Model Railroad Hobbyist magazine™

HAVING FUN WITH TRAINS

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STANDARD
Edition

September 2011

- Poor man's jig-built turnouts
- Locomotives as loads
- Liz Allen's amazing SDP45
- Model clamps galore

and lots *more, inside* ...

Tehachapi!

La Mesa club layout update

Model Railroad Hobbyist magazine™

Front Cover: The La Mesa club in San Diego has made great strides recently on their famous layout and MRH is delighted to publish this exclusive first look at their completed scenery on the famed Tehachapi loop. Cover photo by Charlie Comstock.

ISSN 2152-7423

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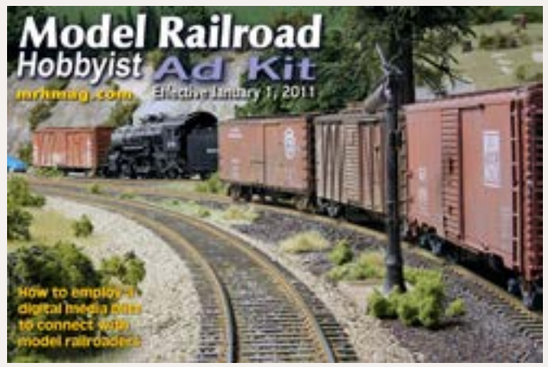

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see page 30 ...

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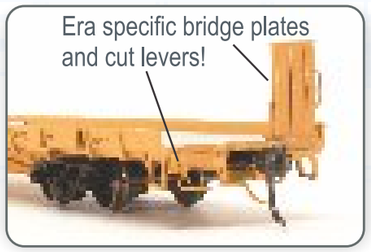

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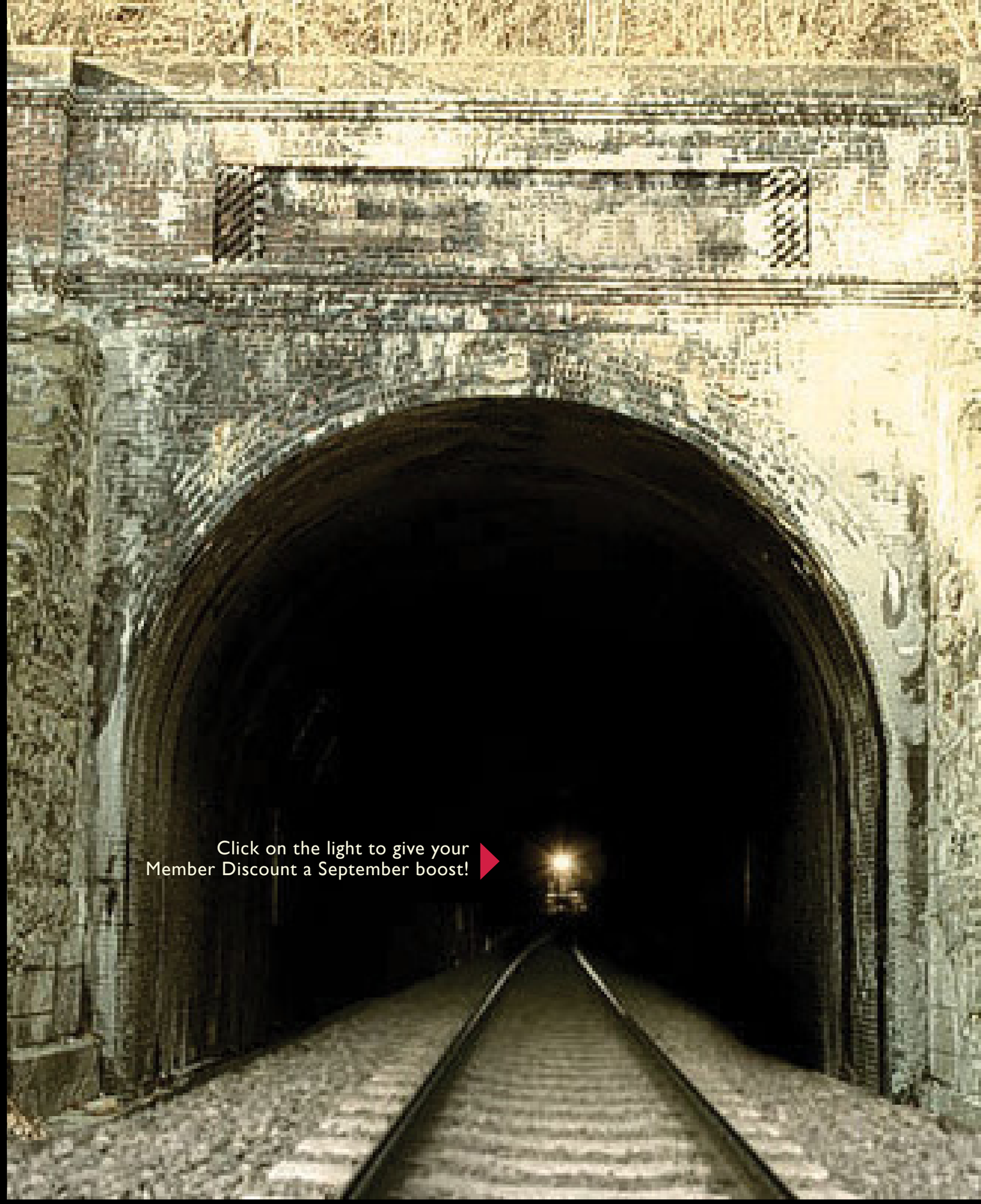

Visit Dallas Model Works web site Tell a friend ... Contents Index

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Main Features

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WOW!

It's not too bad
right side up either...

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: Are you a MRH Magellan?

Where the heck are we?

Reader Feedback *(click here)*

Like many dads, mine is proud of his son. Although he's nowhere near the foamer that I am, he has to take credit for getting me started with model trains. My first layout at age 5 was a 4'x4' sheet of $^{3}/_{4}$" plywood painted green with a loop of track on it. Dad had a dog-bone layout upstairs.

I don't think he ever expected that first loop of track to turn into a thousand square foot room in my basement filled with trains – no matter though. What's important (among other things) is that he's an avid MRH reader. I usually get an e-mail from him when each new issue arrives. August's e-mail included a question, "Is there a way for someone to search all of the MRH issues for an article?"

Once MRH made it past a handful of issues, this question took on new importance. Navigational aids are necessary. The answer to my dad's question is yes. In particular he was looking for my column on building a trestle.

MRH Article Index

OK, show of hands please. How many of you know about the Rod Goodwin railroad index and that it includes MRH articles? Very good, those of you with your hands up may skip ahead a bit. Those with your hands down go to your browser and surf to the Model Railroad Hobbyist web-site – mrhmag.com. Now go to the Magazine menu and select "Index (Rod Goodwin)" (figures 1 and 1a).

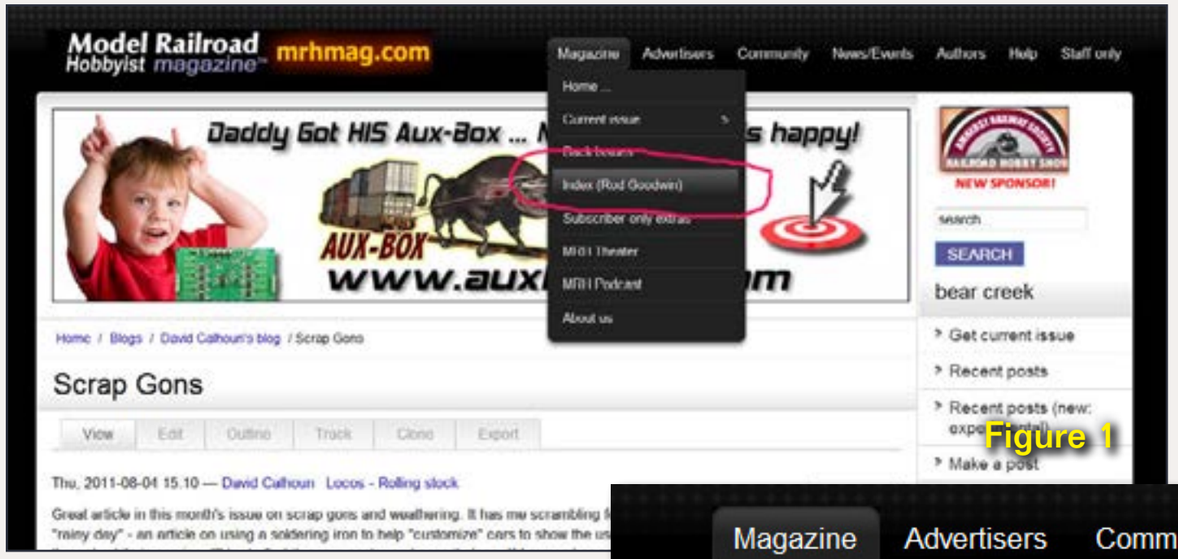


Figure 1

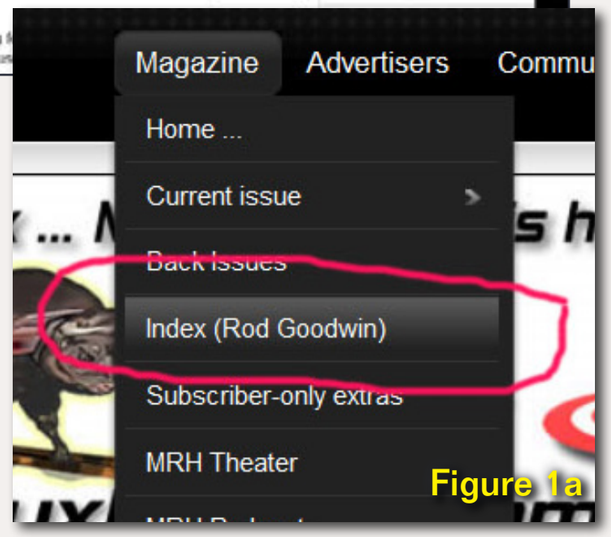


Figure 1a

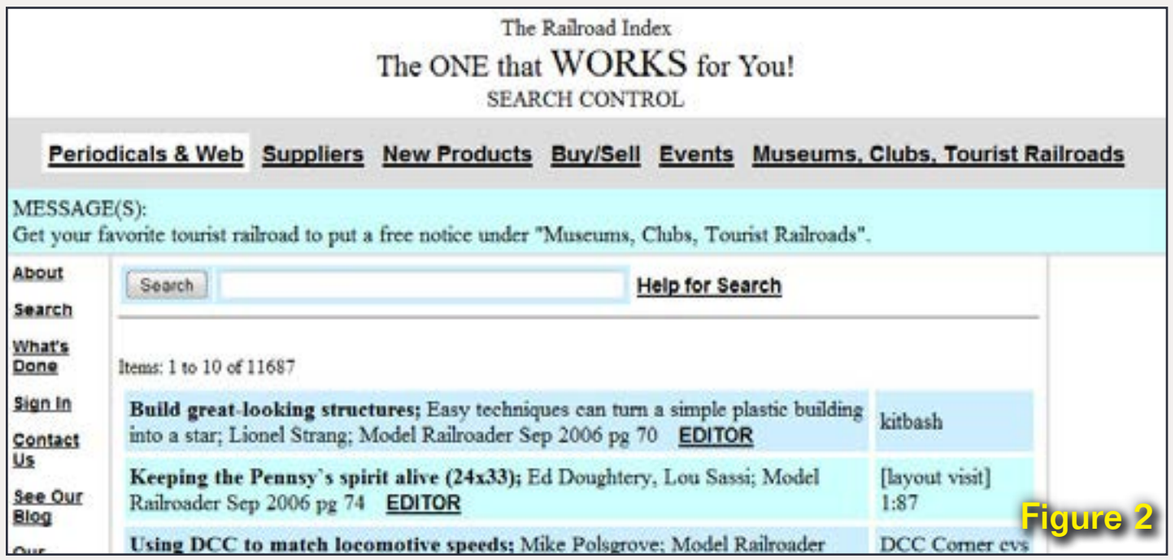


Figure 2

Figure 3

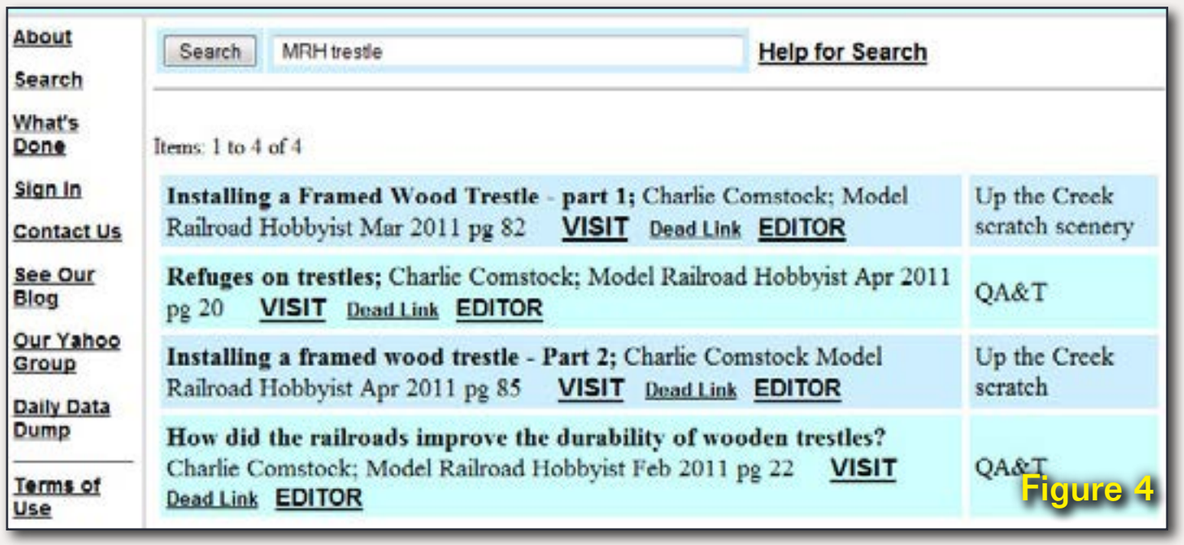


Figure 4

Figure 5

You can also get to The Railroad Index at the-railroad-index.com.

Since *The Railroad Index* lists many types of railroad-related websites, you'll need to identify which kind you'd like to search. Select "Periodicals & Web" (figure 3) from the list above. Then enter your search string starting with "MRH". My dad could search for my for trestle columns using "MRH trestle" (figure 3). Hit Enter or click the Search button and search results are displayed (figure 4).

Here's where this index gets way cool for MRH readers. Click the **VISIT** link for the first search result. You're whisked off to that article's reader feedback page on the MRH website (figure 5).

Huh, why's that cool? Instead of heading to your piles of magazines and

searching for the March 2011 issue, click the lead photo with the "Want to read this article? CLICK HERE" text. Presto! Your browser jumps to *Up The Creek: Framed wood trestle, part 1* in the March 2011 online edition of MRH! Or click "download this issue" to load the issue's pdf file into your computer.

Another example: use search text like "mrh tom wilson" to find all of Tom's articles. How's that for navigation?

Magazine Links

What navigation aids are there in the magazine itself? There are several available while you're reading MRH:

- The article names on the cover (figure 6a) are links. Click them and you'll be taken directly to that article.
- The black band across the bottom of the screen is what we call a *Navigation Bar* (navbar for short). Besides blue arrows to go to the next or previous page, the navbar includes two important hyper-links: Contents and Index (figure 6b). Click on 'Contents' and you're taken directly to the Table of Contents page. Click on 'Index' and you're taken to the article Topic and Advertiser Index page.

Making it Big

Full screen mode is another option on the navbar. Clicking this icon changes your view of the magazine from partial screen to full screen or back again. Full screen gives you the biggest magazine view, but you'll probably not

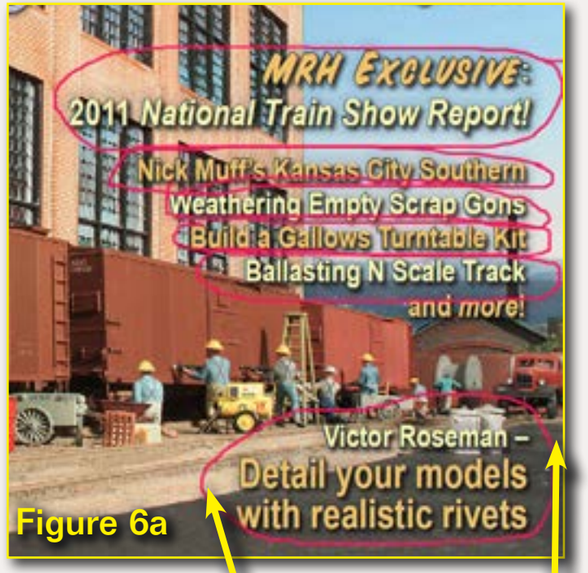


Figure 6a

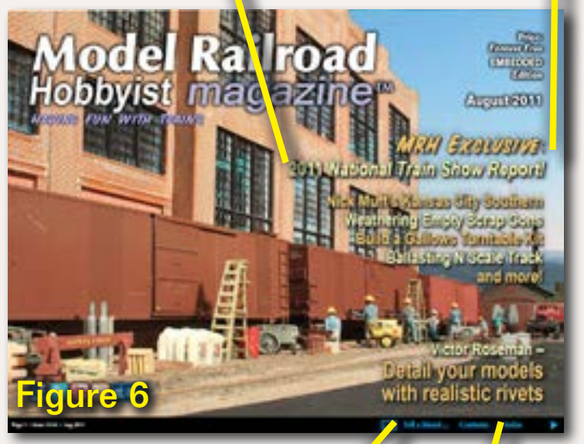


Figure 6

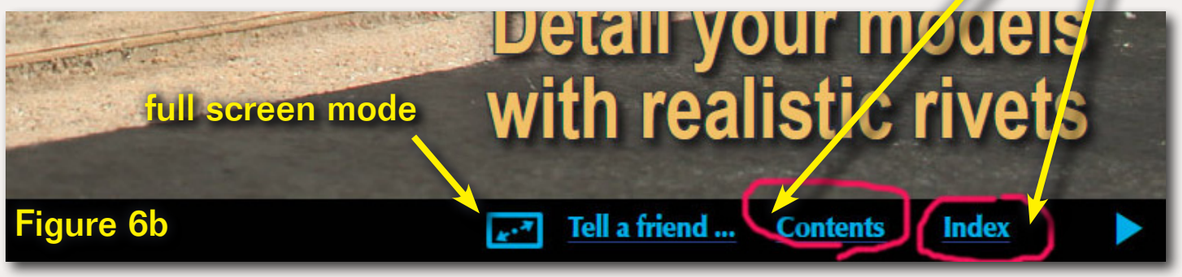


Figure 6b

want to use full screen mode when you watch a video.

With the Standard Edition, videos play in a browser window. But the browser is likely to appear behind the magazine on your desktop. It's kind of hard to watch a video that's behind another window.

In the Embedded Edition with Adobe Reader, you'll get asked to confirm that you really want to do show the video (a security thing). Unfortunately the Adobe request for this isn't visible in full screen mode (would you believe this is a feature? Way to go Adobe!).

You Can Go Back

A more useful feature in Adobe Reader allows you to retrace your steps. If you viewed pages 43, 44, 49, and 50, holding down the Ctrl key and pressing the left arrow (cursor key) will return you to pages 49, 44, and 43. It works like the Back button on your web browser.

Layout Tour Track Plans

MRH layout tours usually have lots of layout photos, with each photo marked on the track plan with a little camera icon showing where that photo was shot on the layout. Did you know the camera icons (with labels such as Fig 8) are links? Click on a camera and you'll jump to the page with that photo (figure 7).

What if you're reading a layout tour and want to check something on the trackplan diagram? Take a look at the navbar (black bar at the bottom of the page). There's a blue "Go to Trackplan" hyper-link in the middle of the navbar. Click it and the trackplan page is your next stop. Want to return to where you were? Ctrl-left-arrow and you're back.

Figure 7

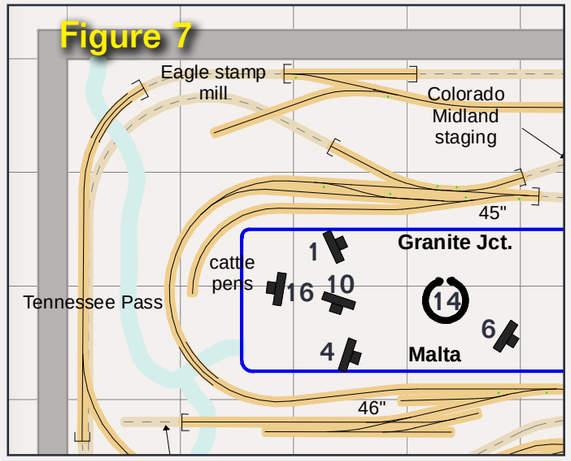
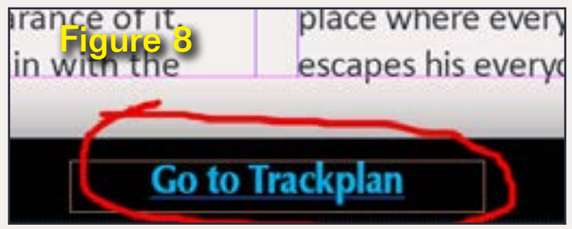


Figure 8



MRH Magellans

Some of you are old hands at all this navigation stuff, and I apologize for going over topics that may seem old-hat to you. But there are other MRH readers who might benefit from all this. I hope this helps Dad. To all of you, let's become Magellans and go circumnavigate the world of MRH!

Charlie

Reader Feedback (click here)

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Notes from the MRH Staff

See us at the National Narrow Gauge Convention, What's in this issue ... and more!

Reader Feedback *(click here)*

As we continue on the road for the 2011 convention season, here's where you'll likely see MRH:

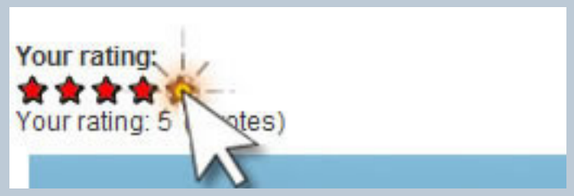
- ***National Narrow Gauge Convention***
  (Hickory, NC) - Sep 6-11, 2011
- ***Fine Scale MR Expo***
  (Peabody, MA) - Oct 12-16, 2011
- ***RPM Conference 2011***
  (formerly Naperville meet) (Lisle, IL) - Oct 20-22, 2011
- ***Craftsman Structure Convention***
  (Mansfield, MA) - Nov 2-6, 2011
- ***Trainfest***
  (Milwaukee, WI) - Nov 11-14, 2011

Make sure you stop by and say hello!

The next show we'll be attending as you read this is the National Narrow Gauge Convention in Hickory, NC.

Last issue's ratings

The results are in! The five top-rated articles in the August 2011 MRH are:



- **4.7** Dr. Nick Muff's KCS layout
- **4.6** One evening project - Scrap gons
- **4.5** Build an HOn3 turntable
- **4.5** Derailments - Humor?
- **4.4** Adding background sounds
- Issue overall: **4.6**

Please continue to provide ratings for *all* articles, not just the ones you like. This is your chance to let us know what articles matter to you – or those that you're less interested in.

In this issue

The September issue of MRH has lots of goodies – we hope something for everyone! Here's a run-down of what's in store:

La Mesa Club update: Our cover story on the La Mesa club's layout we hope is a fun read (and view with the video). Our editor Charlie Comstock (we call him Mr. Ed here among the staff) flew to San Diego and spent a couple days photographing, interviewing, and videoing this fabulous layout.

The club's Caliente Loop has been well-published, and it's an excellent replica of the real location, being something like one-third of what the prototype would be if we reduced it to 1/87th of actual size.

A focal point of the layout is the famed Tehachapi Loop, which again is modeled faithfully from the prototype. Previously, this area of the layout had no scenery – but now MRH is delighted to give you an exclusive first look at this newly scenicked area!

Mr. Ed's photography in this piece shows off the great work the La Mesa guys are doing, and there's also some rare "behind the scenes" shots of the loop (figures 10 and 16) that give you an inkling of what's underneath all that fabulous scenery.

Modeler's Workbench: What do you get if you take our popular *One Evening Project* shorts and expand them another page or two to provide a bit more detail? That's what *Modeler's Workbench* is! Think of it as a One Evening Project on steroids.

Lew Matt did our debut *Modeler's Workbench* on how to convert a common clothes pin into a very useful modeling clamp. Thanks, Lew, for leading the way with this new article category!

Containers on the cheap: Speaking of the *One Evening Project* series, this issue Les Halmos goes to the other extreme and does a short-and-sweet article on how to get gazillions of containers thanks to the internet and color printers.

If you've been following Les' *Modular Adventure* series on his roundhouse module, you know his articles tend to be loaded with photos and lots of in-depth step-by-steps on his techniques. You also know Les does great work and he's loaded with useful and clever techniques. *Containers on the Cheap* may be short, but it's typical Les Halmos really useful stuff!

Poor man's jig-built turnouts: Publisher Joe Fugate shows step-by-step how he uses the Central Valley turnout tie strips in HO as a sort of poor man's turnout jig. Since 99% of the derailments on your layout will be at turnouts, getting the best performing turnouts possible is key to fewer derailments.

One way to get top-notch performance from your turnouts is to build them yourself. Using a jig to build turnouts makes the process of getting in-spec turnouts repeatable and easy – and Joe shows you how using inexpensive CVT tie strips as the jig.

Static grass applicator update: Kevin Rowbotham, author of our popular build your own static grass applicator back in the Mar/Apr 2010 issue of MRH gives some updates on how to use the latest 12V ion generator from Oatley Electronics in Australia. The newest negative ion generator is better than ever and Kevin even throws in a tip on how to include a status LED in the latest circuit.

Liz Allen's scratchbuilt SDP45: Elizabeth Allen's modeling skill is well known in RPM meet circles and MRH takes a look at her latest creation – a rivet-level accurate SDP45 model. The detail

on this HO diesel model is a feast for the eyes, and we're delighted to raise the bar a little and show you what's possible in state-of-the-art HO diesel modeling today.

Locomotives as loads: MRH regular Matt Snell shows us how to model some less-typical but still very interesting diesel modeling – doing a loco as a deadheaded load instead of as an in-service locomotive. In typical Matt fashion, he shows you step-by-step how to get an authentic model of an out-of-service locomotive in the train – something that's not often modeled.

First Look - Railfan for Life: Jeff Shultz presents one of our more interesting deluxe product announcements in this issue: Hal Carsten's new photo album book, *Railfan for Life*. With Hal's passing, the folks at Carstens Publishing have collected a number of Hal's best photos and presented them in this new book. Something you will definitely want to check out!.

Columns and editorials

Lite & Narrow: Our narrow gauge and shortline columnist Lew Matt presents a number of useful tips for applying some extra-special detailing and lighting to an On30 Bachmann baggage combine.

September News: MRH News editor Richard Bale gives you 15 pages of new product announcements and event notices. Many of the product announcements feature photos, published large enough you can actually see the item!

Editor's Soapbox: Mr. Ed (Charlie Comstock) goes over a number of ways you can access the content in our magazine. One real goodie is Rod Goodwin's new model railroading index that (unlike that other magazine's index) also includes internet resources like MRH.

And speaking of how to navigate MRH, we put together a little 70 second video that illustrates all the clickable areas we put in every issue of MRH. To watch the video, click here.

Reverse Running: And of course, we've got another Reverse Running this issue where we take a contrary view of some topic to see what we might be able to learn. This issue, we ask the question: is the hobby's emphasis on prototype accuracy and move away from pure freelancing making the hobby less accessible to newcomers?

We're light on columns this issue, but we've made up for it by increasing the feature article page count

September 2011 Bonus Extras!

Available to Subscribers only!

- DVD-quality versions of this issue's videos
- More La Mesa Club photos!

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Click here to play this video ...

this time around so this issue still comes in at 118 pages. Next issue, look for many of our regular columns to be back: *Getting Real*, *Up the Creek*, and *Comme-N-tary*.

Our columnists have been taking a much-needed summer break, but they'll be back next issue, and in-force with some goodies you don't want to miss!

New in Oct: DCC Column

We're rolling out a new column next issue on Digital Command Control. Mr. DCC himself, Bruce Petrarca will be at the helm! If you've ever had the pleasure of attending any of Bruce's clinics at a convention, you know that Bruce knows DCC well.

Bruce also founded Litchfield Station, but has since sold the business. Given that we've got a number of sponsors/advertisers who sell DCC, we've asked Bruce to write from an impartial a perspective and to treat all vendors equally and to not just make his column an infor-mercial for Litchfield, given they were founded by him.

Bruce readily agreed that an impartial approach would be best, so we're looking forward to great things coming up in Bruce's new column!

If you have any DCC questions you would like to see covered, go ahead and post them on the feedback thread for staff notes!

Reader Feedback *(click here)*

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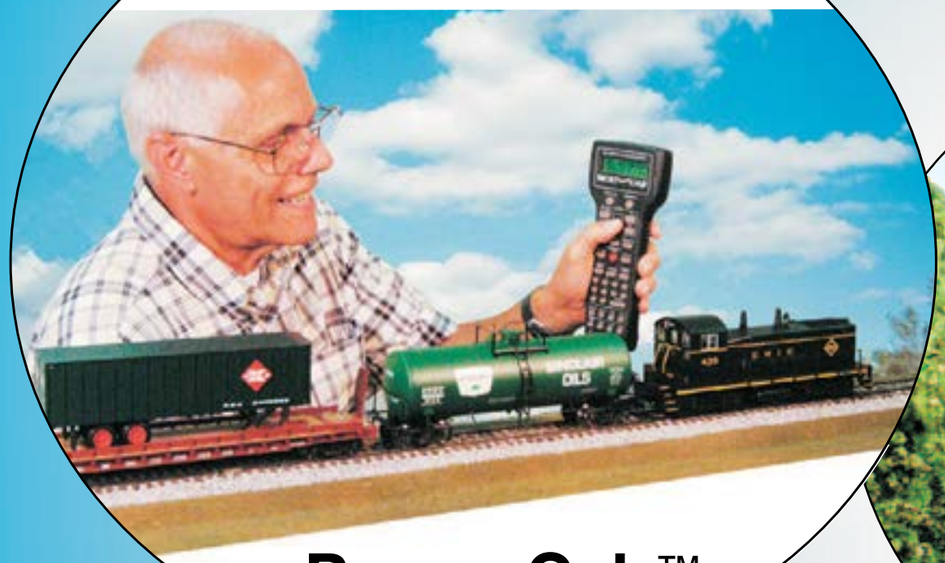

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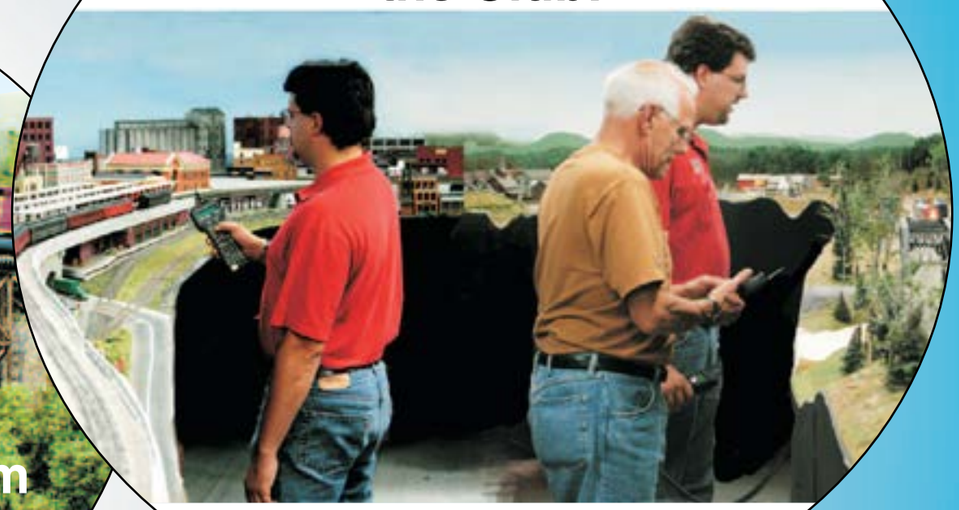

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Questions, Answers and Tips

Reader Feedback *(click here)*

QUESTIONS AND ANSWERS

Q: What's the best way to convert my 35mm slide collection to digital? Should I buy a scanner, and if so, what's the best scanner to buy?

A: Have a competent slide scanning service do your slides – don't waste time trying to purchase some low-budget do-it-yourself scanning option.

One service we really like is DigMyPics. In fact, we can't recommend DigMyPics highly enough – slide scans cost about 40 cents each, and they use Digital ICE cleanup technology, along with manual correction. You can't touch this sort of advanced scan cleanup if you do it yourself.

Digital ICE technology, developed by KODAK, takes advantage of the fact the IR signature of dust and scratches is different from film emulsion, and the hardware makes an IR mask of the dust and scratches so they can be eliminated automatically from the scan – giving you a much cleaner scan (see figure 1).

You can buy a Digital ICE scanner yourself, but to get a good one with the latest, most up-to-date Digital ICE technology that also does Kodachrome film will cost you over a thousand dollars.

DigMyPics also hand-corrects your slide color, snapping the image up to

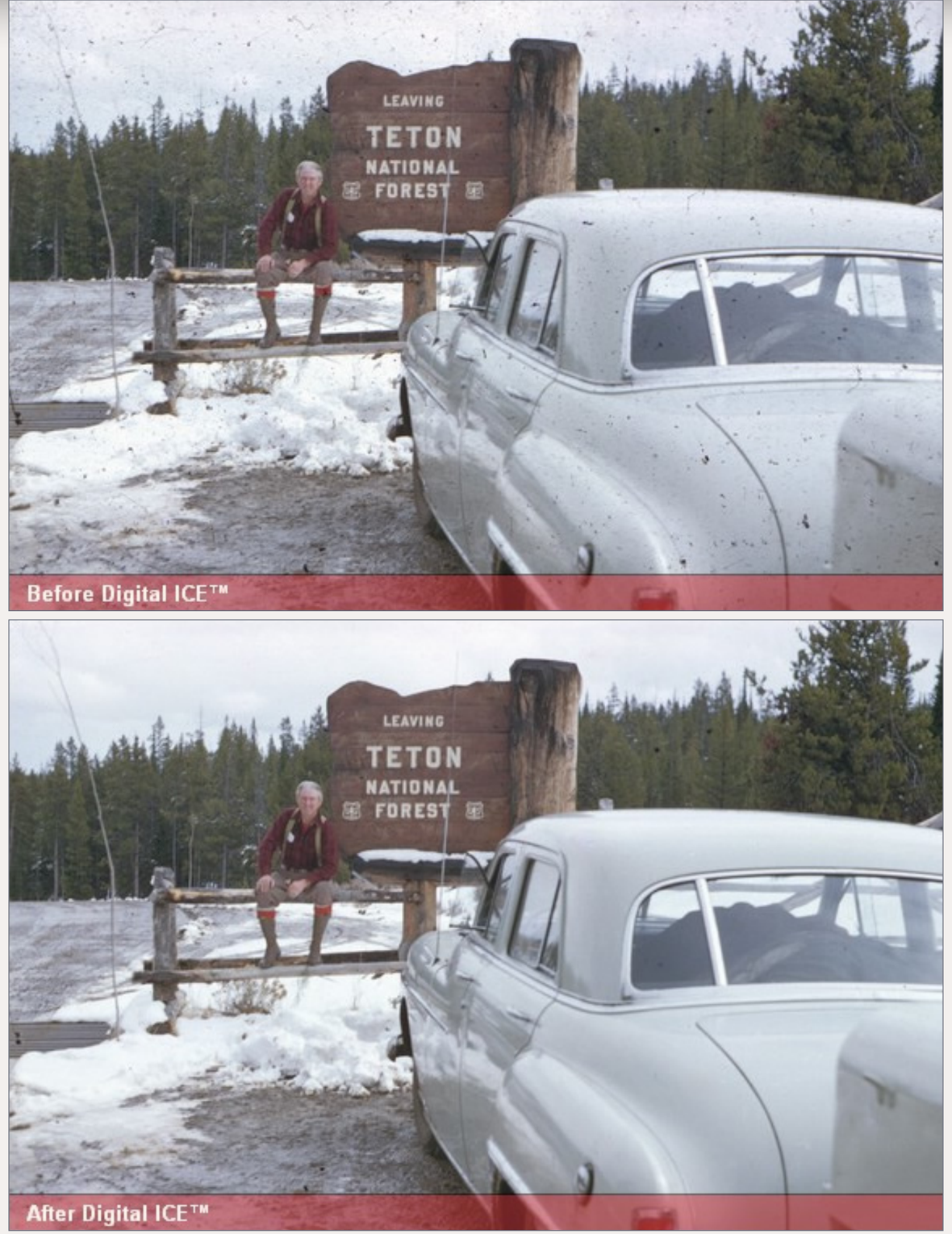


Figure 1: Here's an example of what Digital ICE's automated scan cleanup technology can do for an image. Digital ICE uses special hardware and software to do an infrared scan of the film emulsion and can distinquish dust and scratches from picture detail that's in the image. You can't even begin to touch the power of this kind of advanced image cleanup with a consumer-grade film scanner.

the best it can be. Even if you think you could get away with buying your own inexpensive scanner and doing scans yourself, you need to also factor in the endless hours you will spend in Photoshop manually cleaning your images.

We don't think you can go wrong with DigMyPics, and at just under 40 cents per slide, it's a bargain.

National Geographic, The Wall Street Journal, MacWorld Magazine, US News & World Report, and Time Magazine all use DigMyPics – so that should give you some idea of the reputation and results these guys get for the price.

When MRH needs scans done for publication from old film-based images, we use DigMyPics. ***— Joe Fugate***

Q: What are some of the "rules" you have on your layout when vistors run trains? Are the rules written down, or are they just reviewed verbally before a session?

A: Charlie Comstock (MRH editor-in-chief) and Mike Dodd (MRH copy editor) both host operating sessions and have recommendations on how they approach this question.

Charlie: I have two types of op sessions, ad hoc and formal. A formal session has a dispatcher and we run trains in a more serious way. An ad hoc session has no dispatcher and we typically use the "mother may I" method of running a train.

Aside from rules for track warrants or other ops-related things, my rules are:

- No food or beverages in the train room (I sort of tolerate water).
- Wash your hands thoroughly after eating anything even remotely greasy.
- Run at reasonable rates of speed. I don't want to see the yard switcher banging cars at 60 scale miles per hour or faster.
- Try to mesh with the spirit of the session. Obey the rules for train and car handling. Deliberately exceeding your train's authority will get you asked to leave. The rules will be different depending on whether its a formal or ad-hoc session.
- Participate in the session - if you just want to sit in the lounge and talk during a formal session, you may not get invited back.
- Keep your voices down, my wife is likely trying to sleep above your head.
- Foreign equipment and formal op sessions don't go together except by prior arrangement and special circumstances. Don't show up with your latest loco and expect to run it during the session. This is due to reliability and tuning concerns (wheels in gauge and the couplers setup correctly), DCC address conflicts

and paperwork is setup expecting specific engines.

- Anyone caught blowing up trains a la Gomez Adams will be persecuted to the maximum extent I can think of.
- Showers are a good idea prior to coming to a limited space with lots of bodies.
- Please respond promptly with a yes, no, or maybe to your op session invitation.
- If you break something accidently, it's an op session – stuff happens. If you break stuff maliciously, deliberately, or through flagrant disregard of the rules, you're not coming back – and if it was something expensive you'll be asked to replace it.
- If you walk out with a deck of car cards, I'll want them back asap.

Mike: Prior to the start of each session, everyone gathers in the crew lounge for a three-minute introduction.

I point out the refreshments, bathroom, and emergency exit, then remind everyone about three important "conduct" rules: No smoking or alcohol, no food or beverage in the train room, and don't damage the rolling stock or scenery.

These rules are included in the railroad's rule book, and also summarized in the General Instructions on the back of the timetable. The rule book says:

Rule G. *The use of intoxicants, tobacco, or narcotics is prohibited.*

Rule H. *The possession of food or beverages by employees on duty is prohibited.*

(During the introductory session, I explain that "on duty" means "being in the train room.")

Rule L. *In case of danger to the company's property employees must unite to protect it.*

They must exercise care that personal garments are kept clear of trains and scenic property at all times.

They must exercise care to prevent damage to the track, structures, or equipment.

Leaning on scenic property is prohibited.

I also mention Rule F, so that I'm made aware of any track or equipment problems encountered during the session.

There are Bad Order forms distributed around the layout. Rule F says:

Accidents, defects in track, bridges, signals, or any unusual conditions which may affect the movement of trains, must be promptly reported to the proper authority.

Even though having these rules might seem overly formal and stringent, sessions are easy-going, and everyone

appreciates knowing what the basic rules are.

— Charlie Comstock and Mike Dodd

Q: How large is considered the limit on layout size when only one person would be mainly operating it?

A: If you can build and finish a layout – and keep up with the maintenance to keep it running well, then you can run it solo with a few restrictions.

If your idea of operations is selecting a train from a yard, setting in motion, and watching it run through your scenery, you're home free. No problems!

But if your idea of operation involves picking up and delivering cars to industries, sorting cars in a yard, and running through trains to other areas you need to recognize you won't be able to do two things at a time (mostly).

If you're running a through train, you're not servicing industries or banging cars in the yard. So the question of max size for a lone wolf operator becomes: *can the operations plan be implemented in a sequential fashion so only one train at a time needs to be active?*

You can start a session by building a local in the yard. Then take the local to the appropriate industries, make the setouts, get the pickups and back to the yard. Then sort the cars.

Now run a train out of staging to the yard where you set out and pickup a couple of blocks before running on to your through trains' destination. If trains are supposed to meet, you'll need to run the first one to the meet location. Then run the second one past it. Then go back to the first one and complete it's schedule.

If this sounds OK to you, then once again the size of the layout doesn't really matter.

But if you crave the interaction of multiple train crews and trains interacting real-time with each other then a one-person operation won't satisfy you.

The real criteria for how big is too big is likely to be: *how large a layout do you have the time, money, and skill to build and maintain?*

Here's some rough guesses as to largest feasible size. Bear in mind that it's much easier to build a scale mile of single track mainline that it is to build a complex switching district with custom turnouts, crossings, and a zillion buildings!

These rough guesses assume HO scale. Remember, there's 4 times as much stuff in a square foot of N scale layout as a square foot of HO. And 1/4 as much in a square foot of O scale layout.

Experienced builder: You've built lots of layouts and know how to build them quickly and reliably – and you'd like to build something up to 1000 square feet. At this size, if the stuff you build isn't bulletproof, you'll be spending the rest of your life maintaining/fixing your layout.

Intermediate builder: You've built a couple of small starter layouts (40-100 square feet) and are ready to tackle

something larger – say up to 400 square feet in size.

Skilled beginner: You've never built a layout before but you're good at carpentry and wiring and artistic stuff. Best limit your first project to no more than 100 square feet.

Total beginner: You have never built a layout before and you're uncertain about your carpentry, mechanical, and/or electrical skills. Limit your first effort to 40 square feet max.

Having a table saw and other power tools do help with construction speed.

Good luck with your layout project. We encourage you to start a blog (we**blog**) on the MRH web site and post progress reports. A blog often yields helpful tips and advice along the way from fellow modelers! ***— Charlie Comstock***

Q: I'm setting up a car switch list and wonder how much time I should allow to unload a car? For example, how long does it take to unload a 30,000 gallon tank car or a covered hopper full of grain?

A: The length of time required to empty a tank car depends on the viscosity of the liquid and whether you are relying strictly on gravity or if a pump is being used to accelerate the process.

A 30,000 gallon tank car with a thin liquid like alcohol can be emptied in about 10 to 15 minutes if the valve is fully opened. Thicker liquids, like corn syrup or caustic soda, take much longer, and often need to be heated to establish a steady flow.

Many modern industries use inbound tank cars for storage and draw liquid from them on an as-needed basis – so it can take a week or more for the car to be emptied.

Discharge devices for powders and dry pellets used vacuum systems to facilitate rapid unloading.

Grain hoppers generally have gravity outlets that allow the bay to be emptied in 10 to 15 minutes. Smaller or older facilities with augers that cannot handle a high flow rate may require 30 minutes or more to unload.

— Richard Bale and Scott Chatfield

Q: Is card stock a good construction material for structures?

A: Yes, card stock is one of the oldest, strongest and most inexpensive construction materials available to model railroaders. With that said, let me also say that there are many, many types of card stock available, all with different strengths and characteristics and made from many different fibers.

Card stock is a type of paper, and knowing how paper reacts to moisture, glue and paints will help you make a good selection of the correct card stock with which to build. Paper can be made from softwood and hardwood pulp fibers, straw, corn and grass fibers, cotton fibers, linen fibers, synthetic fibers and more.

There are heavy papers, such as bond, watercolor, pastel, charcoal and construction; single ply cards, like gray board, matte board, index card and poster board, to name a few.

There are also thicker laminated, multi-ply boards called Bristol board and Strathmore board.

Bristol board is made from cotton, linen and hardwood fiber papers, in layers. The grain, or alignment of the paper fibers runs perpendicular to each other in the various layers or plys.

Strathmore comes in single and multiple number plys: three, five or seven, just like plywood and is extremely strong and dimensionally stable. You can laminate your own paper stock to make heavier card stock board, too.

Card stock comes in many different thickness, hardness or toughness and can have any surface finish or texture from polished smooth to almost a sandpaper feel. Card stock can be scratched or embossed to look like aged wood grain or smooth boards.

Most card stock can be run through a copy machine or printer to give the surface a coating of color and/or a printed design.

Check out Clever Models <clevermodels.net> for pre-made finishes like barn siding, brick, glass, tarpaper, shingles and many more. They also have a page on their web site to give you a free card stock model along with two very well detailed pdf essays on how to use card stock in construction projects. Click on their "freebie" button.

I have used printed card stock for building wood, brick and metal structures and siding material, board fences, rolling stock, locomotive boilers, locomotive cabs, tunnel portals bridges and viaducts.

Paper can be extremely strong and durable, especially when it is rolled into a tube, bent into an angle girder or glued to other pieces to form a box or girder shape. Properly painted and braced, card stock will not warp or wrinkle and is extremely water and moisture resistant. ***— Lew Matt***

TIPS

Ground foam shakers from gum containers

I use empty gum containers as ground foam shakers. Orbits® and Lifesavers® use these containers for their products. The containers have two openings; a small one for spot distribution and a large one for large area coverage (figures 2 and 3).

I adjust the screen size based on the material and effect desired. Screen material ranges from nylon window screen or tulle netting for fine coverage, to onion bags for course foam. I store various materials/colors in the containers so that they are ready to go.

— Daniel Kleine

Figure 2

Figure 3

Organizing sheet and strip material

If you're a rambunctious scratchbuilder like me, you have no doubt accumulated a nice pile of Evergreen Styrene.

I have discovered a deep well container sold at Walmart or Target in the sporting goods section next to the other tackle boxes and lures.

These clear plastic storage boxes have four large compartments and little dividers. The key is these containers are taller than the Evergreen package is wide.

I test fitted the Evergreen packages only to discover the container was roughly 1" too short. To solve this, I lopped off the bag tops above the part number. I then put the packages in order, tucked them in the box, and viola! My evergreen styrene is now easy to find for any project.

This tip works for KCS brass stock, rod, NWSL wood, and any other building material that comes in long thin sections. ***— Benny (MRH web site)***

Better than Bright-Boy for track

I recently discovered a product useful for track cleaning called Cratex. Their website is cratex.com.

I have been using this product in place of a "Brightboy" for years and it does not cause abrasive wear on the track. I use the extra fine grade – here's an extra fine block of Cratex you can purchase on Amazon for a reasonable price.

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 can't say enough good things about this product. An abraded rail head gets dirty a lot quicker so relying on the rather coarse grit Bright Boy has been something of a problem in our hobby. I think Cratex blocks may just be the answer. ***— Jim Hanna***

(Note: MRH sponsor TrainTek also sells the Walthers product number 949-522 extra-fine Cratex blocks, see this link. - ed.)

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 ...

The Scenery Scene

Containers on the cheap!

Filling a container ship with containers in record time.

by Les Halmos

Reader Feedback *(click here)*

A loaded container ship can take a lot of containers. To model such a ship, I needed a lot of containers (figure 1), and I looked for a way to accomplish this without breaking the bank.

I found a web site with exactly what I was looking for (www.igshansa.de), and I could download the HO or N scale graphics for free.

Once I had downloaded the files, I printed the images on white 110 lb card stock from stapes (figure 2).

We used an awl to punch the extremities of where the bends would take place so we could see them from the back of the sheet (figures 3 and 4).

Using the dimples and a ruler, we scribed the back of the sheet with an awl where the bends will be needed (figure 5).

Figure 1

Figure 2

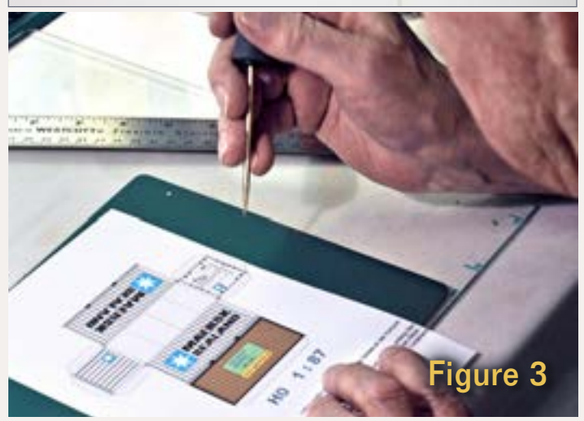


Figure 3

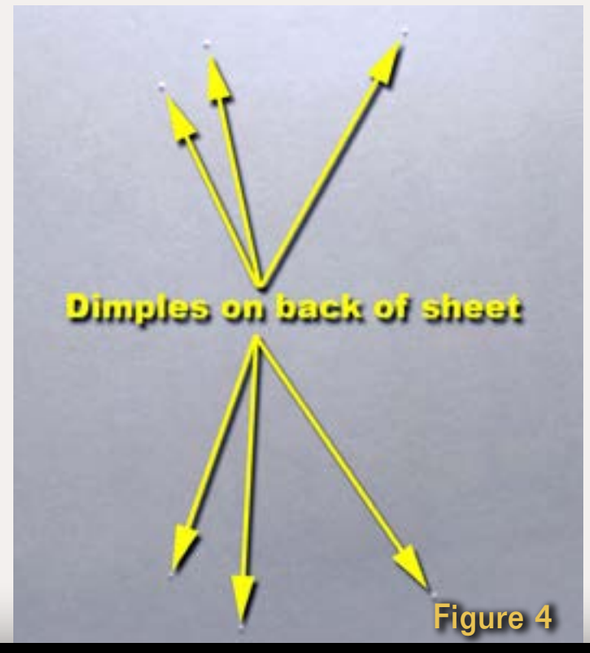


Figure 4


Figure 5


Figure 6


Figure 7

Figure 8

Figure 9

Figure 10

Figure 11

Once the lines were scribed we rough-cut the container from the sheet with a pair of scissors (figure 6).

For the more detailed cuts we used a box cutter with a new blade, cutting paper or cardstock seems to quickly dull a blade (figure 7).

Bending along the pre-scribed lines makes the folding task easy (figure 8).

We applied glue to the edges with the glue stick (figure 9). We applied pressure with long nose pliers to help make a solid bond (figure 10).

Here is the final product in figure 11, looking quite good – now just 79 more to go ...

We want to thank the German IGS Hansa Group for publishing the containers and making them available to all for free! ☑

Figure 12

Craftsman Structure CONVENTION

CSC2011

November 2nd - 5th, 2011

The Holiday Inn - Mansfield, MA

The ONLY Show Exclusively for Scale Model Structure Builders & Collectors

Sponsored by Model Railroad Hobbyist Magazine

www.csc11.net

The Tehachapi Loop Gets Scenery

What's new on the La Mesa club's monster layout

– by Charlie Comstock
Photos by the author

Figure 1: Two cab forwards lead a long string of reefers around the loop at Walong on the La Mesa Model Railroad Club's 8000 square foot layout in San Diego's Balboa Park.

Reader Feedback (click here)

The La Mesa Model Railroad Club layout is immense. My first exposure to it came from Don Mitchell's 1991 book, *Walkaround Model Railroad Track Plans*, but I didn't get to visit it until 2001. Their layout, modeling the Tehachapi Pass line from Bakersfield to Mojave, was nowhere near complete at that time. But their signature Caliente to Bealville scenery was finished. I came away with images of track climbing through California hills burned indelibly into my mind.

I had the opportunity to return to San Diego to shoot photos and video for MRH in May 2011. The layout has definitely expanded. In 2001 the scenery at Cliff was barely roughed in. Now the Cliff scenery is complete, as is the mezzanine construction, and track goes all the way to Mojave yard.

My reason for returning was to document the brand-new scenery at the Tehachapi Loop. The loop is a famous spot on the ex-Southern Pacific mainline where, when faced with the need to climb at an impossible grade, the engineers built a full-size helix. The line went into service in the late 1870s and the loop has attracted railfans ever since.

The La Mesa club is dedicated to modeling this line in HO scale as accurately as possible – nearly curve for curve, and including all sidings. With a staggering 27 scale miles of mainline track and the ability to run 60+ car trains, it's an operator's paradise and attracts as many as 50 crewmembers from around the country to their formal op sessions.

Figure 2

The layout is located in Balboa Park in the San Diego Model Railroad Museum which is open to the public six days a week.

Paul Voss, a member of the La Mesa club since 2003, agreed to be interviewed by MRH.

MRH: Paul, the scenery here at 'the loop' looks really impressive. The loop itself is huge and the scenery dwarfs it. Just how big is this layout?

Paul: We have about 8000 square feet. 5000 on the lower level and 3000 on the mezzanine where the loop is located.

MRH: Where are you modeling?

Paul: From Bakersfield to Mojave including all the stations along the way.

Text continues on page 35 ...

Figure 2: The scenery at the loop isn't finished, but it looks awfully good. The La Mesa club has 8000 square feet to house their 27-scale-mile mainline.

That's one heck of a long HO mainline! The trackplan was designed for operations first and general running to meet the club's lease obligations second.

A 3rd class freight running on time can take over an hour to run between Bakersfield and Mojave.

Figure 3

Text continued from page 33 ...

MRH: My impression is that you're modeling almost curve for curve what's really there on the prototype? If they had a curve, then the layout does too?

Paul: To some extent, we've had to eliminate some curves and a lot of trackage because we're only going to be having about a third of the length of the line.

MRH: What is the length of the line?

Paul: The prototype is about 68 miles.

MRH: What's the length of the model?

Paul: About 27 miles when it's finished.

MRH: What's the significance of the Tehachapi loop area?

Paul: It was the first loop to be built on any railroad. It was done to keep the grade to a bit over 2%.

MRH: There was no other way for them to get up the hill and keep the grade in check other than to go around in a circle?

Paul: Yes, that's correct.

MRH: What's the loop's diameter on the model?

Paul: The model mainline has a radius of 56".

MRH: You guys like to run fairly long trains. They're not quite as long as the prototype runs but ...

Paul: Some of our trains are up to 100 forty-foot cars going downhill. The uphill trains are pretty much limited to approximately 60 cars.

Figure 3 (previous page): The La Mesa club has strict rules governing the length of a train. Each powered axle in a locomotive is rated for two cars. An F-unit is rated for 8 cars. A 4-8-8-2 cab forward is rated for 16.

Apparently a second 4-8-8-2 was backed down the hill to help this train when the regular engine on the point lost power. The two and a half cab forwards are barely managing to get the block of reefers up the hill.

Figure 4: An ABBA set of warbonnet F's going uphill pulls past a freight in the clear on Walong siding at the loop.

MRH: Limited to 60 cars because of tractive effort?

Paul: Yes. We have a rating system for our locomotives – two cars per powered axle. If you want to go beyond 60 cars, you're talking about needing a lot of motive power on the train.

MRH: This area [Tehachapi] is the newest scenery on the layout isn't it, the paint is hardly dry?

Paul: Yes, it's not quite finished.

MRH: How did the scenery get designed? Is it prototype-based too?

Paul: Oh yes, we have books and books and books of photographs that we've taken of the actual location.

MRH: What about geological survey maps for land contours?

Figure 4

Figure 5

Figure 5: Having huge amounts of space makes it easier to model sweeping vistas. And very broad minimum radii make it possible to model full length passenger equipment sweeping around 'S' curves. The scenery here is around 16 feet deep. But access to the more remote parts of the layout is always an issue.

Paul: Yes, but a lot of it is done from photographs because of the scale factor. We proportion the scenery to the model.

MRH: Are there any special techniques you use when proportioning?

Paul: Well, you just do the math on it as to how many inches high a hill should be or what the width is, and of course we have to try to fit it into our space.

MRH: All the rock cuts and buildings on the layout actually exist and are in the correct place relative to the tracks on this layout, aren't they?

Paul: Right. Our master modeler works from '50s photographs to determine where everything goes.

MRH: And most times you're trying to avoid compressing the buildings, at least the small ones?

Paul: We try to maintain prototype accuracy with our buildings also. So if they'll fit and look reasonable we build them full scale.

MRH: What's next in the scenery department after 'the loop'?

Paul: We're planning to work down grade toward Woodford and then Rowen.

MRH: Any idea when the scenery on this side of the mezzanine is going to be done?

Paul: I really don't have any idea. It's taken us a couple of years to get this far with Walong (the loop) but you also have to consider the fact that there will be a lot fewer square feet of scenery at Woodford and Rowen than at the loop because the layout is much shallower there, only a few feet.

MRH: Your lease agreement with the museum requires you to run trains for the public when the museum is open. That restricts your time for working on the layout, doesn't it?

Paul: Most of the scenery work is done on Tuesday nights and Mondays when the museum is closed. We do have to clean up after ourselves and be sure we've left the track in runnable condition.

MRH: This is a huge project. There's an awful lot of work going on here. Is there a purpose for the layout

Figure 6

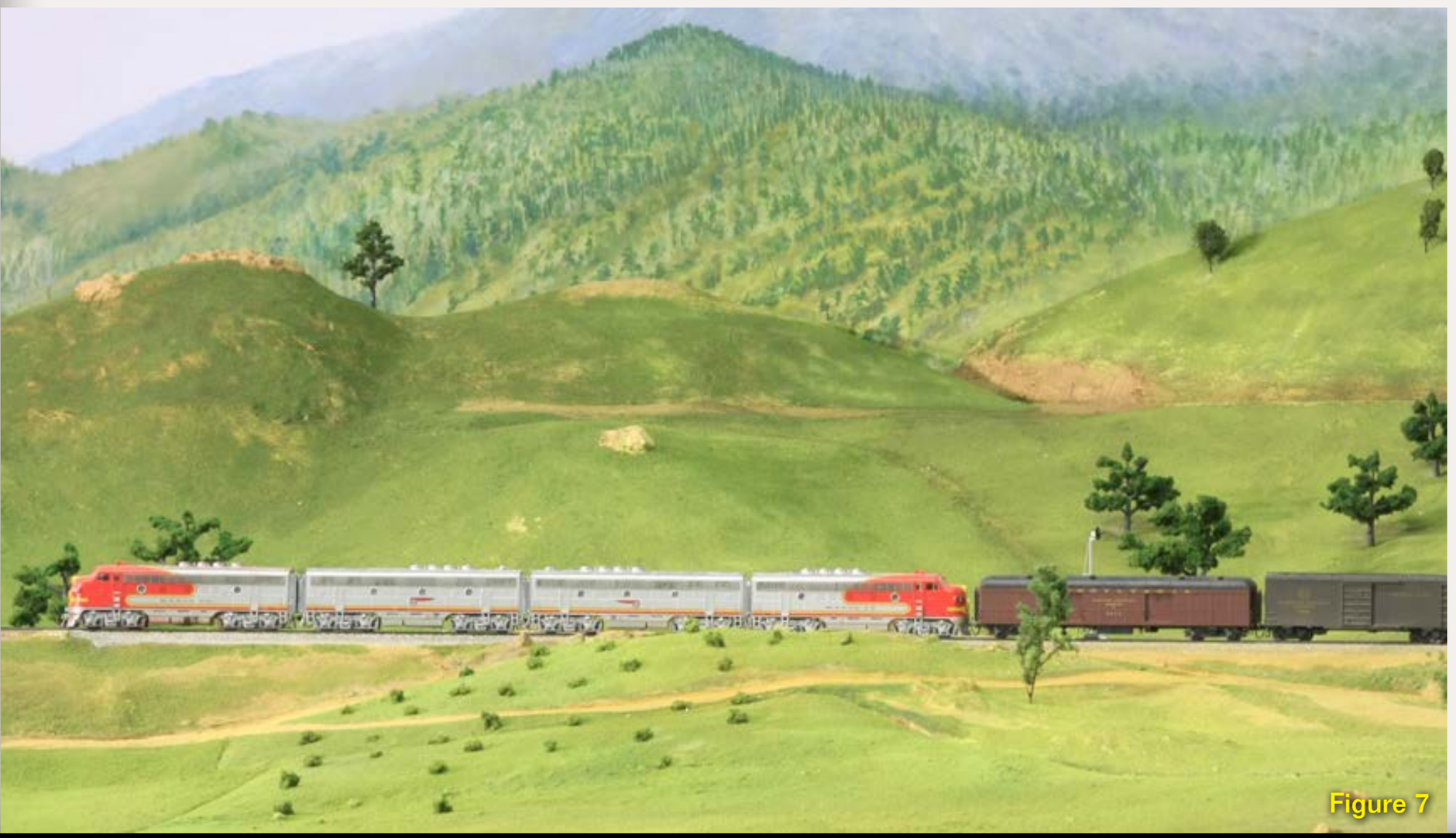


Figure 7

Figure 6: Two cab forwards struggle up the 2% plus grade as they go around 'the loop'.

Figure 7: The Super Chief F-units pass the signal at the uphill end of Walong siding. The vast space enjoyed by this layout makes amazing scenes like this possible.

beside running trains for the public in the museum?

Paul: Well, the layout was built for the club members to operate because we like to run trains. But the museum also has educational programs – there are a lot of school kids that come through here and we teach them about the trains of yesteryear.

MRH: What kinds of things are you teaching them – which railroads ran on Tehachapi?

Paul: The line was built by the SP in 1876 and in 1899 the Santa Fe obtained trackage rights. Since that time, the line has served both railroads. Of course now it's the BNSF and UP.

MRH: You mentioned that your members like to operate?

Paul: Well, a lot of model railroaders are interested in operating the layout like a real railroad. This one is special – when you run trains here you really have a sense that you're moving from one place to another.

MRH: Well it is huge!

Figure 8: A freight lead by another lashup of F-units has taken Walong siding to let the passenger 'varnish' fly by.

The engines are passing over the culvert where the other end of the loop passes through the fill.

Soon the crew of number 212 will be treated to the sight of their caboose passing by overhead on they head on to Woodford. The 56" radius of the inner track really aids the feeling of this being a real railroad instead of an HO scale layout.

Paul: Yes. Some of our members are interested in '50s style operation and some of our newer members are interested in contemporary operations so we provide the opportunity to do both.

MRH: You just had an ops weekend this last weekend. How many people came to that?

Paul: I didn't do an actual count but we usually get from 25 to 50 people.

MRH: Fifty people running in an op session?

Paul: Yes.

MRH: Of course 50 people on this layout is like two on a 4x8!

Paul: You might think that ...

MRH: What kind of system do you run with when you're operating?

Paul: The '50s era operating sessions use Time Table and Train Orders (TT&TO). So we have station operators, a chief dispatcher who's in contact with the station operators, and train crews. The crews need a clearance card, all active train orders that apply to their train, and an employee timetable before they can move across the railroad.

MRH: There's a CTC panel in the dispatcher's office beneath Cliff. Does that come into play with TT&TO operation?

Paul: It's used during the more modern op sessions, but not for the TT&TO sessions.

MRH: Is your signal system active during TT&TO op sessions at all?

Paul: Yes, the signalling system can be set to ABS mode Automatic Block System. It tells the crews whether the block ahead of them is occupied.

MRH: What's the difference between ABS and the other signaling modes?

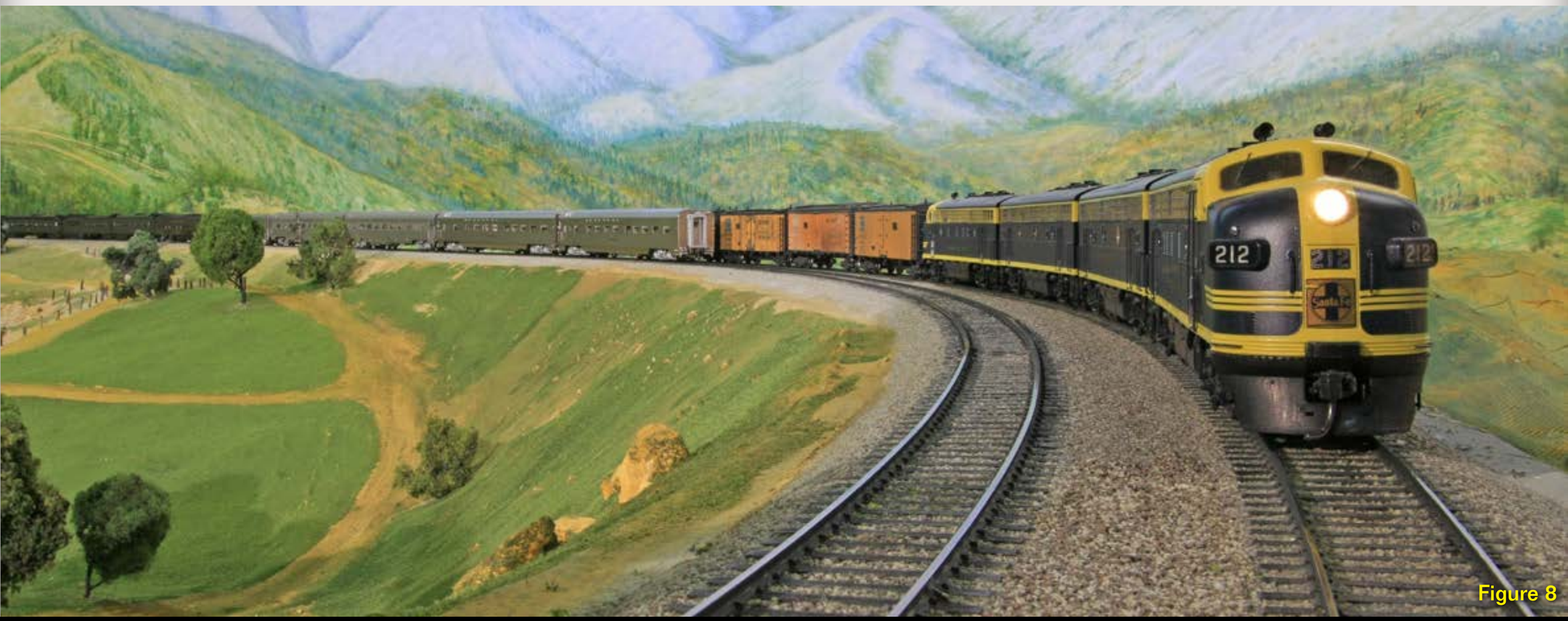


Figure 8

Figure 9: The freight units exit Walong siding in the cut just before heading through tunnel 9 under their caboose.

Paul: Well, ABS doesn't grant you the authority to move trains, whereas when you're running in CTC mode the signals give a crew the authority to move on the line.

MRH: So in CTC mode, if the signal is green off you go...

Paul: Yes.

MRH: And in ABS its purpose is to tell you if there is traffic ahead of you. If the signal is green and you have clearance from the dispatcher, then you can go?

Paul: Yes.

MRH: You're in San Diego's Balboa Park, not far from the zoo. About how many visitors do you see at this layout in a year?

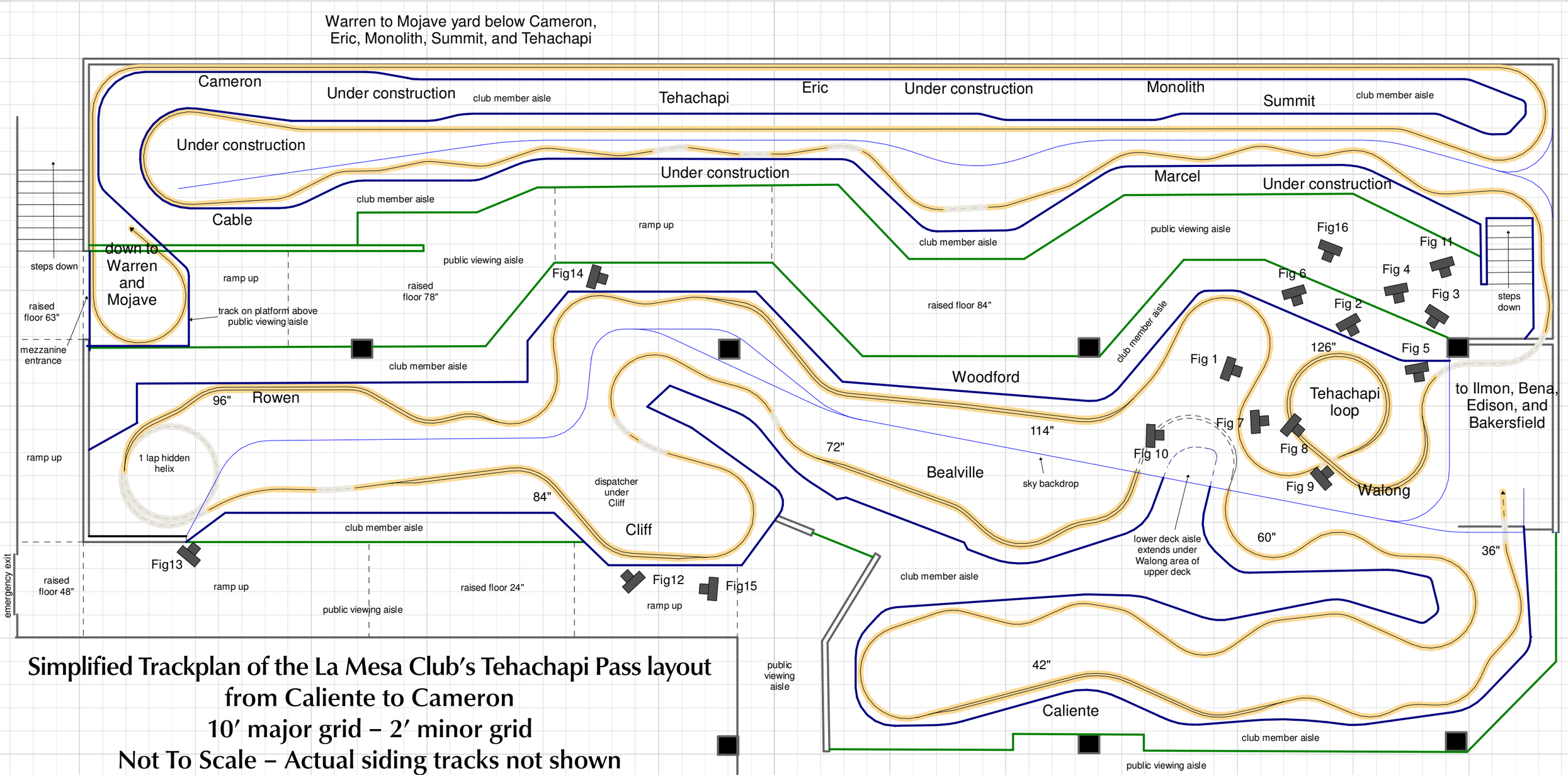
Paul: We have over 100,000 people come through the museum in a year.

MRH: 100,000! What mixture? Are these mostly moms and kids or dads and grandfathers bringing their kids in showing them the way things used to be done?

Paul: It's everybody. Families and school groups and model railroaders. The mix is across the board.

Text continues on page 41 ...

Figure 9



Simplified Trackplan of the La Mesa Club's Tehachapi Pass layout
from Caliente to Cameron
10′ major grid – 2′ minor grid
Not To Scale – Actual siding tracks not shown

Layout Statistics

Era: 1950s
Locale: Tehachapi Pass in California
Style: Strict prototype
Configuration: Double deck with walk-under clearance below upper deck mezzanine. The mezzanine is double decked from Cable to Mojave.
Scale: HO
Trackplan: Point to point
Total layout area: 5000 square feet on lower deck, 3000 square feet on mezzanine (upper) deck.

Mainline length: 27 miles between Bakersfield yard and Mojave yard, 31 miles overall including yards and staging leads
Maximum train length: 100+ cars downhill, 60 cars uphill
Control: NCE DCC with radio throttles
Dispatching: TT&TO or CTC depending on era being emulated
Operating session crew size: 20 to 50
Elevations: 3′ to over 14′
Maximum mainline grade: 2+ percent
Staging: 2000 cars
Location: The San Diego Model Railroad Museum in the basement of the Casa de Balboa in San Diego's Balboa Park.

Figure 10

Figure 11

Figures 10 and 11: The La Mesa club layout is definitely a prime example of prototype modeling. But how accurate is their modeling?

Check for yourself. Figure 10 shows the model of the loop (minus some vegetation). Compare it with figure 11, an aerial photo posted on the layout room wall.

It looks awfully good to me!

The plywood in figure 10 is actually the ceiling over the Bealville, Ilmon, and Bena areas on the lower deck! This part of the layout is a mushroom.

Text continued from page 39 ...

MRH: When you're running trains during the week for visitors to the museum, what kind of trains do you run? Freights or passenger? Do you ever run Thomas here?

Paul: To the chagrin of some members but the delight of the kids, Thomas has been observed on this layout.

MRH: How many members does the club have now?

Paul: The club has about a hundred members. Some are junior members and some are from out of state. But they all participate to some extent during the year.

MRH: Well Paul, thank you very much for talking to me today about the layout.

Paul: You're very welcome.

MRH: And there you have it. This is one monster model railroad!

For more information check out

lamesaclub.com

or call 619-233-8269.

Also check out the MRH bonus extra slide show with additional photos.

Reader Feedback (click here)

Figure 12

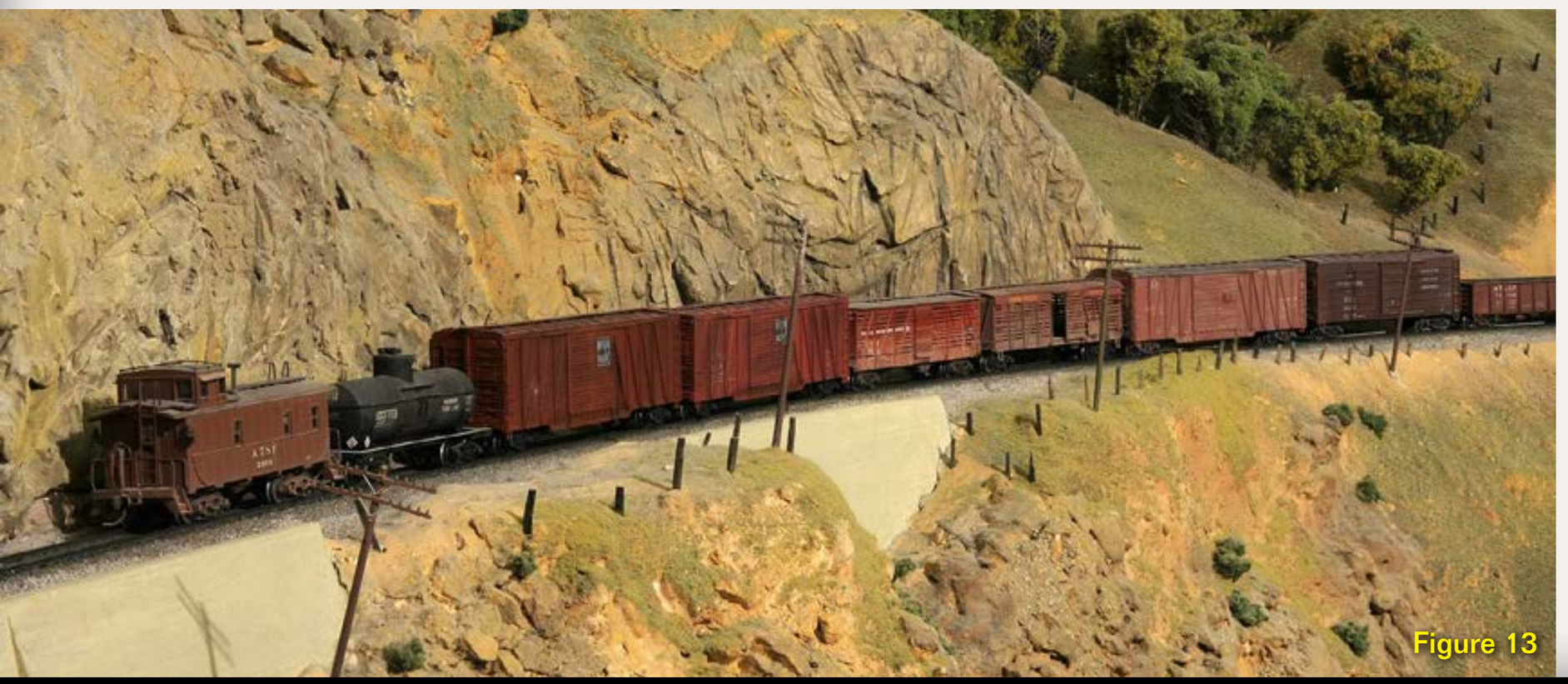


Figure 13

Figure 12: Our freight has made it to Cliff downgrade from Woodford and Rowen.

Figure 13: Cliff is appropriately named as the track here clings precariously to a cliff. The scenery here is also fairly new and shows devotion to prototype modeling – it looks a lot like the prototype area.

The San Diego Model Railroad Museum is in the basement of the Casa de Balboa building in Balboa Park, San Diego, California.

The Tehachapi Pass layout is one of five in the museum. The others are:

- The San Diego and Arizona Eastern - HO scale
- Pacific Desert Lines - N scale
- Cabrillo Southwestern - O scale
- Toy Train Gallery - 3 rail Lionel

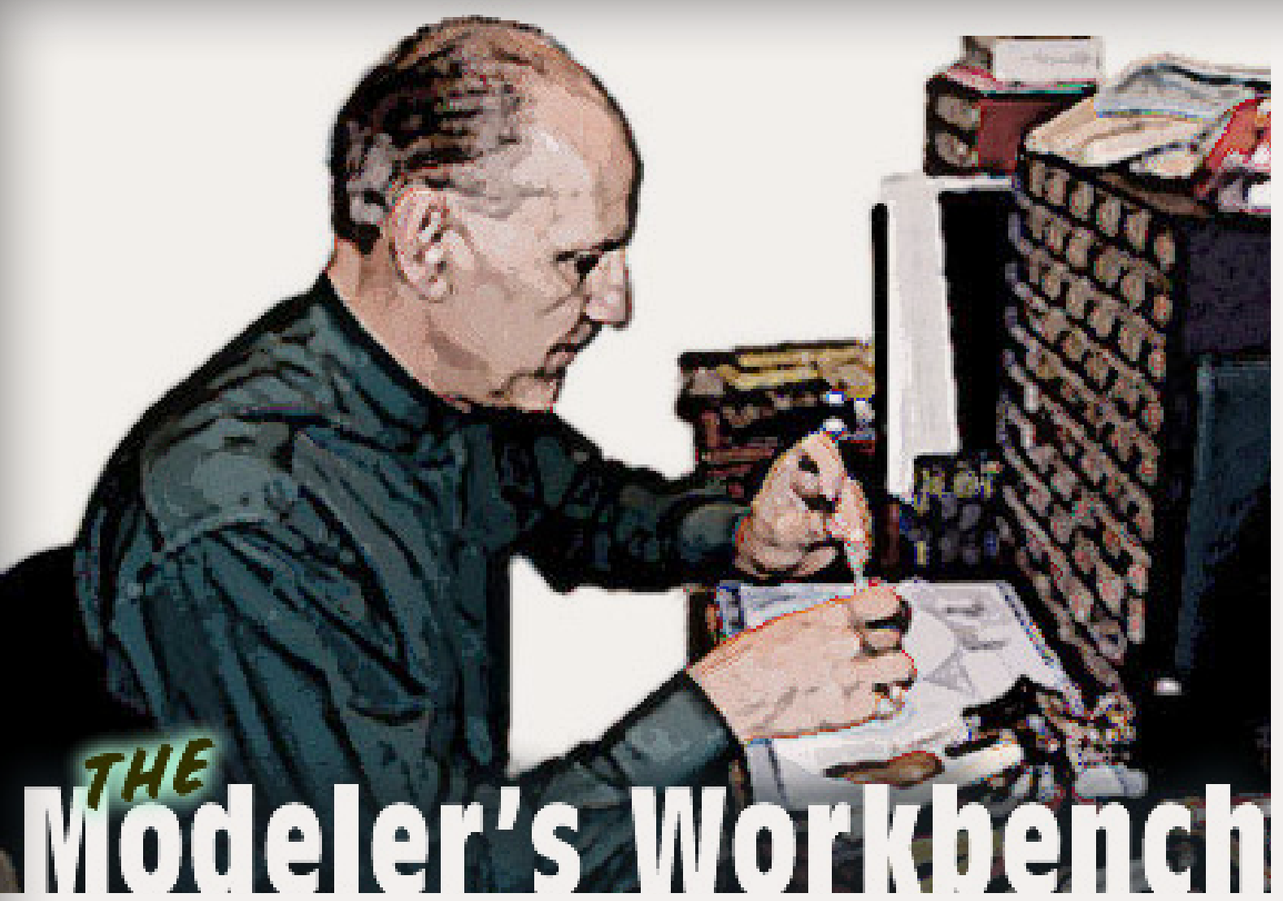
The museum is open Tuesday through Sunday for kids of all ages.

Figure 14: This view of Woodford ('the loop' is in the background) is on the mezzanine above Bakersfield (on the lower deck). The green fence separates the general public area from the club member aisles. The floor here is about 7' above the floor under Bakersfield.

Figure 15: More green fence separates the public area from the club member area at Cliff. The club member aisle also helps separate eager little fingers from the exquisite modeling on the layout.

Click here to play this video ...

Figure 16: Not all of the Tehachapi pass layout has 16' deep benchwork. The parts of it that do present a formidable accessibility challenge. The solution at 'the loop' was to build walkable 'pathways' into the scenery. The scenery in a pathway lifts out or drops down to reveal the plywood stepping stones below. Paul Voss demonstrates his scenery walking technique. Note how close the scenery is to the plywood below (for lower deck clearance), precluding standard pop-up hatches.



Making Wooden Clamps by the Dozen

– by Lew Matt

Reader Feedback
(click here)

Clamps are indispensable. I used alligator clips and battery terminal clips, plastic spring clips, paper clips, vice grips, C clamps and sundry other devices to hold things together while the glue dries or the solder freezes. All these different type of clamps cost a lot of money and require a trip to the hobby shop or hardware store.

The bottom line is I always need more clamps when I build anything. Darryl Hoffman rescued me from my dilemma and showed me how to make a great clamp from a wooden spring clothespin. I'll never run short of clamps again.

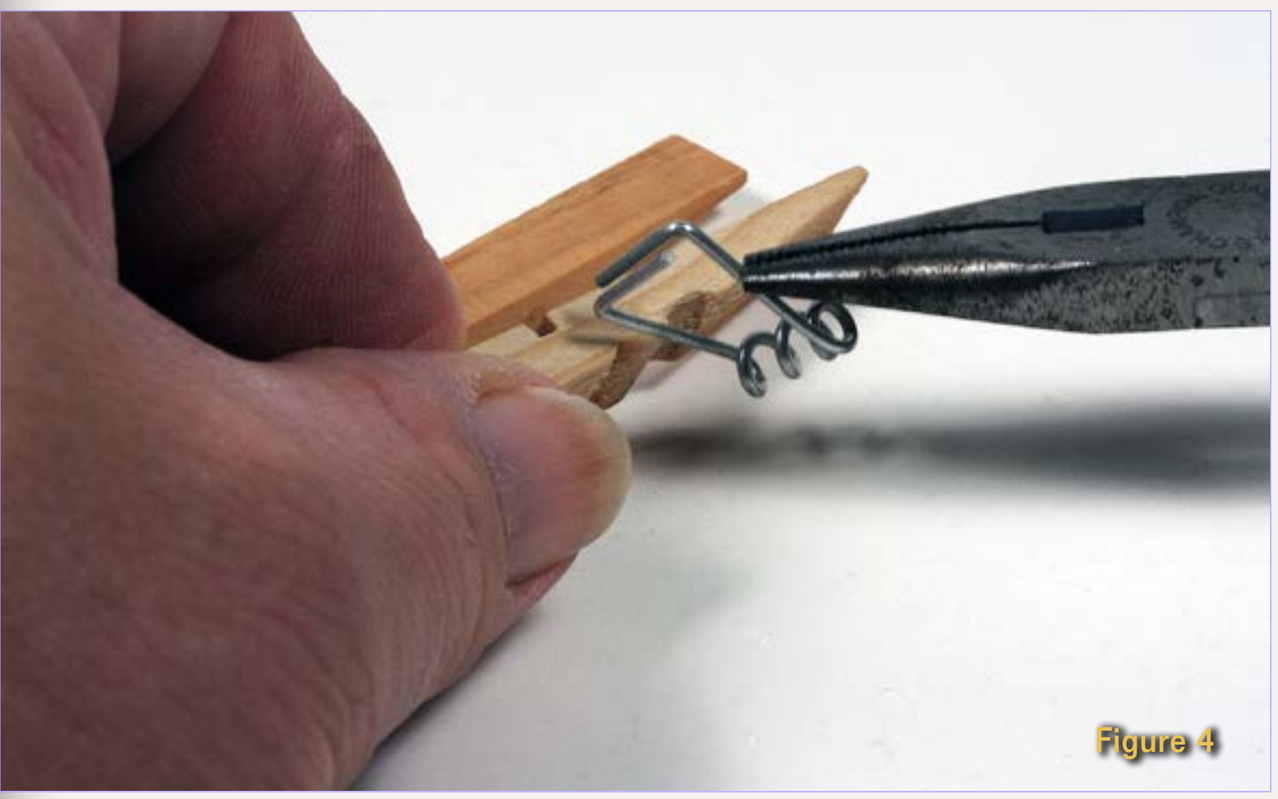
This variety of clothespin is very inexpensive. I picked up a pack of 50 spring jaw clothespins for $1.00 at the Dollar Store. That's a lot of clamps at $0.02 each.


Figure 1

Figure 2

Figure 1: On the left is the conventional wooden spring clamp clothespin. On the right is the efficient model clamp made from the standard clothespin. Note that the jaws of the clamp are almost flush with each other. To make the clamp we will reverse the orientation of the spring and legs. In this picture, the spring remains in the same position and the legs of the clothespin are reversed.

Figure 2: Start making the clamp by removing the spring carefully while keeping all the pieces in the same position.



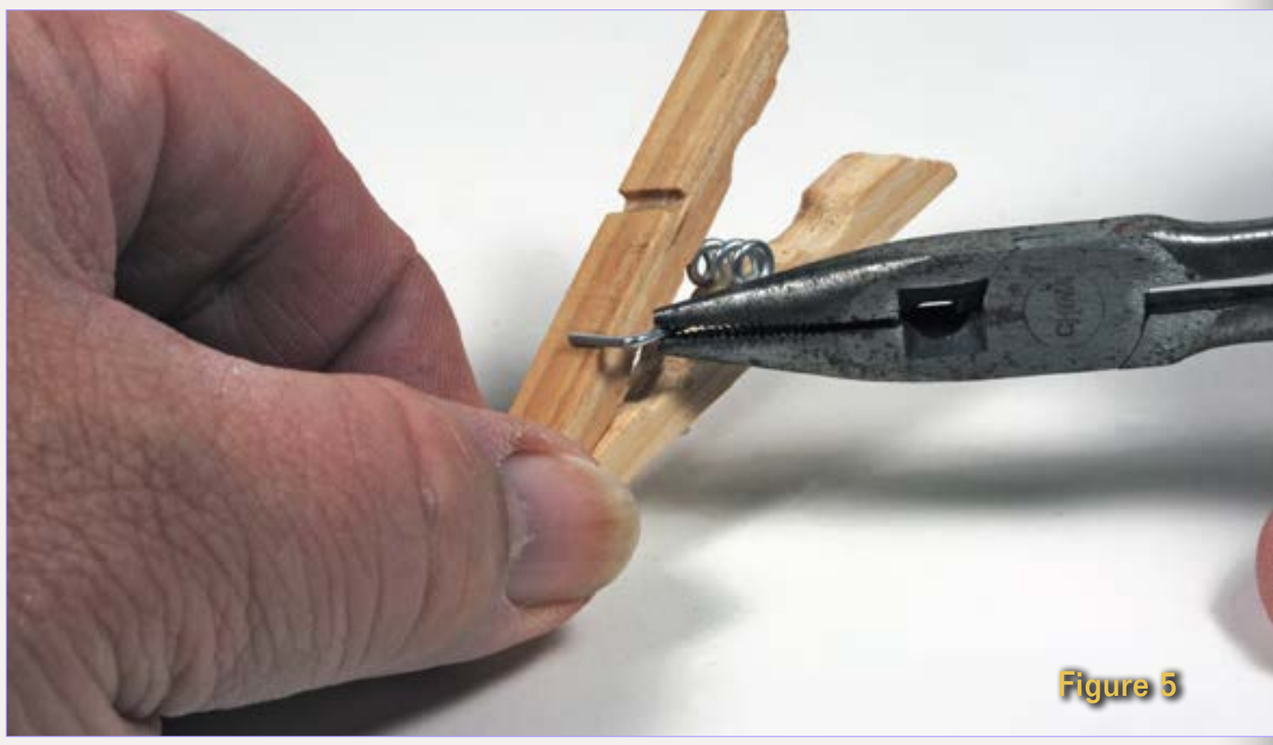


Figure 3: Note the coil of the spring faces the thin handle section of the clothespin and the wire leads face the end with the heavy jaws for holding tight to the clothesline.

Figure 4: Grasp the spring firmly and reverse it end for end so that the coil now faces the heavy end and the wire pins face the thin, former handles that will be the jaws of the clamp.

Figure 5: Maneuver the lower wire over the bottom piece of the clothespin.

Figure 6: Grasp the upper wire and open the spring while sliding the other leg of the clothespin into place. The thin ends should be adjacent.

Most people can't make one of these clamps on the first try. If you can do it, feel blessed. What you want to do is reverse the position of the clamp while keeping the legs in the same position, or reverse the position of the legs while keeping the spring in the same position. The key to making the clamp is correctly orienting the spring with the legs.

Follow the picture directions if you become confused. After you have converted 10 of these, you will be able to do it in the dark, blindfolded. The jaws of the clamp are strong, thin, flat and non-marring. All of my other clamps leave some kind of mark or impression in the surface when I clamp things together. The wood jaws are softer than styrene so they can't mark plastic kits. The only downside is when you use CA and white glue. If you aren't careful and don't take precautions, you may glue the jaws to the project or themselves.

I was able to assemble 30 of these in about 5 minutes and immediately put them to use. Give them a try. They are cheap and efficient tools. ☑

Reader Feedback (click here)

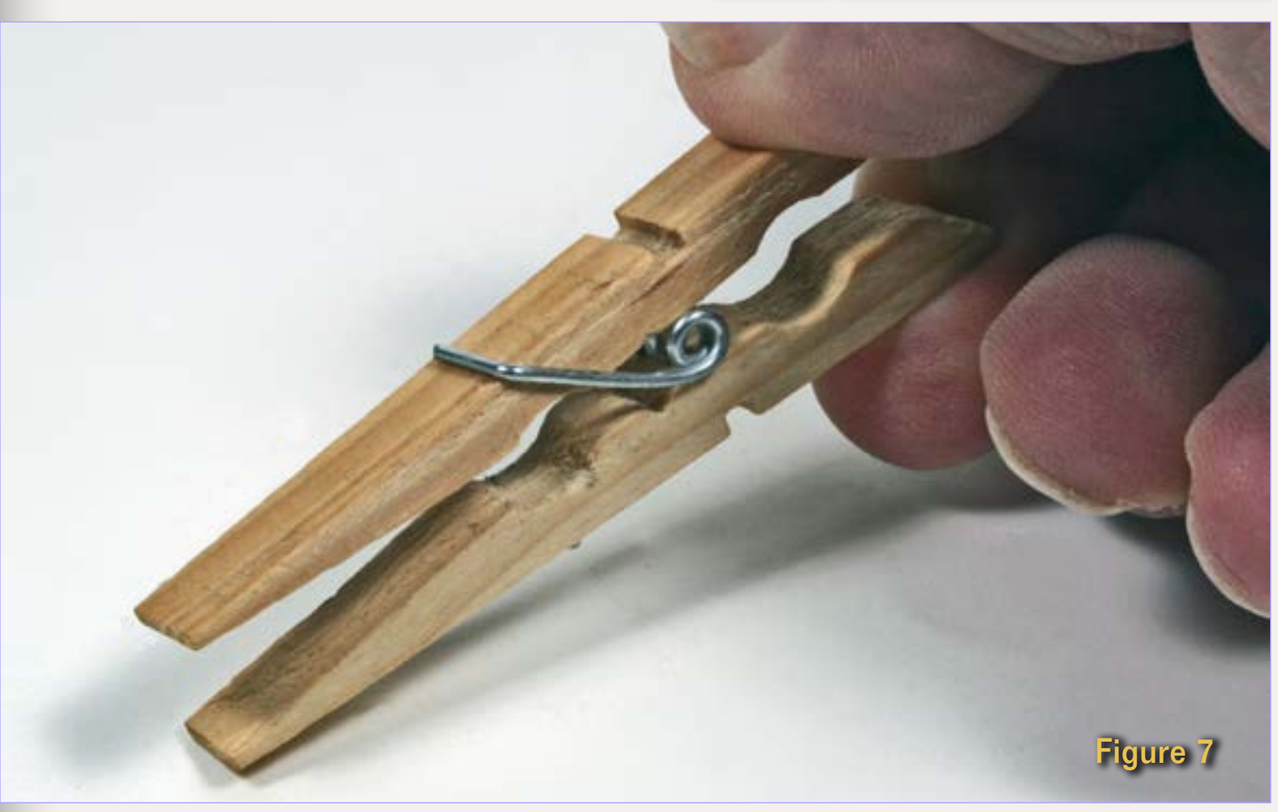


Figure 7: The spring should now face the thick end of the clothespin while the wire pieces face the thin ends. Slide the spring forward or back until the thin, flat jaws close completely.

Figure 8: Shows the relationship of the spring location to the legs of the clothes pin to make a clamp. The wires of the clamp face the thin edges while the coil spring faces the thick end.

Figure 9: The thin ends are very good at clamping small things and will stay where you put them. The photo shows several clamps holding a fence while the glue dries. The clothespin clamp has a surprising amount of clamping pressure and the smooth, flat jaws will not mar the surface. The jaws are raw wood and may stick to the work if glue is not applied carefully.

Poor Man's Jig-built Turnouts

– by Joe Fugate

Photos and video by the author

Make great looking "goof-proof" turnouts quickly using repeatable jig-built methods in HO ...

Figure 1: Using Central Valley plastic ties as a kind of "Poor Man's jig" allows building nice turnouts that follow the NMRA specs precisely and also have great spikehead and tie plate detail. This article covers the process, step-by-step.

Reader Feedback *(click here)*

Most derailments on a model railroad happen at turnouts, so it's worthwhile to make sure your layout has the best-performing turnouts possible – especially if you're interested in reducing derailments and getting optimum performance from your equipment.

One of the best ways to get top-performing turnouts is to hand-build them.

Fortunately in recent years, commercial jig-built turnout fixtures like Fast Tracks and Proto87 Stores have become popular, making it a lot easier to produce top-notch turnouts (after a little practice) with relative ease.

For more details how jig-built turnouts help ensure the best layout performance, see the sidebar: *Why jig-built turnouts?*

Sure, it's possible to handlay turnouts without a jig, but I find I do my best work at the workbench when I have a jig to goof-proof my work.

I've hand built turnouts in place on the layout and the experience more often than not has left me feeling like I've been impersonating a contortionist. When I'm uncomfortable, I tend to rush, and then I live to regret it later when the turnout gets problems.

The poor man's jig idea

The Fast Tracks jigs are great (and I use their filing jigs in the Poor Man's process), but the cost of entry is not low, especially if all you need are a few turnouts.

Also, I like good tie plate and spike head detail. The Fast Tracks fixture method doesn't provide tie plate and spike head detail to suit my taste.

On the other hand, Proto87 Stores has an excellent jig system that provides great tie plate and spikehead detail, but it involves hand-placing individually etched tie plates and driving near-scale spikes. This is a bit too tedious for me when I have 120+ turnouts on my HO Siskiyou Line.

Proto87 Stores sells the Central Valley plastic tie strips for HO standard gauge. These tie strips have properly gauged slots for the rail, making building a turnout drop-in simple, similar to the Fast Tracks jigs. Plus there's nice tie plate and spike head detail too.

The Central Valley tie strips sell for about $6 each and can be adapted to use printed-circuit board ties for attaching the rail, which is the focus of this article. In effect, I get a plastic turnout-laying jig for $6, making the price of entry much more attractive than Fast Tracks for a few turnouts[1]

1 If you're building more than a few turnouts, the Fast Tracks jigs become a more attractive option because the cost per turnout drops dramatically.

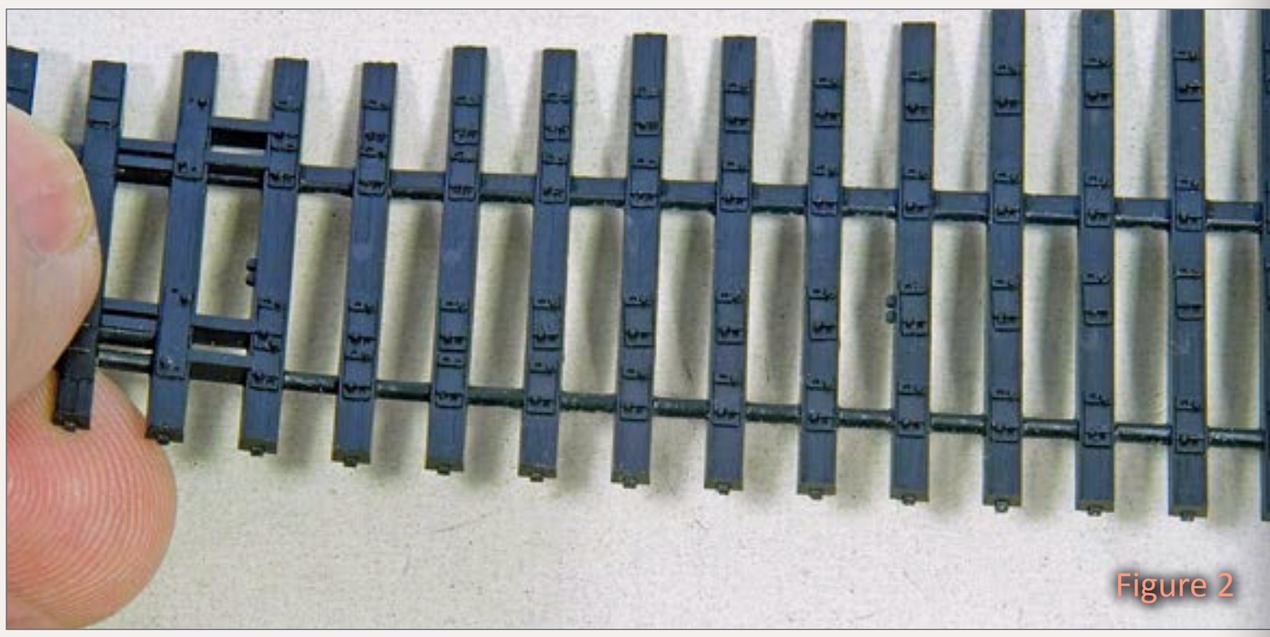


Figure 2

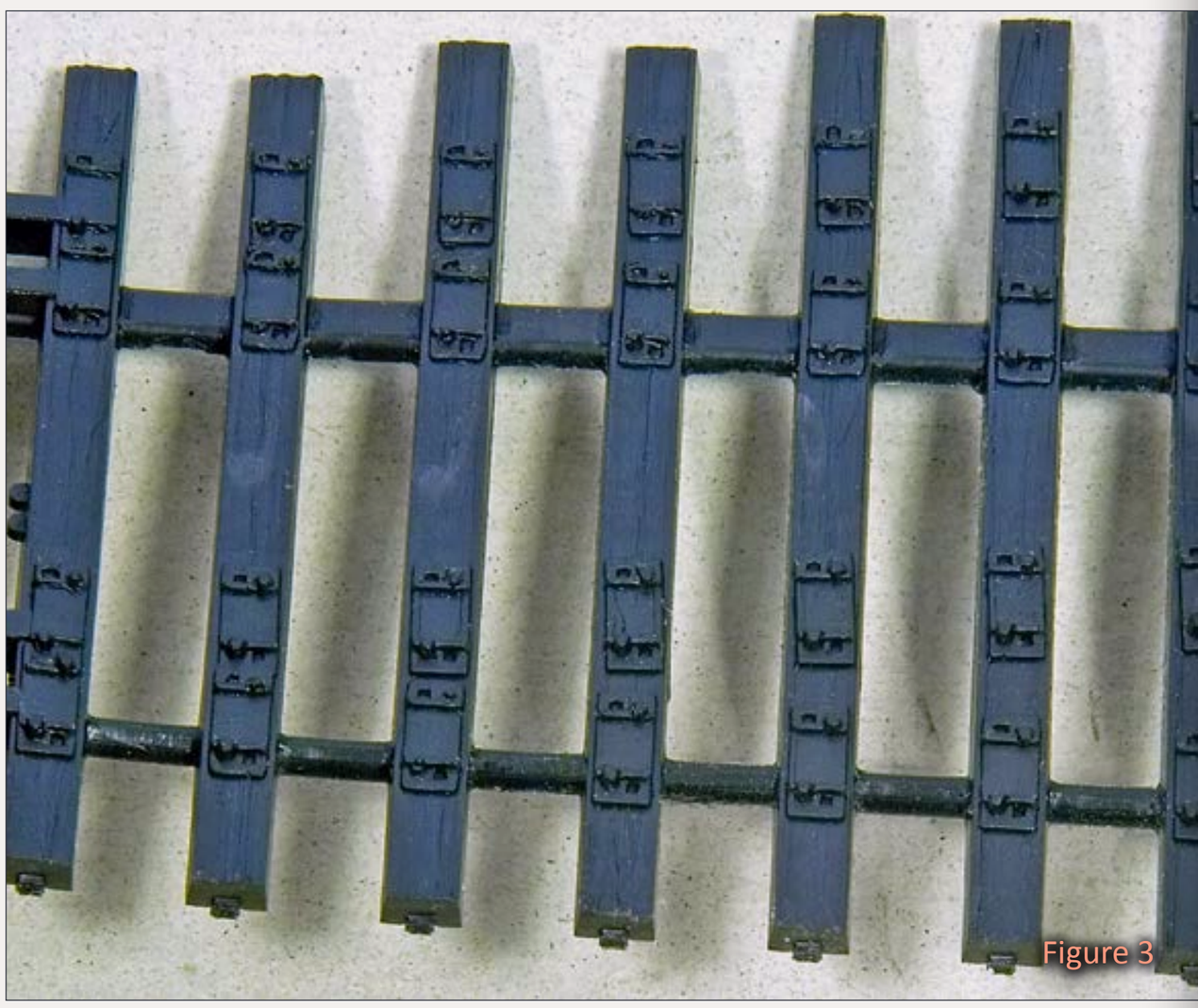


Figure 3

Figure 2 and 3: Here's a close view of the Central Valley turnout tie strips. As you can see, the tie strips have self-gauging slots for the rail, and they have excellent tie plate and spike head detail. Since I use Micro Engineering flex track with its detailed tie plates and spike heads, turnouts built using the Central Valley tie strips fit right in.

Figure 4: I've handlaid turnouts in-place on the layout and more recently, I've taken to building them at the workbench using the newer commercially available jig-built methods. The workbench allows me to work in comfort, with all my tools and supplies right at hand. I do my best work this way, so I now prefer this approach for getting the best-performing turnouts.

Why jig-built turnouts?

So what's the big deal with jig-built turnouts?

If your turnouts do not conform to the NMRA turnout specs, then you're fighting something of a losing battle against derailments to have in-gauge wheels if you're not also making sure all your trackwork conforms to the NMRA specs as well.

Because of mass-production tolerances and some confusion over how to apply the NMRA turnout specs, no commercially available turnout completely conforms to the NMRA specs, as of this writing.

Ed McCamey and Didrik Voss of the NMRA trackwork standards committee have revised the turnout specs to make them less confusing, and have embarked on a mission to encourage manufacturers to upgrade their manufacturing process so the hobby will get commercially-available turnouts that conform fully to the NMRA turnout specs.

In the meantime, the NMRA has issued conformance to **Fast Tracks** and **Proto87 Stores** for their turnout jigs. While these are not ready-to-run turnouts, they *are* a commercially available consistent method for getting turnouts that do meet the specs.

Since these are jig-built methods, they provide a repeatable means of producing in-spec turnouts after a little practice.

The Central Valley tie strips also produce turnouts that meet the specifications. How to use CVT strips to build a conforming turnout is the focus of this article. ■

– especially if you prefer good tie plate and spike head detail like me.

When it comes to attaching the rails to the Central Valley plastic ties, Central Valley recommends barge cement (used to glue soles on shoes, among other things – not sure where the "barge" part comes from).

I'm a little leery of barge cement myself, and I'm especially concerned about what seasonal rail expansion and contraction may do to the dimensional stability of my turnouts.

I prefer to strategically replace a few of the plastic ties with printed circuit board ties and solder the rails down more like the Fast Tracks jig method.

I've personally had to pull up a turnout built with PC ties and have been amazed at the ruggedness of this method of turnout construction (see my editorial in the January 2010 issue of MRH).

By using flux and a spade soldering tip that matches the width of the PC ties, I find it's easy to get in, heat the joint so the solder flows, and get out in about a second. This is fast enough that I never harm the plastic CVT ties.

NMRA turnout specs

NMRA S-3.2 covers guarded trackwork such as at turnouts and crossings (see figure 5). You can download the specs as a PDF from the NMRA web site.

The revised specs express the measurements as a goal and then a plus or minus tolerance on that goal. This makes the specs much clearer than before and should help manufacturers better understand how to get turnouts that meet the specs.

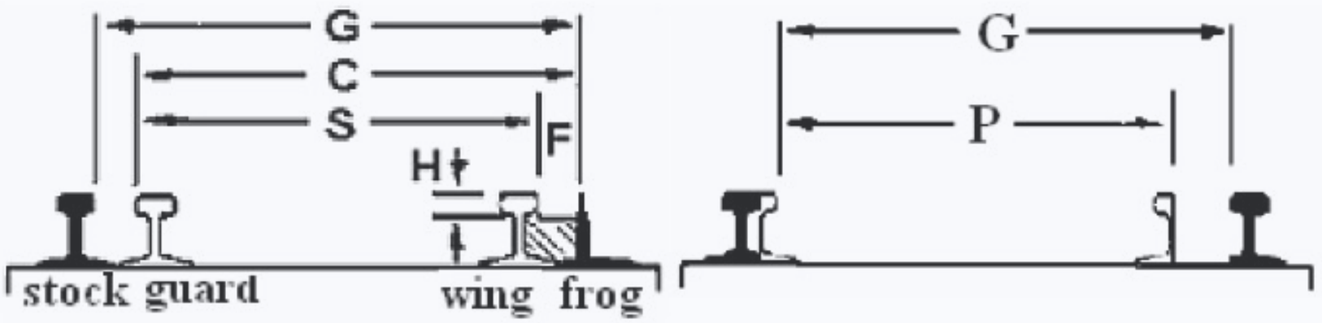
Let's build a turnout

On the following pages, I go step-by-step through the process to build a code 83 number 6 turnout in HO using Central Valley turnout tie strips.

I also outline the tools and materials I used to build this turnout.

The result is a turnout that more or less matches the overall look of a commercial turnout and costs less than $10.

NMRA STANDARDS (IMPERIAL)
S-3.2 STANDARDS, TRACK, STANDARD SCALE



NMRA STANDARD	
Imperial Standards Scale Track For Guarded Work	
February 20, 2010	**S-3.2**

The Span, S, is derived by knowing S = C-F.
C is the primary controlling dimension.

Scale	Scale Ratio	Standard S3.2 Guarded using Target and Asymmetric **Imperial (inch)** Tolerance																
		G			C			S			F			P			H	Wheel
		Gage at Frog			Check Gage			Span			Flangeway			Points				
		Target	Plus	Minus	Target	Plus	Minus	Target	Plus	Minus	Target	Plus	Minus	Target	Plus	Minus	MIN	CODE
1"	1:12	4.752	0.060	0.002	4.586	0.011	0.004	4.366	0.004	0.002	0.218	0.002	0.065	4.561	0.004	0.004	0.140	1/2"
3/4"	1:16	3.502	0.038	0.002	3.353	0.014	0.004	3.172	0.004	0.002	0.179	0.002	0.046	3.325	0.004	0.004	0.094	13/32"
F	1:20.3	2.783	0.014	0.002	2.683	0.013	0.004	2.583	0.013	0.004	0.096	0.004	0.006	2.656	0.004	0.004	0.084	284
Fn3	1:20.3	1.772	0.010	0.006	1.652	0.010	0.004	1.550	0.005	0.015	0.115	0.002	0.023	1.628	0.004	0.004	0.066	250
LS	Varied	Large Scale Standards on Separate Page																
O	1:48	1.252	0.012	0.002	1.181	0.013	0.002	1.102	0.002	0.002	0.077	0.002	0.021	1.156	0.002	0.004	0.045	145
On3	1:48	0.752	0.012	0.002	0.707	0.010	0.002	0.654	0.002	0.002	0.051	0.002	0.018	0.685	0.002	0.004	0.026	116
On30	1:48	0.651	0.010	0.002	0.607	0.007	0.002	0.557	0.002	0.002	0.048	0.002	0.013	0.588	0.002	0.004	0.025	110
On2	1:48	0.502	0.009	0.002	0.457	0.007	0.002	0.407	0.002	0.002	0.048	0.002	0.012	0.438	0.002	0.004	0.025	110
S	1:64	0.885	0.010	0.002	0.841	0.007	0.002	0.791	0.002	0.002	0.048	0.002	0.013	0.822	0.002	0.004	0.025	110
Sn3	1:64	0.565	0.010	0.002	0.521	0.007	0.002	0.471	0.002	0.002	0.048	0.002	0.013	0.502	0.002	0.004	0.025	110
Sn2	1:64	0.415	0.008	0.002	0.379	0.004	0.002	0.339	0.002	0.002	0.038	0.002	0.008	0.363	0.002	0.004	0.023	88
OO	1:76.2	0.752	0.009	0.002	0.707	0.007	0.002	0.657	0.002	0.002	0.048	0.002	0.012	0.688	0.002	0.004	0.025	110
HO	1:87.1	0.651	0.010	0.002	0.607	0.007	0.002	0.557	0.002	0.002	0.048	0.002	0.013	0.588	0.002	0.004	0.025	110
HOn3	1:87.1	0.415	0.008	0.002	0.379	0.004	0.002	0.339	0.002	0.002	0.038	0.002	0.008	0.363	0.002	0.004	0.023	88
HOn2	1:87.1	0.278	0.007	0.002	0.248	0.004	0.002	0.215	0.002	0.002	0.031	0.002	0.007	0.234	0.002	0.002	0.020	72
TT	1:120	0.473	0.006	0.002	0.439	0.003	0.002	0.403	0.002	0.002	0.034	0.002	0.005	0.426	0.002	0.002	0.023	79
TTn42	1:120	0.355	0.004	0.002	0.325	0.001	0.002	0.295	0.001	0.002	0.028	0.002	0.001	0.314	0.002	0.002	0.020	72
TTn3	1:120	0.302	0.004	0.002	0.272	0.002	0.002	0.242	0.002	0.002	0.028	0.002	0.002	0.260	0.002	0.002	0.020	72
N	1:160	0.355	0.004	0.002	0.325	0.001	0.002	0.295	0.001	0.002	0.028	0.002	0.001	0.314	0.002	0.002	0.020	72
Nn3	1:160	0.258	0.003	0.002	0.232	0.003	0.002	0.207	0.002	0.002	0.023	0.002	0.002	0.219	0.002	0.002	0.016	54
Nn2	1:160	0.179	0.002	0.002	0.152	0.006	0.002	0.127	0.002	0.002	0.023	0.002	0.004	0.136	0.002	0.002	0.016	54
Z	1:220	0.259	0.008	0.002	0.238	0.004	0.002	0.213	0.002	0.002	0.023	0.002	0.008	0.224	0.002	0.002	0.016	54

Figure 5: NMRA S-3.2 Track standards (Imperial - USA). The yellow highlight is for HO standard guage, which applies to the turnout we're building here.

STEP 1: Download the PDF of the turnout and mark ties to replace with PC ties

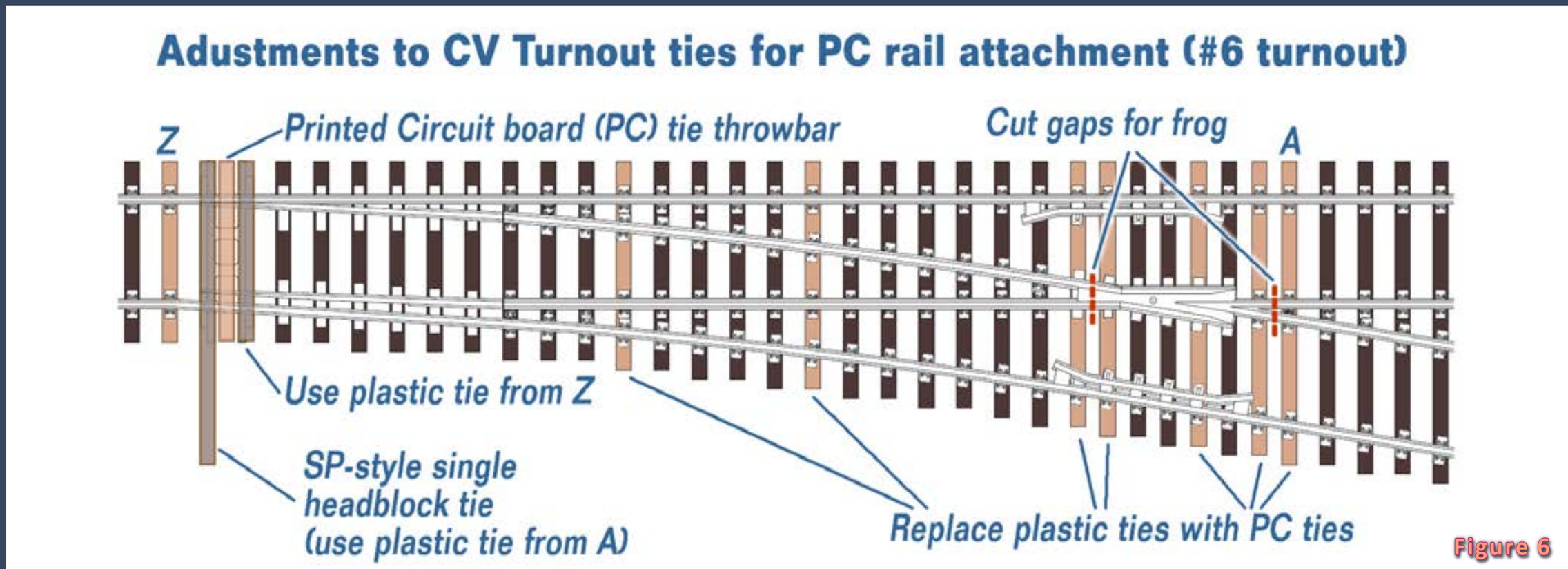
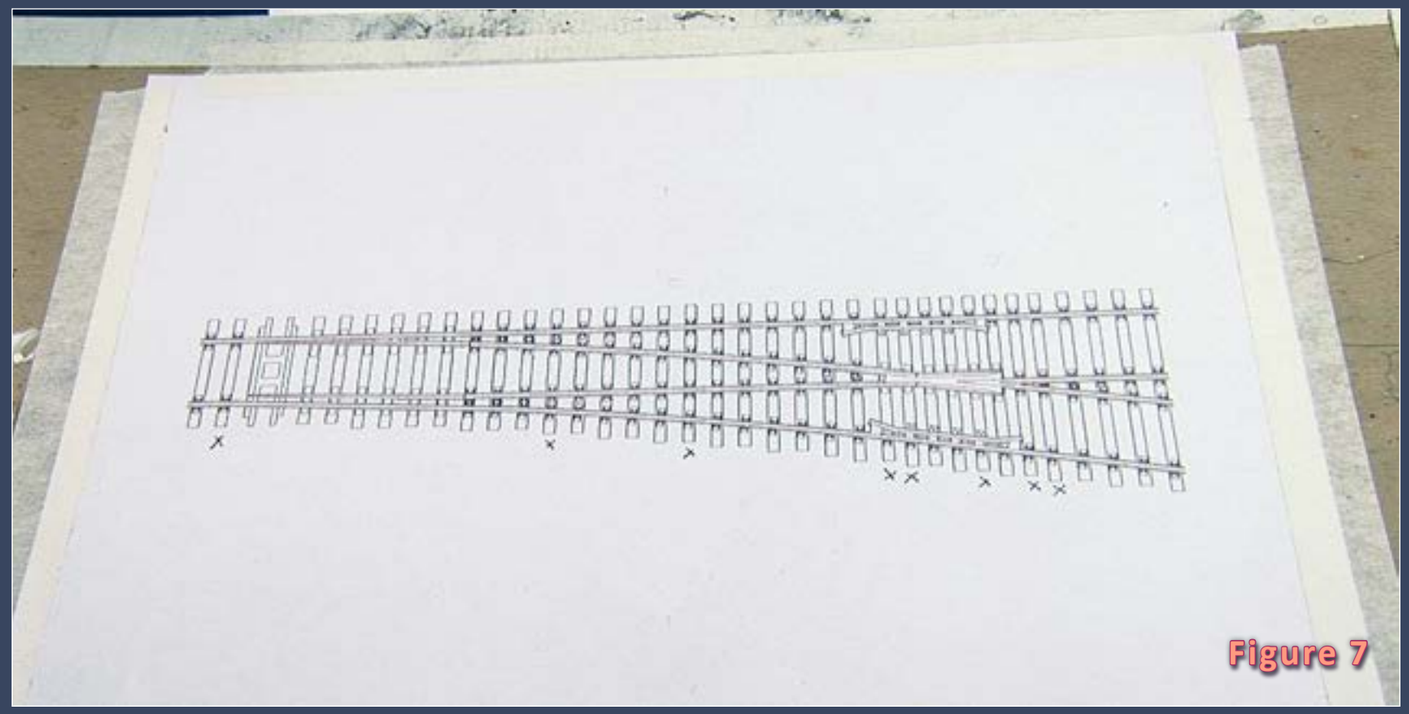


Figure 6: I downloaded the #6 right hand turnout template PDF from the Central Valley web site. Notice I marked select plastic ties to be replaced with printed circuit board (PC) ties, and I use a PC tie on each side of each frog gap. Also notice I take a couple of the plastic ties that are replaced with PC ties and reuse them around the throwbar area (A and Z). I use a single long headblock tie to match SP prototype practice.

Figure 7: I print out the #6 turnout template full size and attach it to a scrap of plaster wallboard using masking tape. I find the plaster wallboard holds spikes well, making it a nice work surface for building turnouts. I protect the edges of the wallboard with duct tape.



STEP 2: Attach CVT tie strip to the work surface

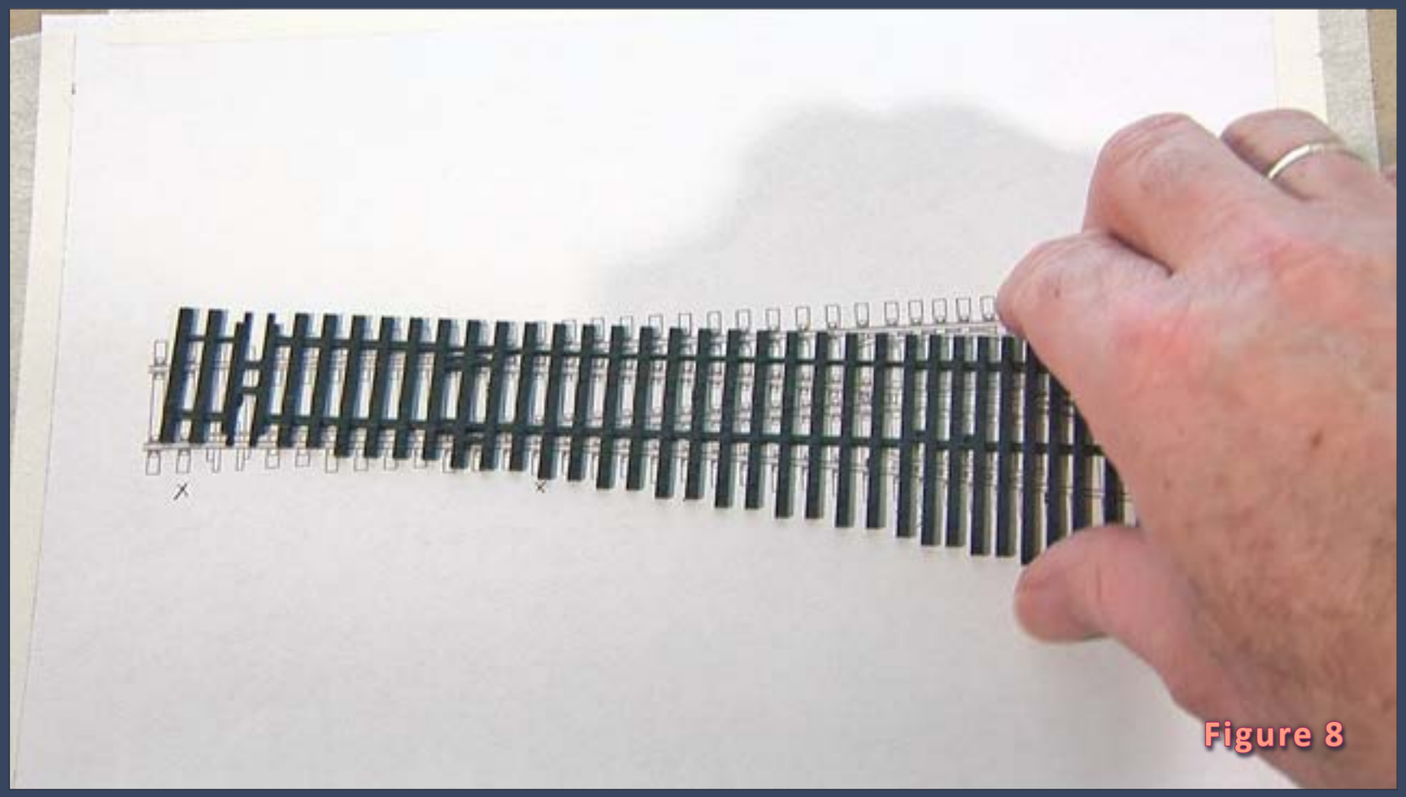
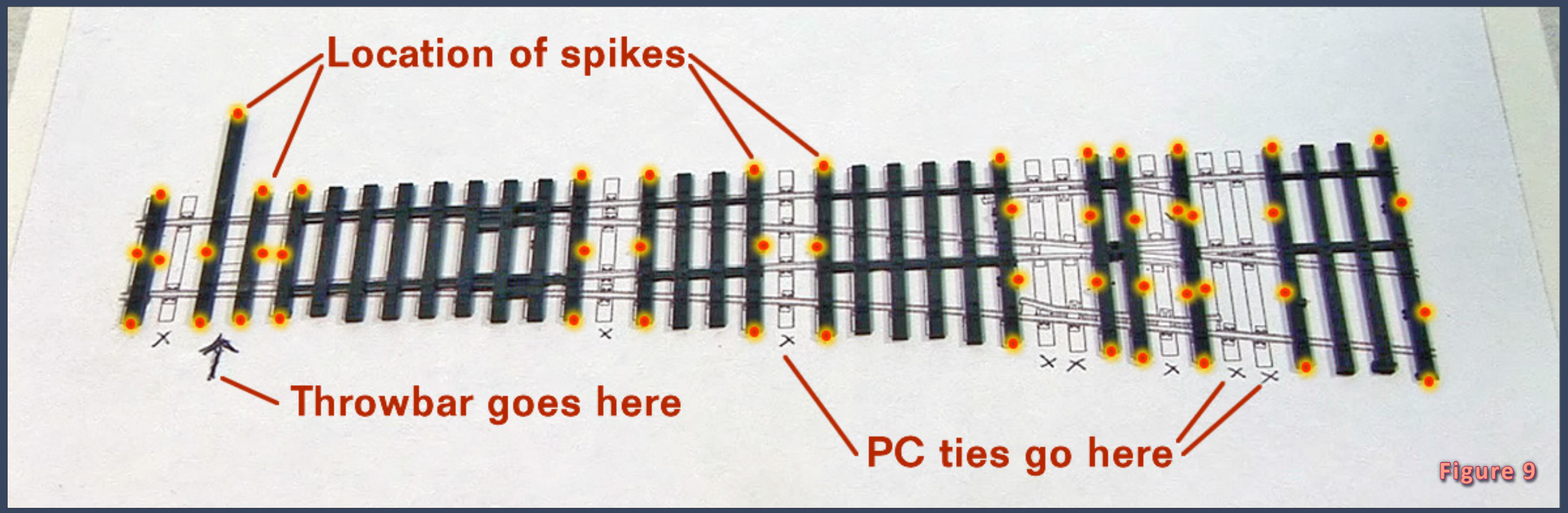


Figure 8: I place the Central Valley #6 right handed turnout tie strip over the printout that's taped to my wallboard work surface. The plastic tie strips don't exactly align with the printed turnout, but it's close enough to use as a guide.

Figure 9: I spike the plastic tie strip to the work surface using a number of spikes as shown here. I want to make sure the ties will not shift on me once I cut out the ties that will be replaced by PC ties. Also note I have moved plastic ties A and Z into place next to the throwbar (see figure 6). In this photo, I have cut out the plastic ties using a fresh X-Acto knife. I'm almost ready to add the PC ties, but first let's take a closer look at the modifications I made to ties A and Z.



STEP 3: Remove tie plate detail from ties A and Z

Figure 10

Figure 11

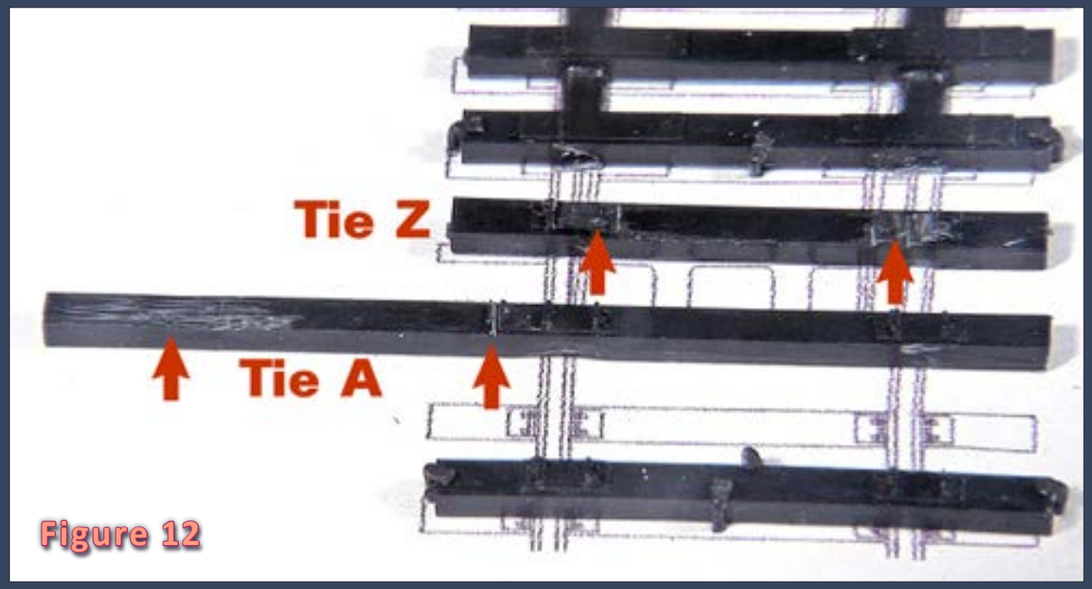


Figure 12

Figures 10-12: Certain parts of the tie plate detail need to be removed on ties A and Z as shown here. Tie A, the head block tie, needs to have the diverging track tie plates removed with a sharp X-Acto knife. Tie Z must have just the inner spike head detail removed flush to the tie so the points can move unhindered. Figure 12 shows ties A and Z in their new location with the red arrows marking the areas where I removed the detail using an X-Acto knife.

Materials and Tools

SPECIFIC MATERIALS

- CVT ties from Proto87 Stores (FAST AND EASY CURVABLE Turnout Bases)
- PC Ties from Fast Tracks (100-piece bundle)
- Rail from Central Valley (15' CVT Code 83 (nickel silver)
- Small MicroEngineering spikes from Fast Tracks (Approx 1000 ME 1/4in spikes)
- 0.20" diameter rosin-core solder
- Liquid Rosin Flux (MG Chemicals Rosin Flux, 4 oz)

(On the Proto87 Stores and Central Valley pages, scroll down to find the products listed)

OTHER MATERIALS

- Superglue
- Floquil Rail Brown spray paint
- Scrap black styrene for filling rail gaps

TOOLS

- X-Acto knife and/or single-edge razor blades
- Weller 35-watt soldering iron with 0.093" Screwdriver Tip
- Dremel motor tool with cutoff wheel and fine milling tip (lifetime supply of fine milling tips can be had from your dentist)
- Fine paint brush for applying flux
- Assorted needle files
- Flush-cutting rail nippers
- NMRA Mark IV gauge
- 10" Mill file for use with Fast Tracks filing jigs
- Fast Tracks point/frog filing jig (#6 PointForm Filing Jig Code 70, 83 & 100)
- Point soldering jig from Fast Tracks (Frog solder tool #5, #6, #8 code 83)
- OPTIONAL: 2 cross-locking tweezers as heat sink (MicroMark CROSS LOCKING TWEEZER)

STEP 4: Replace select plastic ties with PC ties

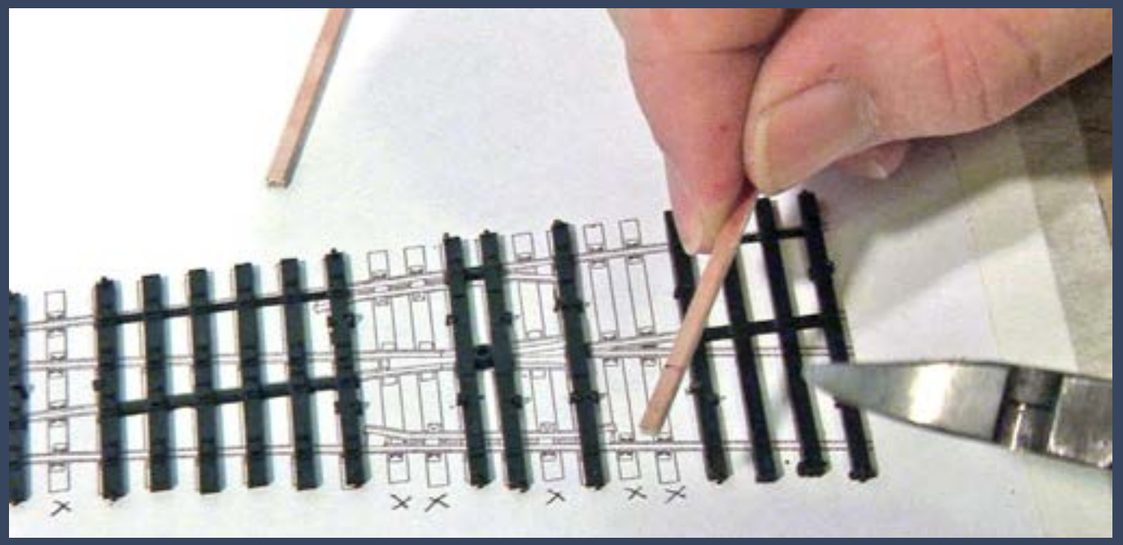


Figure 13: I mark and cut each PC tie to length using the flush-cutting rail shears.

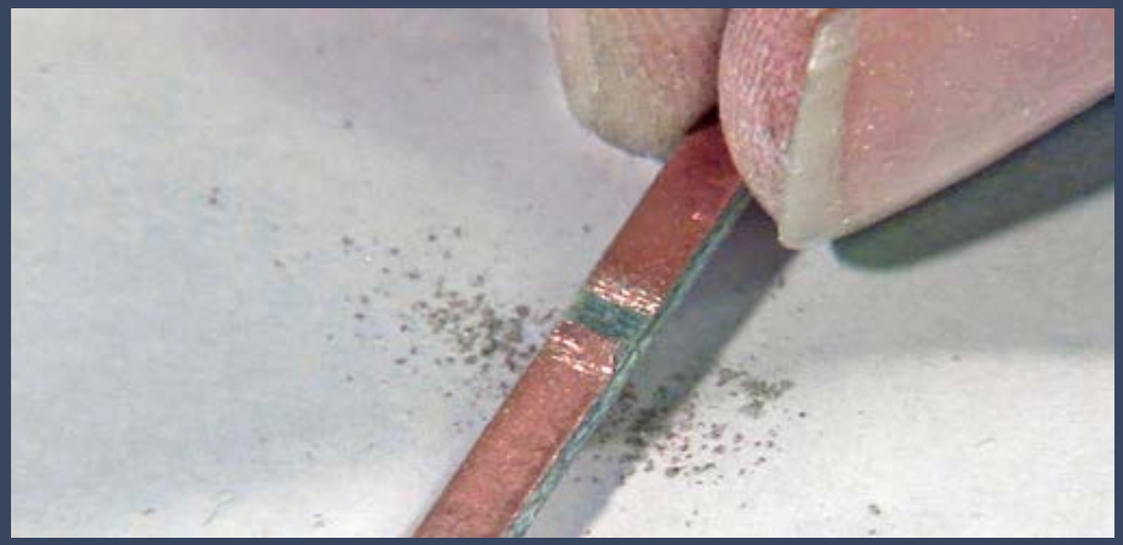


Figure 14: In order to prevent shorts, I file a gap in the copper foil on the PC ties. For the first two ties past the points, I only filed one gap, to allow the turnout closure rails and stock rails to be the same polarity. Around the frog I file two gaps - one in each route.

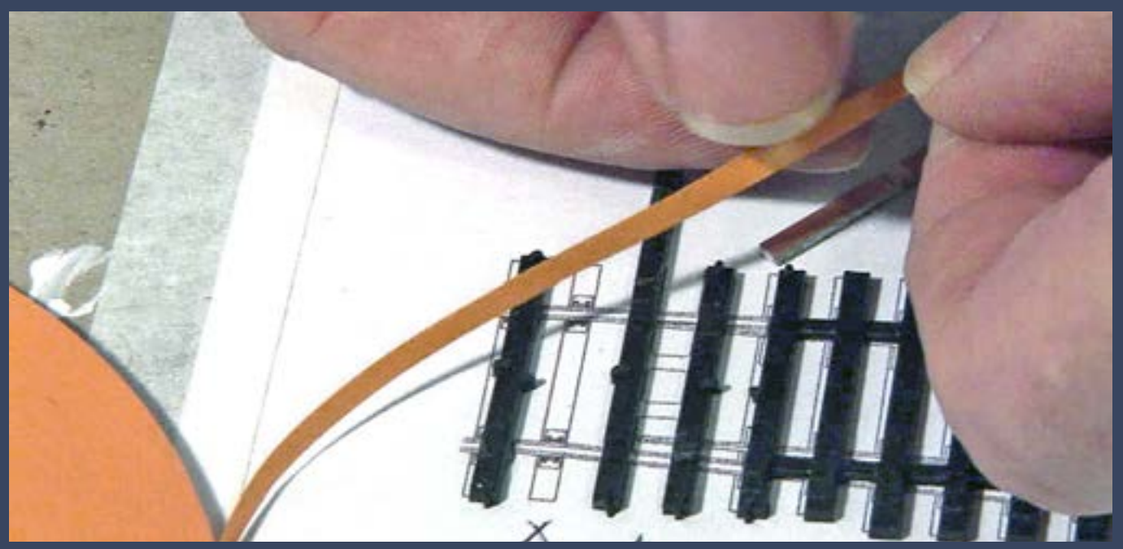


Figure 15: The PC ties are not quite as thick as the plastic ties, so I apply two layers of 1/8" wide automotive masking tape to the bottom of the PC ties to bring them up to height.

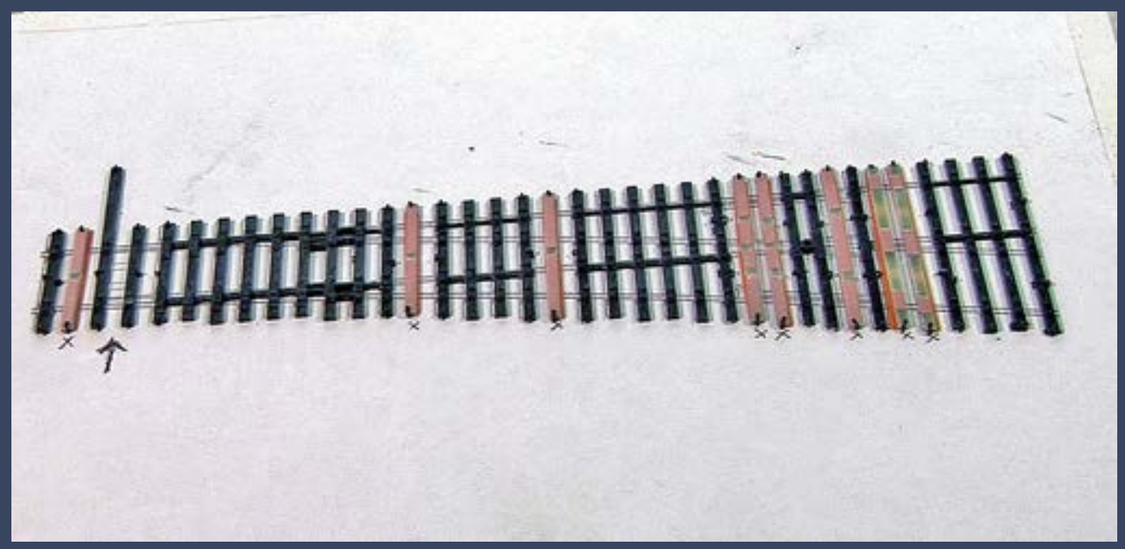


Figure 16: I spiked the PC ties down with a spike on each end. Notice how the PC ties are gapped. I filed more foil off the last two ties to make it look more like tie plates (optional).

STEP 5: Prepare the two outside stock rails

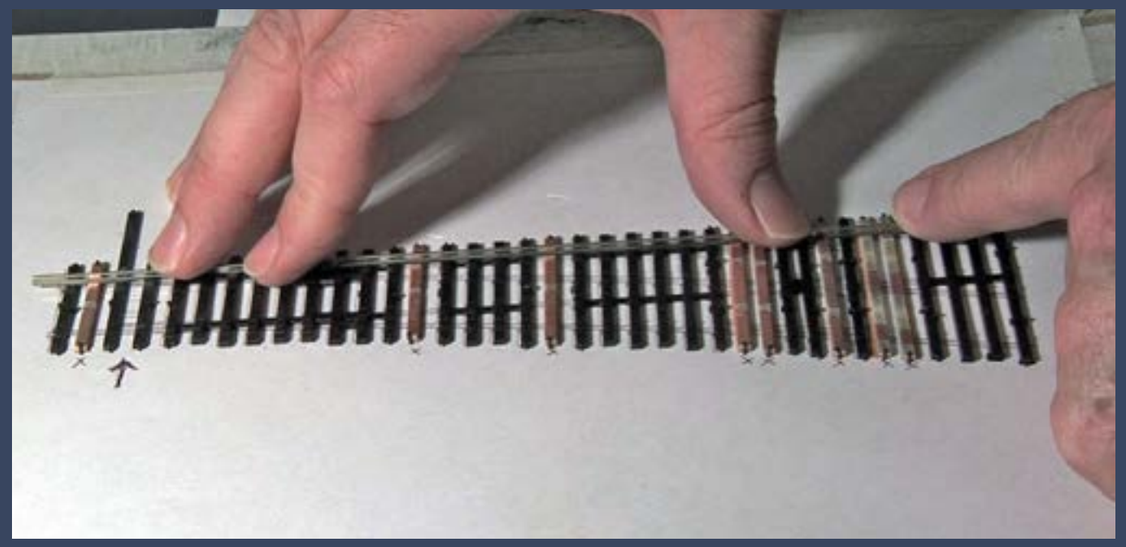


Figure 17: I mark the area of the stock rail where I will remove the base of the rail by laying the rail on the ties and marking the end of the points over the throwbar, and then find the other end by counting over 7 ties and making a mark.

Figure 18: I put the rail in a vise and use a 10" mill file to carefully file away just the base of the rail over the distance between the two marks. I slant the file slightly to avoid touching the railhead with the file.

Figure 19: Here's the completed stock rail with a taper filed in the base. Notice I touched only the base of the rail – I did not touch the railhead with the file.

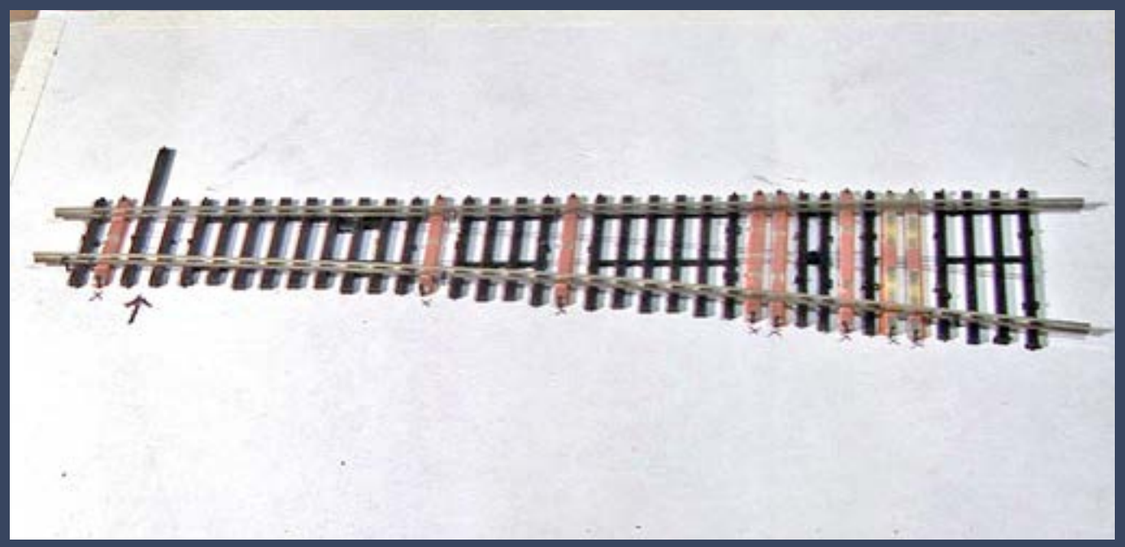


Figure 20: I tack the filed stock rails down to the ties with a few spikes. The rail slots in the plastic ties provide the alignment, so I only use a few spikes to hold the rails down into the rail slots.

STEP 6a: Solder the stock rails to the PC ties — soldering technique in-depth

Here's the soldering technique I use - follow this process carefully and you *will not melt the plastic ties* and you will not need a heat sink.

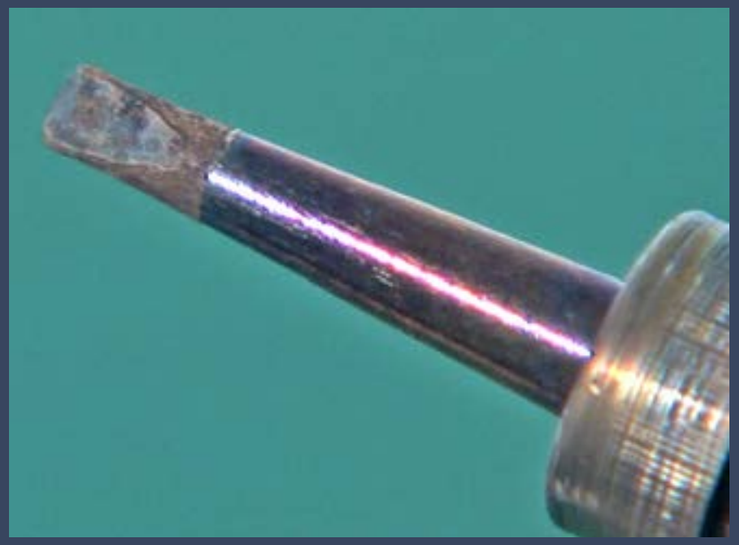


Figure 21: Here's a cold, dirty spade tip on the iron - it needs to be cleaned and tinned.

Figure 22: I heat the iron, apply a bit of rosin-core solder to "tin" the tip, and then wipe the tip on a damp paper towel.

Figure 23: Once properly cleaned and tinned, the tip is shiny like this.

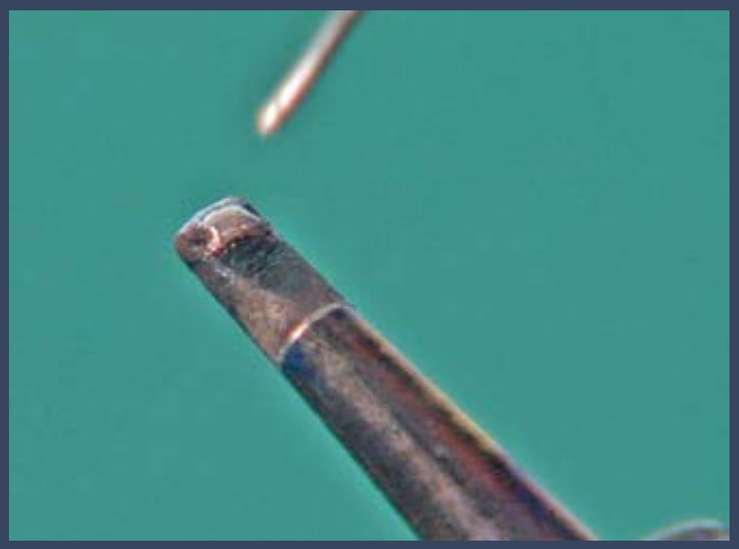


Figure 24: With the tip cleaned and tinned, I load up the tip with a bit of rosin-core solder.

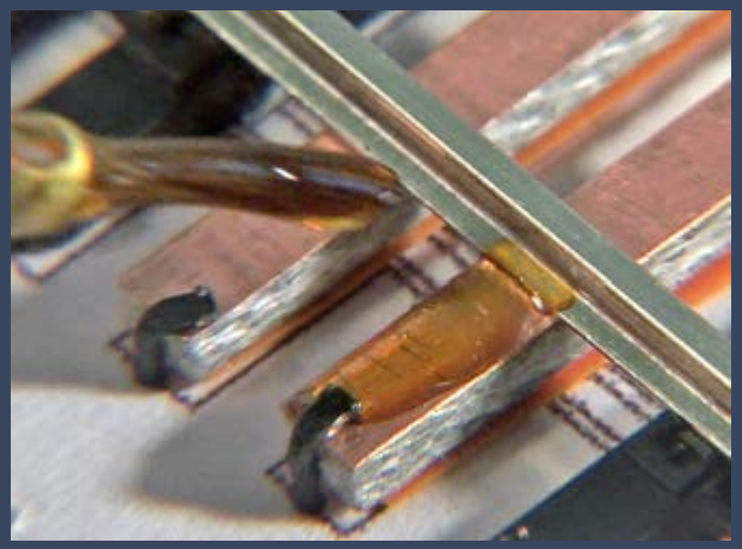


Figure 25: I apply a rosin solder flux to the PC tie and rail base. Applying a hot solder-loaded iron into this flux allows for very fast-flowing application of the solder.

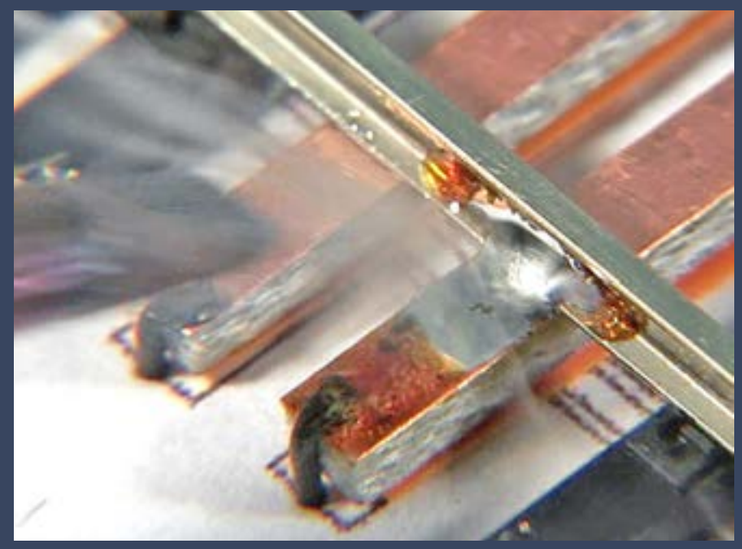
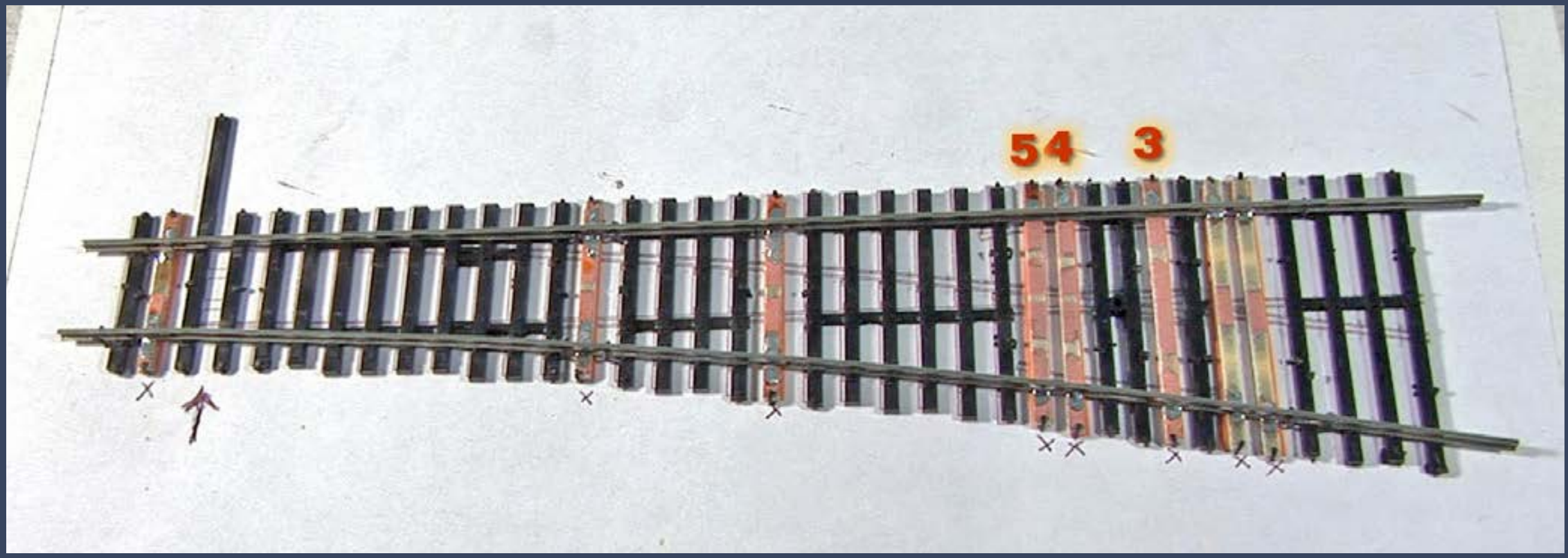


Figure 26: I apply the solder-loaded tip to the rail base for just one second and the solder flows onto the base of the rail and PC tie without melting any nearby plastic ties.

STEP 6b: Solder the stock rails to the PC ties



Click here to play this video ...

Figure 26: Here's the turnout with the stock rails soldered to all the PC ties. Note that on PC ties 3, 4, and 5, I only soldered the outside of the rails because the inside of the rails will be where I solder the guard rails. I don't want any solder interfering with the proper placement of the guard rails.

◀ This video illustrates the soldering process covered on the previous page.

STEP 7: Prepare and lay inner stock rails

Figure 27: Using a 10” mill file on #6 frog point filing jig from Fast Tracks, I file the frog point on each of the two inner stock rails.

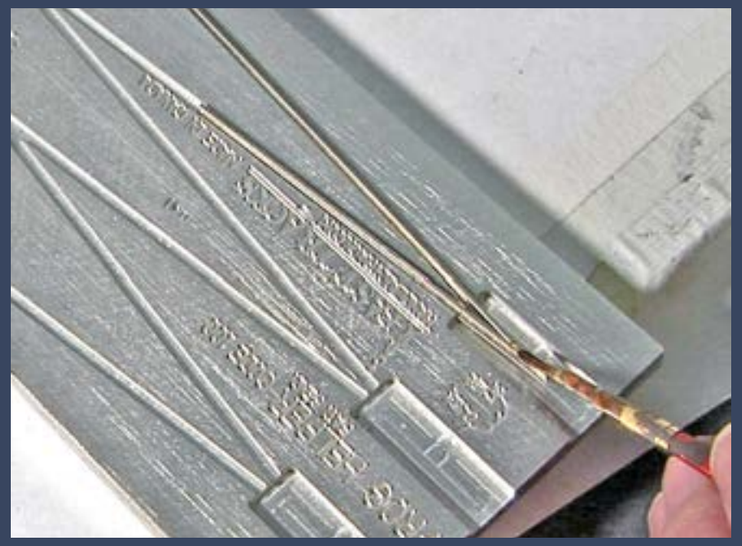


Figure 28: I lay the two inner stock rails into the #6 turnout slots of a Fast Tracks frog point soldering jig and apply rosin flux.

Figure 29: A quick touch to the fluxed area with a hot soldering iron tip pre-loaded with a little solder and the solder flows onto the rails and makes them a solid unit.

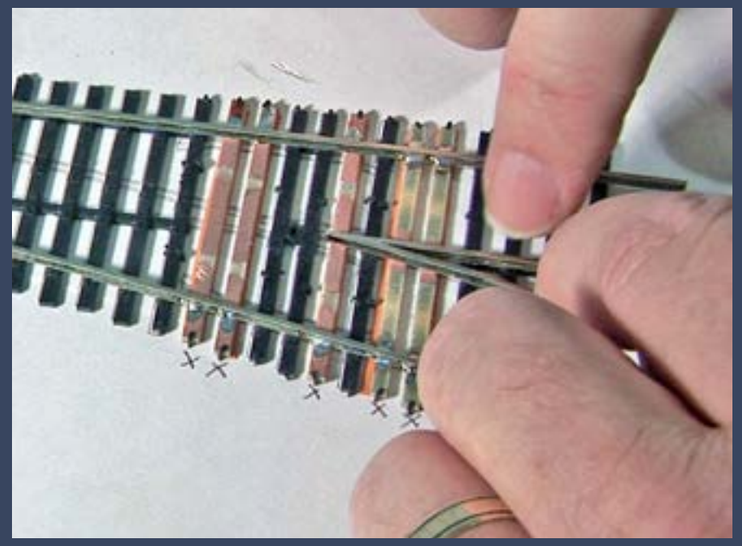


Figure 30: I place the inner stock rails unit into the slots of the CV turnout ties.

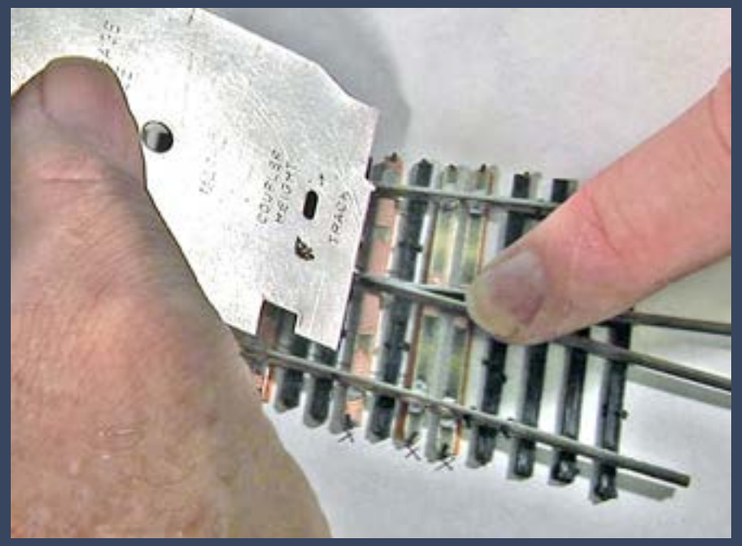


Figure 31: I slide the inner stock rails in/out a bit, using an NMRA track gauge to ensure the track’s at minimum gauge through this area, then tack the rails in place with a few spikes.

Figure 32: I solder the inner stock rails to PC ties 1 and 2 on the sides of the rails I can reach. I apply minimal solder to PC tie 3 to avoid issues later with the frog wing rails.

STEP 8: Prepare closure/frog rails

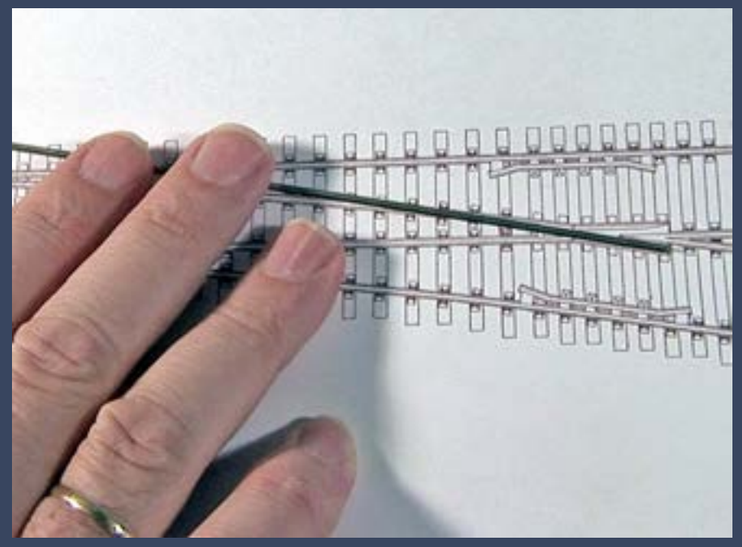


Figure 33: Using a #6 turnout template printout, I measure and mark a 12” length of rail for the location of the frog wing rail bend.

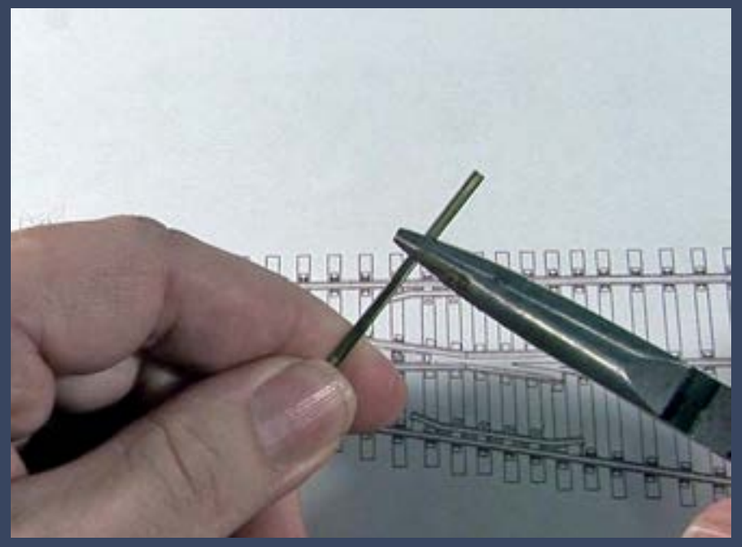


Figure 34: I perform the wing rail bend using a pair of needle-nose pliers.

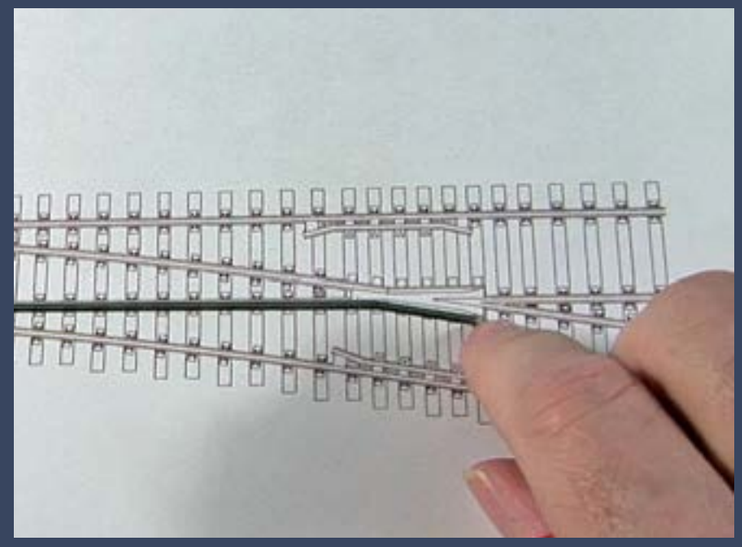


Figure 35: I check the bend against the turnout template turnout, adjusting it as necessary until it matches the template.

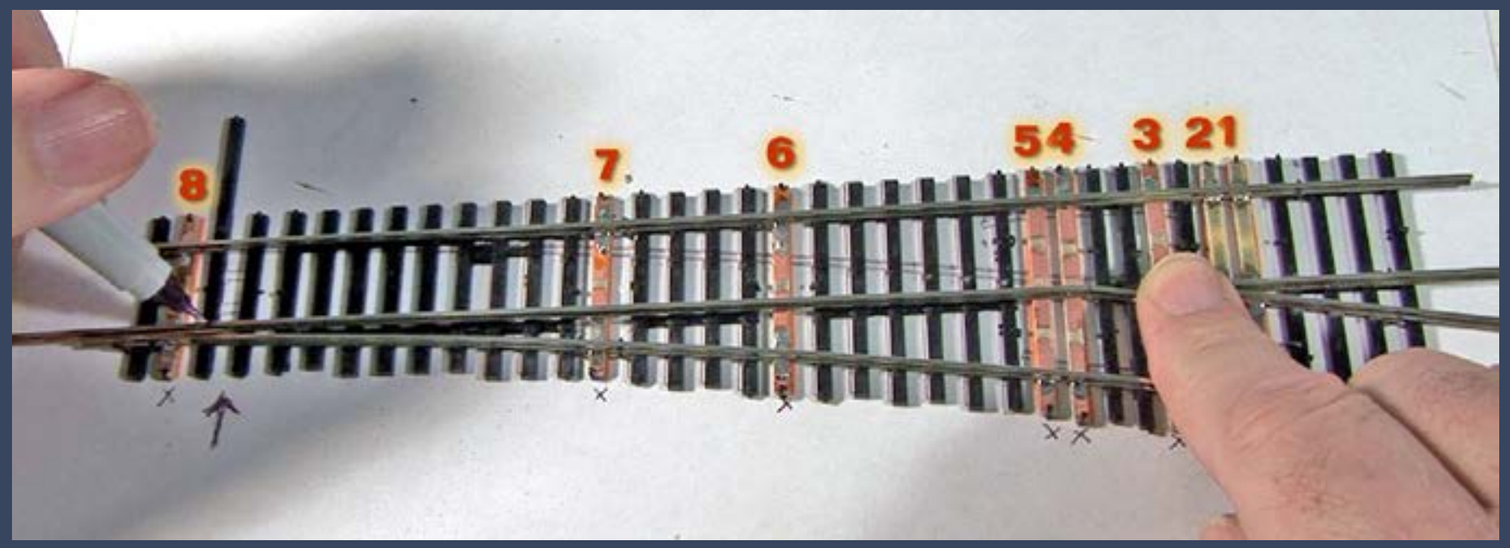


Figure 36: I place the formed closure-frog rail into the slots in the plastic ties, mark the end of the point with a Sharpie® and cut it with flush cutters. I’m constructing the frog, closure rails, and points all as one continuous length of rail because I find that simplifies the points installation. There’s no need for any mechanical points hinge, plus electrically the points are now powered from the stock rails through the copper foil on PC ties 6 and 7.

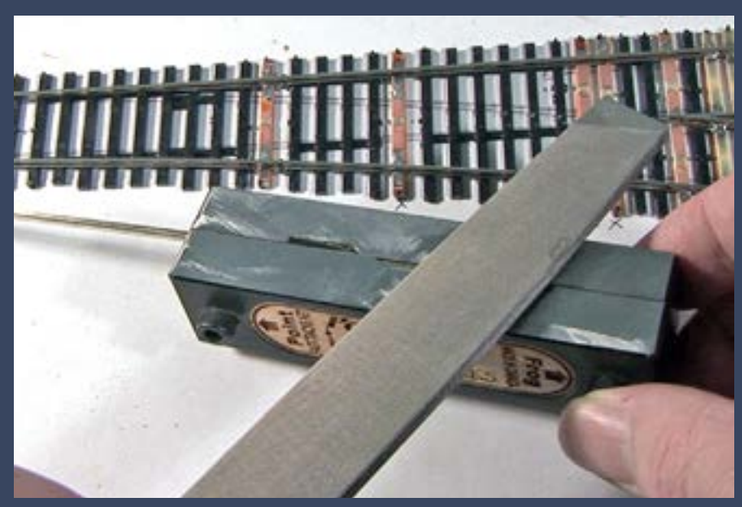


Figure 37: I use the 10”mill file with a #6 Fast Tracks point filing jig to file the point end of the closure rail to a fine taper. Follow the Fast Track guidelines for using this jig to file the point, as shown in the video on their web site (www.handlaidtrack.com).

STEP 9: Lay the closure/frog rails

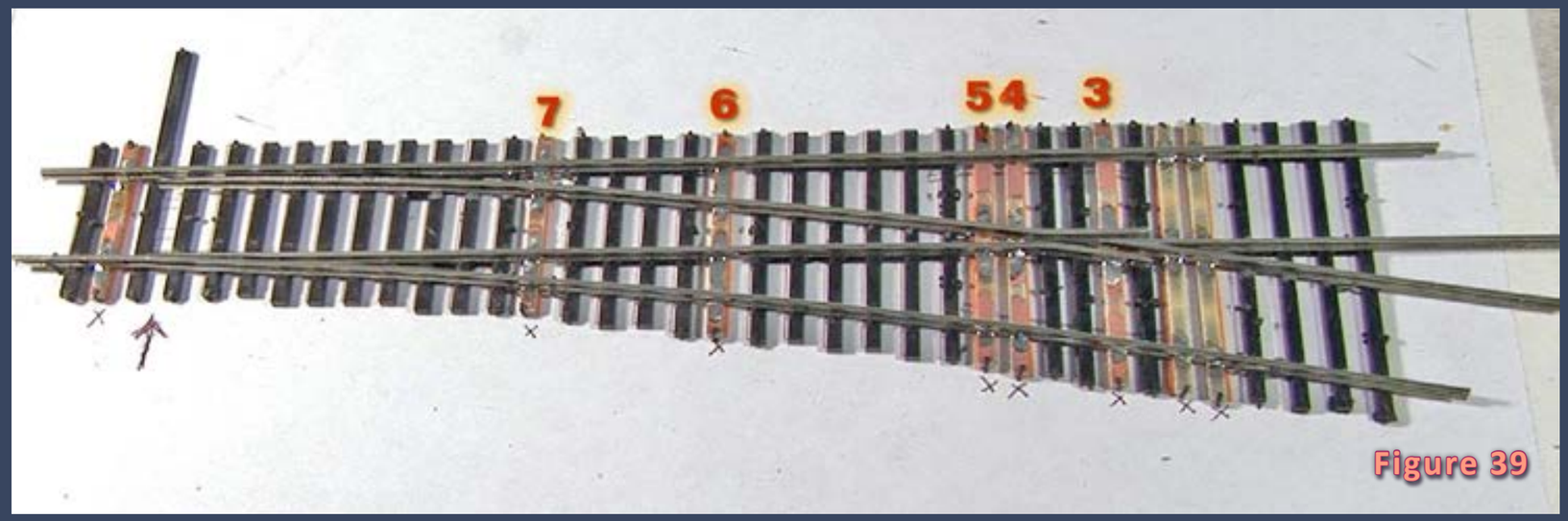


Figure 39

Figure 38: When forming the wing rail flares (before soldering the rail down), I follow NMRA Recommended Practice 13.8. My personal preference is the middle option – the combined bend and bevel, since I think that makes the most realistic looking flare.

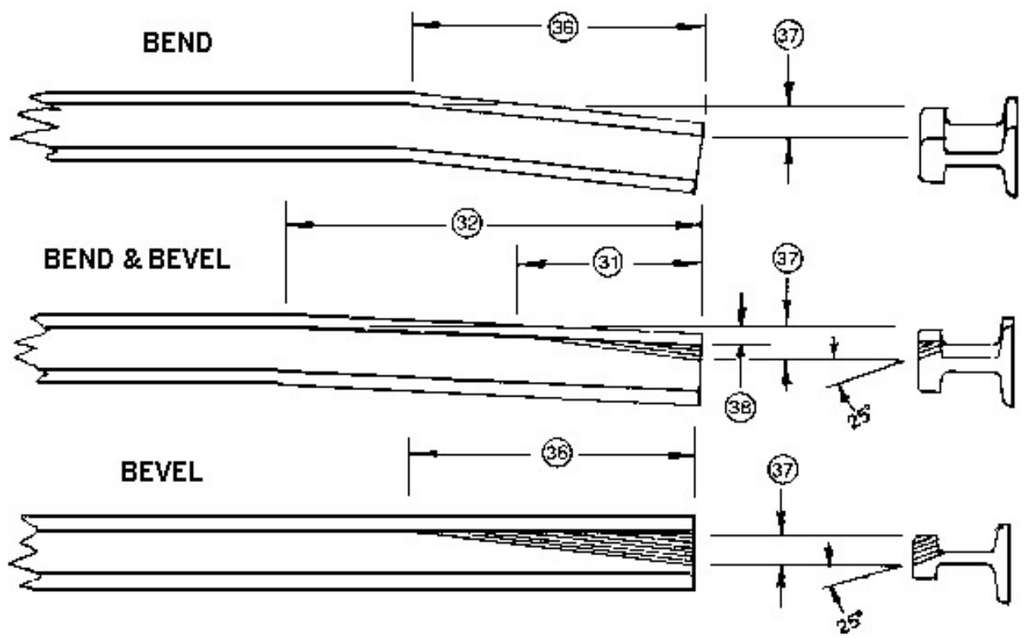
Figure 39: I solder the point-closure-frog rails down at PC ties 3 through 7. I only try to solder on the stock rail side of the closure / frog rails on ties 3, 4, and 5. I solder both sides of the closure rails on PC ties 6 and 7.

PC tie 7 is far enough away from the throwbar area of the points (where the big arrow is on the paper) that they move freely with very little pressure.

RP-13.8 Flangeway Flares

Figure 38

NMRA RECOMMENDED PRACTICES	
FLANGEWAY FLARES	
Issued: Aug. 1981	RP-13.8



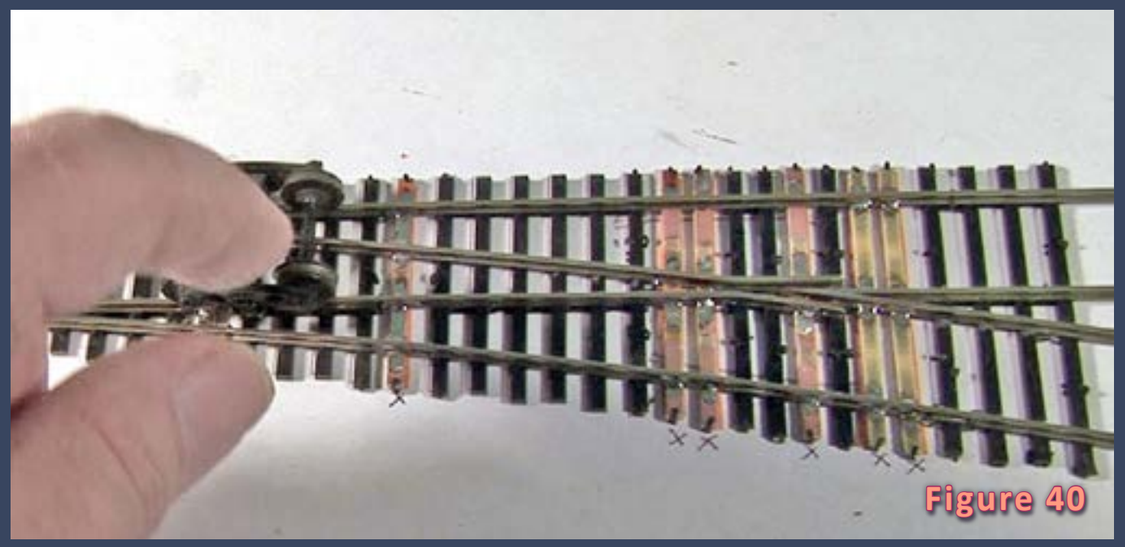


Figure 40

Figure 40: Once I've soldered the closure/frog rails down, I like to take an in gauge truck and do a rolling test through the frog area. If the rails were seated in the slots properly and laid at minimum gauge through the frog, the truck will not wander but should roll through the turnout flawlessly, even without guard rails!

STEP 10: Prepare and lay guard rails

Figure 41: I take a piece of code 83 rail, lay it against the guard rail area of the turnout template, and mark the length with a Sharpie®.

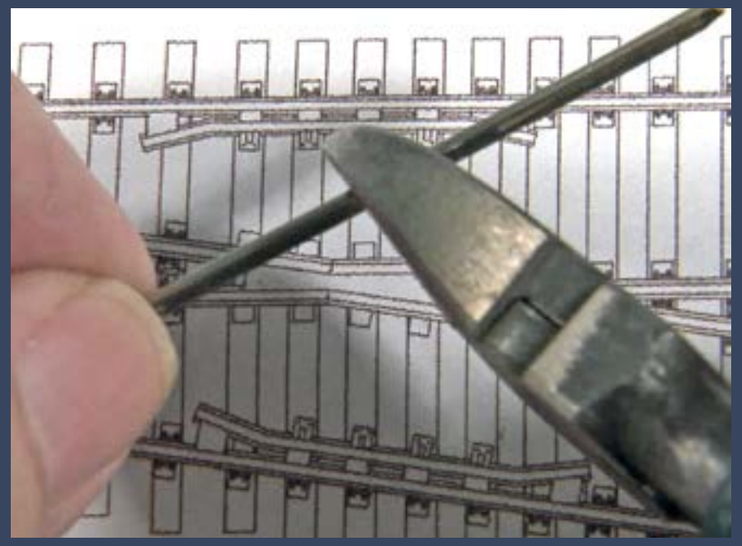


Figure 42: Using the flush cutters, I cut off the guard rail at the mark, then I bend and file the flared ends per figure 38.

Figure 43: I test fit the guard rail and determine its position using the flangeways side of an NMRA gauge. Then I tack it in place with a couple spikes.

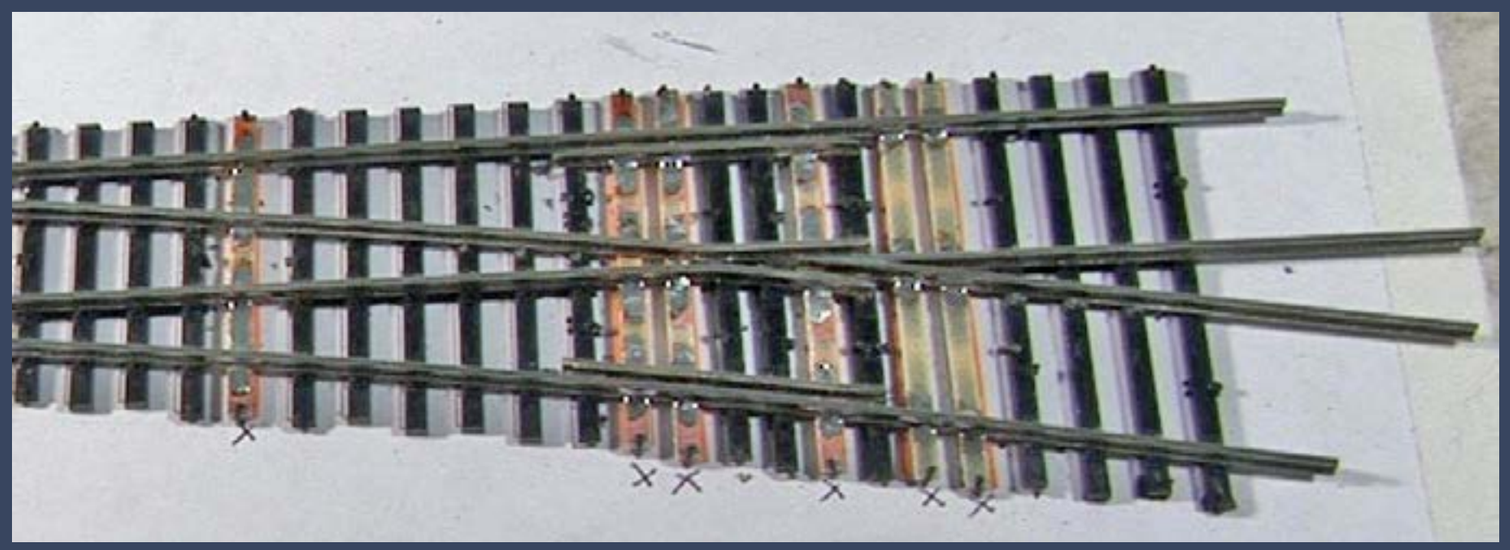


Figure 44: Once I have both guard rails tacked in place with spikes, I apply flux and solder on PC ties 3, 4, and 5. Generally, I first solder one PC tie, then test the spacing of the guard rail as shown in figure 45. If any adjustments are needed, heat the joint and move the guard rail around with tweezers until the check gauge is perfect.

Figure 45: I double-check the soldered guard rails to see that they match the NMRA gauge check gauge guard rail tabs perfectly. Also test the turnout again with a truck.

STEP 11: Prepare and solder throwbar

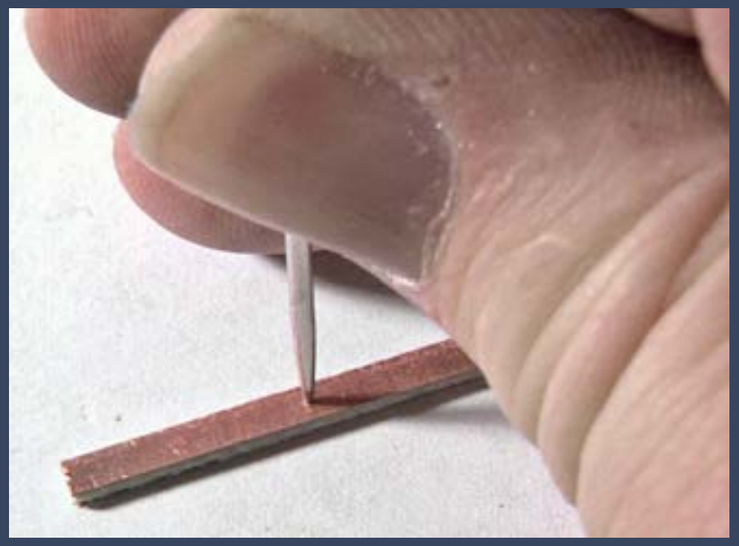


Figure 46: I cut a PC tie to a standard scale 9 foot length and center punch it for drilling the throwrod hole.

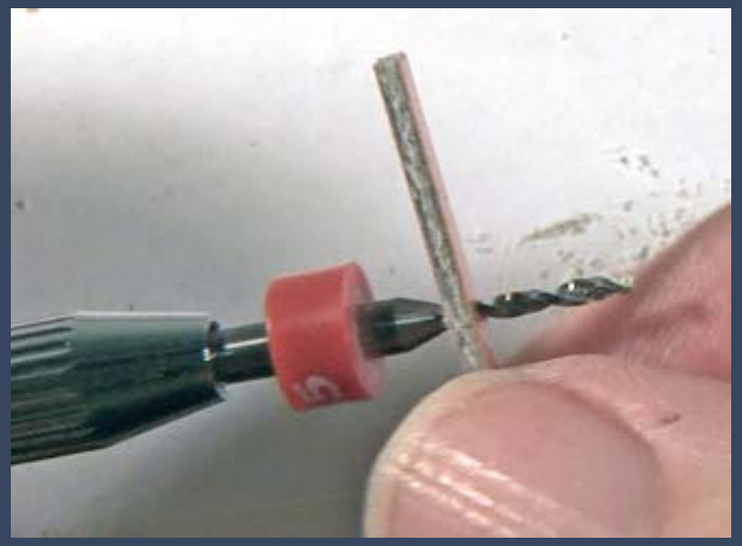


Figure 47: I drill a #53 hole in the throwbar using a pin vise.

Figure 48: I use the mill file to remove the copper foil from the hole area for about 1/4" in each direction. I also apply a couple layers of masking tape to shim the throwbar.

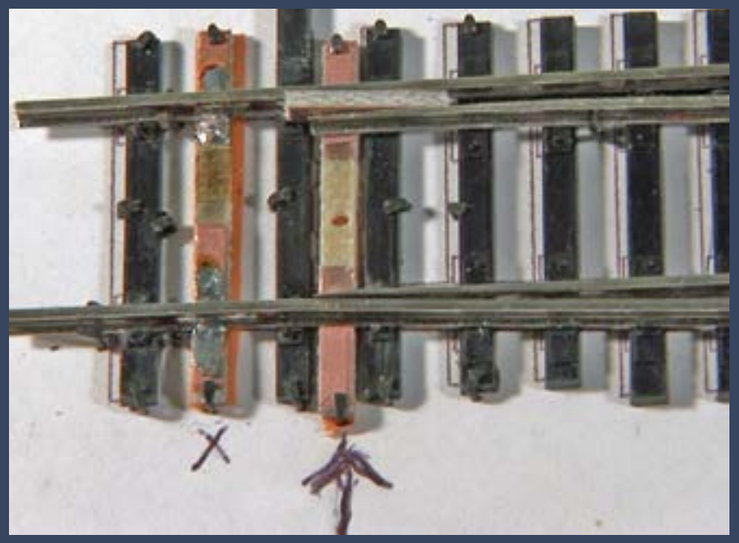


Figure 49: I place the throwbar in the slot marked with the arrow and spike it down. I put a PC tie spacer between the point and stock rail (remove the foil so solder won't stick to it), and hold the point in place with a spike.

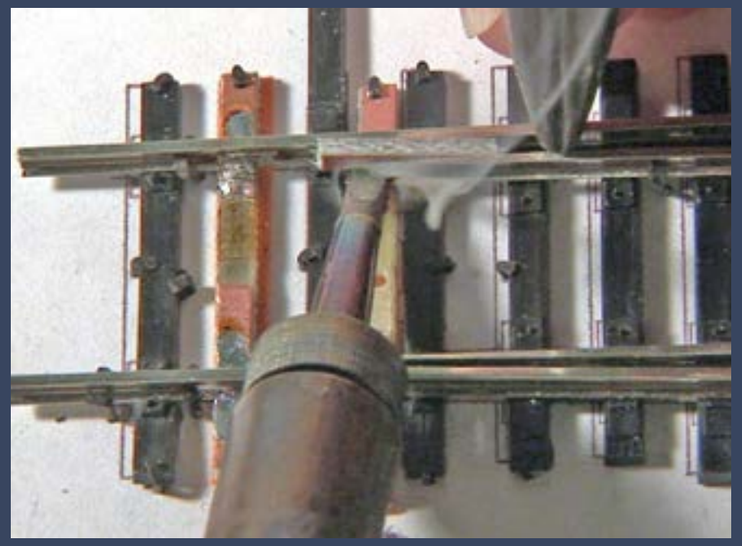


Figure 50: I apply flux and solder to the point, then remove the temporary spike. I then slide the soldered point against the stock rail, move the PC tie spacer and spike to the other point and solder it.

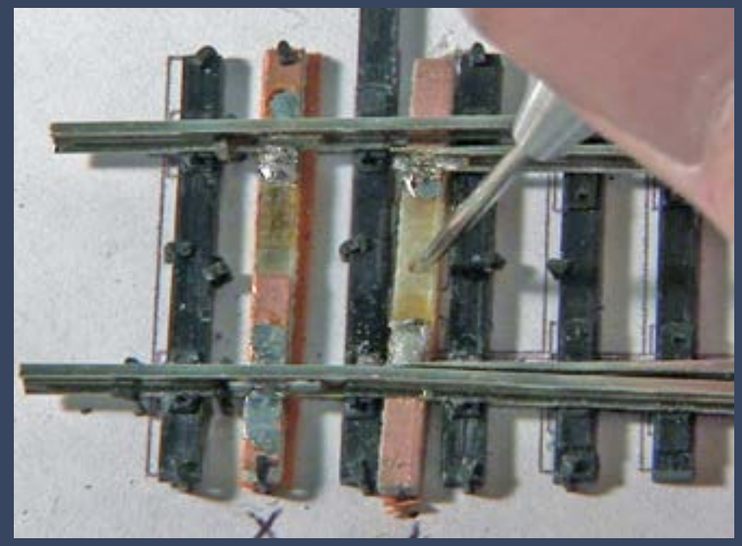


Figure 51: With the points soldered, I test the throw to make sure it's smooth and does not bind. If necessary, I use a needle file to remove any solder that seeped under the point, so it fits flush against the stock rail.

STEP 12: Remove turnout from plastic ties and cut gaps

Figure 52: At this point turnout construction is basically finished, so I remove all the spikes from the PC ties. I leave the spikes holding the plastic ties since they need to remain in place until I'm ready to glue the turnout rails to them.

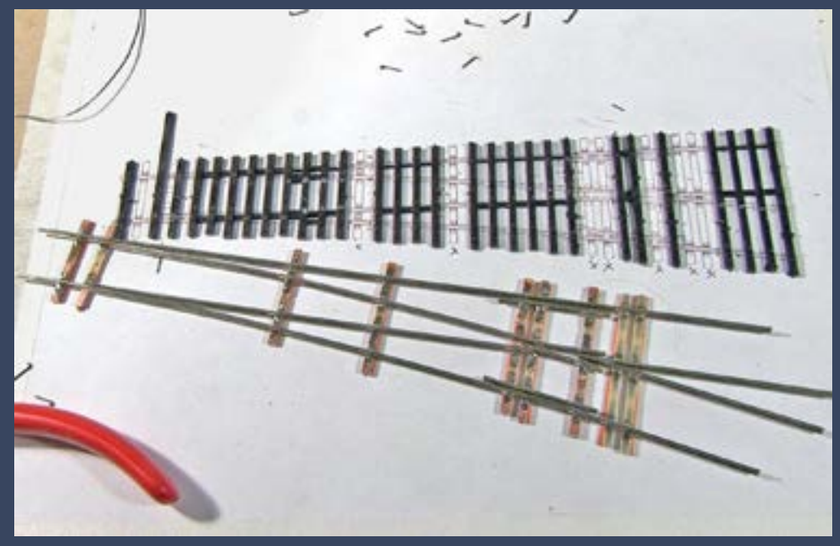


Figure 53: With all the spikes holding the PC ties removed, I remove the turnout assembly to make it easier to cut the gaps around the frog.

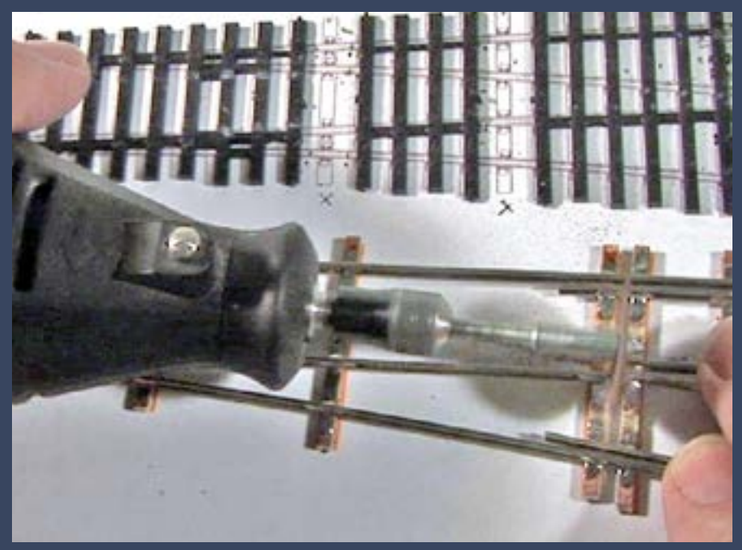


Figure 54: I use a motor tool set on slow speed, with a double-thickness cutoff disk. I carefully cut through the rails between the double ties on the back end of the frog.

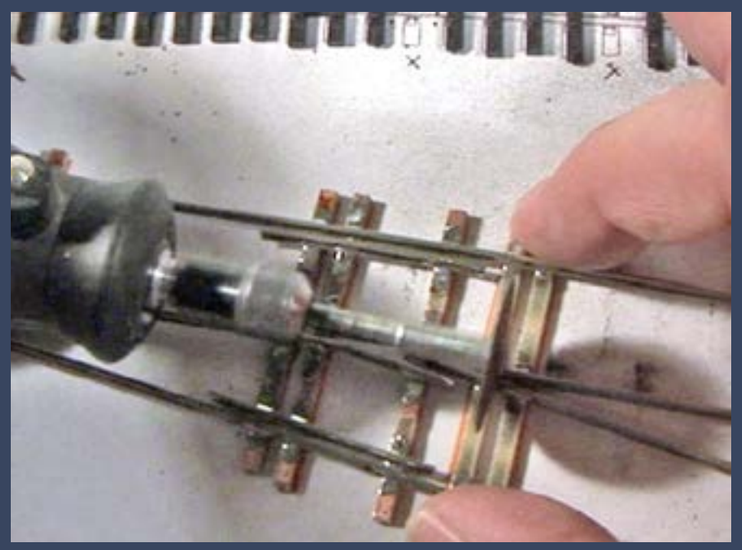


Figure 55: I also cut through the rails between the other set of double ties on the front end of the frog.

Figure 56: With the gaps cut, I remove the shimming layers of tape on the bottom of all the PC ties.

STEP 13: Test for shorts, fill gaps, and clean up solder joints

Figure 57: Using a multi-meter, I set it on continuity testing (sounds a tone when there's a connection) and check the turnout for shorts.

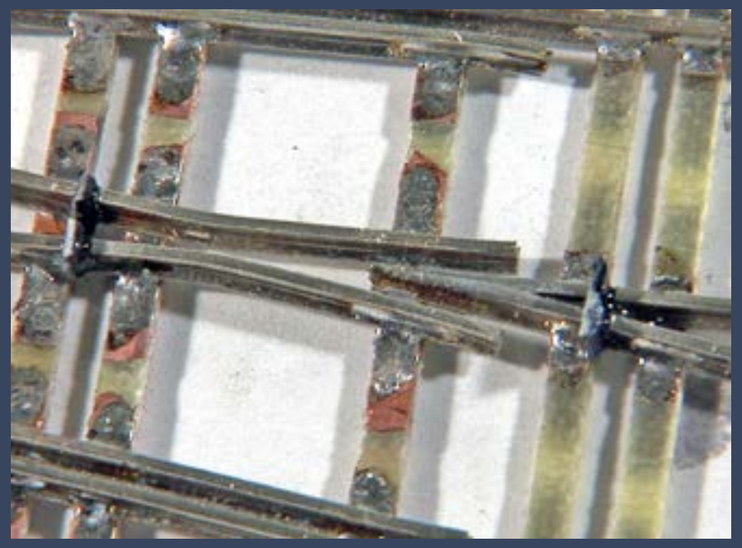


Figure 58: I superglue black styrene scraps from the tie strip into the frog gaps. I let the glue set for a couple hours then trim the styrene flush to the rail head using a sharp X-Acto knife.

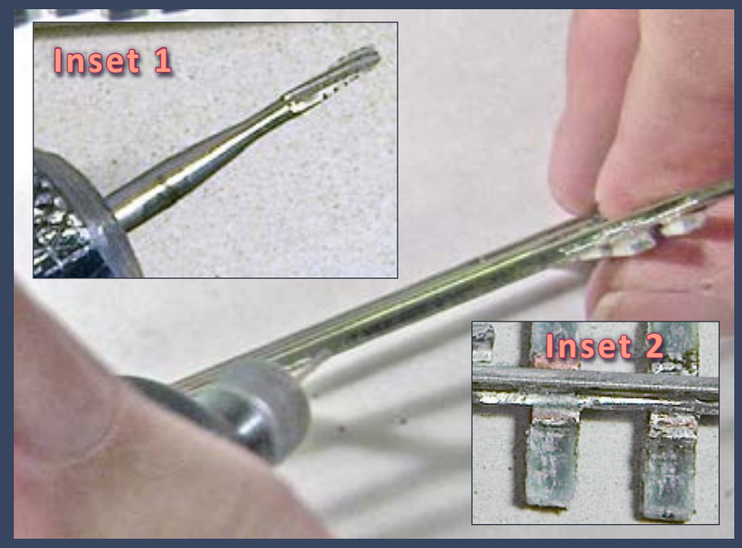


Figure 59: I use a small milling bit (free unlimited [but used] supply from my dentist) to remove excess solder and flux on the sides of the rails. Inset 2 shows the result.

Proto87 Stores and Fast Tracks

Proto87 Stores sells a turnout kit that was inspired by my "Poor Man's jig" process, based upon the Central Valley Turnout tie kit, along with some PC ties, their special frog assembly, and some extra turnout detail parts.

They charge $10 for the kit (as of this writing), and if you like their frog assembly and want the extra details so you can superdetail your turnout then the kit's a good buy.

As you might expect, Proto87 Store's focus in on modeling HO track, either Proto:87 level accuracy, or standard mainstream HO track. Surprisingly, Proto87 Stores does sell a few items for the other scales, but the bulk of their product line is for HO.

If you model one of the other scales and want to go the jig-built turnout route, about the only choice you have is Fast Tracks. You will need to get creative in the larger scales if you want good tie plate and spike head detail, however.

Fast Tracks caters to every gauge and scale you can imagine, such as G, O, S, N, and Z as well as HO of course. They also provide jigs for all most common narrow gauges: 2 foot, 30 inch, and 3 foot guage.

Fast Tracks has assembly jigs for dual gauge turnouts, three-way turnouts, wyes, crossovers, double crossovers, and crossings in a number of angles. As if that isn't enough, they also sell fixtures for straight track, and inserts for various curve radii.

Fast Tracks also sells ancillary filing and soldering jigs, which I also use in my poor man's system.

Fast Tracks is an MRH sponsor, so please visit their web site and check out all the trackwork products and supplies they provide. ■

Reader Feedback (click here)

STEP 14: Glue turnout to ties, paint, and clean railheads

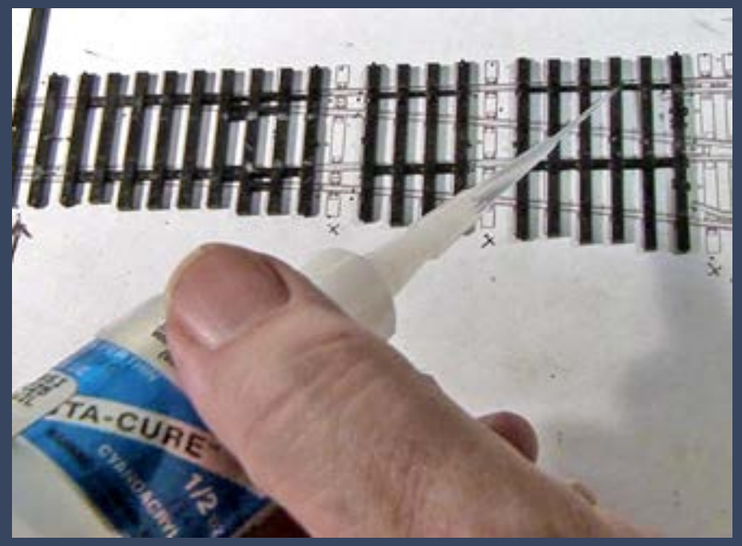


Figure 60: I put a tiny pipette on the tip of the superglue bottle and apply just a spot of superglue to each tie plate slot, being especially careful around the points area.

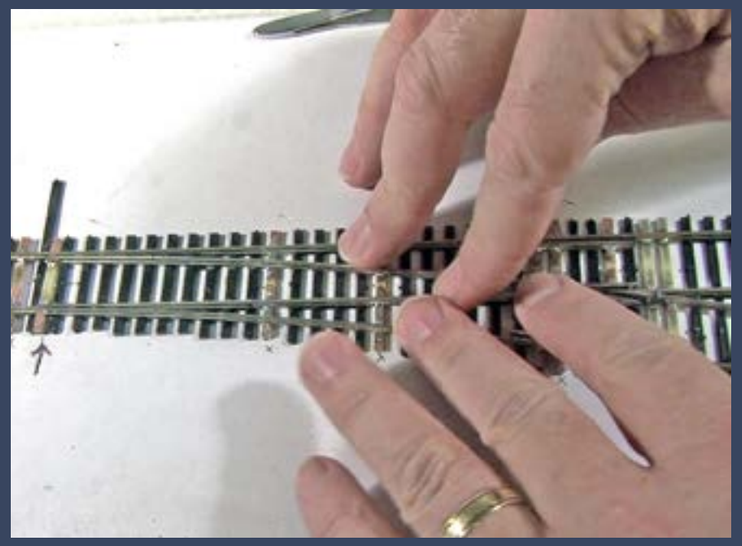


Figure 61: I press the turnout assembly in place onto the plastic ties. and hold it for a few moments, making sure it has seated well.

Figure 62: The point end of the turnout didn't stay perfectly seated in the tie slots, so I used a scrap of particle board and a full paint can as a weight and let it sit for an hour.

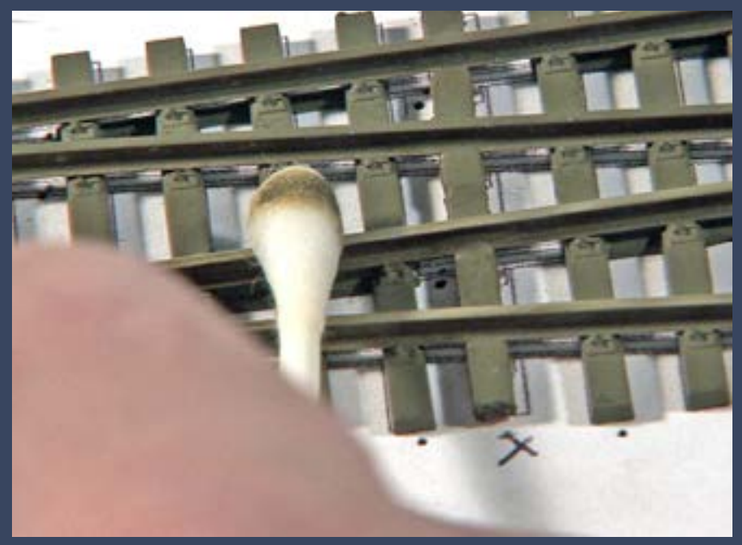


Figure 63: Once the glue is set, I remove all the spikes and take the turnout outside and spray paint it with a spray can of Floquil Rail Brown. I use Q-tips dipped in lacquer thinner to clean the rail heads.

Figure 64: So here's my finished, completely in-spec turnout, ready to install. You can do more to superdetail a turnout, but we'll leave that for a future article.

Static Grass Applicator Update

How to use the new-and-improved high output 12V negative ion generator from Oatley electronics to build your own static grass appplicator ...

Reader Feedback (click here)

In the Mar/Apr 2010 issue of *Model Railroad Hobbyist magazine*, I presented three different methods for building a static grass applicator. Two of the the examples used negative ion generators from Oatley Electronics in Australia – a 12V version and a 120V version.

Oatley has since discontinued the 12V version of the generator I used in the article and replaced it with a newer model. In this update, I discuss how to wire the applicator using the new model, since the wiring has changed.

Because the new ion generator has a lower input voltage, between 6 and 9 volts DC, changes should be made to the optional power indicator LED portion of the circuit to allow for that.

Begin by determining your power supply voltage from either a battery or AC adapter. Select an LED that is appropriate for mounting in the chassis, making sure to determine and record the specification of the LED.

You can use the handy LED resistor calculator at, http://led.linear1.org/1led.wiz to determine the resistor value you need.

Figure 1: Kevin's original article in the Mar/Apr 2010 issue of MRH demonstrated step-by-step 3 different ways to build your own static grass applicator. One of the best ways was using the 12V negative ion generator from Oatley Electronics. Unfortunately, Oatley has discontinued the generator shown in the article, so here author Kevin Rowbotham gives updates on how to use the new improved 12V negative ion generator from Oatley.

The new ion generator can produce nearly three times the 5KV output of the former module. Powered at only 6 volts DC, the new generator puts out an impressive 8KV, while only drawing around 30mA of current.

Supplying the module with 7.5 volts DC ramps the output up to over 10KV.

– *by Kevin Rowbotham*

I have tested the module to 9 volts, and it worked well, and produced a whopping 12KV on the charge wire.

With the low DC input voltage and minimal current requirements, using alkaline or rechargeable battery power is now easier than ever if you'd like to make your static applicator truly portable.

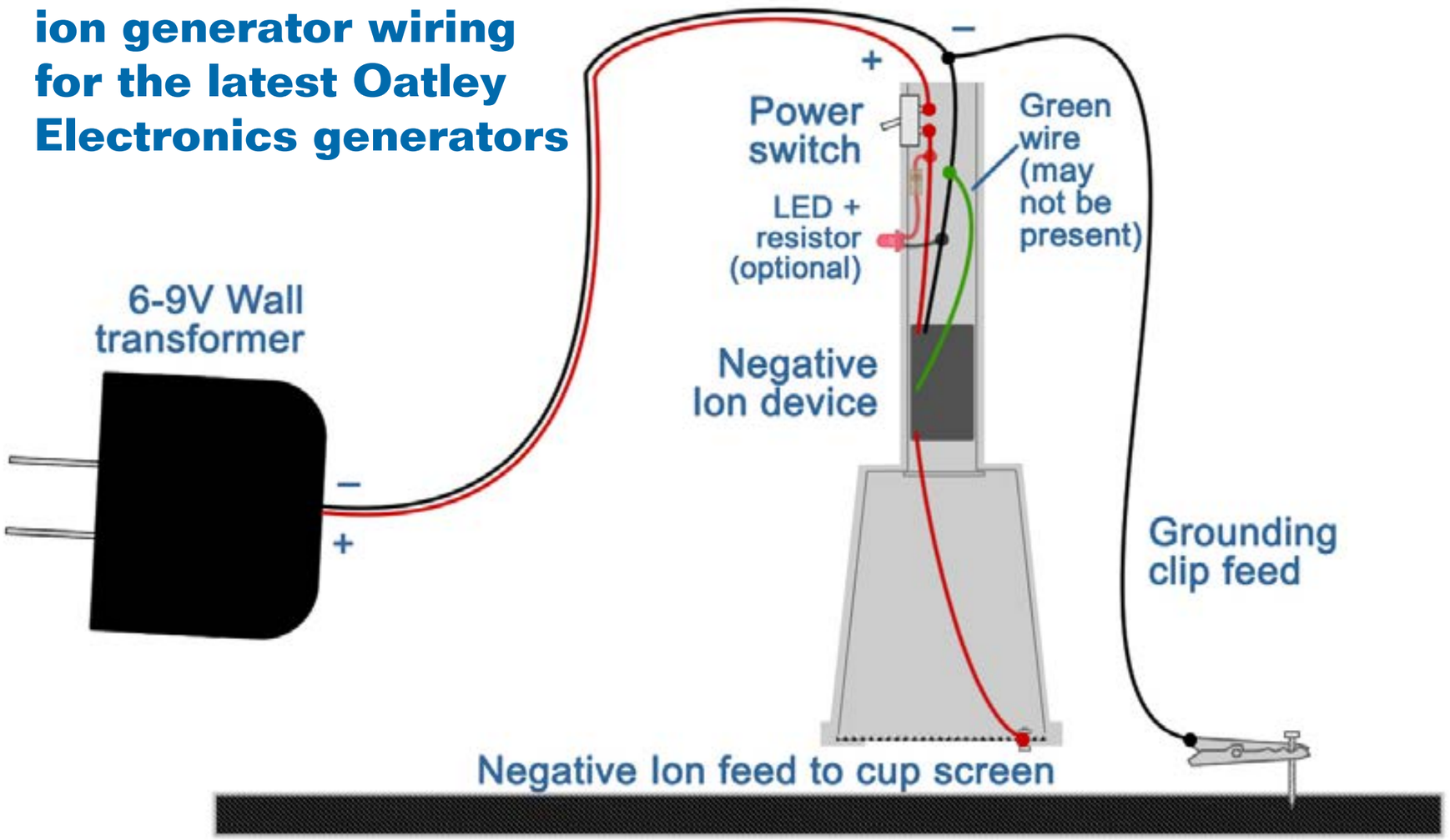
It's good to see Oatley has this new, better negative ion generator because the 12V generator is the preferred model over the 120V version.

While it's possible to build a completely safe static grass applicator with Oatley's 120V negative ion generator, it does take more care in order to make sure the final applicator wiring is safe.

With the 12V model, there's almost no wiring mistake you can make that will result in an unsafe applicator. Worst case, you may get a hair-raising static jolt, but nothing much worse than touching a door knob on a cold winter day after you've been dragging your feet across a rug.

On the next page, I show a wiring diagram for the new 12V negative ion generators. The major change involves the green wire in some

Updated 12V negative ion generator wiring for the latest Oatley Electronics generators



generators, which is a ground wire. If the green wire is not present, then the red and black wires are routed as shown – just ignore the green wire.

With the updated wiring diagram and the new 12V generator, you will be good to go. The resulting applicator performs even better than the one I show in the original article. ☑

Figure 2: This updated wiring diagram illustrates the changes for the new ion generators. The notable change to the wiring is the addition of a green ground wire on some generators. When the green wire is present, connect it with the black (negative) wire in the circuit. For those who desire an LED power indicator, use the optional LED and resistor portion of the circuit, being certain to include an appropriately sized current limiting resistor in series with the LED. NOTE: Model-trains-video.com also sells the ion generator, click here.

MRH Takes a Close Look at ...

Elizabeth Allen's Magnificent Scratch-built SDP45

Figure 1: Photo courtesy of Harry K. Wong.

Cannon and other parts make a scratchbuilt Southern Pacific SDP45 a showpiece ...

– *by Richard Bale*

All photos by Elizabeth Allen unless otherwise noted.

Reader Feedback *(click here)*

Elizabeth Allen built her HO scale model of the Southern Pacific SDP45 #3205 primarily as a display piece for Cannon and Company at the National Train Show in Anaheim in 2008. Her friend Dave Hussey, owner of Cannon, had just received pre-production samples of some new fans and it was decided to use SP 3205, an SDP45, because it had five different roof fans.

Because Southern Pacific scrapped all of their SDP45s by the mid-1990s, Elizabeth relied on photographs of

Figure 2

Figure 2 and 3: Elizabeth used standard Cannon parts for the cab, nose, and sub base. She modified the short nose to accommodate the arrangement of SP lights. Elizabeth considered several options for replicating the wrapped piping on the front pilot (Figure 2 and 3) and fuel tank (Figure 8). After several experiments, she settled on wrapping a thin strip of .005 styrene around .015 brass wire, using thinned Barge cement as an adhesive.

Figure 3

the prototype to build her model of the EMD diesel. Fortunately, she had photographed many SDP45s leading commuter trains in San Francisco and on weekend freight service over Donner Pass. In addition, her friend Brian Rutherford contributed several close-up photos that helped greatly in replicating some of the details.

Elizabeth used standard Cannon parts for the cab, nose, and sub-base. She modified the short nose to accommodate the SP light package. Elizabeth considered several options for the wrapped piping on the front pilot (Figure 2 and 3) and fuel tank (Figure 8), and after several experiments, she settled on wrapping a thin strip of .005 styrene around .015 brass wire, using thinned Barge cement as an adhesive (figures 4 and 5).

The traction motor cable brackets for the Flexicoil trucks (Figures 4, 9, 13, and 14) are from a group of etched parts Elizabeth obtained from Brian Banna. RailFlyer now makes the identical brackets. The valves at either end of the model are Cal-Scale globe valves and the etched extended range access doors are from Cannon.

Elizabeth modified the Cannon hood to accommodate the brake wheel (Figure 7). The air reservoirs (Figure 6 and 8) are also Cannon parts. Many of the multitude of details are scratchbuilt. Others are from Detail Associates, Precision Investment Associates (PIA), Plano, Athabasca Scale Models, and Details West. Elizabeth fabricated the long fuel tank from two Athearn tanks, leaving an authentic weld bead in the middle (Figures 6 and 8).

Elizabeth salvaged a portion of a damaged walkway from her parts stash to lengthen the duct for the traction motor blower (Figures 8 and 9), and to replace the top half of the blower cover. The grille was salvaged from an Athearn SD45T-2. The fairings on the dynamic brake bulge and radiator were built up from strips of styrene.

The model is finished with AccuPaint and Microscale decals. Elizabeth thinks most factory paint jobs are too dark, so she applies a lightened color as a base followed by her special brand of weathering, most of which is applied with a brush using artist oils.

Detail parts which came from Cannon and Company include the pre-production flared and cap-top fans (Figures 1, 10, and 11) as well as the 48-inch dynamic brake and radiator fans. Elizabeth built the icicle breakers (Figure 10) from styrene strip. The etched metal lift rings are from Plano Model Products.

Although a bottom view of the unpainted SDP45 was not available, the nearly-completed SD45X shown

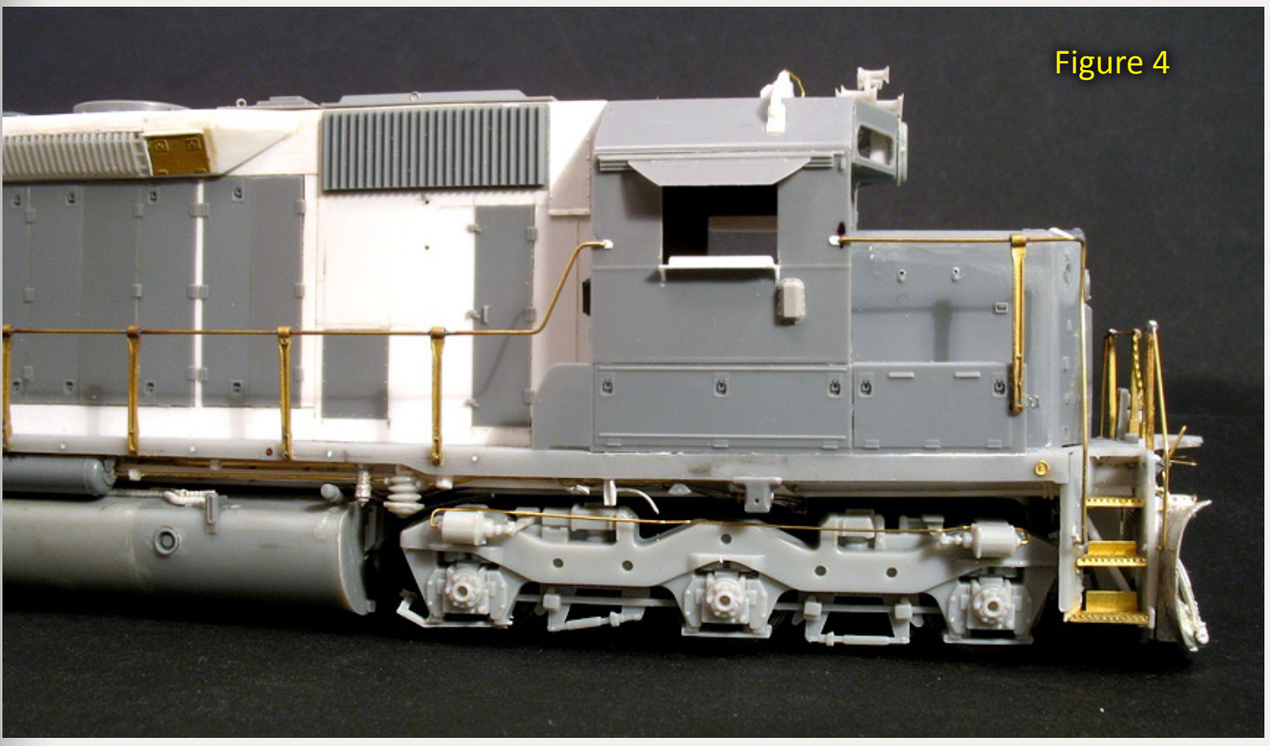


Figure 4 and 5:The traction motor cable brackets on the Flexicoil trucks (Figures 4, 9, 13, and 14) are from a group of etched parts Elizabeth obtained from Brian Banna. RailFlyer now makes the identical brackets. The valves at either end of the model are Cal-Scale globe valves and the etched extended range access doors are from Cannon.

in Figure 12 clearly demonstrates the amount of detail Elizabeth puts into her models. She milled the Athearn SD45T-2 frame so that it fits completely within the frame rails. This allows all of the details, including those under the deck, to be completed on the shell as a single project.

The drive is from the donor SD45T-2 with standard Flexicoil trucks. The model operates well and has made a few runs around the La Mesa Model Railroad Club in San Diego.

Elizabeth scratchbuilt the hood of her SDP45 using Evergreen styrene and Cannon doors. Other details include radiator grilles salvaged from a Proto 2000 SD45, and Precision Investment Associates (PIA) handrail stanchions (Figures 2, 8, 13, and 15).

Elizabeth likes to take her time when modeling, but when motivated, she admits to getting things done in a hurry. She began working on 3205 on Memorial Day weekend and completed the model in five weeks – just in time for the National Train Show in early July, 2008. The model was also on display at the 2011 NTS held recently in Sacramento, California.

The walkway and deck are from an Athearn SD45T-2. By carefully milling the rear of the SD45T-2 deck, Elizabeth was able to install a more detailed Cannon anti-climber and still retain the original molded tread plate (Figure 16). She used styrene to scratchbuild the steam lines on the rear pilot. For the rear grabs, Elizabeth initially tried using the spacing from the Athearn SD45T-2 shell, but they were incorrect.

The model is intended to represent locomotive 3205 circa 1978-79. Elizabeth says she has been addicted to this type of detailing ever since reading the articles in Mainline Modeler by Bob Zenk, in which he documented construction of an Amtrak F40PH. “I’ve been trying to keep up with Bob Zenk, Dave Hussey, and Brian Banna ever since.”

Elizabeth loves modeling diesels, but ironically, she is not that fond of SDP45s.

Figure 6

Figure 7

Figure 6 and 7: Elizabeth modified the Cannon hood to accommodate the nose brake wheel (Figure 7). The air reservoirs (Figure 6 and 8) are also Cannon parts. Many of the multitude of details are scratchbuilt. Others are from Detail Associates, Precision Investment Associates (PIA), Plano, Athabasca Scale Models, and Details West. Elizabeth fabricated the long fuel tank from two Athearn tanks, leaving an authentic weld bead in the middle (Figure 6 and 8).

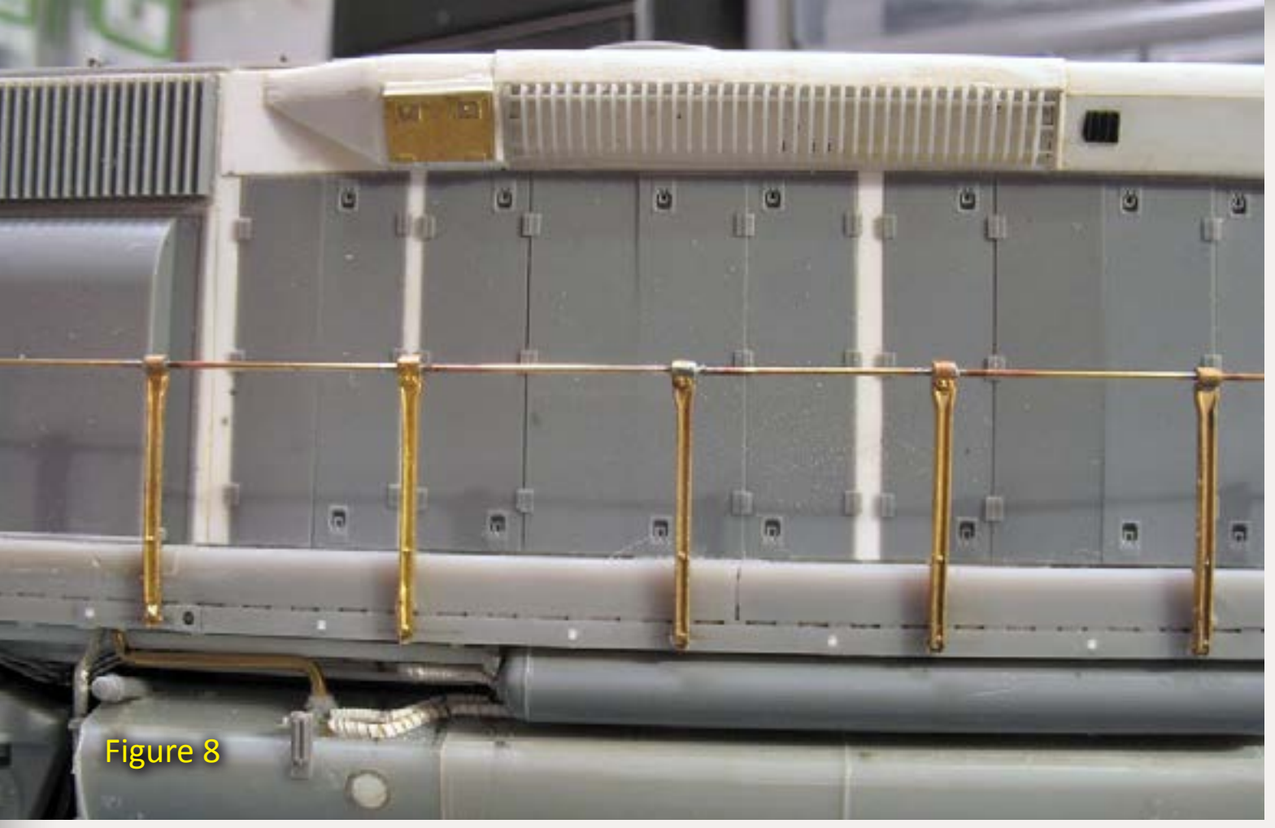


Figure 8

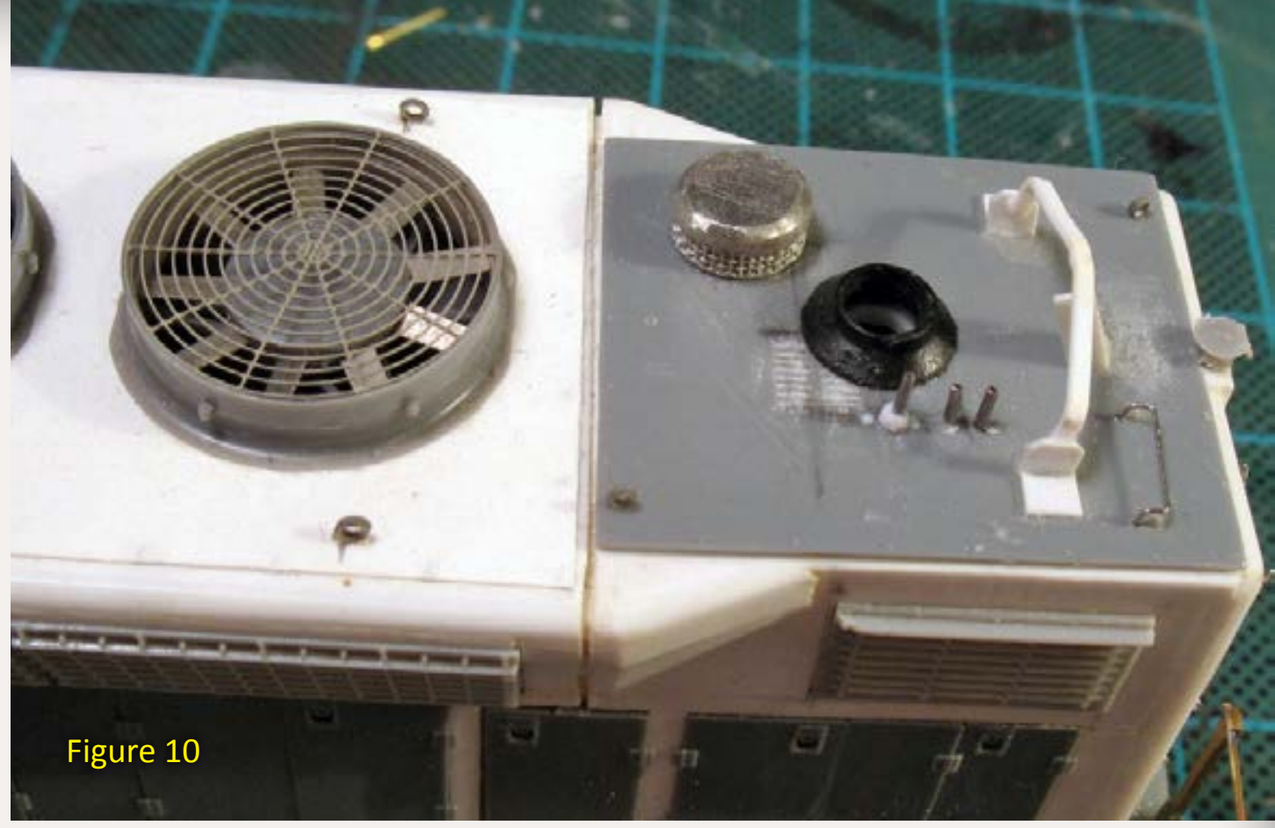


Figure 10

Figure 9

Figure 11

Figure 8 and 9: Elizabeth salvaged a portion of a damaged walkway from her parts stash to lengthen the duct for the traction motor blower, and to replace the top half of the blower cover. The grille was salvaged from an Athearn SD45T-2. The fairings on the dynamic brake bulge and radiator were built-up from strips of styrene.

Figure 10 and 11: Many of the detail parts came from Cannon and Company including the pre-production flared and cap-top fans (Figures 1, 10, and 11) as well as the 48-inch dynamic brake and radiator fans. Elizabeth built the icicle breakers (Figure 10) from styrene strip. The etched metal lift rings are from Plano Model Products.

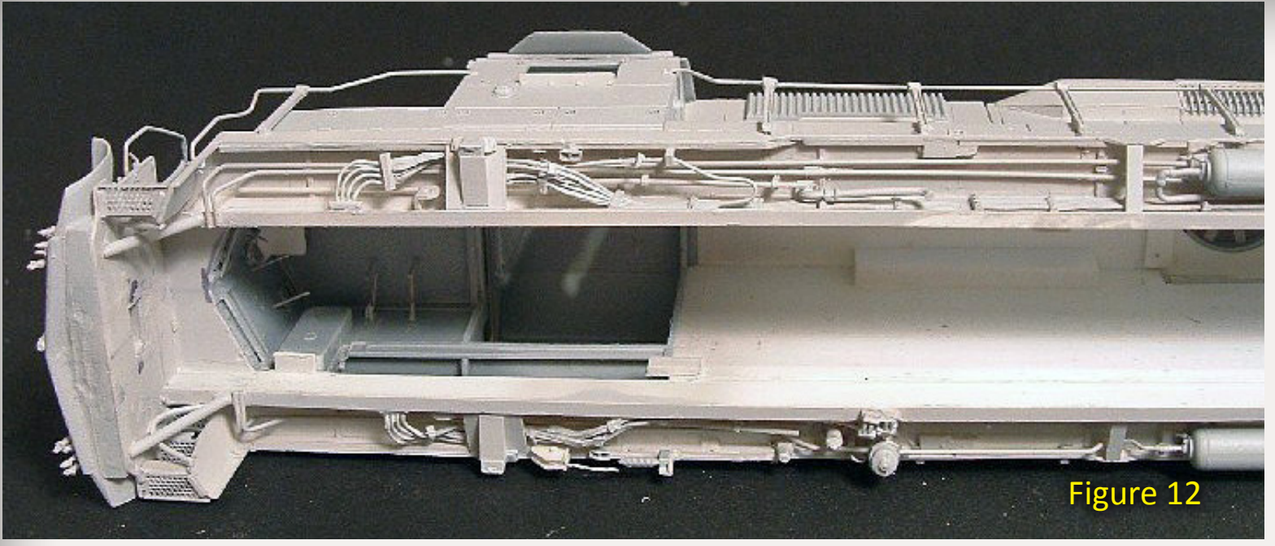


Figure 12: The underside of an SD45X shows the extensive detail Elizabeth includes in her models. She milled the Athearn SD45T-2 frame so that it fits completely within the frame rails. This allows all of the details, including those under the deck, to be completed on the shell as a single project.

Figure 13 and 14: Elizabeth scratchbuilt the hood of her SDP45 using Evergreen styrene and Cannon doors. Other details include radiator grilles salvaged from a Proto 2000 SD45, and Precision Investment Associates (PIA) handrail stanchions (Figures 2, 8, 13, and 15).

Reader Feedback (click here)

The Prototype ...

General Motors Electro-Motive Division built 52 SDP45 diesel locomotives between May 1967 and August 1970. The 20 cylinder, 3,600 horsepower diesel was essentially an SD45 with an extended, squared-off hood at the rear to accommodate a steam generator for passenger car heating. The original buyers were Great Northern, Erie Lackawanna, and Southern Pacific. SP initially assigned their SDP45s to the City of San Francisco. In 1971, after Amtrak leased a few SP SDP45s for use on the Coast Starlight, Southern Pacific assigned their remaining units to commuter trains on the San Francisco Peninsula with the workhorses being used for freight service on the weekends. All of SP's SDP45s were scrapped by the early 1990s. ■

Figures 15 and 16: The walkway and deck are from an Athearn SD45T-2. By carefully milling the rear of the SD45T-2 deck, Elizabeth was able to install a more detailed Cannon anti-climber and still retain the original molded tread plate (Figure 16). She used styrene to scratchbuild the steam lines on the rear pilot. For the rear grabs, Elizabeth initially tried using the spacing from the Athearn SD45T-2 shell, but they turned out to be incorrect.

The model is intended to represent locomotive SP3205 circa 1978-79. Elizabeth says she has been addicted to this type of detailing ever since reading the articles in Mainline Modeler by Bob Zenk, in which he documented construction of an Amtrak F40PH. “I’ve been trying to keep up with Bob Zenk, Dave Hussey, and Brian Banna ever since”

Elizabeth’s next project is a Southern Pacific SD40X.

Elizabeth Allen enjoys modeling a variety of modern equipment but her preference is motive power and freight equipment of the Southern Pacific, particularly as seen in the Roseville area in the late 1970s. She grew up in the San Francisco Bay area and supports her modeling habit working as a toxicologist for the United States Environmental Protection Agency.

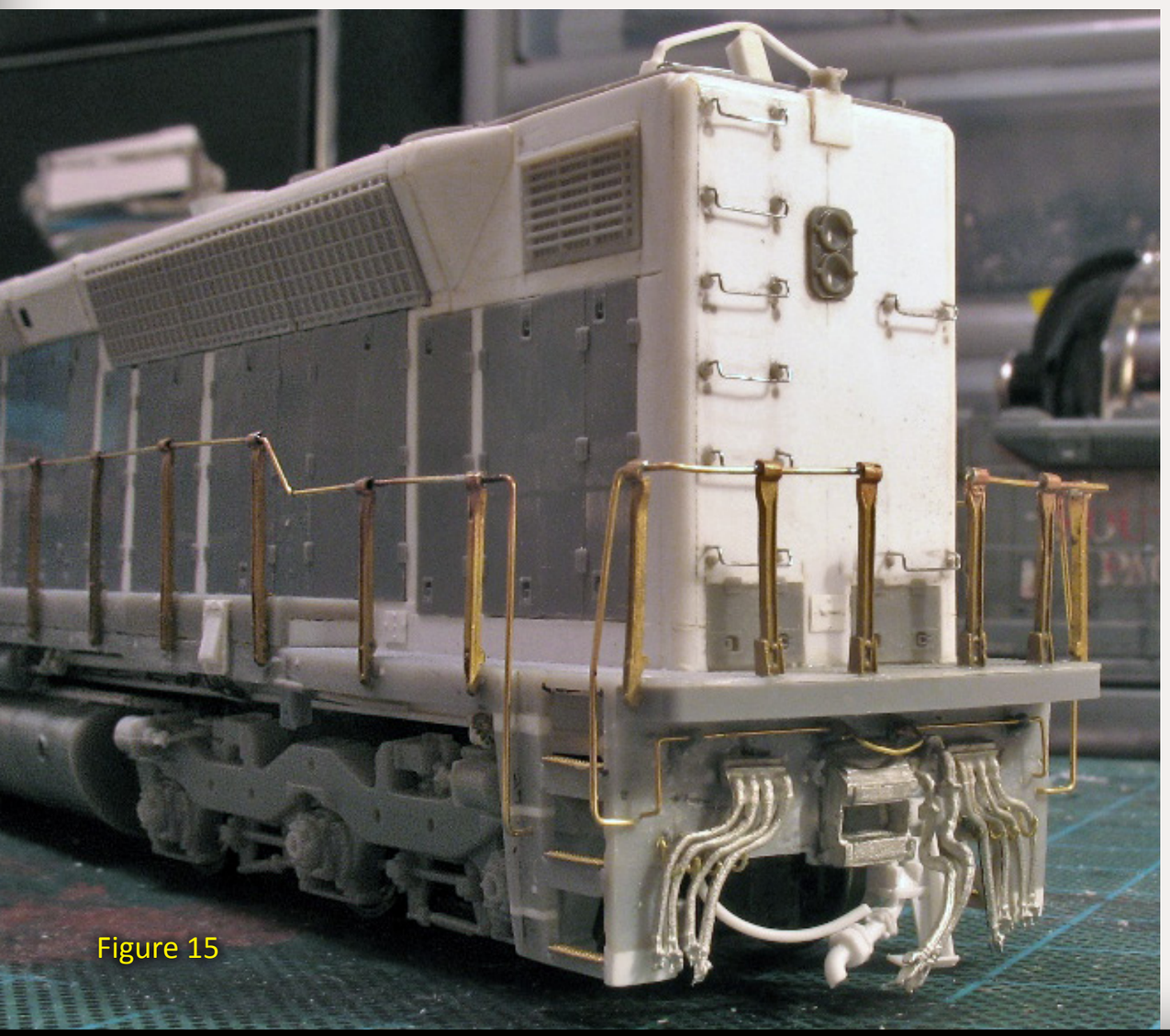


Figure 15

Figure 16

Locomotives as Loads?

— by Matt Snell

photos by the author

Learn what's inside that plastic diesel, and create an eye-catching load for your freights ...

Reader Feedback *(click here)*

As model railroaders, we strive to keep our layouts and trains interesting. While we spend hours assembling consists replicating our chosen prototypes, the reality is that a string of boxcars generally isn't very visually stimulating. Open cars, such as flat cars or gondolas, can display interesting loads, and another unique load can be locomotives being hauled within the train itself.

"Why take a perfectly good locomotive and make it a load instead of using it to pull a train?" you ask. This situation occurs daily on railroads during motive power location adjustments and moves to shops for inspection or repair. Retired power travels to locomotive brokers, historical groups, or scrap dealers. These moves cause railfans to grab cameras, and offer us a chance to bring 'non-standard' locomotives to our layouts while maintaining the integrity of our chosen theme. Just imagine an old Alco pulled by the latest Dash-9 power, enroute to a broker. Or imagine a small switcher a thousand miles from its former home,

"When a locomotive (or railcar) is sold or donated, it often remains in its former owner's livery with only the new owner's reporting marks applied allowing the piece to be moved."

enroute to a shortline or historical society for preservation.

Best of all, paint schemes don't matter when modeling a locomotive 'load'. This allows us to employ schemes we may favor that would be otherwise out of place in the region or time period we have chosen to model. Modeling a retired locomotive doesn't have to be a costly project. Those without preferences to paint or body style will find modeling a locomotive 'in-transit' to be extremely inexpensive if they use manufacturer overstock, clearance items, or used product found at train shows, hobby stores, or online.

Reporting Marks

The first step in modeling a locomotive 'in-transit' is to understand a little about how the AAR (Association of American Railroads) assigns reporting marks. Reporting marks are the letter and number of a specific piece of equipment, either a locomotive or car, that make it compatible for interchange.

Most of us are familiar with the alpha codes of 2-4 letters such as BN (Burlington Northern), UPY (Union Pacific Yard), ATSF (Atchison Topeka & Santa Fe), etc. But many are unfamiliar with the X often found at the end of the alpha code, which is a letter designating private ownership.

Equipment owned by private entities, such as lease companies, shippers, historical groups, and individuals all feature reporting marks ending in an X . This designates the equipment is not owned by a railroad. Several familiar examples are ABOX (Railbox), TTX (Trailer Train Corp.), RBBX (Ringling Brothers Barnum & Bailey circus trains) and UTLX (Union Tank Car Co.). Privately owned equipment isn't just limited to rolling stock, as the locomotive side presents EMDX (EMD Leasing), FURX (First Union Rail), and HLCX (Helm Leasing) among many others. Those who like to protofreelance can even create their own fictitious leasing company, or historical group by simply adding an X behind several letters such as someone's initials.

Figure 2: The reporting marks of this railcar are an example of equipment that remains in an older livery with new reporting marks making it AAR compliant.

Figure 3-4: This HLCX (Helm Leasing) SD60 is an ex-Union Pacific locomotive that may live out the rest of its years wearing this 'revised' UP livery.

"To move a dead locomotive, it is placed into what has been referred to as 'boxcar mode', disengaging the traction motors, while incorporating the locomotive's brake system into the train's braking system."

So why is it important to understand the AAR codes? When a locomotive (or railcar) is sold or donated, it often remains in its former owner's livery with only the new owner's reporting marks applied allowing the piece to be moved. This can lead to the new reporting marks being quickly and haphazardly applied since fulfilling the AAR requirements for movement is more important than aesthetics. In some instances equipment is even placed into service wearing the former owner's livery until there is sufficient time to repaint it. Following these examples we can employ a plethora of paint schemes that would be otherwise out of place in our miniature worlds. All we have to do is change the reporting marks.

The second thing to understand about locomotive loads is the special handling they require. Unlike a conventional locomotive that can be "MU'ed" (Multiple Unit) to function under the control of locomotives, then made to operate as part of a consist, a locomotive "in transit" is not operating but towed. It is officially considered "Dead-In-Train" or "Dead-In-Consist". To move a dead locomotive it is placed into what has been referred to as "boxcar mode", disengaging the traction motors while incorporating the locomotive's brake system into the train's braking system. This allows the locomotive to roll freely while leaving an active brake system, similar to a boxcar.

Special rules also pertain to locomotives being towed. These vary from road to road, often pertaining to the placement of a dead locomotive within a train or the speed of the train. For example, the 1997 NORAC (Northeast Operating Rules Advisory Committee) rulebook lists the following:

Rule 115a – Engines equipped with draft gear hauled 'dead' in a train should be placed next to the hauling engine. Under no circumstances may they be placed further than 35 cars from the hauling engine.

Yet other rules such as NORAC Rule 115b have led to iconic images as well as operational challenges. These are ones we can recreate on our own layouts if we desire:

Rule 115b – Each engine unit must be counted as a car. Engine units must be separated by one or more cars with operative air brakes unless it is known that: 1. Engine units are equipped with alignment control couplers AND 2. The air brake equipment on each unit incorporates a brake pipe vent valve.

Anyone familiar with 1980s northeastern railroading will remember entire trains of obsolete Conrail locomotives, each separated by a gondola or flat car, which were enroute to the scrapper's torch. Recreating a scene such as this with only 2 or 3 locomotives will leave crews busy with the extra moves of spacer cars, while challenging dispatchers to find ways to run trains around the slow-moving scrap train.

Model a Dead Engine

Now that we know a little about AAR codes and the movement restrictions of a dead engine, let's look at modeling one. Join me as I transform a Proto2000 Burlington Northern SW1200 into a load, creating a unique eye-catching piece of rolling stock that can also enhance operations, for less than $40.

"Anyone familiar with 1980s northeastern railroading will remember entire trains of obsolete Conrail locomotives, each separated by a gondola or flat car ..."

This type of project allows us to utilize models we would not normally use on our layouts, providing variety while allowing us to expand our knowledge outside of our modeling 'comfort zone'. In this instance, I chose a western road EMD switcher, a model quickly disappearing from in the contemporary rail scene and one that would also be completely out of place on a modern-era eastern road layout. The choice of this obsolete locomotive would also provide a credible story for the model – a locomotive that was retired, placed in storage, sold to a locomotive broker and was now destined for scrap.

No matter what brand or body style we choose, transforming a model locomotive into a load requires the model to roll freely like any other piece of rolling stock. This means disassembling the locomotive and removing the drivetrain. This is a task that can worry all but the most experienced modelers. Fortunately, taking a locomotive apart isn't difficult. You just have to understand how they are put together and what you are looking at.

STEP 1: Disassembling the Shell

Most diesel locomotive models consist of two basic subassemblies – the shell and the frame. The first thing to do is to separate them. Almost all locomotive models manufactured in the last 10 years are made up of a shell, consisting of multiple pieces such as walkways, a hood section, and a cab which all interlock together to form a one-piece body. A combination of pressure tabs, screws, and the coupler boxes are generally used to secure the shell to the frame. Follow the manufacturer's instructions to remove the shell and expose the locomotive's motor and drivetrain.

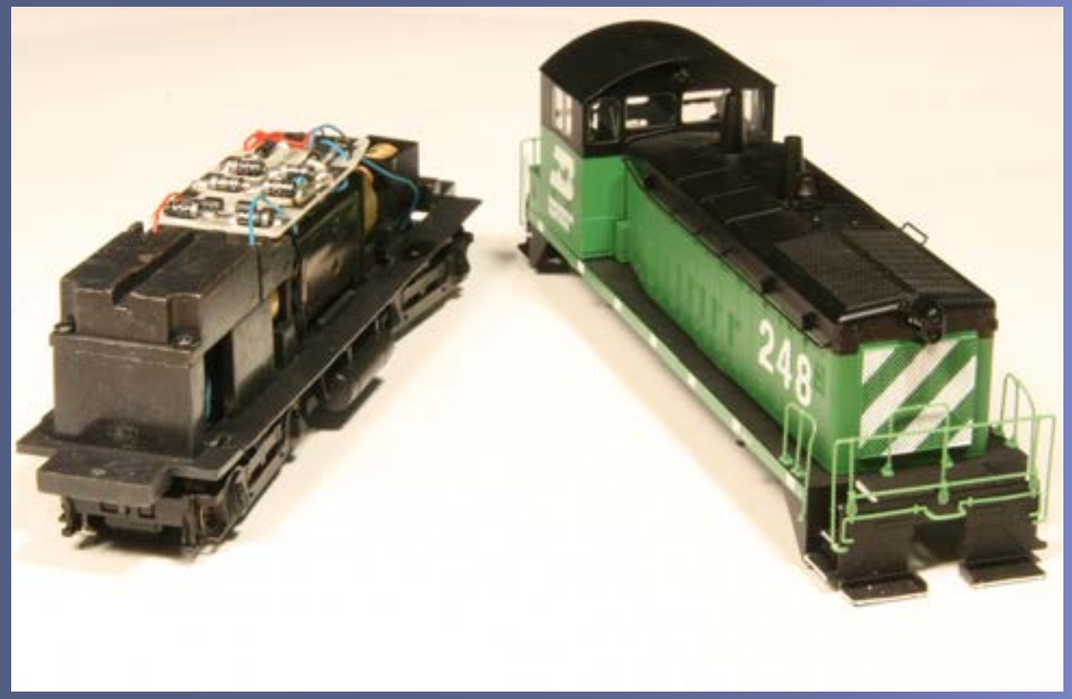


Figure 5: The Proto2000 line is typical of most modern locomotive models. Multiple components interlock to form a one-piece plastic shell that mounts onto the metal locomotive frame.

STEP 2: The Drive Train

Once the shell is removed we are left with the frame component which houses the locomotive's drivetrain. While the collective parts making up the drivetrain may seem complex, they are fairly basic as shown in figure 6:

- The motor with a flywheel on each end (generally also a PC board on top).
- A driveshaft with a worm gear, extending from each flywheel to each truck.
- A retainer clip located on the top of each truck .
- The trucks (wheel assemblies).
- Weights that are added to the frame to increase traction.
- A fuel tank casting.

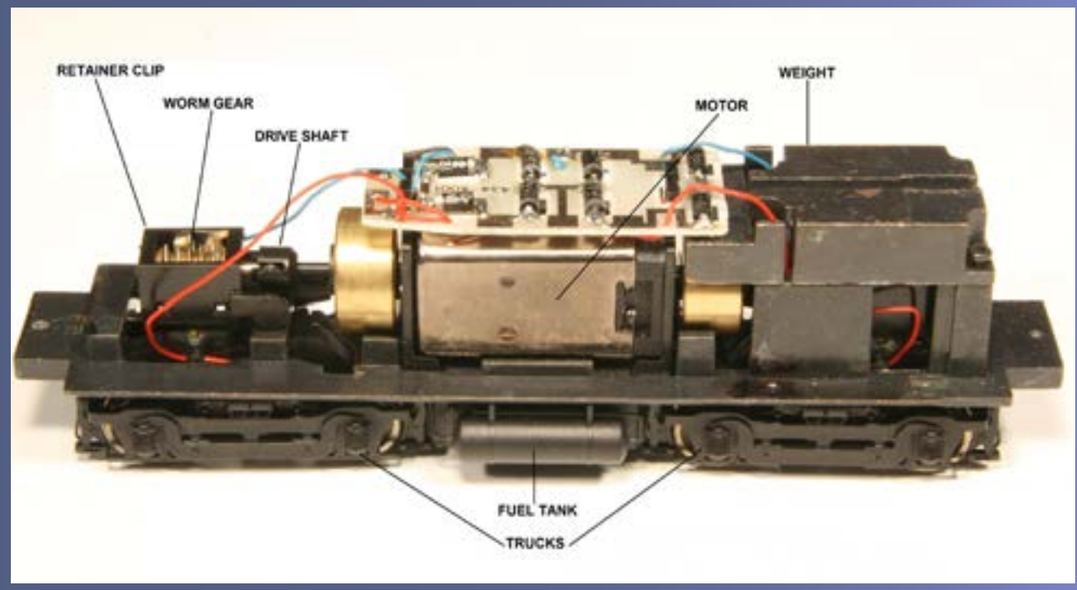


Figure 6: The drivetrain of a model locomotive is comprised of several basic parts including a motor with flywheels, driveshafts, and gears.

STEP 3: Disassembling the Drive Train

Now that we're familiar with the parts that are 'under the hood' we can begin disassembling the drivetrain, so the wheels can roll freely. One of the engineering concepts employed in a model locomotive is that weight helps with traction, increasing the pulling power of the model. To accommodate this, locomotive models have weights added to the frame, often molded to fit the inside of the shell. The first step in removing the drivetrain is to remove the weights to gain unimpeded access to the drivetrain components. After locating the weights, locate the screws that secure them to the frame. Remove the screws and the weights should lift from the frame, allowing full access to the parts below them.

The next step is to remove the wiring to truly make this a non-operative locomotive. Most models use two wires extending from each truck to a printed circuit board on top of the motor. Because the locomotive will have no need for electrical power, cut each wire halfway between the truck and motor. This will allow easily splicing the wires later if you should decide you wanted to either repower the model or use it for parts.

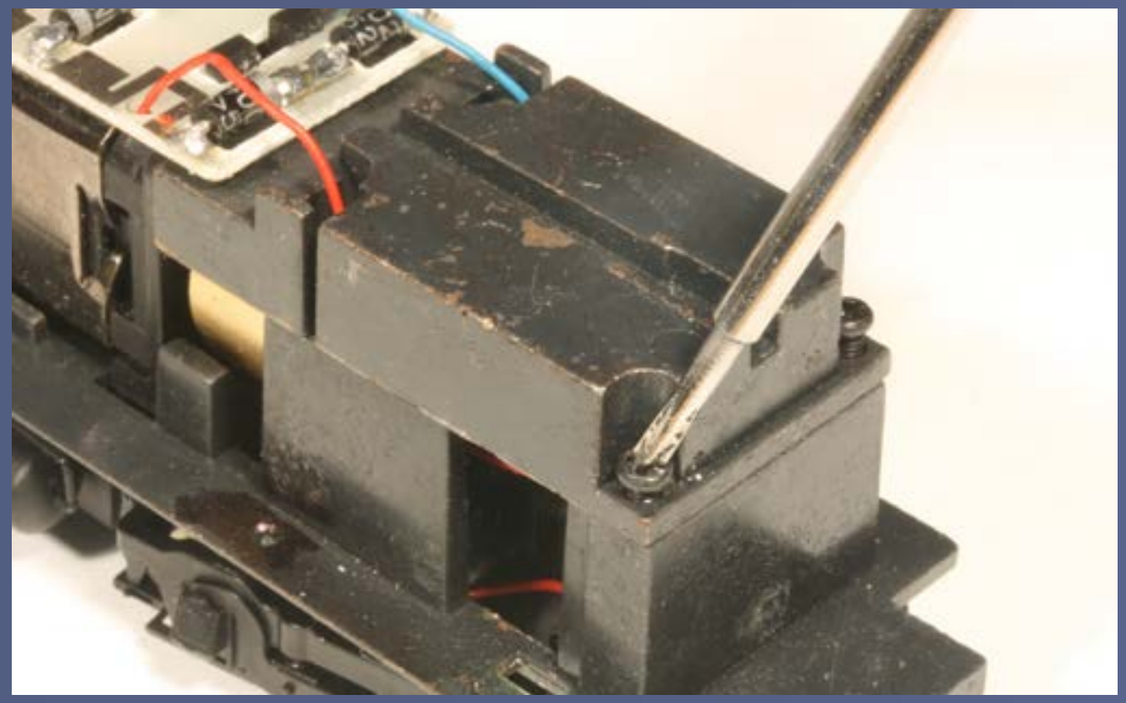


Figure 7: Most manufacturers add weight to a locomotive frame to increase traction. Removing the weights allows unimpeded access to the engine's drivetrain.

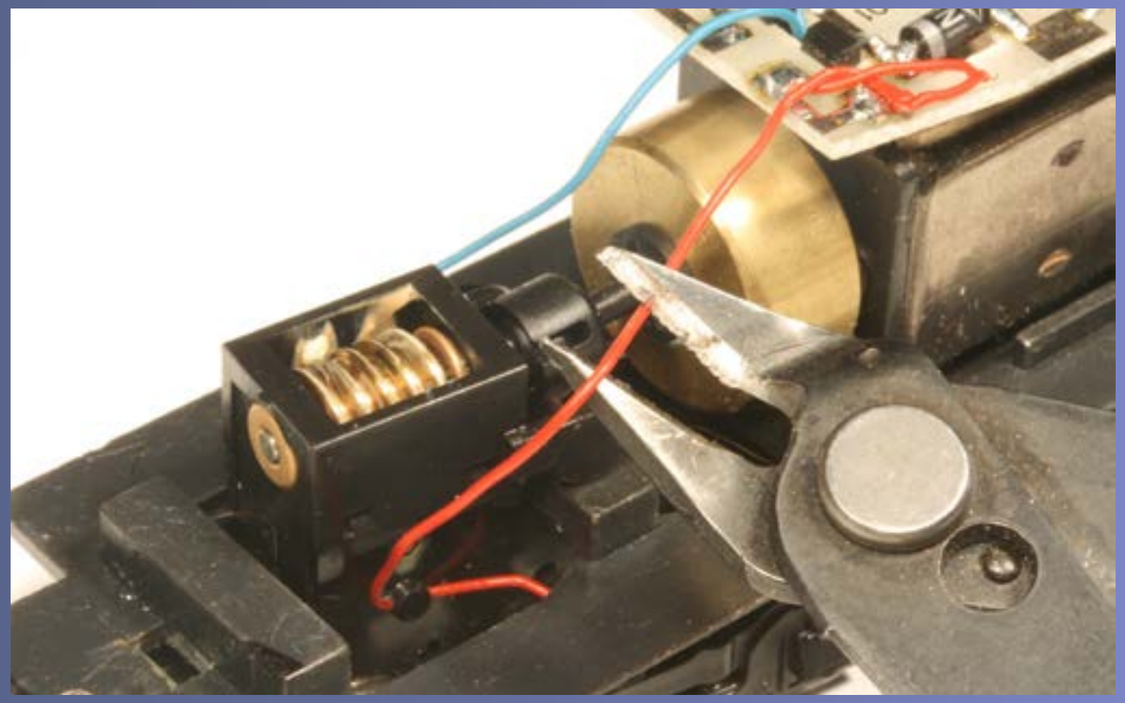


Figure 8: Two wires between each truck and the motor carry the electricity picked up from the rails to the motor. Once these wires are cut the motor will be electrically isolated and inoperable.

STEP 3: Disassembling the Drive Train *Continued ...*

Now that the motor has been disabled, the drivetrain is firmly locked in place. To make the model free rolling, we need to remove one more item – the driveshaft and worm gear. A model locomotive uses driveshafts to transfer power from the motor to a gearbox located on each truck. Simply put, as the motor operates, it turns the driveshaft which is equipped with a worm gear at the end of the driveshaft. The worm gear then turns conventional gears within the truck itself, causing the wheels to turn.

If the motor does not turn, then the driveshafts will remain stationary. This causes the gears within the truck to remain stationary, resulting in wheels that are locked into place. Removing the driveshaft and worm gear assemblies will allow the wheels to turn freely, since there is nothing to stop the internal gears of each truck from turning.

Although the assembly may look complicated, the driveshaft and worm gear can be removed in a matter of seconds. First locate the retainer clip on the top of the truck which holds the worm gear in place while also holding the truck in place on the frame. Carefully slide a thin screwdriver between the retainer clip and the gear tower of the truck, gently prying the retainer clip outwards while lifting it away from the pins holding it in place. Once it is free of the pins, it can be removed from the truck allowing access to the top of the worm gear. Now remove the worm gear/driveshaft assembly from the gear tower of the truck by pulling it upwards while pulling it away from the motor. Then replace the retainer clip. This will allow the gears within the truck to turn, allowing the wheels to roll freely, transforming the locomotive into a piece of rolling stock.

Figure 9: A driveshaft turns a worm gear at the top of the gear tower of the truck. The worm gear then turns gears inside the truck causing the wheels to turn.

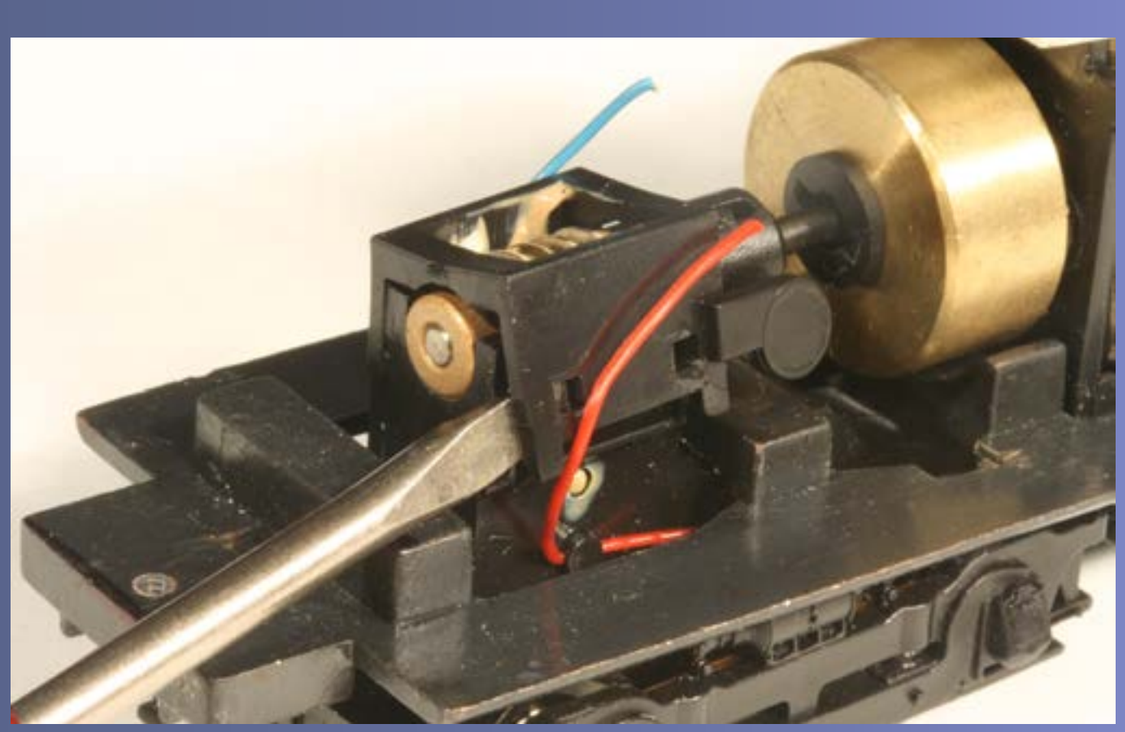


Figure 10: Making a model free rolling involves several steps. The first step is to remove the retainer clip on top of the truck.

STEP 3: Disassembling the Drive Train *Continued ...*

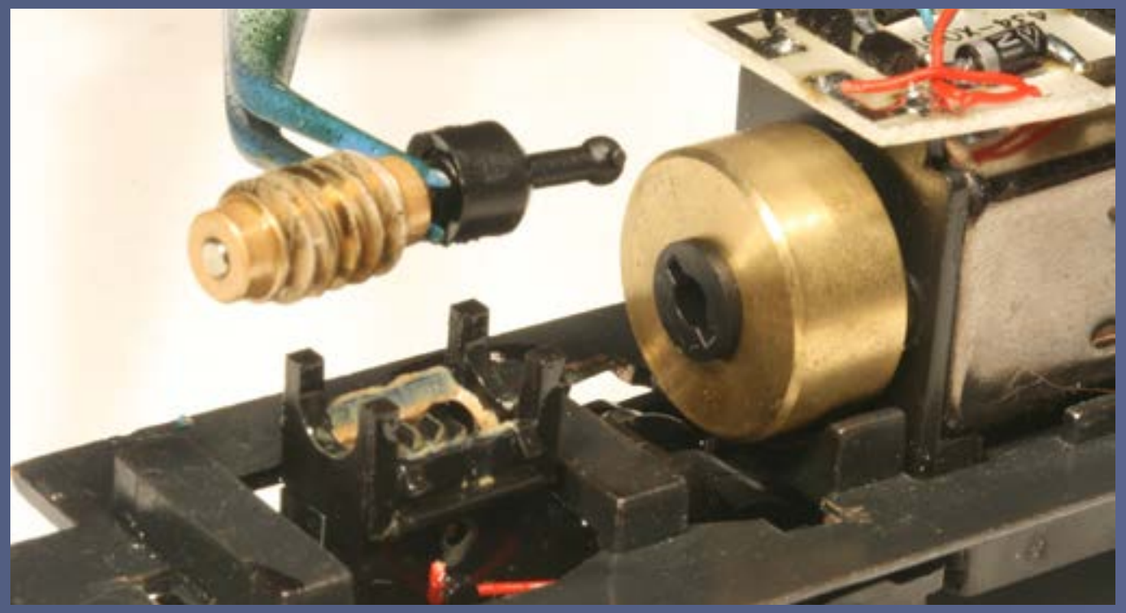


Figure 11: The second step in disabling the drivetrain is to remove the driveshaft and worm gear from the top of the gear tower.

Only one drivetrain component now remains – the motor. Since cutting the power wires between truck and motor has electrically isolated the motor, removing it is a matter of choice, but will reduce the weight of the unpowered model. Almost every motor is mounted using some form of non-conductive motor mounts between the frame and motor itself. Some manufacturers hold the motor mount in place with screws concealed under the fuel tank of the locomotive, so the first step in motor removal is to remove the fuel tank.

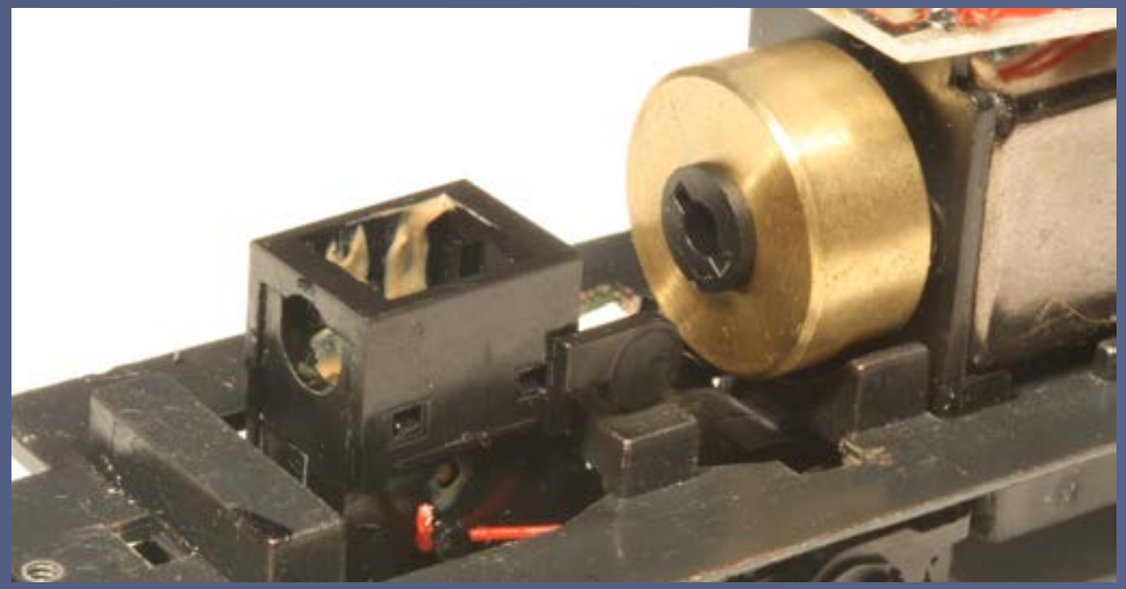


Figure 12: Once the worm gear has been removed the wheels of the truck will turn freely. The final step is to place the retainer clip back onto the top of the truck, once again securing the truck to the frame.

STEP 3: Disassembling the Drive Train *Continued ...*

Figure 13: Whenever a model is disassembled, mark each part with the proper orientation (FRONT, REAR, LEFT, RIGHT, etc.) to insure that everything goes back together correctly.

Most fuel tanks are one-piece castings secured to the frame of a locomotive with a combination of pressure and thin adhesive applied to the interior of the tank casting. Some fuel tanks are almost identical both forwards and backwards, and can easily be reinstalled backwards. One aid in insuring that this or any other parts are positioned properly is to mark the underside of the part with an F, showing the end that faces the front of the locomotive. The casting can be removed by gently prying downwards between the top of the casting and the frame of the locomotive, popping the casting free from its mount.

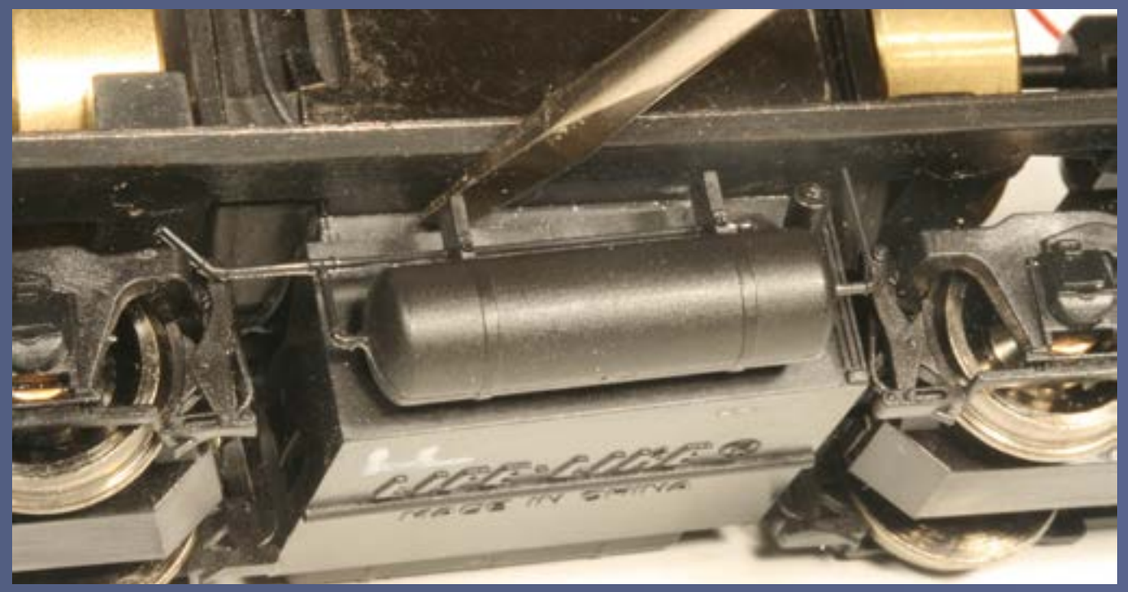


Figure 14: The fuel tanks of most locomotive models are one piece castings that can be removed by gently prying them from the frame.

STEP 3: Disassembling the Drive Train *Continued ...*

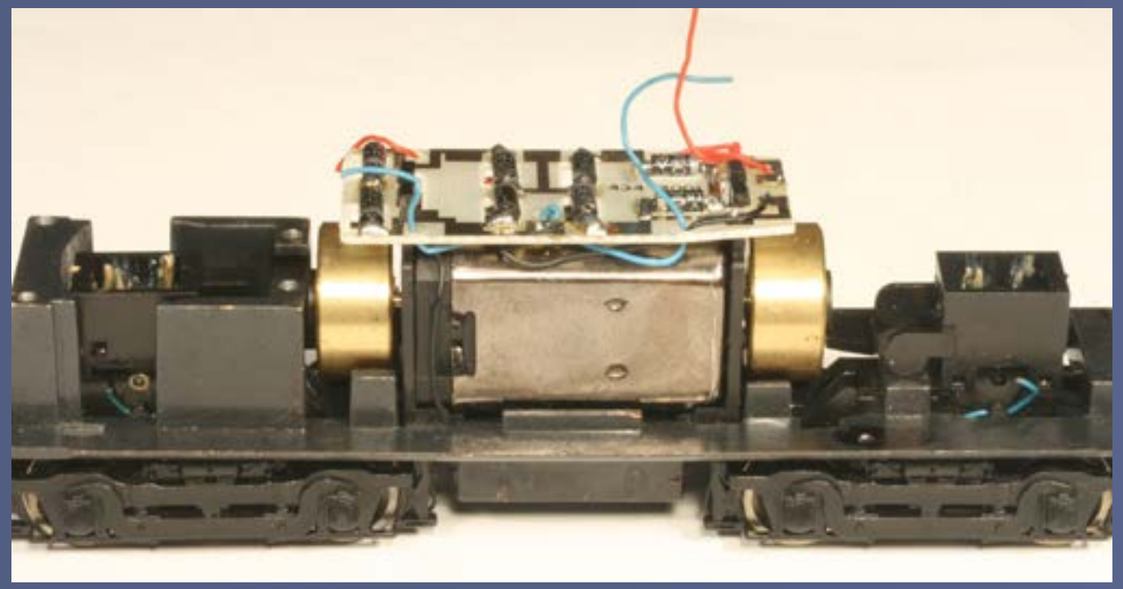


Figure 15: When transforming a powered locomotive into a 'dummy', removing the motor is not a requirement, but is advisable since it will lessen the weight of the model while allowing you to use the motor in other applications.

Figure 16: Removing the motor from a model locomotive requires removing any screws holding it in place, then pressing the motor mounts from the frame with a screwdriver.

With the fuel tank removed, the underside of the motor mounts are exposed. Remove any screws holding the motor to the frame. Then remove the motor by pressing upwards on the motor mounts, pushing them from their seats in the frame. The fuel tank can now be replaced and the motor can be used for other projects, such as repowering an older locomotive, or placed in the shop as a spare part that may be needed for a future repair (figures 15-16).

Figure 17: With the locomotive's drivetrain fully removed, we now have an unpowered chassis that the shell can be mounted onto.

After double checking the truck retainer clips and insuring the chassis rolls freely, replace the shell, mounting it following the manufacturer's instructions, then reinstall the couplers and coupler boxes.

STEP 4: Detailing and Weathering

Up to this point our project has been very clinical, simply understanding the mechanics of a model, then reconfiguring it for a new purpose. Our project can now become very creative, enabling us to learn about railroads we may not be familiar with. It also allows us to try new techniques and tools in the creation of a unique one-of-a-kind model.

When I chose a model to use as a starting point, I intentionally chose a road that I wasn't very familiar with – in this case Burlington Northern. Sure, I had seen the green and black locomotives in magazines, and I also knew that the Burlington Northern was part of the present day BNSF Railway. Aside from that, the BN was a mystery. Using several online resources, I learned that this group of Burlington Northern SW1200's were originally erected for the CB&Q (Chicago, Burlington & Quincy – commonly known as the Burlington Route) around 45 years ago.

Photos revealed that adding a few detail parts would more accurately replicate the BN prototype. After installing a Details West #157 firecracker antenna, and #126 strobe beacon to the cab roof, I ascertained that some BN switchers were also equipped with an all-weather window featuring an angled top. This was quite different than the type included with the switcher model. After a trip to the spare parts bin to retrieve a casting left over from an SD60 model, the detailing was complete and it was off to the paint shop to turn the shiny new switcher into a well worn model showing years of service.

Figure 18: Even adding a few details can make a mass production model look more like a specific prototype. In this case the firecracker antenna and the strobe beacon at the front of the roof are signature details of the Burlington Northern.

When weathering a model, we often try to keep it minimal, representing a unit that has been well cared for and is in top condition. In the case of the switcher, we want to do the exact opposite, representing a unit that has outlived its usefulness, left to sit and rust away.

I began by airbrushing the model with Floquil Grimy Black, following the normal method of weathering, heavier to lighter working from bottom to top, only this time applying a much heavier coat than I normally would. This was followed with a liberal coating of Model Master Rust, applied over the still damp Grimy Black paint.

By now the Cascade Green paint of the model had been lost under the mix of grime and rust. So the model was airbrushed with thinner, working top to bottom, allowing the weathering paints to run down the sides of the model and settle in patterns that would be typical of equipment that had sat for a long period of time. Once the first round of weathering had dried, I recoated specific areas of the model, applying a thin rust coating to the grillwork on the front and top of the hood in addition to the walkways, fuel tank, and trucks. Now the switcher looked like a unit that was obsolete rather than something fresh from a factory floor.

Figure 19: Weathering can be the difference between a good model and a great one. While we all have our own individual preferences, the weathering applied to a model should reflect the service it's seen, helping to tell the story of the model.

STEP 5: Reporting Marks

Now our model looks the part but still needs new reporting marks showing that it has been retired and sold. There are several ways to add new reporting marks, including painting them on with a small brush. However, you may find it easier to use a marker, allowing them to be 'written' onto the model the same way you would write on a piece of paper. Several years ago the Sharpie brand introduced a line of paint markers with both fine and extra fine tips in several colors including white, black, yellow, and orange, all colors of spray paint used in railroad shops.

The paint markers make it easy to replicate spray-painted letters and numbers. This removes the size and font limitations imposed by a decal, while allowing the flexibility of 'writing' on any flat surface of a model. Best of all, 'spray painted' markings do not require splicing decals together, nor do they have to be neat, as many spray painted markings contain varying sizes or thicknesses of characters.

Figure 20: One tool that can be very useful in recreating spray painted markings is a paint marker with an extra-fine tip.

Following a pattern I found common amongst 'in-transit' equipment, the BN livery, including the numbers and logos were left intact while the AAR alpha code of the new owner was painted onto the locomotive. BN 248 was transformed into NGWX 248 by simply applying the new four-letter reporting mark over the BURLINGTON NORTHERN lettering on the cab. To complete the 'spray job', I followed another practice of locomotives destined for scrap, marking 'NO FUEL' onto the fuel tanks to indicate they were empty and were not to be filled.

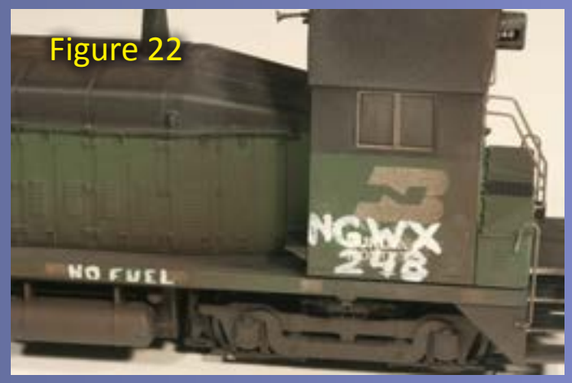


Figure 21-22: When new reporting marks are applied to a locomotive they are often applied quickly and sometimes haphazardly. Photos 21 and 22 show two treatments for the application of reporting marks, the first utilizing the number already visible on the hood in conjunction with a new alpha code. The second, using both the new alpha code in conjunction with the number.

Figure 23: One marking that can be found on stored, sold, or donated locomotives is 'NO FUEL' indicating the tanks are empty and should remain that way.

STEP 6: Plywood Window Covers

Now that we've made the transformation from active locomotive to load, adding two details will really make the locomotive stand out, while reinforcing its non-operative status. When a locomotive is placed into storage, it must be protected from both natural and human elements in order to retain its value. One element that can lessen the value of a stored locomotive is vandalism. While protecting a locomotive deadline may not be a railroad priority, boarding up the windows certainly removes a tempting target for those wishing to practice their pitching skills. Fortunately this is easy to replicate and will really make the model 'pop'.

Figure 24: Plywood is often used to cover the windows of equipment that is in long-term storage. This removes a tempting target from vandals. The plywood covering the bay window of this caboose prevents weather from reaching the interior, causing further damage.

Since nothing replicates the look and texture of wood better than actual wood, we'll use thin scale wood strips available from both hobby and craft stores, to board up the windows of the switcher. While working with wood does require a slightly different technique than styrene, this project requires no special skills or tools, making it ideal for those new to using wood as a modeling medium. In fact the same knives and files that we use for styrene work will be used to cut the wood window inserts. The only special 'tools' we'll use are easy-to-make templates to aid us in cutting the correct sizes the first time.

Those of us who are veteran modelers have developed many tricks for easily measuring and cutting raw materials such as styrene or wood. One trick I have developed is the use of a disposable 'template', especially useful in circumstances such as these in which there are multiple angles that will need to be cut. To make a simple template I use pieces of super-sticky Post-It notes, cutting them so the sticky part will adhere to the model.

Once the note paper has been stuck to the model, a sharp pencil is used to mark the cut lines by tracing over the edges of the cuts, in this case outlining the window. Next the template is removed from the model and cut out, then placed back onto the model to check for size correctness. A template that is too small can simply have another piece of note attached, bringing it to the correct size. Likewise an object such as the rear windows of the switcher that feature multiple angles can have a template comprised of several pieces, all stuck together and then reinforced with tape. This saves the time consuming process of making multiple measurements. Once complete, the template can be stuck directly to the material to be cut, providing a cutting guide. This insures that the cuts will be the correct size, reducing waste (figures 25-26).

STEP 6: Plywood Window Covers *Continued ...*

Figure 25

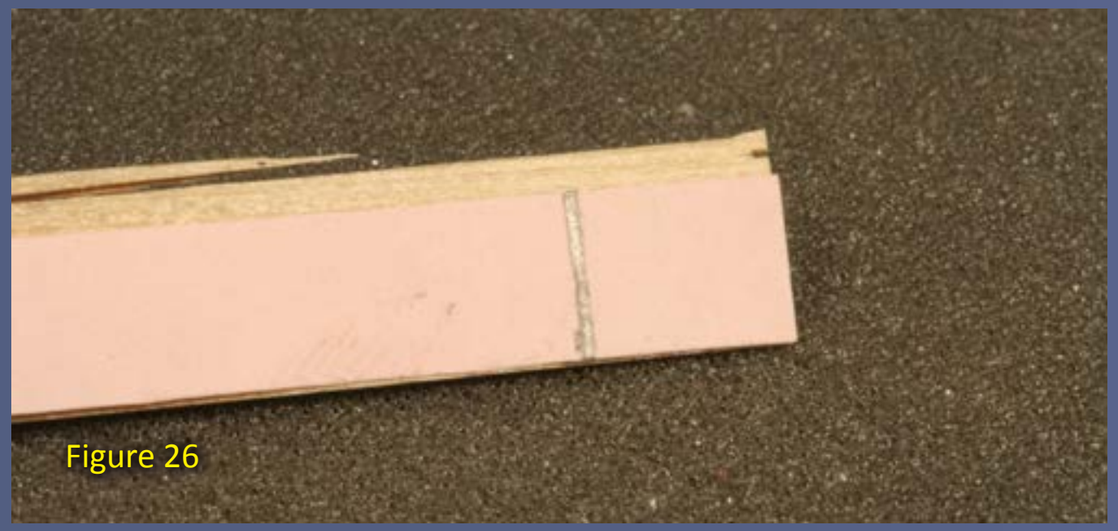


Figure 26

While the template will give us the correct dimensions, one problem encountered when working around windows is the rounded corners that many locomotives and railcars have. Rather than try to cut a round corner with a knife, it is much easier to employ a two-step process, first cutting the square (or rectangle) to fill the window, then rounding the corner using a file. This gives us much more control of how much material is removed, and how it is shaped. Rounding the corners of the wooden inserts can be easily done by holding the window insert with tweezers and dragging a file over the corner, moving it from the top of the insert to the side, rounding the corner in the process. To insure too much material is not removed, work on one corner at a time, checking your work against the model every two passes or so until the insert will drop into the window opening.


Figure 27

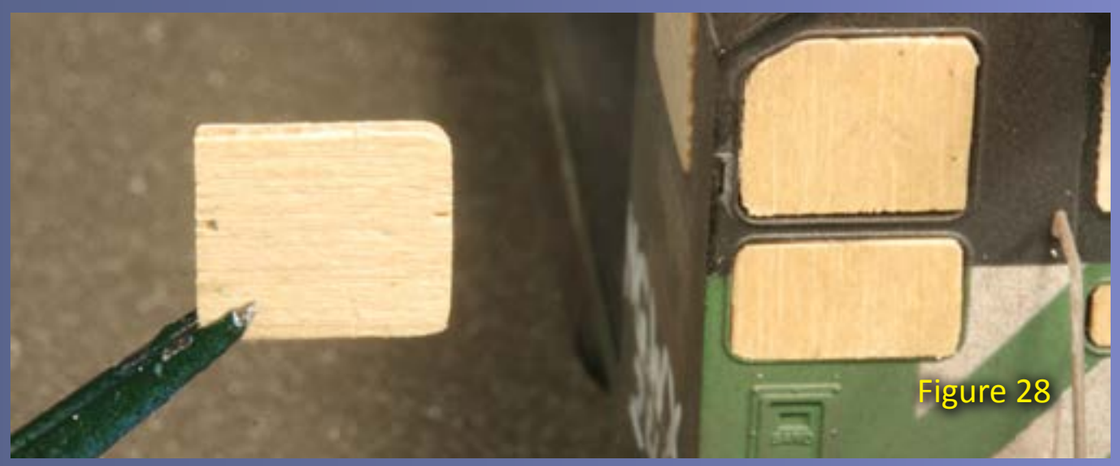


Figure 28

Figures 25-26: A trick to make fabrication quicker and reduce waste is to use templates made of paper. One excellent material is 'Super-Sticky' Post-It Notes, allowing the note material to be stuck directly to the surface of the model or the material being cut.

Figures 27-28: Attempting to round the corners of the square window inserts to match the model's windows is nearly impossible using a knife. It's much easier to cut the inserts as squares or rectangles and use a file to round the corners.

STEP 6: Plywood Window Covers *Continued ...*

After the correct size has been achieved, test-fit the insert, checking for both fit and thickness. If a piece appears too thick, thin it by sanding until you achieve the desired thickness. Once you are satisfied with the look, each insert may be secured to the model with cement. Apply several drops of a CA glue with a gap filler (such as Zap+) to the clear window 'glass' installed in the shell. Then place the wood insert onto the 'glass', pressing it into place with the flat end of a knife handle, taking care not to cause the glue to ooze from below the wood insert.

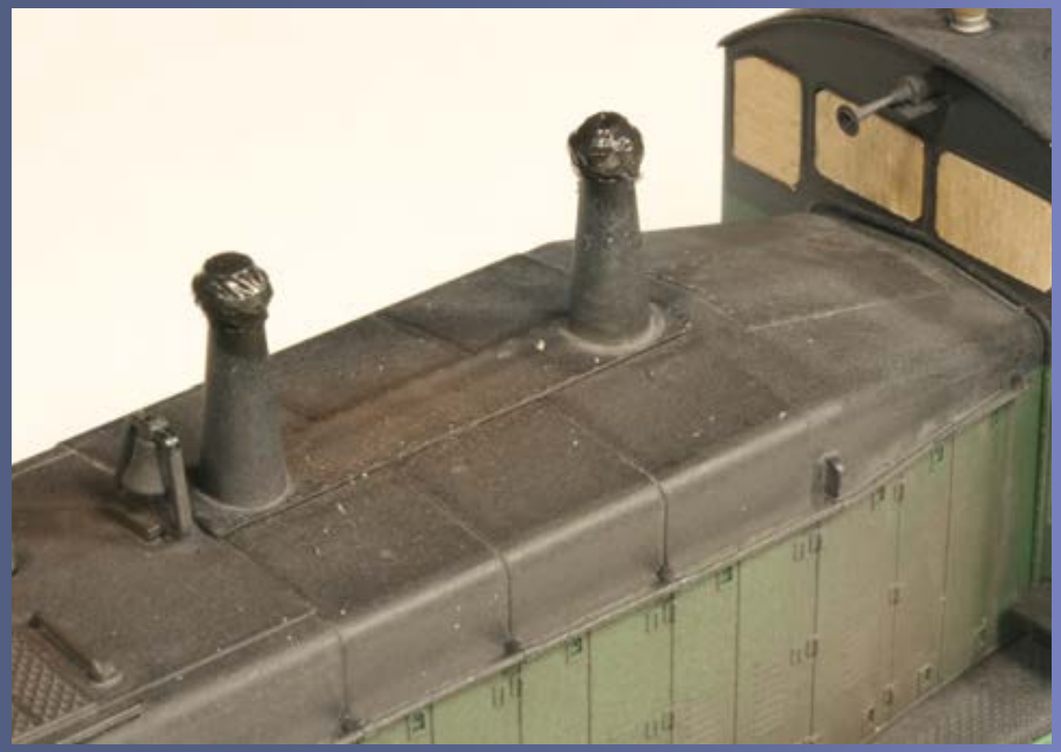

Figure 29


Figure 30

Figures 29-30: Boarding up the windows of equipment placed in storage will not only deter miniature vandals, it will also make the equipment stand out, whether it is being hauled in a train or is holding down the rail on a long forgotten siding.

STEP 7: Spark Arresters

The second element a stored locomotive must be protected from is nature. While boarding up a locomotive will protect the cab interior, capping the exhaust stacks will prevent rain or snow from entering the interior of the prime mover. There are several methods to capping exhaust stacks. These can vary with the length of time a locomotive will be idle. One method is to simply place buckets upside down over the stacks, allowing quick removal. The second is to wrap the top of the stacks in plastic, a method reserved for locomotives that will be out of service for extended periods.



Figures 31: Protecting stored equipment from the elements is vital to the equipment retaining its value. One common method is to cover the exhaust stacks with plastic, preventing rain or snow from entering the inside of the prime mover.

STEP 7: Spark Arresters *Continued ...*

In the case of the BN switcher, I chose to use the plastic method since it not only looks more dramatic, but the switcher is equipped with spark arrestors on top of the stacks offering a natural place to secure the plastic. Wrapping the spark arrestors is a fairly simple procedure. Begin with thinning the mounting stems of the castings to accommodate the additional thickness of the wrap that would be secured to them. Hold the casting with tweezers, then file along the mounting stems with a coarse file, constantly rotating the casting to insure that the stem is filed evenly across.

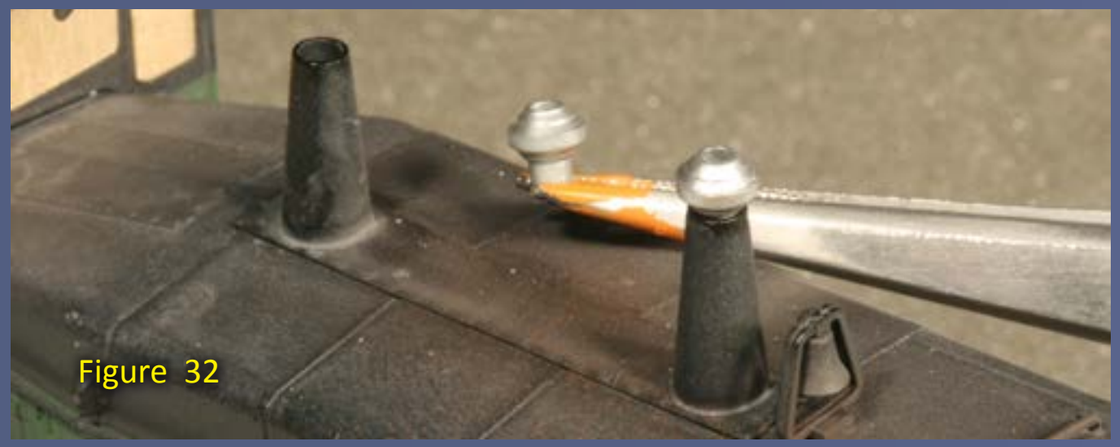


Figure 32


Figure 33

Figures 32-33: The mounting stems of the spark arrestors will need to be thinned down to compensate for the thickness of the plastic that will cover them. A file can be used to sand down the stems.

Next, a 2mm x 2mm square was cut from a black trash bag. I cemented the spark arrestor casting to the center, with the mounting stem sticking up in the air. Once dry, the small section of plastic bag was folded over the casting, and a thin bead of cement was applied along the bottom edge to tack the folded section together.

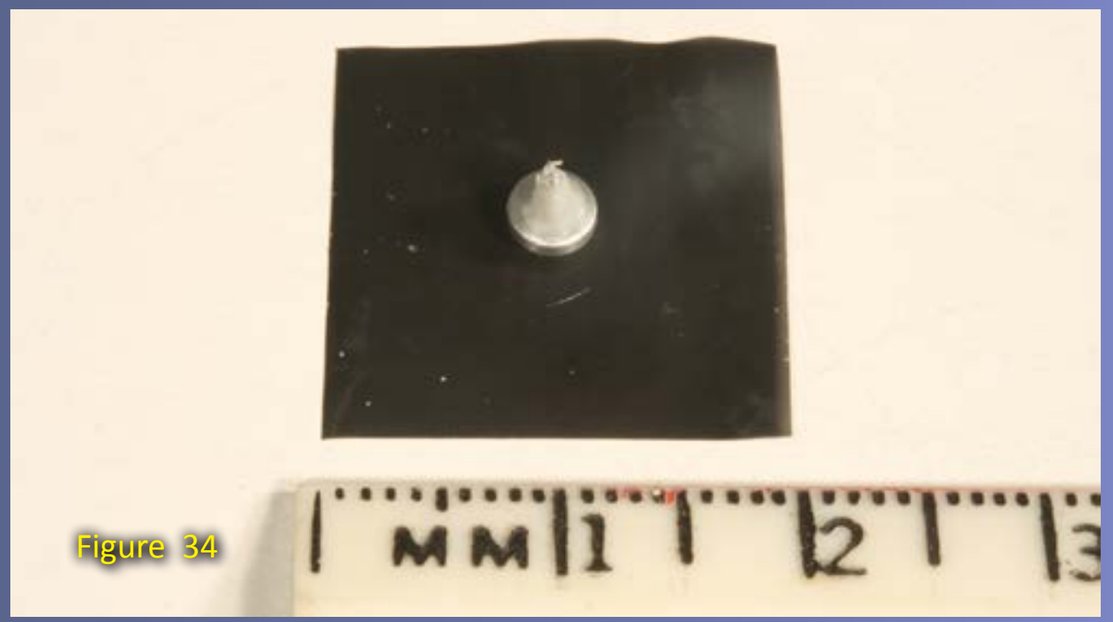


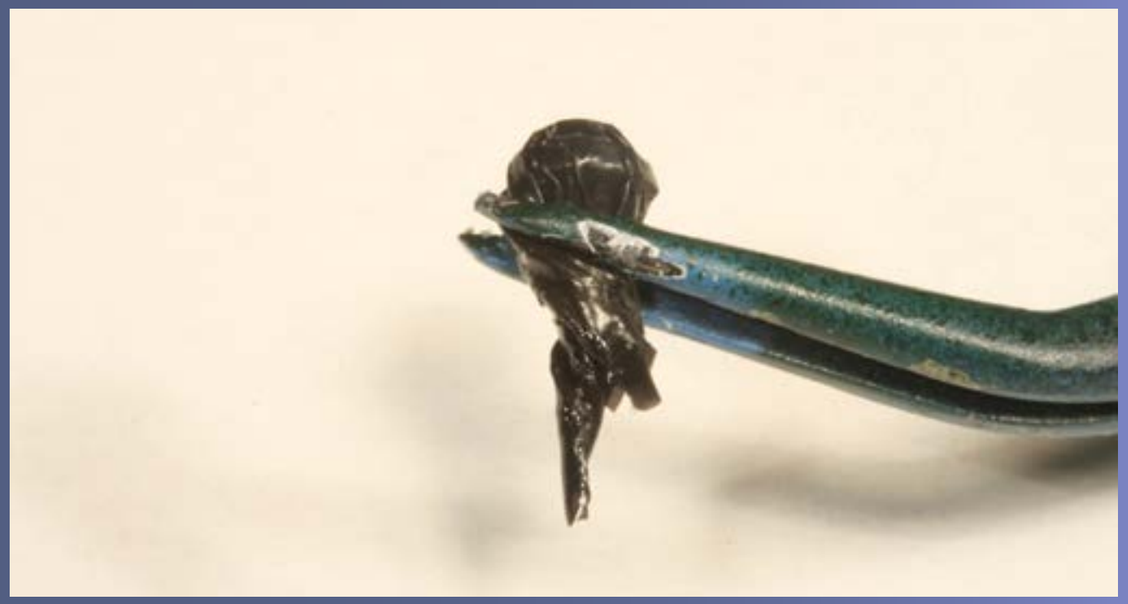
Figure 34


Figure 35

Figures 34-35: A square cut from a common household trash bag replicates the plastic applied over the spark arrestors. Begin by cementing the top of the casting to the center of the square, then wrap the side over the casting, cementing the edges together.

STEP 7: Spark Arresters *Continued ...*

This was allowed to dry for several hours, then the sides extending outward were folded downward and twisted, pulling the plastic tight over the spark arrestor casting and causing the excess to extend downward from the bottom. The excess bag material was cut from the bottom of the casting with a sharp knife. A drop of CAA applied at the bottom of the stem secured the bottom edge of the bag material, insuring the twists would not unravel.



Figures 36: Twist the plastic covering material into a cone shape and cut off the excess with a hobby knife. Add a drop of cement to the bottom of the stem to keep the plastic from unraveling.

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

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

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

STEP 7: Spark Arresters *Continued ...*

The newly capped spark arrestors can now be cemented into the two exhaust stacks of the locomotive, completing the model while further reinforcing the concept of a locomotive that has not moved under its own power for quite some time.

Hopefully you've enjoyed this project and have found ways to use these concepts on your own layouts. Whether moving in a train or occupying a weed grown siding, a model such as a stored or 'in-transit' locomotive will surely bring second looks from crews and guests alike. Best of all, it opens up an avenue to use models we previously may have passed over as 'out of era,' or an inappropriate roadname for what we model. Why not toss that 35-year old Reading engine in behind those brand new Norfolk Southern GEVOs? After all, it has to get to its new owner somehow ... ☑

Figure 37

Figure 38

Figures 37-38: Modeling a locomotive either in storage or in transit can be a fun experience that will allow us to learn a little about the inner workings of our model locomotives. It can also provide new uses for models that have mechanical problems or would otherwise not fit into our modeling theme.

Figure 39: 3D click-n-spin of Matt's finished deadheading loco model. Click here to display an image you can spin with your mouse.

Railfan for Life - the Photography of Harold Carstens

First Look

– by Jeff Shultz

Railfan. Historian. Not two terms you might think of as synonymous, but which can be for the railfan with a camera and a talent for catching noteworthy photos for posterity. Hal Carstens was an excellent example of this, documenting his railfanning trips with thousands of photographs over a period of sixty years. In that time he preserved the memories of dozens of railroads and their equipment, much of which no longer exists except in his and others' photographs.

Railfan for Life (http://carstensbookstore.com/neraforlipho.html) includes over 120 pages of Hal's photographs, selected by Carstens Publications' editors and divided into 8 sections:

- "Hal's Backyard" covers New Jersey and New York – including the the NY Harbor car ferries
- "Chicagoland" features mostly photos of passenger service at Dearborn and LaSalle Stations
- "Mainlines East to West" consists of photographs of everything from an Amtrak SDP40F to a Washington Terminal RS-1
- "Traction Action" has photos of urban transit and electric traction railraods from across the USA
- "Narrow Gauge" includes photos of a variety of narrow gauge railroads from Colorado and New Mexico to Pennsylvania and Massachusetts
- "Short Lines" celebrates regional and short line railroads in photos, concentrating on a few in the Eastern US and Canada.
- "Travels Abroad" shows photos of railroads and transit systems that Hal encountered during trips to Great Britain and Germany
- "Steam and Again" closes out the book with photos from the last days of steam in regular use in the US and Canada along with its continued use in tourist and excursion service.

Each section also includes explanatory text about the railroads and locations photographed, to help tell their place in history, as well as why they were of interest to Hal. Each photo is also extensively captioned.

Hal Carstens loved trains, and that love comes through in the hundreds of photographs included in this book. With a foreword by his widow Phyllis and additional text by E. Steven Barry, Bob Gallegos, Chris Lane, George Riley, Otto M. Vondrak, and James A. Boyd, this book is a labor of love – love of Hal by his family and co-workers, and love of trains by Hal himself.

Hal Carstens joined Penn Publications as an associate editor in 1952, becoming the President in 1962. Carstens Publications publishes Railroad Model Craftsman, Toy Trains, and Railfan & Railroad magazines. Hal passed away at home on June 23, 2009.

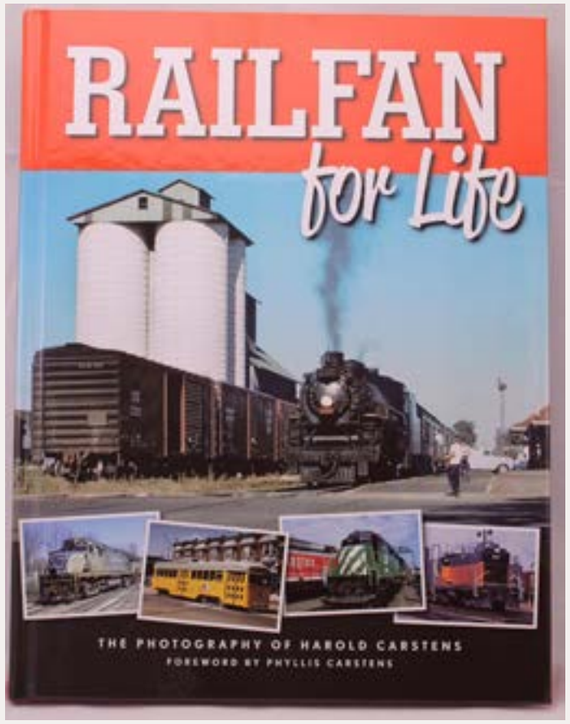


Figure 1: *Railfan for Life – the Photography of Harold Carstens.* MSRP $34.95 (Hardcover) $19.95 (Softcover).

Reader Feedback (click here)

About our narrow gauge and branchline columnist

Lew Matt is a published writer, photographer, and illustrator whose work has appeared in many model railroad hobby magazines.

Click here to learn more about Lew.

Reader Feedback *(click here)*

THE LITE *AND* NARROW:
Baggage Combine Car Detailing
Ramblings on Narrow Gauge and Branchline Modeling

Figure 1: A view of the baggage combine with the internal details clearly visible through the windows and baggage doors. Detail like this on your module railroad is a real crowd pleaser at a show or meet.

I had a Bachmann stock Colorado Southern combine baggage car just sitting around for several years, and as I was just finishing up a "scale people" project and thinking how great the passenger section of the car would look with scale passengers inside, I got this idea to super-detail the baggage combine. The process is simple and the concepts can be applied to any scale or gauge passenger car.

The car would need the interior painted, plausible passengers, interesting stuff visible in the baggage compartment, grab irons and other body details, and more lighting – after all, why put details in the dark? The green exterior with gold lettering looked good, but I had to change the name to something that may have lived in the triangle of Lancaster, York, and Baltimore. I decided the roof needed some work, too, especially the mundane stock roof finish (figure 4).

I started the project by disassembling the entire car and filing down all the little hooks where the body snaps together: at the bottom of the car sides, where the roof attaches to the car sides, and the lighting strip fits across the top of the interior. The body will still come apart and snap together, but it only takes a small amount of effort to do so. I don't need a really tight fit since I am not shipping this car across the ocean, and rough handling during

Continued on page 97 ...

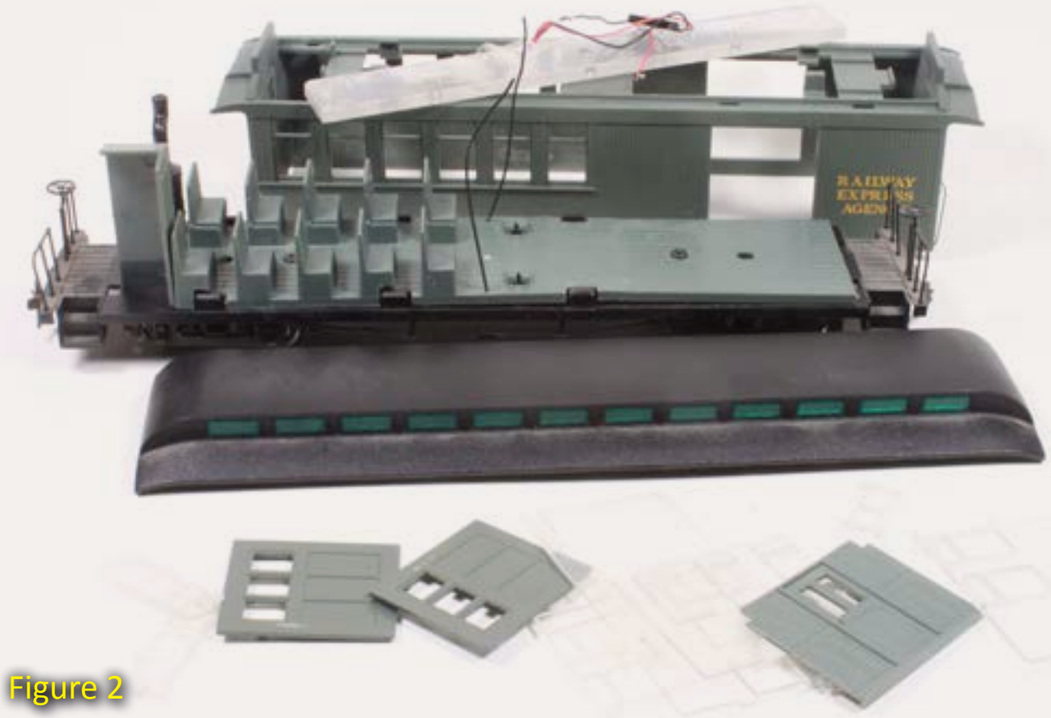


Figure 2

Figure 2: The components of the Bachmann baggage combine, are from the top: the light bar, the body of the car, the floor or chassis, roof, baggage doors, windows and the interior partition.

Figure 3: This shows the interior of the body shell is painted light gray. The end doors are not painted mahogany since they can't be seen from the windows or baggage doors.

Figure 4: The stock roof has a pebble finish and is not representative of any prototypical construction material. This will be lightly sanded and covered with facial tissue soaked in white glue and painted to represent rubberized canvas.

Figure 5: Single-ply facial tissue is applied across the car and adhered with dilute white glue painted on. The texture of the paper represents a canvas roof.

Figure 3

Figure 4

Figure 5

Continued from page 95 ...

disassembly might damage the soon-to-be-applied details.

I removed all the glazing from the inside by carefully prying the pieces up from the bottom of the car side. The windows come in segments of two or three panes, molded together and glued to the lower inside body. Once the lower seal is broken, the top of the window piece will come out of the slot at the roof line. I trimmed the excess plastic from the windows and set the pieces aside after I identified whether they came from the stove side or the bathroom side of the car. The end door windows and the baggage door windows are interchangeable with each other. I put all the glazing and the 2 baggage doors in a small zip-lock baggie to keep them safe (figure 2).

I experimented with a dozen different chemical ways to remove the Colorado Southern lettering and finally gave up. The paint is just too tough. I took a fine-grit manicure sandpaper stick and rubbed it over the letter board until the lettering was abraded away. The grit was fine enough to leave a fairly smooth surface for decals. The letter board received a coat of Floquil glaze applied with a soft red sable brush, then the assembly was placed in the food dehydrator overnight to cure the paint (figure 7).

While the body piece was "cooking" the roof received my attention. A light sanding with 600 grit paper left the surface receptive to white glue. Strips of single-ply facial tissue were cut to lay over the roof with a small overlap to represent the rubberized canvas roofs used so commonly in the first half of the 20th century.

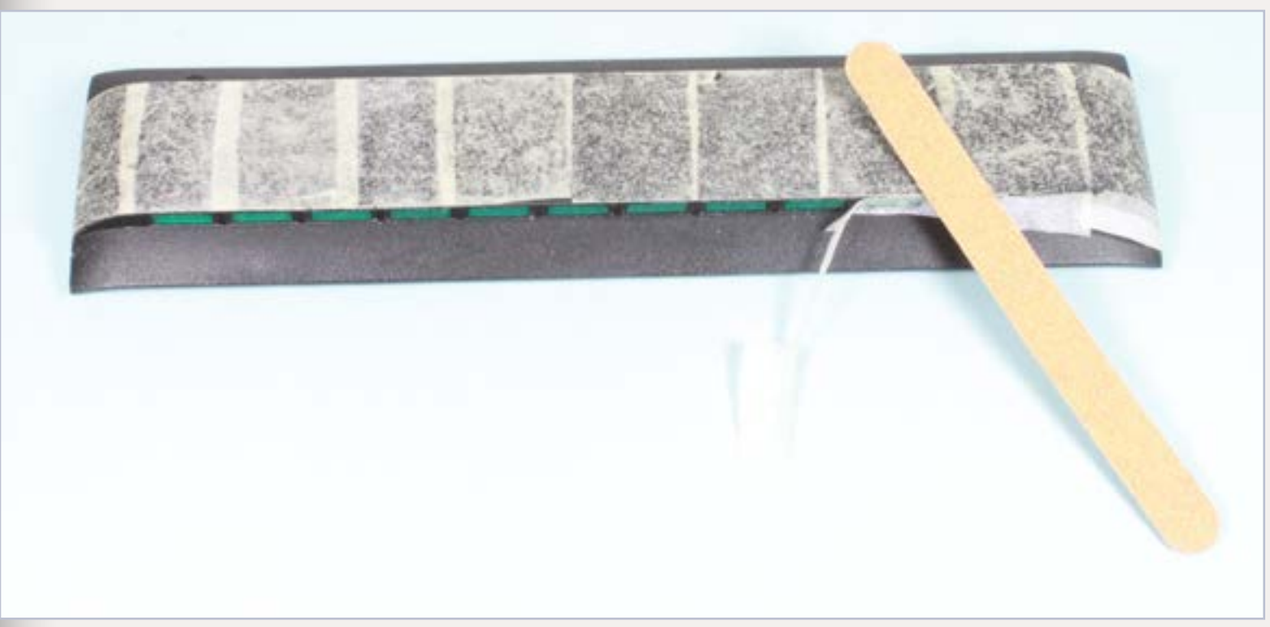


Figure 6: To remove the excess roofing material, just lightly file across the edge of the dry material.

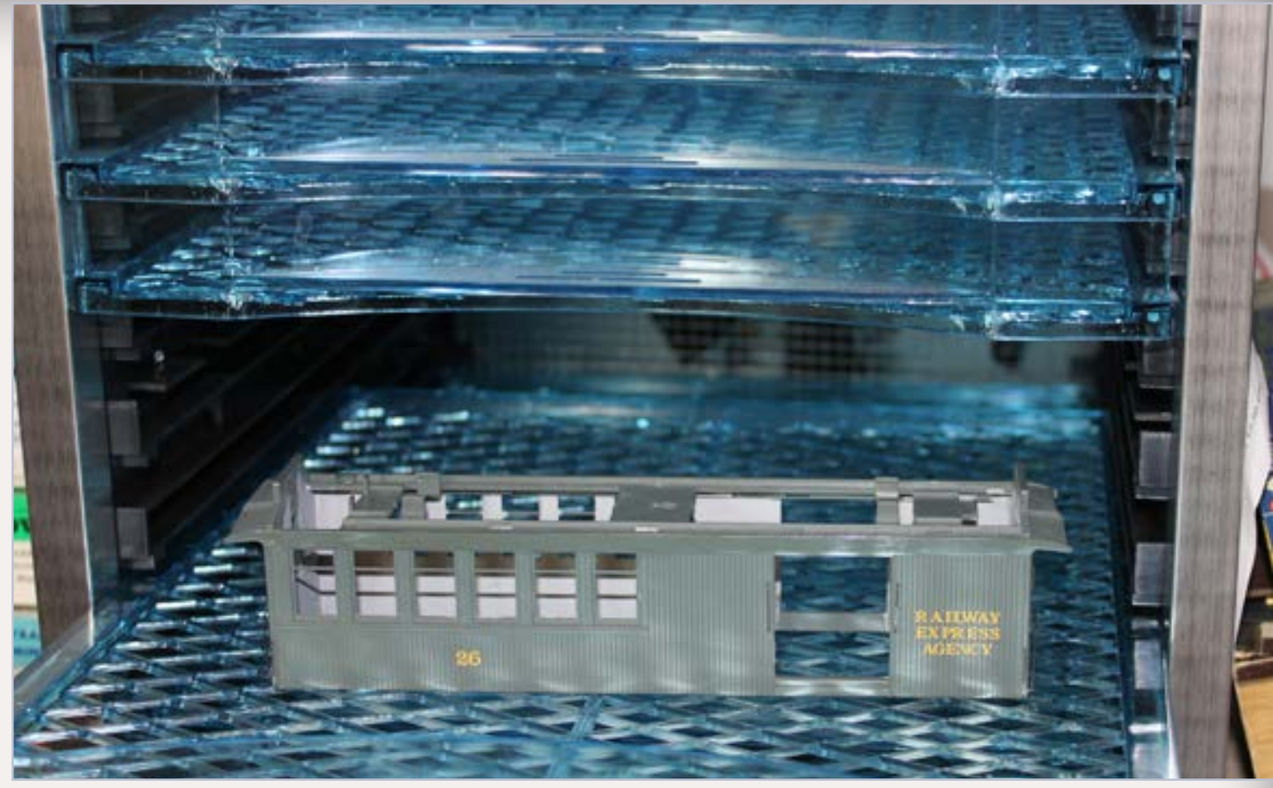


Figure 7: Food dryers with adjustable heat and circulating fans make excellent paint dryers. One hour in the machine is equivalent to about 12 hours of open air drying.

The top of the clerestory roof received its new covering first, then the side segments. The ends of the tissue/canvas strips were allowed to run wild until the diluted glue dried. Then the edges of the tissue were cut off by filing over the edge with the manicurist"s fingernail file (figure 5).

The lower sides of the roof received the same treatment, except that the edge of the tissue next to the clerestory was carefully cut straight and positioned up against the clerestory riser while being glued in place. The four corners of the lower roof covering were cut diagonally with a scissors so that the tissue could wrap around the compound curved surface without distorting.

The tissue paper added a more realistic texture to the roof, especially where small wrinkles and irregularities occurred. A coating of acrylic paint thinned with white glue completed the roof. The colors used were Dark Gray, Black and Paynes Gray, mixed in the brush and painted perpendicularly to the length of the roof. This left a subtle, dark color mix that looked almost like weathering streaks flowing across the roof.

While the roof dried with the body in the dehydrator, I turned to the floor and chassis. It is not very easy to look

through the windows of the car to see detail, so adding very small details would be a waste of time. A bold wine color and red mahogany were chosen for the seats and floor, against a wall of light gray. This color contrast would be easy to see from a distance and go well with the exterior green. The partition separating the baggage from the passenger compartment slides out of its slot and makes painting the floor and the partition much easier (figures 8 and 9).

After drying all night, the parts were assembled and studied for inspiration, then dismantled and the interior walls received two coats of light gray acrylic. The interior doors were painted the same mahogany color as the floor, to make them more noticeable and separate them from the gray walls. The end doors couldn't be seen through the windows, so they were just painted gray like the walls. While the wall paint dried, I selected the people to populate the interior.

Just having a lot of seated passengers seemed mundane and unexciting so I chose to have three mini-scenes in the short compartment. At the lavatory end, three men are facing the conductor standing in the aisle with his hand outstretched while at the other end, a very big lady is standing, and interacting with a small seated girl. There is a suitcase on the floor next to the lady and a gaily-wrapped package is on the seat directly behind her. Between those two scenes is a guy wearing a hat, just sitting by himself. Everyone was permanently CAed in place (figures 10 and 11).

The baggage compartment mini-scene has a noticeable truck screw in the middle of the floor directly between the baggage doors and it is very easy to see. A wooden barrel covered the screw head perfectly and is surrounded by various wooden crates and a baggage attendant. These pieces were glued in with paper rubber cement so that they could be easily removed if the truck screw needed to come out.

I added 24" grabs to each end of the car sides and on either side of the baggage doors; a 12" grab next to each of the end doors and on the baggage door; a pair of 18" grabs on the sill at either side of the new KD coupler, and a step under each baggage door. The grabs were all made from steel paper staples of different manufacturers and all are a scale 1-1/4" in diameter. The baggage step is a 9/16" T50 Arrow ceiling tile staple. All the grabs and steps were blackened with Birchwood Casey

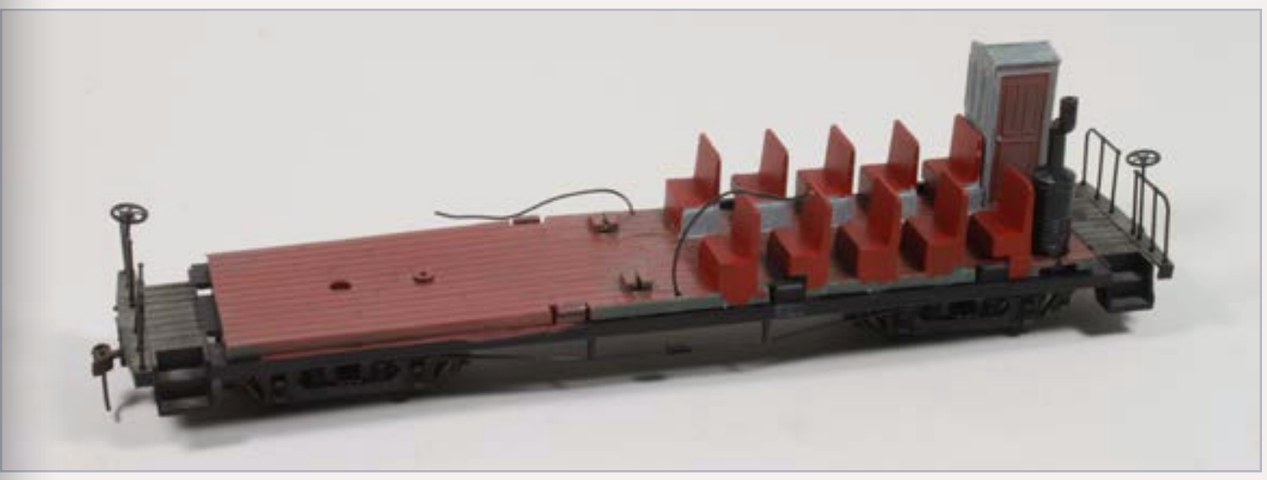


Figure 8: The interior of the car is painted in three colors: mahogany for the floor and doors, deep wine red for the chair cushions and light gray for the walls and partitions. The wires in this view bring electrical power from the trucks up to the light bar.

Figure 9: The light bar attaches across the top of the body shell and is held in place with plastic ears. Filing the tabs lower on the ears makes disassembly of the parts easier for repair. Grabirons and handrails have been applied to the body shell.

Figure 10: A view of the interior detail as viewed from the rest room side. The clothing colors of the people are designed not to blend in with the car's décor. We want the seated people to be very conspicuous and easily seen.

gun blue, then brush-painted with Floquil Weathered Black after they were installed.

The Susquehanna Valley decals are 30-year-old Champ custom decals that had seen better days. The first application completely disintegrated, so I brush-painted each decal on the paper with Floquil Crystal Cote and let it dry, then applied the decals. One of the decals eventually cracked up a bit, but I can live with that. Micro Sol setting solution was gently brushed over the dry decals and allowed to sit undisturbed overnight. The next day, the decals had settled down and were sealed to the letter board with a brush coat of Crystal Cote and baked in the dehydrator.

The entire car was sealed with a spray can of clear, flat, automobile adhesion paint and allowed to bake overnight. Weathering was sparingly applied as a little soot on the roof and some staining dripping from the roof vent and chimney. Rust was dusted on the coupler, and rust and dirt powder dusted on the trucks. The weathering powders were all made from artist pastels.

The windows and baggage doors were installed and held in place with Borden's new, transparent or water-clear, PVA craft glue. The baggage doors were fastened in the open position to show the details of the baggage section (figure 1).

The original car lighting was from one central lamp, but I replaced this with a pair of matched 14.5V grain-of-wheat bulbs, one over the passenger section and the other over the baggage. The power wires passed through very small holes in the ceiling to reach the light bar, and were very difficult to install, so I enlarged the holes in the ceiling piece and then cut slots in the material to allow plenty of room for the wires to feed through. Double-sided Scotch tape was used to apply aluminum foil to the underneath side of the roof as a light reflector.

The complete project took two hours each day for four evenings. Some of that time was spent taking photographs and writing notes for this article. The final results are very pleasing to me and this model will be placed alongside the passenger station, close to the edge of the module, for easy viewing. ☑

Reader Feedback (click here)

Figure 11: A view of the interior detail from the stove side. Rather than just have everyone sit in a row, there are four mini-scenes to capture your attention and add interest to the car.

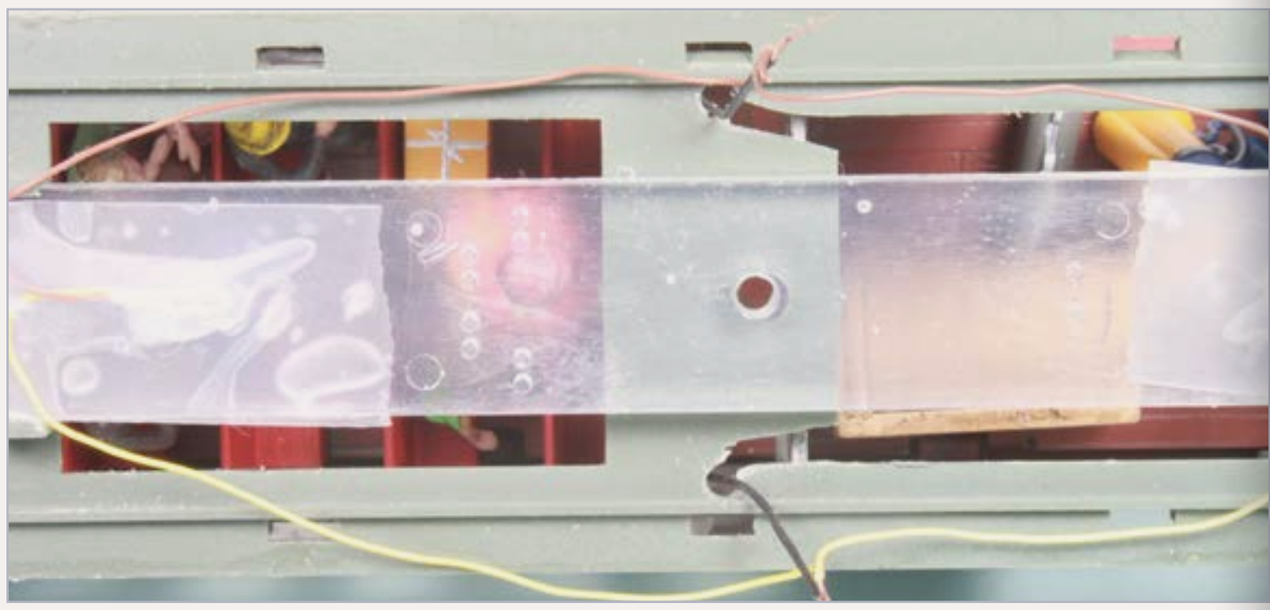


Figure 12: Two grain-of-wheat lamps give better and more even illumination than the one lamp that came with the car. Note the wire holes in the ceiling are greatly enlarged and turned into slots to assist in the threading of the wires for car assembly. The wires can be crimped or soldered to make the connection.

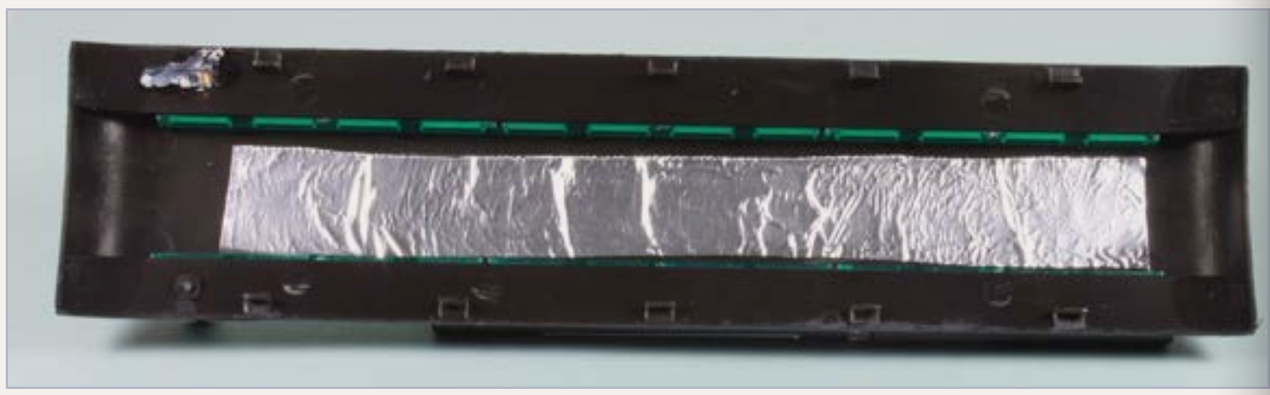


Figure 13: A roof reflector helps even-out the illumination. Apply a piece of double sticky tape to aluminum foil, trim with a scissors and attach the foil inside the roof.

Model Railroad Hobbyist news™

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September 2011

The Old Yardmaster

The latest model railroad news, products, and events

Evergreen Hill Design, a manufacturer of cedar shingles, craftsman-style building kits, and detail parts in HO and O scales, is for sale. Interested parties can send inquiries to Dave Rygmyr at OSO Publishing (davidry@osorail.com)...

Also for sale is Railway Design Associates, a manufacturer of HO scale structure kits. The contacts are caroleguthrie@gmail.com or Matthew Gutherie at matthew.guthrie@gmail.com....

Due in large part to the volunteer effort of Dennis Storzek (Accurail), work continues in organizing and digitally scanning the sizable collection of steam-era freight car drawings housed in the Pullman Library at the Illinois Railway Museum. Although not open to the public, inquiries for serious research projects may be sent in writing to IRM, Pullman Library, Attention Ted Anderson, P. O. Box 427, Union, Illinois 60180...

Weston little people are alive and well at the new Campbell Scale Models. Owner Duncan Campbell, no relation to founder Leo Campbell, is having new molds prepared using the original sterling silver masters created many years ago by Charles Weston. The full line of HO figures should be available soon...

The library at the San Diego Model railroad Museum, home of the La Mesa Model railroad Club, has an extensive collection of books, magazines, and photographs related to both prototype railroads and models. The catalog of the well-organized reference library can be viewed online at sdmrm.org...

WrightTRAK Railroad Models will soon begin producing their cast resin models in-house rather than sourcing the work to outside contractors. Owner Gary Wright expects the investment in training and equipment will result in tighter control over product quality, as well as eliminate delays in production scheduling....

Work continues at Motrak Models on a two-stall brick engine house. Owner Jeff Adam says he hopes to have the N scale structure ready this fall. So many ideas – so little time...

Model Railroad manufacturers, distributors and dealers from around the world will be gathering October 20-23 at the annual iHobby Expo in Rosemont (Chicago), Illinois. The trade show will be open to the public only on October 22nd and 23rd. For details visit ihobbyexpo.com. After many years in Rosemont, iHobby Expo will move to Cleveland, Ohio, for 2012...

The Tichy Group has upgraded its extensive line of HO scale windows and doors to include glazing in all scales. Details are now on the company's web site (www.tichytraingroup.com). New S and O scale windows and doors are scheduled for announcement late this month...

Anyone modeling Pennsylvania Railroad passenger equipment in N scale should check out the wide assortment of resin parts available at prr-parts.com. The list includes 2D-P5 trucks and various underbody details such as ice bunkers, water tanks, and angled channel bracing...

What looks like a veritable list of who's who in the field of craftsman kit manufacturers have been scheduled to participate in the new Fine Scale Model Railroader Expo. At press time, the impressive list included Atlantic Scale Models, BEST Trains, Blue Ribbon Models, Carolina Craftsman Kits, Creative Laser Design, Crow River Products, Crusader Rail Services, DC Scale Models, FOS Scale Models, FSM Kits, Full Steam Ahead, Hodgdon Scale Models, Hunterline, Laser Modeling 3, Minuteman Scale Models, Model Builders Supply, Model Tech Studios, Mount Blue Models, New England Brownstone, Nick and Nora Designs, Northeastern Scale Lumber, Paw of a Bear, Rail Scale Miniatures, Railroad Kits, Roadside Scale Models, Sea Port Model Works, Sheepscot Scale Products, Sierrawest Scale Models, Stella Scale Models, Sterling Models, Stoney Creek Designs, Sylvan Scale Models, Tichy Train Group, Train Troll, VectorCut, and Wildhare Models. The event will be held October

13-15, 2011, at the Holiday Inn, Peabody, Mass. Details are available at modelrailroadexpo.com…

Now let's have a look at this month's new products…

NEW PRODUCTS FOR ALL SCALES

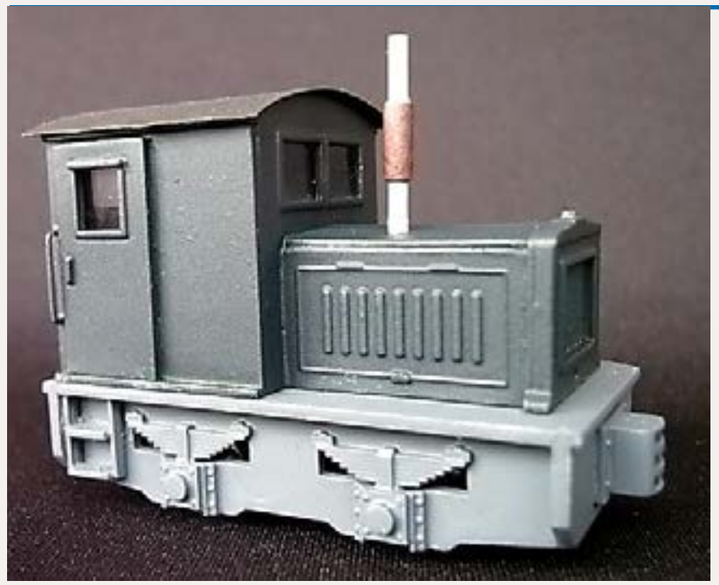
Backdrop Junction continues to expand its selection of specialized printed background scenes for use on N, HO, and O scale layouts and diorama projects. The scenes can be ordered in virtually any length. The company recently completed a continuous 55 foot backdrop for a customer. The backdrops are printed on archival matte finish paper using Epson K3 Ultrachrome archival ink. A wide range of scenes are available, including hills, mountains, farms, fields, city scenes, and industry. For additional information including a printed sample and a limited-time discount coupon visit backdropjunction.com.

Morning Sun Books (morningsunbooks.com) has three new all-color volumes scheduled for release this month. First up is another in the publisher's continuing series of *Pennsylvania Railroad Facilities. Volume 14,* is by Robert J. Yanosey. The book documents the Buckeye Division East of Columbus Union Depot, including the PRR main line from Pittsburgh to St. Louis. PRR mainline trains regularly used the B&O's C&N Division between Columbus and Newark, Ohio, creating facilities and operations not seen elsewhere on the Pennsy. Also new is *Union Pacific Through Passenger Service,* in which author Greg Stout examines the Armour yellow fleet in more than 200 color photos from across the system. And finally, Kevin J. Holland uses 200 vintage color photos to tell the story of the consistently beautiful *Canadian National Through Passenger Service.* Each of the three new volumes is priced at $59.95.

O SCALE PRODUCT NEWS

Accucraft Trains (accucraft.com) has On3 scale 6000-series flat cars decorated for several narrow gauge roads including D&RGW, C&S, RGS, SP, Pacific Coast, Nevada California & Oregon, C&O, NCNG, and EBT. A data-only car is also available. Features of the ready-to-run plastic models include a simulated wood-grain deck, detailed brake wheel, flexible air hose with a glad hand, and a well-detailed underframe with turnbuckles and appropriate brake rigging. The cars have plastic trucks with metal wheels and brass bearings. They are priced at $40.00 each. The models are also available in a four-pack with different car numbers at $160.00.

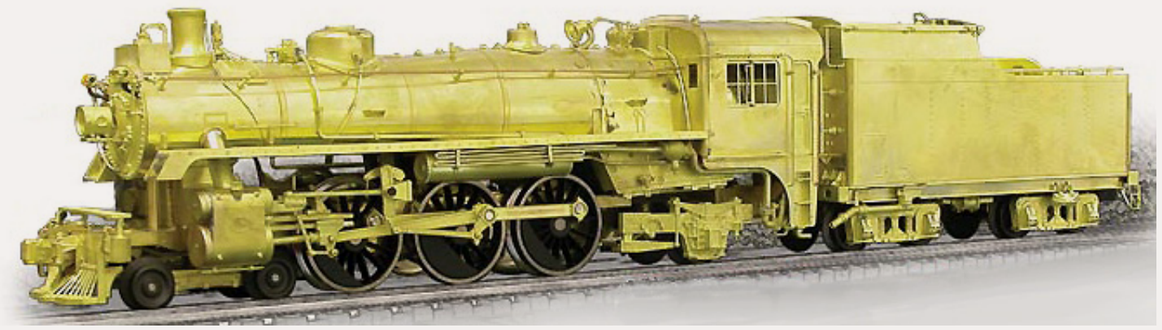
RSlaserKits (www.rslaserkits.com) has released two new O scale structure kits including Deadwood Gazette, left, and Dave's Hardware. The kits feature card-stock sub-frame, peel-and-stick interiors, laser-cut windows, doors, and board-on-board siding. The Gazette building also has peel-and-stick metal roofing material. The kits are priced at $74.99 each.



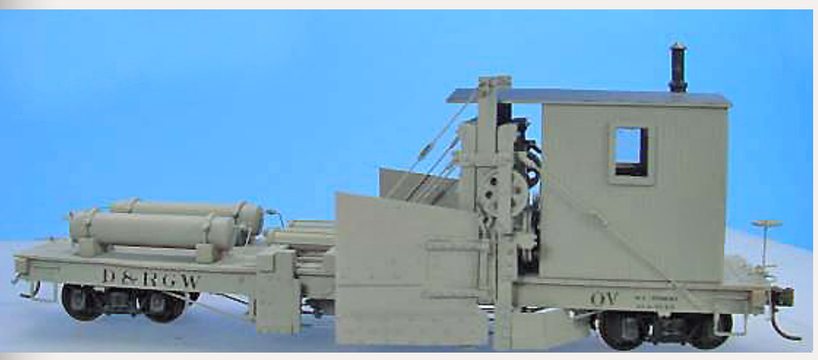
Narrow Japan (narrow-japan.com) has introduced a kit for an On30 scale freelance critter intended for use with a Tenshodo SPUD WB-24.5mm (not included). The chassis, cab, and engine hood are white-metal castings. Other components include a brass roof, brass exhaust pipe and muffler, window glazing, assembly screws, and English-language instructions. Item NJ-MC-1 sells for US$79.00.

Sylvan Scale Models (www.isp.on.ca/sylvan) is selling kits for a unique delivery van that Divco-Twin Coach Corporation manufactured from 1929 to 1948. Growing up in Southern California, I well-remember the Helms Olympic Bread trucks that came regularly

to my grandmother's neighborhood in Pasadena. Sylvan's cast polyurethane resin model faithfully represents the prototype. It is available now in both HO and O Scale at $18.95 and $42.95 respectively.



Weaver Models (weavermodels.com) is importing class G5a and G5b models of this Canadian Pacific 4-6-2 Pacific steam engine. Paint schemes for the O scale brass model will include basic black with a silver smoke box and CP imitation gold lettering, and black with no lettering. It will also be available in the attractive livery of the Ohio Central Museum locomotive. Special features include constant headlight and backup lights, operating front and rear classification lights, illuminated cab, and firebox glow. Models with and without sound will be offered with prices ranging from $995.00 to $1095.00 for 2-rail DC, 2-rail AC, and 3-rail AC units.



Wiseman Model Service (wisemanmodelservices.com) has released a kit for an On3/On30 scale D&RGW OV spreader. The craftsman kit consists of resin and white-metal castings with styrene and brass detail parts. It comes without couplers, but trucks (specify On3 or On30) and decals are included. Numerous diagrams and 30 photos accompany the 16 pages of instructions prepared by professional builder Jerry Strangarity. The kit is available direct from Keith Wiseman at $239.95.

S SCALE PRODUCT NEWS

P-B-L (p-b-l.com) has a few of the second release of its hybrid Sn3 D&RGW K-27 locomotives still available for immediate shipment. Quantities are extremely limited, but at press time, D&RGW #459 K-27 in the 1930's and 1940's lettering scheme was available with DCC Tsunami sound by SoundTraxx at $895.00 each.

Also available from P-B-L is a newly-tooled combination stake and stake pocket. To overcome the problem of trying to insert a scale sized stake into a cast pocket, P-B-L made the pocket with the stake molded in place. The stake can be trimmed to any desired length. Item #560 includes 12 stakes at $5.95. Other projects currently under development at P-B-L include a TK-14 30-ton arch bar truck.

HO SCALE PRODUCT NEWS

Abacus Model Works (www.abacusmodelworks.com) is planning to introduce two groups of HO scale one-piece resin freight car body kits beginning in the fourth quarter of this year. Details such as specific doors, roofs, see-through or etched-metal running boards, underframes, ladders, and other unique parts specific to individual road names will be included. Additional details will include metal piping, grab irons, and accurate decals.

The first group includes several variations of a 40' postwar boxcar, including an ATSF class Bx-44, CNJ, CMO, Erie series 82000, L&N series 15000, Illinois Central, Wabash/NJI&I, P&WV series 1200, and a Southern Railway car with 8' doors.

The second group is a 40' World War-II-era automobile/furniture car that replicates a variety of prototypes including GM&O series 352000, Central of Georgia series 6300, ACL, Illinois Central series 166000, M&Stl series 55000, NS series 26000, Soo Line series 75800, SAL series 22000, Pere Marquette series 93400, and Union Pacific class A-50-16. All kits will be priced less trucks and couplers. Final pricing is pending, and, while pre-orders or reservations are not required, availability will be on a batch-production basis.

Accurail (accurail.com) is selling a kit for this HO scale AGP ACF-built triple-bay covered hopper at $14.98. The kit includes trucks and couplers.

Also available from Accurail is a 3-pack of NYC 41’ AAR steel gondolas with three different road numbers. The pack of three kits has an MSRP of $39.98.

Accurail will produce a limited run of Wisconsin-themed freight car kits in conjunction with Trainfest scheduled to be held in Milwaukee, November 12 and 13, 2011. The HO scale kits will include a 50’ Wisconsin & Southern double plug-door steel boxcar, three Wisconsin-themed 40’ wood billboard reefers in three distinct paint schemes, and a Milwaukee Road 40’ steel refrigerator car – the latter coming from recently completed new tooling.

Athearn Trains (athearn.com) plans to release its SD50 diesel locomotive in four new paint schemes with three road numbers each for CSX, Hudson Bay, Norfolk Southern, and Seaboard System. Special features include sliding windows with flush glazing, etched sunshades, mirrors, antenna, see-through radiator fans, and lost-wax cast air horns correct for the prototype road. The HO scale ready-to-run model comes with Athearn’s Plug and Play DCC wiring harness. They will be available in February at an MSRP of $149.98.

Athearn will also deliver a GP35 next February decorated for BNSF, C&O, Seaboard Air Line, and Soo Line. The HO scale ready-to-run model will be produced from former Rail Power tooling that represents a Phase 1 locomotive built by EMD between October 1963 and February 1964. Notable details include multiple latches on the engine compartment doors, open-top 36” radiator fans, lost wax cast air horn, and photo-etched sun shades. Foot boards or a snow plow pilot will be included as appropriate to the prototype road. The GP35 will have an MSRP of $129.98 and will come with Athearn’s Plug and Play DCC wiring harness. The model illustrated is from a previous run.

A ready-to-run HO scale 50’ Superior door boxcar decorated for Chessie-B&O, CN, D&RGW, and Southern Pacific is scheduled for arrival next February. It will have an MSRP of $24.98.

Also coming early next year is a HO scale GATC 2600 Airslide covered hopper decorated for SLSF-Frisco, Great Northern, NKP, and ATSF with multiple features including separate wire roping eyes, etched-metal roofwalk and brake platform, separate wire grab irons and brake piping, and roller bearing or solid bearing trucks appropriate to the prototype. The MSRP for the ready-to-run model will be $44.98. See our N scale report on page 109 for a photo of Athearn’s Airslide car.

Additional new cars coming from Athearn next February include a PS2 2003 cf twin-bay covered hopper. Four numbers each will be available for Chessie-B&O, Grupos Cementos Mexico, NAHX-Kerr Mcgree, and Cotton Belt. In addition to an etched-metal roofwalk and detailed brake wheel, the models will feature upgraded outlet and roof hatches. The 34' cars will have an MSRP of $29.98. The WM-Chessie car shown above is from an earlier release.

Athearn has announced a 40' triple-bay wood-chip hopper car that has a newly-tooled extension at the top of the sides to contain the high-volume light-weight load. Road names will include B&O, Chessie/C&O, and Portland Terminal – PTM. Athearn reports that their HO scale model is loosely-based on similar prototype cars. The ready-to-run HO scale model comes with a removable cast resin wood-chip load. Individual models will have an MSRP of $29.98. A four-pack will also be available at $119.98 each. Please refer to page 109 in our N scale report for a photo of this model.

Atlas Model Railway Company (atlasrr.com) has set a December delivery date for an HO scale ready-to-run version of a 50' boxcar as manufactured by Berwick between 1972 and 1982. This will be one of the first fully-assembled ready-to-run models using tooling Atlas recently acquired from Branchline. Distinctive features of the Berwick car include the non-terminating ends and overhanging X-panel roof. Other highlights include separately-applied wire grab irons and Accumate couplers. Road names will include BNSF, C&NW (small logo), Ferromex, IC, Canadian National (IC), and Minnesota Commercial Railway. The Berwick car has an MSRP of $28.95. An undecorated version will be available at $24.95.

Broadway Limited Imports (broadway-limited.com) is taking reservations for a Southern Pacific 4-8-8-2 class AC4 cab-forward steam locomotive that comes equipped with Paragon2™ sound. Highlights of the feature-laden HO scale model include an integral DC/DCC dual-mode decoder, synchronized puffing smoke, and all-wheel drive and pickup. A minimum radius of 22 inches is recommended, and according to the manufacturer, the locomotive will operate on rail as small as code 70. The ready-to-run model has an MSRP of $499.99, and is expected to be available this fall.

Bowser Manufacturing Company Inc. (bowser-trains.com) is taking dealer reservations through October 15 for delivery next April of new road names for its Executive Series HO scale Baldwin road switcher. The AS-16 version will be available decorated for PRSL, Peabody, and Lehigh Valley. The AS-616 edition will be offered for Norfolk Southern, Union Pacific, and NdeM. Pacific Electric's DRS 6-6-1500 will also be in the mix. The HO scale ready-to-run models feature a die-cast frame with an upgraded fuel tank, fuel fills, and sight glass. Other details include MU and air hoses, windshield wipers, grab irons, uncoiupling levers, operating headlight, window glass, can-motor, flywheels, nickel silver wheels, metal knuckle couplers, and a white LED headlight. The ready-to-run HO scale locomotives will be available decoder-ready with an NMRA 8-pin plug at $179.95, and with SoundTraxx® Tsunami digital sound and DCC at $289.95.

Campbell Scale Models (www.campbellscalemodelsonline.com) has released an HO scale Post Office as its first laser-cut kit. The venerable firm that pioneered craftsman structure kits in the 1960s will limit sales of the laser-kit direct to consumers through the above web site. It is priced at $49.95 each. The major components are laser-cut from selected tight-grain white pine, which is said to respond well to a variety of weathering techniques. The finished model has a footprint of 2.5 x 5.85 inches.

Classic Metal Works Ltd (classicmetalworks.com) has released an HO scale model of a 1953 Ford Courier sedan, and a 1941-1946 Chevrolet half-ton pickup truck. The Chevy truck features the classic art deco waterfall-grille produced from 1940 through 1947. Variations of the truck include a flat bed, tank body, semi tractor, and with a box delivery decorated in several schemes including Railway Express Agency. The plastic bodies include full interior and detailed chassis parts. Clear headlights, mirror, and chrome-plated grille are separately applied. MSRPs range from $16.00 to $19.00 depending on body types.

Exact Rail (www.exactrail.com) has made another release of its Greenville 60’ double plug-door boxcar. Developed in 1972 for auto parts service, decorating schemes for this release of the HO scale version include Norfolk Southern, DT&I, PC, Con Rail, and NYC-CR. The Platinum series ready-to-run model has an MSRP of $36.95.

ER has also released another run of its steel mill gondola. The model replicates a 65’ 6” 3242 cf car built by Greenville Steel Car Company in 1979 and delivered that same year to Missouri Pacific, CNW, and Southern Pacific. In addition to the three original roads, ExactRail also has a Union Pacific car in this release. Features include box-channel end posts, oval-shaped hook and pull apertures at the sill, and side panels that show corrugations on both the exterior and interior of the car. The Platinum series ready-to-run model has an MSRP of $34.95.

Both the boxcar and gondola have narrow draft box with shank wedges, striker casting and full nut-and-bolt detail. Separately applied details include wire grab irons, brake rods, and uncoupling levers. Additional highlights include separate air hoses, ASF 100-ton Ride Control trucks with all-metal machined wheel sets, and Kadee™ #58 couplers. The boxcar also has an etched-metal Morton brake platform and running board.

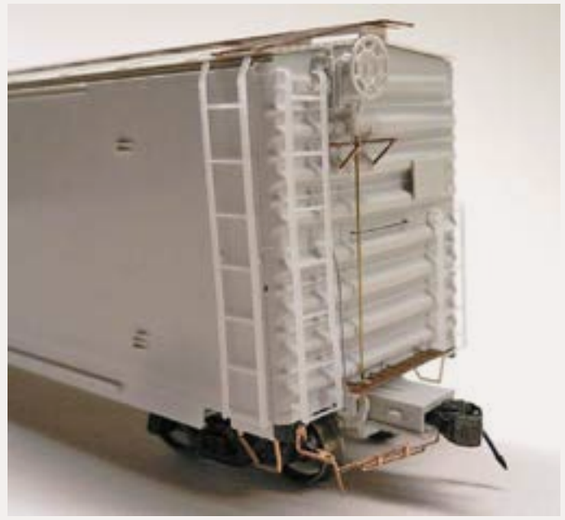
The Glacier Park (glacierparkmodels.com) HO scale brass models of Southern Pacific F-class 2-10-2 steam locomotives we mentioned here last December are expected to arrive from South Korea this month. In addition to the F-1 class locomotive shown here, the project also includes an F-3 and multiple versions of F-5 engines. The brass models are hand-crafted by Boo-Rim Precision.

InterMountain Railway Company (intermountain-railway.com) has released a new Great Northern 40’ plywood panel boxcar with Superior doors decorated with a black roof and ends, orange sides, and Pullman green trim. The ready-to-run HO scale model is equipped with metal wheels and Kadee® couplers. They are priced at $29.95 each.

Also new from IMRC is a 1958 cf twin-bay covered hopper car with open sides decorated for ACY (Akron Canton & Youngstown), Sherwin Williams (SHPX), and Wabash. Notable features include metal wire details, etched-metal roofwalk, metal wheelsets, and Kadee® couplers. The ready-to-run models are priced at $32.95 each. Six numbers are available for each road name.

Kadee Quality Products (www.kadee.com) has released a PS-2 twin-bay covered hopper decorated for Pennsylvania Railroad. The HO scale ready-to-run model is priced at $41.95. The car shown is from a previous production run and may vary slightly in detail.

Next month Kadee will release the 50-ton AAR open-top twin-bay hopper with offset sides decorated for the Cambria & Indiana Railroad. The HO scale ready-to-run model will be priced at $42.95. A Central of Georgia open-top twin-bay hopper will follow in November, also priced at $42.95. All of the models mentioned will be equipped with Kadee’s new two-piece trucks.



In 1962 General American Corporation improved its insulated car design with the introduction of a 50’ RBL boxcar that featured an all-welded body with the roof attached after the installation of insulation material. **Moloco** (molocotrains.com) has introduced two HO scale versions of the prototype in an impressive flat-kit that consists of separate sides, ends, roof, floor, and underframe. The body components are molded in ABS and POM (polyoxymethylene) that can be readily bonded using advanced cyanoacrylate systems for slippery engineering plastics such as Microscale Industries’ recently-introduced MicroBond system.

The sides of the model are fitted with prototype-specific sills, door stops, and door gussets. Other features include a newly-tooled overhanging Stanray roof that accommodates Moloco’s roof brackets or an etched running board, Stanray R3-4 welded ends with GA-style ladders and crossover platforms, a selection of ten types of handbrakes, General American cushioned frame and floor configurations depending on the prototype, Moloco’s cushioned draft gear boxes, a choice of either Hydra-Cushion or Keystone cushioning devices, pre-cut and shaped wire parts, Hi-Tech Details rubber air hoses, Kadee® Whisker couplers, and either Tangent 70-ton Ride-Control solid bearing or Accurail Barber S-2-C 70-ton roller bearing trucks.

Moloco offers two versions of the car at $45.00 each. Kit #11000 features Sill 1 with a 10’6” offset door as owned by Conrail, Delaware & Hudson, Erie Lackawanna, Kansas City Southern, Milwaukee Road, Missouri Pacific, Norfolk & Western, Rock Island, The Rock, Union Pacific, and Wabash. Kit #12000 Sill 2 has a 10’ centered door as owned by Chicago Great Western, Rio Grande, Gulf Mobile & Ohio, Illinois Central Gulf, SLSF (XL), and SOO Line.

The introductory run sold out in early August but Nick Molo told MRH that a second release is expected to be available in late October or early November. For correct decals, Nick suggests several sources including SOO and D&RGW from Microscale Decals (microscale.com), Rock Island from Mask Island Decals (maskislanddecals.com), GMO from ICG Decals (mgdecals.com), D&H-ex EL from Highball Graphics (http://home.mindspring.com/~paducah/icg53.htm), and EL from Prime Mover Decals (primemoverdecals.com).

Motrak Models (motrak-models.net) has introduced resin coal loads for several cars including Blackstone's drop-bottom gondola, and Amesville Shop's 28' gondola. The coal loads are priced at $5.95 for two loads. Also available is a cast Hydrocal® load of scrap metal - with real metal shavings on the top - for an Atlas Coalveyor Bethgon at $6.95 each. Coming next are both coal and scrap metal loads for ExactRail's FMC 4000 cf gondola and 65' mill gondola.

Red Caboose has scheduled a February/March delivery date for the next run of its HO scale X-29 boxcar. Decorating schemes will include Pennsylvania (circle keystone herald), LNE (black body with white line), B&O, Central of New Jersey, and Maine Central (green body with yellow herald). All of the cars will have the familiar X-29 flat end, except the PRR car which comes with a Dreadnaught end. The ready-to-run models have metal wheelsets and Kadee® couplers, and will be available in six numbers. The MSRP will be $34.95. Red Caboose products are marketed by InterMountain Railway (intermountain-railway.com).

Roundhouse Models Division of Athearn (www.roundhousetrains.com) has scheduled a February release date for a group of Westcott & Winks 40' wood reefers. The cars will have yellow sides, boxcar-red roof and ends, and black, red, and white lettering. The four WWDX specialty cars include Jersey Gold Butter, Mid West Hennery, Milk Fed Poultry, and Special Selected Eggs. Each scheme will be available in three road numbers and will have an MSRP of $24.98 each. The KGNX wood reefer illustrated is from an earlier production run.

Also coming from Roundhouse in February are 50' express reefers decorated for Canadian Pacific, New York Central, and Pacific Fruit Express (dark green in a choice of gold or Dulux gold lettering). Three numbers will be offered for each road. The cars have an MSRP of $24.95.

Spring Mills Depot (smd.cc) has set a late October delivery date for an HO scale version of a 50' canstock boxcar, a specialty car developed by B&O for transporting coils of thin steel and aluminum used for making cans. Built by Pullman-Standard 1972, the car's signature features are the significantly-offset 12' 6" door at the B end of the car, and an off-white translucent fiberglass roof panel at the opposite end. Both square-holed Apex and round-holed Morton crossover platforms (see photo below) were applied to the canstock cars.

SMD is offering four versions including a B&O car with a fiberglass roof panel and Apex crossover, and an early-to-mid Chessie car that also has the fiberglass roof panel but comes with a Morton crossover. CSX and a later version of the Chessie car both have Morton crossovers and all-steel roofs without the fiberglass panel.

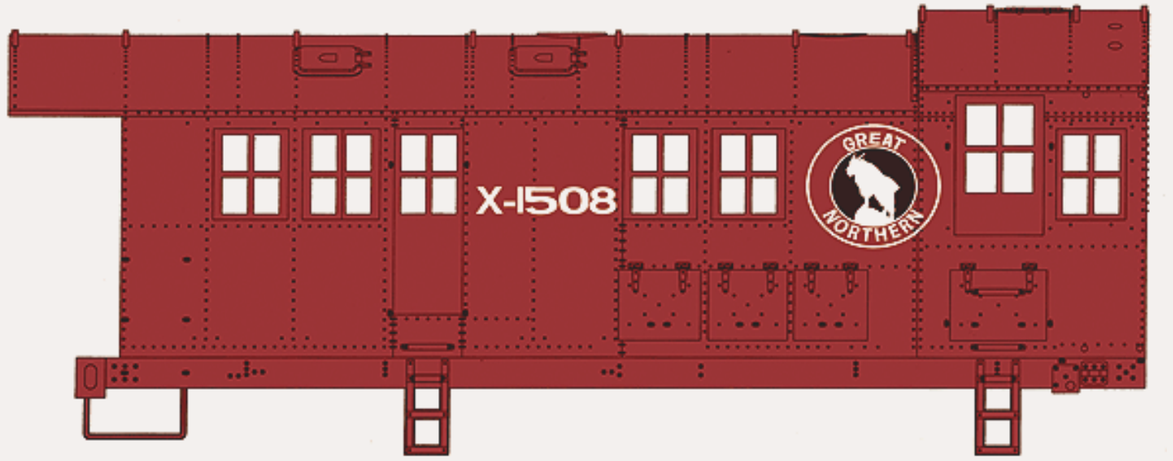
Ready-to-run decorated models are priced at $49.95 each and come with 100-ton trucks and Kadee® #5 couplers. The coupler cover pocket is attached with a screw to ease future maintenance or facilitate installation of a different coupler. Also available is an undecorated kit at $39.95 each that includes all versions of the door, roof and crossover platforms. Couplers are not included in the kit.

In other product developments, Spring Mills Depot is offering B&O class M53 wagon-top boxcars with data in the area of the reporting marks arranged slightly differently than in previous releases. The SMD model is based on a Fox Valley model and sells for $27.95.

Walthers (www.walthers.com) has set March 2012 as the delivery date for four new versions of a Proto 2000® SW900. EMD introduced the prototype in 1950 as an SW8 and upgraded it four years later with an additional 100 horsepower and a new name: SW900. Some of the 743 engines produced by EMD are still seeing service today in light industrial duty. Road names on the Walthers HO scale ready-to-run model will include B&O (Phase 2, 1960s to 1986), CP (Phase 1, early to mid 1970s), and GTW (Phase 3, mid 1960s to the mid 1970s). As seen here, an unlettered version with a generic industrial yellow paint scheme and safety stripes will be included in the March production run. Road-specific details include variations on battery box louvers, lift rings, headlights, stanchions and handrails, pilot or foot boards, and fuel tank size. Models for standard DC operation will have an MSRP of $169.98. Models with DCC Tsunami® sound will be offered with an MSRP of $259.98.

Walthers has released 85’ Pullman-Standard 48-seat smooth-side dining cars without skirts decorated for C&O (blue, gray, and yellow), PRR (Tuscan), CNW (yellow and green), NYC (two tone gray), UP (gray and Armour yellow), NP (two tone green), and the SP version seen here. Details include separate grab irons,

sprung diaphragms, metal wheelsets, and road number decals. The ready-to-run HO scale cars have an MSRP of $64.95 each. An interior lighting kit is available separately.



Walthers is taking advance reservations for an HO scale Alco/Leslie rotary snowplow and tender that features a motorized blade. The HO scale model is based on a design developed by the Leslie Brothers of Canada that was acquired by American Locomotive Company in 1903. Like the prototype snow plow, the model requires a locomotive to move it down the tracks. In addition to the Great Northern unit shown here, other road names in the release include ATSF, D&RGW, NYC, SP and UP. The HO scale ready-to-run model will have an MSRP of $49.98, and is schedule to be available in March 2012.

Also due in March is a run of Walthers Platinum series Thrall 89’ enclosed Tri-Level auto carriers updated with separately molded side ladders and separate grab irons. The trucks of the low-level flats are equipped with 28” metal wheels. Road names with two numbers each include BN-TTX (green rack, yellow flat), GTW (blue rack and flat), BNSF-TTX (yellow rack with wedge logo, yellow flat), CN-TTX (yellow rack and flat), NS (brown rack and flat), and UP-TTX (yellow rack, red, white, and blue shield, Building America slogan). The Platinum series HO scale ready-to-run cars have an MSRP of $37.98 each.

N SCALE PRODUCT NEWS

Athearn Trains (athearn.com) has announced a February delivery date for a 40' triple-bay wood-chip hopper car with new road names including B&O, Chessie/C&O, and Portland Terminal – PTM. The ready-to-run N scale model comes with a cast resin wood-chip load. Individual models will have an MSRP of $19.98. A four-pack will also be available at $79.98. The C&O car picture is from a previous production run.

Also due from Athearn next February is an N scale GATC 2600 cf Airslide decorated for SLSF-Frisco, Great Northern, Nickel Plate Road, and ATSF. The ready-to-run N scale cars will have etched-metal roofwalks and brake platforms, wire roofwalk grab irons, and roller-bearing or solid-bearing trucks appropriate to the prototype road. The models will have an MSRP of $25.98 each. The photo shows a car from an earlier release.

Bachmann Industries (www.bachmanntrains.com) has released an N scale model of a USRA light 2-10-2 Santa Fe class steam locomotive. The Spectrum® series ready-to-run DCC-equipped model features die-cast construction, a double set of traction tires, and operating E-Z Mate® Mark II magnetic couplers. Paint schemes include Chicago & Illinois Midland, Southern Railway, DM&IR, Canadian National, Seaboard, and Kansas City Southern. The model also will be available painted black but unlettered. The MSRP on the locomotive is $300.00.

Con-Cor (con-cor.com) is booking reservations for delivery this Fall of a series of Tri-Level Auto Rack cars. The N scale ready-to-run models feature metal wheelsets and Micro-Trains® couplers. Road names include BNSF (yellow and silver Swoosh scheme), Union Pacific (Building America), Kansas City Southern, Conrail, Southern Railway (green), and CSX (black logo), plus three variations of Amtrak (Phase III (1983+), Phase IV (1993+), and Phase V (2005+). The models have an MSRP of $28.98 each and will be available in three different numbers for each road.

DeLuxe Innovations is quoting a November delivery date for its third production release of N scale Maxi-Stack IV cars. The run will include TTX yellow with white conspicuity stripes, a late version of BNSF's swoosh scheme, and a late version of Arkansas-Oklahoma Railroad (ex-Northwest Container). All are priced at $74.95 for a four-pack. Also due in November are two-packs of 40' container chassis decorated for K-Line, OOCL, and Sea-Land. The two-packs are $22.95 each. DeLuxe Innovations products are marketed by InterMountain Railway (www.intermountain-railway.com).

Fox Valley Models (foxvalleymodels.com), is taking reservations for a new production run of its N scale General Electric ES44AC 4,400 horsepower Evolution series diesel locomotive. The run will include new numbers for the popular BNSF

(power bar scheme) and two additional numbers for Iowa Interstate Railroad. Both models are expected in March. They will be followed in April by a two new numbers for standard Ferromex units, as well as a Ferromex with 10th Anniversary decals. Road-specific options include cab window arrangements, number board locations, and trucks (high-adhesion trucks on the BNSF version, General Electric steerable trucks on the other roads mentioned). Several items including grab irons, window sunshades, and windshield wipers are supplied but not installed. Small dimples molded into the shell guide the modeler on where to drill holes for mounting these details. The model comes ready for standard DC operation, but can be quickly converted to DCC by removing the top of the radiator section at the rear of the model and plugging in an aftermarket DCC decoder such as Digitrax DZ125W. It's a quick and simple procedure that does not require removing the body shell from the chassis. The ready-to-run N scale locomotives have an MSRP of $119.95 each.

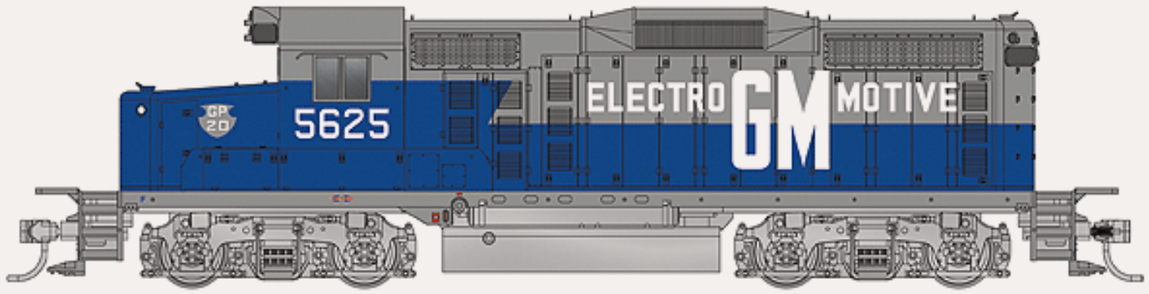
InterMountain Railway (intermountain-railway.com) has N scale Bathtub coal gondolas that come with Micro-Train® trucks and couplers. Road names currently available include CP Rail-Ontario Hydro, Sullivan Scrap Holyoke MA (Everest Railcar Service), Pacific Procor, CP Rail, and Sultran in both horizontal and vertical schemes. The ready-to-run cars are $19.95 each.

Kato USA (katousa.com) will import two new N scale models of Japanese locomotives late this year. The mix will include a 4-6-4 C62 steam engine with a coreless motor that is said to respond well to low-speed operation, and a six-car series 787 Kyushu local express passenger set. Pricing of the models will not be firm until near the arrival date, but, the 4-6-4 is targeted at about $175.00 while the six-car train set is expected to be about $210.00.

Micro-Trains Line (micro-trains.com) has N scale Pennsylvania 12-1 Pullman sleepers decorated for Adamsdale, Ellendale and Sunbrook. The ready-to-run cars come in a three-pack priced at $64.95.

Motrak Models (motrakmodels.net) has changed the packaging on some of its N scale loads. All scrap metal and scrap aluminum loads now come in packages of two loads with a new lower suggested retail price of $5.95. Gravel loads for Walthers 100-ton twin-bay hopper are available in a three-pack at $4.95. Motrak scrap metal loads (made with real metal shavings) for BLMA's 70-ton gondola comes in a two-pack at $5.95.

Motrak has introduced a kit for an N scale Maintenance of Way Shed with a footprint of 3.75" x 2". Components in the structure kit include laser-cut clapboard siding walls, laser-cut peel-and-stick three-tab shingles, Tichy 55-gallon drum, windows and doors, and a template for making scale pallets. The N scale kit sells for $30.00 plus $6.00 for shipping in the US and Canada.



Walthers (www.walthers.com) will release its ProtoN™ EMD GP20 in a one-time run of four new road names for Chicago, Burlington & Quincy (red, gray, and white), Norfolk Southern (black), Cotton Belt (gray and red), and EMD Demonstrator. The N scale model comes ready-to-run on standard DC. They are fitted with a DCC-friendly clip-fit circuit board to accommodate an after-market

DCC decoder. Each road name will be available in two numbers at an MSRP of $99.98 each.

In addition to the Hanson GIHX car shown here, Walthers says it will also deliver its Greenville 100-ton twin-bay open-hopper car next March decorated for Giffford Hill GIHX (orange), Golden West Service SP (blue, red, and yellow), Norfolk Southern (boxcar red and yellow with conspicuity dashes), Southern Railway (black), Trumix TCCX (yellow), and Vulcan Materials VULX (gray). The ready-to-run models will be available in three different road numbers at $17.98 each.

Z SCALE PRODUCT NEWS

Stonebridge Models (www.stonebridgemodels.com) has a Z scale kit for a 73' Thrall Centerbeam car that includes trucks and couplers at $26.50, or as a two-pack at $50.00. The kit is primarily composed of laser-cut peel-and-stick laser board material. Laser pre-trimmed decals simplify the decorating procedure. Road names include BC Rail and TTZX.

NEW DECALS, SIGNS, AND FINISHING PRODUCTS

Although new production of decals has stopped at **Islington Station Products**, the company continues to sell from its sizable inventory, with most items still available. They do not accept internet orders or credit cards so all transactions must be the old fashioned way – via the post office. Send all inquiries to Islington Station Products, P. O. Box 2, Medfield, MA 02052.

Jerry Glow (home.comcast.net/~jerryglow/decals/full.html) has several new HO scale decal lettering sets including DRX Deep Rock 8,000 gallon tank car at $5.00, and a comprehensive lettering assortment for Southern Pacific tank cars based on data and art work researched by Tony Thompson, at $6.00.

Also new is a decal set for Union Pacific B50/-24/27 boxcars in yellow for 10'6" inside height boxcars including InterMountain models. The decal sets sell for $5.00 each.

Daniel Kohlberg (www.mindspring.com/~paducah) has HO scale decals for GM&O 50' PS-1 green-fleet boxcars plus a second decal set that includes all of the "return-to locations" designations for the GM&O system.

Microscale Industries (microscale.com) has released HO scale Great Northern decal sets for single-door boxcars, outside post boxcars, and 50' triple-bay hopper cars. Also new in HO scale is a lettering set for Milwaukee Road steel cabooses circa 1950 to 1980. HO and N scale sets have been released for a 57' Southern Pacific Fruit Express with white body. Also new are N scale decals for Union Pacific sleepers and business cars decorated in the road's yellow and grey scheme.

Future items still under development include decals for SCL woodchip hoppers and gondolas, SPFE/UPFE orange boxcars, and O scale freight car data.

Mount Vernon Shops (mountvernonshops.com) has HO scale decals for Pennsylvania Railroad class GLa/GLg, H22, and H31 prewar hoppers. Also new are decals for Carbon Black hopper cars.

Dan Peterson has established sanjuandecals.com as the new web site for the decal line he recently purchased from San Juan Car Company, whose web site continues at sanjuandecals.com. ☑

DISCLAIMER

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About our news and 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.

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!

Reader Feedback
(click here)

Selected Events

September 2011

MARYLAND, ELLICOTT CITY, September 1-4, Steel Mill Modeler's Meet, includes layout tours, seminars, models, and displays focusing on modeling steel mills in all scales. Sponsored by Magarac Society. Turf Valley Resort. Info at peachcreekshops.com/2011steelmeet.php.

MICHIGAN, LANSING, September 24-25, American Heritage Festival, sponsored by Lansing Model Railroad Club, includes operating club layout, modular layout, working blacksmith, wood carvers, wagon rides, and tour of Woldumar Nature Center. At former Grand Trunk Western Millet Depot, 5309 Old Lansing Road. Info at lmrc.org.

NEBRASKA, NORTH PLATTE, September 16-18, Rail Fest 2011, UP heritage steam engines, tour of Bailey yard, and model train display. Info at nprailfest.com.

NORTH CAROLINA, HICKORY, September 7-10, 33rd National Narrow Gauge Convention featuring layout tours, clinics, vendor displays, prototype events, and narrow gauge camaraderie. Speakers are Trains editor Jim Wrinn and David Pfieffer from National Archives. Hickory Metro Convention Center. Headquarters hotel (Crown Plaza) is sold out. Visit web site at narrowgauge2011.com for information on alternative hotel space.

OHIO, MOUNT VERNON, September 17 thru Oct 6, Life Along the Line, exhibit of original railroad photography of O. Winston Link, B&O Depot, 507 West High Street. Hours and fee information at mountvernondepot.org.

OREGON, SALEM, September 24-25, Rails By The River, Prototype Modelers Meet with displays, vendors, Free Mo layout. All scales, all eras, all skill levels are welcome. Center 50+ Salem Senior Center, 2615 Portland Road NE. Details from Greg Martin at tgregmrtn@aol.com, or visit railsbytheriver.com.

VIRGINIA, VIRGINIA BEACH, September 17-18, NMRA Tidewater Division Annual Train Show, Virginia Beach Convention Center, Hall D. Info at nfr-nmra.org.

October 2011

CANADA, ONTARIO, October 2, 7th Annual Muskoka Model Railroad Layout Tour. Visit 20 home layouts from N to G scale in Alliston, Beeton, Stroud, Orillia, Severn Bridge, Gravenhurst, Bracebridge, and Huntsville. Tour maps available September 1. For info contact roger.berkeley@primus.ca or Al Crisp at beez_al@bell.net.

CANADA, ONTARIO, OTTAWA, October 15-16, 2011, RAILFAIR OTTAWA, Algonquin College Woodroffe Avenue south of Baseline Road. Info at railfair.ca.

CONNECTICUT, ORANGE, October 9, New Haven & Derby Model Railroad Club's 19th Annual Model Train Show featuring operating layouts in HO, N, S and O scales, clinics, vendors. Free parking and wheelchair accessible. High Plains Community Center, 525 Orange Center Road.
Info at newhaven-derbymodelrailroadclub.org.

ILLINOIS, LISLE, October 20-22, RPM-Conference (formerly Naperville RPM meet). Blue-ribbon list of speakers includes Frank Angstead, Mike Boland, Michael Borkon, Jack Burgess, Bob Chapman, Bill Darnaby, Jeff English, Tim Fredricks, Stephen Funaro, Richard Hendrickson, Robert Heninger, Chad Hewitt, Steve Hile, Roger Hinman, Chuck Hitchcock, Tyrone Johnson, Bob Karig, Tony Koester, Martin Lofton, Pierre Oliver, Bill Pistello, Ramon Rhodes, Mike Rose, Dick Ryker, Bill Schaumburg, Mike Schleigh, Gene Semon, Andy Sperandeo, Bob Sterner, Mont Switzer, Tony Thompson, Charlie Vlk, Bill Welch, and John Westly. Hickory Ridge Marriott (630-971-5000).

MARYLAND, TIMONIUM, October 29-30, Great Scale Model Train Show & Railroad Marketplace at Maryland State Fairgrounds. Produced by Howard Zane and Ken Young www.gsmts.com.

MASSACHUSETTS, PEABODY, October 13-15, Fine Scale Model Railroader Expo. New event includes extended paid clinics from experts including Lou Sassi, Dave Frary, Bob Hayden, and Bob Mitchell. Peabody Holiday Inn. For clinic fees and additional details visit modelrailroadexpo.com.

NEW JERSEY, BRIDGEWATER, October 1, Northeastern Fallen Flags, Prototype Modelers Meet at Ted Blum 4-H Center, 310 Milltown Road. Model displays, vendors, auction and camaraderie. Clinicians include Craig Bisgeier, Jim Dalberg, Modeling Hopper Cars of the Anthracite Roads, Ralph DeBlasi, Ron Giordani, Mike Gossman, Jim Harr, Mike McCann, Dave Messer, and Henry Freeman. Info at groups.yahoo.com/group/neffrpm.

NORTH CAROLINA, CARY, October 27-30, NMRA Mid-East Regional Convention at Embassy Suites Hotel, Raleigh-Durham-Research Triangle East, 201 Harrison Oaks Blvd. Info at mer.nmra.org.

OHIO, WEST CHESTER, October 29-30, NMRA Cincinnati Division 7 Annual Model Train Show. Lakota West High School, 8940 Union Centre Blvd. Info at cincy-div7.org.

OREGON, SALEM, NMRA PNR 2nd Division fall meet on October 22nd in Salem, Oregon. Clinics and self-guided layout tours. Info at 2dpnr.org or call 503-710-5276 for more details.

Selected Events *Continued ...*

TEXAS, HOUSTON, October 8-9, Big Texas Train Show. Operating layouts, museum and club displays, model railroad and railroadiana vendors, manufacturers displays. George R. Brown Convention Center, sponsored by Houston Railroad Museum and the Gulf Coast Chapter, National Railway Historical Society. Info at bigtexastrainshow.com.

Future

CALIFORNIA, LOS ANGELES, November 5-6 and 12-13. Pasadena Model Railroad Club Sierra Pacific Lines Fall Show. One of the world's largest layouts with over 1,700 feet of mainline track, 42 inch minimum radius, controlled by 10 mainline cabs. 5458 Alhambra Avenue. Info at pmrrc.org.

KANSAS, BENTON (Wichita area), November 5-6, Railroad Prototype Modelers Meet, Benton Lions Community Center, 150 S. Main Street. Info at midcontinentprototypemodelers.org.

MASSACHUSETTS, MANSFIELD, November 2-5, Craftsman Structure Convention, Holiday Inn. Info at csc11.net.

MICHIGAN, LANSING, November 3-6, NMRA North Central Region, Lansing Legacies Convention. More than 25 clinics including make-and-take clinics, operating sessions, prototype tour, visits to 25 home layouts including narrow gauge and traction. HQ at Ramada Inn, 7501 W. Saginaw Hwy. Info at www.ncr-nmra.org/event/lansing-legacies-2011-ncr-regional-convention or send email to lansinglegacies2011@yahoo.com.

MICHIGAN, LIVONIA, November 27, Model Railroad Show & Workshop, Civic Park Senior Center, Farmington and Five Mile Roads. Info from Mark Ellis at 734-421-2673 or emark@sbcglobal.net.

NEW YORK, ALBANY, December 4, NMRA Berkshire Division and Train Associates present Great Train Extravaganza. Free seminars, operating layouts in most scales, 200 sales tables. Empire State Convention Center. Information gtealbany.com or call (518) 668-9892..

NEW YORK, HICKSVILLE, November 25-27, December 2-3, and 9-11, West Island Model Railroad Club Annual Open House, 485 So. Broadway, Unit 22A. Info at www.westislandmodelrailroadclub.com/about_us.html.

PENNSYLVANIA, MONACA, November 20, Beaver County Fall Model Train Show, Center Stage, 1495 Old Broadhead Road. Info from Walt Steiner 724-843-3783 or bcmrr.railfan.net.

Future 2012

CALIFORNIA, SANTA CLARA, February 9-11, 2012, 22nd Annual O Scale West 2012 (includes 6th Annual S West meet), model displays, vendor displays, movies, swap meet, and layout visits. Hyatt Regency Santa Clara. Details from Rod Miller at rod@rodmiller.com or visit www.oscalewest.com.

CANADA, ONTARIO, OTTAWA, May 5-6, 2012, 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. Info at ottawatrainexpo.wordpress.com.

FLORIDA, COCOA BEACH, Jan 5-7, 2012, Prototype Rails 2012, RPM meet hosted by Mike Brock. Hilton Hotel, 1550 N. Atlantic Ave. Call 800-526-2609 or 321-799-0003 for reservations.

MICHIGAN, GRAND RAPIDS, July 29-Aug 4, 2012, NMRA National Convention and National Train Show. Info at gr2012.org.

PENNSYLVANIA, MALVERN, March 23-25, 2012, RPM-Valley Forge Meet. Info at phillynmra.org/RPMMeet.html.

Future 2013

NEW MEXICO, ALBUQUERQUE, June 6-9, 2013, Rails Along the Rio Grande 2013, NMRA. Rio Grande Division 6, Rocky Mountain Region 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. ■

Reader Feedback *(click here)*

REVERSE RUNNING: Hobby of model railroading – beginners need not apply

Stepping outside the box with a contrary view

Reader Feedback (click here)

— by Joe Fugate

Back in the 1950s and 60s when model train sets were still in vogue as *the* Christmas toy of choice, the most popular model railroads in the hobby press were layouts like John Allen's Gorre & Daphetid, Whit Tower's Alturas & Lone Pine, Bill McClanahan's Texas & Rio Grande Western, and Frank Ellison's famed Delta Lines.

The one thing in common for all those leading model railroads of the time: they were all freelanced. The whole prototype-fetish that's become common today was largely unknown then.

Today, by contrast, the leading model railroads include layouts like: Jack Burgess' Yosemite Valley, the La Mesa club's Tehachapi Line, Lance Mindheim's Downtown Spur, Tony Koester's Nickel Plate, and of course, Allen McClelland's famed Virginian & Ohio – although the newest version of the V&O has been relegated to the pages of history now.

What's common about this more recent crop of model railroads is they're generally way more prototype than freelance.

There's also the trend toward more prototype accuracy with model railroad meets – take the RPM (Railroad Prototype Modelers) meets. They're proliferating like the proverbial mushroom and their focus is modeling the prototype as accurately as possible.

And look at the model locos and rolling stock being produced today. Ever increasing amounts of fantastic but delicate little details that begin breaking off the minute you get the item home and take it out of the box.

What ever happened to the "good enough" philosophy?

I have to wonder, is the hobby of model railroading getting too sophisticated? Have we become a community of "prototype freaks" who end up turning away beginners as "not serious" modelers?

If we look at the trains that most often capture the general public's interest, we find it's things like Thomas the Tank Engine, The Polar Express, and the Hogwarts Express – all fantasy railroading.

Let's take Thomas, for example. While your typical "serious" model railroader will turn up his nose at such silliness, booths at train shows featuring Thomas are often jammed with parents and little kids.

A local tourist line, the Mount Hood RR, features a "Polar Express" excursion every holiday season from Thanksgiving to New Years.

They encourage the parents to bring their children in their PJs, serve hot chocolate on the train, and feature a visit with Santa at the foot of Mount Hood in the snow.

Here's a drafty old excursion train running in the dead of winter, yet the runs are typically sold out by December! Clearly, the public's still fascinated by fantasy trains.

Has the mainstream hobby's fetish with prototype accuracy hurt the hobby? Are we making a hobby that's a total turnoff to newcomers, especially youngsters who are the next generation of modelers?

While the level of detail in many of today's rolling stock and loco models is fabulous, they're certainly not for kids any longer.

Maybe we need to swing the pendulum the other way, back to more freelancing and (horrors) even fantasy model railroading?

I wonder if our almost exclusive focus on rivet level detail accuracy of modeling risks raising the bar so high that we're becoming a hobby of elitists?

I do think there's room for appreciating the modeling skill to produce a really nice Thomas the Tank layout, for example. Or how about an article on how to model the Polar Express train?

I'm interested in hearing your feedback on the comment thread. Are we turning away new modelers with our fetish of prototype accuracy? Are we making the hobby too complicated for beginners with our insistence on being "true to the prototype?" ☑

Coming in the October 2011 issue

- 5 cars for $35: The 35-dollar challenge!
- New DCC column by Mr. DCC, Bruce Petrarca
- Modeling water
- N scale OWN Railway
- Byron Henderson track plan
- New one evening projects

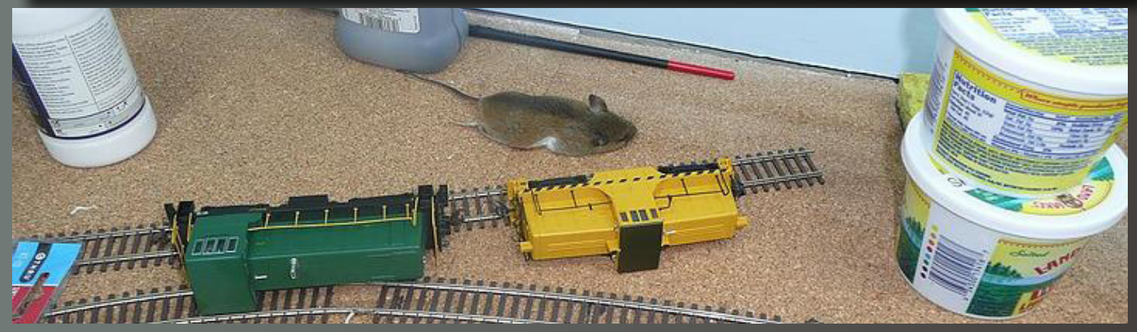
... and lots more!

Derailments, humor, and Dashboard on next page ▶

Derailments

DEAD MOUSE ON R.F. BRANCH RAILROAD!

humor (allegedly)



Mr. R.F. Branch: I represent the survivors of Mr. Mouse, who was hit by your locomotive and killed in front of his spouse and litter! We seek redress ...

"It is the ruling of the Court that Mr. Mouse was trespassing on railroad property. The railroad was not in breech of its duty, nor was this unfortunate incident foreseeable. Therefore this Court finds the railroad not liable. Case dismissed!"

"PETA is calling on authorities to take action in the wake of a vicious killing of an innocent wayward mouse that wandered onto the tracks of the R.F. Branch Greenpoint Dock and Transfer Railway and was subsequently struck by a locomotive. A lower court has ruled the railroad not at fault however PETA plans to file an appeal to the ruling citing lack of adequate security measures by the railroad to prevent mousy trespassing.

"Clearly the railroad has no concern for rodent welfare. We visited the site and found it to be flat cork for as far as the eye can see. No posted warning signs, no fences, no cheese abatement devices, not even high static grass or lichen, nothing." says PETA legal counsel. CSI experts called to the case by PETA have raised concerns the railroad may be trying to quickly rid the scene of evidence further raising doubts about the mouse killing.

"Railroad Maintenance-of-Way crews did remove a large area of cork material from the area of the incident. Representatives of the railroad could not be immediately reached for comment as they were on eBay shopping for cork."

No kidding ... click here to read the full thread on the MRH web site!

If you're the first to submit a good bit of humor and we use it, it's worth $10!

DASHBOARD

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