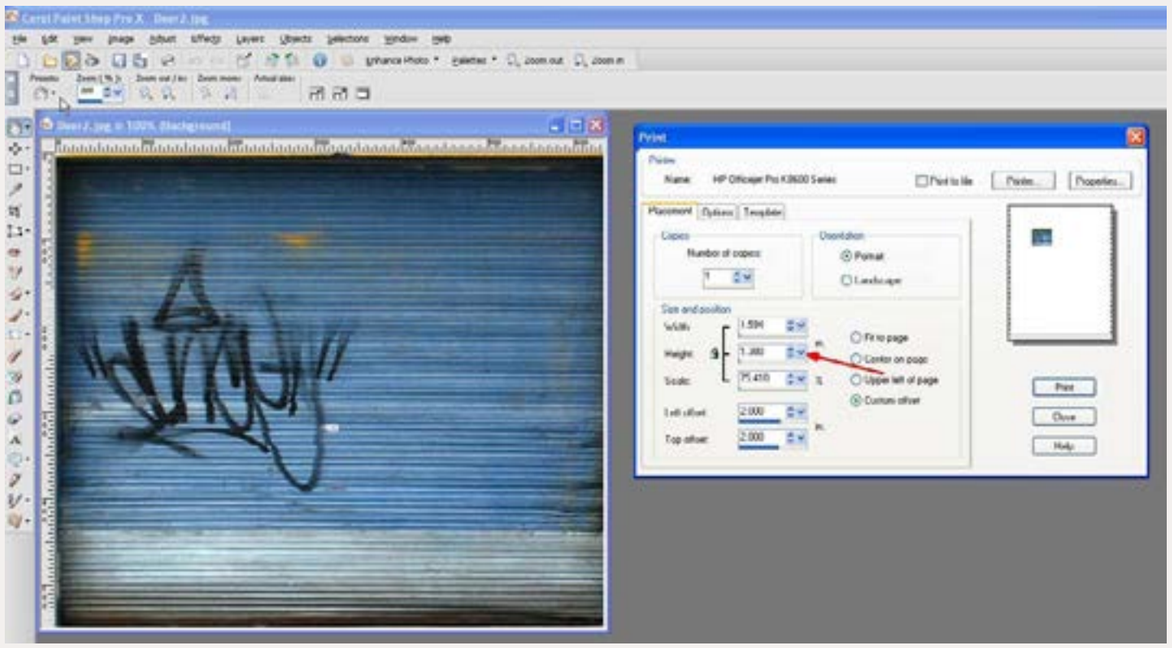
Baby Steps

Rather than choosing a full scale, omplex four-wall structure as a first project, let's pick something with a simple one-dimensional surface to get the hang of the technique and build confidence. Two very simple, big pay-off, subjects are steel roll-up doors and masonry walls. These surfaces are difficult to effectively model using traditional paint and exceptionally easy to model using photos. They are great starting points because they are both easy and produce dramatic results.

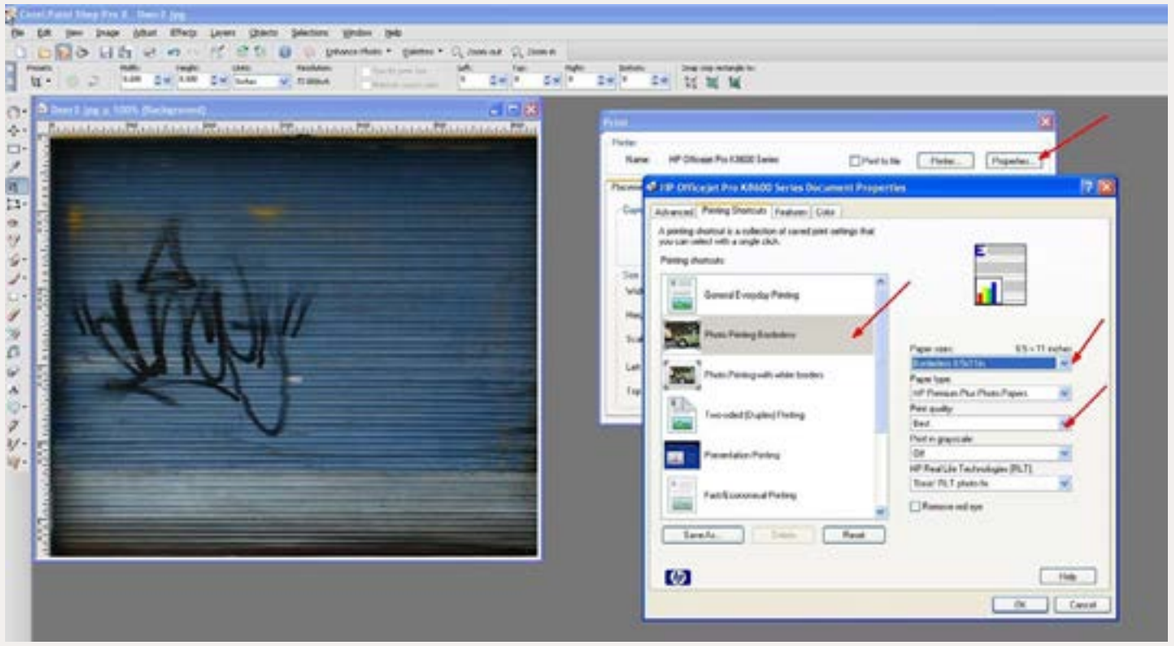


Figures 4: With the distortion corrected, we can now cut away the portions of the photo we don't need using what is called a crop tool. Think of cropping as digital scissors. Hit the crop icon, drag the box around the area you want to keep, and hit the green check mark.

Figures 5: Here's our finished door. Note how I've intentionally left the shadows in the corners to enhance the 3D effect.



Figures 6: Paint Shop Pro X has a very simple print size feature. Using the masonry blocks as a guide, the door measures out to be 10 feet tall on the prototype. Scaled to HO, we therefore want our printed door to be 1.38 inches high (scale 10 feet in HO). On the tool bar hit "file" and then "print". This will open up the printing functions. Set the image height to 1.38". The width will be automatically set for you to the correct proportions.



Figures 7: Now that the size is set, let's tell the printer what to do. While still in Paint Shop Pro X's print screen hit "properties." The next screen will be for your printer and there will be some variation by model. Set the printer for photo paper (not everyday typing paper). Under print output quality hit "Best". It's not necessary to use the "Maximum DPI" setting should that be an option that comes up on your screen. Insert your photo paper and print.

Figure 10: Glue your photo door behind the door opening of your desired structure.

Figures 8-9: Using a new, sharp blade and steel rule as a guide, cut out your photo. As you go about cutting your photos, change blades frequently to prevent snags and burrs. Turn the photo over and spray the back with Super 77. Place the photo on a scrap of .060" styrene and firmly seat it with a rubber roller. Note that with Super 77 you only get one chance. Once it grabs it really grabs, so make sure you have things lined up correctly from the outset.

Figure 11: All four walls of the Antillean Marine office structure shown above are photos, as are the containers.

Once you've practiced with one-dimensional projects such as a door or wall let's move onto three-dimensional structures. The techniques are essentially the same as what we did for the doors but we will now 'wallpaper' all four walls of the structure.

Figures 12-13: The starting point of the project was the photo on the left. Google Streetview had some good angles to fill in a few of the blanks.

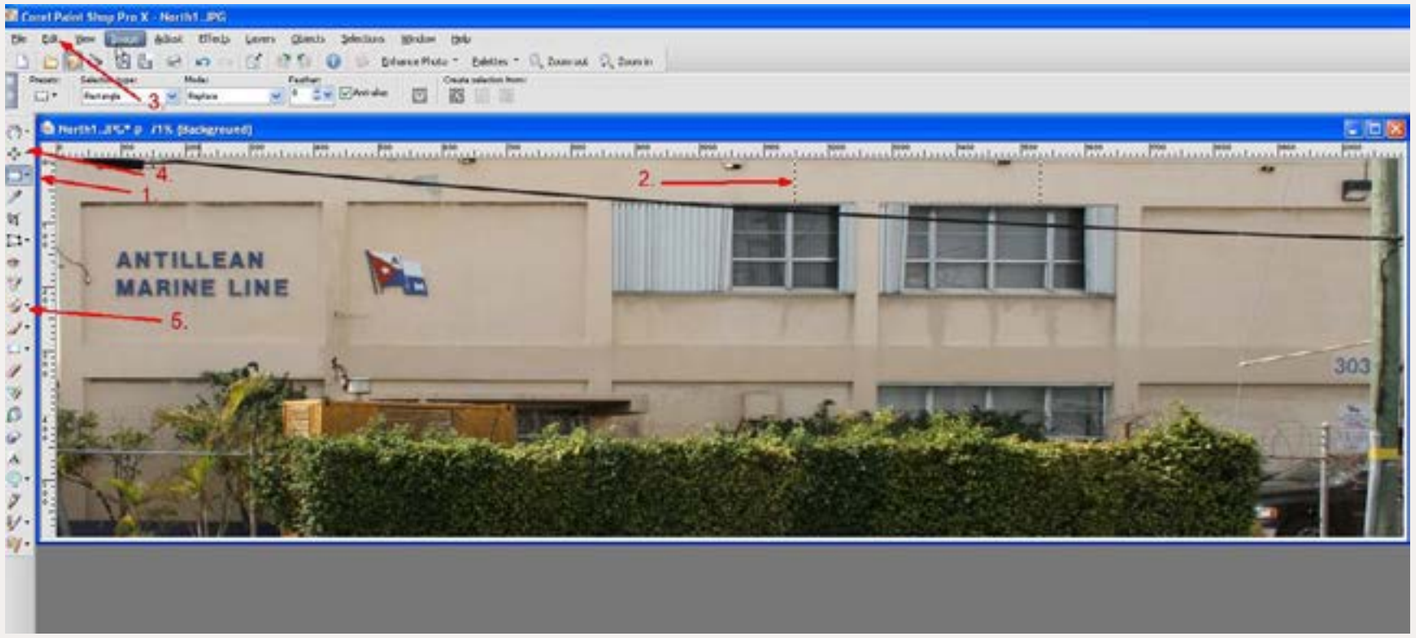


Figure 14: After correcting for perspective you'll see that the image has a number of issues that must be resolved before it's useable. As is commonly the case wires, fences, and foliage are in the way. Fortunately, there are enough 'good' areas that all we have to do is copy clean wall sections over those with the obstruction. The process is very similar to that of MS Word, in that we will select/highlight, copy, and paste.

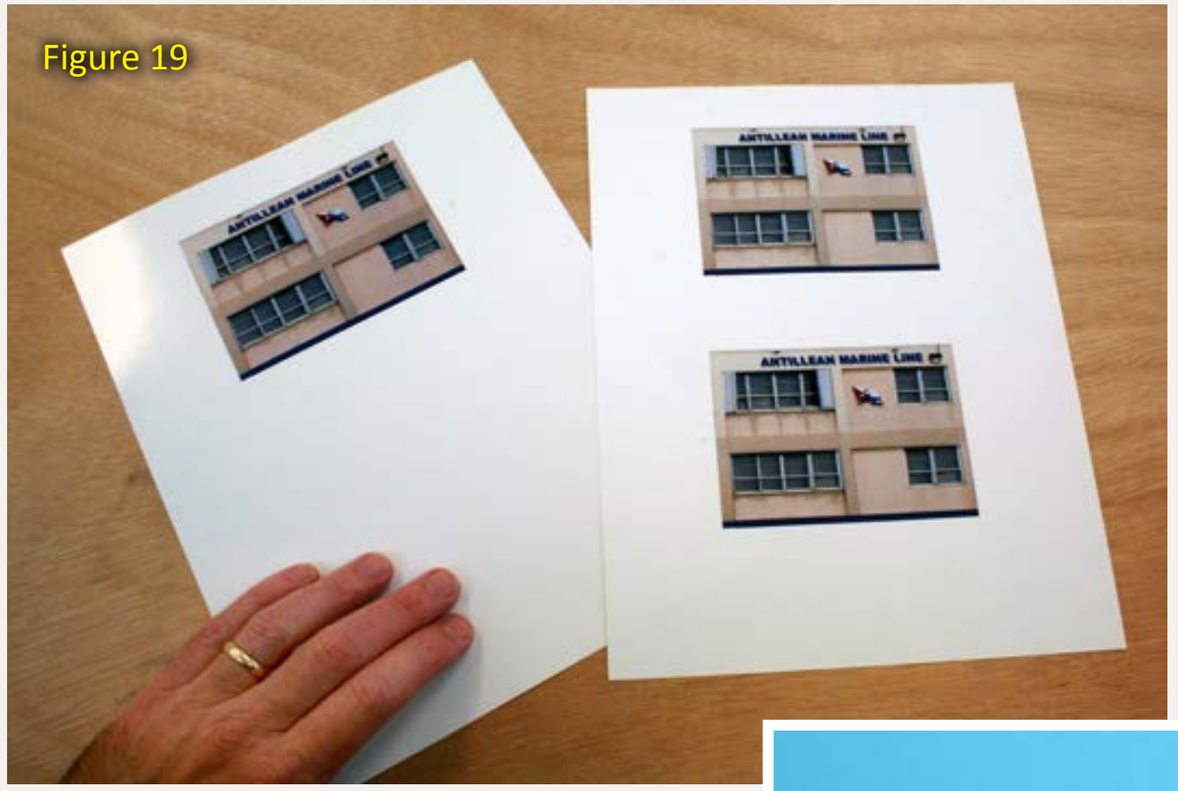
1. This is the selection tool. 2. Drag a box around the area you want to copy. 3. Hit edit, copy, paste. 4. Using the 'pick' grab the copy and drag it over the section we want to replace. 5. The clone is a much more powerful copy/paste tool that allows for finer correction work. Learn to use it as it's handy indeed!

Figure 15: Using the copy/paste and clone tools the image above shows how I gradually replace obstructed sections of the photo with similar shaped 'clean' sections.

Figure 16: Here's the finished wall after clean up with the cut and paste tools. I selectively compressed it by removing one panel. The glass entrance door is from my door image library.

Figure 17: The only real photo I have of the prototype structure is of the north face. That's common. Using a little creativity I varied the patterns enough to create all four walls. Shown above is the west wall of the structure.

Figure 18: The next step is to prepare the core of the structure itself. In most cases you are essentially creating a blank box. Your prototype photos can be very helpful in determining the actual dimensions of the of the structure being modeled. The standard 8"x16" masonry block or 80" standard personnel door height are good scales and appear in many photos. For the core, my material of choice is .060 inch styrene. When complete, make sure the surface is clean prior to attaching the photos. Wiping the surface with rubbing alcohol will do it.



Figures 19-20: Although we could simply glue photos of each wall to our core, the resulting surfaces will be obviously flat, especially when viewed from any angle other than straight on. We can take some simple steps to create the illusion that the surface is three-dimensional. I typically print three photos for each wall. The first photo is printed on glossy paper and is the bottom layer. Print the second photo on matte paper, cut out the window and door openings and glue it over the first so that the glossy windows show through. Print the third photo on matte paper as well. We will use this for any stand off details such as columns or other protruding features. This three-layer sandwich is certainly flatter than the prototype but the optical illusion of depth can be convincing.

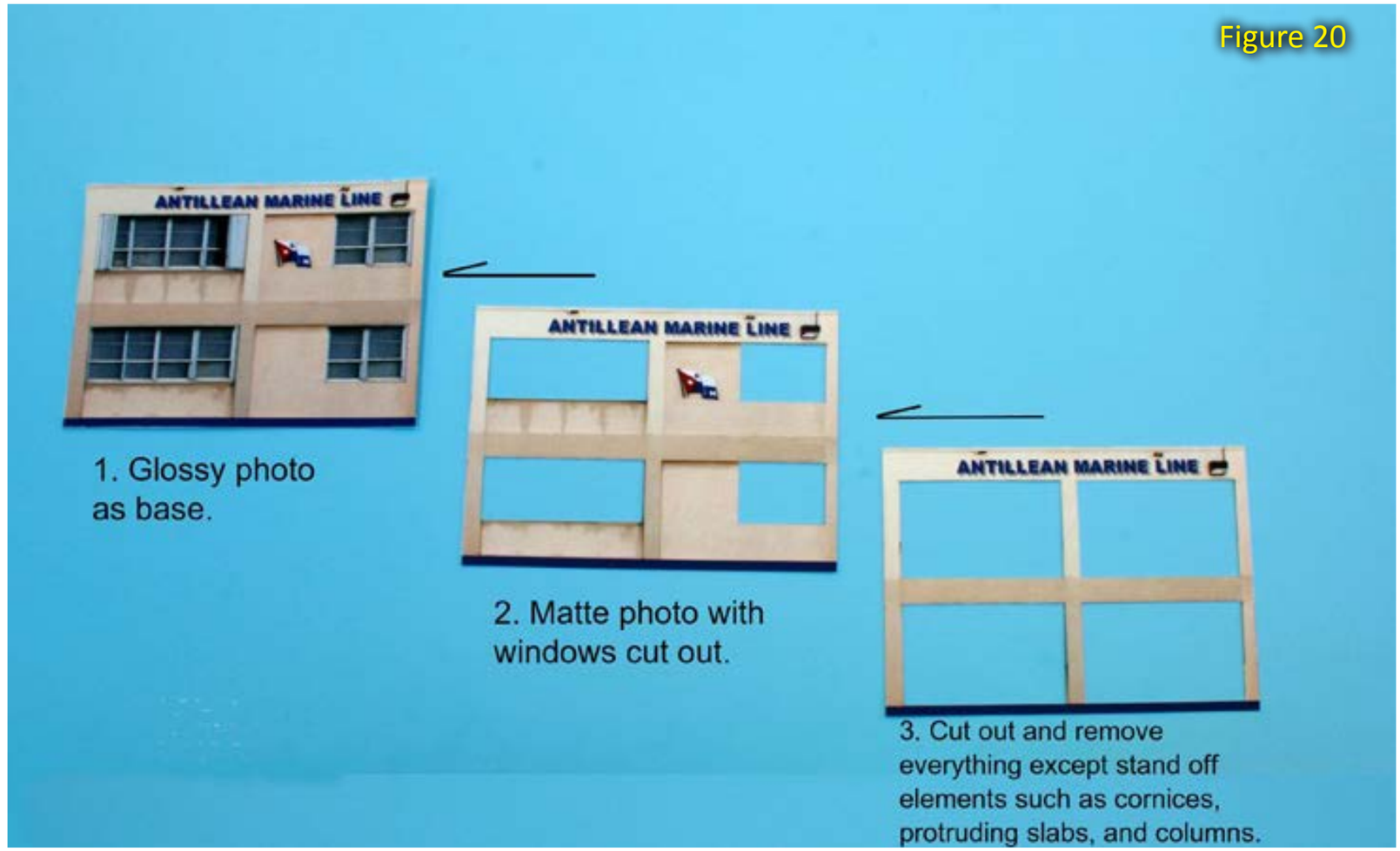


Figure 21: Optional Step: The photo paper is pretty thin but as you cut out the openings you'll be able to faintly see the white edges where you made the cut. Depending on how much of a stickler you are, these white lines may or may not bother you. If you want, you can dry brush a similar color paint around the photo edges.

Figure 22: Here's the assembled west wall of the office comprised of three printed photos stacked on top of each other.

Figure 23: Spray the back of the print with Super 77, align the photo with the core and firmly roll it into place. Repeat for each of the four walls.

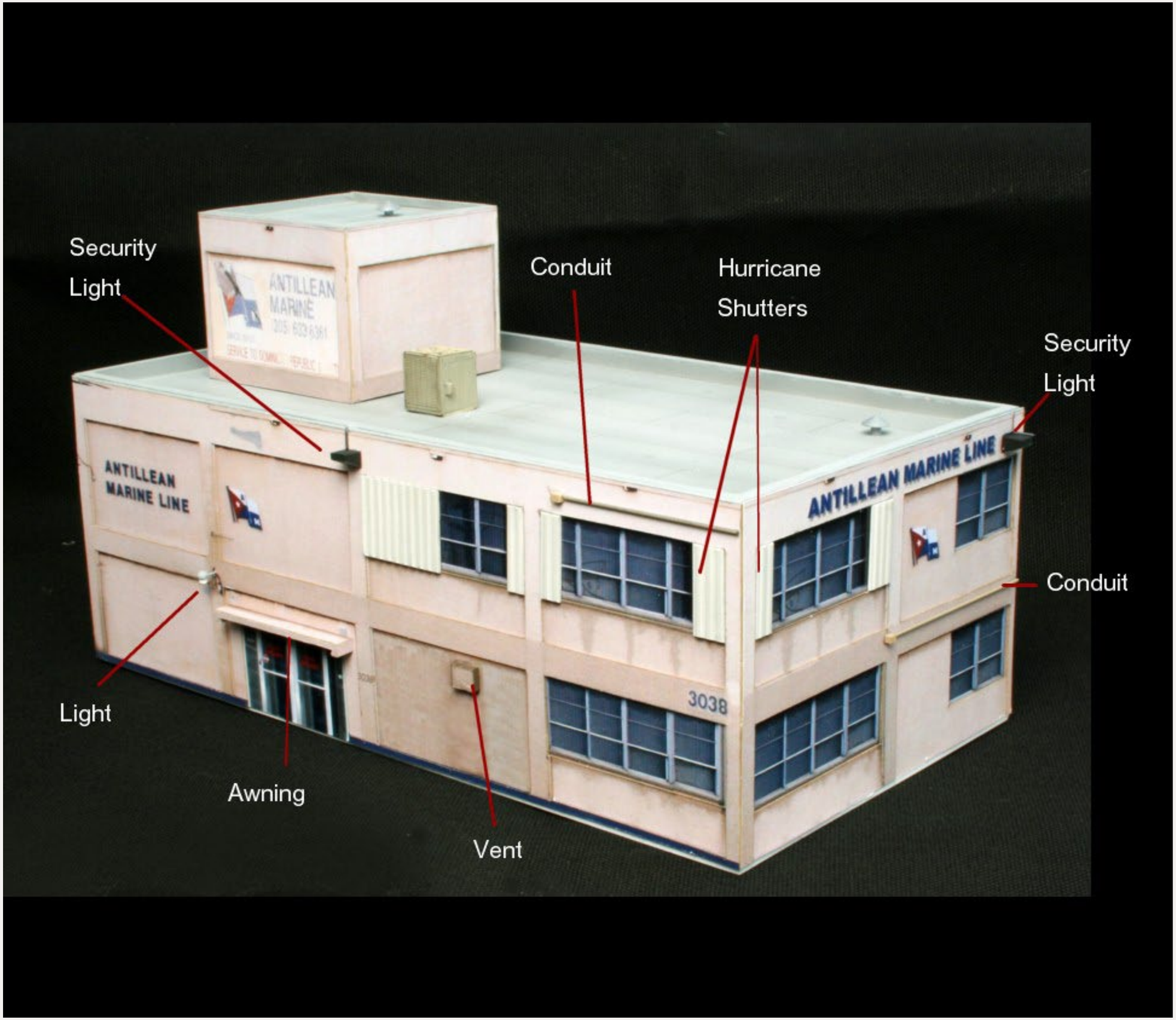


Figure 24: The only purpose of the photos is to provide color and the illusion of shallow depth. In order to keep it from looking obviously flat, add traditional 3D standoff details such as lights, awnings, and conduits.

Photo Gallery of Other Photo Wall Covered Structures on My Layout

Figure 25: Proveedora Jiron.

Figure 27: Graffiti laden background structure.

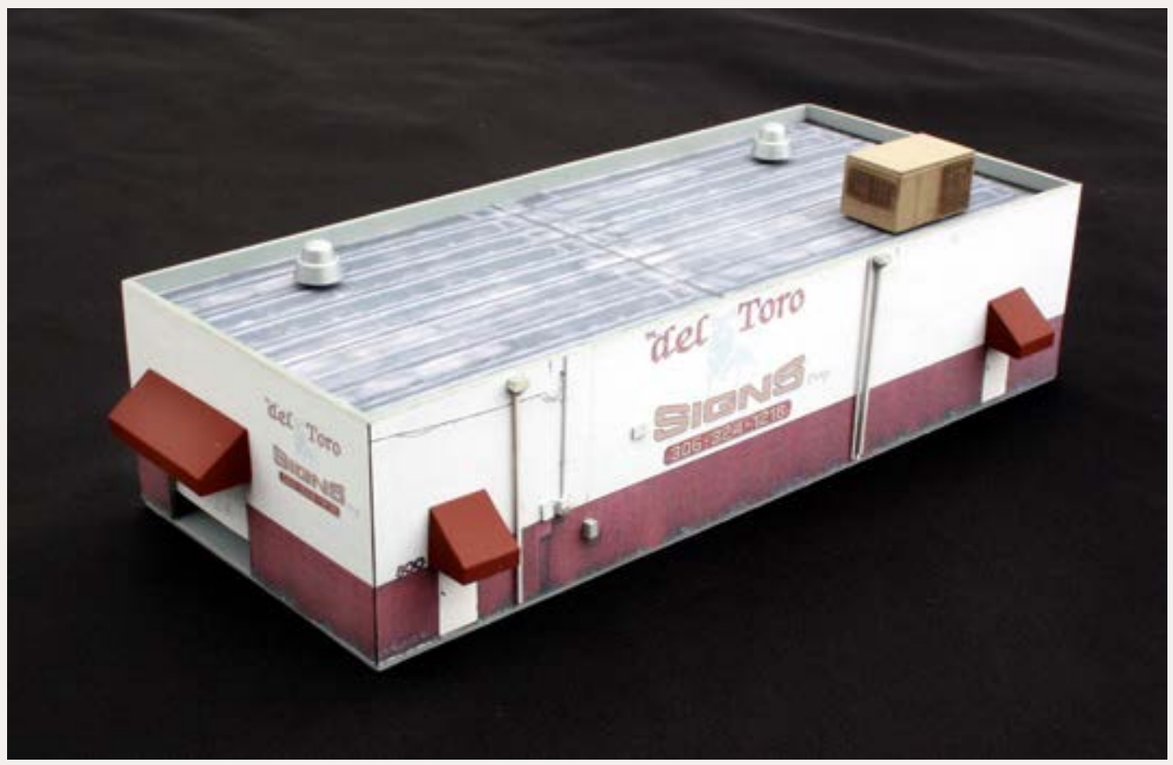


Figure 26: Del Toro Signs.

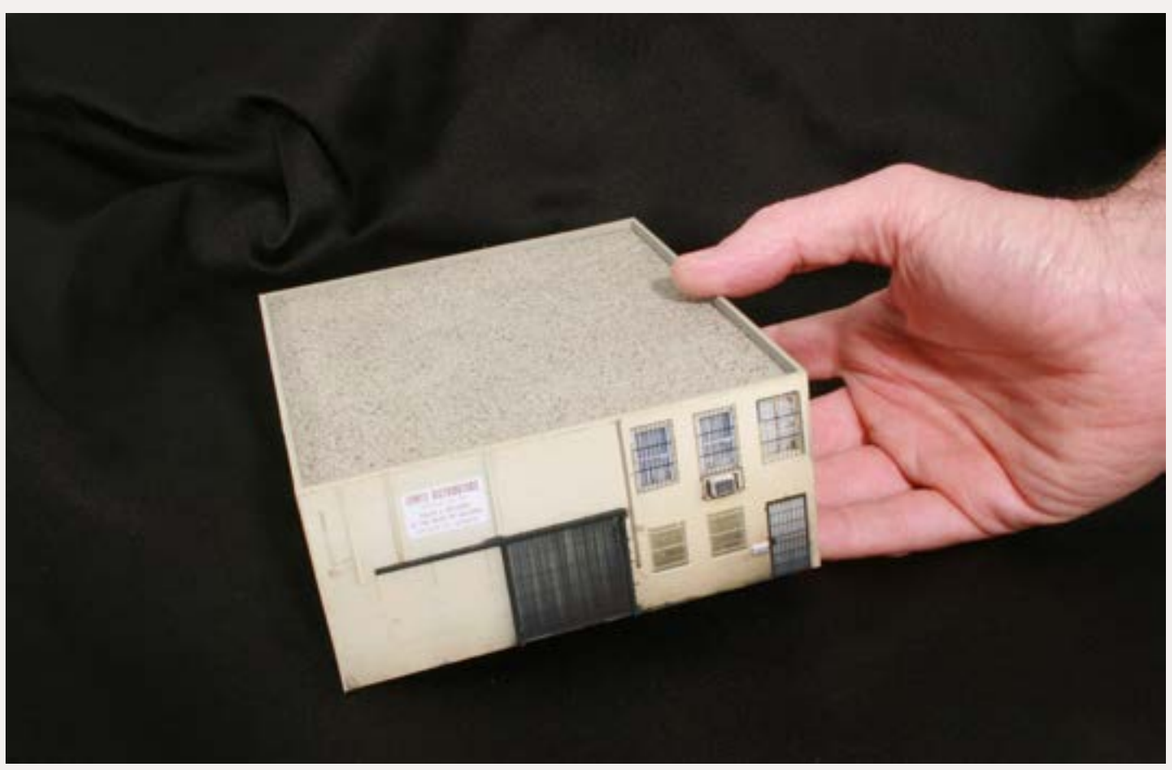


Figure 28: Lowell Distributing.

Figure 29: Chavez Used Auto Parts.

Figure 30: Graffiti 'art' on masonry wall.

Figure 31: The graffiti'd masonry wall in HO.

Lance Mindheim is a frequent contributor who lives in Silver Spring, MD., with his wife, Cathy, and son, Zachary. He is the owner of the Shelf Layouts Company, Inc. (www.shelflayouts.com) a custom layout building and design firm. His Miami-based HO scale Downtown Spur layout appeared in Model Railroad Planning 2009.

Other Applications

There is no limit to the application of this technique as long as you are dealing with prototype subjects that have a relatively flat surface. Try it on containers, truck sides, as wrapping on storage tanks, and perhaps even road surfaces.

The photo wallpaper technique, while not the solution to all color issues, can get you out of more than a few jams. Think of the process as a digital paint brush with the exceptionally nice feature of an 'undo' button.

The biggest challenge is taking the first step and that begins with obtaining your photo editing software. A small investment there will be rewarded many times over. Give it a try! ☑

Figure 32: If your layout requires a large number of containers you'll find that it can get expensive as well as time consuming when it comes to weathering them. In addition, some of the logos aren't available as commercial products. Photo wallpaper can be a good solution in this case. Build an appropriately sized cube and glue photos of stacks of containers to create realistic looking and inexpensive container stacks.

Figure 33: After editing the panel of the prototype delivery truck I printed it out to size on label stock and glued it to the side of a Boley vehicle.

Figure 34

Figure 35

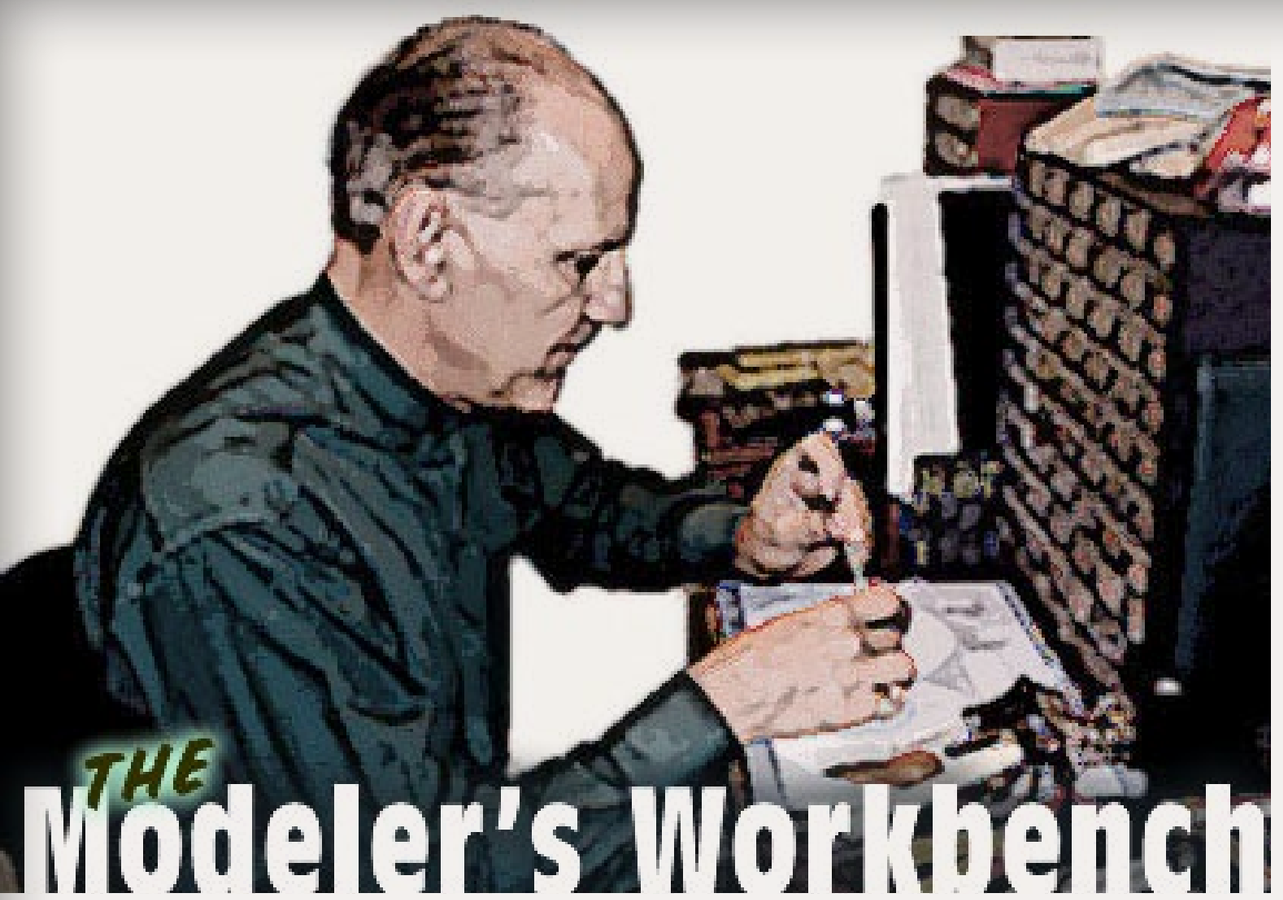
Figures 34-35: Models of the 20-foot Tropical Shipping reefer containers simply aren't available on the market. To get around this I glued a photo to the side of an undecorated Walthers container.

Pros and Cons of the Photo Wall Paper Technique

PROS:	CONS:
Perfect color	Too 'flat' for some materials
Inexpensive	Possible fading of ink over time
Fast	Potential for water damage

Reader Feedback *(click here)*

Subscriber Extra: Download these doors for your own use.



Converting a Rivarossi Diner to Six-wheel Trucks

– by Jim Duncan

Reader Feedback *(click here)*

The Gulf Mobile and Ohio Railroad inherited the Alton Railroad's fleet of passenger cars when the two roads merged in 1947. Alton, under receivership to the Baltimore and Ohio at the time, set out to modernize its passenger car fleet by turning to American Car and Foundry in St. Louis to supply replacements for the Alton's aging fleet of heavyweights.

One of the first decisions made in the design of the new cars was that they be built upon six-wheel trucks, as the Alton management preferred the smoother ride provided by the heavier truck over the four-wheel trucks which equipped most streamlined, lightweight equipment. The result was that passengers drinks rarely spilled in the diners or parlor cars!

The six-wheel and four-wheel Rivarossi truck are not directly interchangeable due to the location of the bolster pin on each truck. The pin is located closer to the axle away from the coupler on the four-wheel version while it is centered on the six-wheel version. A conversion to the correct trucks for the cars I was modeling required converting the underframe to move the bolster location closer to the end of the car by approximately 0.25 inches. This would involve some minor modifications to the underframe.

I started by scavenging a pair of six-wheel trucks from a Rivarossi heavyweight passenger car. I replaced the old plastic wheels with metal wheelsets.

The first step was to remove the old trucks from the car. I used a small flat-blade screwdriver to avoid damaging the bolster pins, and set the pins aside to use later in the project (figures 2 and 3, next page).

In order to create a new bolster pin socket, the existing pad must be smooth and free of all old detail. Begin by cutting away and discarding the two vertical guide pins located next to the bolster pad. These pins are not needed after the conversion. Next use a #2 X-Acto knife to carefully remove the old bolster and associated molded-on detail from the pad. Prepare the base by sanding with #400 or finer sandpaper to get a good, flat surface (figures 4 and 5, next page).

Measure the bolster and cut two replacement pads from .030" styrene. I used Plastruct building siding in order to ensure straight cuts as much as possible, but smooth-sided styrene is preferable. Rough up the old pad and the newly-cut styrene a bit with the sandpaper and glue the new pad into

Text continues on page 77.

Figure 1: Here is a "before" view of the Rivarossi diner which we are converting to become an ACF parlor car with six-wheel trucks.

Figure 2: Looking at the underside of the car, we see the snap-fit bolster pins and the original 4-wheel trucks.

Figure 4: Removing the truck reveals the molded-on bolster. Take note of the location of the three rivets closest to the end of the car on the bolster pad (between the two short pins). The new bolster hole will be in the location of the center rivet. Note also the two truck guide pins which we will remove in the next step.

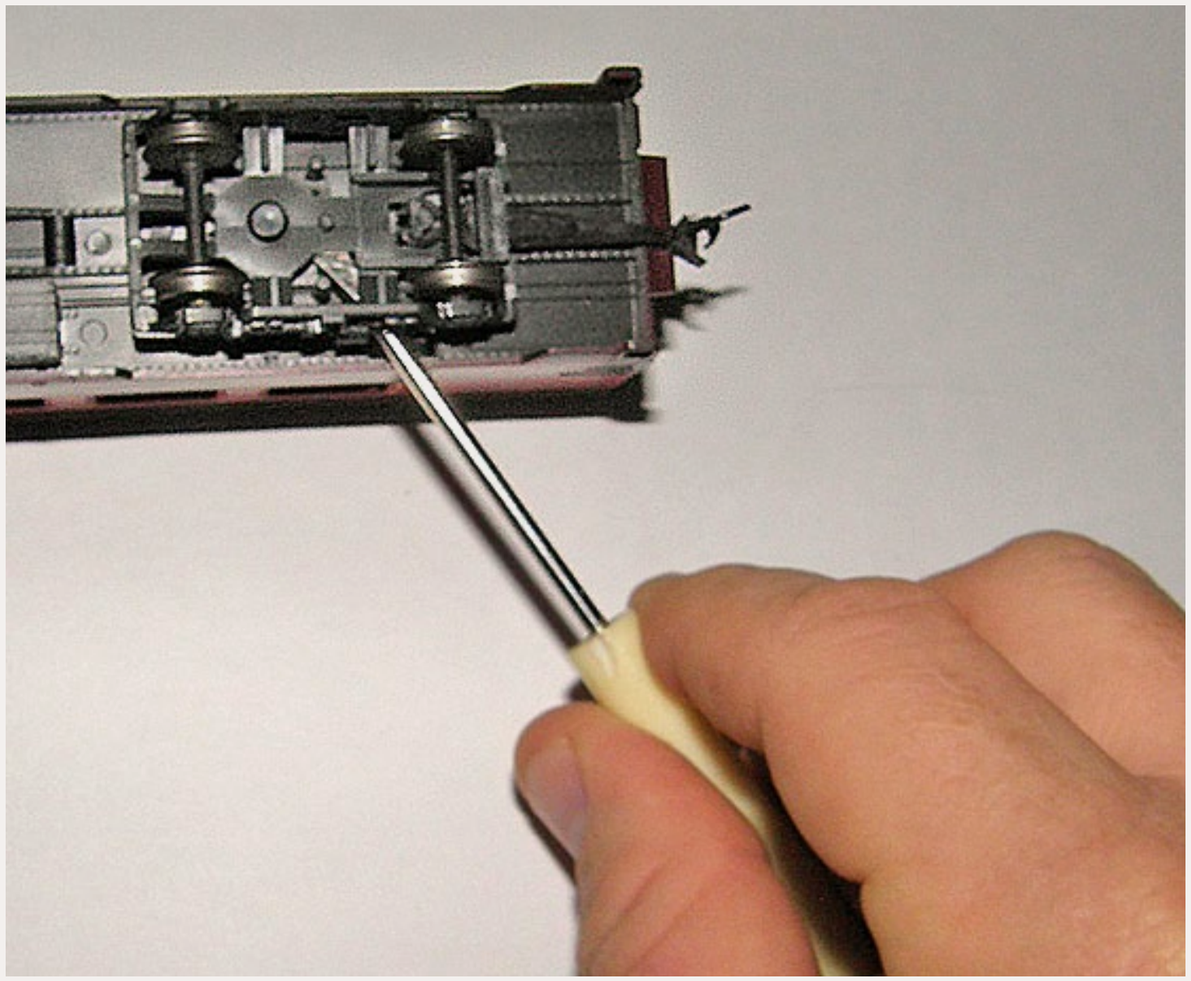


Figure 3: Use a flat-bladed screwdriver to carefully pry up the truck and the bolster pin. Save the bolster pin for the new installation.

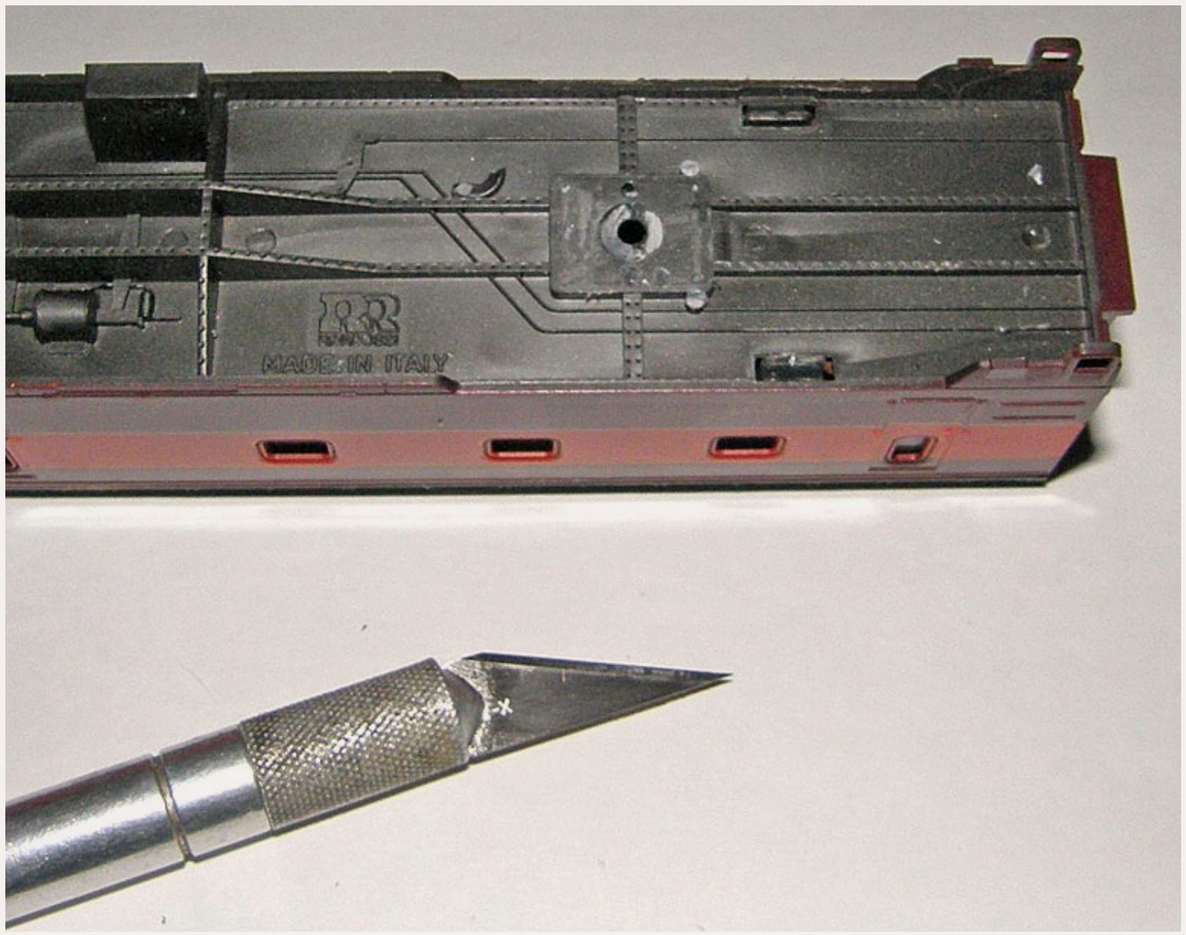


Figure 5: Using a new blade in my X-Acto knife, I carefully trim away the two guide pins, the molded-on bolster, and finally the rivets. All that remains is to sand the pad smooth with a fine-grade sanding block.

Text continued from page 75.

place using ACC (I recommend Loctite's Control Gel Super Glue. This product gives you precise control over where the glue goes and it adheres quickly, while allowing a short time to adjust the parts to match correctly (figure 6)!

Next we move to the interior of the car, where some work must be done. Remove the car roof by prying lightly on the six snap tabs found on the underside of the car. Gently pushing the tabs into the car results in the roof rising away from the car sides and ends where it can be safely removed by hand. Don't attempt to pry the roof with any tool, as damage to the roof edge or car side will result! Take your time working with the clips as well. They can break or deform, which will create problems keeping the roof properly in place on reassembly.

The interior of the car has a depression where the bolster pin normally comes through the floor. (Figure 7). Fill this depression with two pieces of .030" styrene cut to snuggly fit and completely fill the space. Secure the fillers with A.C.C. and allow to dry 15-20 minutes before moving on to the next step. The pads will be ready for the next step after 15-20 minutes of curing time.

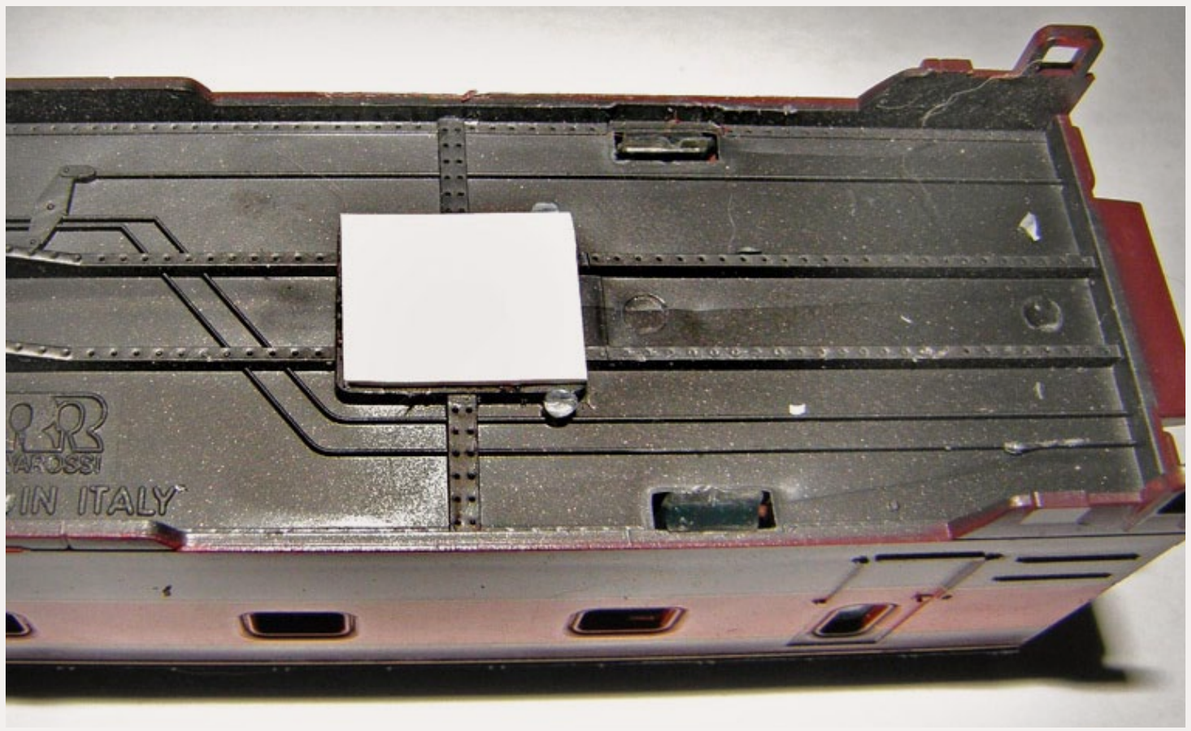


Figure 6: Using A.C.C. I cement a piece of .030 styrene cut to the size of the pad over the old pad to build up the clearance which existed with the old bolster. This is not as tall as the old bolster which will yield a more prototypic space between the truck and the underframe. It will also eliminate much of the wobble normally associated with Rivarossi passenger cars. File edges of the new pad to conform to the shape of the old pad and slightly round the edge for a nice finish.

Figure 7: I like my cars super-weighted! This car is a long-time veteran on my railroad and the b.b.'s are showing their age but they do the job and do it inexpensively! The depression in the car floor needs to be filled to make up for the difference we removed from the original bolster so the bolster pins will click-in and stay. I cut two pieces of .030 styrene (not shown) and filled the depression with them.

Using the new truck, align the bolster hole in the truck with the centerline of the car and test for swivel clearance. Mark the final location of the new bolster socket on the pad with a soft lead pencil. I used a mechanical pencil with the lead extended slightly to get a good, clear marking (figures 8 and 9, next page).

Create the new bolster socket by punch-marking the new location with the point of a new X-Acto blade. Begin boring out the hole by rotating the knife 360 degrees both clockwise and counter-clockwise (figure 10, next page).

Continue to bore through the new pad until the tip of the blade just begins to break the surface of the filler styrene. Move to the interior and bore out the socket from the inside. Finish the socket by test-fitting the pin for a snug, but not too tight fit in the new socket. Use a round file to expand the hole as necessary being careful to work in small increments to ensure that the pin will stay in place when test-fit with the truck (figure 11, next page).

After you are pleased with the fit of the truck and pin, airbrush the car underside with Polly Scale Old Engine Black.

The Rivarossi car is a close match to the prototype car out of the box, but also

requires removal of the long rod on the roof, sanding and filling the exposed mounting holes, and otherwise sanding to make a smooth rooftop. That's another one-night project.

For now though, the addition of the six-wheel trucks make this car distinctively "GM&O," and it is right at home in the consist of the Limited or the Abe Lincoln as the HO scale passengers enjoy the smoother ride with ne'er a drop spilled between Chicago and St. Louis on my GM&O Eastern Division! ☑

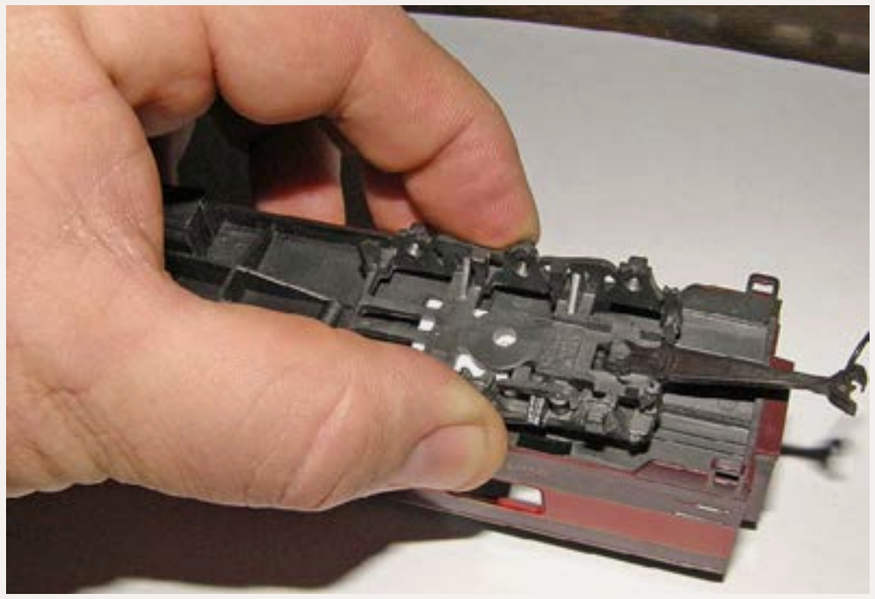


Figure 8: I test-fit the truck to the car and used a mechanical pencil to mark the location of the new bolster pin hole. Be sure to swing the truck to ensure that it clears the car's skirts, as well as any underbody detail.

Figure 9: The bolster pad with the pencil-marked location of the new bolster pin hole.

Figure 10: Using the #2 X-acto knife I bored the new pin hole starting from the bolster side first. As soon as the point of the blade comes through the inner side of the new styrene pad I bored from the interior side. I finished the hole using a round file. I test-fit the pin repeatedly to ensure that I didn't get the hole too wide.

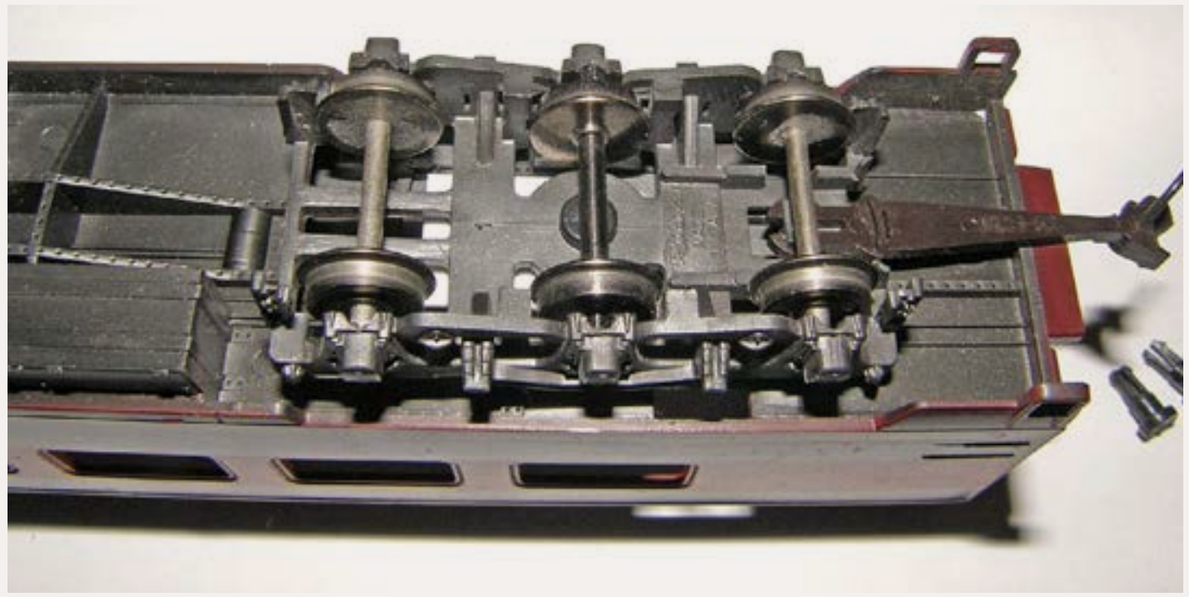


Figure 11: Here is the new six-wheel truck in its final location with the pin in place in its new bolster pin hole.

Figure 12: Here's the finished product! The final step (not shown) is airbrushing the underbody with Polly S old engine black.

Reader Feedback (click here)

SIMPLE CAR CARD SYSTEM

As used on the N Scale TJH Railroad

Using a simple one-card-per-train system, Tom Driscoll and his operators get hours of operating pleasure out of his Thomasville, Joyce Junction, & Heatherton Railroad.

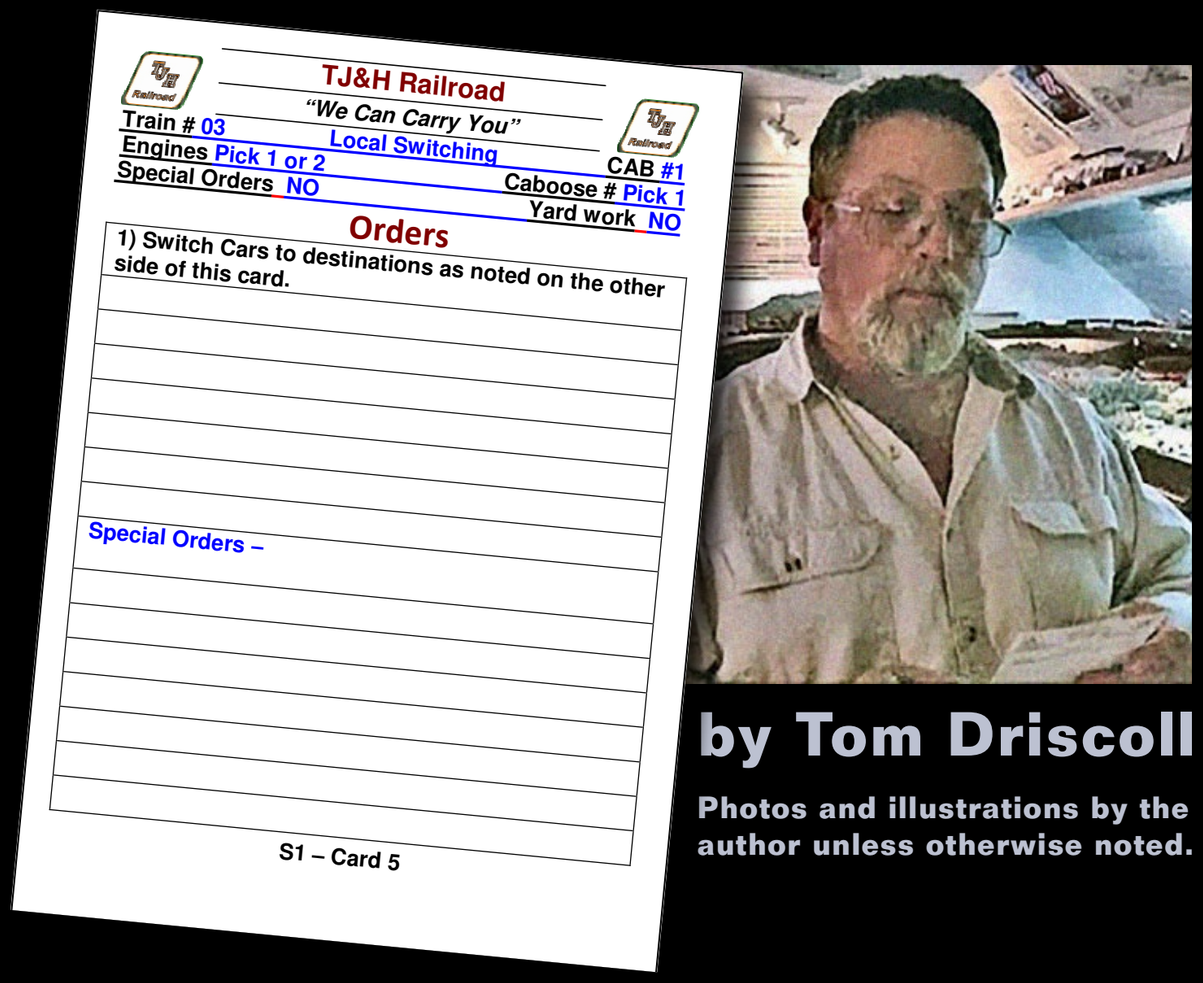


Figure 1: Here's an example of the front of a card in my system. The back of the card has the train consist specifics. One card does it all!

by Tom Driscoll

Photos and illustrations by the author unless otherwise noted.

Reader Feedback (click here)

I have devised a what I feel is a simple card system for my TJ&H Railroad that allows quick, easy operation and makes setup a snap.

This system allows my crew and me more time running trains and less time looking for car numbers and doing paperwork. I also find this system to be easier on my 50-year-old eyes, which is a bonus when modeling in N scale.

To keep this system simple, a boxcar is a boxcar. If we're delivering a boxcar, then any boxcar will do. Again, in the interest of simplicity, we identify all cars by type and commodity. With my system, we refer to cars by their type plus their load such as coal hoppers, gondolas of steel, lumber flats, etc.

We never need to be concerned with car numbers in this system.

This simplicity does not prevent us from getting specific and indicating a Hy-Cube boxcar or a boxcar of lumber. In the special car type case like this, we identify the car by listing "extra tall markings" or by specifying a certain company logo that's needed on the car so that it clearly identifies the contents.

Examples of this might include a Boise Cascade box for lumber or Pacific Fruit Express reefer for fruit.

For open top cars (gondola, hopper, flat), we specify them by the load that can be seen, for instance steel, pipe, scrap, gravel, or coal.

System Overview

The system uses cards that are 4X6 card stock that can be run through a computer printer. I make the data on the cards using a combination of Microsoft Word and Excel. Each card represents one train, with what cars are needed for the train on the front (figure 1), and where the cars are to be delivered/picked up on the back (figure 2).

TJ&H Railroad

"We Can Carry You"

Deliver	Business	Pickup	Destination
	Ryan's Recyclers		
	Midway Graphics		
	Central COOP		
1 Box 2 Flats	Pa's Lumber	2 Flat Cars	West Yard
7 Grain Hoppers	3 – Mile COOP	8 Grain Hoppers	West Yard
1 Gon Steel 2 Sm. Tank	B. D. Fire Systems	2 Sm Tank	West Yard
	Heatherton Power		
	J.D. Fine Furniture		
	Northern Plastics		
	North Yard		
	TOFC		
	Gravel Pit		
	Barge Loading		
	West Yard		

Figure 2: Here's what the back of the card looks like. I list all the industries/businesses on my layout and then identify what kinds of cars to deliver and pickup, along with the final destination of the train at the end of the run.

On the back, I list all of my industries/businesses and what cars are to be delivered and picked up at which industry. The card also shows the destination of the cars that get picked up. The highlighted row of the above card reads like this; Deliver 1 box of lumber and 2 flats of lumber to Pa's Lumber. Pickup 2 empty flats and deliver them to West Yard.

Each card provides all the information you need to run a train. The front of the card carries basic train information and orders. You can write any special orders for that train on the front in the special orders section of the card.

In some scenarios, I have chosen specific engines and cabooses. In others, I allow them to be chosen by the operator. The card makes it clear when any specific equipment is needed for the train, otherwise it simply says under Engines "pick 2" if no specific locos are required.

The System in Operation

This simplified system furthers my goal to have fun and move as many trains as possible during an op session. I also like as little confusion and the least amount of paperwork possible.

For these reasons, I use the same card for yard work, thru-trains, and local switching. I designate the jobs with a train number and description on the front of the card. For example, the card could read: Train #03 Local, Train # 05 Thru-freight, or Yard Work.

Yard Work: If the card says Yard Work (figure 3), the orders side tells the operator what cars go into the train. Once the train is built, the yard operator needs to notify the dispatcher that the train is ready.

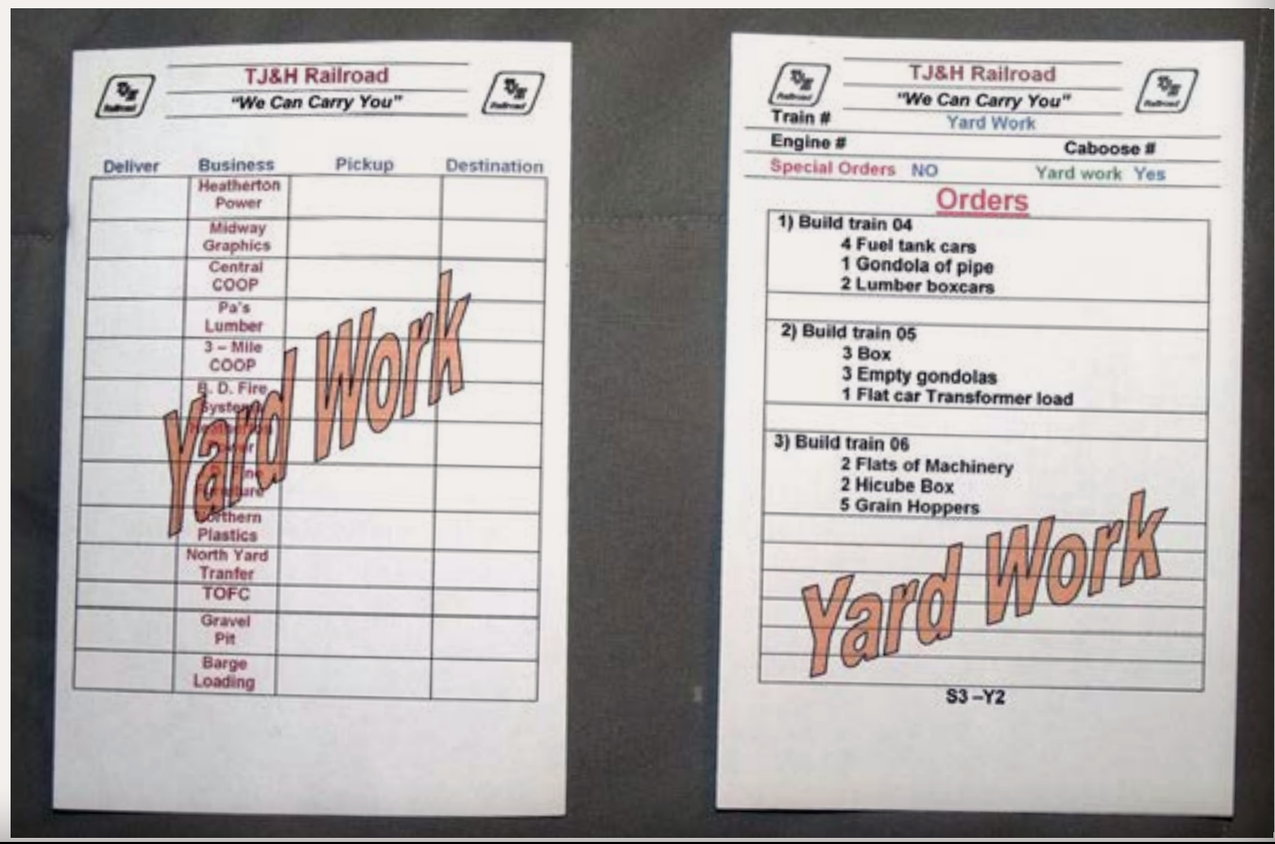
The yardman builds trains and switches cars in the yard. With this system, order of the cars in the train is not important. I let the yardman decide if he wants to make it easy or hard for the operators. (This always adds a little fun!)

Locals: If the card says it is for a Local, the orders will say something like "switch cars out as stated on the back side of this card". From there, the operator would go get the engines and hook up to the train in the yard once it is built. The caboose may already be on the train. If not, the operator would pick a caboose up on the way out of the yard.

The operator then follows the directions and switches out the cars at the industries listed on the card, building the returning train as he goes. The operator then takes the return train to whatever yard is stated in the orders and put the engines in the house.

From there, the operator may hook to another train and head out. If the operator would need to wait for another train or pick something up from another yard, those orders would be

Figure 3: This is an example of a Yard Work card, with the back shown on the left (basically blank) and the front with the Orders shown on the right.



found in the “Special Orders” section on the front of the card.

Thru-Freights: For a Thru-Freight, the orders would read something like “Deliver train 03 to North Yard for transfer.” It may say to bring another train back from that yard or to layover at that point. What specifically to do will be in the Special Orders of that card.

Scenarios

I have set these cards up in sets that I call operating scenarios. My friends and I will run through one scenario. The next scenario will pick up from the ending point of the first scenario.

One scenario is usually made up of 7 trains. That would be 7 Train Cards and usually 3 Yard Work Cards. The cards are numbered at the bottom to help me keep track of the order.

The last card sample shown is scenario 2, yard card 1.

It takes about 3 hours to do a scenario on my layout. I’ve built all the scenarios and tested them first to make sure they are fun and realistic.

When I want to make changes or build a new scenario, I just start by editing the files on my computer.

To see an example of this system in operation, watch the video that goes with this article.

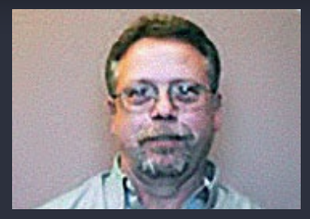
Results of this system

One of my friends has also started using my card system on his layout. As a result, we are having a lot more fun when we operate than we used to. It’s handy to have the same type of card system on both layouts.

My guys and I have found this to be an easy and fun way to run trains. It’s easy to read the cards they eliminate the eyestrain of looking for car numbers.

As a side benefit, I’ve also found that building scenarios is a whole new fun activity in my free time. The guys are always interested in seeing what new scenario I’ve come up with! ☑

Reader Feedback *(click here)*



Tom Driscoll got a train set for Christmas and that started his love for trains. Twenty years later, Tom got hooked on N scale and has been an N scaler ever since.

Tom and his 3 friends (they call themselves the N-scale cartel) exchange ideas, encourage each other and run operating sessions using the system he describes in this article.

Tom, a carpenter and special projects coordinator, is 52 and lives in central Iowa with his wife, Joyce and his daughter, Heather.

Dealing with missed cars

Sometimes an operator will make a mistake and miss a car. For example, a car that was supposed to be dropped off was not delivered – or a car was to be picked up and it was left behind.

When this happens, we just fill out a Car Order Card and add it to the next train. Figure 4 is an example of this Card Order card.

This card shows Car type, Ship to Location, Quantity (how many cars), and a space where Special Orders can be written in.

I make my Car Order cards in Microsoft Word. I make a simple text box 3 inches by 2 inches – I can fit 9 cards to a sheet, and can edit the card to change its look any time I want. ■

Car Order

Car Type: _____

Ship to: _____

Quantity: _____

Special Orders:

_____

_____

_____

_____

_____

_____

_____

Click here to play this video ...

How to Build a Simple Rail Barge for under $10

– by M.C. Fujiwara
Photos by the author

The journey of a thousand miles begins with a single foot: 12 inches of car float opens your layout to the world ...

Reader Feedback *(click here)*

Admit it: carfloats are cool. Never mind that they also serve a very real function in delivering cars to and from "somewhere else" and thus provide a lot of staging in a small area. The thought of pulling Big Cars off a Small Boat seems to bring a smile to most mouths, and many modelers purposefully include a waterfront in their layout design just to have carfloat operations.

But while N-scale dockside structure kits abound, carfloat models, as of this writing, are limited to Sylvan Model's 16 ½" x 2 ½", two-track resin kit (rail not included). My 9-year-old daughter and I needed a 12" x 2 ½" carfloat for our "Summer Shunting Shelf Layout" and, while we could have cut the Sylvan Model down to length, the $30-something price went against our "use what we have" rule for the project. So styrene it is!

STEP 1: The Hull

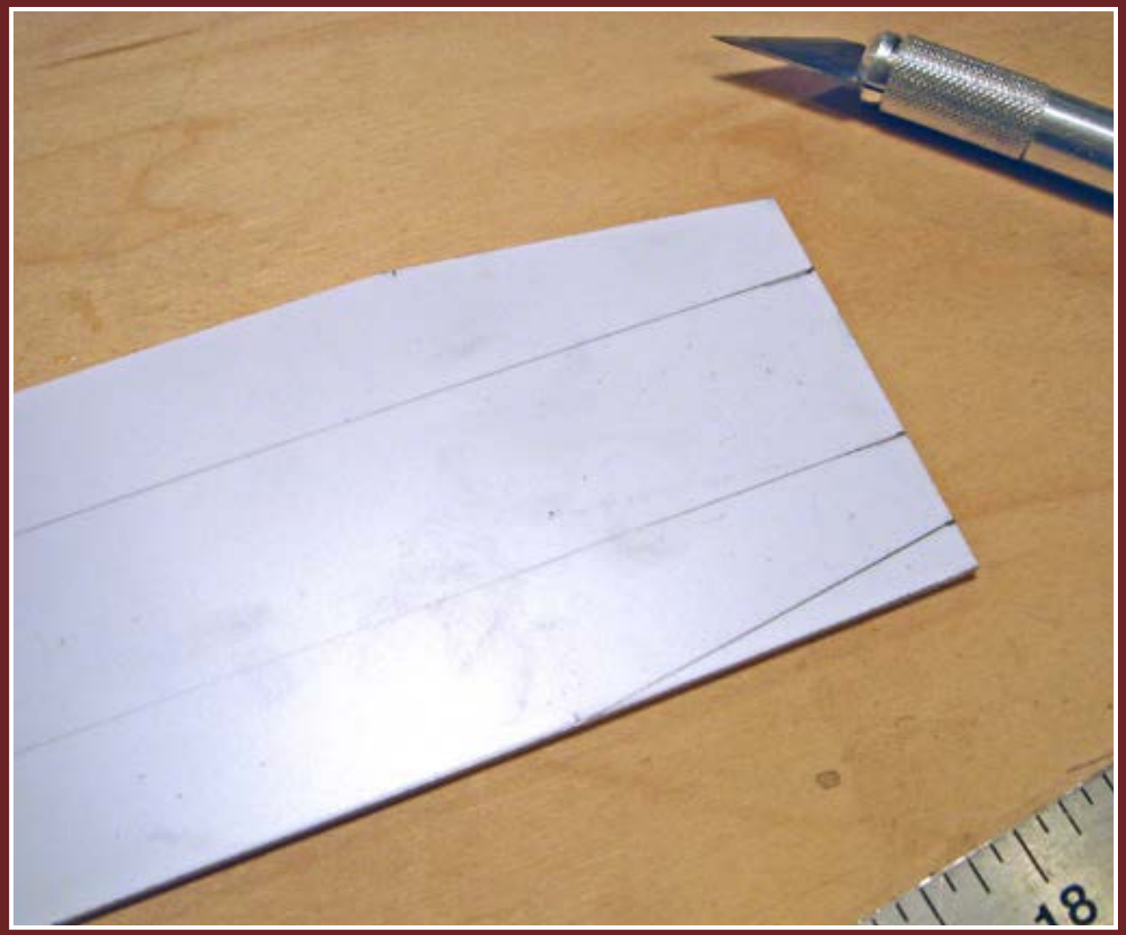


Figure 1: Tapering the front follows many prototypical designs, as well as helps prevent that "slab of styrene" look.

One sheet of .08 plain styrene is enough for two 12" x 2 ½" basic barge shapes. Following some photos of prototypical rail barges (i.e. www.northeast.railfan.net/images/cnj1001.jpg), we tapered the front of the float down to 2" across, started from about 2 ½" back. The two lines down the center are the guides for the 1" track centers.

Figure 2: Use a sharp blade to make multiple scoring passes until the styrene is smoothly cut through. If you attempt to "score & snap", the thin end of the triangular section with break off unevenly.

To cut the taper, we clamped a straightedge onto the styrene to act as a guide for the hobby knife. Even with a straightedge, go easy while cutting: .08 styrene is thick stuff, so multiple scoring passes work better than attempting deep cuts.

Step 2: Rail & Deck Detail

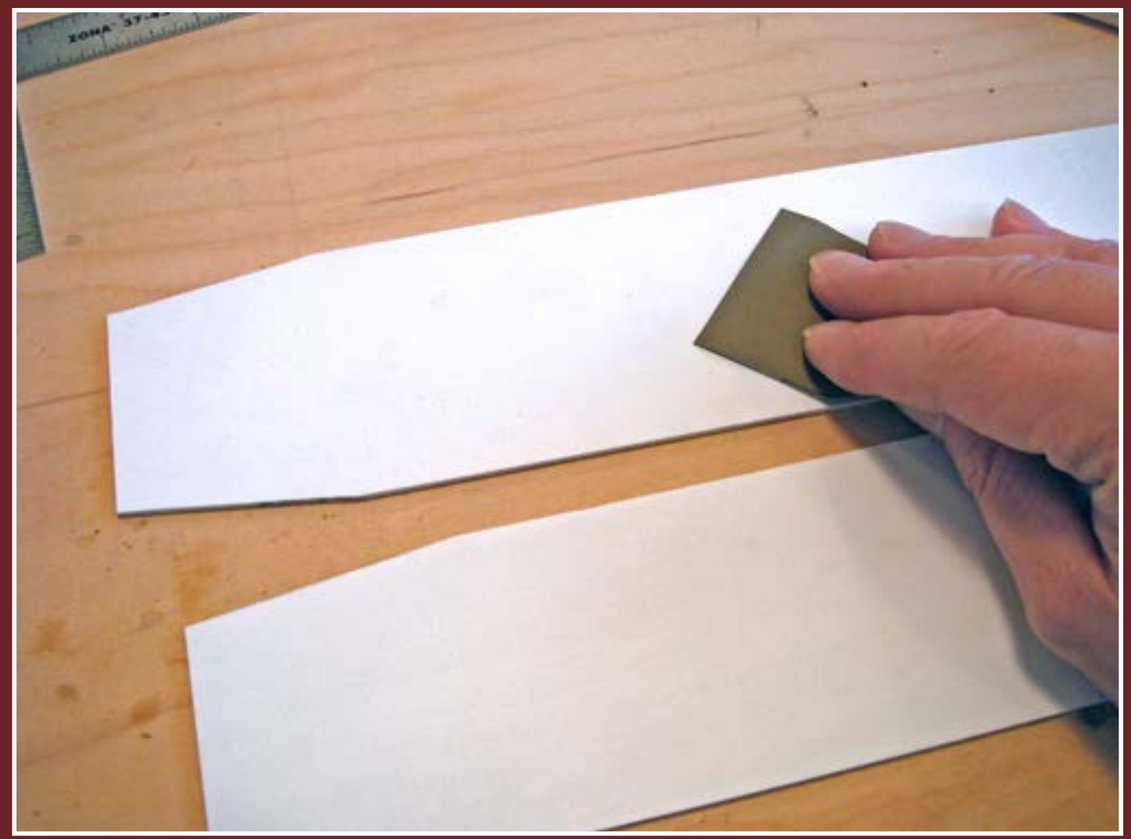


Figure 3: Use fine-grit sandpaper to rough up the interior surfaces and create more tooth for the CA to better bond the two sections of styrene together.

After cutting the hull shapes, we used fine-grit sandpaper to rough up the surface a smidge, as well as slightly round the side edges, as we wanted a small channel running the length of the hull.

Not only do many photos of prototypes show this kind of hull detail, but we also wanted to avoid our carfloat appearing like a block of styrene.

Using CA, glue the two sheets together to form the hull. After dry, use a file or a Dremel with sanding drum to slightly curve the corners and to smooth the sides, taking care to not smooth away the groove in the side.

Figure 4: Two PC board ties and three-legged gauges will ensure rail spacing. After applying a thin layer of Gorilla Glue under the rails, trust your eyeball to align the rails along the 1" track center pencil lines.

While the Sylvan Scale Model's resin kit has the rail channels already cast on the deck, we needed to ensure proper rail spacing and gauge using other methods. We soldered PC board ties beyond the length of the carfloat, and then used three-legged gauges spaced out the length of the rails, along with various weights, to hold position while the Gorilla Glue, applied carefully under the rails, cured.

Step 2: Rail & Deck Detail *Continued ...*

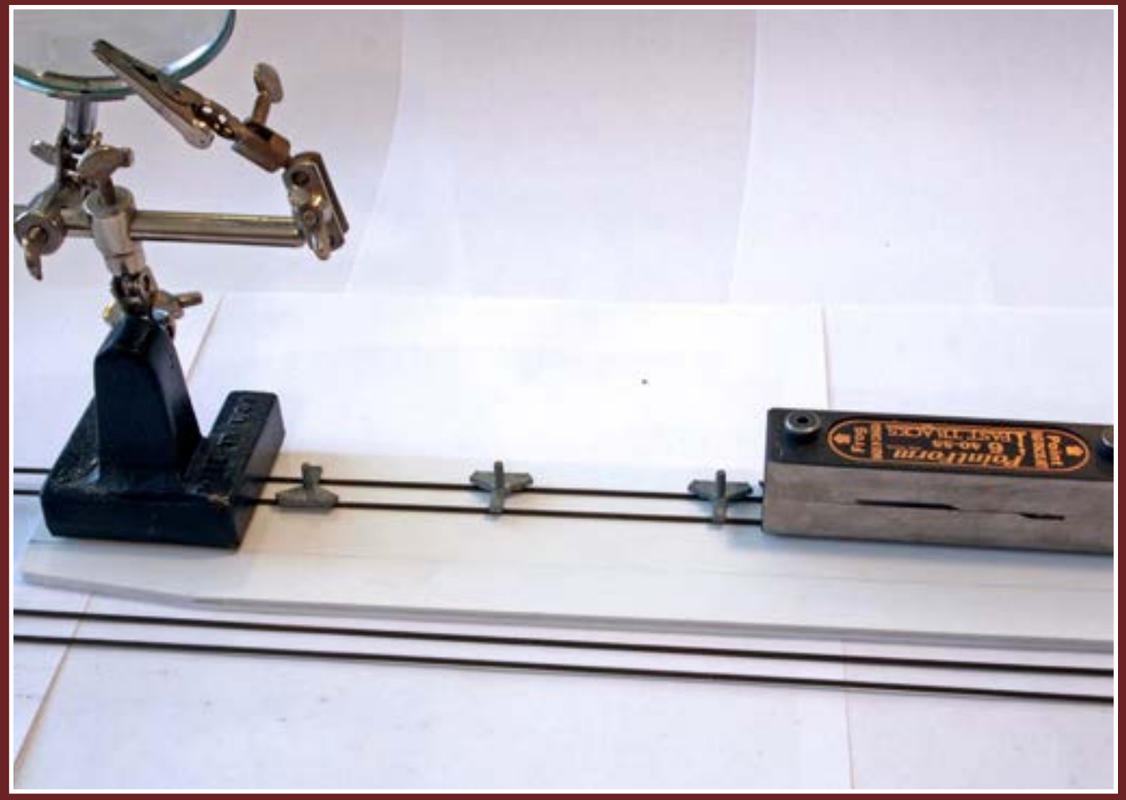


Figure 5: Keep the three-legged gauges spread out and in place while the Gorilla Glue dries to ensure proper rail spacing throughout the deck.

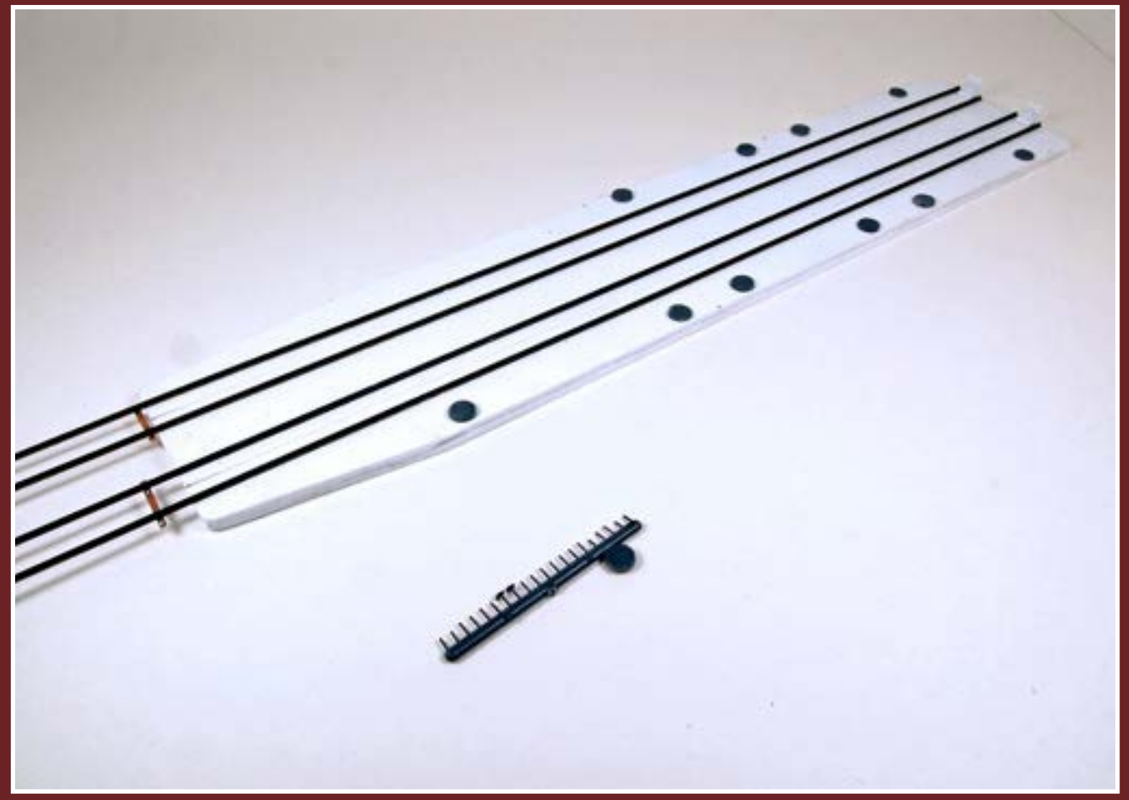


Figure 6: With the flash and lettering filed off, the round tabs on Grandt Line NBW details sprues make great N scale buoyancy hatches. They'd probably make good manhole covers, too, when buried in tinted-spackled road surface.

The most difficult aspect of this project is to attach the rails to the styrene deck: 1. straight, 2. consistently spaced, and 3. securely.

Gorilla Glue is a liquid adhesive that creates a super-strong bond with almost anything, but also expands and foams while curing. Using a toothpick, apply very sparingly along the bottoms of the rails. Keeping the three-legged gauges in place, hold the rails near the PC board tie spacers at the ends and carefully lower onto the deck. The PC board tie spacers should hang over the ends of the deck (the back end ½" of rail with the PC tie will be cut off later, and the PC tie at the front will be "burnt" off with the soldering iron after the glue dries, leaving a long length of rail to attach to the apron later). Use weights to keep the rails in place while the Gorilla Glue cures, but make sure that the rails remain straight. Any foaming from the glue can be filed down later: right now you want rails straight and secure.

After using a Dremel with a cutting disc to remove the rear overhang of rail, we created the buoyancy ports by attaching circle-shaped tabs (taken from Grandt Line detail sprues and filed smooth) to the hull with CA.

Step 2: Rail & Deck Detail *Continued ...*

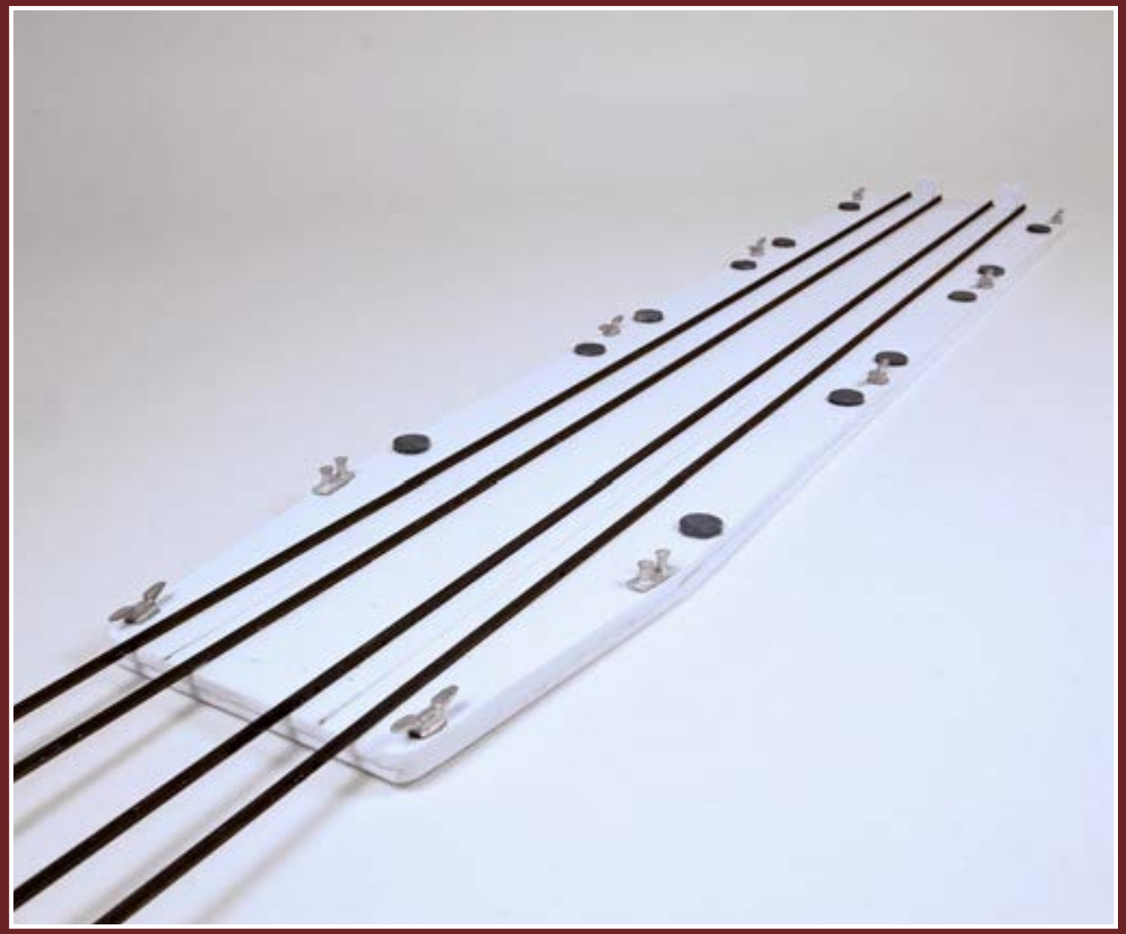


Figure 7: It's all in the details: you can make cleats and bollards out of shaped styrene or wood, but the Seaport Model Works cast metal details are relatively inexpensive, save time, and transform the styrene slabs into realistic rail barges.

We ensured even spacing by marking in pencil at measured distances, leaving space for the Seaport Model Works cleats and bollards left over from a previous layout. The white metal details have flash, and one must file the bottom smooth for flush contact. Attach with CA.

Figure 8: It's all in the textures: Adding the .06 channel strips to the back of the bumpers takes a whopping 1-2 minutes, but adds a level of intricate interest to an otherwise blah backside that, being at the end of the layout, will be a point of photographic prominence.

We constructed the bumpers out of scrap styrene and .06 channel strips that extend from the top of the L-shaped bumper to the bottom of the back of the hull.

STEP 3: Painting and Weathering

Figure 9: Floquil Grimy Black spray paint (our favorite go-to color for track, buildings, details & tree trunks) provides an even, unobtrusive base coat. Highlights, soot, oil stains, guano, and rust will be added with a little dry brushing and a lot of powders.

When all glue dried, we spray painted the entire model with an even coat of Floquil Grimy Black. A slightly lighter shade of grey would have been preferred, but we used what we had. A light "misting" of ScaleCoat Graphite helped create the appearance of metal without being overbearingly shiny.

Given that no engines will travel onto the float, we did not scrape off the rail-top paint.

To weather the carfloat, we brushed on patches of slightly-diluted white glue and then applied fine-sifted gravel and coal to simulate spill-off. Using a paint brush trimmed down to short, stiffer bristles, we covered the carfloat with a variety of Bragdon's Weathering Powders: mainly a medium grey, but also working in some darker soot and some rust streaks around the hull and detail edges.

Figure 10: After the diluted white glue that secures the gravel/coal/dirt droppings dries completely, brushing grey, soot and rust powders over all surfaces help create a uniformly weathered look.

Do not use a fixative agent, such as Dullcote, as it wets and renders the powders invisible.

For the carfloat apron, we couldn't use a tower or any structure over ½". Our portable shelf layout, made from two 12" x 36" sections connected by a 12" x 3" spacer with hinges, folds over on itself to create a 1' x 3' x 4" box, and the vertical space around the float and apron was already "occupied" by the power pack box and oil storage/refinery on the other section. So we created a low, floating apron by placing a wood/pc board deck between two truncated sides of an Atlas C55 girder bridge.

STEP 4: Building the Apron Deck

Figure 11: PC board ties, spaced out every ¾" or so between the 1/32" x 3/64" basswood boards, provide a secure place to solder the barge rail to the apron deck.

Figure 12: After soldering the rail to the apron deck, we cut the rail at the car float edge to relieve any tension on the Gorilla Glue bond along the rails. A few coats of Floquil mixed paint turn the PC boards into wood ties.

After installing the carfloat, we soldered the rails leading from the turnout to the float on the PC board ties, and then painted the ties a mix of Floquil SP Lettering Grey and Foundation to match the stained basswood (figure 11).

I-beams attached to the deck outside the apron help conceal the lack of machinery, and Grandt Line NBW details along the wood side beams add something to an otherwise plain structure (figure 12).

To permanently attach the carfloat to our folding, portable layout, we followed David K. Smith's suggestion and drilled two holes through the hull's surface, the cured Magic Water, and into the MDF baseboard, and then secured the float with flat-head screws.

After the carfloat, apron and track were installed, we added Mod Podge gloss to create the water effects around the float. Fine-sifted gravel, dirt and some ground foam gave some basic ground cover around the pier and its adjoining two-track storage yard. As the engine is not allowed on the float itself, we use a 50' flat car as the idler until we can make a proper idler gon with weighted load.

M.C. Fujiwara is a writer and editor, as well as the model railroad layout designer of Yardgoat Layout Design (www.yardgoatlayoutdesign.com). He lives in his native San Francisco Bay Area with his wife and two children, who enjoy helping their dad build his 23"x 41" Mt. Coffin and Columbia River N-scale layout by making trees, painting rocks, and running trains.

In addition to soccer, reading, karate, drama and the 4th grade, Uki Fujiwara prefers shunting operations over the roundy-round, and thinks that drill-twirled twine pine trees look better, and are more fun to build, than scrub-pad and bamboo-skewer conifers.

She solders hand-laid turnouts while talking The Little Prince with Dad, and will probably earn her MMR in the next few decades.

STEP 5: Finishing Touches

Figure 13

Figure 14

As we complete more scenery around the carfloat, we'll add some ropes, chains and other dockside details, but for now our trackwork is complete and our carfloat staging is operational and ready to send and receive traffic from the off-layout world of Oakland and beyond.

Figures 13-14: A two-track, ten-car storage yard alongside the dock allows the space necessary to operate the carfloat. Each carfloat track holds three 50'/40' cars, or four 36' cars (barely). An extra one inch on the carfloat will allow four 40' cars per track. Don't forget to include coupler lengths when planning car spots!

The carfloat holds between 6-8 cars (depending on car lengths between 36' -50'). The layout includes industries / docks with 23 car spots, plus an interchange with the Southern Pacific with space for 6-7 cars, coming or going. So while a small (12") sliver on a small (1'x6') switching layout, this carfloat becomes the source and destination of transcontinental traffic, and so will have to make several trips to and from Oakland during the day just to keep up with all the traffic traversing the terminal.

Model railroaders are always grappling with issues of limited space, but with a couple sheets of styrene, some rail and paint, you can build a car-float and expand both the operations and the boundaries of your layout far, far beyond the shelf.

And, of course, car floats look cool. ☑

List of Materials

- .08 plain styrene sheet, Evergreen (1)
- .06 channel styrene strip, Evergreen (2")
- Code 55 rail, ME (four 16" lengths)
- Cleats, Seaport Model Works (8/1 package)
- Bollards, Seaport Model Works (2/½ package)
- Circle-shaped sprue tabs, Grandt Line detail parts (8)
- Grimy Black Floquil spray paint
- Fine-sifted gravel/coal droppings
- Bragdon Weathering Powders (Grey, Soot, Rust)
- Gorilla Glue
- CA
- White Glue
- Flat-head ¾" screws (2)
- File/Dremel with Sanding Drum

N-trak by the water ...

The Columbia River N Scale club

Figure 1

– by Charlie Comstock

Reader Feedback (click here)

Sometimes it pays to listen to the rumor mill. I don't even remember who it was that asked me "Have you seen the layout in the basement of The Hobby Smith?"

The Hobby Smith is one of the many trains-only hobby shops the Portland, Oregon area is blessed with. I knew that there had been an Oregon Trunk Line layout (modeling track beside the Deschutes River in central Oregon) in the Hobby Smith's previous location. But a layout there now? That was news to me.

Figure 1: N scale allows a bigger picture with respect to scenery and trains. The size and depth of the hills compared to the trains feels right. Add in some ultra-realistic water modeling in the river and you elicit an "Oh wow!"

Figure 2: N-trak specifies track spacing at the end of a module or set of modules. But there is no specification for how to handle scenery transitions between modules. The Columbia River N scale Club has a number of multiple module sets such as Biggs where the scenery and tracks flow smoothly before returning to the N-trak mandated module ends. The backlit telephoto shot shows off this sweeping curve on a three-module set demonstrating the dividends paid by the multi-module approach.

Figure 3: Another view of the highway bridge in the distance in figure 2.

As luck would have it, I didn't get over to look at the layout for several months. When I did, it looked pretty interesting featuring scenes from along the Columbia River.

If you're not from the Portland area, the Columbia River demarcates the boundary between Oregon and Washington. Railroads run through rugged scenery going east from Portland on both sides through what locals call "The Gorge." Traffic is heavy on both lines, feeding four yards in Portland and Vancouver, Washington.

I made arrangements to return with cameras to photograph the layout and interview club members David Waterstreet and Dallas Tyhurst.

MRH: What sets you and your modules apart from other N-trak clubs?

David: Probably the biggest thing is the area we are modeling. We're next door to the gorgeous Columbia Gorge here in Oregon and we've got just absolutely tremendous prototypical scenery to model.

Dallas: We enjoy the fact that the club models an area with so much scenery and train action plus the area is recognizable to lots of people. We decided to model both sides of the Columbia River even though that means jumping the river and some scenes are "backwards". People walk up to us and say, "I've been there." That makes you feel good because they knew immediately what you're trying to model.

MRH: What railroads are you modeling?

Dallas: The Union Pacific on the south bank and the Burlington Northern (Santa Fe) on the north bank. They follow the river east from Portland. Because we model both sides, there are some places where there are six or eight feet of north side followed by six or eight feet of south side but it all works together, everybody recognizes the scenes.

MRH: What attracted you to N scale?

Dallas: I saw this layout many years ago and I was impressed that there were such small trees and huge amounts of scenery – it looked real. You can't do that in a lot of other scales because the scenery elements are so much bigger. Here the scenery just seems to fit and we get a lot more trains, a lot more running, and a lot more switching in our limited space. It just seemed like the right scale for us.

MRH: The track to scenery ratio is definitely biased toward scenery here which helps make it look realistic.

Dallas: That's one of the things we saw and were excited about early on – that you can have a lot of scenery with the trains. You don't have to make the mountains 15 feet tall to look realistic. Here we are with two feet and things look great.

MRH: What kind of things are you doing scenically to take advantage of that?

Dallas: We try to make the modules feel really big. Sometimes we string two or three modules together – that lets us do a more realistic job of modeling interesting scenes. It makes the modules look more like a railroad – dwarfed by the scenery.

MRH: Why N-trak?

Dallas: We like to run lots of trains at once. More people means more trains, which means more fun.

MRH: Do you play any games with the scenery to break up the three-track look on every module?

David: We have a couple of modules that look like single track. We used the N-trak standard but hid two of the tracks behind the scenery for several modules before bringing it out again. That let us keep the operational intensity of N-trak though it looks like single track mainline.

MRH: Have you had problems with N-trak or N scale?

Dallas: I can't really think of problems, though It does take a while to set up the layout at shows.

Figure 4

David: The biggest problem folks talk about is simply the size of N scale. Particularly a lot of the modelers who are older have arthritic fingers, and it gets harder and harder to handle the small trains. But with a little bit of finesse you can work through that.

Detail is another issue, but it's just how much attention you want to devote to it in the small scale. When you come down to it, we can have as much detail as the HO modelers do on our layouts. But the detail is much smaller and fragile – you have to be more careful of what you're doing and how you model details (and handle them).

MRH: What about availability of stuff in N scale?

Dallas: The model railroad manufacturers have come a long way in the last 15 years.

MRH: You're starting to see a revolution going on in N scale ...

Dallas: There is. We're starting to see a lot more stuff coming out to help us. Manufacturers are jumping on the N scale bandwagon which is nice. N scale was kind of like a stepchild for a long time while HO had everything. But N is starting to pick up and it makes easier to build a layout. We don't have to scratchbuild as much.

Figure 4: UP local east bound, crossing the bridge at Still Creek. Modeling both sides of the river sometimes results in UP equipment in a BNSF scene or vice-versa. Oh well...

MRH: You said the club got started in 1984. You must have quite a large collection of modules by now. How many are there, besides those here in the basement of The Hobby Smith?

Dallas: We've got about half of them down here. The other half are in a trailer parked at a member's house. They're mainly for shows. When we go to a show we usually leave these down here – it's too hard to carry them up and down the stairs.

MRH: How long does it take you to set up at a show?

David: Oh, typically two to three hours, but that's when we have the complete layout. With half of the modules left in the basement, it's faster.

The only shows we're doing now are combined with other clubs like the **Meet 'N March** (**www.meetnmarch.org**) show we have every March. We work with two other N-trak clubs to put that on. We build a big layout with all those modules, plus there are a couple of extra guest modules.

MRH: What is the Meet in March?

David: The Meet 'N' (as in N scale) March is an annual meet we have. Three clubs work together to put on the meet. They connect their modules together to make a much larger layout than an individual club could manage. Using the N-trak standard it all goes together pretty quickly.

The next one is coming the last weekend in March 2012 in Beaverton, Oregon. It's open to the public on Saturday March 31, 2012. The show's website is **www.meetnmarch.org** for anyone who wants more information.

In addition to the modular layout there will be a swap meet (concentrating on N scale) and a series of clinics on lots of modeling topics. Many of the clinics are scale independent in case any large scale people want to come.

MRH: Getting back to the modules and layout, now that you've built all of these, have you found anything that you would have done differently?

Dallas: Well one thing we learned for sure was that having legs customized for each every module was a huge pain. That made them slow to tear down and set up. We decided to put in what we call "pocket legs". The modules have standard leg "pockets" and the legs are all the same. Just lift up a module, stick the legs in the pockets and you're done.

MRH: Interchangeable parts ...

Dallas: Exactly. It makes set up and take down much faster. We also have a couple of modules that use dowel alignment pins. They make the alignment painless. You just line them up, put the dowels in, put the clamps on, connect the wiring, and you're almost ready to go. We'll be doing more of that.

MRH: How do you deal with inter-module wiring?

Figure 5: A UP local switching the elevator at Avery.

Figure 5

Figure 6: Another view of the Avery elevator getting switched.

Figure 6


Figure 7a

Having Fun With Trains – clockwise from the upper left:

Figure 7a: Jerry Green running his CORP train through Biggs eastbound.

Figure 7b: Steve Dishman enjoying his pair of NP GP9's westbound through Biggs.

Figure 7c: David Waterstreet installs his car fleet at one of the yards while Mike Steiner looks on.

Figure 7d: Dallas Tyhurst (left) and David Waterstreet (right) at the east end yard.

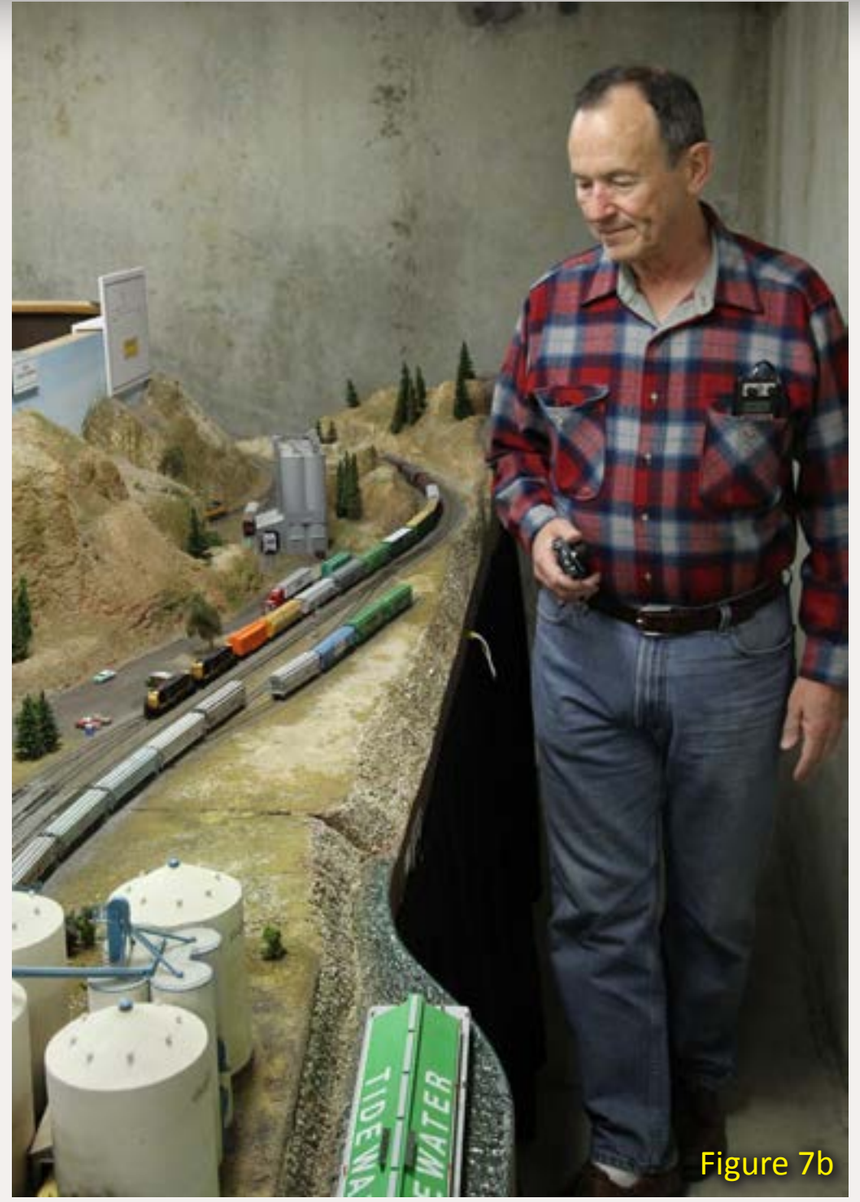


Figure 7b


Figure 7c


Figure 7d

David: We standardized all our wiring. We still use the Cinch-Jones plugs for the main power bus. For the Digitrax DCC system, we use modular phone wiring and connectors. It goes together pretty quickly.

The Meet 'N March modular layout group taught the clubs to pay attention to inter-club module connections. We need some special cables for that. Originally each club showed up and nothing was compatible! We've worked through that issue so we have compatibility going forward with common plugs and connection techniques.

MRH: That must make set up faster!

David: Oh, it really does!

MRH: How about teardown?

Dallas: It's a snap.

David: It's an "un" snap.

MRH: Groan ...

Dallas: We pull everything apart and put it in a trailer. Lifting modules off their legs and loading them up takes next to no time.

David: Most clubs develop a system where the trailers they use to transport their modules all have a storage plan. Each module goes a particular way on a particular shelf in a particular order which makes it very easy to move them. When we break down the layout, we know the correct order to load up the modules and where

Figure 8

they go in the trailer. Tear down is very quick. Set up is definitely the longer process.

MRH: Do you have any test procedures for rolling stock before it's allowed on the layout?

Dallas: Not really. We probably should, but we don't. Members run whatever they bring. If it doesn't run right, we tell them to take it off and fix it, so the other member's trains can run.

David: We're a DCC club, so all locomotives must have a decoder.

MRH: Do you have problems where people bring stuff down and insist on running it even thought it wasn't ready?

David: Anyone who does that is gently encouraged to upgrade their locomotive to DCC and install Micro-Trains couplers. However if a guy has a train with Rapido couplers on it, as long as it's DCC equipped, that's fine. He just won't be able to interface with any of the other rolling stock on our layout, but there's nothing wrong with that. It's his train,

Figure 8: Montana Rail Link power isn't often seen along the Columbia Gorge, but four MRL units are pulling a string of double stacks through Hood on the Washington side (north bank). The club is flexible about parent railroads though they prefer UP and BNSF. It would be difficult to model scenery of this magnitude in a larger scale without having a huge space.

his equipment. We do invite folks to come down and run with us.

MRH: How do you organize module building? Do you plan ahead which modules will be built?

Dallas: It's kind of a group effort. We're in the planning stages right now for replacing the Shoemaker Mill module. But that's probably a year down the road.

MRH: Do you assign one guy to make this module, another guy the next one, the one after that somebody else, but they're working to a plan to keep the modules scenically compatible?

Dallas: No, it's all a group effort.

David: We stick to the N-trak standard because the other modules were built to that standard. For a new module to hook up to the existing ones it has to meet the track spacing standard.

We do basic module construction like carpentry off site in a member's garage where we have the necessary saws. Then we'll bring it here to finish it.

MRH: The basement train room is too neat to be a construction zone?

David: We use a work room off to the side to work on module construction.

MRH: What do you do to enhance module rigidity and reduce weight?

Dallas: Well, we use foam, foam-core board, or whatever to keep it light.

MRH: Foam-core board?

Figure 9

Figure 9: An eastbound UP grain train passes the elevator at Biggs. Judging from all the covered hoppers, it must be harvest season.

Dallas: Sure, for roads or other flat spots. We use pink foam or white foam for 3D scenery. Anything to make it lightweight so we don't kill ourselves moving it.

MRH: Is the scenery plaster-based or have you moved to something else such as Bragdon Geodesic Foam?

David: We experimented with geodesic foam a little, but most of these modules are a number of years old and used plaster. We have been experimenting with the geodesic foam though and used it on a couple of modules. But we haven't gone full scale with that method yet.

MRH: Is the foam working for you?

David: I've done a number of layouts using it. It works very well and I'm very enthusiastic about it.

MRH: How does it's cost compare with plaster scenery?

David: In my experience, raw materials tend to be a little more expensive. But we found there is so much time saved, that it makes sense to use the foam. Plus geodesic foam scenery is flexible and doesn't crack.

MRH: Flexible?

David: When a rock casting comes out of the mold it has tremendous elasticity. You can bend and form it into any shape you want – but the rock surface already is cast into it. It's great for ravines or rock outcroppings. You can do the same with hardshell if you don't want a rocky look.

MRH: How does the system work?

David: That's almost a clinic subject all by itself! It comes as a two-part resin. You mix it and pour it into a latex mold and in five or 10 minutes it sets up. Then you can pull it out of the mold and it's as flexible and rubbery as the latex mold itself.

At that point you can shape the rocks however you want for your new landscape. Typically I hot glue the new rocks on some sort of framework to keep the landscape's shape intact until it sets hard – about another 15 minutes.

MRH: So you make an armature like cardboard mesh or pink foam?

David: You can. Or you can use pieces of blue or pink board carved to an outline of the terrain. Then hot glue the rocks directly to it.

MRH: You mean you cut contour frames out of the blue stuff?

David: Yes, then you drape the foam rocks over it and they harden up in about 15 or 20 minutes. If you decide you don't like how it looks you're not

Figure 10

stuck. You can use a heat gun to warm it up and it turns flexible again so it can be reshaped. It's also possible to cut strips of rocks from different molds and glue them next to each other to model geological strata.

MRH: How do you color it?

David: The easiest way is to cover the rock with a gesso, a white artist's primer. We use highly thinned water based paint in a spray bottle (like a Windex® bottle). You squirt it on, then dab up the puddles with a brush. Use several different colors and overspray onto the existing colors. They'll blend to give you a natural color.

MRH: Which colors work best?

David: We use umbers, siennas, ochres, red oxide, and grays. Some black to enhance crevices in the rocks.

MRH: When the sprayed-on colors dry, do you go back and dry-brush it or use some diluted black for highlights?

David: If the rocks have deep crevices I dust on black powdered tempera working it into the cracks.

Once you've got it in place come back with a wet sponge and start dabbing off the black tempera from the outer surfaces of the rocks leaving wet tempera in the crevices.

MRH: Does the sponge need to be pretty wet when you do that?

Figure 10: Who says you can't have detailed scenes in N scale? The trestle in the background at Still Creek shows this module has implemented the optional N-trak mountain line. Those roads are based on foam-core board.

David: Yes. A little bit washes down and you get simulated erosion. You can play with that by changing how wet the sponge is. Let the tempera dry, then start with the spray bottle colors.

A lot of these rocks get anywhere from five to a dozen sprayings over a period of several days or a week allowing time for each coat to dry. You just keep working it until you get the shading effect and the color you like.

MRH: Then you finish it with ground foam, static grass, or whatever?

David: That's the next step.

MRH: Can you drill foam rocks to make holes for tree spikes?

David: Yes. Or if you have a sharp awl and you stab it hard enough you can punch a tree mounting hole that way too. It's an exciting technique.

MRH: And pretty light weight compared with plaster?

David: Very much so, and with plaster, once you get the plaster out of the rock mold it's in, it's pretty stiff. You can't bend it around a hillside.

MRH: I put plaster rocks on a hillside while they're still in the mold and the plaster is still a little bit flexible.

David: And how messy is that?

MRH: I learned when to put the mold on the scenery. Too soon and the plaster can run or squeeze out. Too late and you end up with cracked rocks.

David: Another thing about Bragdon's rock molds, they're available up to 2 x 3 feet in size or even larger. You can cover a lot of real estate in a hurry with those.

MRH: I don't want to try a three foot long plaster mold! That would definitely be really messy ...

David: I'll bet!


Figure 11b

Figure 11a: Looking past Avery (elevator) toward Home Valley and Hood.

Figure 11b: Overall view of the basement layout room.

Figure 11c: Three modules make up Biggs.


Figure 11a


Figure 11c

MRH: The water in the river has such great waves. How did it get made?

Dallas: We start by doing the landforms where we're planning on having the water. We smooth down the water bed making it as flat as possible. Then we come along with joint compound. We spread it everywhere we want the water. Then, while the joint compound is still wet, we get a sponge, wet it on the edge and dab it into the joint compound to lift it up and make little waves all across the surface – as many as we want and as high as we want. We make sure to keep the sponge-dabs lined up so the waves will be mostly parallel to each other. We let that dry for a few days and check it for cracks.

If there are any cracks we repair them with more joint compound and let that dry until the water surface looks good. Then we paint it a bluish green, lighter around the edges and darker in the middle where it's deeper.

After that dries for a few days we paint on a couple of coats of acrylic gloss medium to make it reflect the light.

MRH: Well, thank you guys for talking with me.

David: No problem!

Dallas: We enjoyed having you visit our club. Thanks for coming. ☑

Figure 12: MRL locos with the double stack passing under Washington State Highway 14.

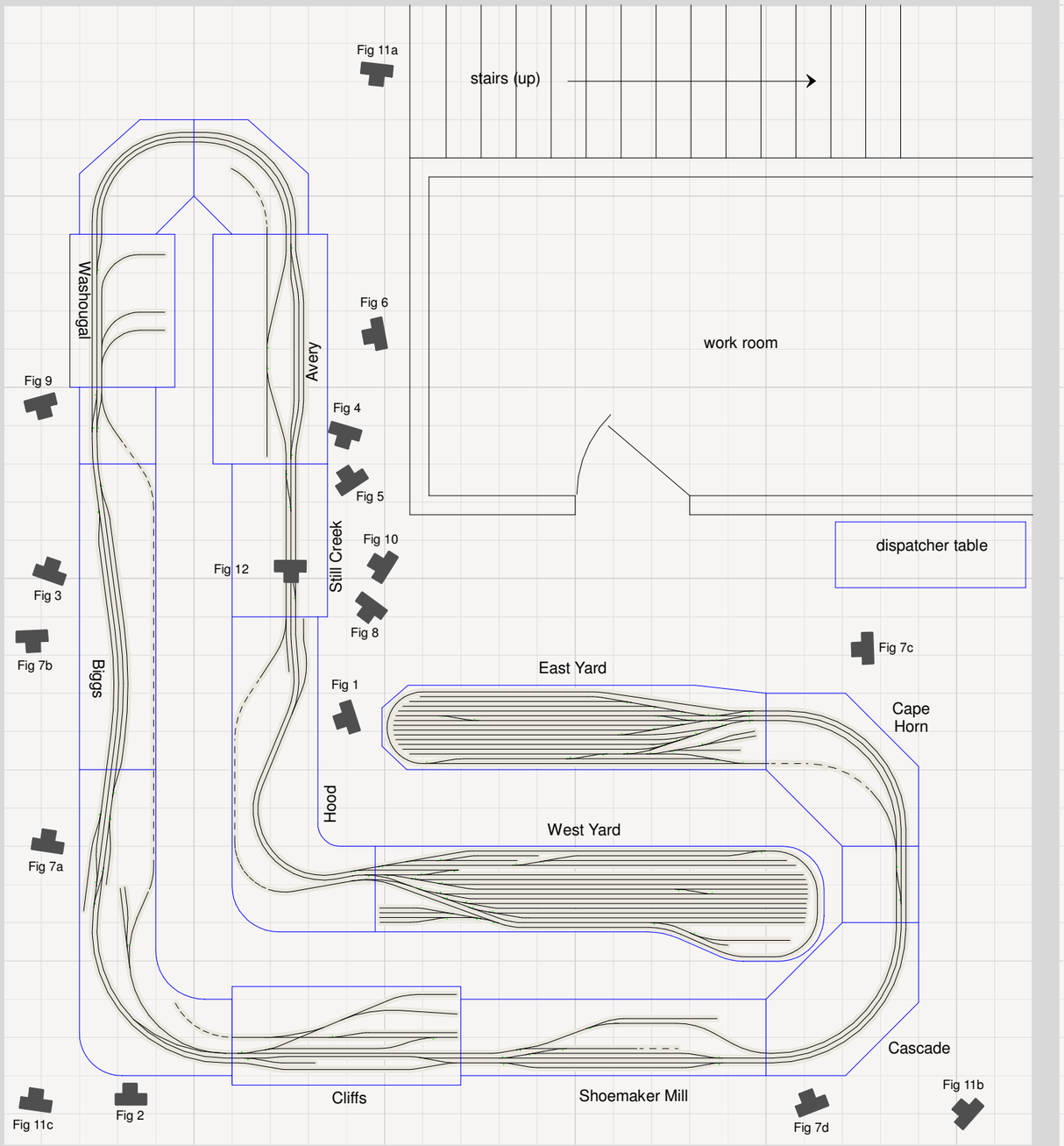
"... while the joint compound is still wet, we get a sponge, wet it on the edge and dab it into the joint compound to lift it up and make little waves all across the surface ..."

Click here to play this video ...

Reader Feedback (click here)

N-trak by the water ...

The Columbia River N scale Club

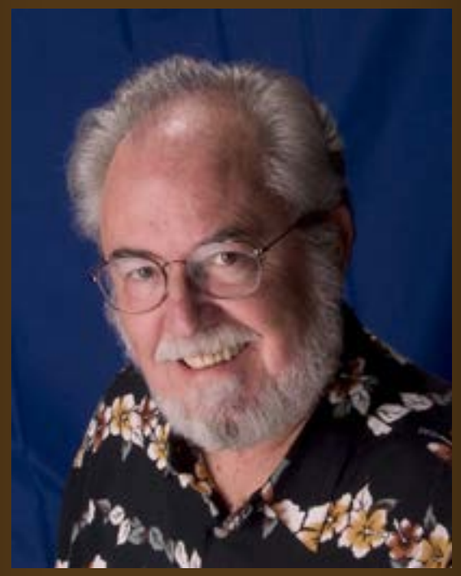


Layout type: N-trak modular
Mainline length: 185’ loop (about 6.5 scale miles)
Elevation: 40” (standard N-Trak height)

Grade: no grade on mainline
Turnouts: Peco #6
Control: Digitrax DCC with radio throttles

The Old Yardmaster

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.

Reader Feedback
(click here)

MRH News Desk: Our new-and-improved news section!

January 2012

Model Railroad News ceases publication.

In early December, just as the combined November/December edition of Model Railroad News was going to press, Michael Lindsay, founder and publisher of the magazine, announced that the publication was ending it's nearly 16-year run. Although Lindsay's announcement came as a surprise to members of the hobby, rumors of financial difficulties began to circulate several months ago when the magazine missed publishing on cover dates. It later announced that it would catch up by combining multiple months into a single issue. A combination of the nation's bleak economy, rising production costs, and a steady decline in both renewals and new subscriptions left Lindsay no choice but to shut down all operations. At press time, no announcement had been made on how subscribers would be compensated for unfulfilled subscriptions…

Bachmann does the right thing.

Just before releasing the initial shipment of its highly-anticipated On30 Heisler locomotive, Bachmann's state-side quality control team detected a noise problem in a sealed bearing of the locomotive. The entire shipment is being returned to the overseas factory for a complete retrofit. There's no word yet on how long it might take to replace the bearing or when the Heisler's will be available. Meanwhile, we salute Bachmann for admitting a mistake and doing the right thing to fix it…

Atlas and Atlas O.

Atlas and Atlas O have merged with the O scale specialty company becoming a wholly owned subsidiary of Atlas Model Railroad Company, Inc. The announcement was made December 28 by Atlas chairman and chief executive officer Thomas W. Haedrich.

Atlas O, LLC was established in 1997 as a separate business entity to produce various O scale products including track, freight cars, locomotives, and accessories. "The merger accomplishes family business planning and makes for a more effective and unified organization," said Haedrich. "On a day-to-day basis, the merger provides a more efficient structure for sales, marketing, distribution, and administration."

The roots of Atlas Model Railroad Co. Inc., extend nearly nine decades to 1924 when Stephan Schaffan Sr., founded Atlas Tool Company in Newark, New Jersey. In 1949, his son, Stephan Schaffan Jr., reorganized the family business as Atlas Tool Co. Inc., in Hillside, New Jersey.

Four generations of the Schaffan family are active in the operation of Atlas Model Railroad Co. Inc., with Diane Schaffan Haedrich, daughter of Stephan Schaffan Jr., and spouse of CEO Thomas W. Haedrich, serving as president. Jarrett Schaffan Haedrich is vice president of marketing, and Jesse Schaffan Haedrich, a recent college graduate, is active in product design and development....

Now let's talk about some new products…

NEW PRODUCTS FOR MULTIPLE SCALES

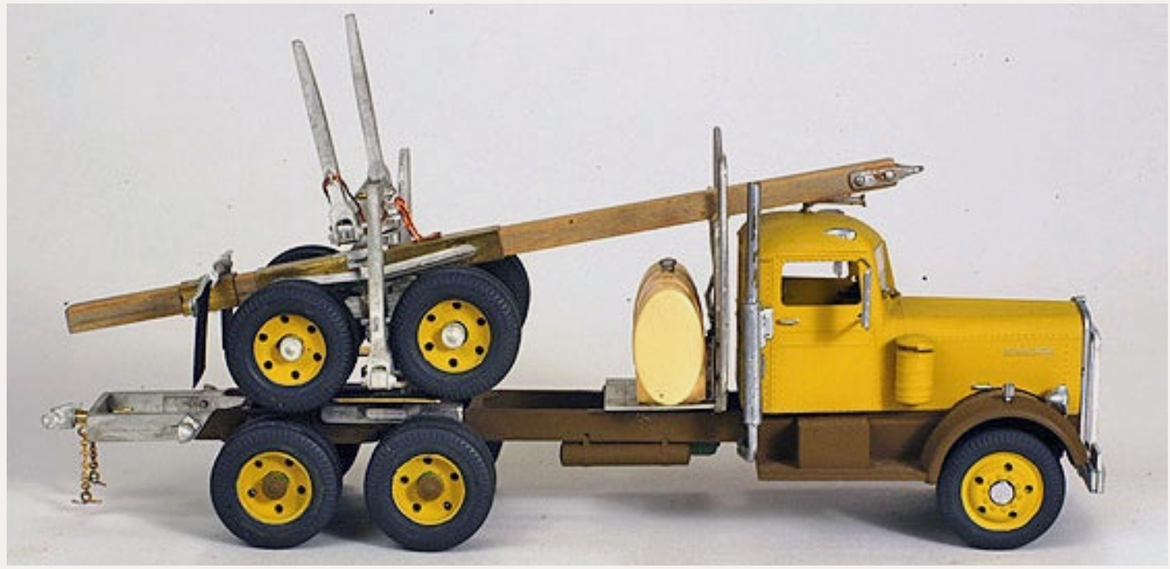
TransAlert division of Simmons-Boardman Books (transalert.com/clc) is selling new copies of the 1997 Car & Locomotive Cyclopedia at $99.00 plus shipping. With more than 1100 pages of prototype photos, technical drawings, and advertisements, the hardcover 44th edition of the railroad industry bible captures a recent decade (1990s) of change in railroad technology. Technical material covers freight cars, diesel and electric locomotives, passenger cars, high-speed trainsets, coupling systems, intermodal equipment, trucks and bearings, braking systems, and more. There is also a section on steam locomotives.

Troels Kirk has released a DVD in which the Danish artist demonstrates how he uses acrylics and pastel chalks to obtain the realistic coloring of structures, rolling stock, and scenery on his On30 Coast Line Railroad. Instructions are in English and include choosing correct paint and brushes for the job, mixing colors, brush techniques, and various practical applications. The 60 minute DVD is priced at $30.00, plus $5.00 for international shipping. To order visit no13.se/coastline/shop.html.

DigCom Designs offers a large selection of printed containers at attractive prices. The selection includes logos and paint schemes for CN's new 53' containers, J.B. Hunt's three new door color variations, and new 53' reefer containers for C.R. England. DigCom Designs' websites are geographically restricted as follows: For hobbyists in the United States and Canada visit myworld.ebay.com/digcomdesigns; Australia cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=180676092007&ssPageName=STRK:MEWAX:IT; Mexico articulo.mercadolibre.com.mx/MLM-64714064-contenedores-p-trenes-escalas-ho-n-catalogo-gratis-nuevo-_JM; and the United Kingdom www.ukmodelshops.co.uk/suppliers/1620-Ukdigcomuk.

O SCALE PRODUCT NEWS

Foothill Model Works (foothillmodelworks.com) has developed an extended knuckle for HO scale couplers that solves the problem of cars having mismatched coupler heights. The problem is particularly common with On30 equipment. The before and after photo (left) compares a Kadee® with a standard knuckle (left) with Foothill Model's extended knuckle on the right. FMW item 4008 includes one pair of lost wax, white-bronze, extended knuckle castings that can used to convert Kadee® #5, McHenry™ HO couplers, or Bachmann® E-Z Mate® Mark II HO couplers. Also included is an optional pair of white bronze castings to convert a pair of Kadee® style coupler shanks into scale, slotted shanks suitable for mounting in a locomotive link & pin draw head. The conversion kit sells for $6.50. The somewhat challenging procedure can be previewed at the firm's website.



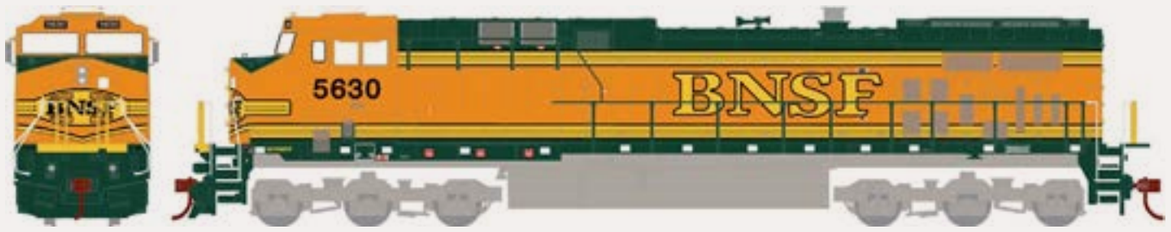
McKenzie Iron & Steel Company is selling an O scale kit to build this K-W log truck. Construction requires a Revell Kenworth donor kit (#H-1821 Honest John Missile Hauler) not included. Visit McKenzie's newly revised website at mckenzieironandsteel.com for additional details including availability of the donor kit.

HO SCALE PRODUCT NEWS

Accurail (accurail.com) has a 3-car set of kits for a 40' wood double-deck Santa Fe class SK-z stock cars. The models are painted mineral red with yellow doors as seen here. The 3-pack of kits is priced at $42.98.

Also new from Accurail is a kit for this Burlington 40’ steel plug-door refrigerator car at $15.98. Accurail kits come with free-rolling trucks and Accumate™ couplers.

Athearn division of Horizon Hobby (athearn.com) is estimating an August delivery date for two new Genesis series GP9 diesels. An Erie Lackawanna locomotive will be in the run along with a Western Pacific unit in two different paint schemes including a version with a single white chevron on the front and rear, and one with multiple black chevrons as seen above.



Other locomotives planned for August include a DCC-ready AC4400 diesel decorated for BNSF (above), CP Rail, Ferromex, and Southern Pacific. Also coming is a GP38-2 for Duluth, Winnepeg & Pacific; Seaboard System; Pittsburgh & Lake Erie; and Ferromex.

Athearn plans to deliver several freight cars in August including a 40’ double-door boxcar decorated for Ashley Drew & Northern, Santa Fe, Canadian Pacific, and Great Northern; an ACF 2970 cu ft covered hopper with etched-metal roof walks, wire grab irons, and roof hatches matched to the prototype usage for BNSF, Conrail, CSXT, and Union Pacific. Also coming in August are 52’ mill gondolas for Burlington Northern (black body), Canadian National, CP Rail, GONX-Rail Gon, and Union Pacific; and a 24’ ore car from upgraded MDC tooling for Canadian National, Great Northern, Soo Line, and Union Pacific. The ore cars are available individually at $19.98 and in a selection of four 6-packs at $109.98. All come with a removable ore load. Two versions of a PFE 40’ steel refrigerator car are also expected in August. Nine road numbers will be available for a car with red roof and ends, and SP and UP black and white heralds. The second PFE car features black ends and san serif lettering. Both styles are priced at $25.98 each.

Intermodal modelers can anticipate delivery in August of a 2-pack of 53’ trailer chassis at $34.98. Each package has two new container floors to replace any on hand that may not be compatible with these chassis. In addition to the Norfolk Southern trailer shown here, other carrier names include BNSF, CSX, Hunt, Pacer, and Union Pacific. The chassis numbers are different from any previous runs. Also due in August are 3-packs of 53’ Jindo containers for Tote, Crowley, Axsun Group, and CSX.

Atlas Model Railroad Company (atlasrr.com) has scheduled another production run of its HO scale version of General Electric’s 4,000 hp Dash 8-40C and CW (wide nose safety cab) locomotives for arrival during the 2nd quarter of this year. The ready-to-run models will be available with and without DCC. The

Master™ Series Gold models will be priced at $259.95 and will come with a Dual-Mode® decoder (allows operation in DCC or standard DC), and QSI® Titan sound decoder. Atlas's Silver series DCC-ready models will have an MSRP of $159.95 and will come with an NMRA 8-pin plug (no decoder or sound). The limited edition models are $10.00 more. This is a good time to mention that due to the higher starting voltage required to operate the sound system, it is not possible to MU non-sound and sound-equipped locos in DC mode. Also, the manufacturer recommends a minimum radius of 22" for reliable operation.

Special features of the Dash 8-40C/CW models include directional lighting, uncoupling bars, number boards, a sand hatch, MU and train line hoses, snowplow and piping on trucks, painted crew members, and AccuMate® knuckle couplers. Additional details on the CW versions include both ditch lights and marker lights where appropriate by road name. Road names include Canadian National, CN 15th Anniversary, and FNM. New CW versions will be available for Conrail Quality, CSX (patched CR Quality), and Norfolk Southern (patched CR Quality). New road numbers for previously released road names include BNSF and Union Pacific. Undecorated models will be offered for CSX/UP style, Santa Fe style, and Conrail style locomotives. A special limited edition model will be decorated as CSX "George H. W. Bush Campaign" in a blue and yellow paint scheme.

AAR 50' postwar single-door boxcars will also be arriving from Atlas during the second quarter of this year. These are ready-to-run versions of the recently acquired Branchline Blueprint series models. Prototype details include improved Dreadnaught ends, diagonal panel roofs, 8' and 9' Superior or Youngstown doors, and three different side-sill styles – straight, tabbed, and fishbelly.

The HO scale model will have separately applied ladders and grab irons, and machined metal wheelsets. Road names will include Chicago & Eastern Illinois, Family Line (SCL), Grand Trunk Western, Milwaukee Road, Pennsylvania, and Western Maryland. Decorated models will have an MSRP of $27.95 with undecorated versions priced at $22.95.

Bachmann Trains (bachmanntrains.com) has an HO scale model of a North American style 380-ton Schnabel transformer car. The unique design of the Schnabel allows it to carry extremely heavy and or oversized loads by making the load an element of the car. Outsized loads typically handled by the prototype include power station generators and transformers. Bachmann's HO scale model is 27.5" long which is a whopping 199 scale feet. The ready-to-run model is available in blue and black with a gray load, or gray and black with an oxide red load. Both schemes come with black trucks. The Schnabel is also available in red and black with a gray load and silver trucks, as seen here. All versions have an MSRP of $235.00

Bowser Manufacturing (bowser-trains.com) plans to release its newly-tooled HO scale Alco Century C-636 diesel locomotive this summer in 13 paint schemes. Features of the ready-to-run model include brass MU hoses, brass air hoses, etched-brass windshield wipers, steel grab irons, steel coupler lift bars, operating headlight, window glass, can-motor with flywheels, nickel silver RP25 wheels, knuckle couplers, and installed handrails. Road names will be Alco Demonstrator, Illinois Central, Burlington Northern, SP&S, SP&S/BN, Penn Central, Conrail, MK Leasing, Cartier (QCM- Quebec Cartier Mining), Delta Bulk Terminal, Penn Central-Conrail Patch, NYSW, and SIXX. DC analog versions come with an NMRA 8-pin plug. The C-636 models will have an MSRP of $199.95. Models equipped with DCC and sound (SoundTraxx Tsunami Digital Sound Decoders) will list at $299.95 each.

Bowser expects to release another run of 100-ton triple-bay hopper cars this month. In addition to the C&O scheme shown here with Chessie Cat herald, the Executive line HO scale ready-to-run model will also be available decorated for B&O (Chessie Cat), Western Maryland (Chessie Cat), R&N (red end), R&N (blue end), W&LE, Chicago North Western (yellow end), CSXT (Ease Up), Pennsylvania Power & Light Company (Ready Kilo), and Norfolk Southern.

Centralia Car Shops is working on a Southern Pacific C-40-4 bay-window caboose for deliver late this summer. This is the successor to SP's C-30-6 and the predecessor to the C-50-2. The C-40-4 saw duty on the Southern Pacific beginning in 1961. The HO scale ready-to-run model will have interior details, wire grab irons, etched-metal running boards, and Kadee® couplers. The car will ride on new swing-motion roller bearing trucks. Paint variations on the initial release will include boxcar red body, a similar scheme with end-mounted markers, and a boxcar red body with orange bay. The C-40-4 will have an MSRP of $49.95. Centralia Car Shops products are marketed by InterMountain Railway (intermountain-railway.com).

Concept Models (con-sys.com) has a resin casting for creating an HO scale Kasgro heavy-duty depressed center flat car. Kasgro designed the modern prototype to carry large boiler loads. The kit includes resin castings and assembly hardware only. Instructions are photo illustrated. Hand grabs, ladders, and related detailing are not provided. The car rides on five pairs of special 100-ton trucks. The trucks are not included in the kit but sideframes may be purchased separately.

Con-Cor Trains (con-cor.com) continues to expand its selection of heavyweight equipment from the golden era of passenger rail travel that was later assigned to branchline, commuter, and suburban service (BCS). In developing this series of HO scale ready-to-run passenger cars, Con-Cor selected 65 foot cars that can reliably handle curves with a minimum radius of 18 inches – typical of the average home layout. The latest BCS release includes equipment decorated for Southern Railway (two-tone green Crescent Limited scheme), Southern Pacific (red, orange and black Daylight scheme), Royal American Shows Carnival Train, and Denver & Rio Grande Western (silver and Aspen orange) as seen here. Another production run of the 1920-1950 era heavyweight cars scheduled for release later this month includes equipment for Chesapeake & Ohio (Pullman green George Washington scheme with Dulux gold lettering and black roof), similarly decorated cars for Nickel Plate Road, and New York New Haven & Hartford

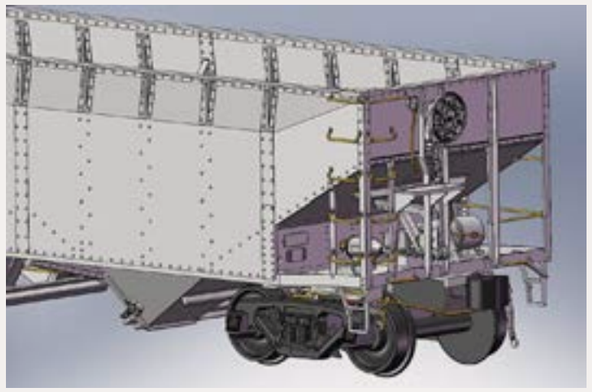
(Hunter green with silver-gray lettering). Notable features of the BCS series include individual car names and numbers, separate wire handrails, interior details including interior lighting that works in either DC or DCC mode, working end diaphragms, detailed end-door scissors gates, knuckle couplers, and appropriate trucks with RP-25 metal wheels. Solarium cars have an MSRP of $77.98. All other cars have a list price of $69.98.

ExactRail (exactrail.com) has introduced an HO scale model of a Thrall 2244 cu ft 52'6" 15-panel steel gondola. The Evolution series model is based on a prototype that was built with a heavy-duty top chord to reinforce the sides of the open car. Priced at $29.95 each, ExactRail is offering the ready-to-run model decorated for Rock Island, Chicago North Western, Conrail, and DT&I. The model comes with Kadee® #5 couplers and ASF 100-ton Ride Control® trucks with 36" wheels.

Other new products just released from ExactRail include an Evans-USRE 5277 cu ft boxcar. The Evolution series model features individually formed wire grab irons, brake rods, and uncoupling levers. The Plate C model is priced at $29.95

and is available decorated for LOAM - Louisiana Midland "The Natchez Route;" RI with "Route Rock" slogan; Lake Erie, Franklin & Clarion Railroad Company; RBOX – RailBox with black door; and Burlington Northern. An undecorated kit is available at the same price. The model is equipped with Kadee® #5 couplers and Barber 70-ton S-2 trucks with 33" wheels.

Fox Valley Models (foxvalleymodels.com) is taking reservations for second quarter delivery of an HO scale Soo Line 7-post boxcar with a diagonal panel roof. In addition to the original Soo Line (box car red) version, the car will also be available decorated for Soo Line (white with red door), Wisconsin Central, Great Northern (Big Sky blue), Burlington Northern (green), Montana Rail Link, BNSF (box car red with small circle cross), and undecorated. In addition to the newly tooled roof, other features include separate metal grab irons, separate ladders, Kadee® couplers, and etched-metal end walks. The ready-to-run models will have an MSRP of $30.95.



InterMountain Railway Company (intermountain-railway.com) is developing an HO version of an AAR Alternate Standard 50-ton, 2-bay, open-top hopper car. The design work, as illustrated here, has been completed and preparation of the tooling is underway. Freight car expert Ed Hawkins has followed the HO scale project and reports that the models will have detailed interiors that portray the offset sides and U-section sidestakes. Initially, two versions of the hopper will be produced including one with flat ends as built by GATC and AC&F for Northern Pacific in the early 1940s. The second version is based on a Chesapeake & Ohio prototype with arched ends. Additional end configurations are planned for future releases.

Road names on the initial release with flat ends include ATS, Erie, Northern Pacific, and W&LE. Cars with arched ends will be decorated for Chesapeake & Ohio, Clinchfield, Montour, and Nickel Plate Road. The ready-to-run model will feature metal wire grab irons, metal wheelsets, and Kadee® couplers. IMRC expects the initial production run will be ready for release late this summer. The suggested list price will be $38.95.

Kadee Quality Products (kadee.com) will release several new HO scale ready-to-run models to dealers next month including a Pullman green TPW 40' PS-1 boxcar with a 7' door, a 50' PS-1 boxcar with a 10' Youngstown door decorated for Rock Island in the original 1969 boxcar red, and, as seen here, a two-bay PS-2 outside braced covered hopper painted light gray and decorated for Southern Pacific in red letters.

New models scheduled for release in March include a black 50-ton AAR standard two-bay open hopper with offset sides lettered for Pittsburgh & Shawmut. Also coming in March are two PS-1 40' boxcars. One has a 7' door and is decorated for Western Pacific complete with the famous feather logo, the other is a 1959-era Minneapolis & St. Louis car with an 8' door.

Minute Man Scale Models (minutemanscalemodels.com) has introduced their iCar, a unique piece of HO scale rolling stock that cradles an iPhone4. The iPhone captures images and video as the car moves along the track. The image is

reflected through an angled mirror back into the camera's lens. The cart's open-frame design allows access to the touch screen and action button while the iPhone is in the cradle. The manufacturer states the car will navigate 18" radius curves. The easily assembled kit comes with InterMountain trucks and Kadee® couplers. It is priced at $27.95. A car for the iPhone5 will be available in the future.

Motrak Models (motrak-models.net) has released resin coal loads specifically designed for ExactRail's FMC 4000 cu ft gondola. They are priced at $5.95 for two loads. Also new is a cast Hydrocal® load of real scrap metal sized for an ExactRail 65' mill gondola. The load is priced at $7.95 each.

Rapido (rapidotrains.com) has released several new HO scale passenger cars including VIA Rail Canada 38-seat Club-series galley cars. The December release also included 6-4-6 sleepers decorated for CN (wet noodle) Green-series, Chicago & Eastern Illinois Pine-series, NC&StL Pine-series, and the Louisville & Nashville Pine-series car shown here. The ready-to-run cars have an MSRP of $69.95.

Roundhouse Models (roundhousetrains.com) plans to release new versions of its 50' Overland open-end passenger cars. Upgrades on the HO scale ready-to-run models include wire formed truss rods, new window and clerestory glazing, body-mounted couplers, Commonwealth trucks with a 7' wheelbase, and 33" machined metal wheelsets. The release, scheduled for August, will be for a single coach, plus a 4-pack consisting of a coach (with a different car number), a passenger-baggage combine, a mail car, and a business car. Road names will be Santa Fe, Virginia & Truckee, Canadian Pacific, and Denver & Rio Grande Western. Individual coaches have an MSRP of $33.98 each. The 4-pack will list at $118.98.

Roundhouse has also scheduled an August release date for ready-to-run 36' truss-rod stock cars decorated for Santa Fe, Canadian National, Denver & Rio Grande Western, and Union Pacific. The MSRP will be $27.98.

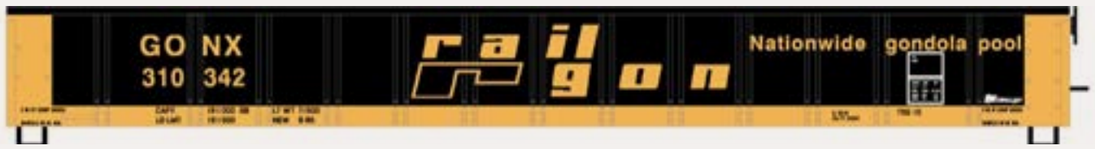
Sidetrack Laser (sidetracklaser.com) has released an HO scale kit for River City Distributors that features a dock that can be adapted for trucks or rail. Intended for use as a background building, the kit features laser-cut structural components, peel 'n stick roofing material, several detail parts, Grandt Line windows, special graphics, and a roof top billboard. The HO scale craftsman-style kit sells for $57.95. Vehicles shown are not included.

Walthers (walthers.com) is scheduled to deliver a 4-car set of class R17 subway cars decorated in the green livery of MTA/New York City Transit in February. One of the four cars will be powered and ready for standard DC operation. The ready-to-run models feature directional and interior lighting, pantograph gates, and ProtoMAX™ metal knuckle couplers. The MSRP of the 4-car set is $249.98.

Walthers Proto1000™ HO scale model replicates a fleet of 4,000 prototype R17s the St. Louis Car Company built in the 1950s for New York's Interborough Rapid Transit (IRT).

Late this month, Walthers plans to release a series of 23,000 gallon Funnel-Flow tank cars with new road numbers. The HO scale versions of the distinctive 54' prototype feature etched-metal walkways and platforms, individual grab irons, and underbody rigging including train-line brake piping. The location of manways and safety valves are specific to individual road names. Trucks on the WalthersProto™ series cars are equipped with turned metal wheelsets and ProtoMAX™ metal knuckle couplers. The MSRP is $37.98. Road names on this limited edition run include ADMX-ADM, CCLX-Corn Products, CHSX-Harvest States, UTLX, UTLX-Terra, and PROX-Procor as illustrated here with art work.

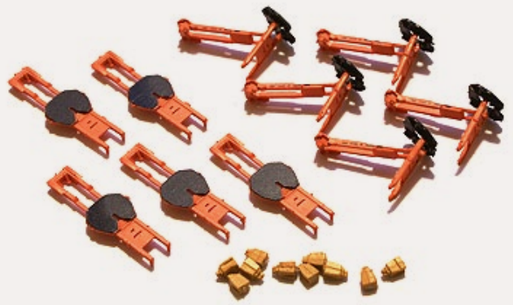
N SCALE PRODUCT NEWS



New N scale items coming from **Athearn** (athearn.com) late this summer include this GONX-Rail Gon 52' mill gondola. Other road names in the release are BN (black body), Canadian National (wet noodle), and CP Rail. The cars will have an MSRP of $23.98. Also coming is an ACF 2970 cu ft hopper car decorated for BNSF, Conrail, Union Pacific, and CSX. The ready-to-run models will have an MSRP of $26.98. August should also see the arrival of a 53' bulkhead flat for BN (green body), Norfolk Southern, Soo Line, TTX, and Union Pacific. The MSRP will be $23.98.

Atlas Model Railroad Company (atlasrr.com) will deliver a new series of N scale GP38 and GP40 locomotives during the second quarter of this year. The N scale ready-to-run model replicates EMD's popular road diesels introduced in the late

1960s. Many are still in service today. In addition to the Ann Arbor version shown here, the low nose GP38s will be available for BNSF (blue/white) , BNSF Patch (blue/yellow), HLCX (red/blue), MKT (green/yellow), and New Haven (black/white/orange. GP40 models, with their three distinctive roof-mounted radiator fans, will be available for Kansas City Southern (red/yellow/black), Missouri Pacific (yellow/green/red), Providence & Worcester (brown/red/white), Union Pacific (Armour yellow/grey/red), and Western Pacific (brown/orange). Standard DC units will have an MSRP of $119.95. Decoder-equipped versions will be $154.95.

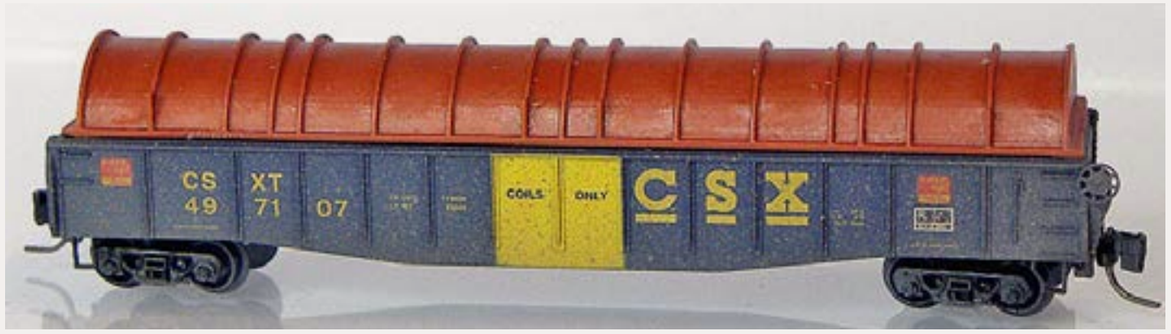


BLMA (blmamodels.com) is selling a package of N scale spine car hitches that includes ten container pedestals, five collapsed hitches, and five raised hitches. The package has a list price of $9.95. The units are assembled, painted, and ready for installation.

Motrak Models has discontinued its line of N scale freight car loads and is liquidating all discontinued items at 50% off list price. The items can be viewed at Motrak's eBay store at (stores.ebay.com/Motrak-Models?_trksid=p4340.l2563) however, the discount does not apply to items ordered through eBay. To receive the discount, place your order direct at 813-476-4784 or send an email to Motrak owner Jeff Adams at motrakmodels@verizon.net. Jeff told MRH he plans to continue producing his line of structures.

Sidetrack Laser (sidetracklaser.com) has released an N scale kit for River City Distributors that features a dock that can be adapted for

trucks or rail. Intended for use as a background building, the kit features laser-cut structural components, peel 'n stick roofing material, several detail parts, Grandt Line windows, special graphics, and a roof top billboard. The N scale craftsman-style kit sells for $47.95. Vehicles shown are not included.



Stonebridge Models (stonebridgemodels.com) has cast resin coil cover loads designed to fit Micro-Trains N scale 50' steel gondola cars. Undecorated loads are priced at $7.99 each. An undecorated Micro-Trains 50' straight side gondola and an undecorated coil cover load is available at $18.45 for both car and load. As illustrated here, decorated loads can also be purchased with a weathered CSX Micro-Trains 50' fishbelly gondola at $29.60 for both the car and load. Note that the side of the gondola is marked "Coils Only."

Walthers (walthers.com) is offering this N scale Grand Junction Depot at an MSRP of $29.98. The traditionally-styled combination passenger and freight depot has a foot print of 6.375" x 3.1875" x 1.75" high. It comes fully assembled and ready for installation.

NEW DECALS, SIGNS AND FINISHING PRODUCTS

Jerry Glow Decals (home.comcast.net/~jerryglow/decals/) has released HO scale decal sets for this TXI covered hopper. Also new are lettering sets for a W&LE 40' AAR boxcar as built by ACF, and a Rutland PS-2 boxcar. Kadee released a model of this Rutland car some time ago but currently has no plans to reissue it. Visit the above website for ordering information.

Microscale (microscale.com) has announced several new and upgraded wet decal lettering sets in both HO and N scale. Recent releases include Union Pacific (UPFE) and REMX Leasing Company 57' mechanical refrigerator cars from 1970s forward, Pacific Fruit Express 40' ice refrigerator cars, Soo Line diesel locomotives in candy apple red paint scheme, Rio Grande passenger cars including Ski Train and business cars, General Electric data for Dash-9 and AC-4400 diesel locomotives, and BNSF GE ES44DC diesels from 2005 forward. Still under development and expected to be announced soon are decal sets for VIA RAIL F40PH locomotives in the renaissance scheme, C&NW insulated boxcars, and Burlington Northern standard and woodchip gondolas.

Model Rectifier Corporation (MRC) is promoting Italeri brand's new acrylic paint by offering consumers and dealers a sample of three 20 ml bottles of paint at no charge. Recipients are required to pay $6.50 postage and handling fee. The offer, which expires January 31, 2012, is available to U.S. addresses only. Visit modelrectifier.com for an order form. ☑

Selected Events

January 2012

CALIFORNIA, ANAHEIM, January 7-8, Great Train Expo at Anaheim Convention Center. Info including map at **greattrainexpo.com**.

CALIFORNIA, MOUNTAIN VIEW, January 27-29, NMRA Pacific Coast Region San Francisco Bay Area Joint Regional Meet. Panel programs, operations forum, track planning workshops, and clinics on Saturday. Layout visits Friday and Saturday evenings. Operating sessions at local layouts on Sunday. Community Center, 201 S. Rengstorff Avenue, Mountain View, 94040. Speakers include Dave Clemens, Dennis Drury, Don Marenzi, Jim Providenza, and Tony Thompson. Info at **pcrnmra.org/sigs**.

CALIFORNIA, SACRAMENTO, January 14-15, Great Train Expo at Cal Expo. Info including map at **greattrainexpo.com**.

FLORIDA, COCOA BEACH, January 5-7, Prototype Rails 2012. Premier RPM meet hosted by Mike Brock with 80 clinics scheduled. Blue ribbon lineup of clinicians include Frank Angstead, Craig Bisgeier, Tom Bissett, Al Brown, Jon Cagle, Jim Cantlay, Ted Culotta, Bill Darnaby, George Eichelberger, John Greedy, Andy Harman, Jared Harper, Richard Hendrickson, Roger Hinman, Larry Kline, Tony Koester, Greg Komar, Jim Lincoln, Tom Madden, Carl Marchand, Greg Martin, Lance Mindheim, Jim Murrie, Joe Oates, Steve Orth, Frank Peacock, John Roberts, Mike Rose, Stan Rydarowiz, Antonio Santana, Bill Schaumburg, Bill Schneider, Jim Singer, Bruce Smith, Andy Sperandeo, Mont Switzer, Chip Syme, Gilbert Thomas Jr., Tony Thompson, Bill Welch, and John Wilkes. Hilton Hotel (800-526-2609 or 321-799-0003). Info at **prototyperails.com** or contact Mike Brock at **brockm@brevard.net** or 321-453-4140.

ILLINOIS, CHICAGO, January 14-15, World's Greatest Hobby on Tour at Schaumburg Convention Center. Info at **wghshow.com**.

INDIANA, INDIANAPOLIS, January 7-8, World's Greatest Hobby on Tour at Indiana State Fairgrounds. Info at **wghshow.com**.

IOWA, COUNCIL BLUFFS, January 28-29, Great Train Expo at Mid-America Center. Info including map at **greattrainexpo.com**.

KENTUCKY, LOUISVILLE, January 21-22, Great Train Expo at Kentucky International Convention Center. Info including map at **greattrainexpo.com**.

MASSACHUSETTS, WEST SPRINGFIELD, January 28-29, Amherst Railway Society Railroad Hobby Show, attracting up to 25,000 railfans and model railroad hobbyists with hundreds of manufacturers exhibits and dealer product displays. Eastern States Exposition Fairgrounds. Info at **railroadhobbyshow.com**.

NEW YORK, TONAWANDA, January 21-22, and 28-19, Buffalo Model Railroad Club Open House, featuring a 600 sq ft O scale, and 1200 sq ft HO scale layouts. Second Floor of Town Boys & Girls Club, 54 Riverdale Street. Entrance on Edgar Street. Info at **buffalocentral.railfan.net**, or call 716-871-0212.

OREGON, EUGENE, January 27-29, 33rd Annual Willamette Cascade Model Railroad Club Train Show featuring various layouts operating at Valley River Center Mall. Also Operation Lifesaver Trailer with educational material. Info from Lee Temple at 541-954-4917 or **ttandt@ram-mail.com**.

February 2012

CALIFORNIA, BUENA PARK, February 12, Railroadiana & Transportation Show, huge sale of railroad collectibles, memorabilia, books, and artwork. UFCW Hall, 8550 Stanton Avenue. Info from Renee Orton at **reneeorton@hotmail.com**.

CALIFORNIA, INDIO, February 17-26, Coachella Valley Model Railroaders Open House during Riverside County Fair & Date Festival, featuring 80 by 16 foot HO layout operating two-way traffic on over 2500 feet of track. Riverside County Fair Grounds, 82503 Highway 111. Info at **cvmrr.com**.

CALIFORNIA, SANTA CLARA, February 9-11, 22nd Annual O Scale West 2012 (includes 6th Annual S West meet), model displays, vendor displays, movies, swap meet, and layout visits. Hyatt Regency. Info at **oscalewest.com**.

KANSAS, WICHITA, February 11-12, Train Show & Swap Meet, sponsored by Chisholm Trail Division NMRA and Engine House Hobbies, $6.00 admission good for both days. Cessna Activity Center, 2744 George Washington Blvd. Info from Phil Aylward at 316-830-3498, or email **aylward1@cox.net**.

MISSOURI, KANSAS CITY, February 18-19, Great Train Expo at American Royal Complex. Info including map at **greattrainexpo.com**.

MISSOURI, SAINT CHARLES, February 4-5, Great Train Expo at Saint Charles Convention Center. Info including map at **greattrainexpo.com**.

NEW MEXICO, ALBUQUERQUE, February 16-18, 27th Annual Sn3 Symposium. Ramada of Albuquerque (I-40 at Eubank) 505-296-4853. Info at **Sn3-2012.com**.

OHIO, DAYTON, February 25-26, Great Train Expo at Hara Arena. Info including map at **greattrainexpo.com**.

OREGON, PORTLAND, February 25-26, World's Greatest Hobby on Tour at Oregon Convention Center. Info at wghshow.com

SOUTH CAROLINA, EASLEY, February 4-5, Annual Train Show at J. B. Owens Sports Complex, Bagwell Gymnasium, 111 Walkers Way. Features 150 dealer tables, operating model railroads, hands-on Thomas the Tank and Junior Railroader activities, and live steam trains.

TEXAS, HOUSTON, February 11-12, Great Train Expo at Reliant Park. Info including map at **greattrainexpo.com**.

TEXAS, HOUSTON, February 18, Greater Houston Train Show, sponsored by San Jacinto Model Railroad Club. How to demonstrations, model and photo contests, operating layouts, vendor tables. Stafford Centre, 10505 Cash Road. Info from **sanjac.leoslair.com**.

UTAH, SALT LAKE CITY, February 4-5, World's Greatest Hobby on Tour at South Towne Expo Center. Info at **wghshow.com**.

Future 2012

CANADA, ONTARIO, OTTAWA, May 5-6, Ottawa Train Expo, featuring layouts, models, displays, clinics, demonstrations, and tours. Billed as the largest train show in Eastern Canada. Carleton University Fieldhouse, off Bronson Ave.

FLORIDA, COCOA BEACH, January 5-7, Prototype Rails 2012, premier RPM meet hosted by Mike Brock. Hilton Hotel, 1550 N. Atlantic Ave. Call 800-526-2609 or 321-799-0003 for reservations.

MASSACHUSETTS, WEST SPRINGFIELD, January 28-29, Amherst Railway Society Railroad Hobby Show, attracting up to 25,000 railfans and model railroad hobbyists with hundreds of exhibits and product displays by manufacturers and dealers. Eastern States Exposition Fairgrounds. Info at **railroad-hobbyshow.com**.

OREGON, MEDFORD, May 2-5, Pacific Northwest Region & Pacific Coast Region / NMRA Siskiyou Summit 2012 Joint Convention. Info at **pcrnmra.org/conv2012/hobos.html**.

CANADA, BRITISH COLUMBIA, SQUAMISH, July 13-15, Pacific Great Eastern Railway 100th Anniversary Convention, at CN Roundhouse & Conference Centre, West Coast Railway Heritage Park, 39645 Government Road, sponsored by PGE-BCR Modellers Group. Clinics, operating layouts, displays, model contest, prototype displays, and rides on 7.5" gauge "Mini Rail". Info including registration fees and options available from Brian Clogg at **bcclogg@shaw.ca** or phone 604-588-2194.

CANADA, ONTARIO, OTTAWA, May 5-6, Ottawa Train Expo, featuring layouts, models, displays, clinics, demonstrations, and tours. Billed as the largest train show in Eastern Canada. Carleton University Fieldhouse. Info at **ottawatrain-expo.wordpress.com**.

CANADA, ONTARIO, TORONTO, March 17, Annual Toronto Railway Prototype Modellers Meet featuring expert clinicians, unique show-and-tell, and open discussion of displayed items. Humber College, North Campus, Building B, rooms B201& B202. Info from Brian Gauer at **bdgauer@rogers.com**.

ARIZONA, WINSLOW, April 17-27, Winslow Railroad Days and Arizona State Centennial, prototype displays and operating layouts. At Hubble Trading Post, 523 W 2nd Street. Info at **tucsonntrak.com/ASWMRR/ASWMRR_Winslow_Page.html**.

CALIFORNIA, BAKERSFIELD, March 10-12th, Golden Empire Historical & Modeling Society's Annual Model Train Show, featuring over 100 dealer tables, operating layouts and live steam. At Kern County Fairgrounds, 1142 South 'P' Street. Info **gehams.net**.

CALIFORNIA, PERRIS, March 3, Railroadiana and Model Railroad Swap Meet, at Orange Empire Railway Museum. Southern California's largest swap meet featuring operating prototype equipment. 2201 S. "A" Street, off Highway 215. Info at **oerm.org**.

CALIFORNIA, STOCKTON, March 10, Winterail, Railroad Photography Exposition and Railroadiana Show. Scottish Rite Masonic Center. Info at **win-terail.com**.

ILLINOIS, LOMBARD, March 16-18, Chicago O Scale Meet, layout tours, clinics, model contests and vendor tables. West Lombard Yorktown Center. Info at **marchmeet.net**.

ILLINOIS, SPRINGFIELD, March 8-10, NMRA, Midwest Region, Illinois Valley Division annual convention. Info at **railsplitter2012.org**.

INDIANA, ELKHART, April 13-14, NMRA Michiana Division Symposium, featuring Friday night banquet, clinics, layout tours, and railfanning at National New York Central Railroad Museum. Info at **fallstonflagstop.com/2011/11/**.

MICHIGAN, GRAND RAPIDS, July 29-August 4, NMRA National Convention and National Train Show. Info at **gr2012.org**.

NORTH CAROLINA, BREVARD, October 12, 13, Narrow Trak 12. Details are pending.

OHIO, CINCINNATI, March 10-11, World's Greatest Hobby on Tour at Duke Energy Center. Info at **wghshow.com**.

OHIO, CLEVELAND, October 11-14, iHobby Expo, industry annual trade show, IX Center.

OHIO, HILLIARD, May 18-20, 4th Ohio N-scale Weekend, hosted by Central Ohio N-trak. Franklin County Fairgrounds. Info at **centralohiontrak.org/**.

OHIO, KIRTLAND, March 17-18, Railfest 2012, NMRA MCR Division 5, operating layouts, historical displays, live steam display, dealer tables. Lakeland Community College. Info at **railfest.org**.

OHIO, MARION, April 12-14, Central Ohio RPM, Marion Union Station. Info at **hansmanns.org/meet/**.

OKLAHOMA, TULSA, March 23-25, NMRA, Indian Nations Division 3rd annual Tulsa Area Layout Design and Operations Weekend. Speakers include Steve Davis, Tom Fausser, Dick Hovey, John McBee, Lance Mindheim, Dave Salamon, and Jim Senese. For details on location and registration visit **ldop-sigmeet.tulsanmra.org/**.

OREGON, EUGENE, April 21-22, 24th Annual Willamette Cascade Model Railroad Club Swap Meet & Train Show, Events Center at Lane County Fairgrounds, 796 West 13th Avenue. Info from Lee Temple **ttandt@ram-mail**.com or phone 541-954-4917.

PENNSYLVANIA, LANCASTER, October 11-13, 2012 EXPO, at Lancaster Host Resort & Conference Center, includes activities at the Strasburg Railroad and The Pennsylvania Railroad Museum. Additional details are pending. Info at **modelrailroadexpo.com**.

PENNSYLVANIA, LEESPORT, August 10-12, 2012 Greater Reading Narrow Gauge Meet, featuring operating displays, dealers, clinics, and demonstrations. Leesport Farmers Market Banquet Hall, Arlington Drive. (On Route 61, accessible from Route 78 and Route 222). Info at **nateslightironhobbies.com/narrowgaugemeet.htm**.

PENNSYLVANIA, MALVERN, March 23-25, RPM-Valley Forge Meet, sponsored by NMRA, MER, Philadelphia Division. Model displays, vendor tables, tour and operating session on Sunday. Clinicians include Keith Albright, Keith DeVault, Ralph DiBlasi, Bruce Elliott, Nick Fry, Jim Harr, Dave Hopson, Larry Kline, Vince Lee, George Losse, Rich Newmiller, Ed Olzewski, and John Teichmoeller. Desmond Great Valley Hotel & Conference Center. Info at **phillynmra.org/RPMMeet**.

WASHINGTON, BELLEVUE, September 12-15, National Narrow Gauge Convention. Info at **seattle2012.com**.

Future 2013

AUSTRALIA, MELBOURNE, April 12-14, 13th National Australian N Scale Convention, will be held at 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, National Narrow Gauge Convention. Info at **33rdnngc.com.**

MINNESOTA, BLOOMINGTON, April 25-28, 28th Annual Sn3 Symposium. Info at **Sn3-2013.com**.

NEW MEXICO, ALBUQUERQUE, June 6-9, Rails Along the Rio Grande 2013, NMRA Rocky Mountain Region, Rio Grande Division 6, convention with clinics, layout tours, train show, OpSig sessions, UPRR and BNSF modelers showcase night, and banquet. Marriott Pyramid North. Info from Al Hobey at **alhovey@comcast.net**. ■

Send us your product announcements

If you are a hobby manufacturer with a product announcement, just **click here** and submit your announcement to us.

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

REVERSE RUNNING: MRH, the three-year-old wobbly toddler?

Stepping outside the box with a contrary view

Reader Feedback (click here)

— by Joe Fugate

MRH is three years old! It's been an interesting journey so far, trying to get this new totally digital eZine for model railroading strong enough to stand up and walk on its own.

Issue one was both a triumph and something of a minor disaster. We immediately found Adobe's claims about Flash being ubiquitous were not entirely true. We got bitter complaints from Mac users that they could not read MRH.

We quickly created the "Flashless" standard edtion using less "bleeding edge" technology, and we got a Mac to use for testing every issue.

By issue three, we made our online edition available, meaning you didn't even have to download the issue if you wanted to read it.

The first year, we did four issues on a quarterly schedule. Come year two, we did six issues – one every-other-month. And now as we complete our third year, we've doubled our annual output to twelve issues, one every month … whew!

The good news is we've got a rhythm down now on how to do the monthly magazine thing. Hooray for that!

And we're growing as well. We hit an all-time record in November of 50,852 unique visitors to our web site in a single month. Plus, we're adding 400-500 net new subscribers each month.

I say "net" because we do have a few who unsubscribe each month, mostly because they lose interest in the hobby. And every so often, we're told a subscriber is deceased (fortunately, that's infrequent, but it does happen).

And of course, we're gaining advertisers as well – something that's critical for you as a reader, since they're paying the bills.

The demise of *Model Railroad News* seems to have helped MRH get more advertisers now that those who were advertising in MRN already have an ad budget set aside. With the hole left by MRN, it's an easy sell to move them to an ad placement in MRH.

This is all goodness. But there's also cause for concern.

Three years old is an awkward age. It's really easy to fall on your face if you're not careful.

It's been great that MRH is all-digital, but we soon won't be alone. The other hobby magazines are showing signs of providing a digital version.

True, we do have the fact MRH is free. But low quality and free is no bargain.

We continue to get positive feedback about how we make an article as long as it needs to be to explain the subject well.

And readers like that we do our click-n-spin animations and that we put in video demonstrating techniques. Sometimes *show* is way more effective than *tell*, and our digital media format allows us to easily include video content.

But we never want to sit on our laurels, thinking what we've done is good enough. No, *no, no!* We keep asking ourselves how we can do it better.

Yes, the tech behind MRH is cool, but that's the sizzle, not the steak.

Consider this – what if *all* the model railroading magazines were free and totally-digital? Would you still prefer MRH?

That's a question we keep asking ourselves in our MRH staff discussions. Being free and all-digital must *never* be the main reason model railroaders read MRH.

We must produce such a quality product that even if every hobby magazine were digital and free our readers would *still prefer* MRH. If we can answer this question well by providing can't-do-without-it-content, then being free and all-digital becomes just icing on the cake, as it should be!

This is where you, our loyal readers, can help. What kind of content in MRH would make it a must-read for you, even if all the model railroading magazines were free and digital?

Click the reader feedback button and give us your thoughts. ☑

For the love of model trains

Coming in the Feb 2012 issue

- How to make realistic winter trees
- Mico-LED modeling tricks
- 22 stories up - Backdrops!
- Build an out-of-service train-order signal
- Module-construction cradle
- Next Modular Adventure installment

... and lots more!

Derailments, humor, and Dashboard on next page ▶

Derailments

humor (allegedly)

Dad, when do you get your loco back from the shop?

A woman called in asking about a travel package to Hawaii. After going over the cost information, she observed, "Wouldn't it be cheaper to fly to California and then take Amtrak to Hawaii?"

What do you call a country that lacks a modern cell phone network?
"Technologically backward"

What do you call a country that lacks a fully-integrated banking system?
"Economically underdeveloped."

What do you call a country that lacks a well-connected passenger train system?
"United States of America"

If you're the first to submit a bit of good humor and we use it, it's worth $10!

Reader Feedback
(click here)

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