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Model Railroad Hobbyist magazine™

June 2013

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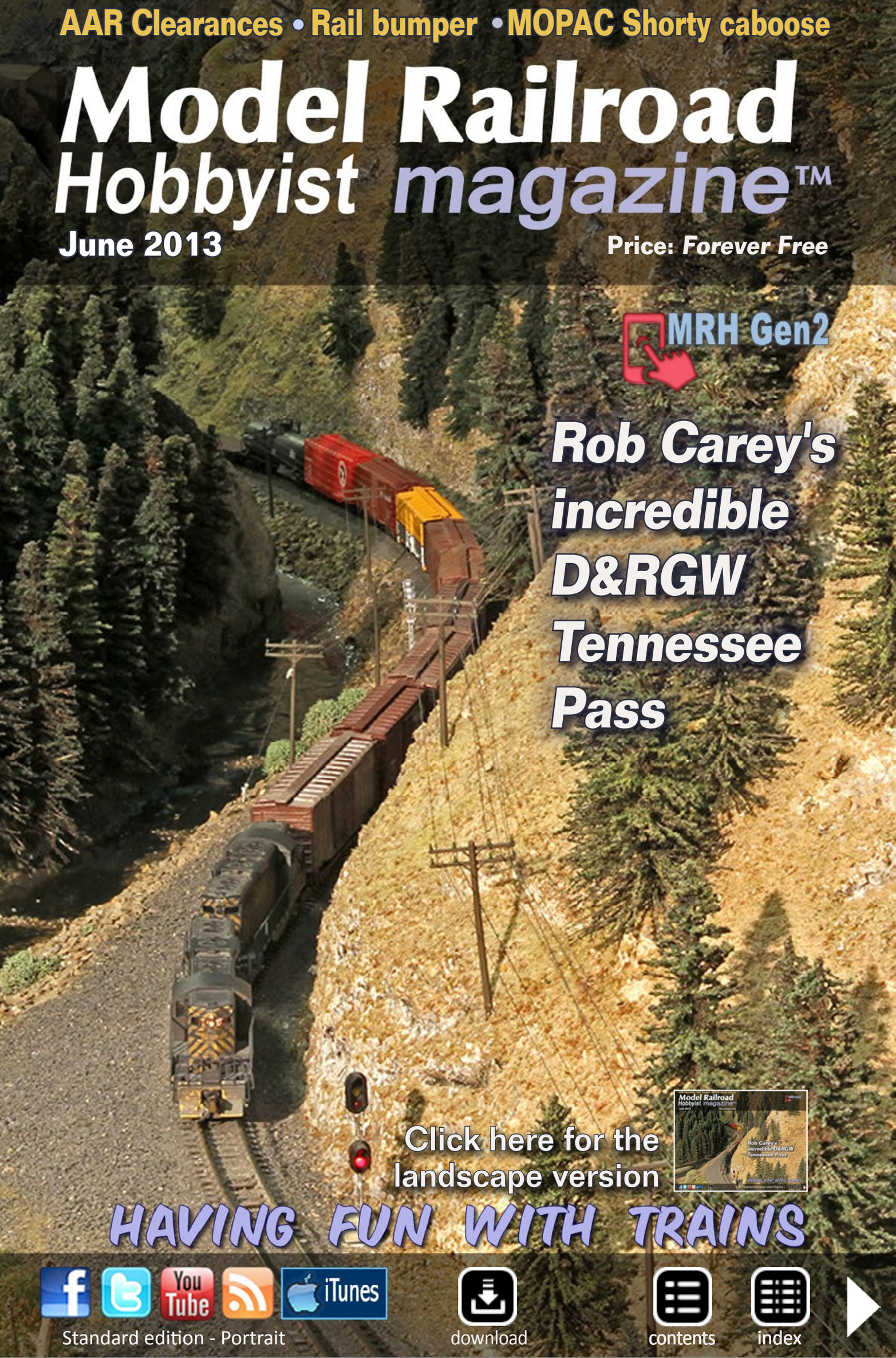


MRH Gen2

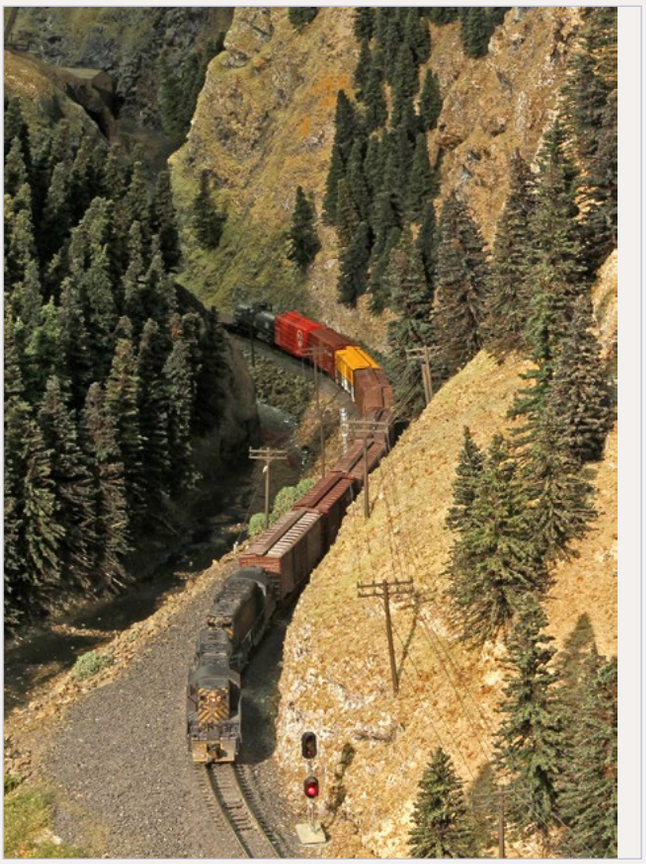
Rob Carey's incredible D&RGW Tennessee Pass

Click here for the landscape version

HAVING FUN WITH TRAINS

Model Railroad Hobbyist magazine™

Front Cover: Rob Carey takes us on a tour of his beautiful D&RGW N scale layout. Rob uses N scale to its full advantage wih great scenic vistas.



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Published for the glory of God. What's this?

Issue password: Jun2013

Table of Contents - 1

Main Features

Click title to view

Other Features

Click title to view

Columns

Bob thinks it might be time to replace his two scratchbuilt GMD-1 models...

We have some suggestions for him!

The Compound Effect

Improving your hobby skills

Reader Feedback (click here)

Assistant Editor's Musings

by Don Hanley

MRH Gen2

I am going to start off with a small test. You are given two choices:

(A) Have $1 million deposited immediately in your bank account

(B) have $.01 deposited in your account and have its value doubled every day for 30 days. So, on the second day you have $.02, on the third you have $.04, and so forth.

The answers are at the end. No peeking.

What does this test have to do with model railroading? A lot, actually. Model railroading is not an instant gratification hobby. Sure, you can purchase highly detailed ready-to-run locomotives and rolling stock, but where does that get you? If you don't have a layout, they either sit in a box or maybe in a display case.

I suspect that every one of us has looked our early rolling stock, structures, or layout and then, comparing it to more recent work, simply sighed. The quality of the early work is not up to par with what we can do now. This is the compound effect in action. The

compound effect is the act of doing a little something over again and again until there is a noticeable change in results.

We become better modelers over time simply by modeling. The repetition of doing the little things helps us improve. No instant gratification with that. As a result, over time we are able to build our models a little faster, neater, and with more accuracy. We become a master at the craft.

This is why Joe Fugate's “chain-saw layout” concept is so valuable. Start with a small project so that you are not overwhelmed. Expect to tear it apart, replace part or all of it, and do it again. Each time the layout will be a little better. Eventually you will have a layout that you like. This is the compound effect at work. As your skills improve, so will your layout, along with your confidence and sense of accomplishment.

Maybe you are an experienced modeler but are in a rut with

your layout. Maybe you have strayed from what you originally envisioned. Maybe it's time to start over on a portion or the whole layout. Use the chainsaw concept along with the understanding of the compound effect. They can lead you to the layout you want.

What is important is that we continue to grow in our skills and abilities. Don't settle for mediocrity. Start over, or rebuild. Our motto is “Having Fun With Trains,” and it's hard to have fun with something that doesn't make you happy.

What is the answer to the test?

If you take the $1 million, at the end of 30 days you still have $1 million, assuming you didn't spend any of it. Instant gratification.

If you took the second choice, you have $5,368,709.00. Not instant gratification, but with the compound effect you have a whole lot more.

Which choice are you going to make? ☑

Reader Feedback
(click here)

MRH's second annual

Start the hobby for $500 contest

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

DEADLINE: November 30, 2013

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

Submit entry
(select Contest)

Notes from the MRH Staff

MRH's first eBook, Volunteer needed for Atlanta, $500 layout contest reminder ...

Reader Feedback (click here)

MRH's first eBook breaks new ground

We've finally produced our first eBook, born out of a partnership with Mike Confalone to bring his popular *Railroad Explorer* print periodical to digital.

We saw *Railroad Explorer* as a great showcase for our move into eBooks, since Mike's publication has always been something of a coffee table soft-cover featuring superb prototype images. We're aiming to break new ground with picture-heavy eBooks, so *Railroad Explorer* gives us an opportunity to demonstrate how MRH's eBooks will be different from what's come before.

Traditionally, eBooks in general have been text-heavy, and images have not been the focus. And consistent with this direction, railroad-oriented eBooks have not emphasized high quality images either.

Not so with us. We consider top-quality digital images to be a must-have for our prototype and model railroading eBooks. We pulled out all the stops with ***Railroad Explorer* in digital form**,

May 2013 MRH Ratings

The five top-rated articles in the **May 2013** issue of MRH are:

- **4.8** Freight car trucks from 1900 to 1960
- **4.6** DCC Impulses - Using Ohm's law
- **4.6** Getting Real - Kitner Milling
- **4.5** One turnout layout
- **4.4** Up the Creek - Bending the sky

- Issue overall: **4.6**

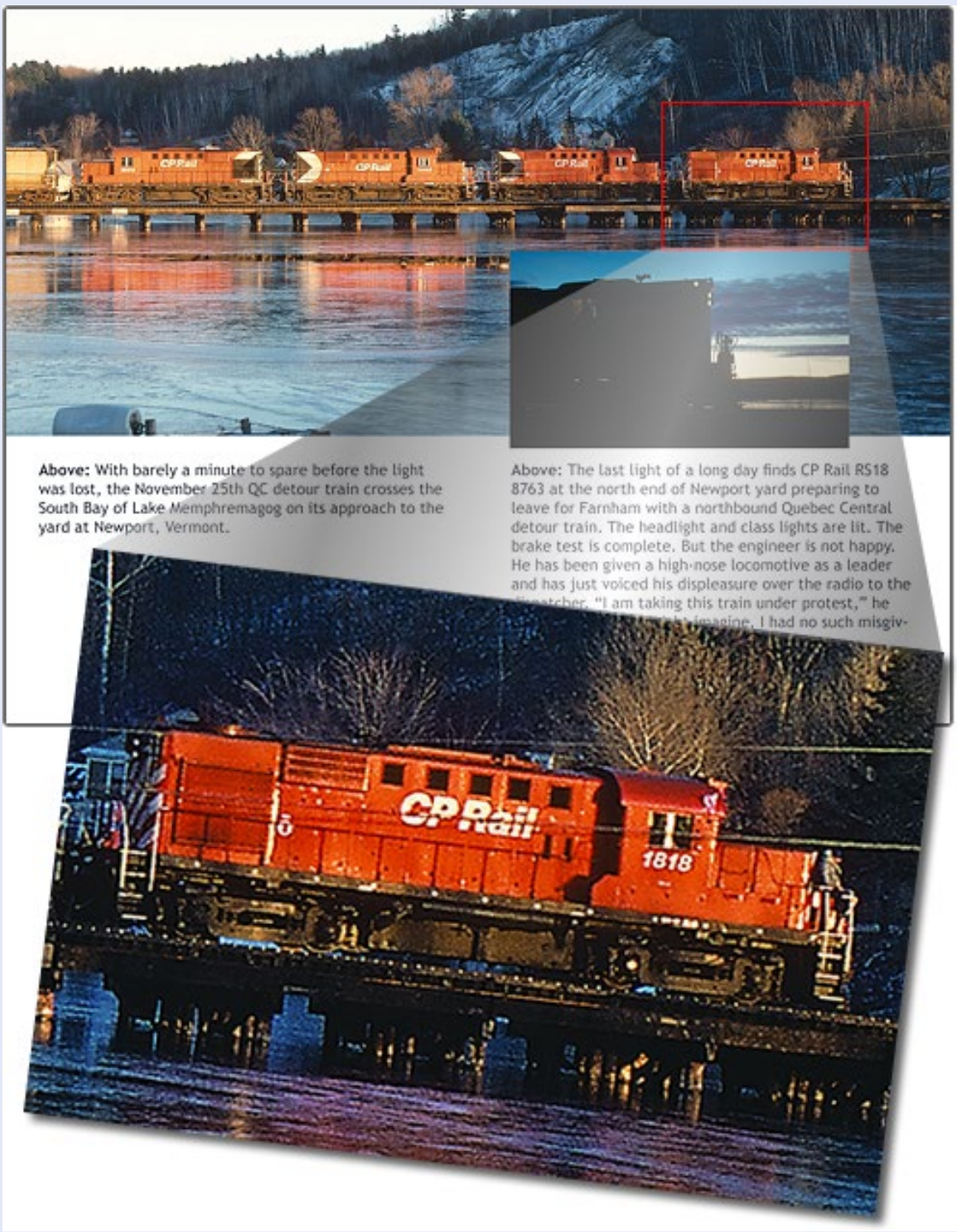
Tell us you want more (or less) by rating the articles!
Click the reader feedback button on each article's feedback page and select the star rating you think the article deserves.

and we're hoping those of you who have purchased a copy will agree: we have achieved our goal, and then some!

If you look at our new eBook on an iPad in iBooks, you will find the viewing experience to be superb – in some cases better than the paper edition experience.

As you flip through Railroad Explorer in iBooks, when you see an image you want to study more closely, just double-tap it so the image fills the screen.

As if that's not enough, you can pinch zoom the image in even closer see details you can't even find in the paper edition images!



MRH's new *Railroad Explorer* eBook features top-quality images of the prototype. You can literally zoom in 200-300% and see details it's simply not possible to see in the print edition.

Going forward, our intention is to keep producing eBooks with high resolution images like this, allowing you to zoom to 200%, even 300% to study the details in a way that simply cannot be matched by any other medium. We want you to get a lot for your money.

Our new eBook line will cover both prototype and model railroading topics, and where possible can include video media as well as our top-quality images. Our topics will be both new material and material republished from MRH. One advantage of the republished material will be getting all the material relevent to a topic under one cover with no ads.

Speaking of no ads, all of our eBooks will have no ads (save a house ad by us, the publisher) and they will be micro-priced well below typical paper book prices. On top of that, there's no shipping fee – you place your order and you get a link for instant download.

Watch for more titles to be appearing later this year as our new eBook product line takes off!

Volunteer needed at Atlanta Train Show

The MRH team will be attending the National Train Show in Atlanta, and we will have a booth there.

Each year, we like to seek out a local volunteer who can help us with the show. Having someone on the team who knows the local area has really been helpful, so we're looking for someone who knows Atlanta well, and who lives there.

If you're willing to help us out, we'll pay for your registration to the convention and train show, plus you will get to be something of an insider for the train show. We also will give you an official MRH golf shirt that you get to keep.

In exchange for these benefits we ask that you help staff our booth, help us set up and tear down our booth, and that you let us drop ship some booth materials to your address in advance of the train show. Also, we may ask you to run a few errands for us like going to the local office supply for some booth supplies or to ferry someone to and from the airport.

If you'd like a fully paid registration to the convention, and you can help out with the tasks we list above, please contact us via this link: **mrhmag.com/contact/Help_at_a_hobby_show** ...

Reminder: MRH $500 layout contest!

Just a reminder we're running our $500 starter layout contest again this year. You can find the **details here**. The deadline for entries is November 30, 2013. So sharpen your pencils (or your track planning CAD programs) and start designing a good starter layout for just 5 bills.

Slow downloads? Use another source, Luke!

Every so often we hear from a reader who complains the magazine download is slow or worse yet, gets hung, or isn't working at all.

The answer is to use a different source - by that we mean use our mirror servers or to use the "green button" download instead of the "red button" download.

The internet works as reliably as it does because it allows a network to be connected together as a resilient "web" so that the path from there to here can one of many different routes depending on conditions.

This does mean the route from our server to your computer/device over the web may be different this month than it was last month, so it may behave differently too.

When this happens, the best thing you can do is completely change the conditions by chosing our mirror servers instead of our primary servers. Our mirrors are located in a completely different place on the Internet, so the different routing may be more favorable from our mirror to you than from our primary to you this month.

So try the mirror!

Also, if the red button Flash download wizard is giving you trouble, try using the green button direct download. Again, this changes the mix and could succeed where the other may be failing for you this month.

For a complete summary of all the steps you can try when the download is giving you trouble, visit this help link on our website: mrhmag.com/help/problems-accessing-new-issue ...

Keep the article queries coming!

We have received numerous responses to our request for more articles and subject ideas. Please continue sending your queries!

If we are unable to respond to you very soon (we're a part-time staff, remember), go ahead with your project, take the photos and prepare the manuscript. Follow the authors style tips [**mrhmag.com/authors/mrh-style-tips**] and our submission guide [**mrhmag.com/submission-guidelines**], both of which you will find under the Authors menu on our website.

Floquil and PollyScale alternatives

We received the following from Andy Keeney. It's a good summary of your options given the announcement from Testors

that they're discontinuing the Floquil and Pollyscale paint lines:

" ... the following are some alternate paints others have been suggesting. I am not recommending these paints.

Testors appears to be adding many Floquil and PollyScale RR colors to their lineup in both acrylic and enamel.

testors.com/category/137370/Railroad_Acrylics

testors.com/category/137236/Railroad_Enamels

The TruColor Brand appears to have an extensive line of railroad colors and their paint is in the same ballpark (costwise) as Floquil and PollyScale. I've read where TruColor has taken over the AccuPaint line.

trucolorpaint.com/index.php?p=1_2_Paint-Products

Badger Modelflex Paints are acrylic and have a wide variety of RR colors.

badgerairbrush.com/Modelflex_3.asp

Scalecoat I and II. Scalecoat I is a solvent based paint whereas Scalecoat II is acrylic. I have found that Scalecoat I is okay on plastics if you put a protective undercoat on the model first.

weavermodels.com/page8.html

weavermodels.com/page11.html

There are other paints available ... some that may interest you are Vallejo, Humbrol, AccuPaint and Tamiya."

Best, Andy Keeney

In this issue ...

In this month's issue we feature Rob Careys' N scale Tennessee Pass layout. Rob has used N scale to great advantage, creating fantastic vistas. Charlie Comstock visited Rob's layout and provided us with some wonderful photos and and an engaging interview with Rob. Even if you are not a fan of N scale, this is a must-read.

Follow along as Mark Condradt shares his tips and techniques for scratchbuilding an HO rail bumper. Dirk Reynolds kitbashes a MoPac shorty caboose., taking us through the steps to make this unique caboose operated by the MoPac. Assistant editor Don Hanley continues with building the unique 1950's Erie boxcars – Don finishes up the masters and moves into making the molds and casting parts.

... On to next page of text ➔

back to previous page of text ...

Regular Columnist Bruce Petrarca takes a break from the nuts and bolts of DCC and gives us 17 tips that he uses on a regular basis. These tips go beyond DCC installation and can be used in other modeling applications.

In Getting Real, Nick Muff takes us outside of model railroading norms and into the arena of sound for your layout. Not sound for locomotives mind you, but sounds that add life to the layout. Follow along and be inspired by Nick's adventure into sound. John Drye returns after a long hiatus with a Comme-N-tary detailing how to build a fleet of hoppers for reliable operations. Ken Patterson's *What's Neat this Week* shares Joe Steimann's knock-your-eyes-out weathered freight cars and locomotives.

Have a great read! ■

Reader Feedback (click here)

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

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QUESTIONS AND ANSWERS

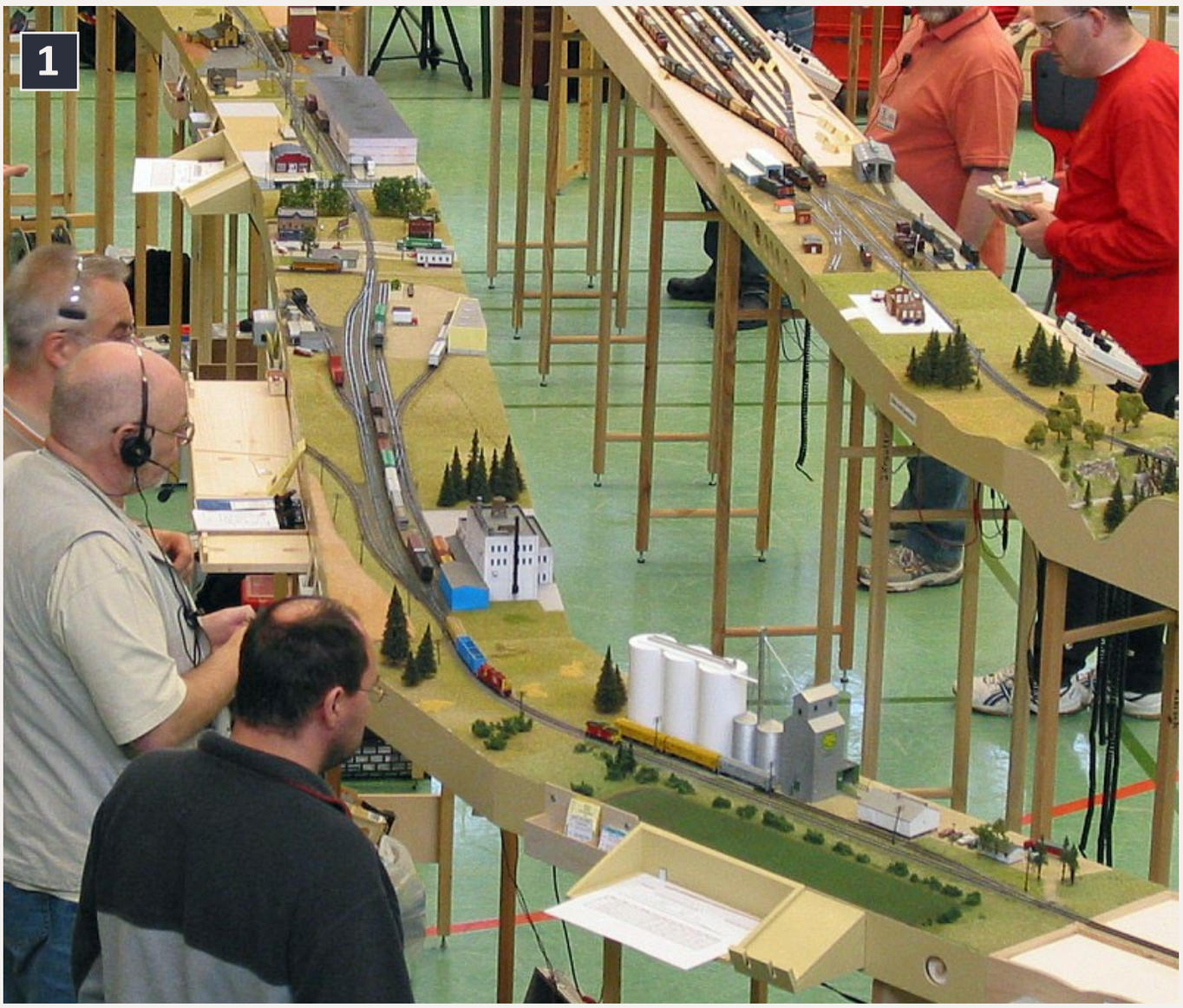
Dispatching a switch job

Q. At our last modular gathering, I gave a track warrant "Check box 2: Proceed from XY to Appaloosa Junction; Check box 10: Clear main track at last named point," to the crew of a local. Appaloosa Junction was under yard limits from a little bit farther right as the photo (1) shows, right down to the red elevator at the upper edge of the photo.

My question: Can the local begin with its switching job in the yard limits with this track warrant, or must the crew report the limits clear and begin the switching after getting a new track warrant with a "Work between ..."?

Or more general: Is the direction that is intended in a "Proceed from ___ to ___ " instruction also in effect in the yard limits?

– Bernd



1: The N scale modular railroaders of Appaloosa Junction face special dispatching challenges with a layout that can change from show to show.

A. The photo shows a single-track mainline without signals, and Bernd says they are operating under Track Warrant Control.

Dave Husman said: “Current UP practice is to give warrants only to the yard limit board, which simplifies things. So the warrant would read:

Check box 2: Proceed from XY to yard limit mp 37.5

or

Check box 2: Proceed from XY to east yard limit Appaloosa Junction

When the train fully enters the yard limits, the conductor reports it clear of the limits (of the warrant). There is no need to clear or hold the main track at the last named point, since the train is in yard limits. The train does not need the dispatcher's authority to occupy track within yard limits – just to get there. It can then work within the yard limits to do its switching with no other authority. When it is ready to leave, it asks for a warrant to "proceed from west yard limit Appaloosa Jct to AB."

“The real question is,” suggests Jurgen Kleylein, “should there be yard limits at Appaloosa Junction in the first place? Yard limits require all trains to operate on all tracks at restricted speed. Is there enough switching going on there to require yard limits? It might be better not to have yard limits and give the trains working there 'work between' instructions so that when there is no work taking place, mainline trains can run at track speed.”

Bernd answered, “The biggest problem with our modular layouts is the lack of 'track-only' modules so the distances between the yards are rather short. For this reason it´s not bad to slow the trains down with yard limits. On the other hand, it´s a welcome relief for the dispatcher, that he need not control the traffic in these yards.”

So this is a case of model railroad expediency setting up a different situation than most 1:1 railroaders would meet in their daily work. Bernd and his modular group could choose to post a 25 mph limit on their mainline to slow traffic.

Let's take a short peek at yard limits. Yard limits are for trains pretty much the same thing that school zones are for road traffic – anyone in there has to move with extra vigilance, and

2

SOUTHERN PACIFIC Track Warrant

NO. _____ _____, 19 ____

To: _____ At: _____

1. ☐ Track Warrant NO. _____ is VOID.
2. ☐ Proceed from _____ to _____
3. ☐ Proceed from _____ to _____
4. ☐ Work between _____ and _____
5. ☐ Not in effect until after arrival of _____ at _____
6. ☐ This authority expires at _____
7. ☐ Hold main track at last named point.
8. ☐ Clear main track at last named point.
9. ☐ Between _____ and _____ make all movements at restricted speed. Limits occupied by train, engines, men, or machines.
10. ☐ Do not exceed ____ MPH between _____ and _____
11. ☐ Other specific instructions: _____

_____

_____

OK _____ M Dispatcher _____

Copied by _____

Reported clear at _____ M By _____

(Mark an 'X' in the box for each item instructed.)

2: This track warrant is simplified for model railroad use, and does not contain a line to authorize two trains to occupy the same track segment. But there are other, safe, ways for a dispatcher to do this when operating.

slowly enough to stop short of an accident. Trains have precedence over engines. So it's not quite the free-for-all some people suggest. Additional rules come into play with timetable and train order operation, signaled track or a full CTC installation.

Look at Rule 93 in most railroad rule books.

There are other ways to handle Bernd's situation.

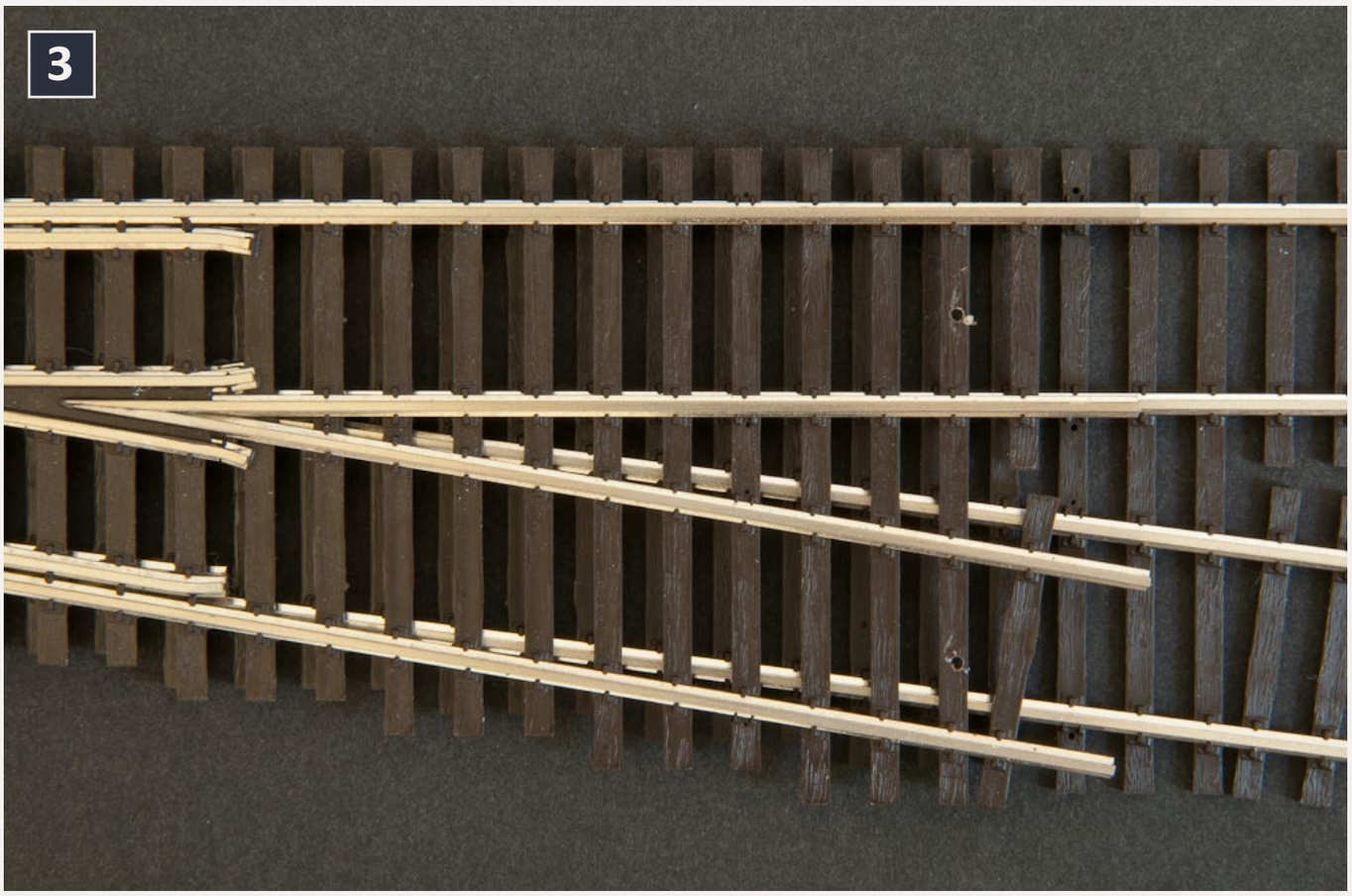
Some track warrant forms include a line reading, “Joint with _____ between _____ and _____,” which can be used to essentially grant two trains occupancy of the same track segment. Hey, they are warned, right? Joint occupancy requires good preparation or a crystal ball on the part of the dispatcher, who will need to know the direction and lead engine number of any trains that might come into conflict.

Take a look at the track warrant (2) used in operations on Joe Fugate's Siskiyou Lines. If the dispatcher has the Appaloosa local working between Albert and Pogo, he can give that train lines 4 and 9, letting it move back and forth between the two defined points. Subsequent trains will get line 9, warning them of obstructed track, and they could also get special instructions telling them that SP 4837 is on the Appaloosa local between Albert and Pogo.

An alternative is to dispatch the area using Direct Traffic Control. This requires a series of named blocks, defined by sign boards. Trains are granted occupancy of a specific block or blocks. A train running from Albert to Pogo to Churchy can be given all three blocks, handing blocks back to the dispatcher as the tail end of the train clears block limits. If two locals are working in the area, one can be given the Albert block and the other the Pogo block, so there is no question of conflict.

In practice, on a model railroad with the usual short distances and many through trains, it can result in a lot of talking, and requires attentive record keeping. But on a railroad that has a hub terminal with a lot of branches radiating out, it's a clean and simple way of keeping the crews safe.

– MRH



3: With a #6 switch sitting on top of a #8 switch, it's easy to see the difference in frog angles. The tips of the frogs are aligned. The #6 diverges at a greater angle than the #8, and the combination will not produce a smooth crossover if the two are installed face-to-face.

The original discussion is at model-railroad-hobbyist.com/node/1031.

Mixed-frog crossovers

Q. **To make a crossover using # 6 & #8 turnouts (Walthers Shinohara code 83), what is the formula for the cut so they match the 2" NMRA standard?**

– James McMahon

A. There really isn't a 2" NMRA standard for track spacing, although that spacing is pretty common on model railroads.

Mainline track spacing has increased over the years, and we talked about it back in October 2012, in the Questions, Answers & Tips column at model-railroad-hobbyist.com/magazine/mrh-2012-10-oct.

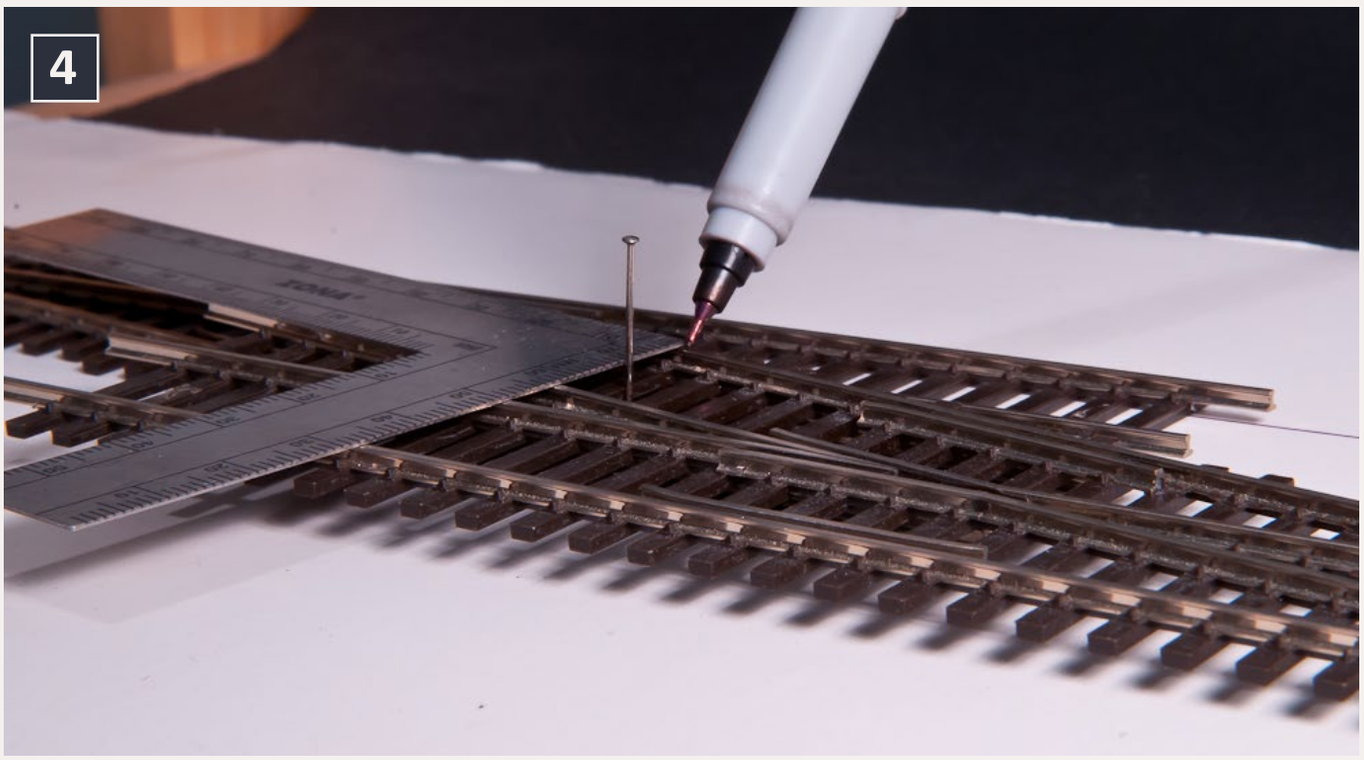
The big issue here is mixing #6 and #8 frogs. As my dad said when I was building boats, “that isn't going to float.”

Here's the problem. The frog angle on a #6 switch is somewhere around 9½ degrees and a #8 is a little over 7. If the diverging route from a right-hand #6 is placed atop the diverging route from a right-hand #8, the trouble is apparent (3). They don't line up and there will either be a kink, or a curve to make the connections. 2” track spacing doesn't allow much room for a workable curve.

If there is not much room, the crossover can be built using a pair of #6 switches and these will line up perfectly. If there's more real estate available, or long cars are being run, use two #8 switches.

To lay out the cuts, you need a straightedge, a small square or right triangle, and a fine-point marker. Draw parallel lines for your track, 2” apart, or whatever spacing you choose. Position one switch and tack it in place with push pins so it can't move around. This should be the switch that has to be precisely positioned – because it leads into a curve, or would conflict with other trackwork, or whatever.

Measure and mark the center line of the second switch with a pencil mark or drill a hole at each end of the switch. Place this on the second line drawn on the benchwork, then slide it along until the diverging routes of the two switches overlap. Then pin or tape the second switch into place. Measure the distance



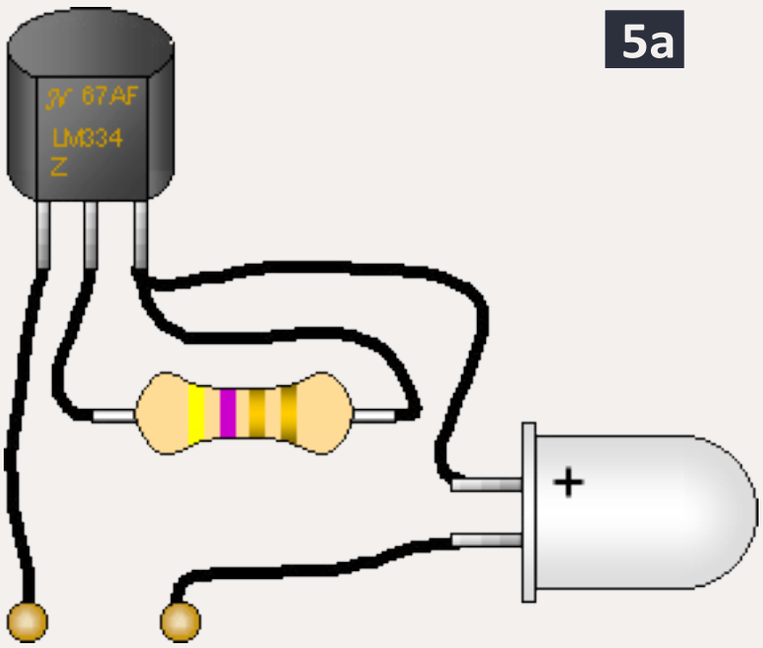
4: Use your high school geometry to find the mid-point of a crossover by laying both switches in position and marking the mid-point of a line from the tip of one frog to the tip of the other. The distance is 1 13/16" (46 mm), and using the diagonal line puts the shirt pin right in the center of the two rails.

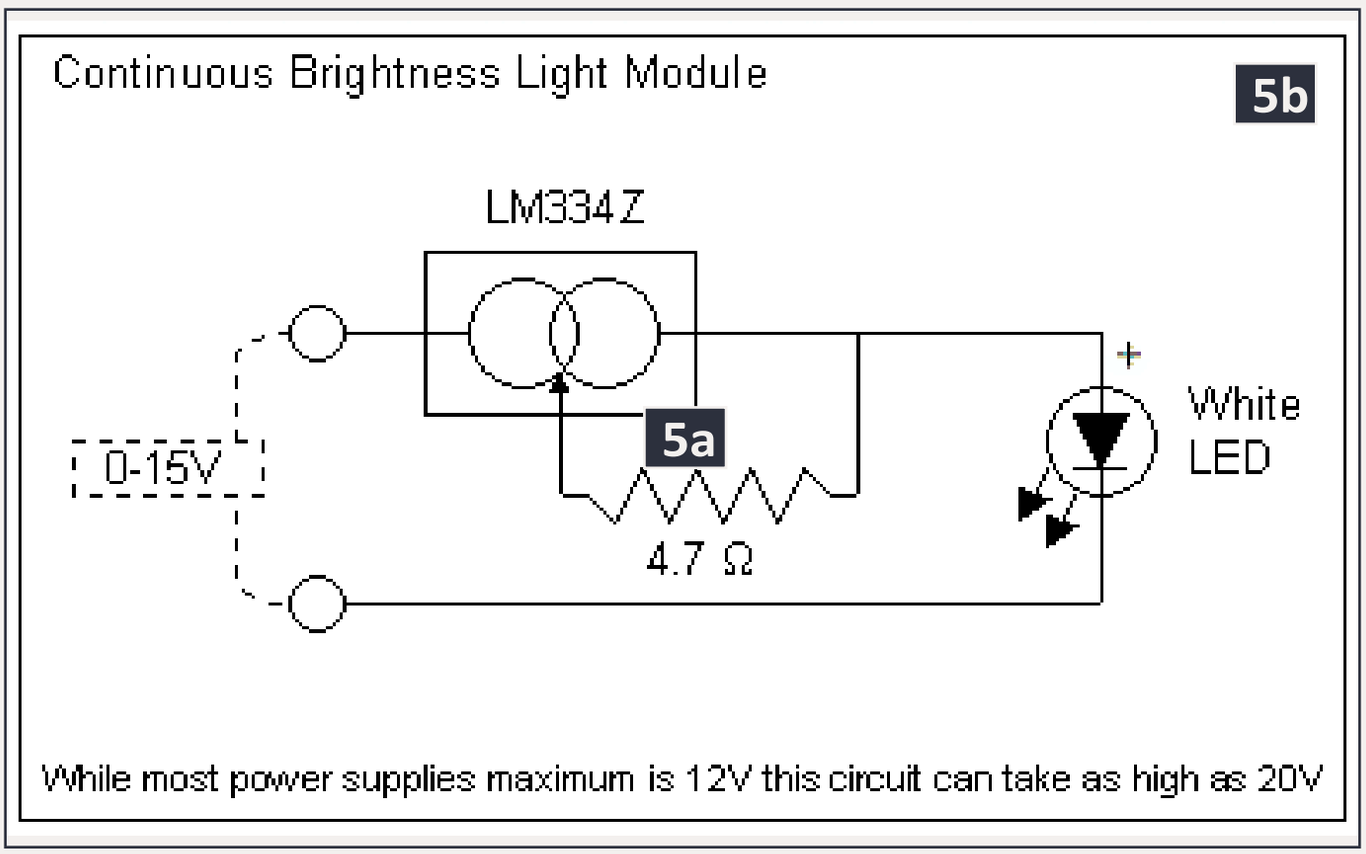
from the tip of one frog to the tip of the other. At the midway point on this line, stick a pin into the roadbed (3).

This midway point is where you want to cut the rails on each switch. Slide the triangle or square up against the pin, align one side of the 90 degree angle with the rail, and mark across the rail head with the marker (4). Remove the switch, make the cut with rail nippers, be sure the rail ends are clean, and then replace it on top of the other switch to mark the cuts for that one.

If you are not absolutely committed to using Walthers Code 83 track, Atlas Custom-Line turnouts are already set up to to be used in a crossover with 2" spacing. No cutting is needed. Custom-Line turnouts come in #4, #6 and #8 frog angles.

– MRH





LEDs and constant lighting

Q. Over the years I have equipped many of my diesels with constant-lighting kits. My layout is straight DC. Some of the 1.5 volt bulbs have burned out. Since I will have to disassemble engines to replace bulbs, I've been wondering what it would take to change to LED lighting. Any comments? Thanks.

– Larry

A. Several companies have stepped up to meet this demand for an LED constant-lighting circuit. Jim Bernier and "Bill" recommend LED lighting packages from Evan Designs. They can be used for AC/DC/DCC and any voltage from 7-19 volts. Some have the appropriate resistor in-line on the LED wire lead. See modeltrainsoftware.com/bl-212.html.

Bruce Petrarca says warm white LEDs with built-in resistors are also offered by Litchfield Station at litchfieldstation.com/xcart/product.php?productid=999007563. They fire at about 4 volts and can stand well over 12 volts. If you wire them directly in parallel with the motor with opposite polarity, one will light going forward and the other going backward. The only thing left is to put the correct LED into the correct end of the loco.

Gary Collins calls this circuit by Pollen Software (5a-b) "very compact and reliable. It requires no additional components, and is quite inexpensive. I've used it in several locos, and I've had zero problems." Go to pollensoftware.com/railroad/circuit.html for details.

– MRH

TIPS

Glue delivery

Getting solvents into tight places is always a problem. One method that I have seen used, and used myself when applying solvent glue to sight spots and joints, is to get insulin syringes and apply the glue or solvent with that.

The fine needle that is used for insulin syringes makes glue application very precise, perfect for grab-irons or for working long seams on painted model parts. Just make sure the syringe is clean and dry before starting. Some glues may clog the needle. If you can get unused needles, even better. As long as you disassemble and clean the syringe when you're done you can get several uses out of it.

– Jeffrey Harapat

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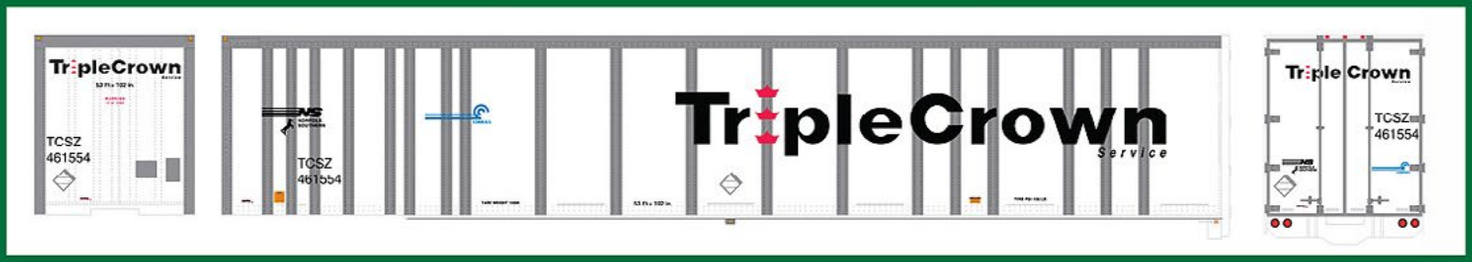

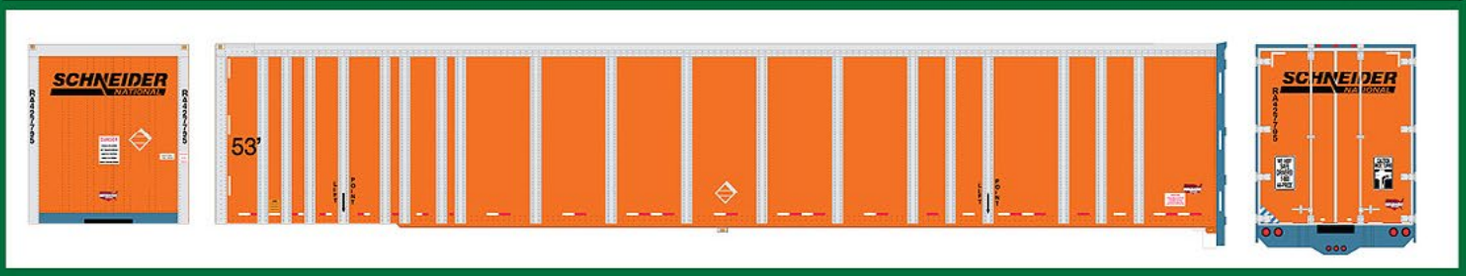

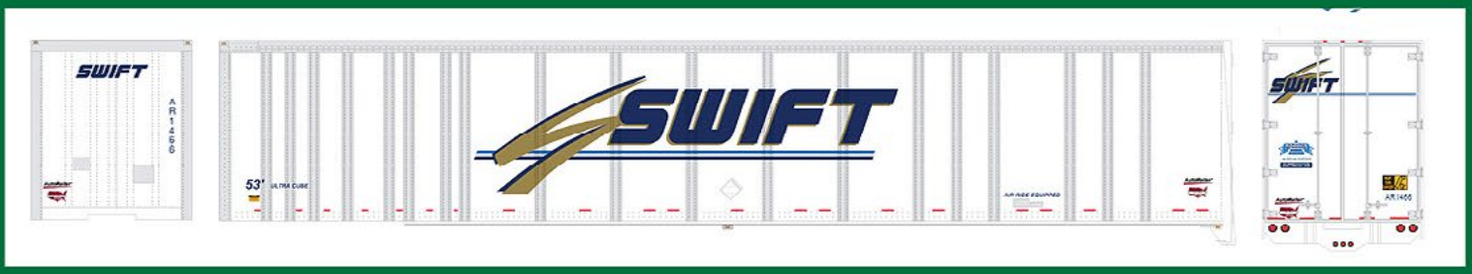

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17 DCC Tips

for a professional installation

Reader Feedback
(click here)

DCC Impulses column

by Bruce Petrarca

Tools, Tips and Techniques

Folks seemed to like the “looking over your shoulder” information in my January column on the Kato HO-scale NW2 sound installation. So I decided to put together a few hints and kinks for this column. I know many folks know a bunch of these, but if there is one new idea here for you, then it is worthwhile.

Since this entire column consists of hints from my workbench, I’m not going to have a separate tip in a sidebar as well.

While this is a DCC column, many of the techniques and tips here relate to general modeling, not just DCC. So, those of you who say you don’t care about DCC have a reason to read this one!

Tools

Let's talk first about tools and work-around techniques. If we all had lots of space and money, it would be nice to have all the neat tools to make things perfectly. Mostly, we are working with what we have. Here are a few ways to make things easier without spending a bundle or needing a lot of storage space.

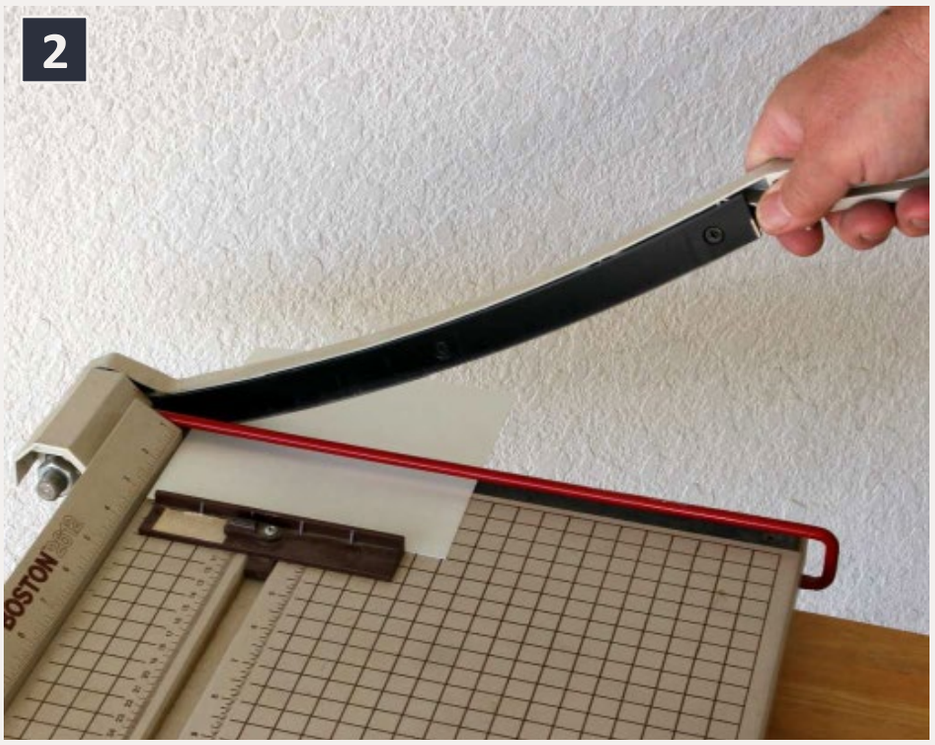
Machining weights

A common need, when installing a decoder, is to remove some of the material from the weight or the frame of the loco. It is easy enough if you have an end mill and the expertise to operate it. But, what if you don't?

1: This belt sander was my tool of choice for milling till my purchase of an endmill.

Before I bought a mill, I used a belt sander to remove material. Safety requires a pair of clamping pliers and a pan of water. When sanding the metal, it gets hot. Don't want any burned fingers.

Hold the part to be machined against the fence and apply light downward pressure. Check frequently for dimensions and squareness. With a bit of practice, one can make pretty good-looking and square cuts.



Cutting Styrene

I cut a lot of styrene for speaker baffles and enclosures, as well as other modeling.

When I bought a new bypass paper cutter for the office, I kept the old one for cutting styrene. While it won't be as accurate as something like the Northwest Short Line "Chopper", it can cut up to 0.01" thick styrene pretty easily. I use it to cut large (up to 12 inch long) pieces, which I later fine cut on the Chopper.

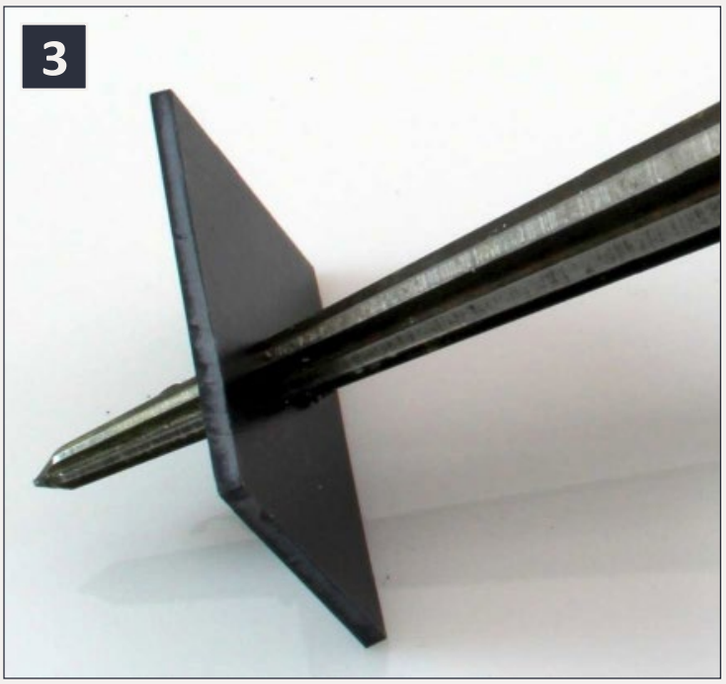
Hint: I use my calipers (with the jaws locked) to transfer a dimension to the plastic. Rest the end of the plunge bar on the cutting surface and push the styrene out until it contacts the end of the caliper.

Making large holes

Installations frequently require a large round hole for sound to get out. Large drills are expensive and sometimes difficult to control.

A tapered reamer comes to the rescue, especially in plastic models. Drill a reasonable sized hole and use the reamer to enlarge it.

Hint: If you cut from one side and then do a light burnish from the other side, the resulting hole will be nearly cylindrical.



3: My tapered reamer that I use to make the larger holes.

Stripping fine wires

A good pair of strippers designed for fine wire is one of the most valuable tools you will find for decoder installation. Yup, they will suck up the better part of a $20 bill, but there is no substitute!

4: My wire strippers. Don't settle for poor quality.

Fine sanding

Leslie Eaton, MMR, gives lots of clinics at the NMRA national conventions. At one of the first of hers I attended, she suggested that modelers should have a Sally Beauty Supply discount card, as they have lots of tools and supplies to make modeling easier.

One of the best tools from there are emery boards. I get them in a range of grits. The photo shows a black 100 / 180, a blue 220 / 320, and a pink 400 / 600. Used by themselves, they will round the surface they are sanding. If you put them on a rigid surface, like your workbench, and move the object being sanded across them, they will sand straighter. The harder you push into them, the more rounded the corners get.

5: Emery boards are a great sanding tool and come in different grits.

Tips & Techniques

Here are some of my methods and techniques for you to consider.

Blowing things off

Air compressors are a big part of model railroading. I have one for my airbrush and a large unit in the garage for big blow-off projects, as well as inflating tires, etc.

However, on the workbench, the big compressor is too cumbersome to use and the airbrush compressor won't develop enough wind to blow things off.

The solution: canned air!

6: Canned air can be purchased at any office supply store.

LEDs, no resistors

It uses up time and space to wire LEDs and resistors for all your lighting needs. Many decoders today come with series resistors already included for direct LED connection.

For the rest, consider LEDs with the resistors built in. Called 12 volt LEDs, they light about 4 volts and are almost full brightness by 6 or 7 volts. I've found them in warm white color, which works well for steam and early diesel headlights, as well as interior lights for structures.

I purchased the unit shown in the photo from Litchfield Station, their part number: (litchfieldstation.com/xcart/product.php?productid=999007563). The photo was taken with no external resistors being used. The LED was connected to a 9-volt battery. Other vendors have similar products. Find what you like.

7: A 12 volt LED from Litchfield Station.

Faller Expert cement for light bars
Use gravity to your advantage

Here is a two for one: two techniques shown in one photo.

A recent installation needed a shortened light bar with the LED (12 volt version) glued to the shortened light bar.

I use Faller Expert cement (see next tip too) in cases like this. It is methyl chloride, like most styrene cements. Where it differs is that it includes a large percentage of styrene.

8: Using my vice to hold the LED while gravity does its job.

This allows it to make an optical surface. To create this assembly, I used the cut-off wheel in my motor tool to cut the light bar and to square off the front of the LED.

My assembly tool was gravity. I put the LED in a vise and stood the LED lightbar on top in a pool of Faller Expert cement. Gravity held it in place until it was dry.

Faller Expert dries more slowly than similar styrene cements without the added styrene.

Keep Faller Expert open

I love Faller Expert cement for many uses. What I haven't been too happy with was its tendency to set up in the needle applicator and render a $5 bottle of cement worthless.

I got the suggestion from another modeler: use a 0.015" diameter wire to keep the needle clear.

I've now abandoned the rubber tops and make sure that I "burp" it every time. I just use a piece of berryllium copper wire (Tichy Train Group) with a bit of blue tape on the top, to prevent stabbing myself with the wire, as my stopper. No need for any other stopper, unless it is going to be unused for months. Always comes out.

9: Faller Expert Cement with a 0.015 wire stopper.

Hint: the wire is a bit longer than the needle tube, so it extends into the bottle proper.

See what you are doing

I attended a clinic at a national NMRA convention a few years back. The presenter, an ophthalmologist, as I remember, had two suggestions for keeping our eyesight as good as possible for as long as possible.

First, use as much light as possible, both general illumination and spot illumination where you are working. I have two sets of tube fluorescents over my work bench and a “drafting” style articulated arm lamp for point illumination.

10: Eye drops. Take care of your eyes. They are the only ones you have.

Secondly, keep your eyes well lubricated. When they feel scratchy, it is time to get up from the bench and do something else. Just a few minutes break helps. Wash your face or some such. Before and during work sessions, it helps to apply sterile lubricating drops. This is the bottle I keep on my workbench.

Mount speaker/Hold your stuff

Here is another twofer!

I have talked many times about mounting a speaker in the shell of a diesel, either to fire up through the fan grills or to make an impromptu box enclosure. Here's a quick way to make the speaker fit. I'm going to shim out a 14 x 25 mm speaker to fit in an Atlas S-2 HO shell. Don't know why you'd want to do that, as a 16 x 35 mm speaker fits perfectly. However, that's what I had on hand to show the process.

11: To measure the length of styrene needed to match the speaker I simply use the speaker as a guide to set the stops.

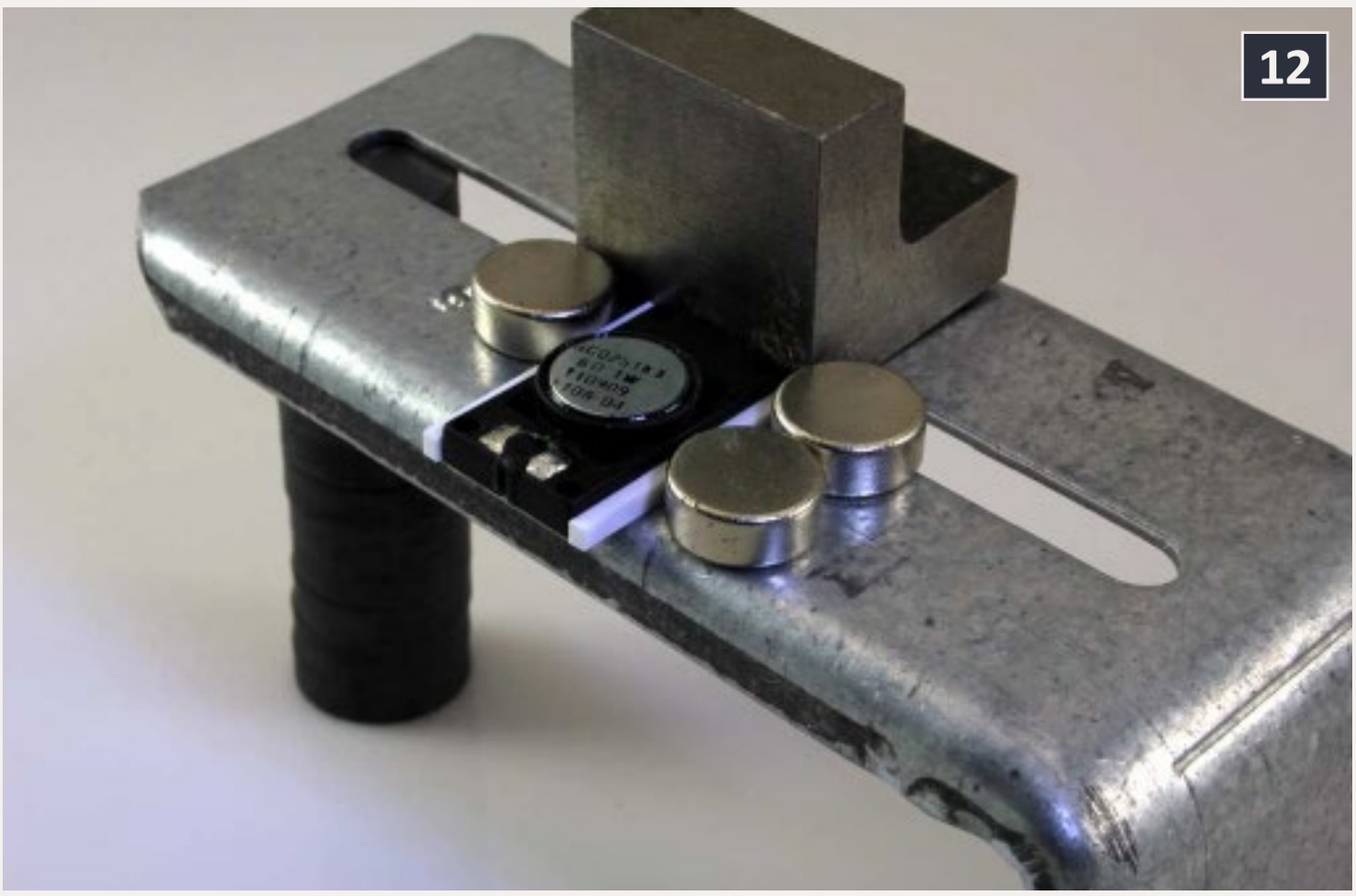
After measuring the width of the shell and the speaker, I determined that I needed to add 0.06" to each side of the speaker. I found some 0.06 x 0.08 styrene strips in my box. So, I'll cut them to the length of the speaker and glue them to the side.

I put the speaker next to the cutter blade in my NWSL chopper and slide the fence up against the speaker, forcing the speaker against the blade. When the fence is tightened in this position, the distance between the blade and the fence is the same as the length of the speaker. Two quick cuts and I now have the styrene to affix to the side of the speaker.

Now to hold the styrene strips to the side of the speaker while I glue them. I use magnets, angle brackets, machinists ells, etc. to hold the parts in place while I apply MEK to cement the white strips to the speaker. If I want to protect the metal surfaces, I use a bit of wax paper.

For what it's worth, I bought a large scrapbooking magnetic cutting mat to use for larger projects.

When the cement is dry, the speaker can be slipped into the shell and held in with caulk.



12: Magnets are used as a third hand to hold the styrene strips to the speaker.

13: The speaker is cemented into shell of the Atlas S-2.

Roll your own connectors

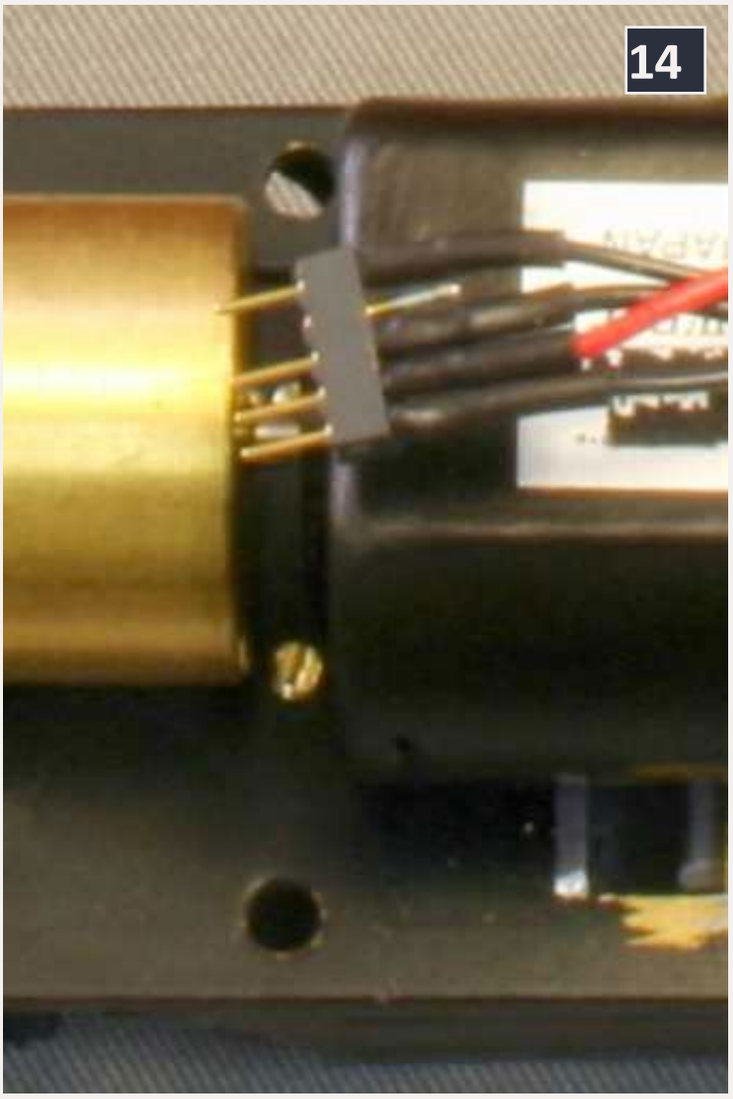
It is frequently hard to find connectors that will fit in our models and have the exact number of pins for your installation. Here's how I handle it:

I build my own connectors. Not from scratch, but I start with 50-pin headers and cut them down to the size that I need. I put polarizing pins into them by cutting them off the male side and embedding them in the female side.These headers will handle 1-amp decoders and the appropriate wire.

When I owned Litchfield Station, I found a source for 50-pin connectors that match the NMRA Nem-651 standard for the small connectors litchfieldstation.com/xcart/product.php?productid=999003204).

They are much less expensive than buying ready-made connectors. The big trick is insulating them and marking them.

Here's how I insulate them. I use 3/64" shrink tubing litchfieldstation.com/xcart/product.hp?productid=999002714. If I have a lot of pins, the shrink gets too tight. Then I put the shrink on EVERY-OTHER pin. Then I put a larger shrink tubing over the entire connector. That way all pins are insulated from each other and the total package is insulated from shorts to the frame, and other conductive parts.

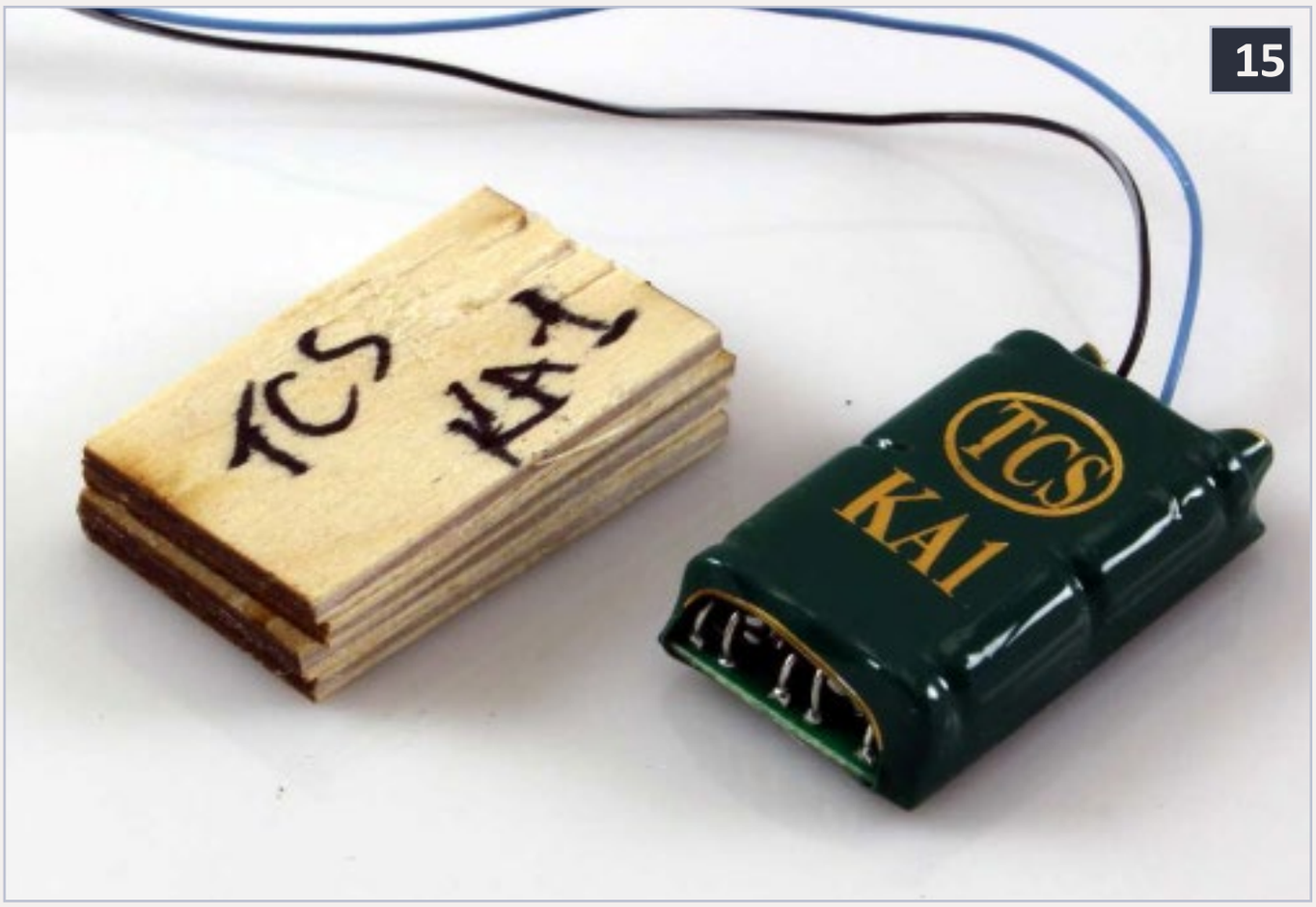


14: This photo shows a connector with 3/64"shrink tubing on the connections, ready for an overall sleeve to insulate and stabilize the entire connector.

Finding space

The best way, in my opinion, to find whether your installation will work before you buy the decoders and speakers, is to try it.

I use the data from manufacturers' web sites to make wood mockups of the decoders and trial fit them before hand. I make the mock-ups a bit oversized to allow for shrink tubing hang-over and clearance for wires.



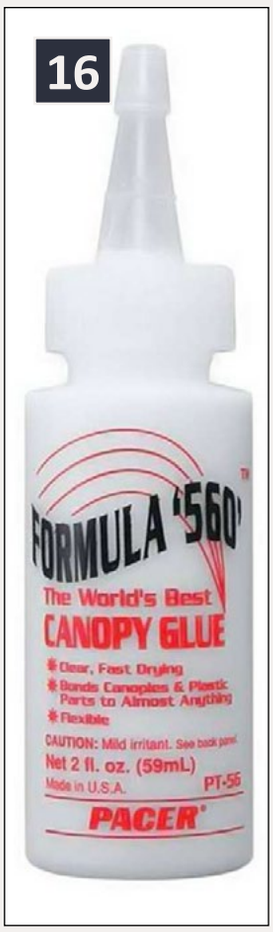
15: This photo shows the mock-up I made for a TCS KA-1 and the actual part after I got it. I was able to verify that the KA1 would fit before I bought it with this mock-up.

Glue it fast

The wood mock-up discussed in “Finding space” was built from bits of wood from a Fast-Tracks project, assembled with Pacer Formula 560 Canopy Glue.

I don’t like this glue, I LOVE it.

It glues almost everything. It dries clear, so you can even use it to make windows. It is fantastic for installing glazing. It even works as an incredibly fast drying wood glue. I’ve built entire loading docks in a very few minutes, assembling the parts on waxed paper! Even though it will glue almost anything, it works best on the more porous surfaces, like wood and plastic.



That's all, folks!

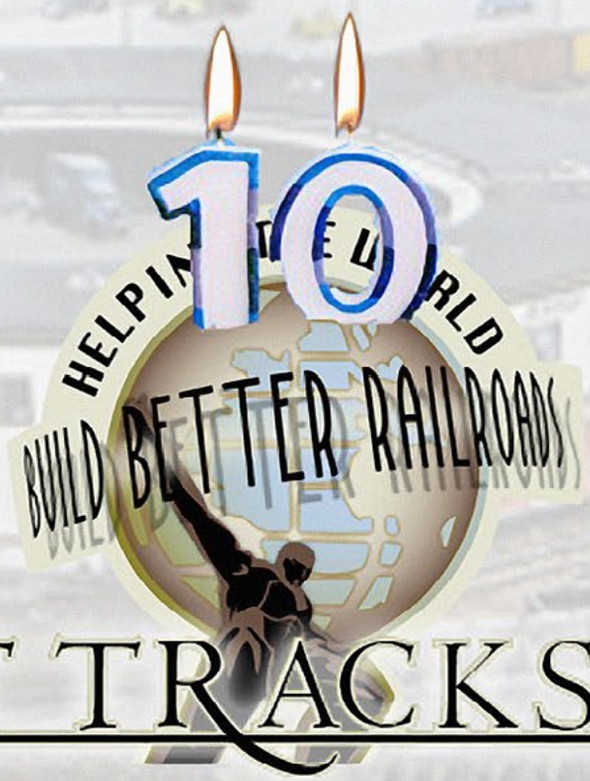
A quick look into what I do and why. Hopefully you found a new idea two improve your modeling, whether it makes it better, easier or quicker.

If you liked this column, please click on the Reader Feedback link here and rate it awesome. Please join in the conversation that invariably develops there about the topics presented in the column. Share your experiences. Thanks.

Until next month, I wish you green boards. ☑

Reader Feedback
(click here)

10 years.
4917 products.*
thats 1.347 products per day.
we've been busy...

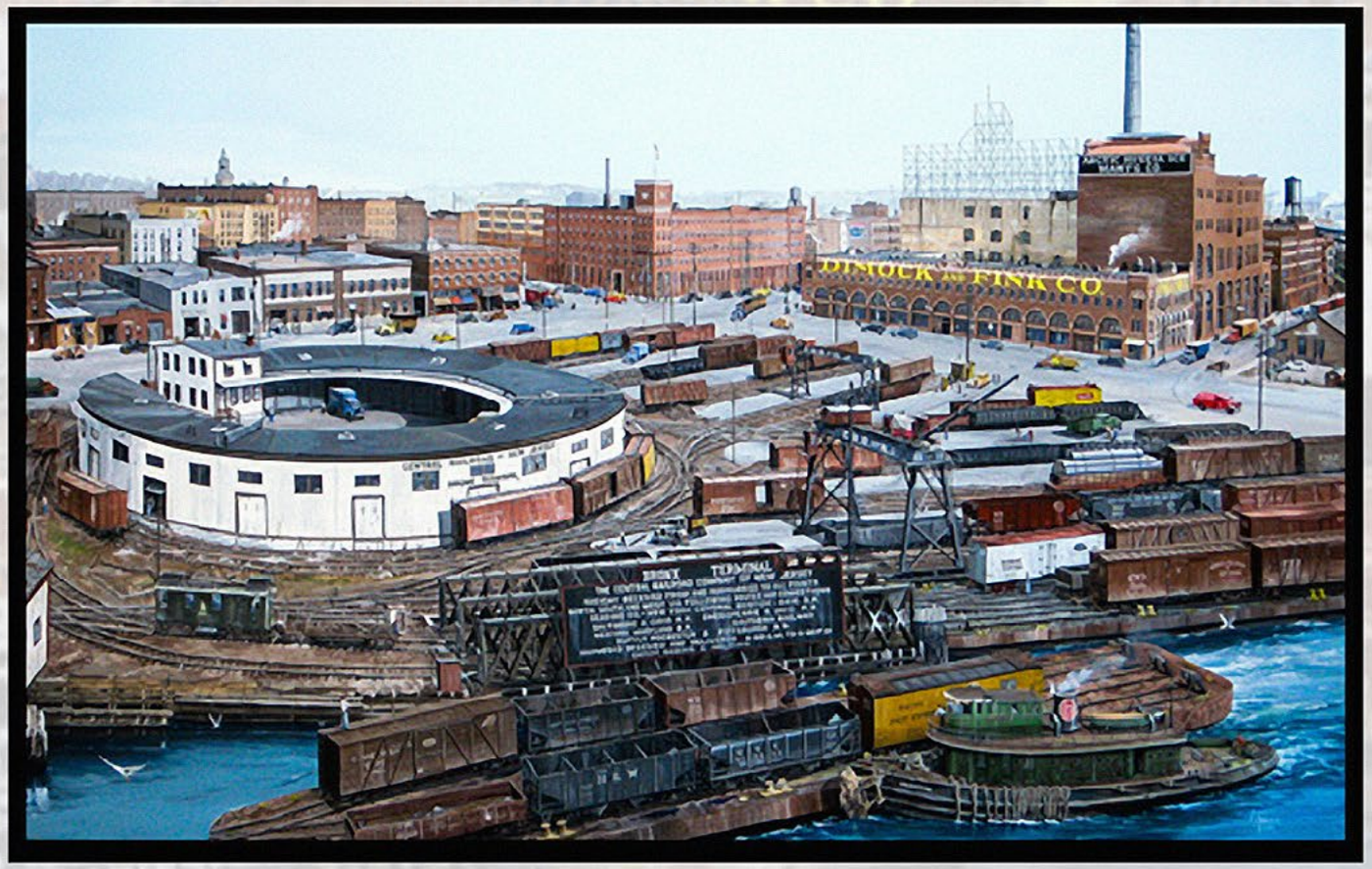


FAST TRACKS
2003-2013

* yes, really.

To mark this milestone, we commissioned a painting of the unique rail terminal that inspired it all.

The CNJ Bronx Terminal by renowned artist Larry Fisher



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The Kansas City Terminal Railway- Kansas City Southern Railway

Adventures in Sound Effects

Getting Real column

by Nick Muff

Reader Feedback (click here)

With the benchwork, roadbed, and lighting complete, I postponed track installation to complete some special effects. The layout room is impressive, with its 9-1/2 foot ceiling, coved corners, and stenciled clouds. The layout as completed in the Kansas City area is very realistic in both the day and night sequences. Long ago I realized something was missing – there were no sounds! Downtown Kansas City looks realistic, but the room is dead silent, and Kansas City is never this quiet! So sound effects, or better yet "sound vignettes," became part of the original plan.

Sound Effects

In my original design I established "zones" distributed along the layout. They are:

1: These are the speaker sets I used from MI.

See next page ...

Location	Sound Track
Sheffield steel mill	Walthers commercial steel mill cassette tape
Wilson Avenue *	created form free internet sound files
East yard throat	personal recording; Super Chief San Bernardino CA
Kansas City Downtown	commercial downtown sounds tape 1
Kansas City Union Station	personal recording; Grand Lobby while station was still active
Powerhouse*	created form free internet sound files by son Nick
Coach yard	Childhood railroad sound effects record
Turntable	various turntable sounds
SW7	switcher idle, run-up, idle. Sound synced to switcher for power plant
Peterson feed mill	Personal recording; Peterson feed mill located in Decatur AK
Decatur/Gravette AK	Commercial small town sounds cassette tape
Night time*	created form free internet sound files
Farm	Commercial farm sounds cassette tape
Bandstand	Merle Evans circus music cd
Creek	Personal recording; Yosemite CA
Sugar mill	Steam powered sugar mill St. Kitts
Trolly	Trolley bell and Trolley starting
Shreveport	Downtown and yard sounds combined
Frye machine	Commercial machine shop sounds cassette tape
Louisiana swamp	Walt Disney Pirates of the Caribbean sound track down loaded from internet (free)

* An excellent source of free sounds files is **freesound.org**. Signup is free.

Originally my plan was to use endless-loop cassette tapes (a real headache), and automobile cassette players. Fortunately for me, with the passage of time and the advent of MP3 players, installing 20 separate sound tracks became much easier. The MP3 players need an amplifier and speakers in order to use them on the layout, instead of the headphones that they were originally designed for.

Searching the Internet, I found cheap computer speaker sets available online. The sets include a small right speaker with the on-off switch and volume control. The left speaker is attached by a cable to the right one. The sets come with a wall outlet adapter, so no batteries are required. Also, the sets include a small sub-woofer approximately 3 inches in diameter.

For most applications I chose not to install the sub-woofer because of space requirements and the additional wiring required. Exceptions are the steel mill, coach yard, and

2: Here are the components that come with each set.

downtown sounds, where the additional bass adds to the ambiance. Also, in these locations I used both right and left speakers to take advantage of the "stereo" effect. Otherwise I used only the left speaker, so most sound tracks are mono.

Each MP3 player needs the speaker that holds the amplifier and connects to the power adapter. This is the right-side speaker in each set, and I installed them in the cabinet under the layout, along with the MP3 players

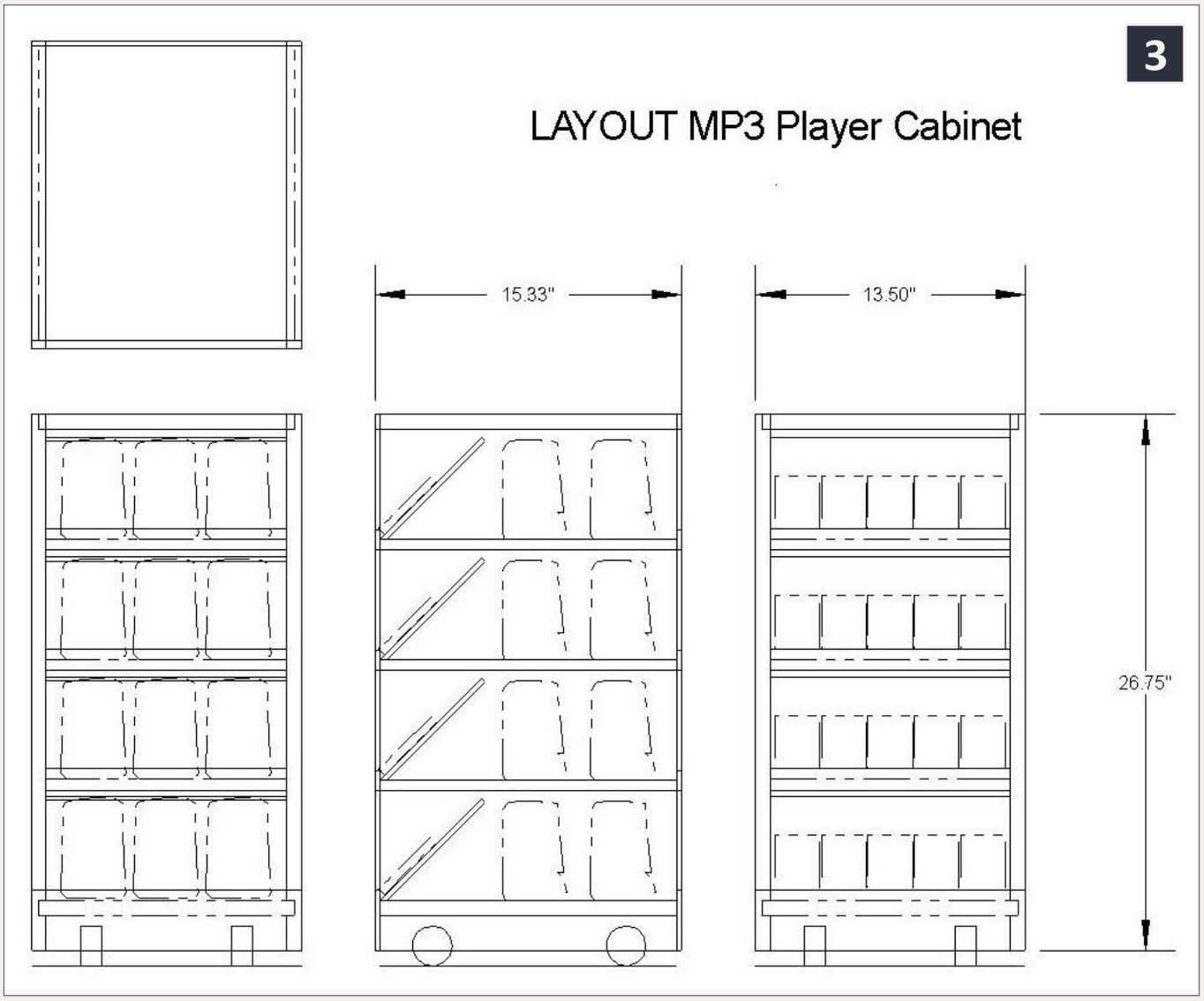
For the stereo locations, I attached speaker wire to the leads, bringing the wiring outside the unit and under the layout to the location where the sound would be heard. I cut the wire on the left speaker and spliced it to the speaker wire under the layout. Where space allowed, I used the left speaker. Often the location would require a custom speaker size, so the left speaker became surplus.

Sound quality is better if the speaker is installed within a box or baffle. The idea is to prevent the sound waves coming from the front of the speaker from traveling around to the back and canceling out the sound wave. In many places I constructed a simple styrene box that the speaker fits into. In other places where the speaker is installed in one of the retaining walls, this acts as an "infinite" baffle. There is no way for the sound from the front of the speaker to travel directly around to the back of the speaker.

In order to house the 20 MP3 players and associated right-sided power supply/amplifier/volume control/on-off switch, I built a cabinet from plywood and Masonite. This cabinet rolls on small caster wheels and is located under the layout.

Sound Tracks

Sheffield Steel : At the time I was building the steel mill, Walther's offered a sound track tape for their steel mill kit. The



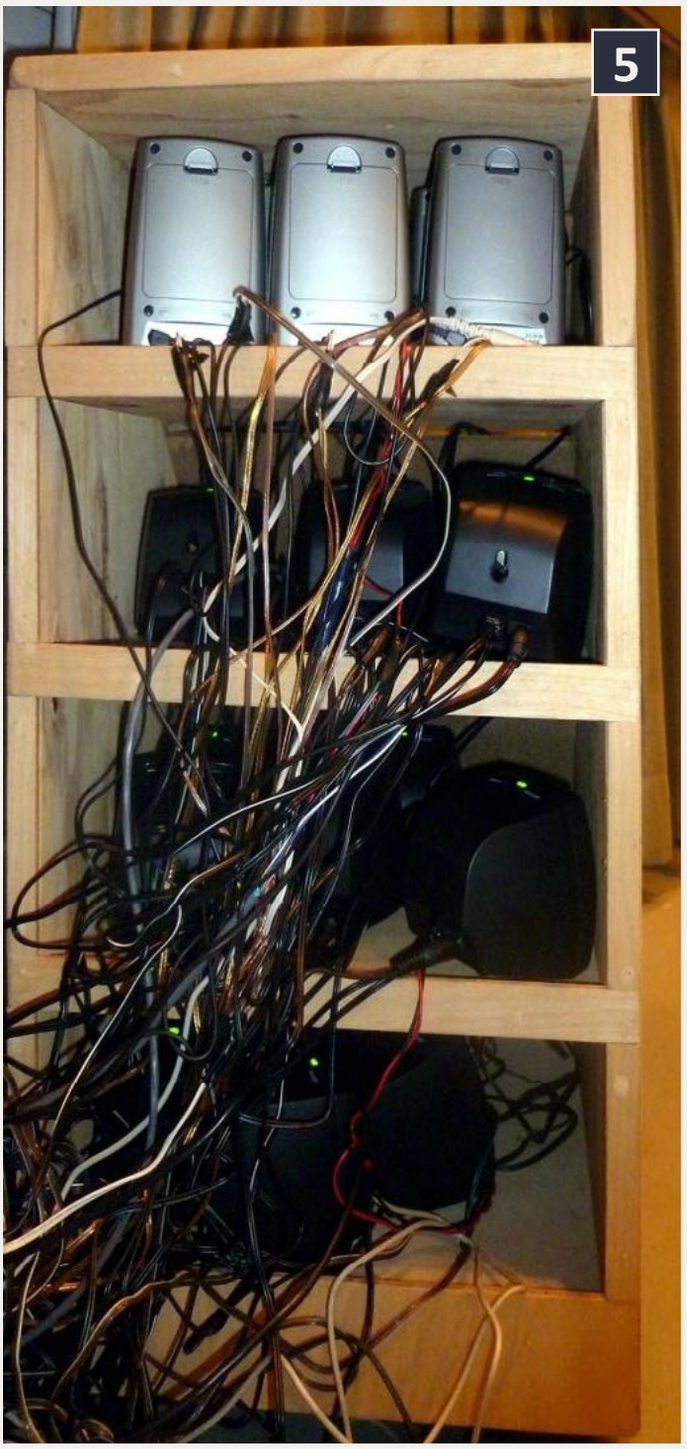
3: This is a sketch of the MP3 / speaker cabinet that holds the components.

tape is 45 minutes per side, for a total of 90 minutes. It is the longest non-repeating sound effect on the layout.

In this location I decided to get "two for one" with the use of the sound track. The left speaker was installed deep within the Sheffield Steel complex on the left, and the right speaker was installed within the Ford auto stamping plant on the right. This would also produce a stereo effect on the right hand side of the layout. The sounds are appropriate for either heavy industry.

Wilson Avenue: In the real world, Wilson Avenue makes a sharp turn to the right, and dives under the Terminal Railway tracks just

before Sheffield tower. Because of the sharp turn, the concrete retaining wall has a sign painted on it, "DANGER, SOUND HORN." It was my lovely wife who suggested it would be nice if there really were horn sounds! What a great idea.



4: This is a front view of the component cabinet with each MP3 player labeled for its appropriate sound track.

5: Here is the back side of the cabinet that holds the speakers with amplifiers and controls.

I went online and downloaded a large number of free auto sound files. These included horns (of all kinds) honking, tires squealing and Model T engines starting, etc. I put these together into a single sound file with appropriate silent sections. I also included a dog that has a cat "treed" on the fence rail. At a certain point you hear the dog barking, the cat hissing and growling, the dog running away yowling with his tail between his legs, and tires squealing as an imaginary car tries to avoid them both.

Two Tortoise switch machines prevent the underpass from actually continuing beneath the tracks. A black piece of styrene blocks the end of the underpass, and the speaker is installed on the piece of styrene.

East throat: As a fan of passenger trains, I have listened many times to the distinct sound that the long cars make

6: Sheffield Steel. The speaker is located at the rear of the scene.

when passing through complicated trackwork. It's “clank-clank, pause, bang-bang, steam hissing clank-clank, Pause, bang-bang.” I used one of my own recordings of the Super Chief departing San Bernardino, California, for this purpose.

In order to conceal the speaker close to the east throat trackwork, I placed it under a pile of scrap, located on the property of Kansas City Iron & Metal. Each scrap pile is formed over crumpled aluminum foil painted rusty brown. The area where the speaker is located is covered with foil and scrap metal, but is open in the back. I deliberately position the speakers so that the source of the sound is not obvious. By facing the speakers to the back, the sound bounces off the backdrop, and just seems to fill that area with no obvious location for its source.

Yet to be solved is some kind of motion sensor so that the sound will be heard only when a train is actually moving through the throat. To have the sound on with a train standing ruins the effect!

7: Ford stamping plant. The other speaker is located in the structure. This speaker along with the Sheffield Steel creates stereo sound.

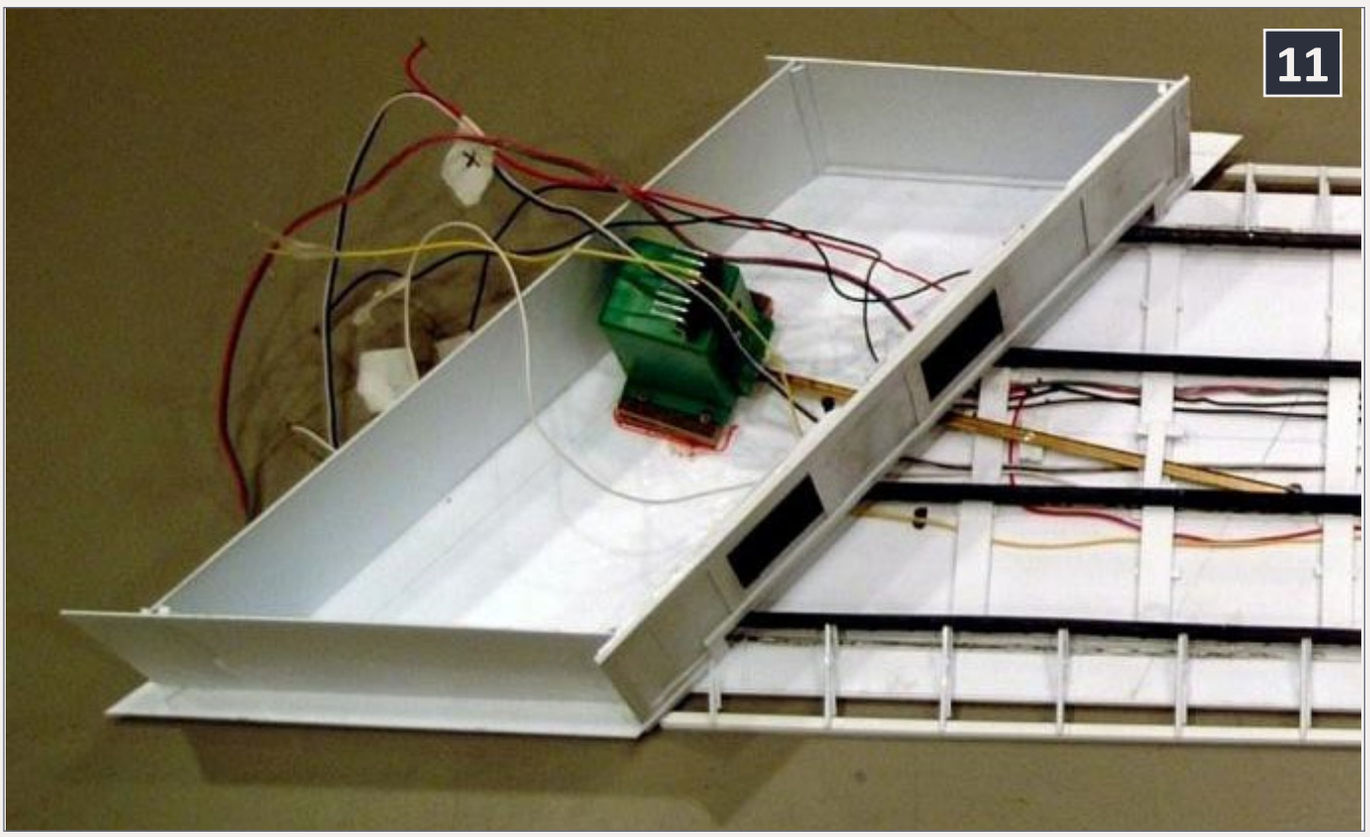
8: Here is Wilson Ave. I placed the speaker directly behind a piece of .040" styrene painted flat black. The styrene was needed to hide a two Tortoise switch machines located in the area of the underpass.

9: Another view of the underpass showing the "DANGER SOUND HORN" sign painted on the wall.

Kansas City Downtown and Trolley Bell: To provide ambiance to the whole left side of the room and to take advantage on the original sound track which was recorded in stereo, there are two speakers for the downtown sound track. The right one is located in the concrete retaining wall beneath the Grand Avenue bridge and the left one is located in the retaining wall adjacent to Broadway Avenue and facing the railway express building.

A Tortoise switch machine throws a switch on the bridge to the trolley track which leads down into Union Station. The styrene box that forms the front part of the bridge also serves as a baffle for the two speakers. The black grills are made from leftover sections of a cooling tower that came with the Heljan brewery kit. They nicely conceal the speakers when painted and weathered. The front section of the Grand Avenue Bridge actually

10: Kansas City Iron & Metal, which houses the speaker for the East throat.



11: The black grills left are recycled from the Heljan brewery kit to conceal the speakers.

houses two speakers. One is for the right channel of downtown Kansas City, and the other is for Trolley Bell sound track.

The speaker for the left downtown speaker is hidden in the retaining wall at the west end of the Railway Express Building. It is located in front of the red truck.

Kansas City Union Station: Since the Union Station itself is double-walled and made of relatively thick casting sections, I did not place the speakers for it inside the main building. Instead I placed them in the basement area. The right speaker is located in the retaining wall below the Main Street Bridge, and the left speaker is located in a styrene baffle box inside the basement of Union Station behind open doors.

Terminal Railway Powerhouse: I located the speaker for the Terminal Railway powerhouse beneath the floor at the rear

section of the building's interior. To ensure that the sound can be heard, I did not put any glazing in the clerestory windows for that part of the building. Styrene "equipment" placed over the speaker partially obscures it from view. Also, I sprayed the speaker the same concrete gray color as the floor of the building to further help conceal it.

Coach Yard: I put the righthand speaker for the coach yard beneath the layout. The lefthand speaker is located beneath the Pullman Commissary building at the left-rear of the layout. The roof of the Commissary building lifts off to expose the access hatch in that location. The sound emanates from the rear of the building, which I deliberately left open. The sounds of diesel and steam trains passing and switching give a tremendous air of realism to this part of the layout. It makes it seem as if there is action going on even when no trains are actually moving.

12: The front of the Grand Avenue bridge houses two speakers.

13: Here is the second speaker for the downtown channel hidden behind the grill seen in font of the Swift truck.

Turntable: the ringing sound of the "bull gear" as the turntable rotates, the heavy pounding as the drivers move across the rail gaps to the turntable and off again, and the hissing sound as a steam locomotive waits on the turntable, are all distinctive sounds of the roundhouse area. However the sounds need to be synchronized with the movement of locomotives on and off the turntable and the turntable itself.

To accomplish this, I placed a speaker beneath the turntable. There are two pushbuttons on the fascia which are used to begin play, and to advance to the next track on the MP3 player. When the locomotive begins to move toward the turntable, the play button is pushed. This plays the first track with sounds of a heavy locomotive moving onto the turntable.

Once the locomotive has come to a stop on the turntable, the “next track” button is pushed. This plays the track with the

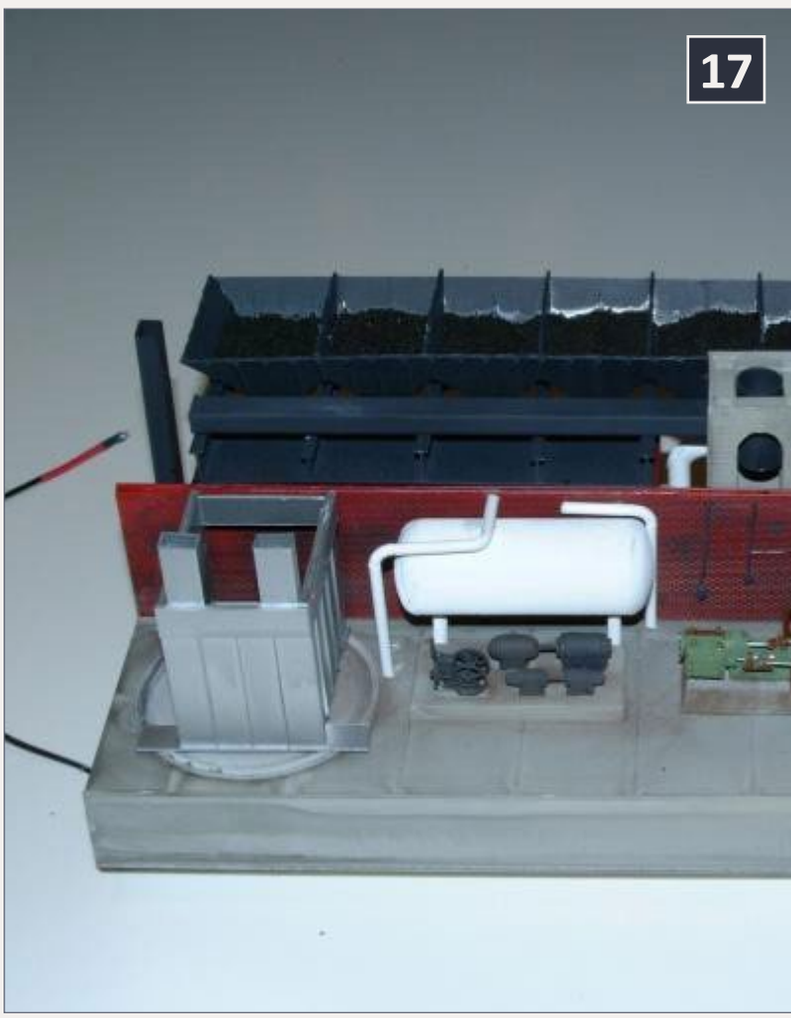
14: The basement of Union Station and the location of the right speaker

15: The left speaker location is behind the open door.

sounds of the turntable in motion and the locomotive standing idle. When the turntable comes to a stop, the “next track “button is pushed again. This plays track three with sounds of the locomotive moving off the turntable. The final result adds greatly to the realism of the locomotive servicing area.

SW7 Sound: I am a fan of animations that are realistic. On my layout, the Rock Island Railroad crosses the Kansas City Southern Railroad on the bridge at Leeds, Missouri. The Rock Island mainline is represented by a short length of track

16: You can see the speaker located in the floor of the powerhouse.



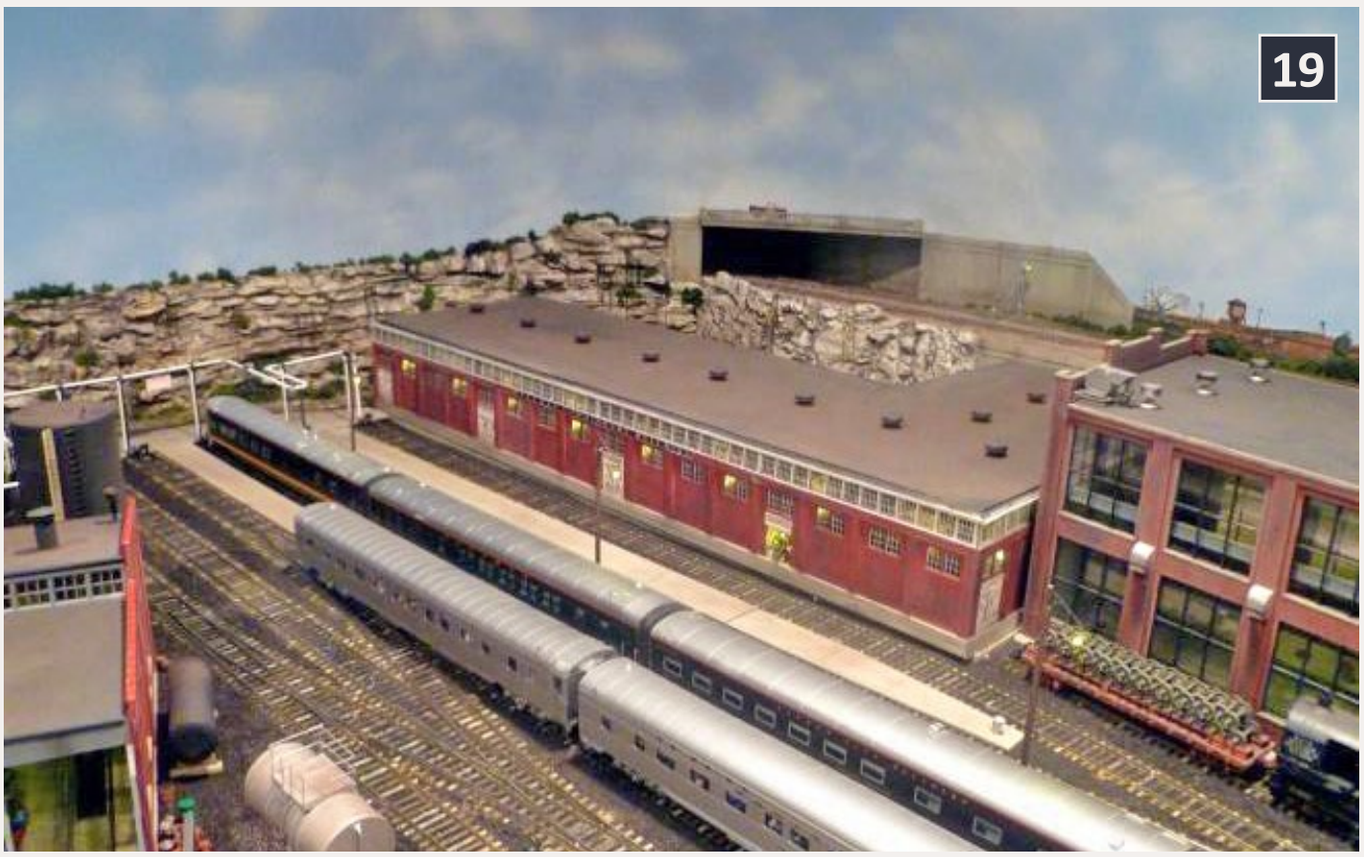
17: Here I have sprayed the speaker the same color as the floor and placed some equipment over it to help conceal its location.

which begins on the front edge of the layout and curves around out of sight between the Kansas City Power & light Building and the Ford Stamping Plant. The animation consists of a Rock Island SW7 switcher that pushes a loaded coal hopper back and forth on this length of track with a three-minute cycle time.

At the front edge of the layout, a diode stopping section holds the locomotive just short of the end of track (this frequently surprises visitors!). At the back edge of the layout, the locomotive and car are out of sight behind the stamping plant, stopping at a second stopping block.

Adding sound to this animation requires synchronizing it with the movement of the locomotive. The sound track begins

18: An overall view of the coach yard with the commissary building removed. The rear of the building is open to allow the sound to be heard.



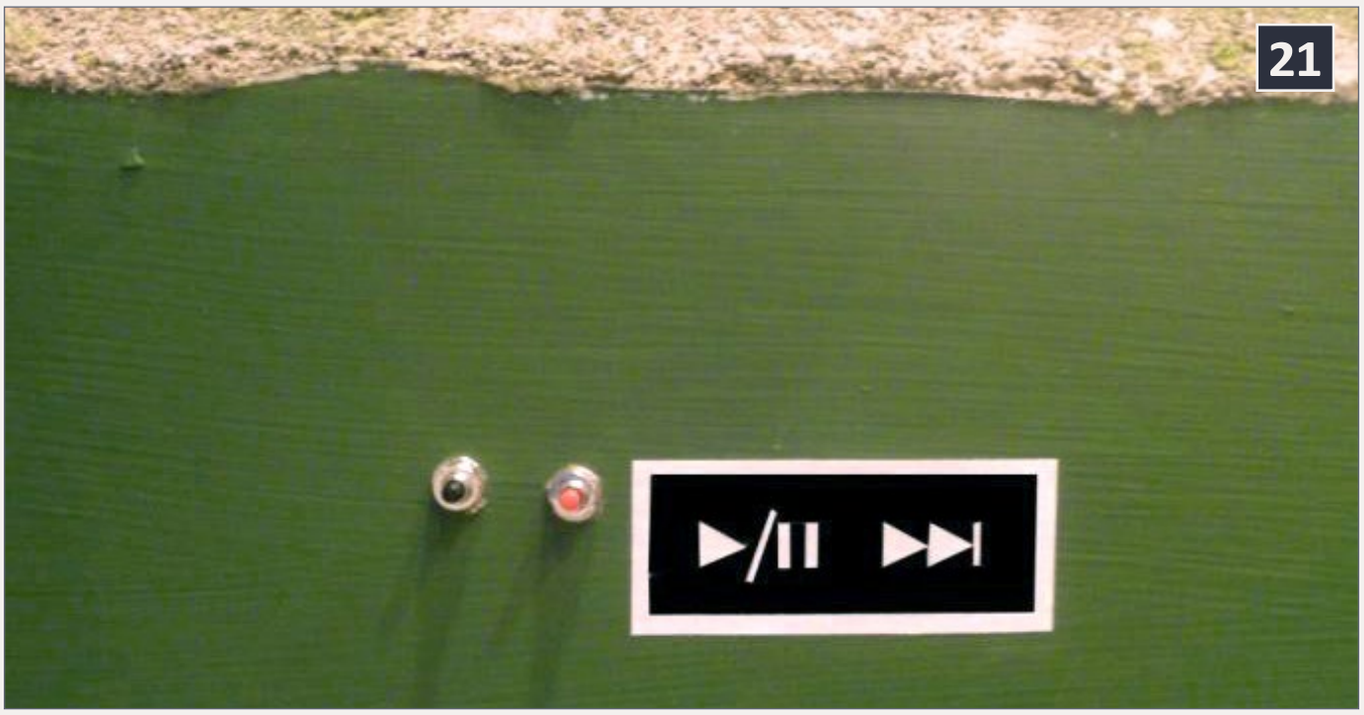
19: In this view the commissary building is in place over the access hatch.

with the switcher throttling up, then running for a short while, and back to idle. The idle section is long enough to extend beyond the three-minute duty cycle. Now all I had to do is get the MP3 player back to the beginning of the track each time the locomotive starts.

I came up with a simple low-tech way of accomplishing this. Since the current reverses each time the locomotive starts, I connected the track to a Tortoise switch machine. Each time the locomotive starts, the Tortoise switch machine moves from one side to the other. I put a magnet on the end of the switch actuating wire. Every time the switch machine moves, the magnet moves over a reed switch which sends the MP3 player back to the beginning of the track.

Feed Mill: The speaker for the Peterson Feed Mill (Decatur, Arkansas), will be located within the yet-to-be-constructed

20: The speaker for the turntable is located beneath the turntable itself.



21: The sound track controls for the turntable.

feed mill building. The sound track was recorded when the prototype was still in operation at this location.

Small Town, Decatur/Gravette, Arkansas: On my layout I have used the art of selective compression for the towns of Decatur and Gravette. The towns are back-to-back. The town water tower, located in the middle of the scene, will read Decatur on one side and Gravette on the other side. How many HO scale towns are large enough to include 3rd Street!

Night Sounds: In Decatur, Wolf Creek, after it crossed under the tracks, was dammed to form a swimming pond. The wet-lands it created abounded with the night sounds on a warm summer evening. The speaker located under that area will play these sounds at night only. Now Decatur has a nice new new community pool and the pond has been drained.

The speaker located under this section of the layout will play “small town sounds." Included are people talking, walking, automobiles and gas station sounds with the “Ka-ching” of the pump, and the "ding-ding" that announces another customer who needs their gas tank filled and windows washed.

Farm Sounds: Between the towns of Decatur and Gentry, Arkansas, I will be modeling a section of my grandparents' farm. A speaker located beneath this section will play farm sounds during the day. Animal sounds and tractor sounds are included on this commercial recording.

Bandstand: on my very first HO scale layout (Santa Fe, Southwest themed), I had a bandstand built from scratch with a speaker concealed in the roof. I connected it to my portable record player and it created a nice effect. A Sunday afternoon concert in the park – that was 1958! Now I plan to do the same at the Sulfur Springs, Arkansas Park using a Woodland Scenic’s bandstand. Again, the speaker will be located in the roof. I also have a Preiser band already to tune up and play.

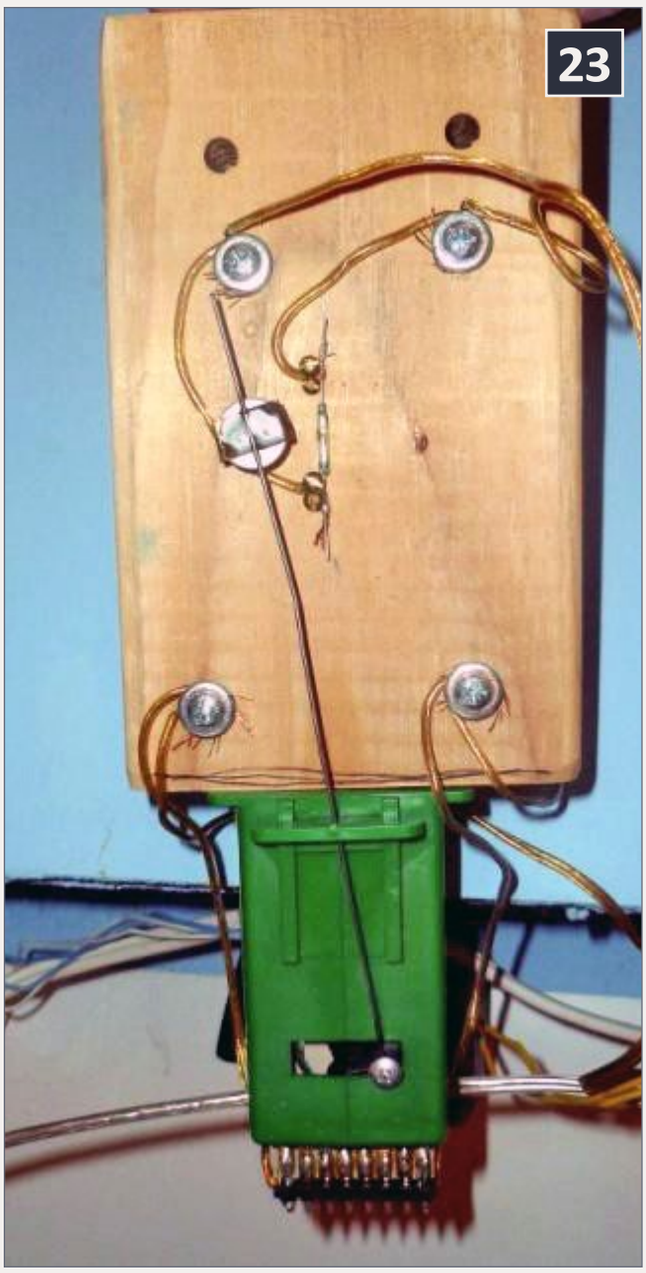
Creek Sounds: A speaker located beneath Spavinaw Creek will play the soothing sound of water flowing over stones.

Sugar Mill: I will be modeling a Godchaux Sugar mill at Rhodessa, Louisiana using the Walthers' Greatland Sugar Mill kit. The speaker will be located in the mill building. The sound track was created from sounds recorded at a vintage steam-powered sugar mill that operated on St. Kitts Island, in the Caribbean.

Downtown Shreveport, Louisiana: the speaker for this sound track will be hidden behind Shreveport Union Depot. Since the depot was located at street level, it needs street sounds. This sound track will include both downtown sounds and train sounds.

Trolley Bell: two automated trolley loops will run in the streets to the east of Kansas City Union Station. An electronic circuit

22: The Rock Island switcher that services the Kansas City Power & Light building.



23: Here is my low-tech solution for resetting the SW7 sound track.

24: Photo of the prototype Peterson Feed Mill.

board will control the operation of the trolleys and their passing on the Grand Avenue Bridge. Each time the trolleys start, the sound track will play the typical “ding-ding” followed by a short section of traction motor acceleration.

Frye Machining: A construction article for this typical old-style factory building appeared in the Model Railroader Magazine, April 1958. At 11 years old, I tried unsuccessfully to build an HO scale version. I even turned the smokestack out of cedar wood.

Now 56 years later I'm ready to give it another try. Fortunately the smokestack can be purchased ready to go with brick detail. The speaker for the commercial machine shop sound track will be located in the building.

The Swamp: in northern Louisiana I will be modeling a typical bald cypress swamp, with the KCS mainline crossing on a wooden pile trestle. I found some wonderful artwork on a propane cooker box. The artist has nicely included all of the typical elements for a swamp scene. There will be a small cabin, the speaker for the scene will be located within the cabin.

The sound track for Disney's "Pirates of the Caribbean" was available free on the Internet. I will use the first part, stopping short of the point where it warns that "dead men tell no tales." To carry the Disney theme further, the light in the

25: This gas station is an example of what will be modeled for the Decatur/Gravette area.

26: This is Wolf Creek and the inspiration for the night sounds sound track.

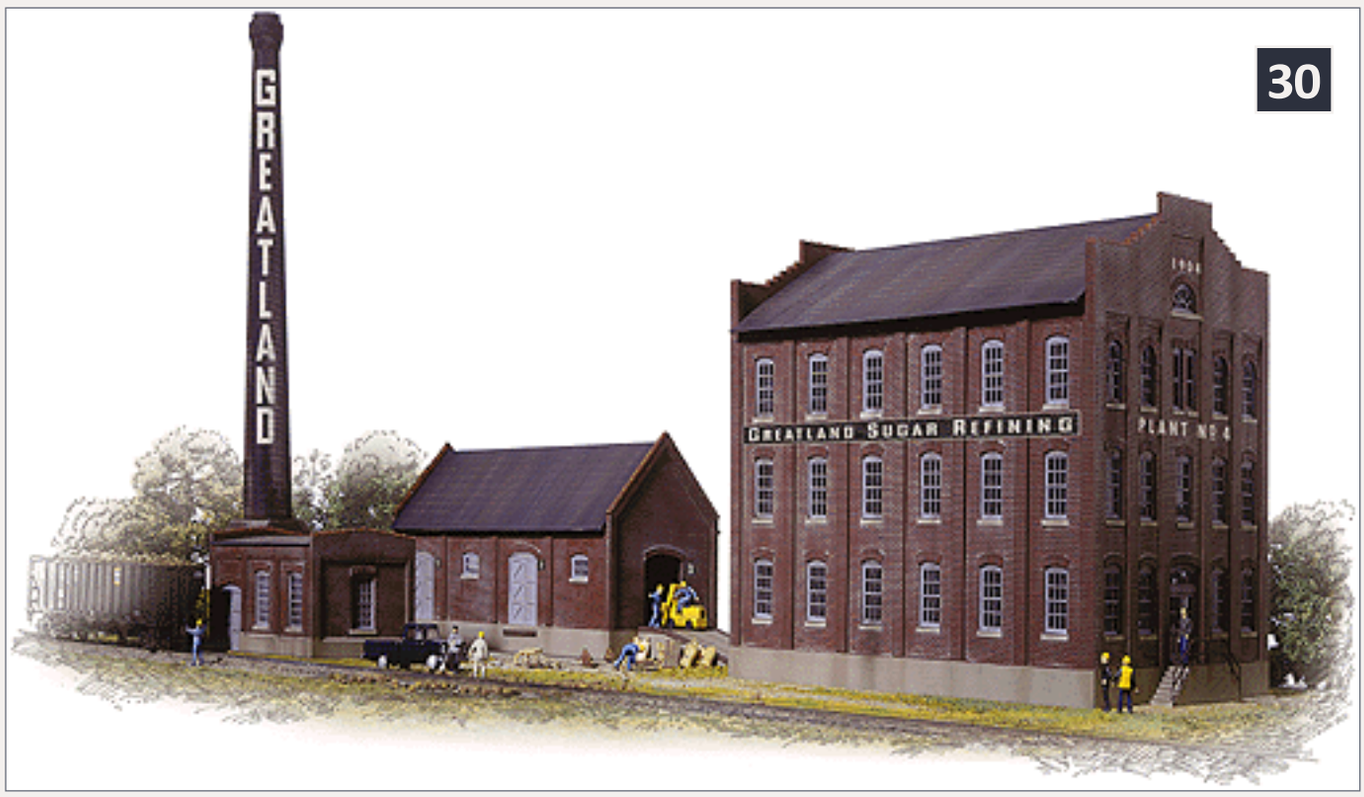
cabin will be powered by a "SimFlame" electronic flame-simulator module. This is the same module that powers the flickering lamps in Frontierland and other Disney attractions requiring a flickering flame. ☑

Pictures continue on next pages ...

27: Here is my grandparents' farm house, and typical of the farming area along the line -- the source of many fond memories.

28. The bandstand is built, and we are just waiting for the band and spectators to arrive for the summer evening concert.

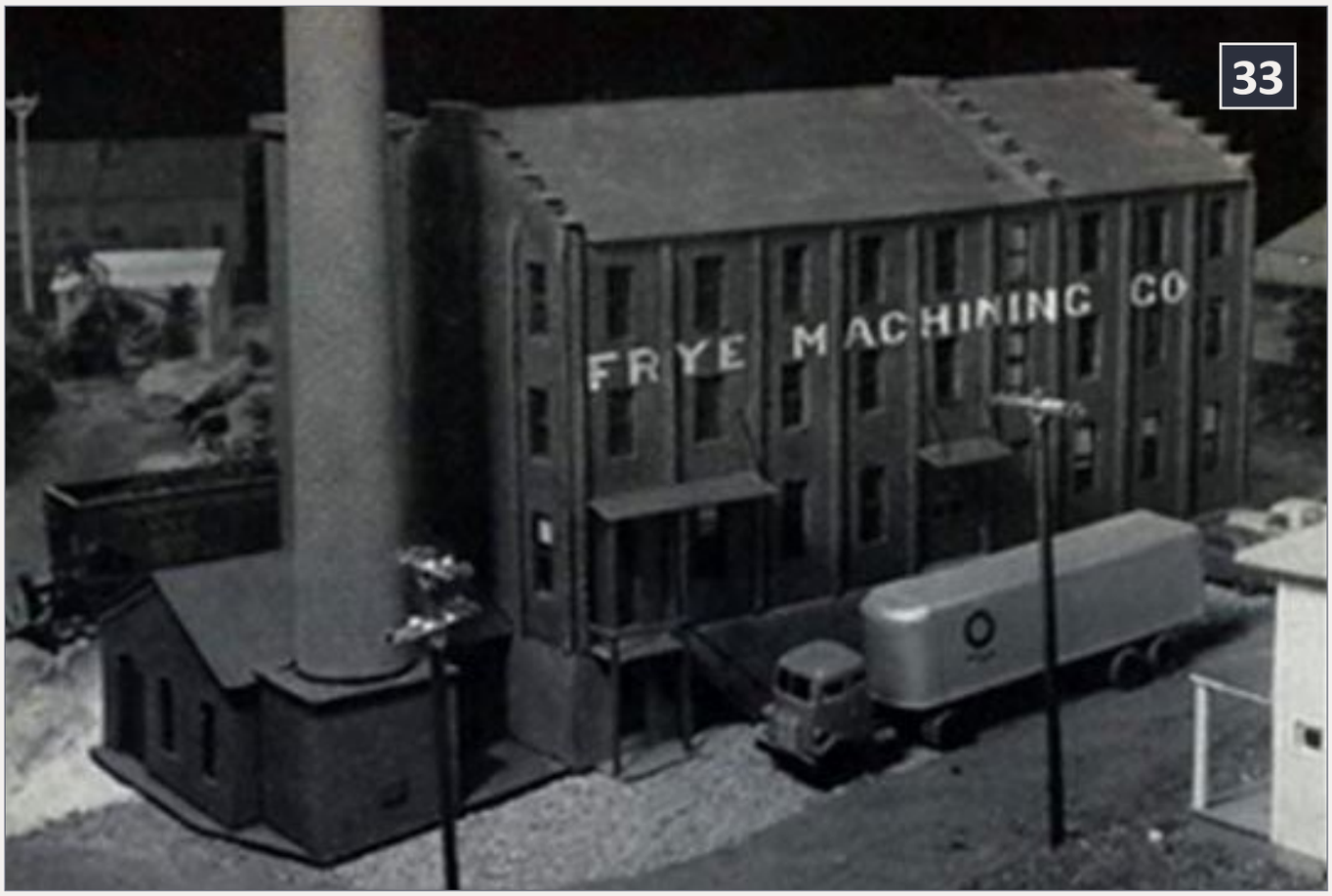
29. Spavinaw Creek is the inspiration for the running water sounds.



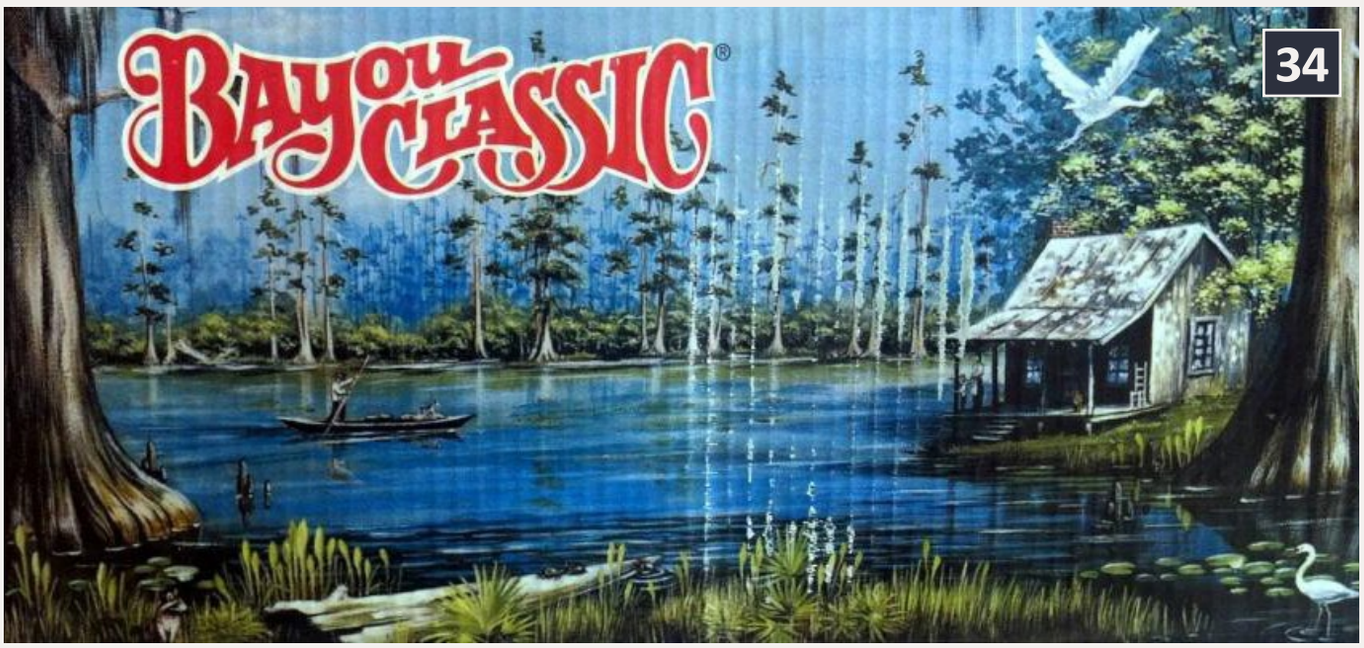
30: The Walthers Greatland sugar mill kit that will be used at Rhodessa

31: Downtown Shreveport. Photo, Louis Marre, Nick Muff Collection.

32: Here is one of the trolleys used to activate the trolley sound track.



33: Paul Larson photo.



34 Bayou Classic sign that shows necessary elements needed for the swamp scene.

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Comme-N-tary column

by John Drye

Simple methods to create a reliable fleet ...

The operations scheme on my Horseshoe Curve layout needs coal hoppers, and lots of them. Fortunately, several sources can provide a variety of hoppers to meet shippers' requirements. With a little effort, these can become reliable, great-looking models. A little planning can provide some economies and efficiencies in how specific cars are modified.

Operating Scheme

The layout sees coal hoppers go by in a variety of trains. Solid trains of loaded and empty hoppers traverse Horseshoe Curve on the way to distant destinations. Additional hoppers appear in through merchandise freights on the way to off-the-layout locations. The marshaling yard in Cresson sees several turns during each operating session, hauling strings of hoppers from the yard to Altoona. Finally, local jobs spot individual hoppers at local industries. Each application uses a slightly different set of modifications including added weight, alternate couplers, details, and weathering.

1: Loaded and empty hoppers in Cresson yard. Upgrades are applied depending on the role each car will play.

Adding Weight

Most manufacturers' cars can use additional weight to match NMRA recommendations for N scale cars. First thing I do after taking the car out of the box is to check the weight using an inexpensive postal scale. I taped the NMRA specs to the scale for easy reference. These 33 to 40-foot cars should weigh a little less than an ounce.

The method of adding weight depends on whether the specific car is going to travel empty or loaded. Most cars will always be either empty or loaded, not needing removable loads. Through trains are automatically re-aligned using through staging (loads always end up facing the right direction). The Cresson mine trains are re-staged between sessions, leaving only the local cars needing removable loads. These will be modified the same as the empties.

The Bowser two-bay hoppers include a lead slope sheet casting that provides most of the necessary weight. These cars are available in a variety of roads that provided cars for the PRR to haul. Weathering the weight along with the car makes it almost invisible.

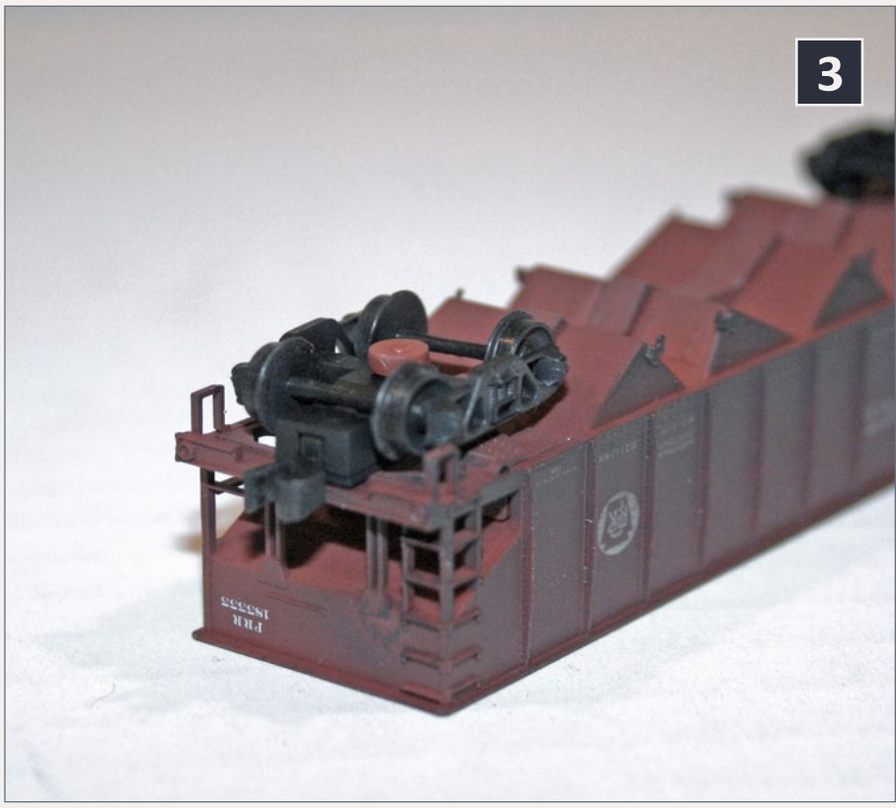
Cars that always travel loaded can use any source of weight from commercial castings, to lead sheet or lead shot, all hidden underneath the coal. The loaded Bowser two-bay hoppers loan their slope weight to other cars that will travel empty. An alternative for weighting empty cars is to carefully cut a thin piece of lead to fit the slope sheet.

Every car in the fleet gets weighed.

2: Bowser slope sheet weight applied to a four-bay hopper. A little weathering makes the weight almost invisible.

Couplers

Unlike weights, the coupler treatment differs depending on the role of the car.



3: AccuMate (Red Caboose) T-shank couplers fit easily into the Bowser trucks.

Through hopper trains operate essentially as unit trains on the layout. They move in solid blocks and never need to be uncoupled, reversed, or switched. These cars are almost all equipped with non-operating knuckle couplers. Several coupler varieties are used, depending on the model.

Most of the four-bay hoppers on the railroad are Bowser PRR H21 hoppers. These were originally offered with Rapido couplers, and of course, I bought a bunch just as soon as I could, all with these non-scale couplers. Fortunately, AccuMate offered a reliable T-shank knuckle replacement, now sold by Red Caboose. These fit perfectly in the Bowser coupler pocket and are an easy change.

Additional three-bay and four-bay hoppers from other Eastern roads including C&O, B&O, and NYC are available from Athearn, Atlas, Bluford Shops and others. A few of these break up the monotony of the PRR hopper blocks. They are all equipped with Micro-Trains trucks/couplers and low profile wheel sets.

A few of the PRR cars have a body-mount M-T coupler on one end (more on these later) to allow easy coupling to locomotives, cabooses (cabin cars), and the other hoppers.

The hoppers used for the Cresson turns are almost all two-bay cars, and most of these are Bowser PRR GLa models. By the time these models came out, Bowser had switched to a knuckle coupler. Quite a few other manufacturers, including Atlas and Micro-Trains, also offer a variety of two-bay hoppers, with a variety of knuckle couplers.

All of these are designed to operate on narrow N-scale curves. In order to do so, the cars couple at greater-than-prototype distances. The cars on the Cresson jobs also need to operate reliably in reverse in cuts of up to a dozen cars. The best way to achieve this (in any scale) is to equip the cars with body-mount couplers. Fortunately Leonard White came up with a solution that addresses both issues.

Most of these two-bay cars have a dimple designed to fit the screw mount for M-T 1015 magnetic body-mount couplers. The car knockers began equipping the fleet with these couplers; they are reliable and good-looking. Soon, however, the shops found an easier, less-expensive solution.

AccuMate (now Red Caboose) also offers a body-mount non-operating knuckle coupler. This one-piece coupler fits perfectly when screwed to the same dimple designed for the M-T coupler. As it turned out, there is no need for a coupler box. There is enough play in the mounting and the coupler that the cars move through the yard's #5 turnouts without difficulty.

The Cresson fleet ended up with a mix of cars. Most have AccuMate/Red Caboose non-operating couplers, and a few cars have M-T body-mount couplers at one end to allow uncoupling from the engine or cabin car. This solution produced

reliable cars that couple more closely to prototype distances.

The few cars used on local jobs were gathered from the initial two-bay cars fully equipped with M-T body mount couplers. They can be switched from both ends and spotted singly if necessary.

Equipping cars with couplers based on the role they play in the operating scheme allowed creation of a reliable fleet while saving money, and makes both the accountants and trainmasters happy.

4: AccuMate (Red Caboose) non-operating couplers applied to a two-bay hopper.

Details

Both empty and loaded cars can use some extra details; the loaded cars on the exterior and the empties on the inside.

Most factory coal loads are nicely shaped plastic inserts, but don't have the sparkle and irregular detail seen in pictures of loaded hoppers. The inserts can be much improved by applying scale coal.

Place the loads on a sheet of wax paper (this will make them easy to remove once the glue dries). Spread 100% (not diluted) Elmer's White Glue over the insert and sprinkle your favorite brand of scale coal over the glue. Applying different coal grades

(sizes) creates the remarkable variety of loads often seen in 1950s photos. Wait for the glue to dry. Remove any excess on the sides of the loads and add a little more glue and coal to the bare spots.

Empty hoppers are rarely completely empty. A scattering of coal in the bottom of the hoppers can be achieved with white glue and scale coal, just as with the loads.

Some of the models include the interior bracing common in early steel hopper cars. The bracing can easily be added to others using plastic shapes. The PRR four-bay hoppers often had internal cross-braces about halfway up the inside of the car. The particular cross-section is hard to match, but can be represented by a thin I-beam shape. Some of these cars also had triangular gussets reinforcing the joint between the bottom and the sides of the hoppers. These can be cut from thin sheet styrene.

Other cars had a modification that is visible whether the car is empty or loaded. During the 1930s, a rebuild program added

5: A little scale coal improves the look of factory plastic coal inserts

6: Internal bracing is applied to a PRR four-bay hopper using plastic I-beam shapes.

top chord reinforcing angle between the bolsters. An Evergreen .060" angle represents this perfectly. These modifications can be painted to match the factory paint jobs; PollyScale Boxcar Red is a pretty good match.

Weathering

Hopper cars take a beating. They are showered with coal dust and suffer from the harsh minerals in the coal dust soup that rains on the cars in bad weather. And there are a lot of cars to do.

Fortunately, an airbrush does a great job of representing coal dust and can ‘ruin’ a bunch of cars in a hurry. I try to work on a dozen cars at once. Before airbrushing on the coal dust, I add a few dark rust splotches irregularly on the sides of the cars. Some of the lettering can be faded using a rubber eraser.

PollyScale Grimy Black is a great color to use for coal dust. I airbrush it on greatly thinned to add just a little color at a time,

using vertical streaks. Repeated passes gradually build up a heavier coat of coal dust. Leave some of the cars with a lighter dusting to create a nice variety in the fleet.

Summary

These upgrades produce a great-looking fleet of hoppers. Weights and weathering are added to all the cars in the fleet. Add internal bracing only to the cars that will run empty. The more 'cosmetic' weights also go to the empties.

Fully automatic magnetic couplers are included on the cars that will be switched on local freights; non-operating body mounts are installed on cars that will be backed in cuts; and non-operating truck mounts on mainline consists that won't be switched at all. A little prior planning can save time and money by applying only needed upgrades to each set of cars. ☑

7: A set of empty and loaded hoppers weathered with paint and an airbrush.

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Joe Steimann's Weathered Freight Cars and Locomotives

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What's neat this week column

Photography and Video presentation By Ken Patterson

1: Joe Steimann sets up some of his HO scale work for an outdoor photo shoot of his models.

Joe Steimann has that talent to make freight cars to look used, and he makes it look easy.

He has learned what works by experimenting, and looking at prototype photos. Oil paints are very easy to work with because they are very forgiving, he says. If the streaks don't look right, wipe the paint off, and start over with no damage to the model or its graphics. His color of choice for rust and scrapes is Van Dyke Brown.

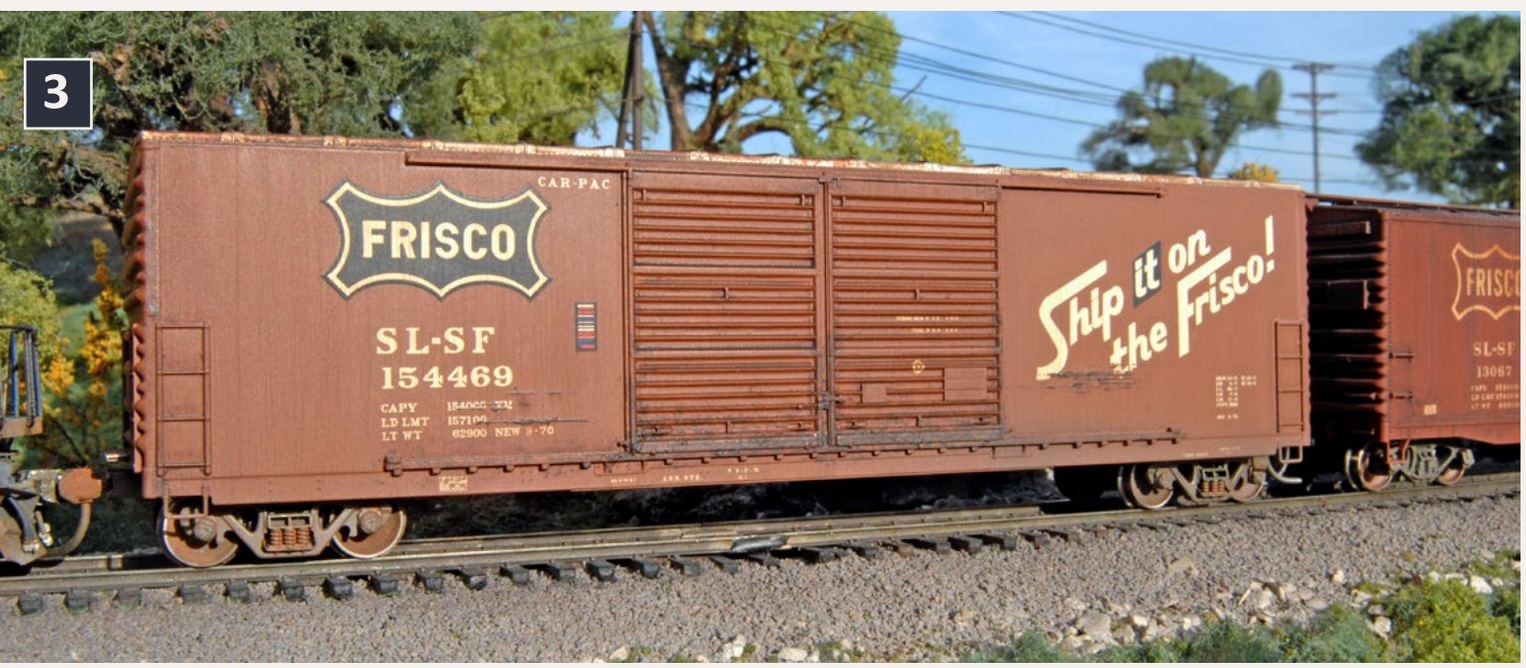
Joe models the Missouri Pacific in the 1980s and he came up with a few weathered locomotives in HO and G scale for this shoot.

Be sure to watch the video included in this presentation. It features some very realistic run-bys, filmed outdoors with the same quality you have come to expect with my still photography. The HO scale run-bys raise the bar for the video presentation of models. ☑

... Photos continue on the next page ➔

Playback problems? Click to try a different version.

2: The scrapes and rust streaks on this Athearn boxcar's stock paint scheme were created with Van Dyke Brown oils.



3: Oil-paint weathering gives a well-used look to this ExactRail boxcar.

4: Side scrapes were applied to this MoPac Athearn boxcar with oils. The only other additions to the stock car are Kadee couplers.

5: Oil paints are pulled down the sides, and a dust mix is air-brushed over that to age this InterMountain flat car carrying a wrecked Proto 2000 hopper on its way to be repaired.

6: Joe used a sandblaster to show the effects of sun and wind on this Atlas cylindrical hopper, then added rust effects using oil paints.

7: Paint washes and rust streaks weather this Athearn Grand Trunk hopper.

7: An Athearn Genesis GP15-1, and a Broadway Limited SD40-2 are box-stock with oil paint, airbrush, and dry chalk weathering applied to create the "well-used" effect.

8: Oil paint and an airbrush were used for this MP15 from Atlas and the SW7 by Broadway Limited.


6054


Reader
Feedback
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6054
6054

9a-9b and 10: Joe Steimann used a computer and a commercial printer to make decals for this huge 1:29 scale USA Trains SD40-2. He also custom-painted the model. The video presentation includes operating footage of this model.

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AAR rail clearances

Calculate your own clearances

– Josef Brugger
Model Photos by the author

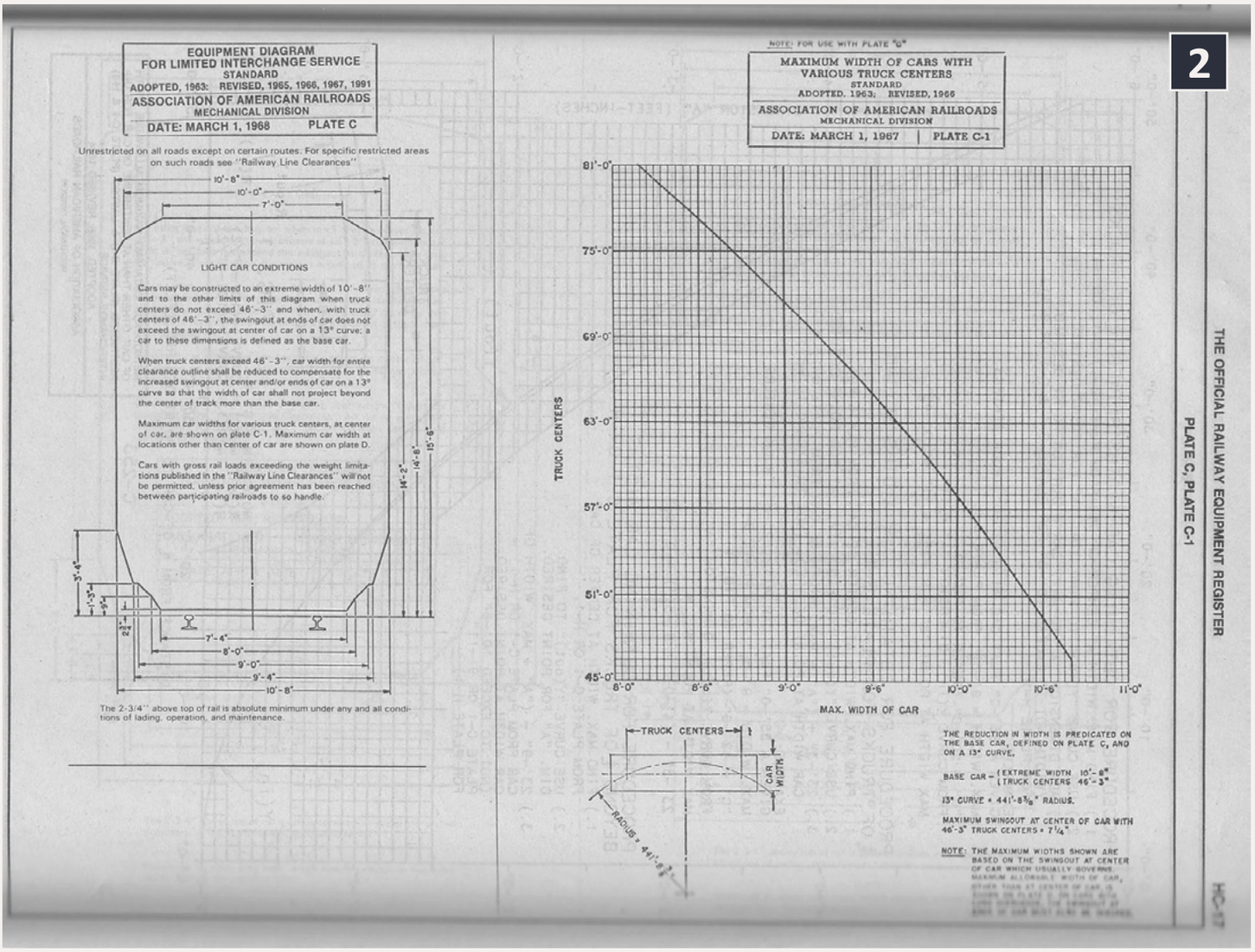
1: NMRA HO Mark IV standard clearance gauge.

Establish clearances for your railroad ...

Reader Feedback (click here)

It happens over and over again on model railroads. A 1950s steam club member shows up on a quiet night with some modern stuff. Amtrak Superliners. Maybe triple-deck auto racks. A nice Vert-A-Pac from ExactRail. The train sets off down the main, leans into a sweeping curve and – WHACK -- one of the cars takes a plaster divot out of a tunnel portal.

The answer: Although tunnel portals may be set in stone, freight car clearances are not.



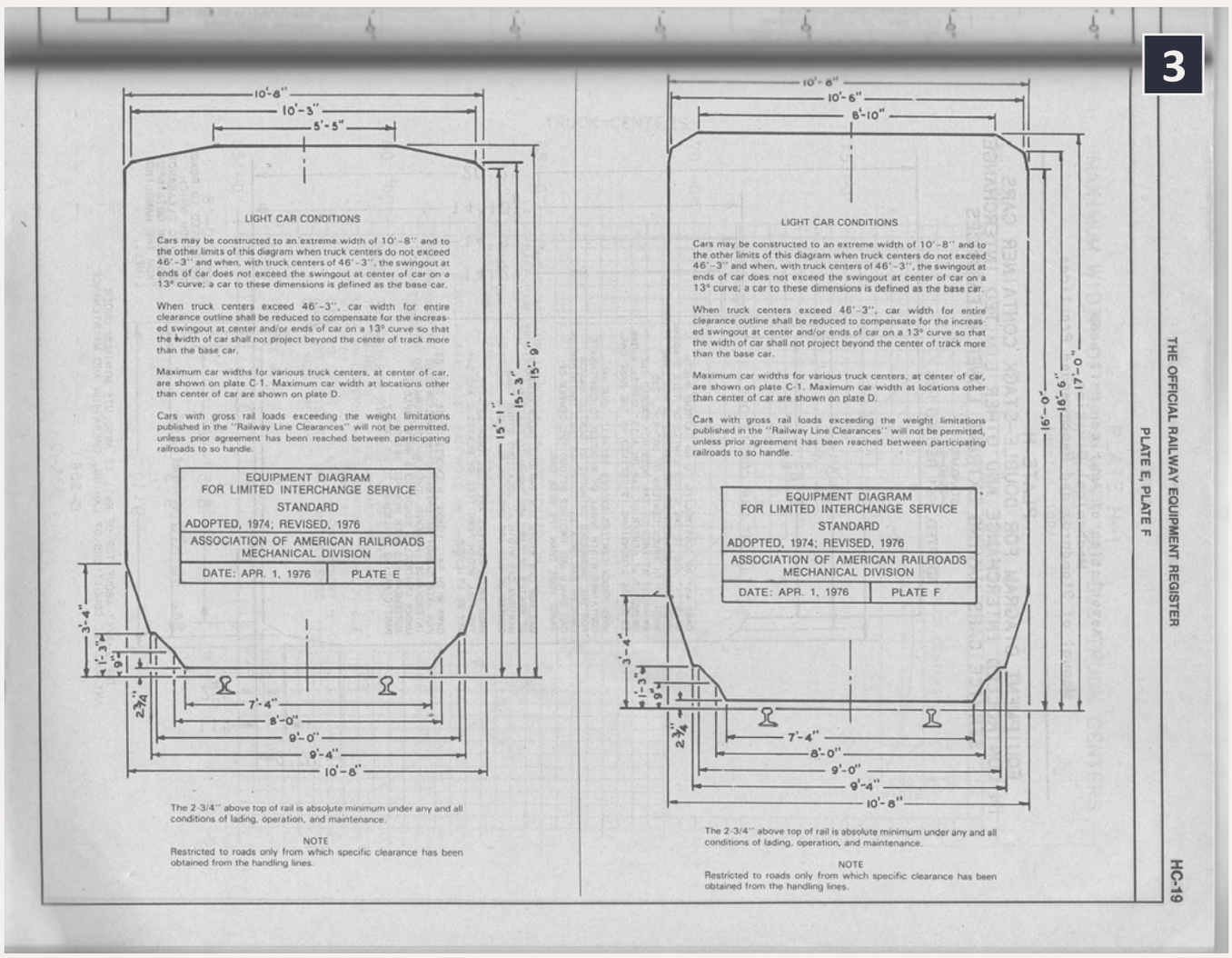
2: AAR plate C clearances for interchange, from the Official Railway Equipment Register.

The time-honored NMRA gauge, in HO, measures 21' 6” high from the railhead and 14' 6” wide, tapering to 8' wide at the top. It looks a lot like the Association of American Railroads (AAR) Plate C standard, adopted in 1968 and revised several times since. Plate C allows 15' 6” of height and 10' 8” of width. So, what's the big deal? After all, the NMRA gauge allows 6' more height, and 3' 10” more width.

Trouble is, modern freight cars are long, and they don't always taper at the top. In 1991, the AAR published Plate F standards, allowing a maximum car height of 20' 2” above the top of the

rail. Unfortunately, the same standard allows a maximum width of 8' 6 3/8” at maximum height. Our freight car was rolling through a curve, increasing the car's overhang on the inside of the curve. AAR standard S-2041-94 sets the maximum width of cars with various track centers. So a long car with its truck centers spaced at 80' can be only 8' 3” wide to meet clearances because so much of it will overhang the inside of a curve. That NMRA gauge allowed only 8' of width at maximum height. Bang, scrape, and maybe a car derailed. We are still within clearances, so what happened?

We're not done. The AAR maximum widths are based on a curve radius of 441' 8 3/4”. That's about 60” when scaled



3: AAR plate F clearances for interchange, from the Official Railway Equipment Register.

down to HO. A car's overhang increases as the radius of a curve decreases, and how many model railroads have 60” curves? Not too many. With truck centers set at 70', the maximum width the AAR allows is up to about 9' 2”. Most freight cars are around 9' 6” to 10' wide, so the safety margin is shaved to nothing or exceeded on our layouts.

What's the solution? For one thing, the NMRA standards gauge has changed over the years. A Mark IV gauge is a couple scale inches taller and wider than a Mark II. Look at **nmra.org/standards/sandrp/rp2.html**. The association provides more suggestions about track center spacing and clearances on curves at **nmra.org/standards/sandrp/s-8.html**

Many modelers use a big double-door auto parts car or a covered auto rack to field-test their clearances during construction. If one of those monsters fits past platforms and through tunnel portals, then other cars can usually make it through. Steam-era modelers learned long ago that the swinging boiler on a model Norfolk & Western Y6 or a Union Pacific Big Boy can wipe out opposing traffic on curves that are set too closely together.

Here's one way to keep your rolling stock and scenery safe. On a flat surface, tack down a curve of flex track at your planned minimum radius. Grab your longest and tallest cars, and mark the amount of overhang at the cars' midpoints and endpoints. Check the maximum height of the rolling stock as well. Create your clearance guage out of styrene or card stock with a slight allowance beyond those measurements should give you smash-free operation. ☑

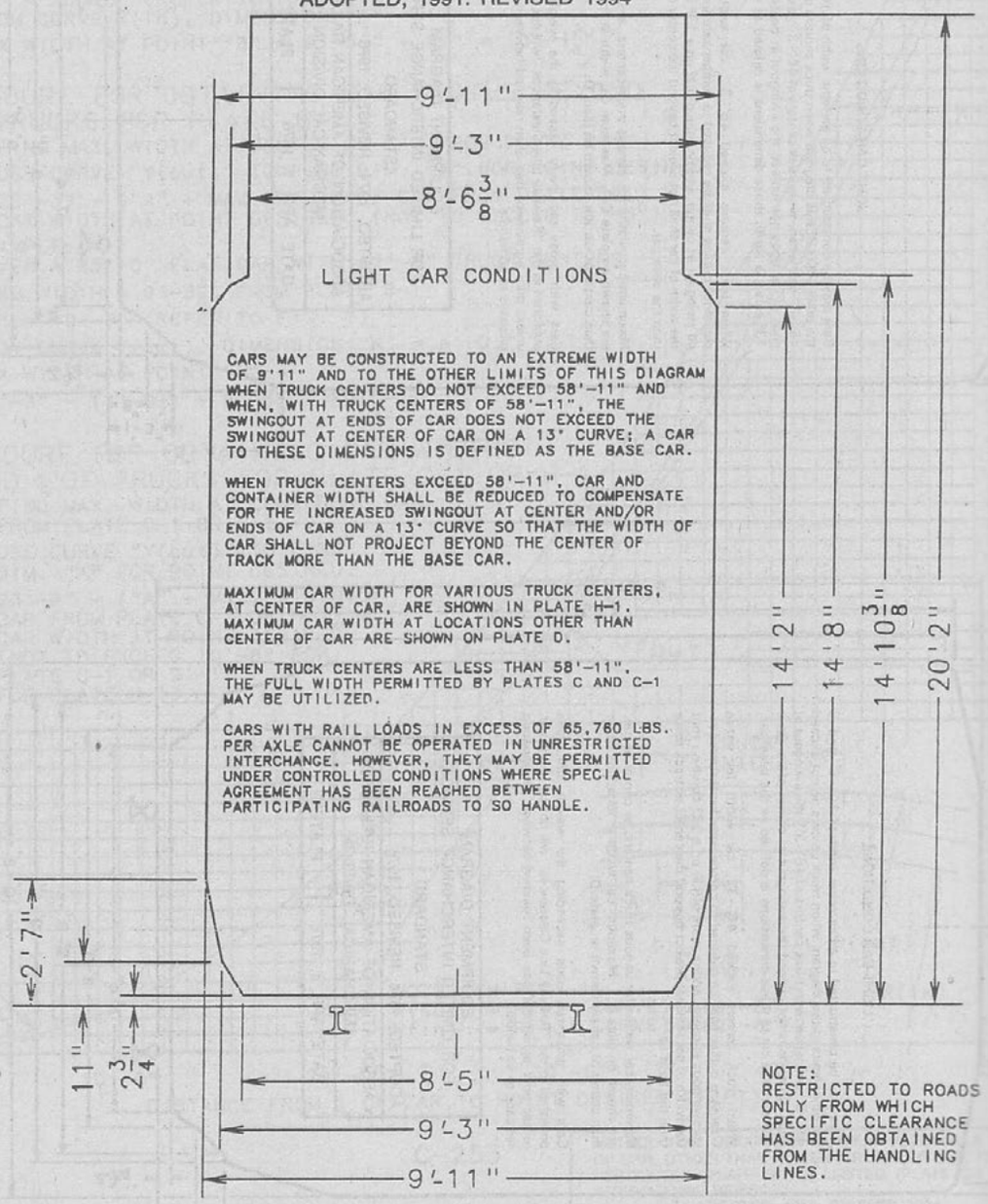
Figure continues on next page ...

PLATE H

Association of American Railroads
Mechanical Division
Manual of Standards and Recommended Practices

PLATE H
EQUIPMENT DIAGRAM FOR DOUBLE-STACK CONTAINER CARS IN CONTROLLED INTERCHANGE AND OTHER LIMITED INTERCHANGE SERVICE CARS HAVING EXTREME LOWER CLEARANCES

STANDARD
S-2040-93
ADOPTED, 1991: REVISED 1994



THE 2-3/4" ABOVE TOP OF RAIL IS ABSOLUTE MINIMUM UNDER ANY AND ALL CONDITIONS OF LADING, OPERATION AND MAINTENANCE

C-256

4: AAR plate H clearances for interchange, from the Official Railway Equipment Register.

Josef Brugger is a former letter carrier, researcher, sports car driver, photographer and journalist who got serious about trains at a clinic that taught him how to mix Floquil paints to get Armour Yellow. He is a 30-year member of the Union Pacific Historical Society and collects prototype documents. He's a member of the Willamette Model Railroad Club in Clackamas, Oregon.

MRH visits Rob Carey's

D&RGW Tennessee Pass

Article and photos by Charlie Comstock

Reader Feedback
(click here)

track plan contents index

Lead (previous page): The local is in town banging cars around at Malta.

1: Another view of Malta, one of the few switching opportunities on the upper deck of Rob's layout.

Rob Carey models big scenery in a modest space, using N scale to make it possible. Although the scenery looks great, his primary interest is proto operation.

When you view Rob Carey's D&RGW Tennesse Pass empire, it's immediately evident the builder is serious about his modeling. He chose double-deck construction to extend the length of the mainline in his medium-size train room.

2: Minturn yard is the western end of the modeled portion of Rob's layout. Train 62 heads east to Pueblo yard.

The Tennessee Pass line includes the spectacular Royal Gorge and this layout makes the most of the scenic opportunities available. In addition to the Gorgeous scenery (pun intended) Rob's layout is fully signaled and designed from the ground up for realistic operations.

MRH: Rob, what was it that caused you to get interested in the D&RGW?

Rob: Well, I went on a road trip when I was about 18 years old, with a friend of mine. We went to Colorado. Of course we went through Durango and they had the steam engines running. I fell in love with the Rio Grande when I saw my very first operating steam engine. So I decided to model the Denver and Rio Grande and I still do.

MRH: How did you pick the D&RGW's Tennessee Pass route?

3: Train 52, the Pueblo hauler, passes a work extra on the spur at the Tennessee Pass siding on the upper deck.

Rob: That's actually an evolution. When I first got in the hobby, I chose N scale to get more railroad in my limited space. There were very few Rio Grande models to choose from back then. Everything was New York Central or Santa Fe. So I looked at the map to find a place where the Santa Fe and the Rio Grande intersect.

The Santa Fe northern mainline was near Trinidad, Colorado. I figured that by modeling that area I could augment the few D&RGW engines with more readily available Santa Fe engines. I suppose the limited availability of D&RGW rolling stock along with the more prevalent ATSF equipment set the locale for my layout.

MRH: It looks like you've really embraced the Tennessee Pass and you've got a pretty accurate version of it here. Do you consider yourself a prototype modeler?

Although this scene is relatively shallow, N scale and its nearly eye-level height make it seem deeper.

Rob: I would say so, for the most part. My first layout in Trinidad was totally freelanced. The only thing on it prototype were the town names. I did hardly any research, I just came up with a vision in my head of what I wanted and that's what I implemented. It was later on I started leaning toward prototype modeling.

MRH: Why was that?

Rob: I can't say for sure. Maybe it was my personality or maybe I wanted to be more faithful to the real thing. I know that freelance has advantages over prototype modeling, but I wanted to do something that was maybe a little more faithful.

4: The classy D&RGW paint job on loco 5359 looks great coming off the bridge over the Arkansas River. Rob's scene-scapes really have a prototype flavor.

My son Ethan actually prompted me to do something more prototypical. When I had the Trinidad layout I showed him some pictures of the area and he asked, "Why don't you model this?"

Later on he was looking at some Rio Grande books, "Why don't you redo a section of your layout and model the Royal Gorge?"

That suggestion floated around in my head for several years until I was planning this layout and I decided to model the Royal Gorge and Tennessee Pass.

MRH: How prototypical is this layout?

Rob: It is definitely not 100% prototypical. As we all know, in model railroading it's all selective compression. There are quite a few things I had to leave out. Also, I really like operation and industry switching, but the Tennessee Pass line and the Royal Gorge

5: Aspens glow in the afternoon sun near Red Cliff. Locos 3131 and 3141, train in tow, emerge from the Pando tunnel, almost to Mitchell and the summit.

didn't have many online industries, it was mostly bridge traffic. So I used modelers license to add switching opportunities.

So while there are many things that are prototypical, or close to it on my layout, there are also areas that are totally free-lanced because I wanted a lot of industries to switch.

MRH: Your model of Mitchell is quite striking. I was watching Denver & Rio Grande on NetFlix. It dramatizes building the railroad through the Royal Gorge. In one scene, a passenger train raced through a place that looked just like this. How prototypical is Mitchell on your layout?

Rob: Both my model and the prototype have an S-curve and some marshy areas high up in the mountains, but that's about as similar as they get. It would probably take about my whole train room to model Mitchell because the S curves were

massive, encompassing a very large area. A real prototype model of Mitchell would have used so much space there would have been none left for the rest of the railroad.

MRH: How did you end up in N scale?

Rob: My decision to go to N scale was determined by the first train set I bought when I was 16 years old.

MRH: When was that?

Rob: 1969 or so. Quite a while ago.

MRH: What was the major factor in your decision to go with N scale?

Rob: I wanted longer trains. When I went to the hobby store I bought N scale for that reason. I could run much longer trains in the same space.

6: Train 52 passing the mountain town of Red Cliff. At one time Red Cliff was served by the D&RGW but now the conductors just wave back to the kids as trains pass.

7: Another view of Red Cliff.

MRH: I suppose the scenic vistas possible in N scale didn't hurt either?

Rob: No, next to operation I really like realistic scenery.

MRH: Did you have any trains before your bought your first N scale train set?

Rob: I had a Lionel train set when I was younger. I liked it, but it got boring fairly quickly because it was just a loop of track. After running around and around for three or four hours, I was ready for something more.

When I was introduced to scale model railroading, the magazines were beginning to publish more articles about realistic operations and I thought that was what I wanted.

MRH: You're talking Bruce Chubb and Allen McClelland and his V&O series in RMC?

8: Loco 5359, train in tow, threads its way through the Royal Gorge on Rob's layout. Building the scenery in this lower deck canyon wasn't easy, given the limited access.

Rob: That's right. The light went on in my head and I thought I can model a real railroad instead of a loop of track and not have it be boring. I can model something that would be enjoyable to operate for a long period of time. That's what I tried to accomplish on this layout and on my previous layouts.

MRH: What does prototype or realistic operation mean to you?

Rob: Not running your train around in a circle!

MRH: Anything else?

9: Even though this scene isn't finished, it gives an idea of the scenery-scapes that are possible without a huge space in N scale. Love that water, Rob!

10: Who says N scale models can't be super-detailed?

Rob: I like realistic freight car movement. Each car should have an origin and destination as though they were billed and had a lading actually being shipped somewhere.

MRH: So your op scheme picks up cars from industries, takes them someplace else, and delivers them?

Rob: That's correct.

MRH: You're attempting to make N scale money!

Rob: Yes, if you're simulating a real railroad, they're trying to make money. It's hard to tell how profitable the railroad is because N scale money is too small to see!

MRH: Do you have a system for determining car movements, car cards and waybills for example?

11: Rob believes in achieving prototype flavor rather than attempting to get every detail exactly right. This philosophy seems to pay off for him.

Rob: I use the ShipIt! program to generate switchlists. It's a bit painful to set up but it does a good job for me.

MRH: Did you consider a single deck layout?

Rob: I did. My previous layouts were single deck, and I wanted a longer mainline to improve the operation potential, and the only way I could get there with the space I had was to go double-deck.

With this layout, when an engineer picks up a train at one end of the railroad, he's looking at a significant run to get to the other end.

12: D&RGW 5359 comes off the bridge over the Arkansas River with the Ideal Cement plant towering in the background.

13: At Minturn, with three second-generation locos prepare to assault the grade to the summit.

MRH: How long does it take to run a train from one end of the layout to the other?

Rob: That depends. If the railroad is empty so there are no delays it takes at least 25 minutes. But during an op session with lots of other traffic it might take almost 45 minutes.

MRH: Double-decks come with their own set of problems. How did you pick your deck heights?

Rob: There's another local modeler I know, Keith Schaber, who had a double-deck N scale layout. I visited his layout and measured his deck heights. Then I did some trial and error, mocking up the decks.

The station here closed to passengers in the late '60s and is now used by work crews for storage.

As with many things in model railroading there's a lot of give and take on what you can do. In N scale it's nice to have a lower deck that's higher so you don't have to bend over to see the detail, but if it gets too high the upper deck gets in the way and you can't see the lower deck very well.

MRH: What is the lower deck height?

Rob: The lower deck varies from about 34" to 40" because there is a slight grade on it.

MRH: That's just a little higher than desk height.

Rob: It is lower than I'd like. I have some backless office chairs on wheels for lower deck operators to use.

14: This scene demonstrates how Rob uses the size of N scale to model a striking vista in a limited space.

15: Rob's model of the Ideal Cement plant at Portland is still under construction. The prototype was served by both the D&RGW Canon City local and the AT&SF.

16: Locos 5103 and 5108 lead a freight past the siding at Belden. This area of the layout is accurately modeled from the prototype.

MRH: Your main yard is at the lowest elevation so the yard master scoots around on a chair?

Rob: That's correct. I have two yard masters, one for each of the two yards in this layout. Both of them sit on the backless office chairs. The lower deck is kind of low but that's one of the compromises needed with a double-deck layout.

MRH: I notice the lower deck visibility is pretty good when standing in the aisles.

Rob: I didn't want the fascia of the upper to block my view of the lower deck and I'm about 6' tall. My operators are several inches taller or shorter than I am, so upper deck height and the space between decks turned into another compromise. In general there's 16" to 18" between decks. I think it works OK.

17: Mitchell, high up in the mountains. The layout's summit is just ahead of the lead unit. This area has an S-curve

MRH: What about people who are upper-deck challenged?

Rob: I have a few roll around footstools. When someone stands on them, the sprung wheels retract so they don't move around. They're pretty handy.

The layout is fully detected and signaled, but several of the signals are in canyons on the upper deck. If you're vertically

and a number of high mountain marshes. Rob had to really compress the S-curve to make it fit in his available space.

challenged you'll need to use the footstools to get high enough to see them.

MRH: What about getting from one deck to the other?

Rob: I don't have a big enough room to use a reasonable grade to get between the decks so I chose a helix. It's double tracked with four laps and has an inner radius of 20" and a grade of about 2%.

18: (previous page) The highway bridge high above the tracks at Belden was a favorite spot for D&RGW rail-fans when the tracks were still in service. See photo 16 for a lower level view of this scene and the cover of this month's magazine.

MRH: How do your crews keep track of the trains in the helix?

Rob: Each lap has occupancy LEDs for each track. I also left a peek-a-boo hole at the top so crews can peer inside to see if their train is still moving.

MRH: Do you have advice for people building a double-deck layout in terms of the sequence of building?

Rob: Oh man, I thought about that quite a bit before I built mine. I did the benchwork for both decks at the same time. But I did all the lower deck track work first while I could still see it and so I wouldn't bump my head in some of the deeper areas.

Once most of the track work was in I started adding scenery on the upper deck first so scenery materials wouldn't dribble down onto the lower deck and ruin finished, super-detailed structures or scenes.

So wherever possible I'd suggest building from the bottom up but doing scenery from the top down.

MRH: There's a lot of great looking scenery here. Where did you get the idea for the landforms?

Rob: Scenery landforms are easy when you're prototype modeling. Just look at pictures of your area and you'll know what you're trying to achieve. Problems come from prototype scenery because when you're selectively compressing a scene with industries, they compress differently than the landscapes. That makes trying to achieve a prototypical look a little difficult.

The compressed curves at Mitchell are a good example. I belong to a group that meets on Monday nights and we try to get the flavor of the prototype. If we can achieve the flavor,

19: This is definitely a pure double-deck layout. Rob uses museum-like lighting hidden behind valances. From the aisles the layout lighting is both dramatic and unobtrusive.

then we figure we've pretty much achieved the goal of having what the prototype looks like even though it may not be exact.

MRH: Tell me about your Monday night group?

Rob: Probably about 13 or 14 years ago Pete Johnson started the group on Monday nights. He knew of several layouts in the area and thought wouldn't it be a great idea if we got together and worked on them to get them to the point where we could operate them? Pete really enjoys operations as do I [ed: Pete is a pro railroader]. So he contacted several of us and we started getting together once a week, either working on a layout or operating on one.

20: Mitchell is above with its sweeping S-curve and marshes. The Ideal Cement plant at Portland below. The camera is about 70" from the floor in this shot.

It’s worked out really well. My layout is a combination of my work and stuff the guys on Monday night did. Several of them are really talented modelers and are able to do a lot of things that made a layout look really nice, even better than I can. The scenery here is a combination of their work and my own.

MRH: Can you give me an example of that?

Rob: Yes, one of the Monday night guys, Rick Ernest, built the New Jersey zinc mining complex at Belden for me (24).

MRH: The most striking piece of scenery on the Tennessee Pass route would be the Royal Gorge?

21: Train 52 in the hole at Tennessee Pass siding. The signal heads are fully functional and can be operated either for CTC or ABS.

Rob: Yes, definitely the Royal Gorge.

MRH: How did you model that area?

Rob: Well, in places the Royal Gorge is over 1000’ deep with rock walls going nearly straight up. It narrows to 50' wide at the bottom, barely enough to hold a single railroad track. In one place it was too narrow for that, so the D&RGW built a hanging bridge to suspend the tracks over the Akansas river.

MRH: Did you do anything special to model the Royal Gorge? The walls of that area look like solid rock!

Rob: Well, remember how I recommended building the scenery on the upper deck first? This is a place where I didn’t do that. The Royal Gorge is on the lower deck and there was no way I was going to be able to reach in to do scenery once the

22: Locos 5103 and 5108 lead a freight past the Belden west end turnout.

upper deck was in place. Actually, this is the first part of the railroad I built, back in 2001.

MRH: How much plaster did you use in the rocks?

Rob: None! I met Joel Bragdon at a show and decided to use his geodesic foam rock casting methods. He also sells huge rock molds, over two square feet.

One of the big advantages of the foam (or plastic) that I got from Joel Bragdon is it's light weight. For guys that are building modules that they need to transport, it makes the modules a heck of a lot lighter. But you can still do really realistic rock castings with it.

It also really resists chipping. I suppose if you used a hatchet it might chip, but I can bang on it hard without damaging it. Amazing stuff considering its light weight.

23: Malta is hopping. A local is doing its work as train 52 pulls through led by D&RGW locos 3131 and 3140.

MRH: Can you carve rocks in the foam?

Rob: Not really, at least I didn't. You just cast it. But there's another advantage. When a rock casting first starts setting up it's really flexible. Makes it a snap to pull it out of the mold and drape it over a scenery form. I hot glued most of my rocks in place on the layout.

MRH: Do you have a favorite scene in your train room?

The sky in the background is the inside of the Bellina-drop background. See 27 for another view.

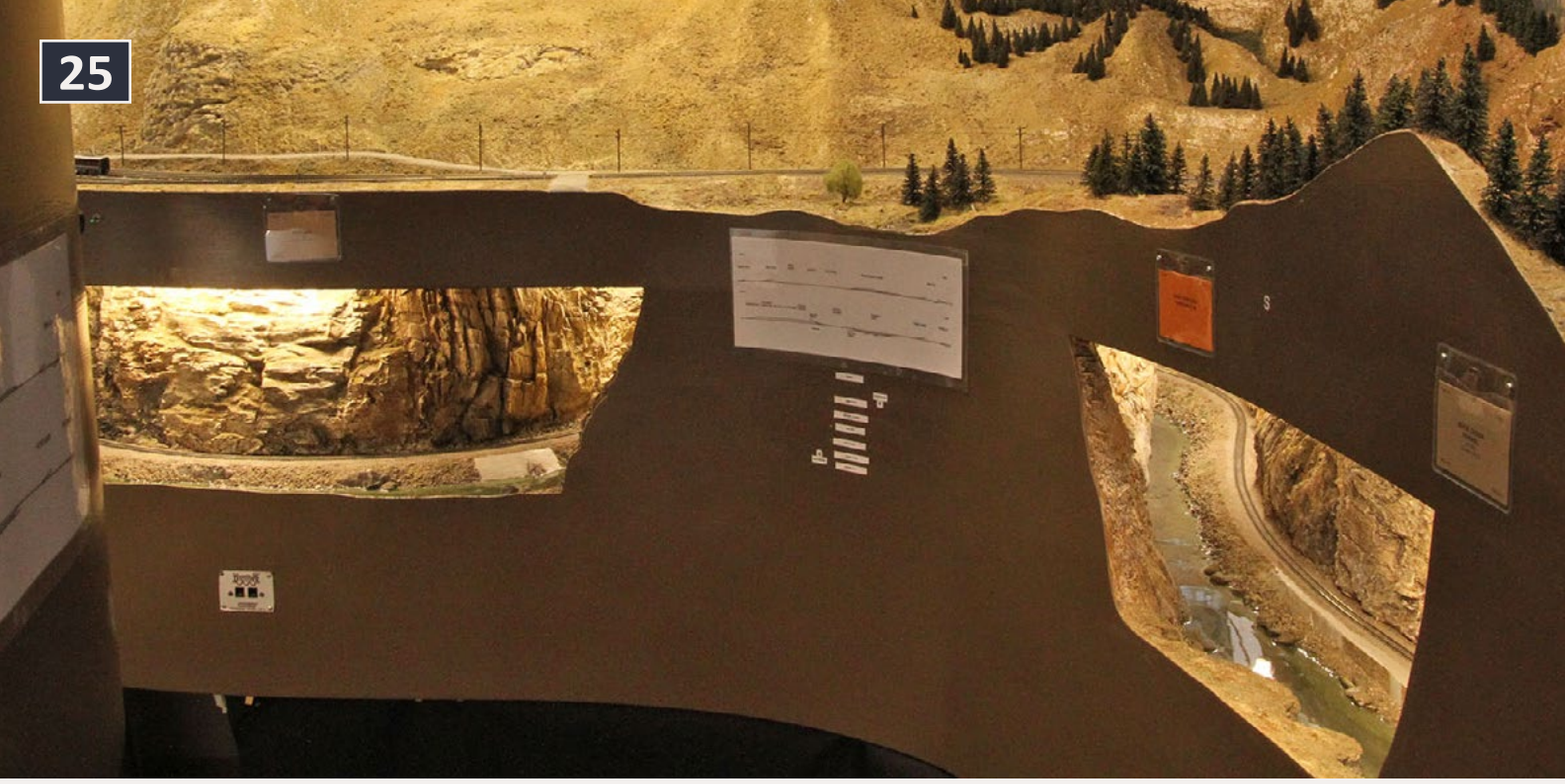
Rob: Probably my favorite place on the layout is at Belden on the west side of Tennessee Pass (see 16 and 18). The reason I especially like it is there is a highway bridge several hundred feet above the railroad that attracted lots and lots of railfans over the years.

I didn't model the bridge, but the Belden scenery is modeled very faithfully. Anyone who is familiar with the Rio Grande should be recognize it on the layout.

MRH: What are your plans for the future?

Rob: There are a couple of things. A little while back I started expanding into the next room. This new layout area models the D&RGW Monarch branch. The grades are steep, up to 4%, the curves are tight and two switch backs are needed to reach the site of the limestone quarry at the top (28).

24: The New Jersey Zinc mine is off the downhill end of the Belden siding. Monday work group buddy Rick Ernest built this complex for Rob.

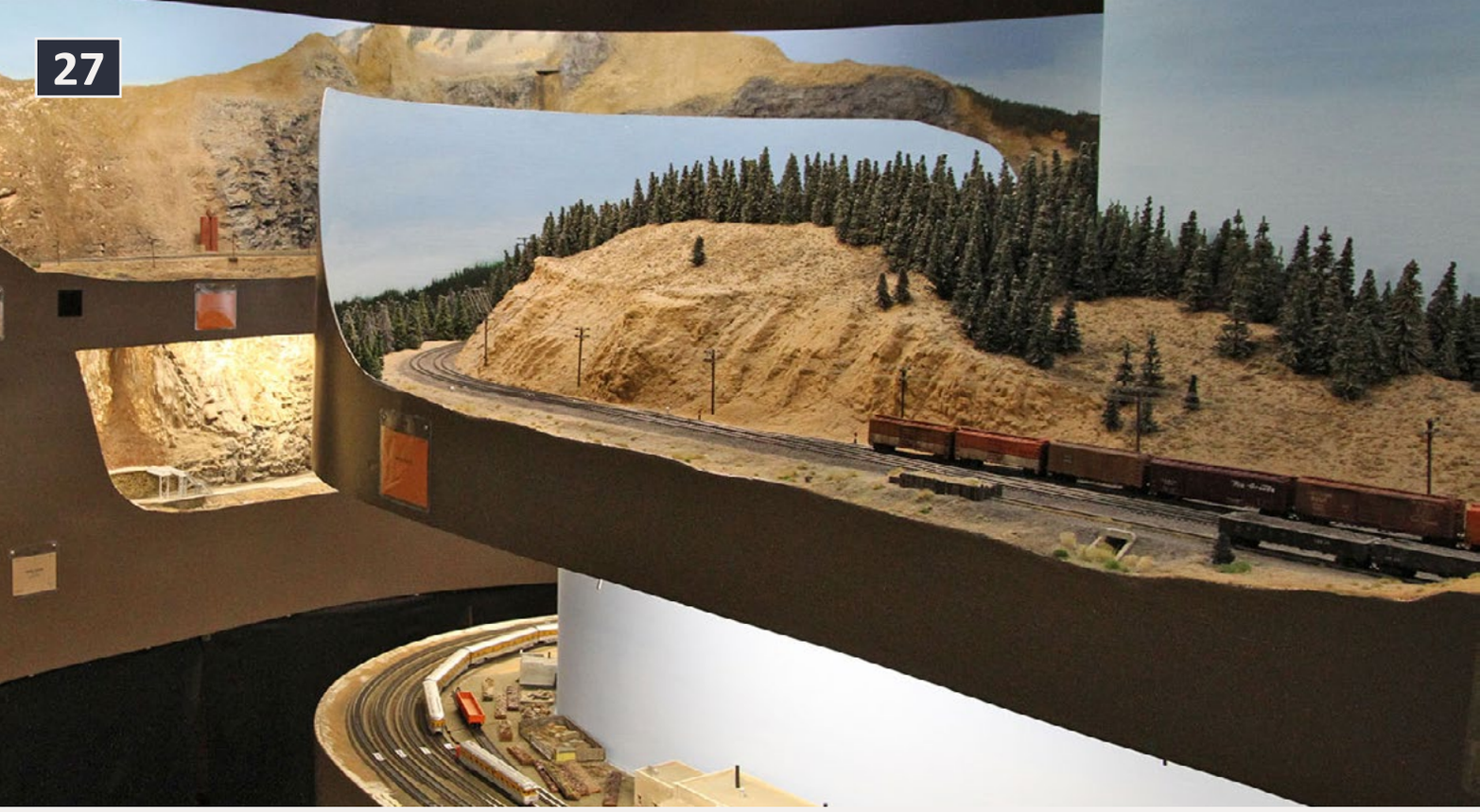


25: The Royal Gorge is viewed through a series of openings in the lower deck fascia. The walls of the gorge are covered with detailed rock castings making an amazing scene. This is one place where Rob completed the lower deck scenery first.

It still needs a lot of work but the basic landforms are there. There is so much scenery I needed several access hatches to be able to work on it.

I also had my dad move in with me a year ago and he's been working on another

26: Prototype photo of the Royal Gorge (courtesy of Wikipedia). Today the D&RGW no longer uses this route but excursion trains still make the 12-mile trip.



27: A Bellina-drop disguises the turnback blob between Malta (visible) and Tennessee Pass siding (on the far side of the backdrop). With the backdrop at the aisle edge of the benchwork, an operator can't see the entire turnback curve at once. This concept was pioneered by Jerry Bellina. Sadly, Jerry passed away several years ago.

new area. He's modeling the Santa Fe and is including a yard and lots of industries for switching opportunities. And I'm always ready for more switching. The Santa Fe tracks attach to the lower deck staging area by punching through a wall, using a swing bridge to span the aisle that accesses the main layout (29).

This area is to the point of most track laid but there's lots of work left there too.

MRH: So you've got two generations of your family working on this layout. That's really cool.

Rob: Yes it is.

... On to next page of text ➔

28: The under-construction Monarch Mine branch. The mine and town at the top will be reached via steep grades, tight curves, and two switchbacks.

29: The new La Junta area connects to lower deck staging by this swinging bridge that spans the aisle when trains need to run.

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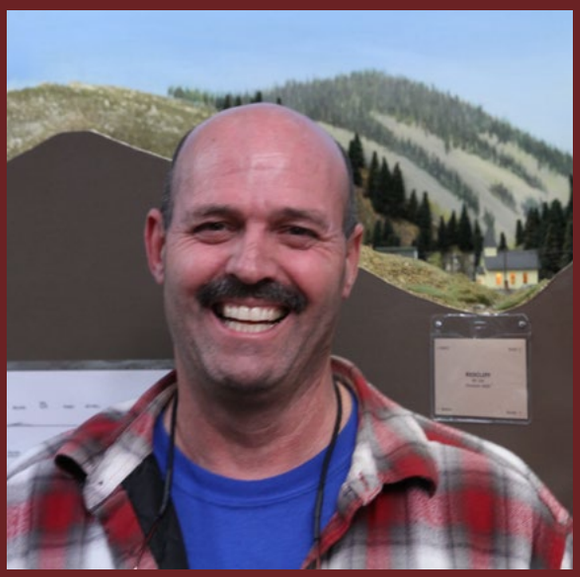

Rob Carey received a Lionel train set when he was 7 years old. He discovered scale model railroading and embraced N scale in 1972.

Since then he's build four layouts, culminating in his current D&RGW Tennessee Pass masterpiece. Aided by his dad, he is expanding into two more basement rooms. Rob especially enjoys the operations aspect of the hobby and hosts regular sessions.

He lives with his wife in Tualatin, Oregon, and works as a hardwood floor contractor.

This is Rob's first appearance in Model Railroad Hobbyist although it's not the first time his layouts have appeared in print.

← back to previous page of text ...

MRH: Does your wife get involved with the trains, too?

Rob: She's done some work. She's also really good with a camera and that's a real blessing.

MRH: Rob, on behalf of our readers, thank you for letting us visit your layout. It's amazing!

Rob: You're welcome, it was great having you. ☑

Reader Feedback (click here)

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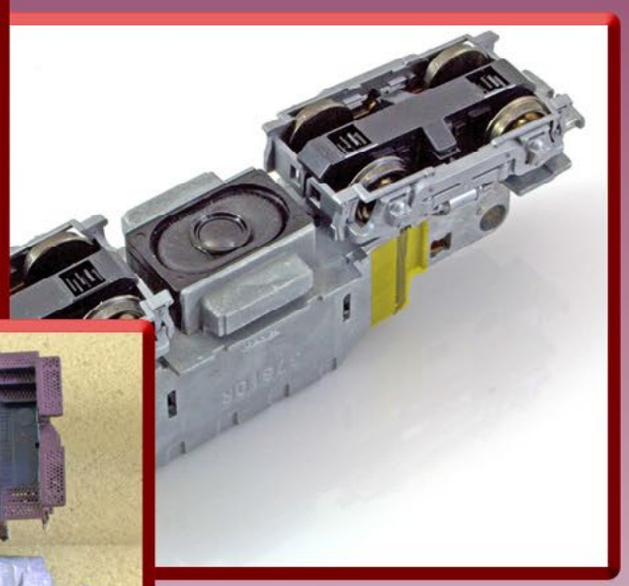

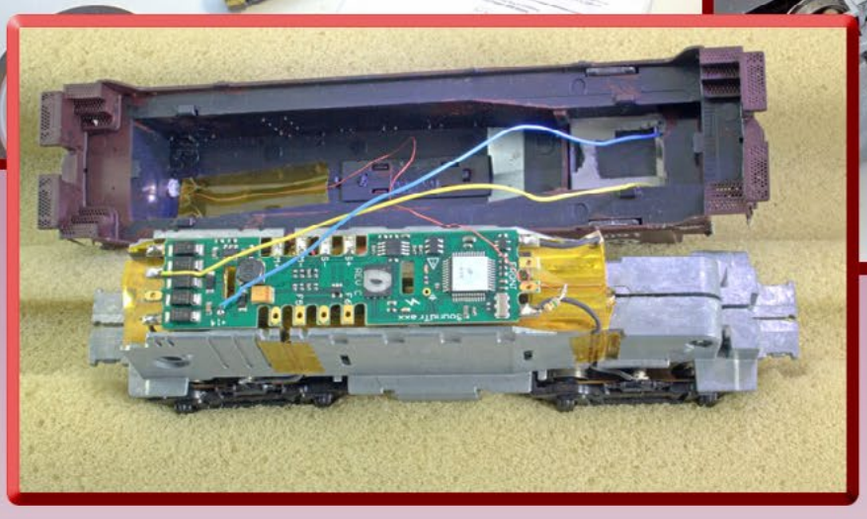

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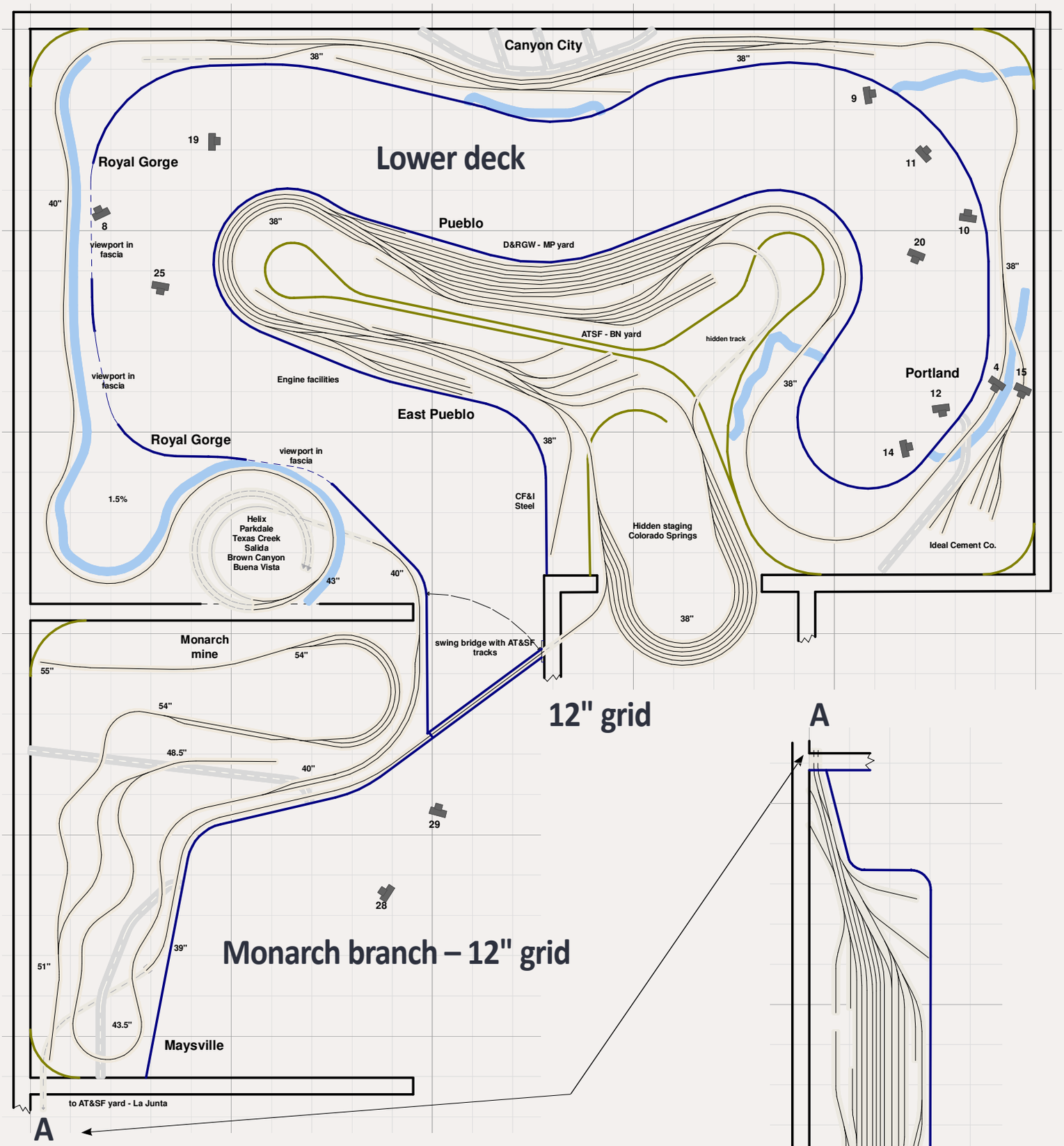
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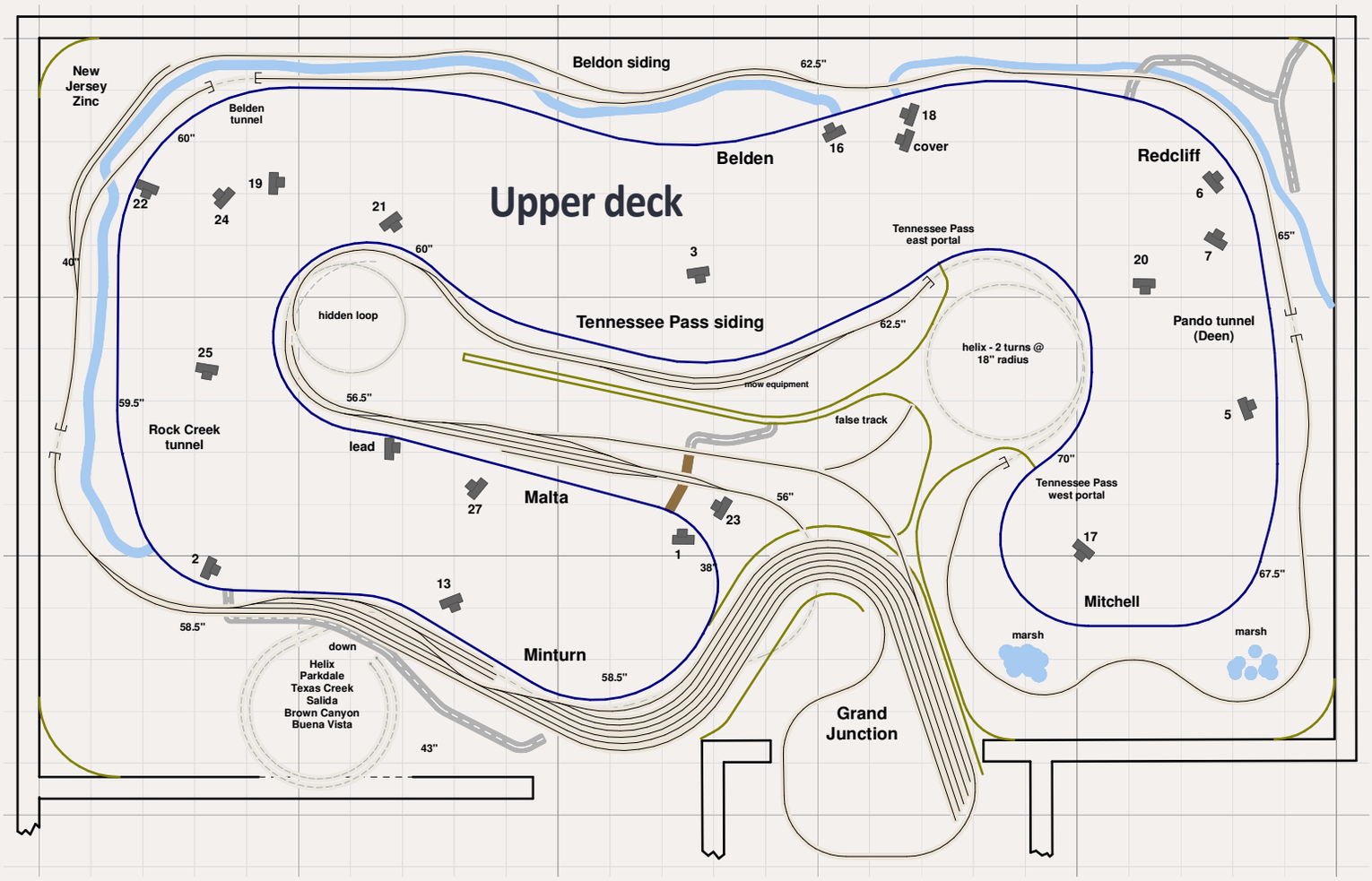


Layout Statistics

Era: 1974
Locale: Colorado, Tennessee Pass
Style: Proto-freelance
Configuration: Double-deck, walk-around, point to point.
Scale: N
Layout area overall: 25' x 50'
Main layout area: 25' x 14'
Monarch branch: 10' x 11'

Santa Fe yard: 20' x 6'
Mainline length: 300 feet
Average train length: 25 cars
Control: Digitrax DCC
Dispatching: CTC control
Op session crew size: 8 to 15
Elevations: 38” to 70”
Maximum mainline grade: 3.5%
Location: Tualatin, Oregon.

Get zoomable PDF track plans in the June bonus downloads.

Yes, it's a model

Model Railroad Hobbyist's monthly photo album

Reader Feedback
(click here)

1: "Shelby pusher C232-12 with GP40 6697 and B30-7 5556 keeps the slack bunched on unit coal train T474-11 between Marrowbone and Elkhorn City, KY, readying for the assault up through the Breaks of the Big Sandy.

"The scene was photographed on a small diorama built by Brian Bennett to generically represent scenes from my planned basement-size layout depicting CSX's ex-Clinchfield operations on the Kingsport Sub. between Shelby, KY and Kingsport, TN in the early 90's. The GP40 is a heavily-modified and custom-painted Atlas model and the B30-7 is also a highly-detailed and improved Atlas engine.

2: "Former Clinchfield SD45-2 8969 leads empty unit coal train N208-21 north through Sun, VA on the morning of June 22, 1992. The 'air conditioning' is on high, meaning the front cab door is latched open, allowing as much air flow as possible through the stuffy cab.

Another great photograph from Brian.The scene was photographed on the same small diorama. CRR 8969 is a detailed and custom-painted Athearn Genesis model with a custom dual-speaker Soundtraxx Tsunami sound installation.

3: It's backwoods railroading with the Spruce Coal and Timber RR. The only action going on at the moment is to watch the kudzu grow on the well weathered structures.

Joey Ricard scratch built the structures using low-budget craft sticks, household materials, clapboard siding and a few commercial castings. The vines represent Kudzu which he created from furnace filter, black paint, ground foam and hairspray.

The backdrop is a photograph mounted on 1/8" Masonite that can be mounted as needed to the fascia of the On30 modular layout.

To learn more about Joey Ricard's layout go t his blog facebook.com/sprucemodel or videos of his layout can be seen at youtube.com/user/imjoeyricard.

4: We're in New Paris, IN on Jim Six's NYC Michigan District layout. A dual-service GP7 spots PS1 boxcar 170699 on the siding at Fisher Brothers.

Its New Paris IN and NYC #5758, a dual-service GP7, is spotting NYC 170699 on the siding at Fisher Brothers. The locomotive is a Proto 2000 model that has been rebuilt, painted, and weathered by Jim Six. The boxcar is a stock Kadee PS1 with weathering added. The structure was left unpainted and a rusty wash was applied over the gray plastic for weathering.

There is a lot more on Jim’s blog: mrhmag.com/blog/jim-six.

5: CN 3023 is idling away waiting for its next assignment.

The Overland brass model RS-3 phase II is a factory painted Overland brass model in the Canadian National's 1954 paint scheme. Peter Soulikias weathered the model with chalks and then sealed with Floquil Dullcote.

6: Going back in time to a less hectic pace: It's a beautiful summer day in 1950 as CN 4-6-0 1532 heads a mixed train through Lynn Valley on its way to Port Rowan.

Trevor Marshall models a Canadian National branch-line in S Scale and built this beautiful scene.

The CN 4-6-0 is a kit produced by Simon Parent and Scale Loco and Supply. Simon built and finished the model. Trevor says that the locomotive is one of the nicest running steam engines he has ever owned. To learn more about Trevor's S Scale layout visit his blog at themodelrailwayshow.com/cn1950s/.

7: Yes, this photo from Matthew Piccotto doesn't have a huge depth-of-field, but it provides an opportunity to make a point – use a modeling problem to actually put a story into your scene. Matthew was trying to put this hanging sign on his street scene, and he later found his hanging sign glue-job didn't take on one side.

We think Matthew needs to put a ladder out there, with the owner and the repairman discussing the broken sign. The owner or the repairman can be pointing up at the sign.

This makes the scene a lot more interesting and adds an extra touch of life and realism – which is exactly what Yes, it's a model is all about! Sometimes you can take a little modeling mistake "lemon" and make lemonade!

Read more in this thread on the MRH website: mrhmag.com/node/13830.

Reader Feedback (click here)

Get your photo here!

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

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

– Mark Conradt
Model Photos by the author

Scratchbuilding a Rail Bumper

Basic soldering skill and some PC ties is all it takes ...

Reader Feedback
(click here)

I have gotten hooked on building my own track sections on the workbench, then taking them to the layout. There is a tremendous sense of accomplishment that accompanies a train rolling over a double-slip switch that you have built, piece-by-piece, with your own hands.

What got me into this aspect of the hobby we all love is a computer program called Templot2. This program allows you to create very complex track patterns and print full-size templates on which to build your track. It is an extremely powerful and as a

result, a program with a steep learning curve. But the results are worth the effort, as they are nothing short of spectacular. If you are at all interested in handlaid track, check it out at templot.com. By the way, the program is free.

The Templot website and user forum are administered by Martin Wynne in the U.K. Martin is a great guy who seemingly has devoted his life to this program, and is always monitoring the forum to eagerly answer questions and add to the user experience. Be forewarned, however, that almost everything on the website, forum, and program is in U.K. terminology. For instance, a "tie" is called a "timber." Don't let that scare you off. I am working with HO Code 83 rail, and I have been able to build trackwork that works flawlessly with U.S. rolling stock.

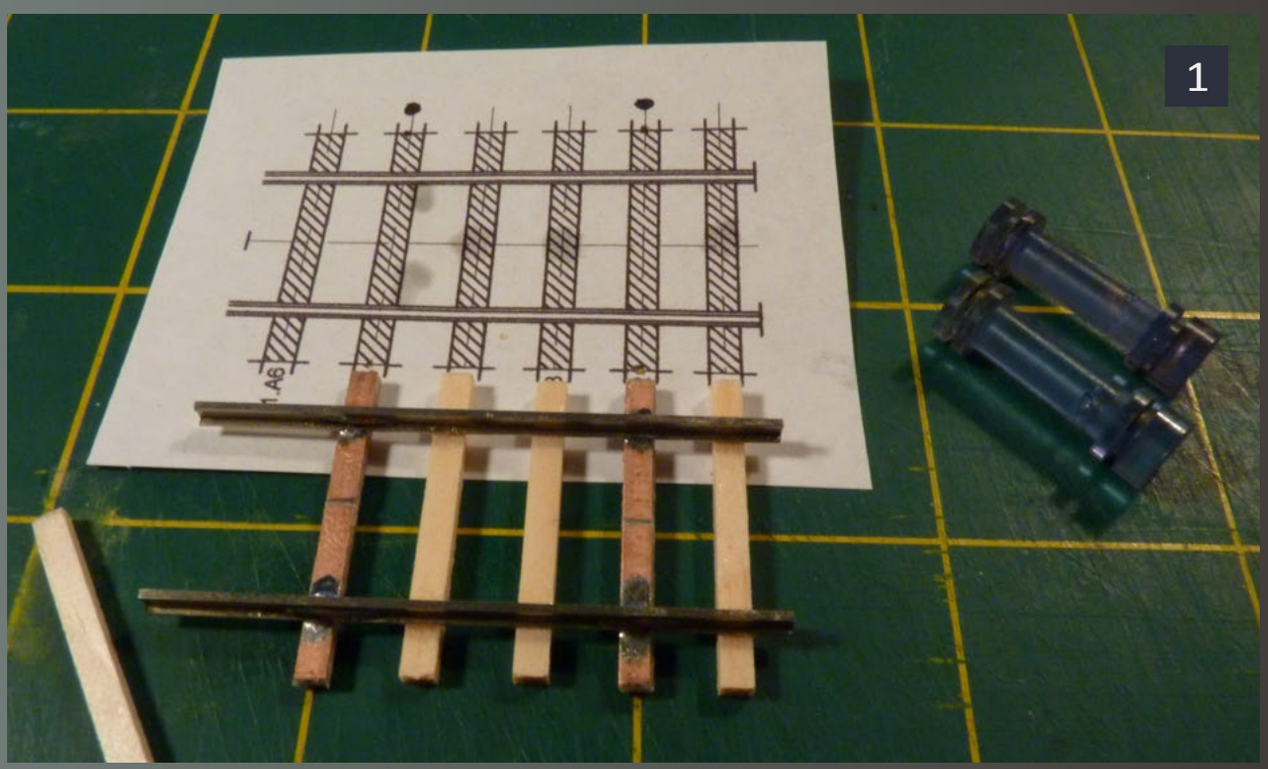
After making all the trackwork for my small switching layout, I needed rail bumpers for the ends of all the sidings. I did a lot of research and have collected pictures of a wide variety of scratch-built rail bumpers. I wanted to use components I had on-hand for my bumpers, i.e., tie and rail material only.

So, I started drawing and fiddling, and after some trial and error, I came up with a pretty simple to build and good looking design that even looks like it could almost be prototypical. I have built a half-dozen of these, and here are the steps I use.

Steps on following pages ...

STEP 1:

I build a 2" piece of straight track with six ties, two of which are printed circuit board (PCB) ties, one in from each end. Note the full-size template produced by Templot2. The sixth tie (wood) is not installed at this time. I wait until I've installed the track on the layout, then I slip wood ties under the rail joiners before painting and ballasting. Also, remember to file a gap in the copper on top of the PCB ties so you don't have a short circuit.



1: The template for the bumper and the beginning of the bumper.

Note the full-size template produced by Templot2. The sixth tie (wood) is not installed at this time. I wait until I've installed the track on the layout, then I slip wood ties under the rail joiners before painting and ballasting. Also, remember to file a gap in the copper on top of the PCB ties so you don't have a short circuit.

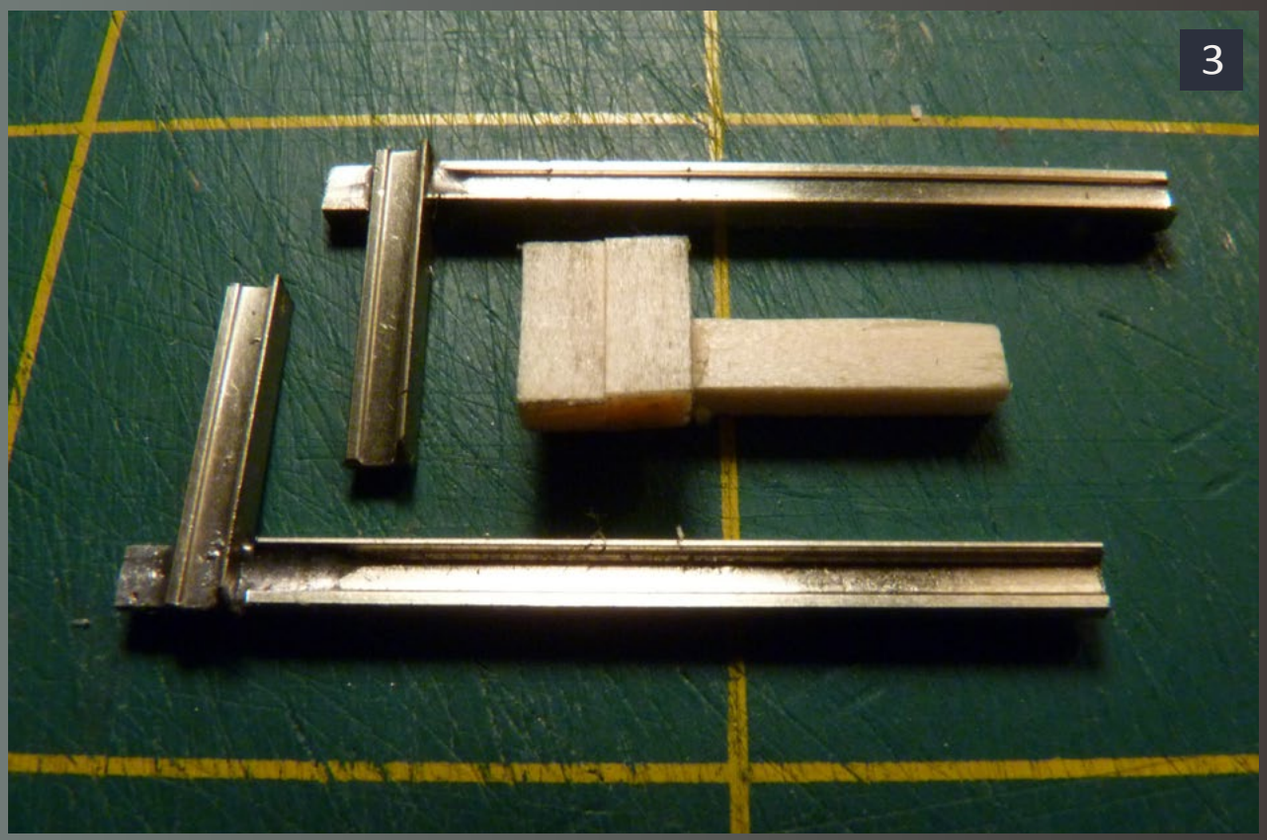
STEP 2:

Next I cut the various components: two 1-1/4" and two 1/2" pieces of code 83 rail, plus one 5/8" and two 1/4" pieces of wood tie. I file the foot and head of the rail down almost to the web for the last 3/16" on opposite sides of each 1-1/4" rail piece and the last 3/32" on opposite sides of each 1/2" rail piece.

2: Here are the individual pieces required for the bumpers.

STEP 3:

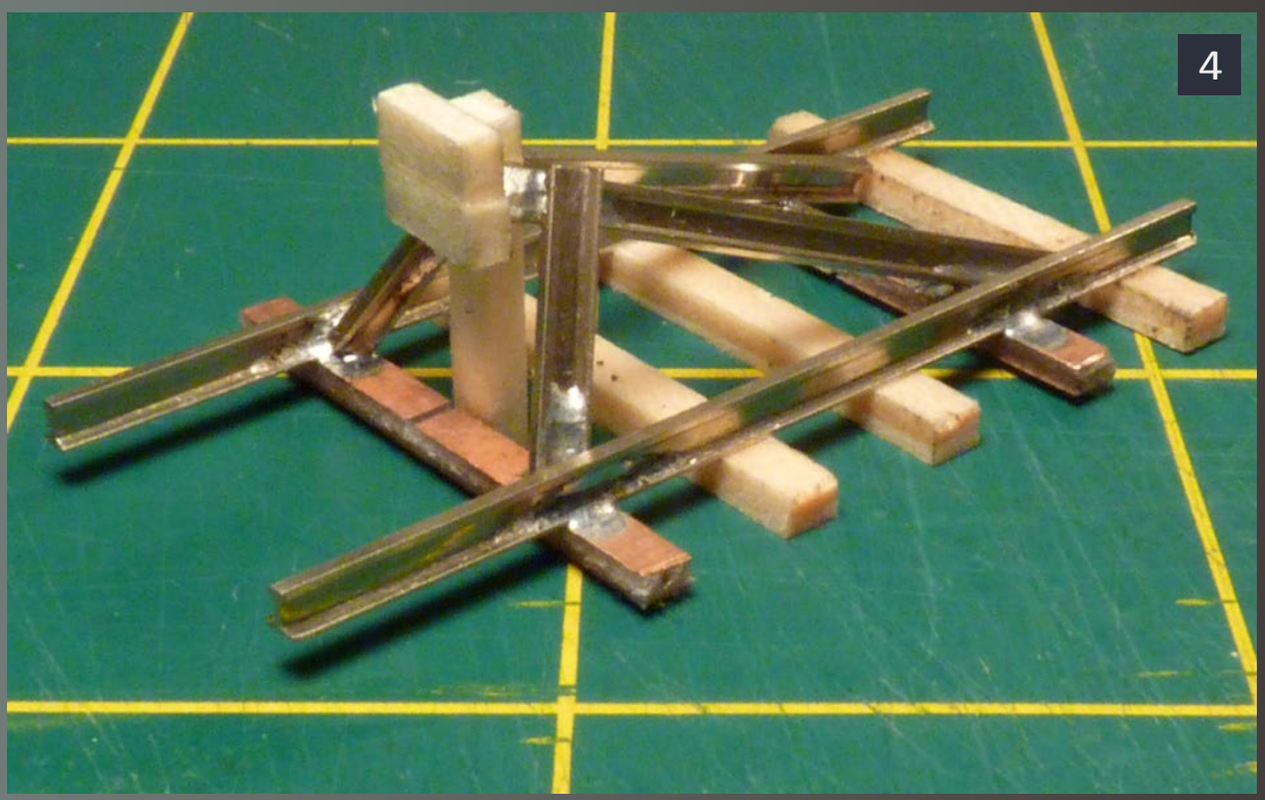
I then assemble the components. I solder the 1-1/4" and 1/2" rail pieces at 90º angles to each other, making mirror pieces. I wire-brush any solder residue from the rails. I glue (using fast setting CA) the two 1/4" wood tie pieces next to each other to form 1/4" wide pad, two ties high. When dry, I glue the pad to the top of the 5/8" wood tie which becomes an upright support for the pad.



3: These are the three sub-assemblies required to make the bumper.

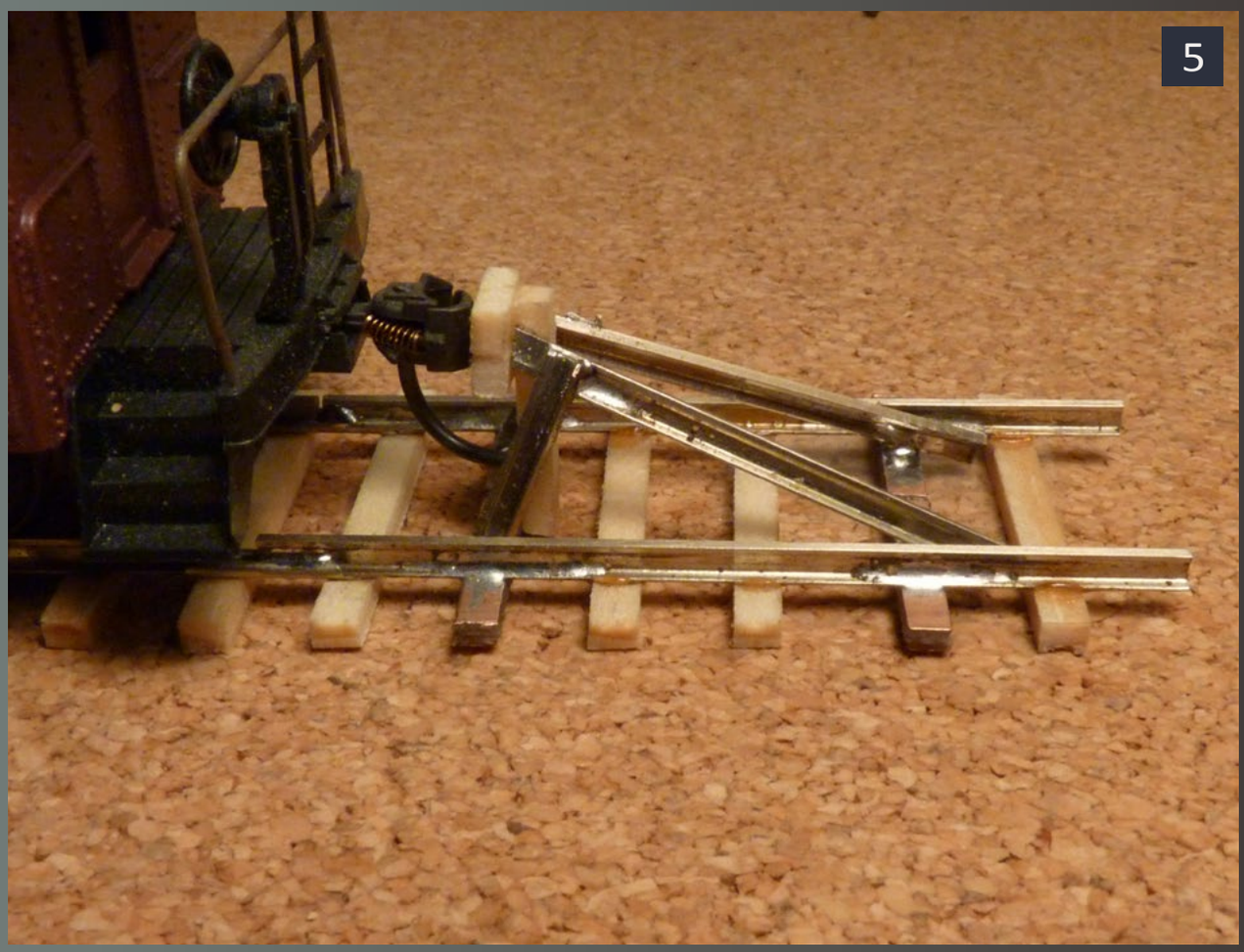
STEP 4:

Now, I glue the bottom of the upright pad support to the side of one PCB ties facing the middle of track section. When the glue dries, I lean each 900 rail piece onto opposite sides of the top of the upright pad support behind the pad. The end of the 1/2" rail piece should rest on the PCB tie and the end of 1-1/4" rail piece should drop between the other PCB tie and the last wood tie. Make sure the ends of the 900 rail pieces are touching the inside of stock rails. Touch top of 90^{0} rail pieces with a drop of glue, and wait to dry. Then solder the ends of the 90^{0} rail pieces to inside of the stock rails



4: This is the completed bumper ready for installation.

STEP 5:



5: Here's what the bumper looks like with a coupler against it.

There you have it. Now all that is left is to add rail joiners, wood ties under the rail joiners, install on your layout, then paint and ballast to match the rest of the track on your layout. ☑

Reader Feedback
(click here)

Mark Conradt started model rail-roading with the ubiquitous Lionel train set from Santa. Over the years Mark has modeled in N and LGB scales. Upon retirement, Mark sold his LGB and N scale equipment and now resides in Fort Meyers Florida with his wife Lynne. He is currently hand-laying track for a portable adaption of John Allen's Timesaver switching puzzle.

Freelancing a Missouri Pacific "Shorty" Caboose

– Dirk Reynolds
Model Photos by the author

Reader Feedback (click here)

Don't have the money for a brass caboose? Here's an easy "make your own" project ...

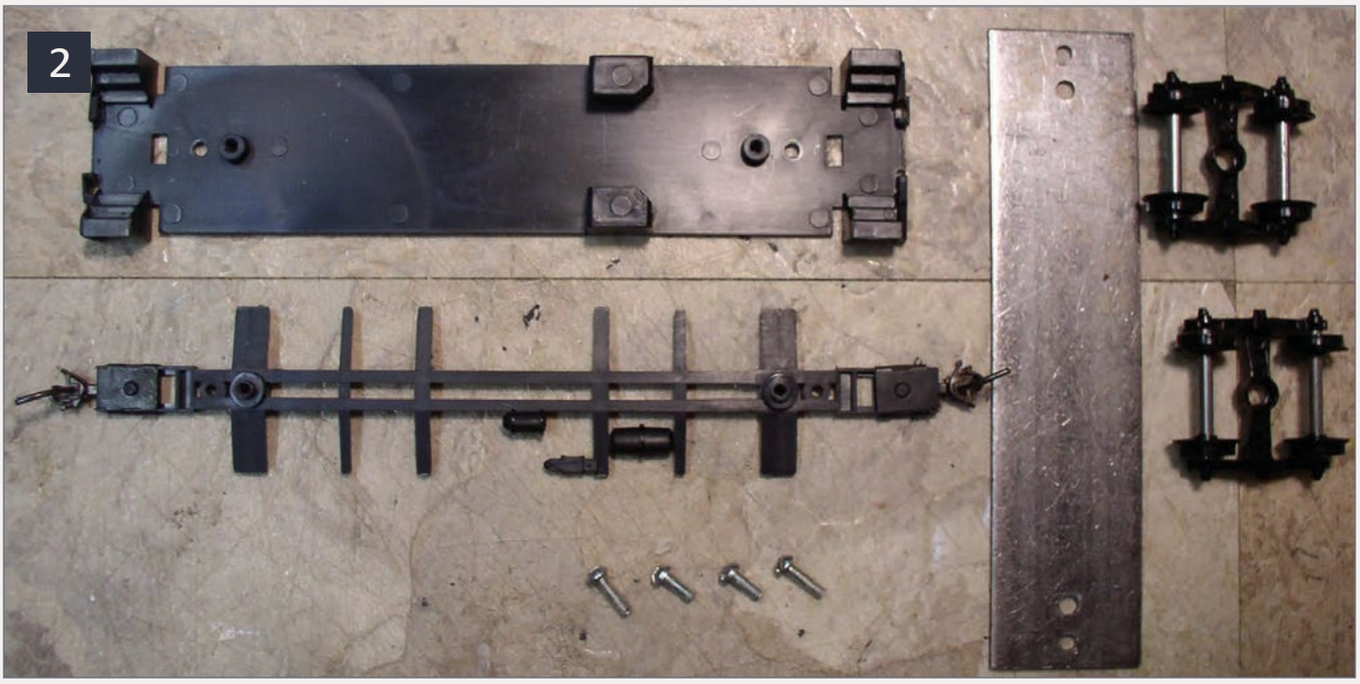
Jack Oesterle of The Missouri Pacific Historical Society asked me for an article on how to build an inexpensive version of MP's short bay-window caboose. I have made three of these and this version uses Athearn and Life-Like parts along with other detailing parts. It's a freelanced design inspired by various similar MP prototype designs.

Most of us cannot afford brass, and although the Rail Yard Models version is a beautiful model (this company is out of

business), the handrail superstructure can be hard to build. An etched version is available but it looks like flat steel and that is NOT prototypical. The Bluford is $49.95, but at this time it is sold out.

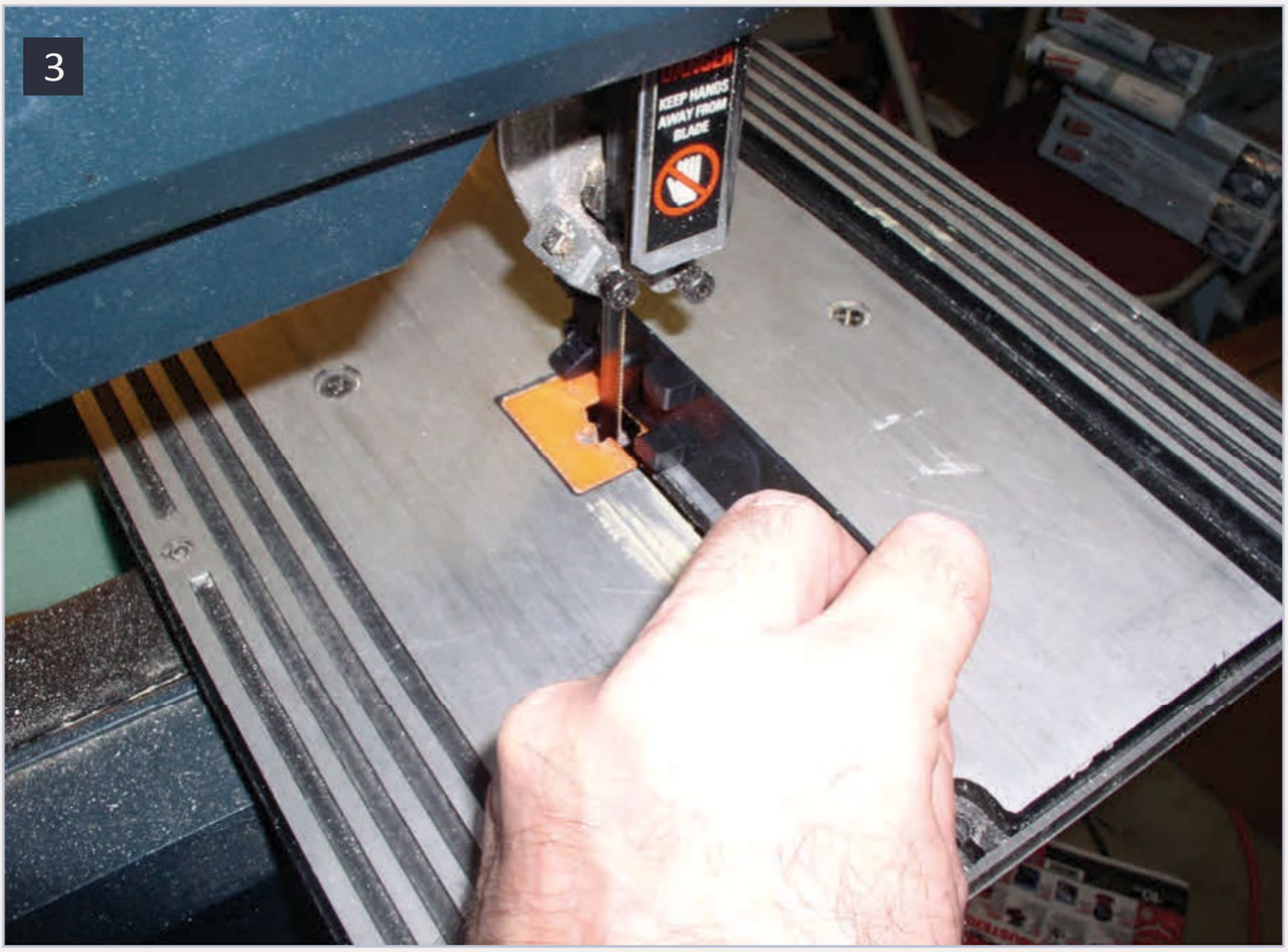
Certain steps take special care, so as to not screw up the model. I will cover them as they come up. Let's get started!

1: This is what I start with but most of this will not be used. Discard the Athearn caboose ladders, caboose vent, walkway, sheet metal weight, and just keep the ends of the Life-Like caboose.

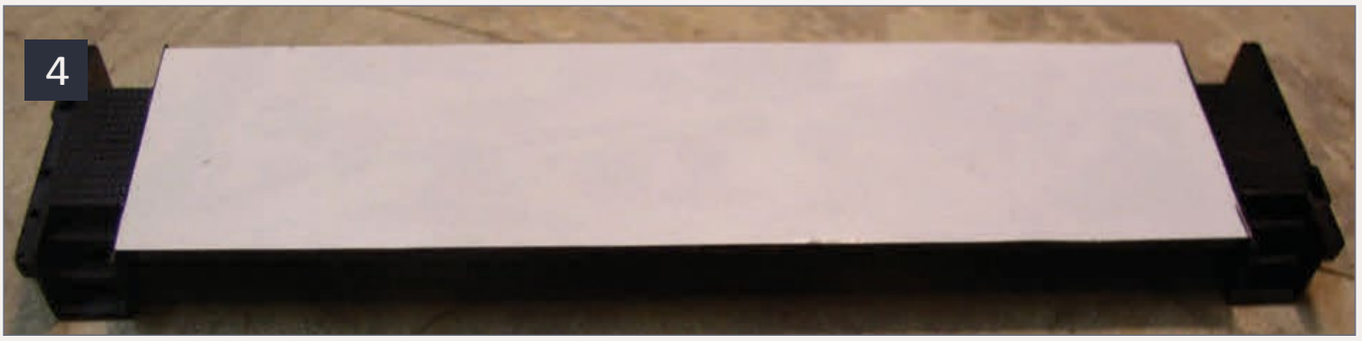


2: Disassemble the underframe of the Athearn caboose kit. Remove the weight and discard it. I will add square weights inside the body later. The battery boxes must be removed and the holes filled in with putty. A thin piece of styrene is fitted on the top to supply a base for the body and superstructure.

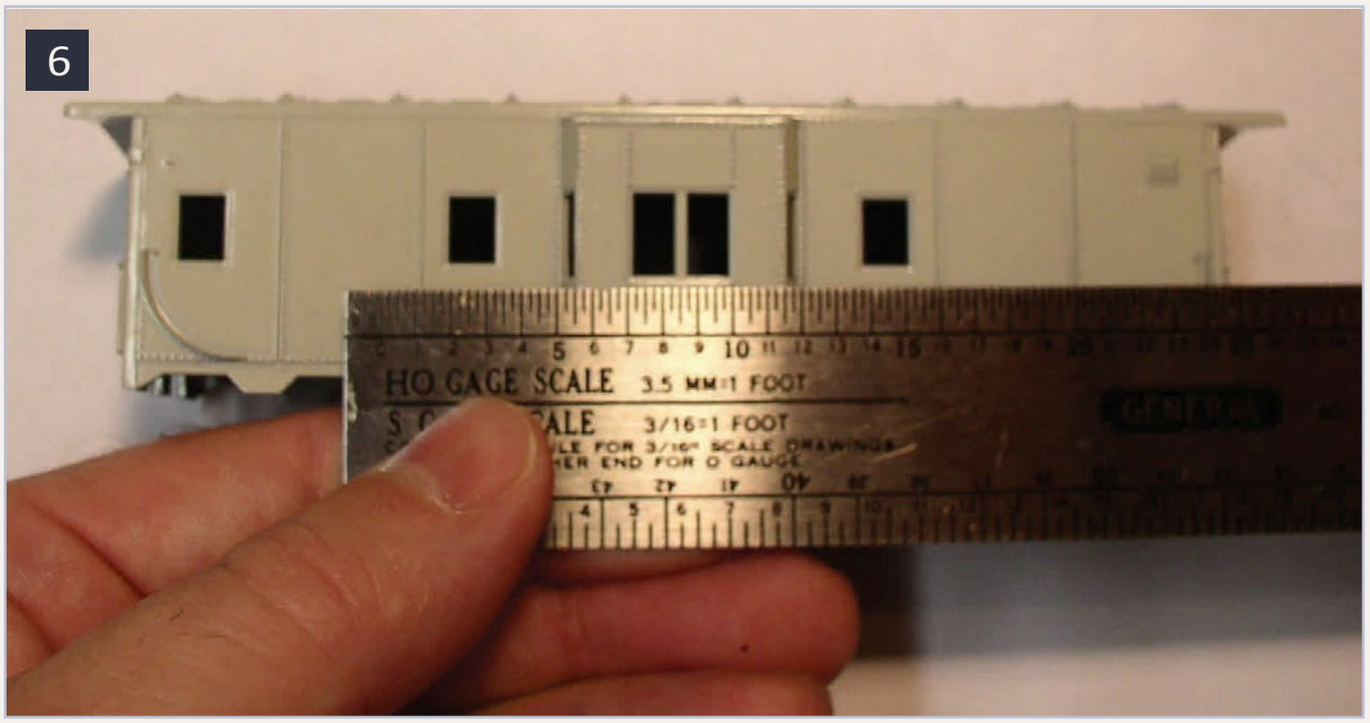
Two of the short screws can also be removed. Take the wheels out of the trucks so the trucks can be painted the same color as the body and chassis. I will replace the plastic wheels with metal wheels later on.



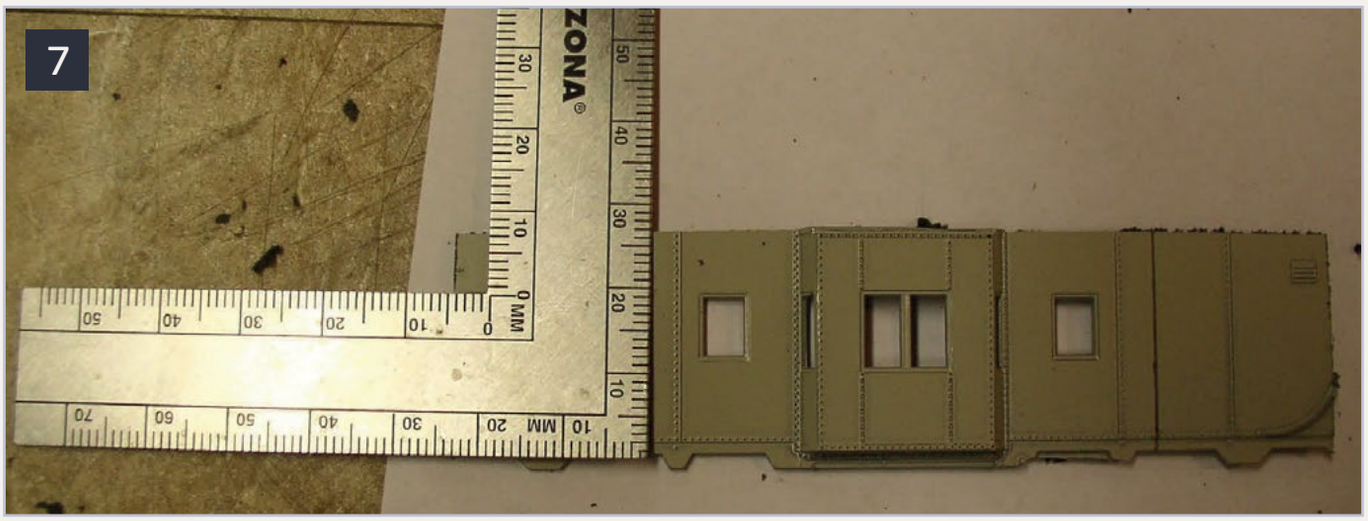
3: I use a 10-inch band saw to remove the battery boxes. Do not discard them, as they will be used in the superstructure build.



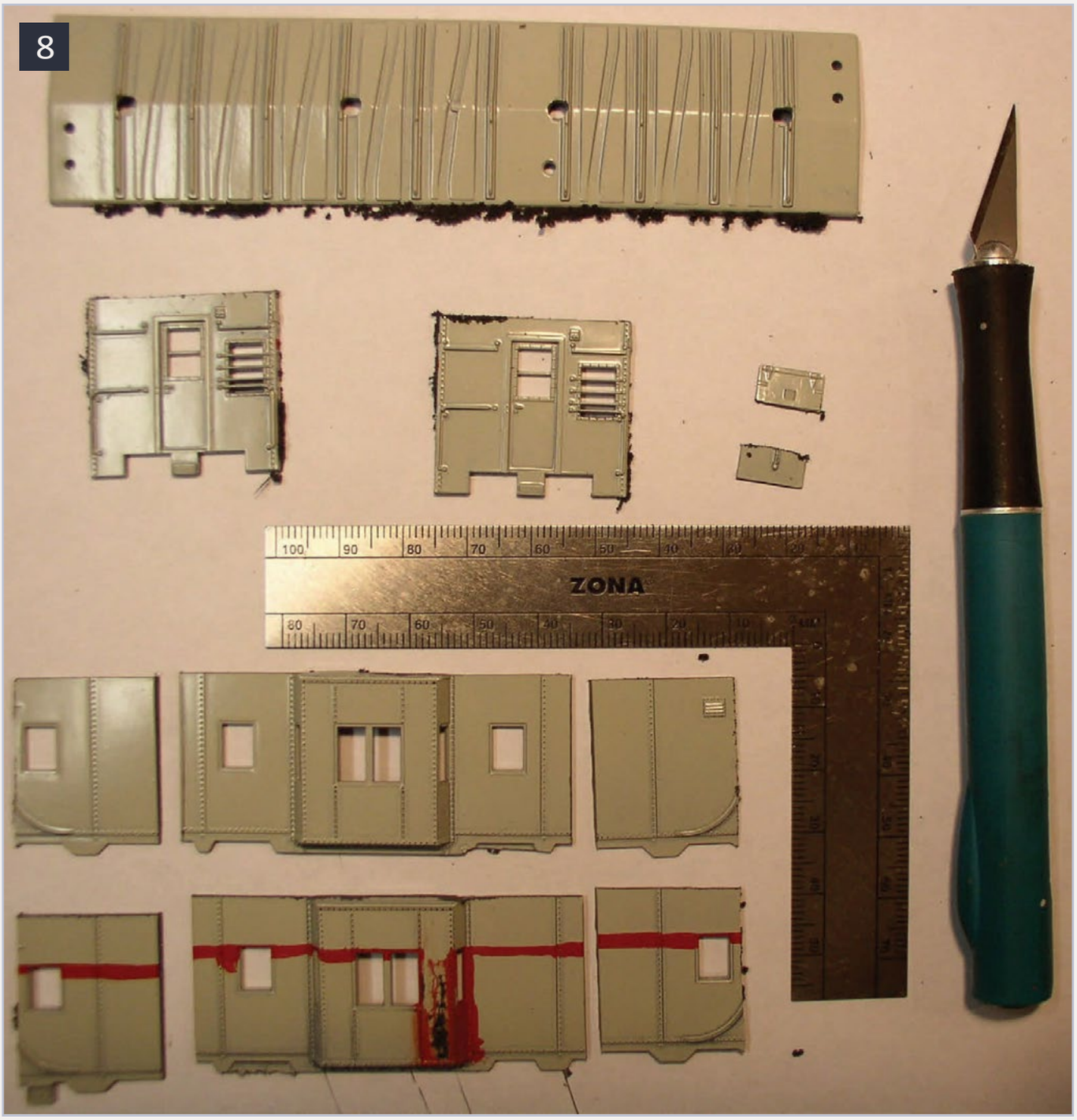
4-5: Add a thin piece of .010” or .020” styrene to the top of the underframe. Cut it to the width of the underbody, and short enough to expose the walkway grid on the ends. Fill the battery box holes on the underside with putty. After the putty cures, sand it flat and smooth. While I wait for the putty to cure, I can cut up the main bay window caboose body, exactly what the MP shops did in DeSoto, Missouri in the 1970s.



6: Cut off the roof and discard it. I will use a different type later on. Cut the ends off and cut the body down to length. Windows will be filled in with putty and sanded smooth for paint. This is a step where you need to use caution. Make sure you have your measurements correct and don't forget to draw pilot lines for your cuts!

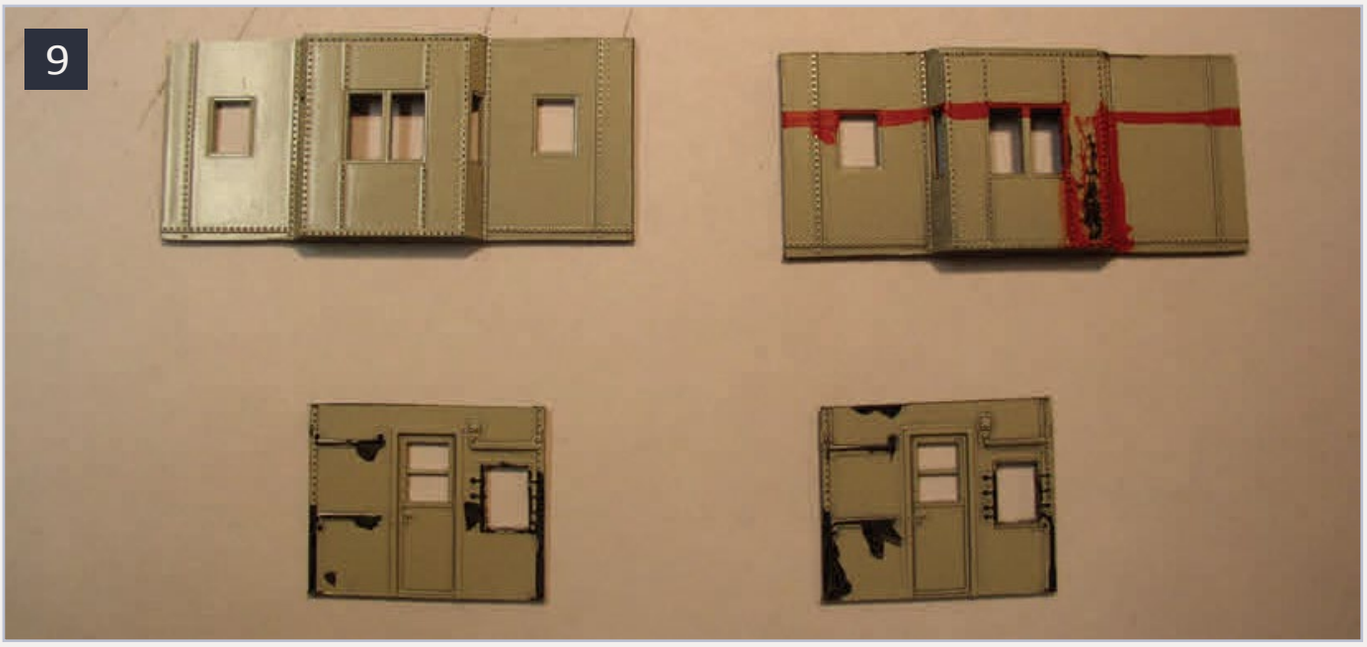


7: Use a square to keep all the cuts straight so the panels line up when you go to glue it together. When cutting the ends off, leave yourself 1/8" leeway so you don't eat the rivet lines.

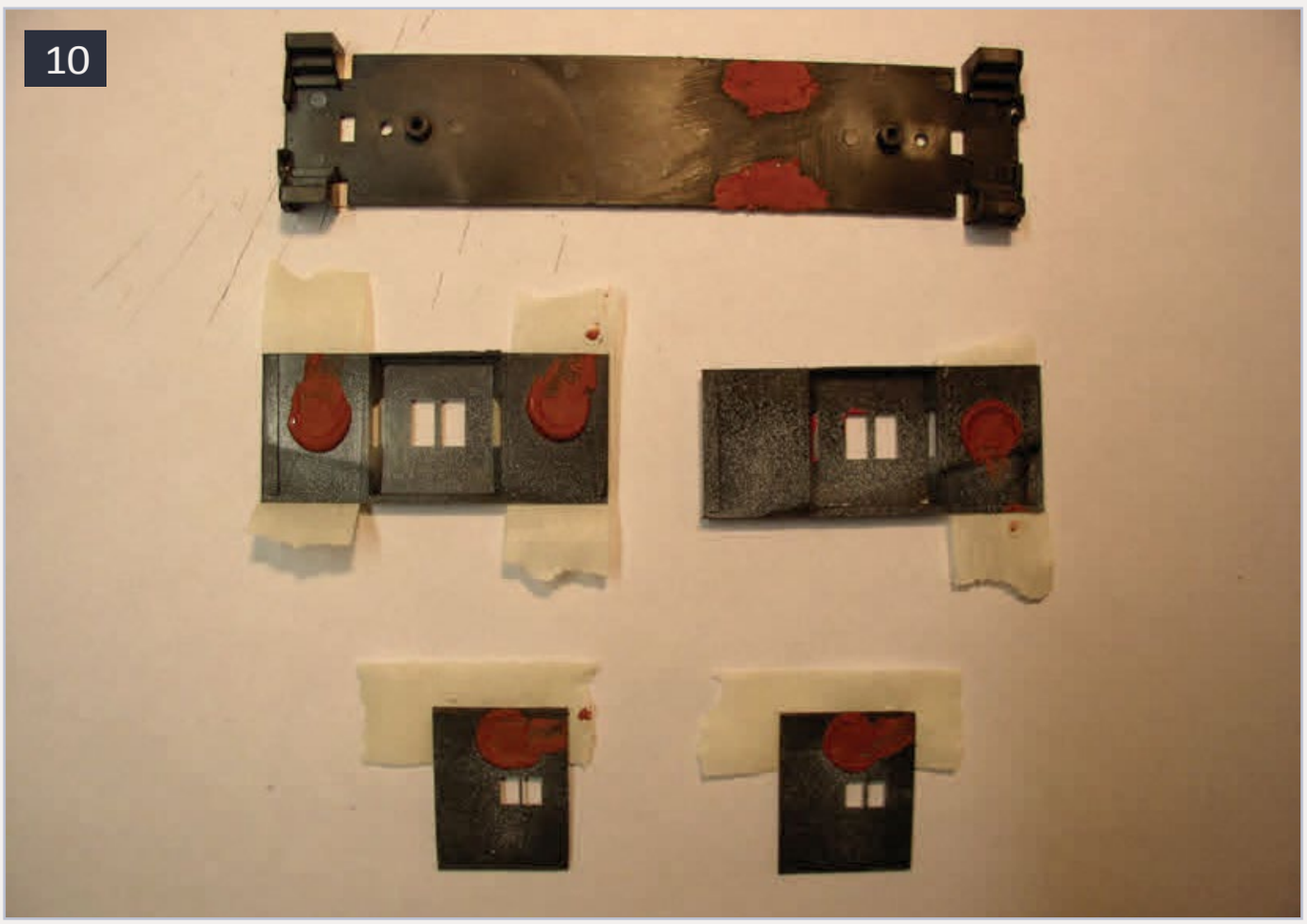


8: Here is the kit of parts I create. The bottom skirts will also be removed. I cut the body sides apart using an X-Acto knife, using the measurements stated in the chart. Now I will cut the skirts off the main body and fill in the windows with putty. The smaller body panels are not needed.

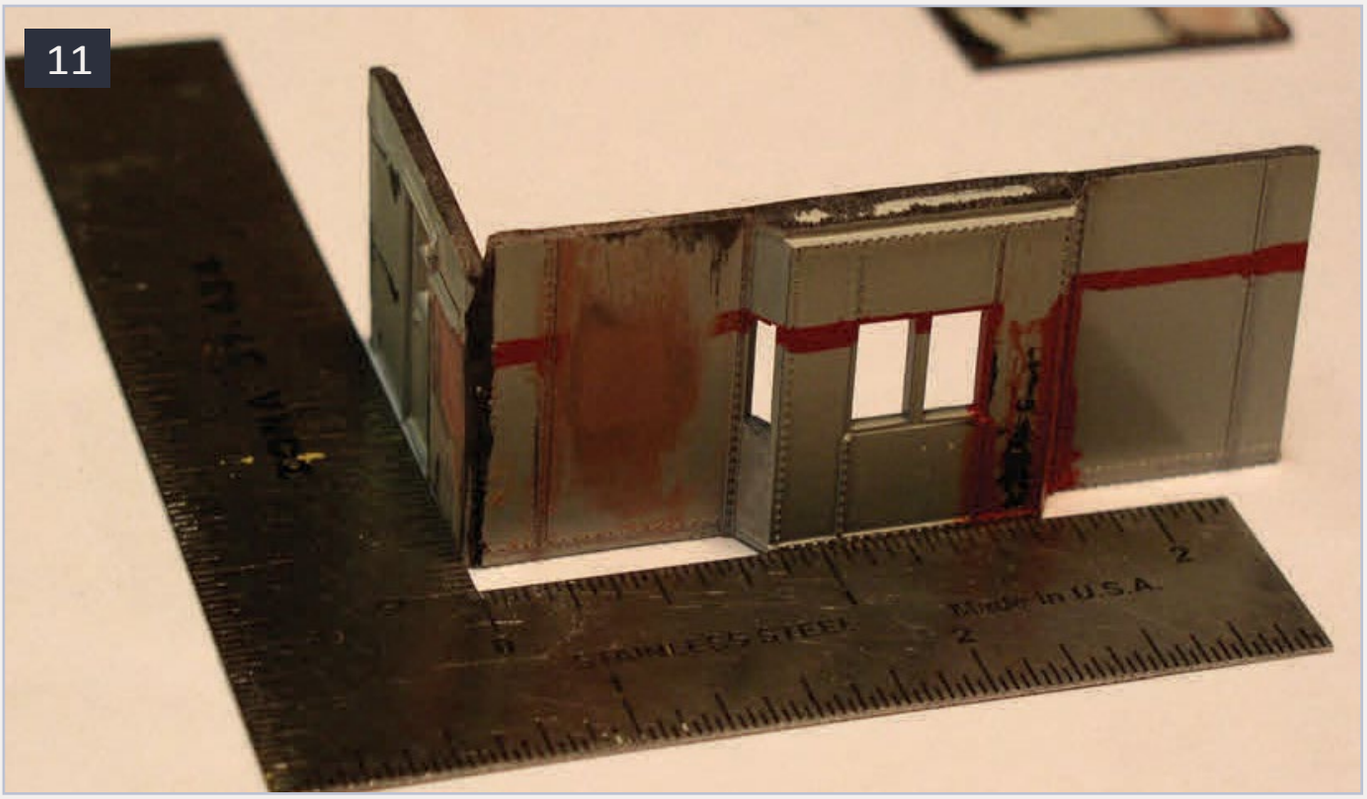
The main body panel has a shorter open space at the top than the bottom. Be sure and keep the taller space at the bottom as this is where the decals will go. Wait overnight for the putty to cure.



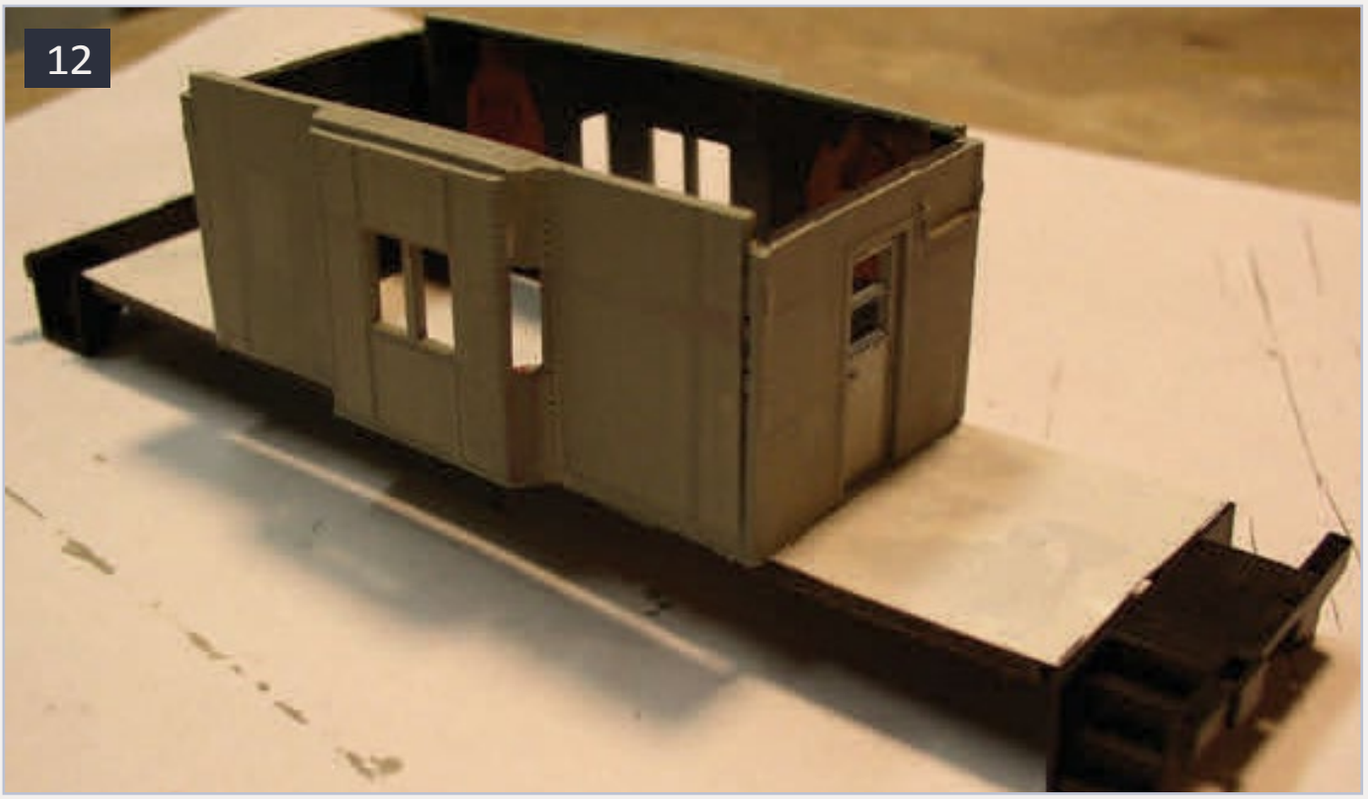
9: The panels are ready for putty to close the window openings. Attach masking tape to the outside of the panels, so the putty surface will remain flat.



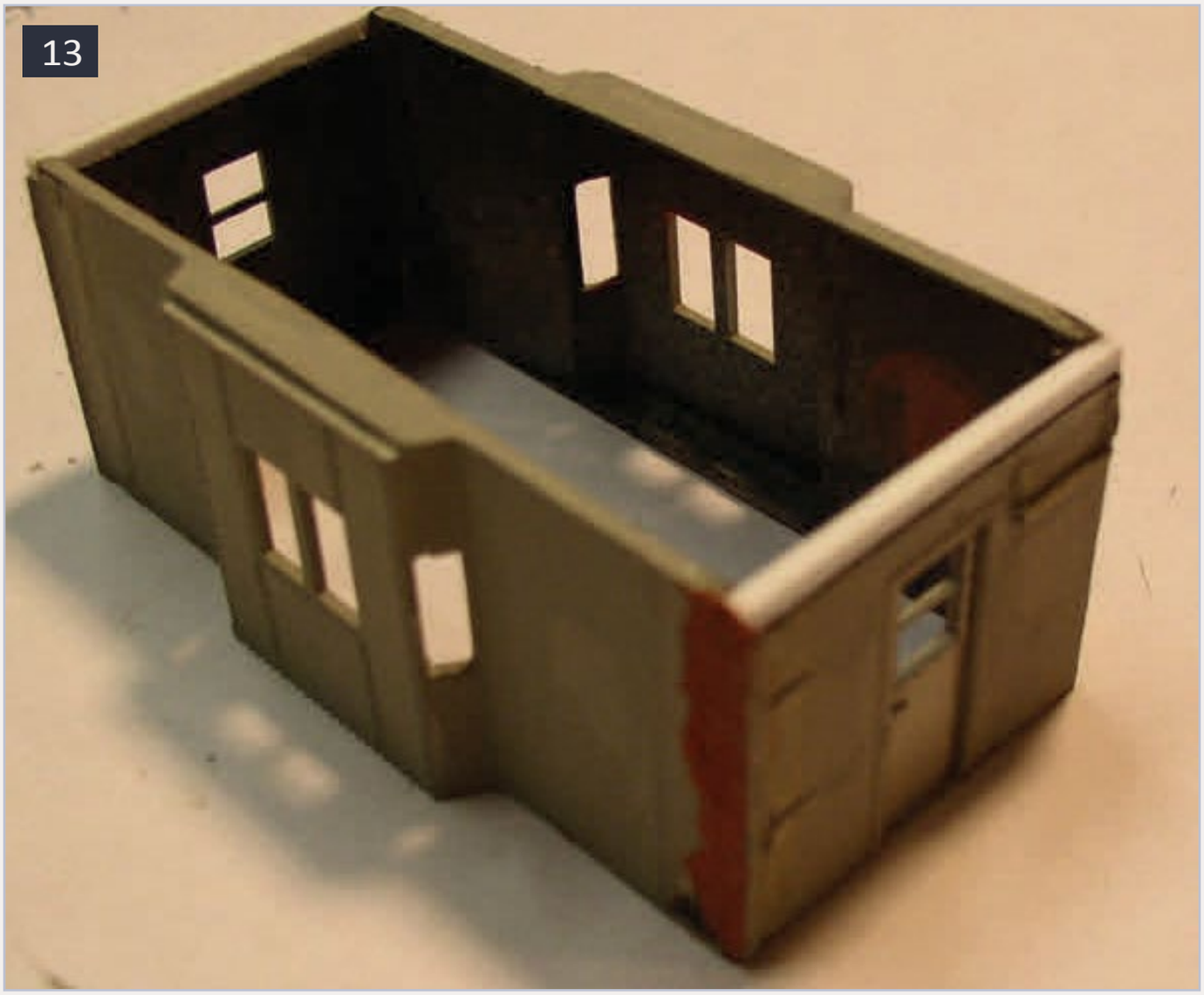
10: All puttied up and ready to cure!



11: When assembling the body, be sure to square the corners. This is another step where you need to take your time and be cautious, while you glue the body panels together.

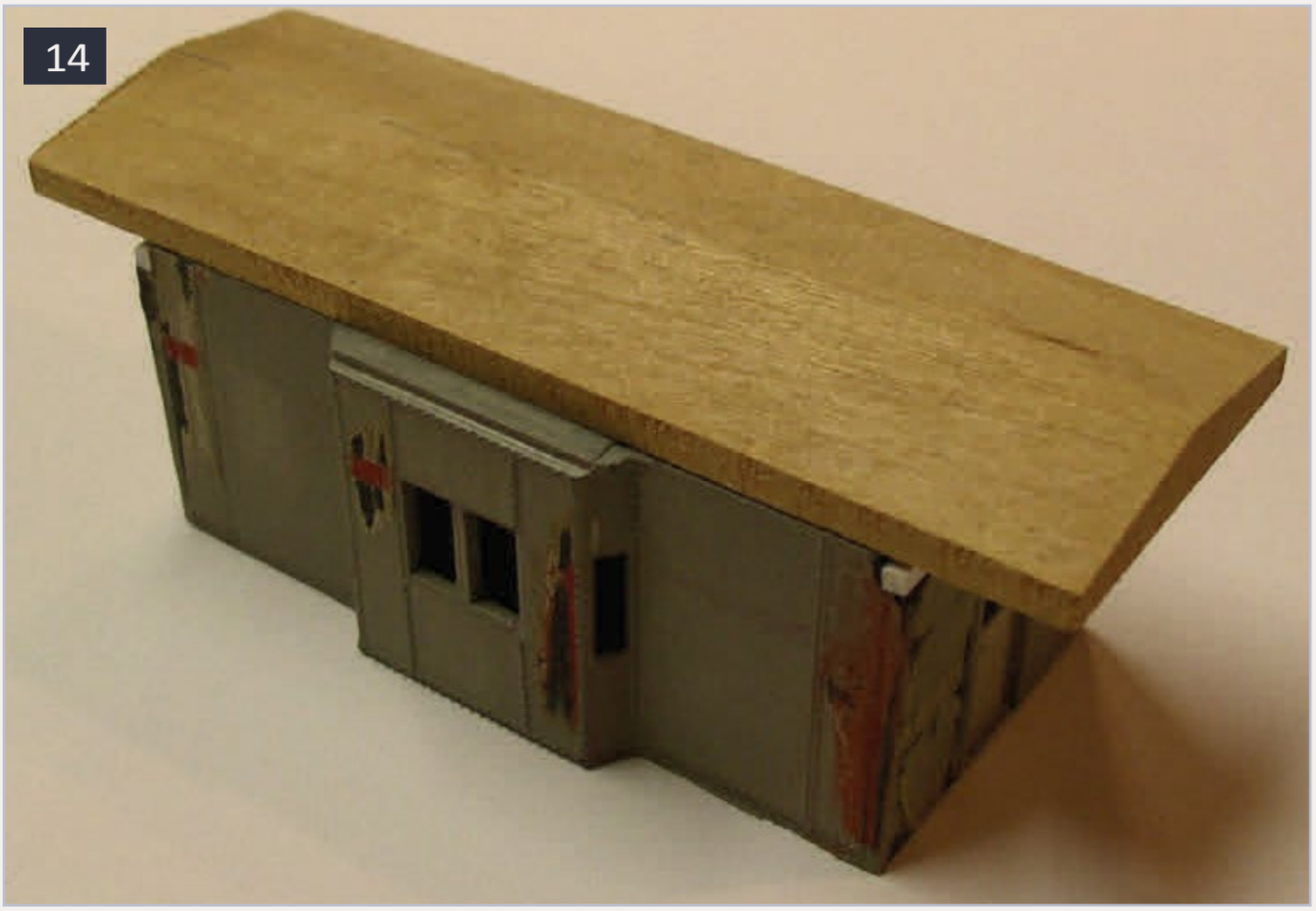


12: A light coat of paint on the assembled body helps to identify any rough places in the putty that need to be cleaned up by filling and sanding. Test fit the body on the chassis. Notice the gaps that need to be filled in at the top of each end. I use .060” x .060” styrene strips to fill in the gaps for both ends.



13: Styrene strips fill the space at the top of each end, and the corner seam is filled with putty and sanded.

14-15: For the roof, I used a wooden roof top that was laying around in my parts bin. The top picture shows it installed and the bottom picture shows it with a light coat of primer to show the gaps that will need putty.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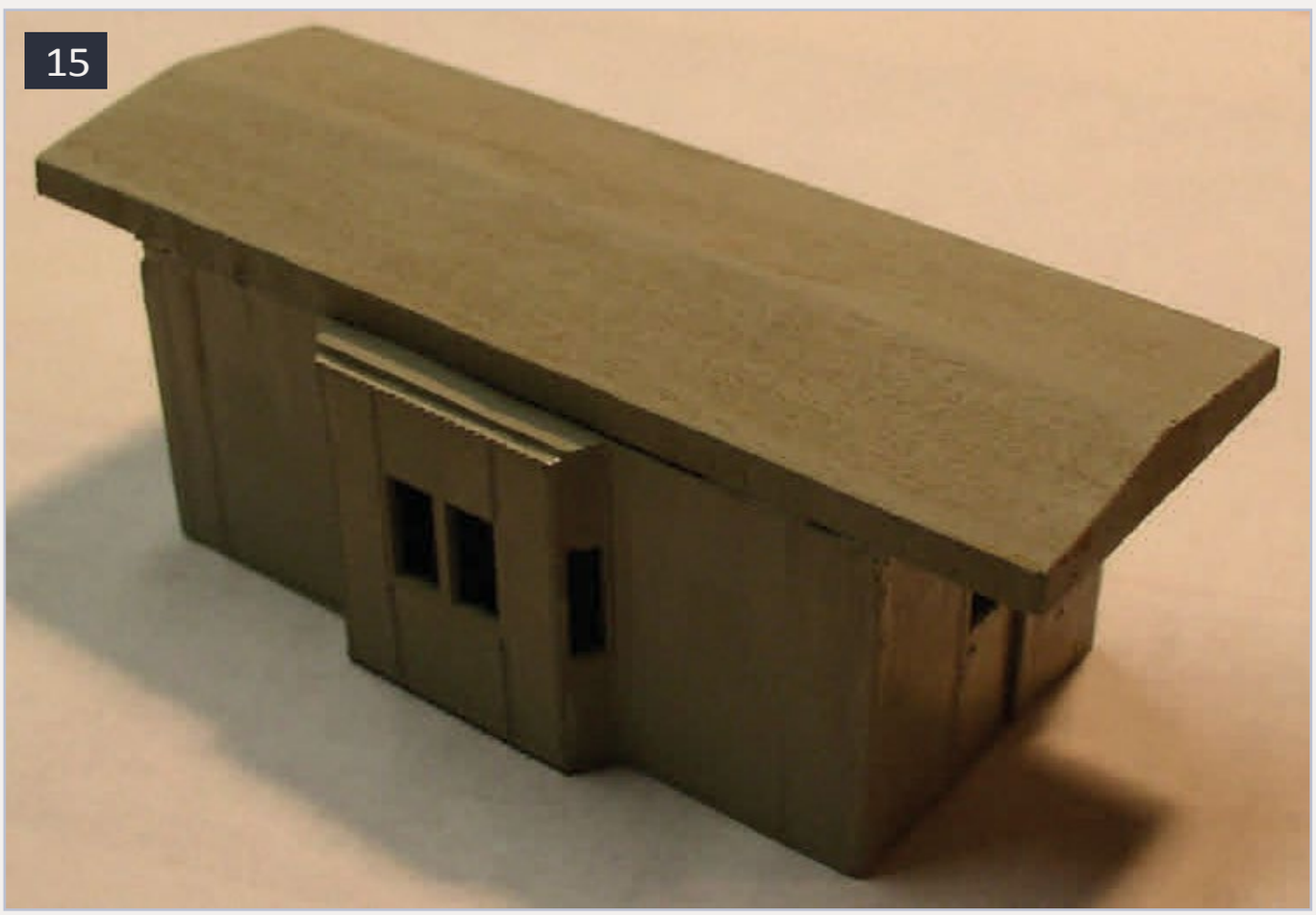
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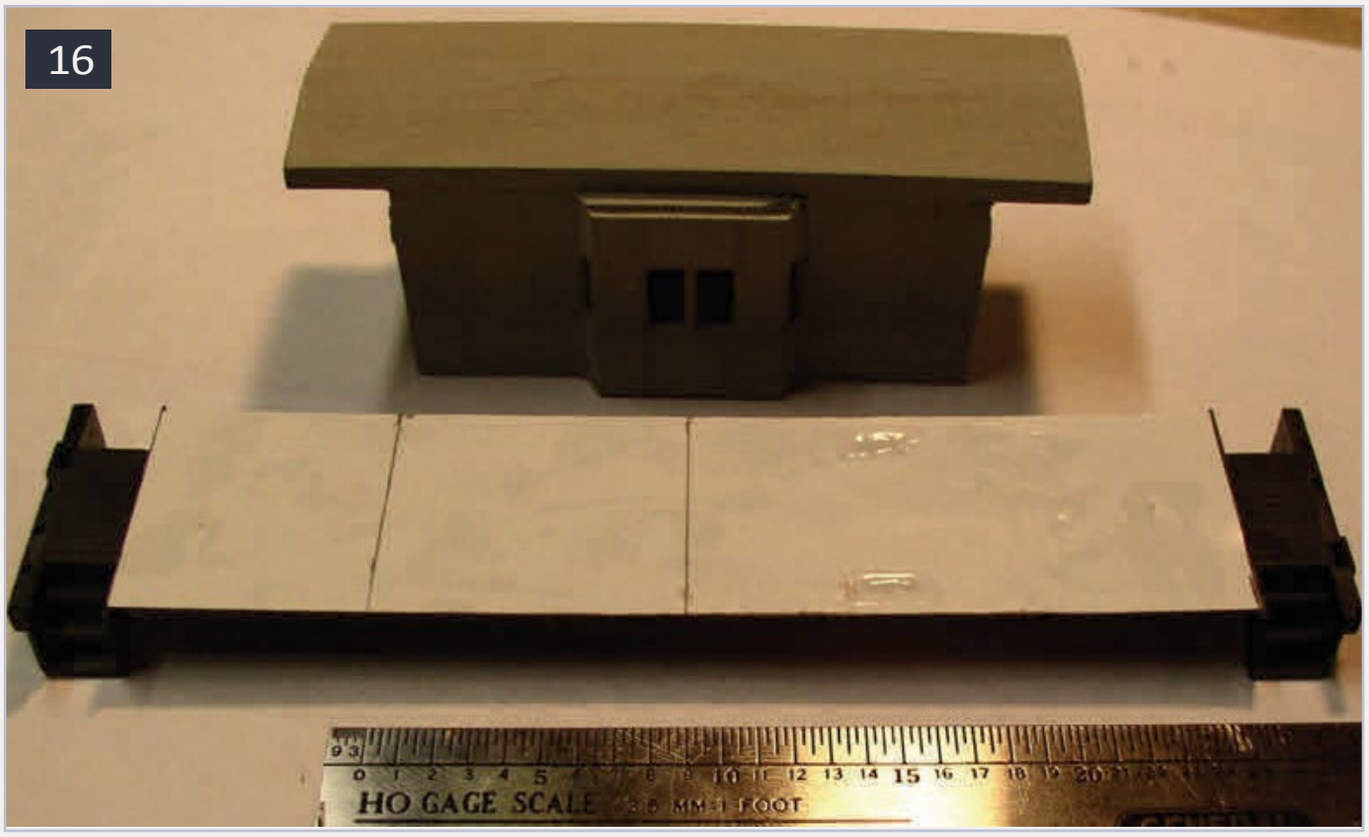
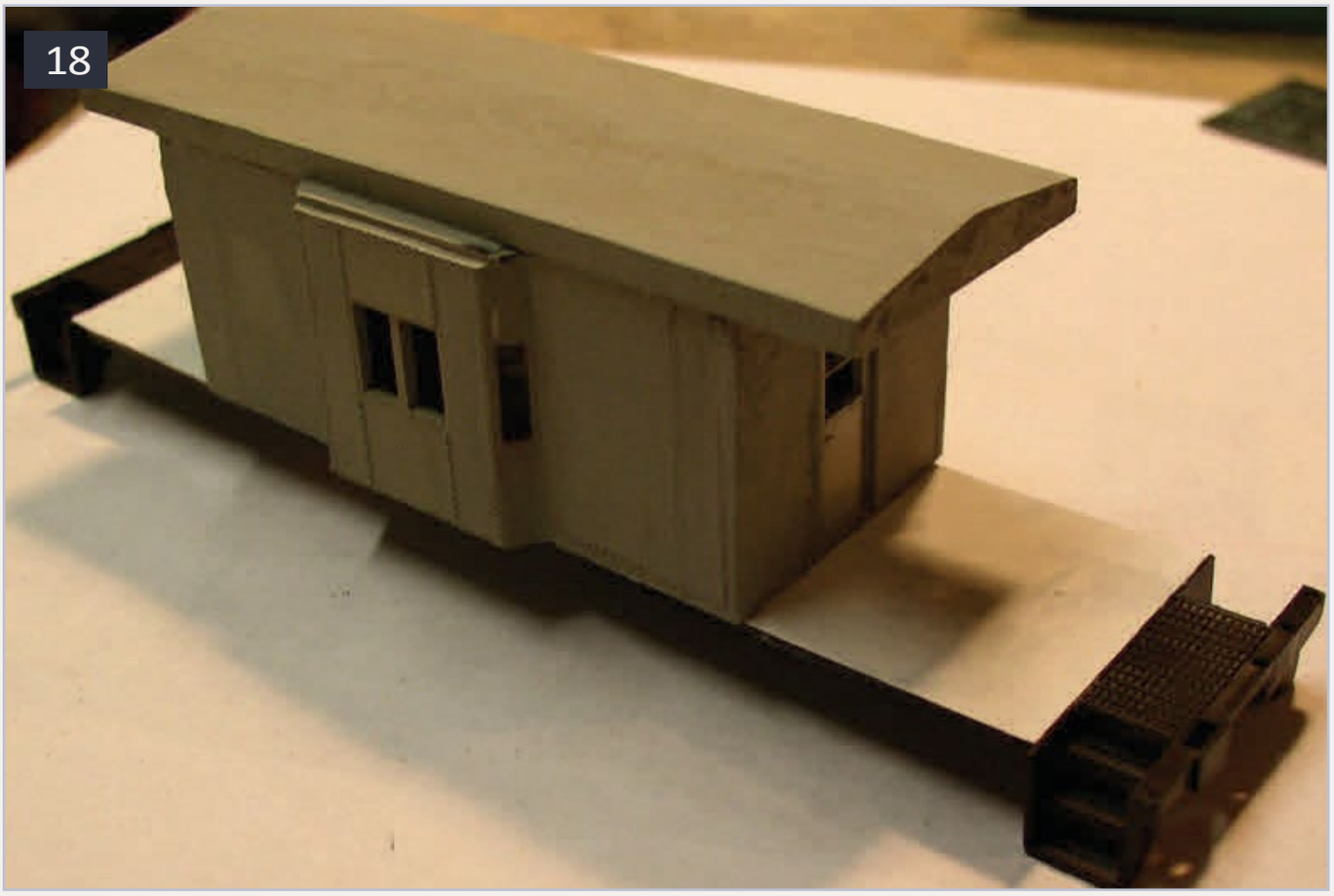
16



17

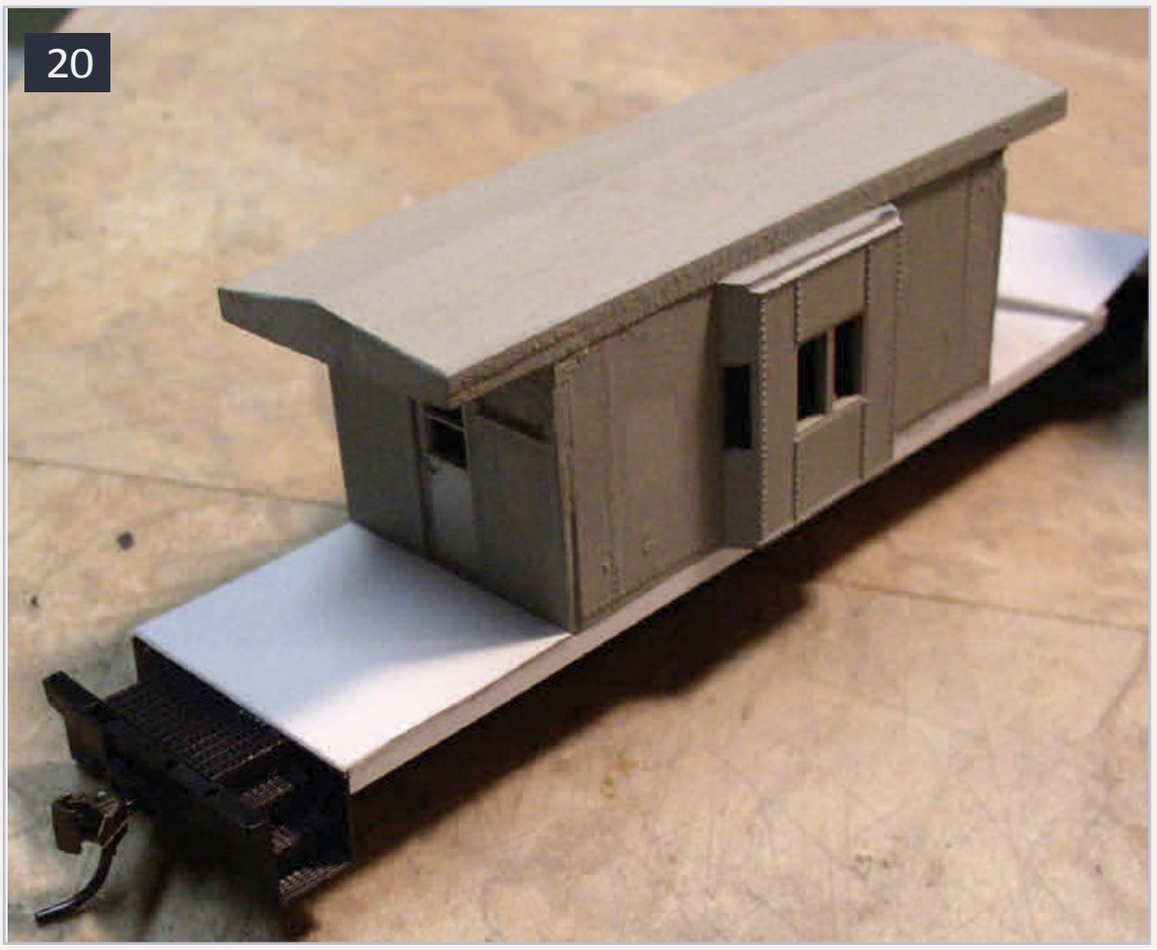
16: It's time to lay out lines so we can glue the body to the chassis. Photo 16 shows how I place the body in the correct position.

17: Draw two lines to position the body on the chassis panel. I measured the chassis length at 32' 6". The center line is at 16' 3" and the end line is 9' 2" on an HO scale rule. Use the square to get the lines straight across the floor.

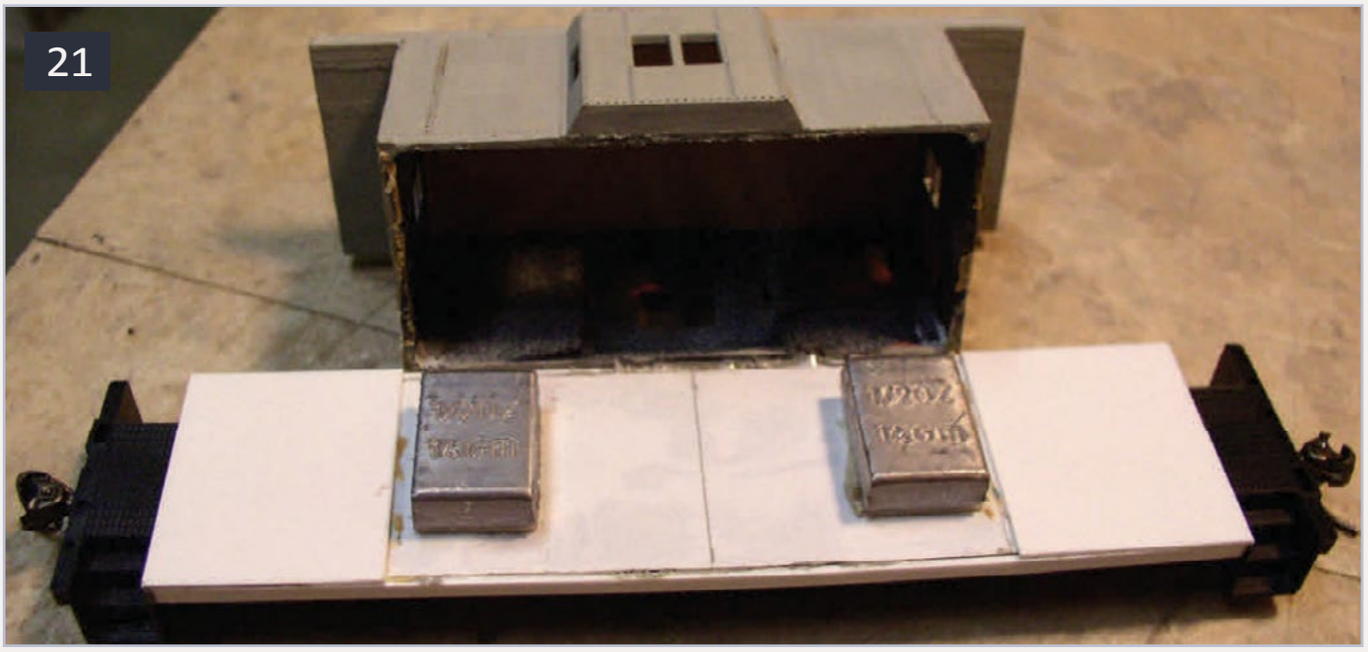


18: With the body mounted to the chassis, you will notice a slight overhang of the body sides. This is normal and the sill will be filled in with styrene strip. The white paint stripe will go here.

19: Add thin styrene decking to the ends. To stop the plastic from melting, I glue the porches down with Elmer's Rubber Cement instead of plastic solvent cement.



20: When the deck is secure, glue the .030" x .100" sill strip to the side.



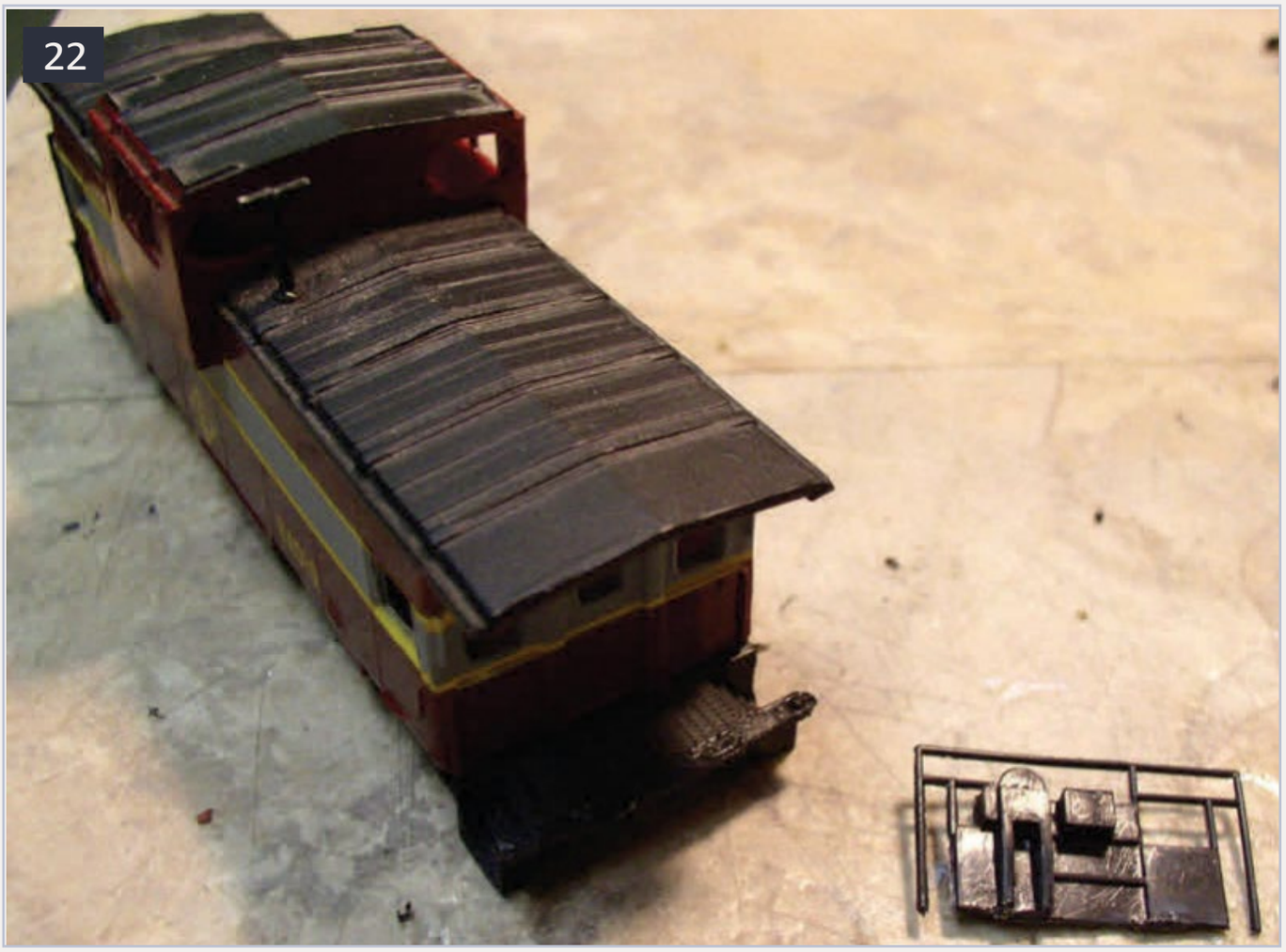
21: Position the weights inside before attaching the cabin, and leave room for the thickness of the body ends. You can read the gram numbers on the metal to see how much weight I needed to add.

Dirk Reynolds has been model railroading since the dinosaurs roamed the earth. His family comes from Dupo, Illinois, and his grandfather engineered the "doodlebug" motor car that ran from St. Louis, Missouri to Marion, Illinois.

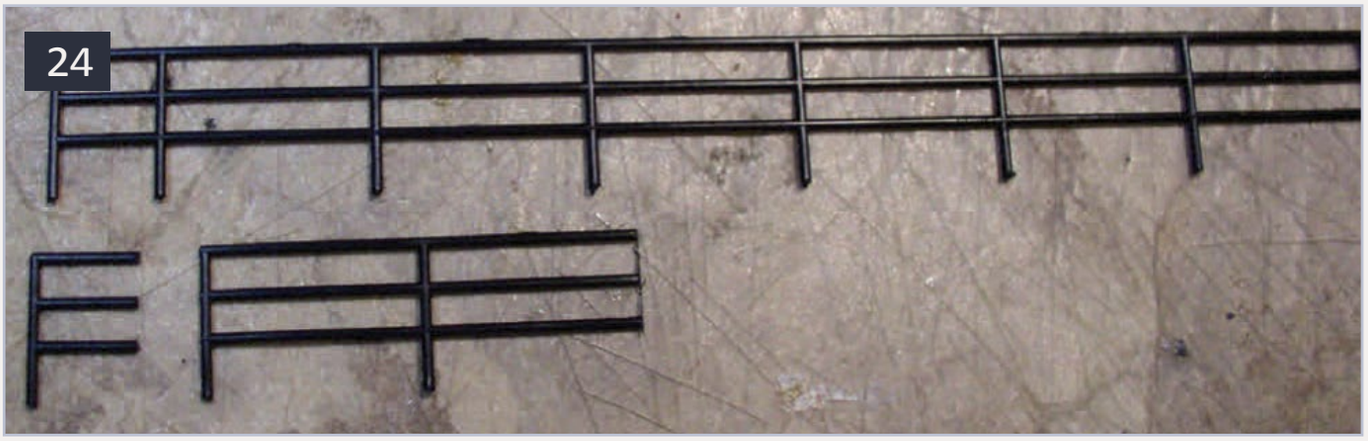
Dirk also ran his own hobby shop for 9 years in Dupo, Illinois under the name of Reynolds Railways. It closed in early 2010, but he is now operating out of his home in Columbia, Illinois under the name of Dirk's Trains.

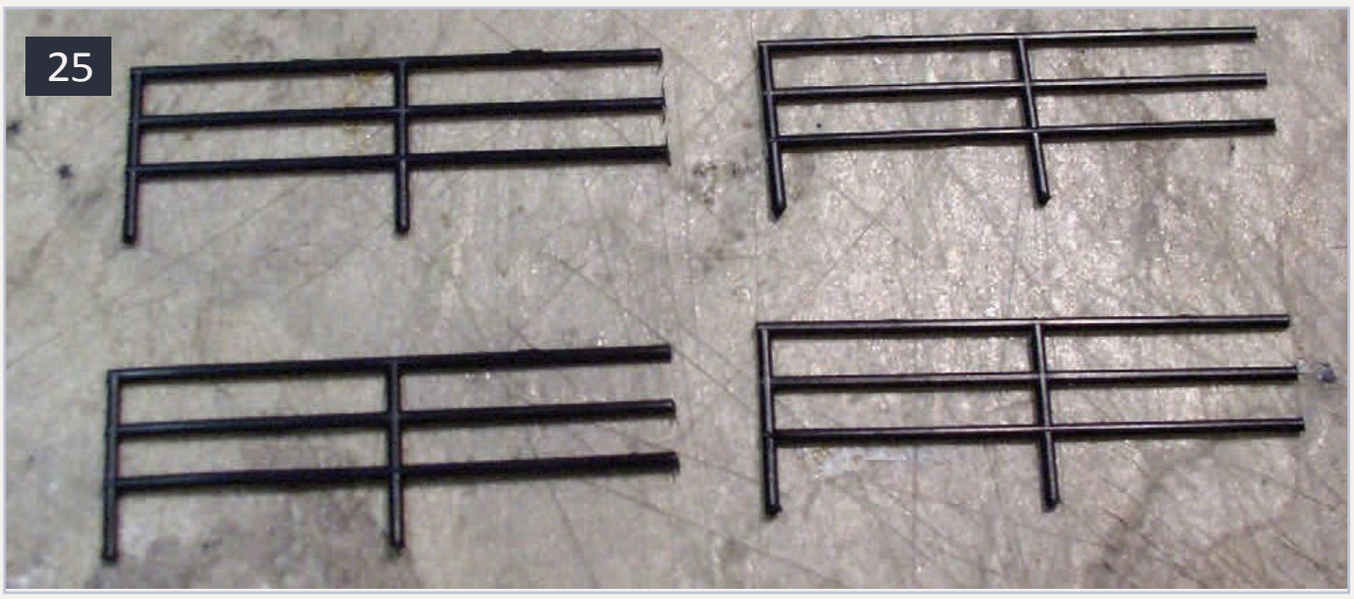
He attends all the local train shows, and runs The Warrior Express show that began in February 11, 2012 in Arnold, Missouri. Contact Dirk at comptrain2002@yahoo.com.

22



23

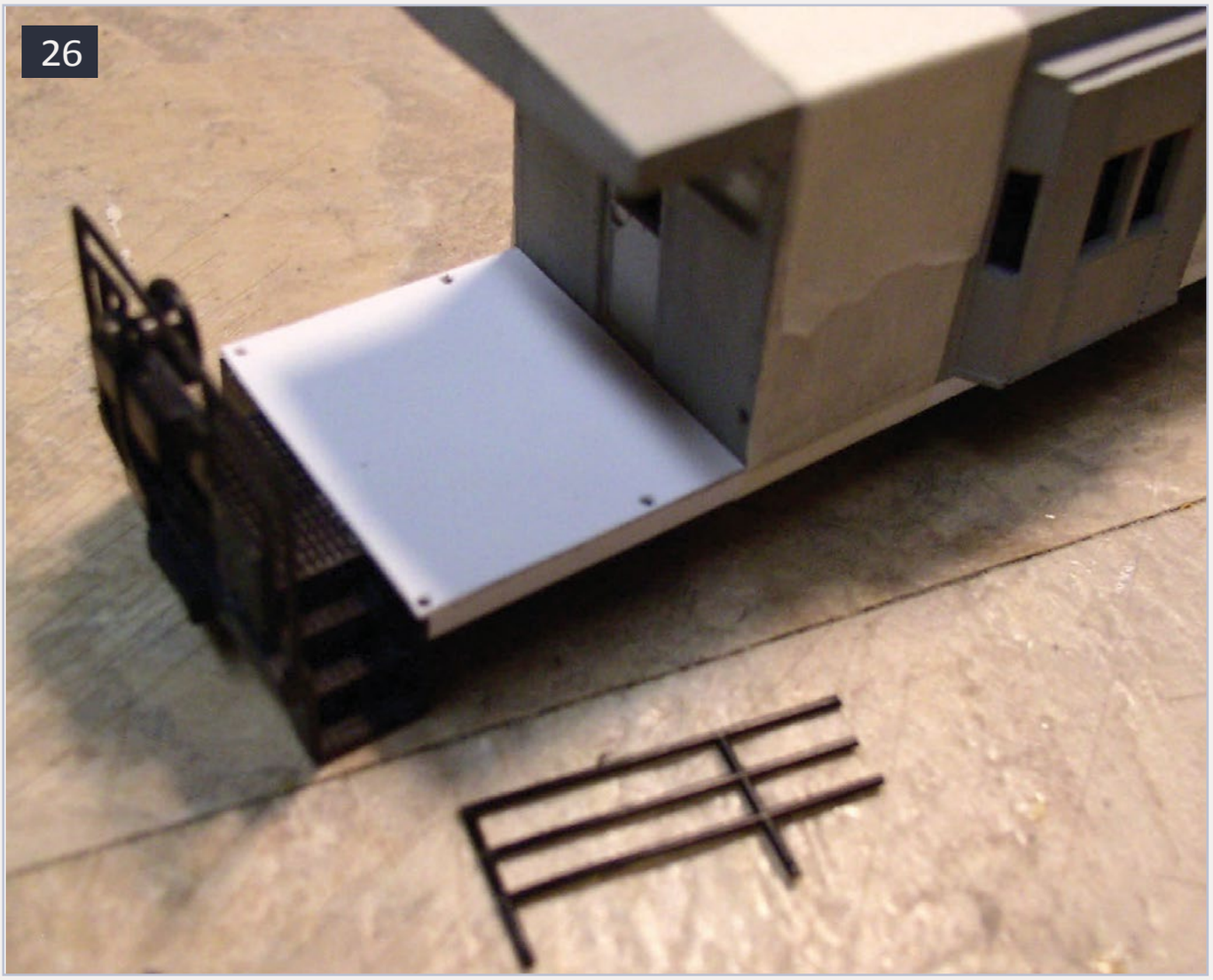




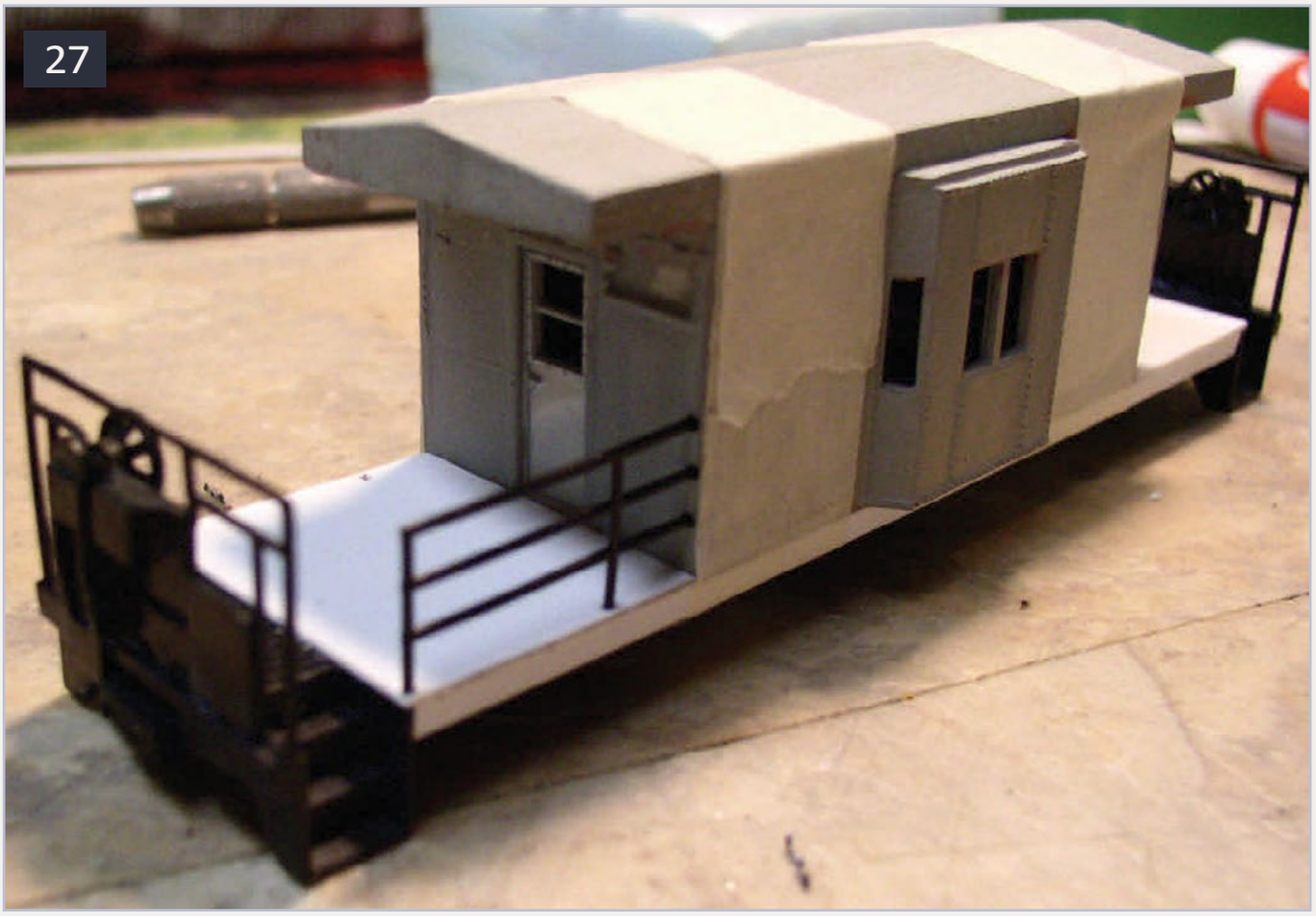
22-23: I left the body free to add glass later. It is now time for the Life-Like or Bachmann “cheapie” caboose parts. I only use the end railing and brake wheel parts. Glue the railings to the ends.

24: I use Central Valley fencing for the hand stanchions. I cut them into handy oversize lengths before I measure the correct length for mounting. Leave enough length to pop the railings and posts into holes drilled in the deck and cabin.

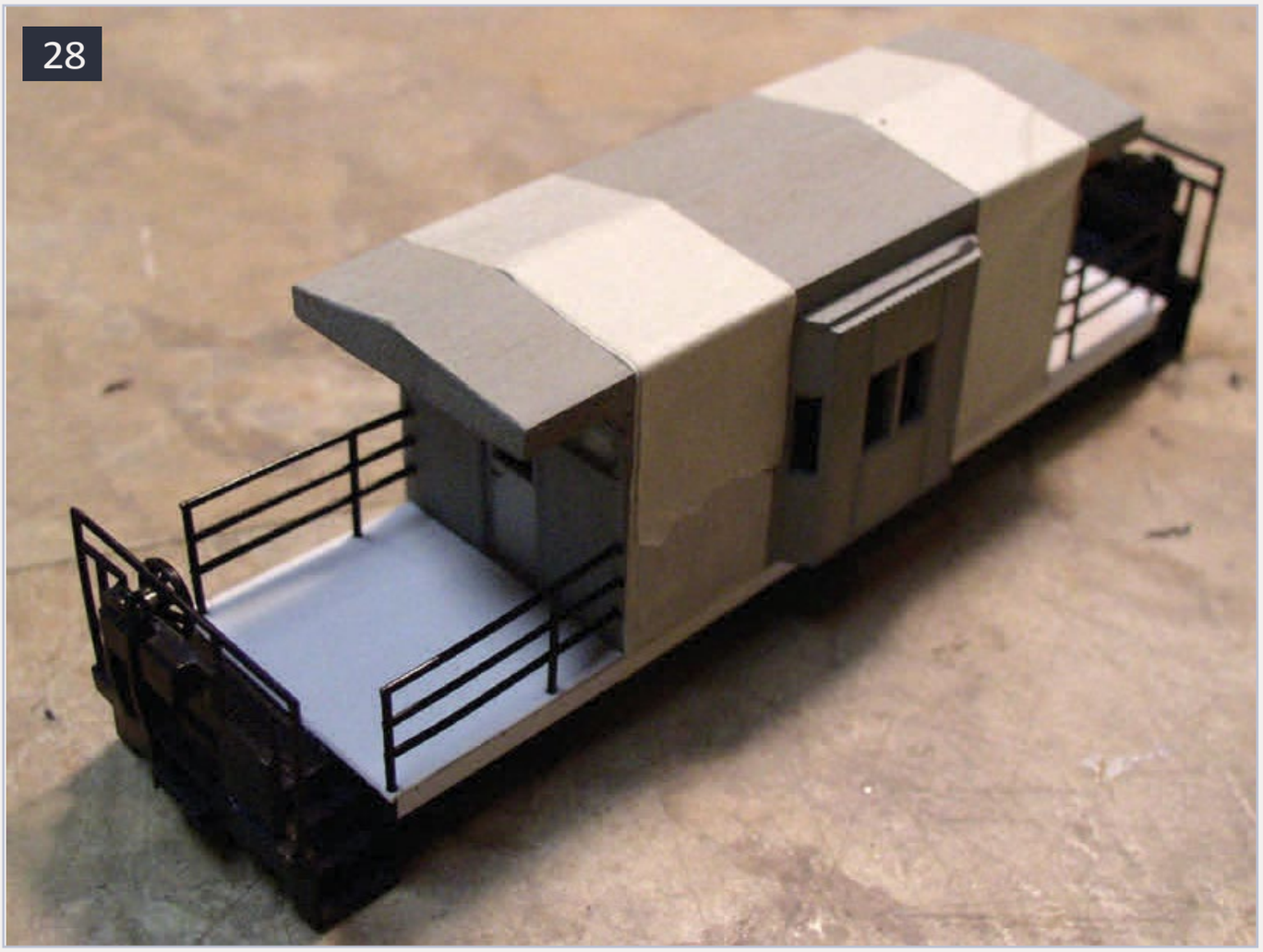
25: The four sections are measured and cut to length for fitting to the chassis and body.



26: Mark the chassis and body, and drill pilot holes to place the handrails.

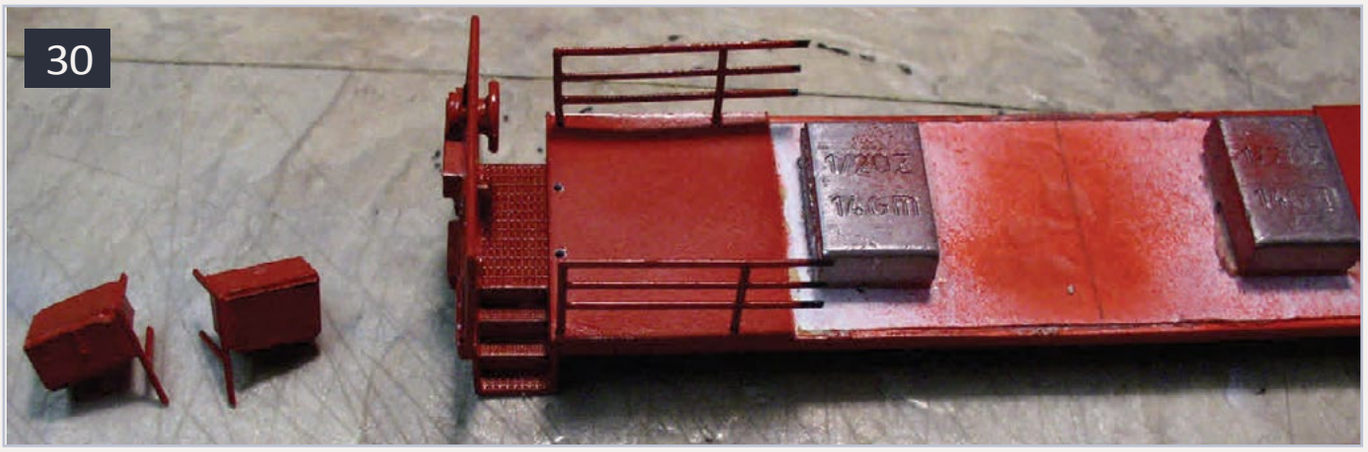


27: One handrail in position, and three to go. Don't glue the handrail. The masking tape holds the body in place temporarily.

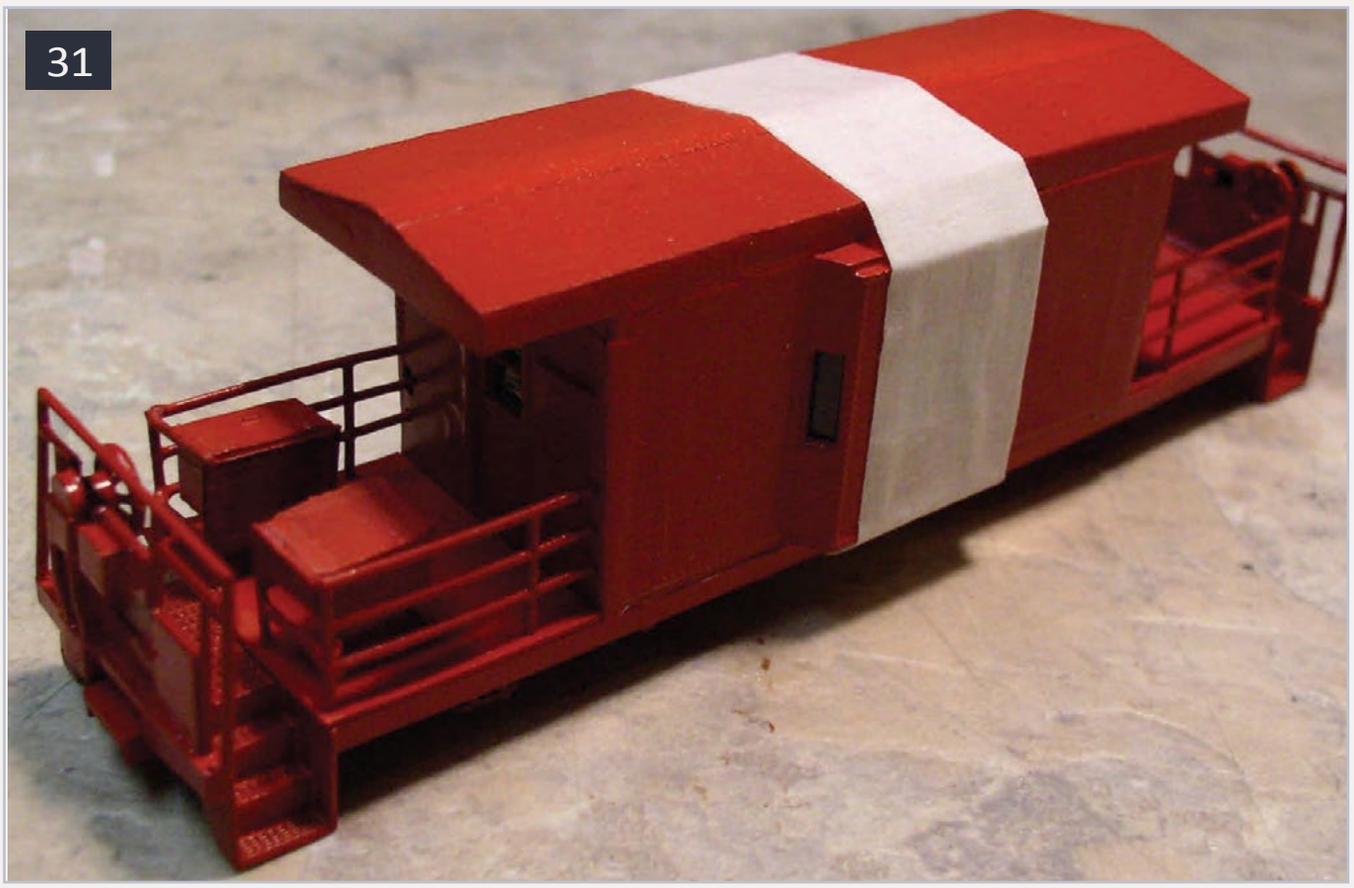


28: All four handrail sections are now in place. *Do not glue them!*

29: We are ready for paint. Everything in the picture will be painted Floquil Caboose Red. The battery boxes are made into tool boxes. Be sure to clean the truck bearings with the truck tool after painting to ensure free-rolling wheel sets. I use JayBee 33” wheels.



30: Place the former battery boxes next. They represent tool boxes now. Drill pilot holes to mount the boxes. I add support bars to the ends of the boxes when I glue them in.



31: With the boxes in place, and the painting done, I glue the body to the chassis. A piece of masking tape will hold the body firmly in place while the glue dries. After painting, I use clear styrene to install glass in the windows.

32: This is my high-tech painting set-up. Wait until *after* you spray the final coat of paint to install the clear styrene windows.

33: Wait until all of the glue joints and paint are dry to add the trucks. Use a truck tuning tool to clear any paint out of the wheel bearing. Then just attach the trucks to the chassis.

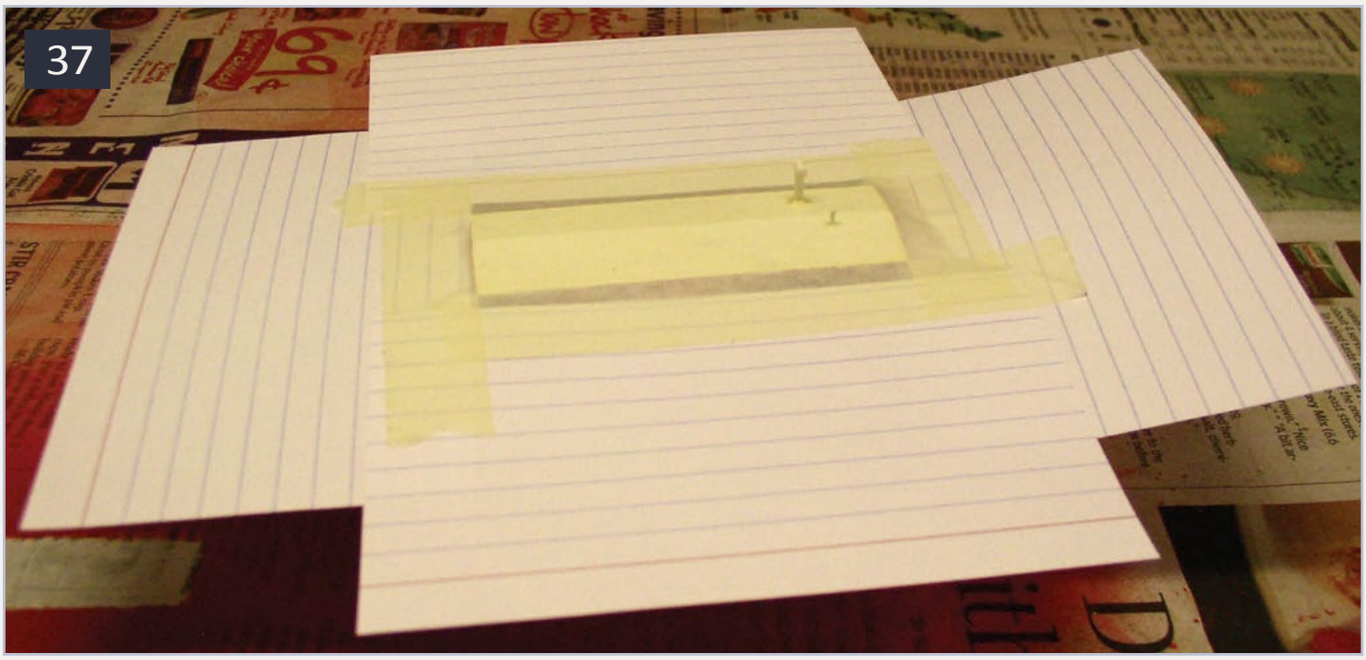
34: Details make the difference in any project. Here a brake valve and an extra air tank are attached. Kadee #5 couplers have also been installed and the finished trucks are mounted to the chassis. It is starting to look like a caboose!

35: The next step is decaling, and it's another step that calls for extra care. I spray a coat of Testors Gloss on the entire model to ensure a smooth surface for the decals to attach.

36: Several decal sets are available for MP's short bay window caboose. Microscale Decals MC-4091 Missouri Pacific Cabooses (1979-1980), and Oddballs Decals 87-840 MP Caboose (1977+) are some. Oddballs Decals white stripe isn't long enough to span the chassis, and I don't like trying to match up ends. I always use the decal softener to help the decals adhere to the model.

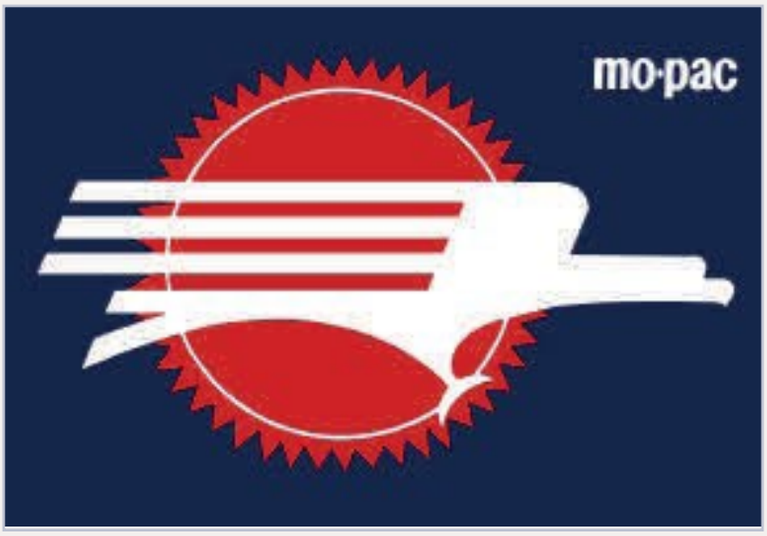
I had to spray the Microscale decals with Testors Dullcote to prevent them from exploding when I dipped them into warm water. This made them just a bit thicker. After the decals were applied, they needed to be sealed. When spraying with Dullcote, you must mask off the windows or you will have cloudy frosted windows. Cutting the tiny bits of masking tape is a tedious process.

After the Dullcote dries, remove the tape from the windows. Be sure there is an even coat on the model, as too much spraying will result in unsightly puddles of yellow Dullcote.



37: Use 3x5 card stock to mask off the roof for painting. The cards give nice straight edges. The last step is the roof details. I only add the main smokestack for the stove and the firecracker radio antenna. This model is not meant to be 101% prototypical, it is just meant to look good. You may wish to add all the other details as you build this caboose.

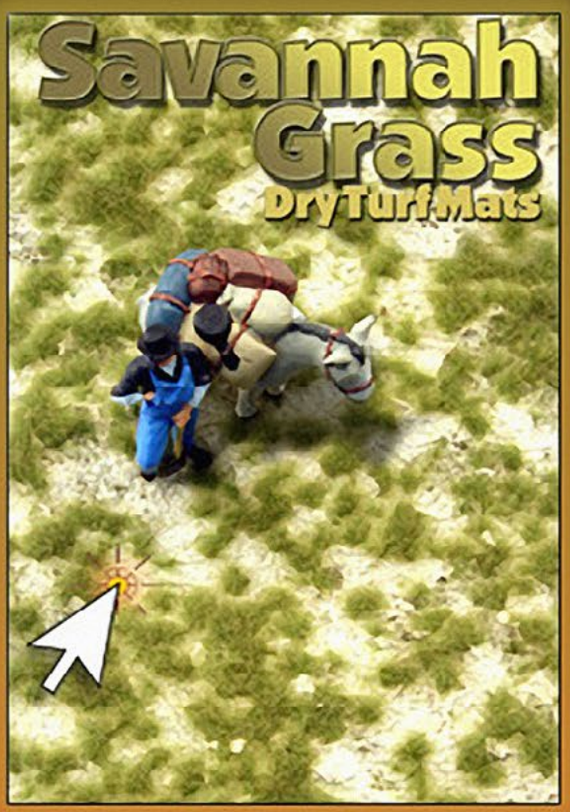
38: Finish up the project with an airbrushed coat of flat white for the roof. The finished model ready to roll those thousands of miles on your layout! ☑

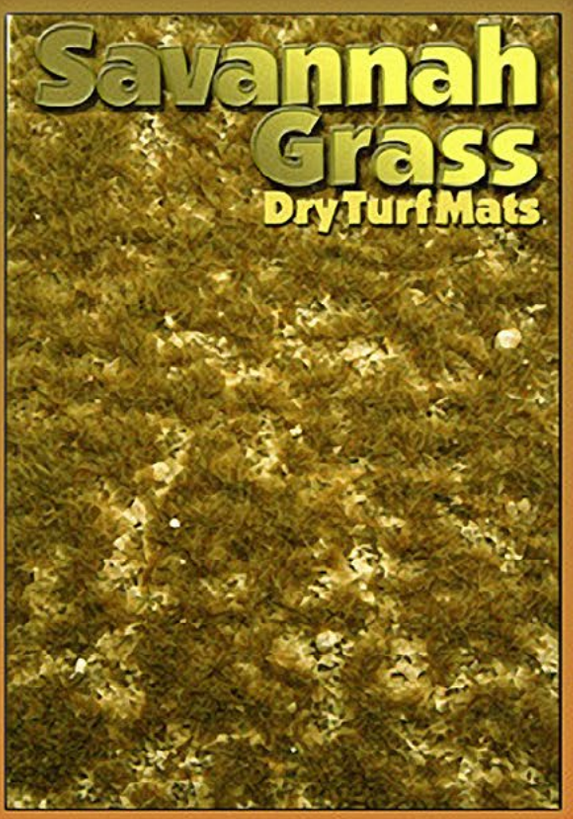


Series 13542, 13715-13814, 13815-13965 & 13000-13099 - Short Bay Window Caboose			
Plate -	**AAR Class** -	**RR Class** -	
Former Series none	**Built** 1977, 1978	**Rebuilt -**	
Car Manufacturer Missouri Pacific RR @ DeSoto & Sedalia Shops			
Out. Lg. (ov. strikers) 39' 1"	**Outside Wd. (side plts)** 9'	**Outside Ht.** 14' 4"	
Body Lg. 17' 10-1/8"	**Body Wd.** 10' 7-1/4"	**Outside Ht. to Roof** 10' 11-5/16"	
Cubic feet -	**Load Limit** -	**Lt. Wt.** - lbs.	
Truck - Barber Swing Motion	**Wheel Diameter** - 33" I-W Stl.	**Hand Brake** - Ellcon-National 1600	
Heating Vapor "Caban"	**Smokejack** -	**Radio** Motorola Micor	**Axle Driv.** Dayco Drv.

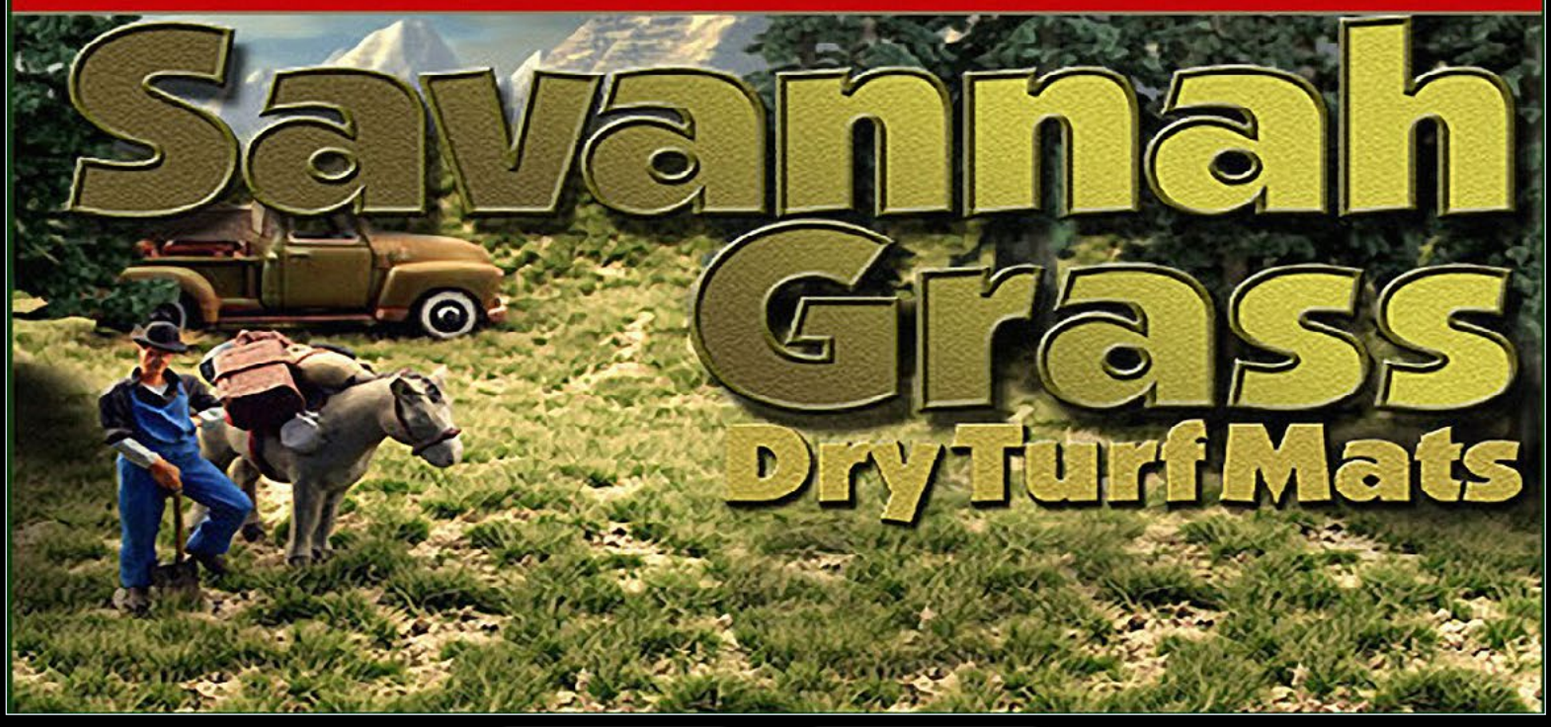
Reader Feedback (click here)

Scenic EXPRESS
Model Landscaping Supplies, Inc.





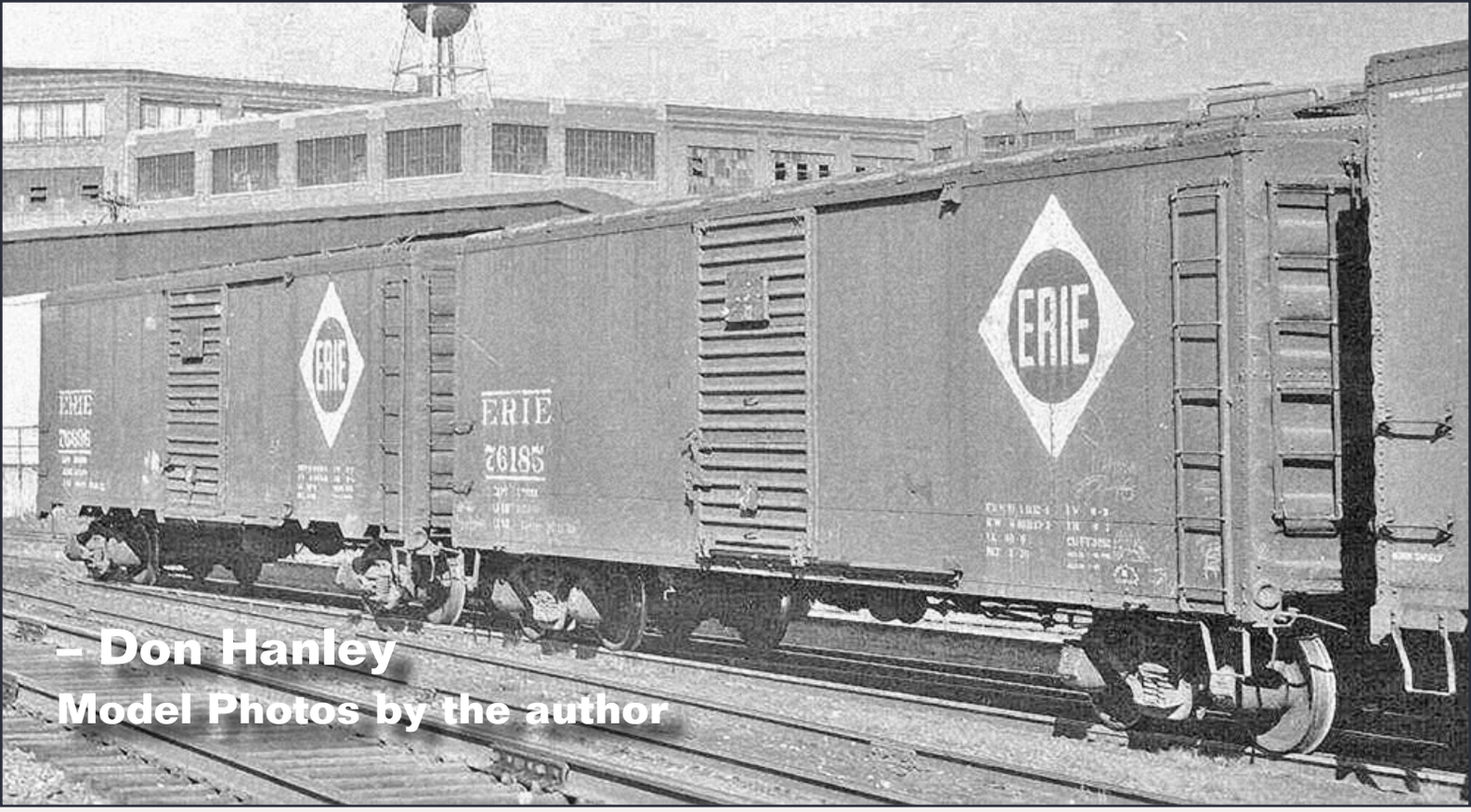
Click for more - lots more!



Wish MRH came out more often than monthly?

The MRH website has lots of great content as well ...

click here



– Don Hanley
Model Photos by the author

The ERIE Railroad Boxcars Part 3

My trials and tribulations building ends for the cars, and my experiences with molding parts ...

In part 3 I explain how I built the different ends required for cars. I also explain my experiences with making the molds and pouring the parts to make the car. Finally, its on to detailing the cars in preparation for painting in this issue.

Part 4, which runs next month, concludes this series and covers painting and decaling the cars. Watch for the part 4 grand finale in the July issue. ☑

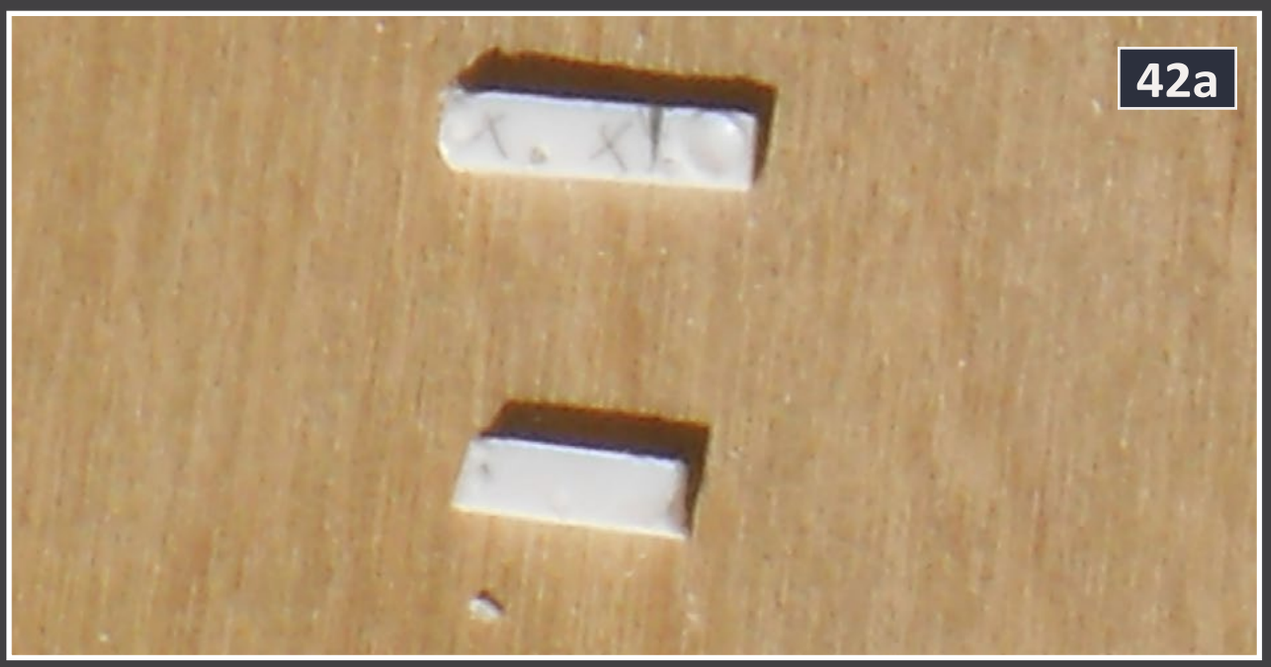
Reader Feedback (click here)

STEP 9: The Ends for the 75000 -– 75499 Series

42: The ends required for the 75000 – 75499 series of cars are relatively simple. Years ago I had purchased some of the Intermountain Santa Fe reefers that were initially offered by Long's Model RR Supply. These include the proper dreadnaught ends needed for this series of cars.

When I purchased these cars, a friend made a rubber mold for me. So all that is needed for me is to cast the pieces. If you are building these cars or similar cars, just make a mold of the Intermountain ends prior to building the kit.

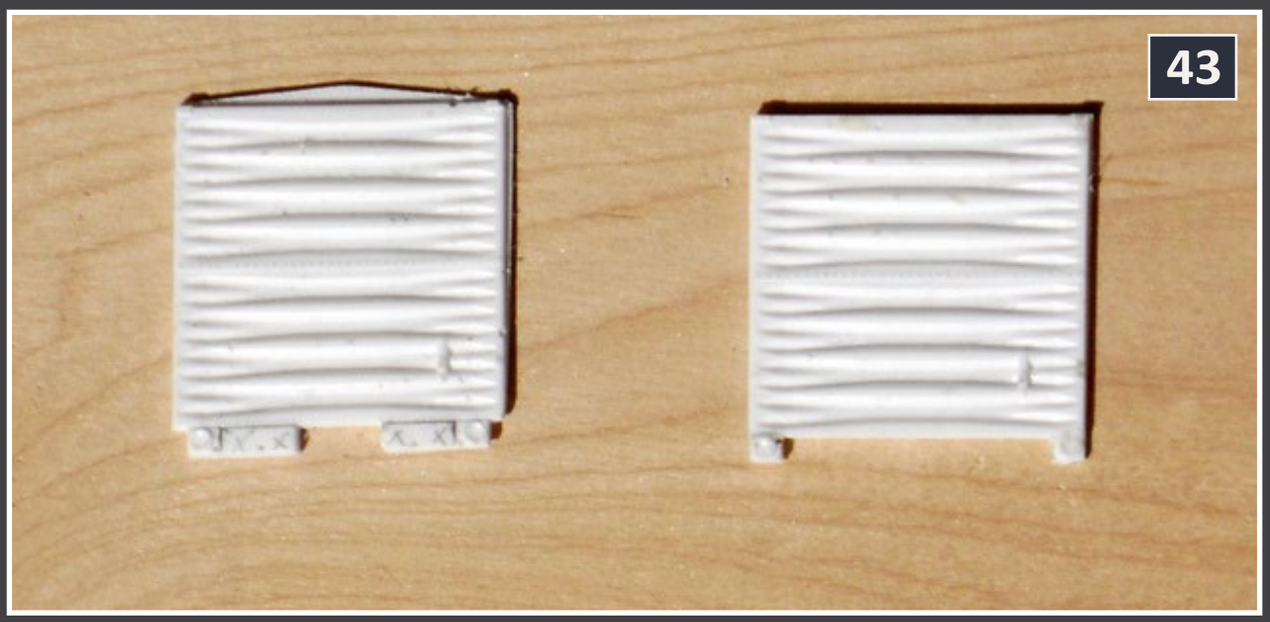
STEP 9: The Ends for the 75000 -- 75499 Series *Continued ...*



42a: The poling pockets on the Intermountain ends are set in slightly as compared to the photo of #415031 that is in M.O.W service. To correct this after I had made the castings, I cut off the tabs at the bottom of end. These pieces were then trimmed down to a width of 12”, leaving the poling pockets.

The poling pockets were moved to the outside edge of the ends. I found that cutting the smooth cast material is easy to do if you use the backside of a #11 X-Acto blade. It actually cuts much easier than attempting to use the normal side of the blade. Finally, the castings have a tapered roof that's not needed for these cars. I just sanded the peak off with my True Sander.

STEP 9: The Ends for the 75000 -- 75499 Series *Continued ...*



43: A casting of the Long's Santa Fe reefer end on the end on the left. The casting on the right has been modified. This shows the differences between the ends.

STEP 10: The Ends for the 75500 – 75999 and the76000 – 76499 Series *Continued ...*

44: Builders photo of end and roof details. (Author's collection and used with permission of George Elwood Fallen Flag Photos).

The same friend who made the molds of the Santa Fe reefer ends also made a mold of the Buckeye ends at the same time. These ends are too tall for the cars being modeled, but I thought that they would serve as a good starting point. Since I didn't want to destroy the original ends that came with Sunshine kit, I made castings of them.

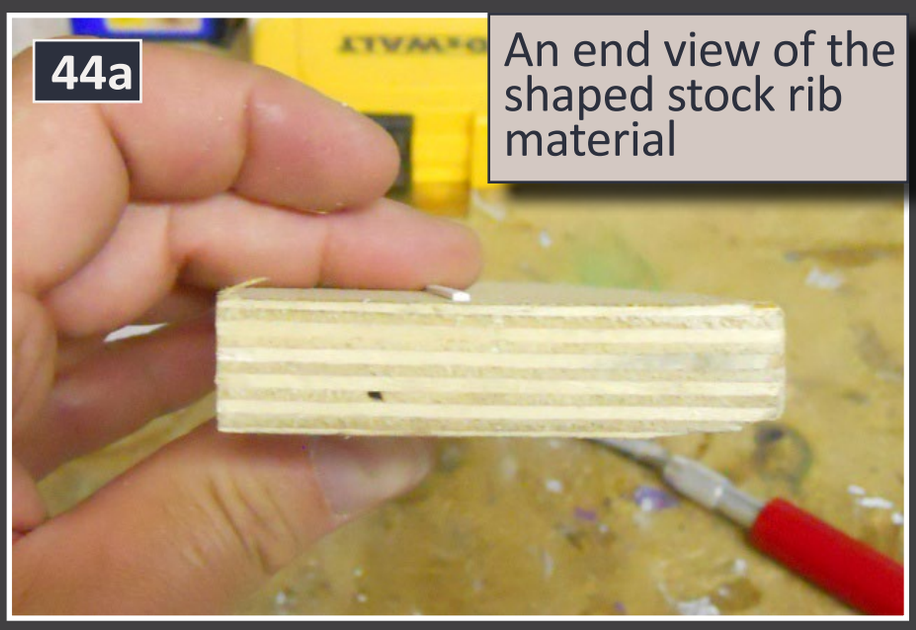
Off to the races, or so I thought. Man-oh-man, was I wrong! To make a long story short, trying to use a third-generation copy to make a master for casting is just a disaster waiting to happen, and it did. Needless to say, it was back to the drawing board. I was beginning to think that this whole project might come to a screeching halt. A little deep breathing and walking away from the project for a few days allowed me to clear my mind.

Since the ribs are straight, I thought that they should be fairly easy to make. The key would be to come up with a method to make sure that the ribs were uniform and

STEP 10: The Ends for the 75500 – 75999 and the76000 – 76499 Series *Continued ...*

reasonably close to the shape of the prototype ribs. The idea that I came up with is to make a scraper that had the shape (or at least close) of the rib. After all, it should be fairly simple to file the needed shape into a piece of brass.

Some measuring of the casting that comes with the Sunshine kit I determined that the ribs were 8” wide and 3” deep. To make the scraper, I filed a groove with a half-round file to a depth of 3”. Once I was satisfied with the depth, I used the tip of the file to make a tight radius in the corner at the top of each ridge. I then filed vertically to form the side of the rib.



44a

An end view of the shaped stock rib material

44a: Since I didn’t have any more 4” x 8” stock on hand, I cemented 3, 1” x 8” pieces of styrene together to form the 3” x 8”. During the process of building up the 3” x 8”, I ran some solvent along the glass that I use as a work surface hold the 3” x 8” in place. This creates enough adhesion to use the scraper to shape the rib, and yet is easy

STEP 10: The Ends for the 75500 – 75999 and the76000 – 76499 Series *Continued ...*

to remove with an X-Acto knife. A light touch is required to do this, only scraping a little off the top each time.

After I was successful in making some ribs (whew, what a relief) I cut the blanks for the ends from .060-styrene stock. This is close enough to the 6” needed for the end pieces. The end pieces for the 75500-75999 series are 9’-4” x 10’-0”. The end pieces for the 76000-76499 series are 9’-10” x 10’-0” and the ends for the 76500-76999 series are 10’-5"×10’. Two were made for each series.

44b: I began by measuring up 10” from what would become the bottom, and drew a line. Next I measured in 8” from each side and made a mark at the bottom. This was followed with a measurement of 1’-2” in from each side and a mark was made at the line I had just drawn, and continued to the top of the car. I then drew a line between these two marks. This creates the layout for the poling pockets.

Before any cuts were made I also laid out lines 2” in from each edge. The 2” line locates where

STEP 10: The Ends for the 75500 – 75999 and the76000 – 76499 Series *Continued ...*

the ribs stop, and the1'-2" line locates where the tapers of the ribs start. Once I had completed laying out my guide lines, I cut the blanks from the stock styrene sheet.

To cut out the areas at the bottom of the end, I use the X-Acto knife to scribe the horizontal line and an X-Acto saw to cut the diagonal lines. Once the waste area had been removed, I trued-up the edges with a file.

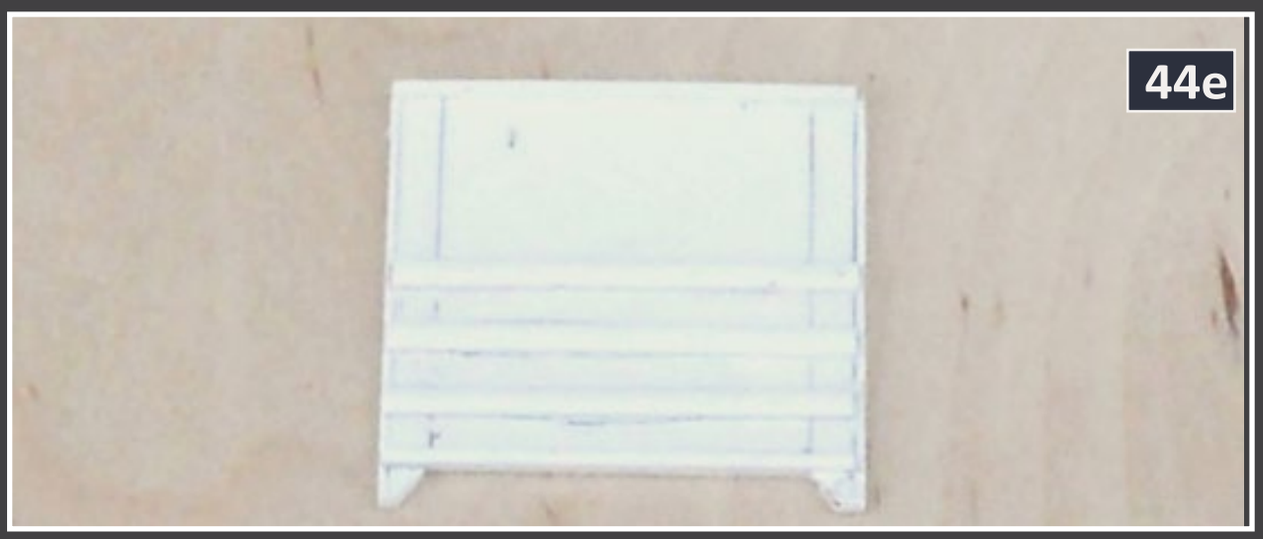
44c: Next the 75500-75999 and the 76000-76499 cars have a small rib at the top and bottom of the ends. I simulated these with 4" x 4" stock. I did not bother to round these over yet or reduce the thickness to 3". That will be done later. After the top and bottom rib were located, I identified the center of the end and located the middle rib, and cemented it into place.

STEP 10: The Ends for the 75500 – 75999 and the76000 – 76499 Series *Continued ...*

44d: I took a little extra time and care to make sure that the center rib was square with the body. All of the other ribs will be built off of this one. After studying the photos, I came up with a spacing of 9” between the ribs because it gave me the closest appearance to that in the photograph of 75893. Once all of the ribs had been placed on both sets of ends, I filed down the 4” x 4” to the height of the ribs on the car.

Now it was time to do the tapers. Before beginning, I placed masking tape along the line that located the beginning of the tapers. I figured that the tape would do a better job of keeping the file where I wanted it than just a pencil line.

STEP 10: The Ends for the 75500 – 75999 and the76000 – 76499 Series *Continued ...*



44e: Once I had filed the tapers, I removed the masking tape and cleaned up the fuzz with an X-Acto knife. I also rounded-over the edges of the ribs with the knife at the same time. Any extra rib material straying over the 2" line was trimmed off. I then ran a file up and down the edge of the ribs a few times to make sure that all of the ribs had the same taper across them. A little more cleanup with the X-Acto knife and some 600 grit wet-dry sandpaper finished the ribs.

All-in-all, things were looking up. Next the poling pockets. I decided to shave off the poling pockets from the Athearn cars that I had been sacrificed for this project. However, in my finite wisdom, I had thrown away the cars when cleaning up after a work session. After all, they were just clutter on the workbench, and I wasn't going to use them for anything, or so went my reasoning at that moment in time.

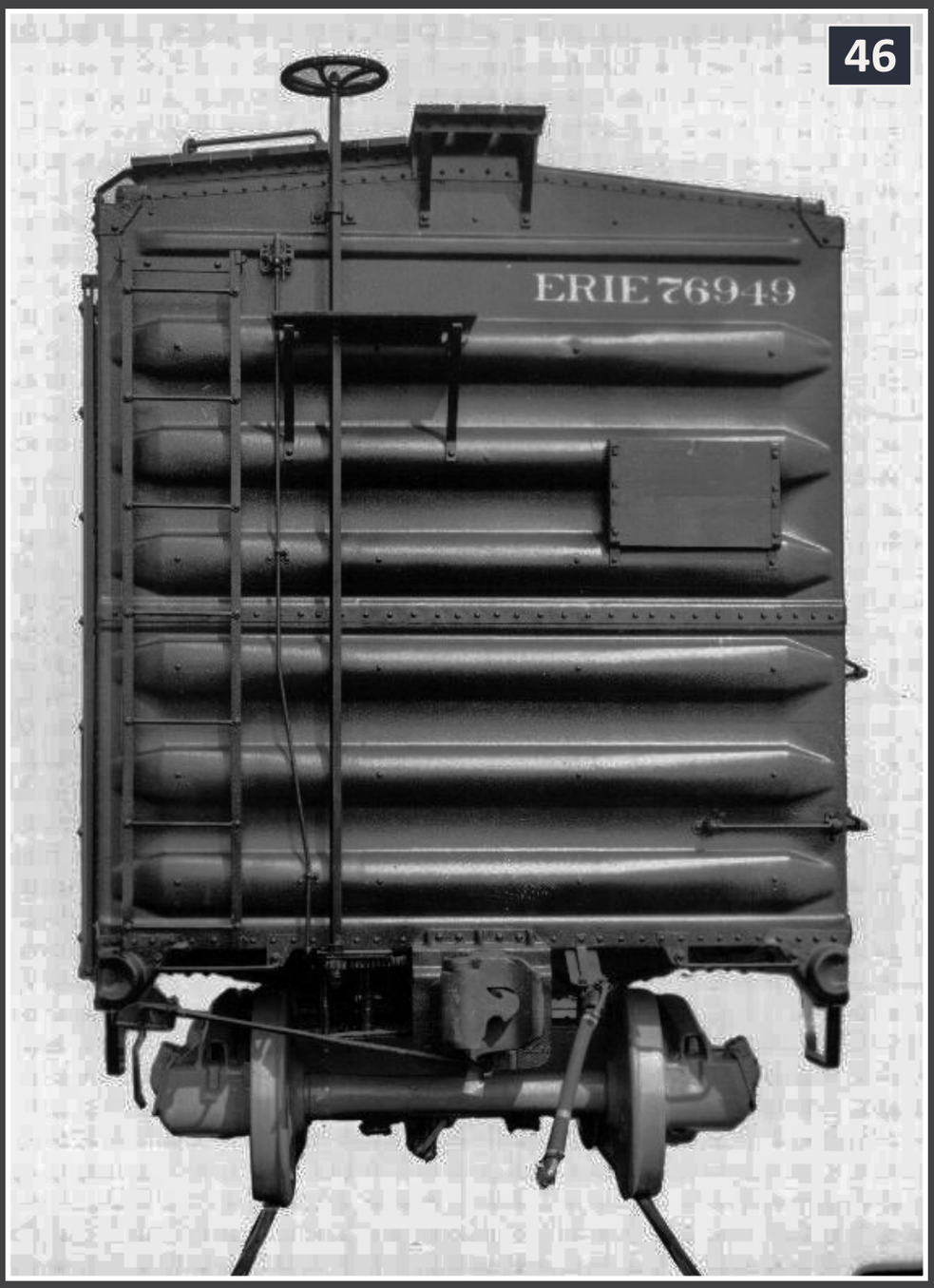
STEP 10: The Ends for the 75500 – 75999 and the76000 – 76499 Series *Continued ...*

To solve the problem, I cut down some .080" styrene rod and cemented them in the place of the poling pockets. I then filed the rods down to a thickness of approximately 2”. With the proper height established, I filed a taper on the rods to match that of the tapers on the ribs.

I made the pocket by drilling out the center of the rod with a 1/16” drill bit in my pin vise. Finally, I took my X-Acto knife and rounded over the edges by scraping them. I think the results are great. You judge from the photographs.

Now it was back to decaling on rivets. The Buckeye ends for these cars have a row of rivets down the center of the middle rib and across the bottom rib. There are also a row of rivets along each edge of the car.

STEP 10: The Ends for the 75500 – 75999 and the76000 – 76499 Series *Continued ...*



46: Builders photo (Used with permission of George Elwood, Fallen Flags Photos).

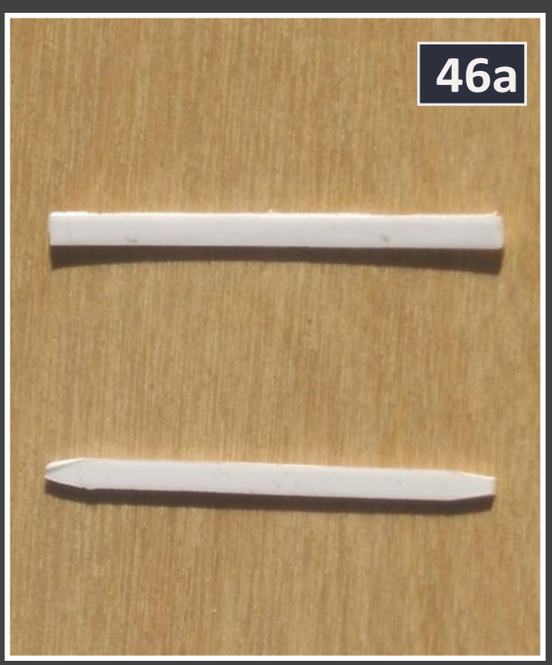
STEP 10A: The Ends for the 76500 – 76999 Series

I was on a roll. Now it was onto the ends for the 76500-76999 cars. I had cut the blank for the 76500-76599 cars at the same time. However, there are differences beyond the peaked roof. Taking a close look at the ribs, you can see that they are tapered in towards the center as well as down from the edge.

There is also a bracket for grab irons between the coupler pocket and poling pockets, as well as a rivet strip between the ribs. Also, the rivet strip is not centered in the car, but appears to be about one-third of the way up. Finally I would need to make brackets for the uncoupling lever and the lower grab irons. These weren't going to be as simple as the others. Oh well, it was time to dive in.

These ends have a taper to match the roof line, with the peak of the roof being 5" higher than the ends. The lay-out and cutting the tapered roof was the only difference between these blanks and those of the other ends.

46a: I made some more stock for the ribs, shaping them as before. Once I was satisfied with the shape of the rib material, it was off to the chopper to cut the ribs to length. So far so good; now to the challenge: cutting the tapers to the center.



STEP 10A: The Ends for the 76500 – 76999 Series *Continued ...*

I didn't think it was a good idea to have the ribs cemented to the car and then try and trim them down, so I experimented with one. I placed a mark 1' in on each end. Next I located the center of the rib. I then trimmed from the 1' mark to approximately 2" away from the center mark on the rib. This was done purely by eye. Satisfied with the results, I continued with the rest of the ribs.

Studying the photo of the end of 76949, there is a 4" rib that runs the length of the bottom. I duplicated this by cementing a 4" x 4" across the bottom of the car. The first major rib was located 2" above the 4" x 4". The remaining ribs were placed with 9" spacing between. There are a total of 6 ribs on the ends of these cars.

In-between the third and forth rib a 1" x 4" rivet strip is centered. Also a 1" x 4" rivet strip is added to the top of the end.

At the top of the end, another 4" x 4" rib is placed 1'-1" above the sixth rib. When all of the ribs were in place, I filed the 4" x 4" ribs to match the same 3" height as the major ribs.

STEP 10A: The Ends for the 76500 – 76999 Series *Continued ...*

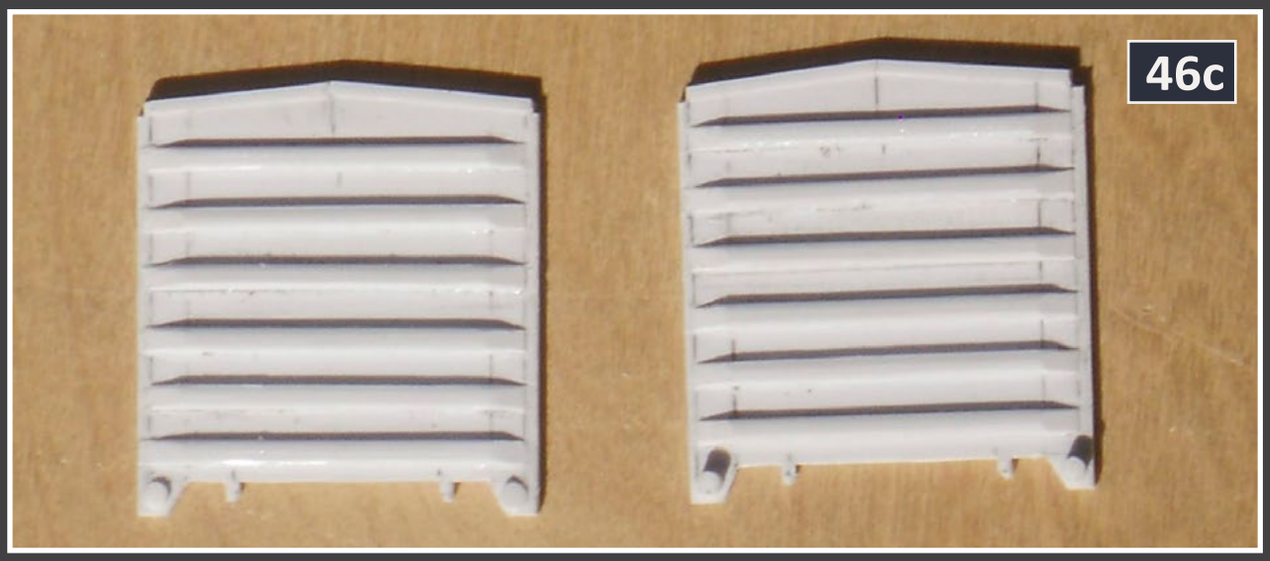
46b: The tapers along the ends were done the same way as the previous ends. Once all of the tapers were completed, I rounded over the edges of the ribs with an X-Acto knife and trimmed any excess away from the 2” line, marking the limits of the ribs.

The uncoupling bracket is located on the inside of the poling pockets and was created as follows. I began by marking a piece of 4” x 6” stock to a length of 8” to mark the extreme length of the bracket on the bottom. I then slide the stock under the poling pocket with the trim mark barely exposed and then cut the 4” x 6” using the sloped edge of the poling pocket tab as the guide.

I then cemented the bracket base to the poling pocket tab. Next I cemented a piece of 1” x 6” styrene stock along the bottom of the poling pocket and the uncoupling lever bracket. This represents the bottom flange of the uncoupling lever bracket.

The lower grabs have a small tab that they attach to adjacent to the coupler.

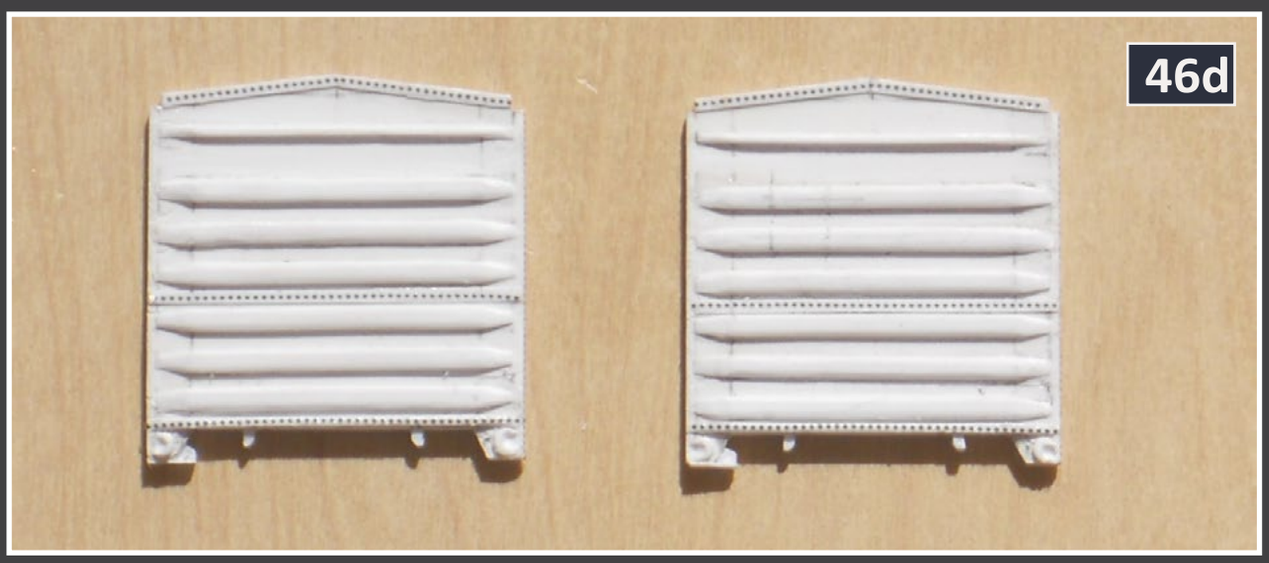
STEP 10A: The Ends for the 76500 – 76999 Series *Continued ...*



46c: Now for the tabs that the grab Irons mount to. I cut four pieces of 4” x 6” stock and cemented them to the bottom of the ends. The inside edges are 2’-6” from the edge of the car. Once these had completely dried, I filed a small taper on the inside edge of each one. That completed the major construction of the ends.

Now it is just a matter of making locating holes for the grab irons, and on one end of each pair, the foot-board brackets for the brake wheel. I made the locating holes the same way as on the sides of the car. Two or three turns with a #76 drill created a little dimple in the styrene.

STEP 10A: The Ends for the 76500 – 76999 Series *Continued ...*



46d: Finally, adding the rivet decals to the ends. A strip of decals is placed along the side of each piece. On the 75500-75999 and 7600-76499 cars a rivet strip is placed on the center rib. On the 76500-76999 cars, a rivet strip is placed in-between the ribs.

All of the cars have a strip of rivets along the bottom. The 76500-76999 ends have a rivet strip on the 1' x 4" that is along the top. Once all of the rivets were placed, I sprayed the ends with Floquil High Gloss.

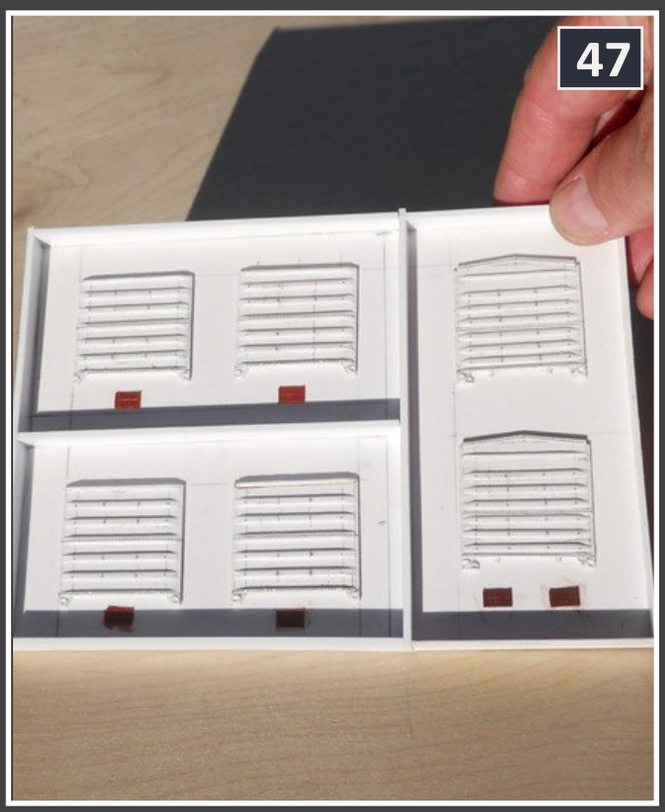
Whew, it worked, the ends looked well and I cemented them into place on the mold boxes that I had made. Then I saw it! (Mumbling under my breath …)

I had forgotten to place the four individual rivets on each rib. Oh well, at least I hadn't mixed or poured the mold material yet.

STEP 10A: The Ends for the 76500 – 76999 Series *Continued ...*

I took the time to place the individual rivets. I quickly discovered was that it is much easier to just scrape off the rivet with a #11 X-Acto knife blade, then poke it very lightly with the tip of the blade and set into place with Solvaset. Trying to soak individual rivets off the backing doesn't work. Out came the airbrush again, and I applied another coat of Gloss and let it dry overnight.

STEP 11: Making Rubber Molds and Casting the Parts



47: I made the base of the mold boxes from some scrap .060" styrene stock. I cut each base so that I would have approximately 3/8" actual dimension around the each piece and in-between each piece in the form. The sides of the form were made from .080" x .312" styrene stock. I cemented the various pieces in the mold boxes. When you do this, make sure that every piece is down snug. The silicone mold material will creep under every small opening.

Once I had the pieces in forms, it occurred to me that it would be a good idea to add a little insurance and seal the rivet decals (again) with a couple of coats of Floquil High Gloss. Even doing this I had a few spots where the rivets came up and had to be picked out of the mold. I was glad that I had sealed the rivets; I can't imagine the number that I would have been picking out if I hadn't done it.

I also give each master a little spray of mold release prior to pouring the mold material. I don't know if this is necessary with the silicone but I wasn't going to take any chances.

STEP 11: Making Rubber Molds and Casting the Parts *Continued ...*

The material I used to make the molds is a silicone RTV manufactured by Tap. It is a two-part mix that is a 9:1 ratio. You should be able to find this at most plastic or art supply houses.

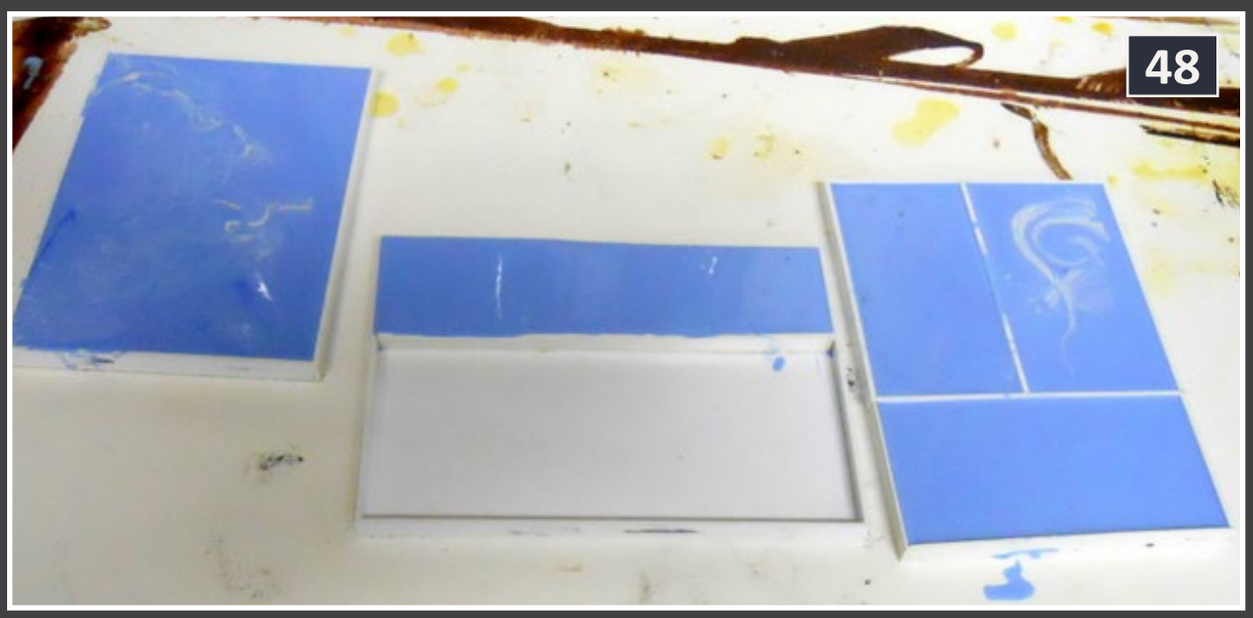
One of the keys in having a good mold is no air bubbles, especially on a finished surface. Since I do not have a vacuum system to remove any air, I use the next-best thing. I turned on my jig saw and let it vibrate for three to five minutes until I didn't see any more air bubbles rising to the surface.

I let a mold cure in the form for at least 24 hours before I remove it. I then let the mold cure another day or so before I try and use it. I don't know that all of the cure time is necessary, but it doesn't hurt to have a little patience.

This was the first time that I had made rubber molds. Those who have done it before know it's not difficult. To those who haven't, don't be afraid to try it. It looks and sounds a lot more difficult than it is.

48: The silicone rubber has been poured and is setting up in the molds. This was one of those moments of "I hope this all works and I can get the mold out of the mold box." Needless to say, it all worked, or this article wouldn't have been written.

I found a product called Smooth Cast 300, which is a two-part casting plastic from an art supply store. This is a white liquid plastic that you simply mix



equal parts of the A and B component in a small plastic cup, stir the mix together and then pour into the mold.

There are different versions available. I used the 300 which has a three-minute pot life and a de-mold time of 10 minutes. Hindsight being 20/20 I wished I had picked up the 305 which has a seven-minute pot life and a 30 min de-mold time.

Once you hit the pot life limit, it begins to set up. I also discovered that the pot life is very temperature-sensitive. The higher the ambient temperature, the faster it sets up, so you need to have everything ready to go. You will also need a release agent to spray on the molds. I use a mold release agent from Casting Craft. If in doubt, talk with the sales people at the art store. They were a tremendous help to me.

STEP 11: Making Rubber Molds and Casting the Parts *Continued ...*

48a: I have not seen the Smooth Cast products in a big-box store like Michael's. If you can't find the product locally, it can be ordered online. The website is smooth-on.com In addition to product information, they also have tutorials on the website.

I found what works best for me is to begin pouring slowly in the center of the mold and allow the casting liquid to migrate to the edges of the mold. If there are any little gaps that have not been filled, I pour a little more of the liquid into the areas that needed to be filled. I also get down and look across the mold to make sure that I am not overfilling it. If I do, there are only a few seconds to use the stir stick to pull away the excess material.

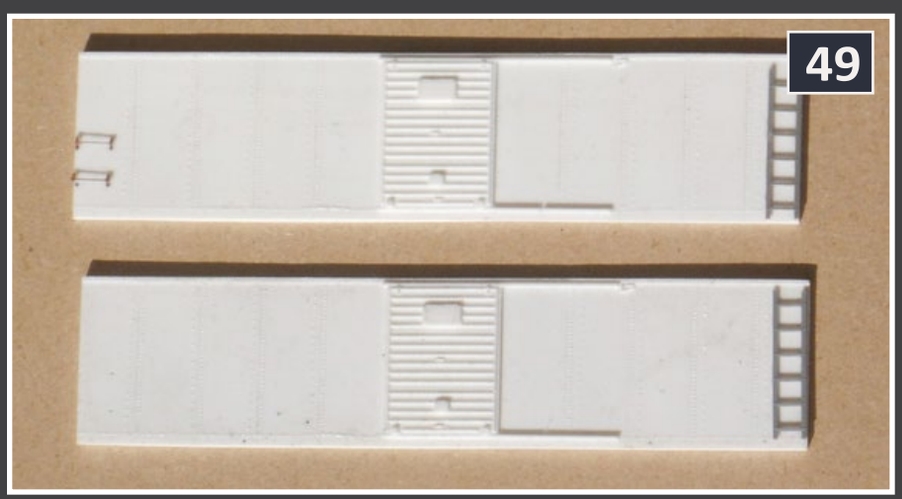
While the instructions say you don't have to worry about air bubbles, I have found that you occasionally get them. The first bubbles I experienced, I tried to fill in with Squadron Green filler. That was a bad idea! I quickly found that it does not work with this product. There is

STEP 11: Making Rubber Molds and Casting the Parts *Continued ...*

a reaction that destroys the shape of the area around the filled area.

The best method I found is to use small bits of styrene held in place with a gap-filling ACC cement. The other option is to cast a new piece. My hat is off to those who make castings like this on a regular basis.

STEP 12: Detailing the Sides and Ends



49: I had one of those "ah ha" moments. Why not detail, paint and decal all of the parts before they were put together? It made sense, and I hate masking cars. I wouldn't have to worry about damaging any of the detail that invariably seems to get maimed when I pull the masking off.

It also would be easier to decal the cars with the individual pieces lying flat. All I would have to do is be careful assembling the cars. There are some detail pieces would need to be added after painting, but those could be touched up with a small brush.

STEP 12: Detailing the Sides and Ends *Continued ...*

I decided to experiment with a new procedure (for me at least). So the rest of the assembly is a mix of detailing, painting, decaling, and assembling the cars.

Now start's the fun part. How well did I make the masters? Now is the moment of truth. I found that I needed to do some minor sanding on the sides of the car. There are small distortions and some flash that need to be removed. Also, I made sure that the floor and the sides were of the same length before I went any further.

Once I had paired up sides and floors, I began adding details. I began by drilling out all of the holes with a #78 drill where I had made the locating divots. I started this process with the 75000-75999 series cars. On the sides I added two Detail Associates (DA) #6209 22" grab irons.

On each side I also installed a Tichy ladder that I cut down to 6 rungs. I had the Tichy ladders on hand, but DA ladders FC 6207 would work also. Finally I added Tichy #3042 angled stirrups that are bottom-mount. DA stirrups could also be used, but they were on backorder at the time. That's all there is for the car sides.

The same process is repeated for the 76000-76999 series cars, except that the Tichy ladders are seven rungs tall on the sides.

Now to the ends; I began by adding a DA #2222 eye bolts for the uncoupling lever bracket to each of the ends.

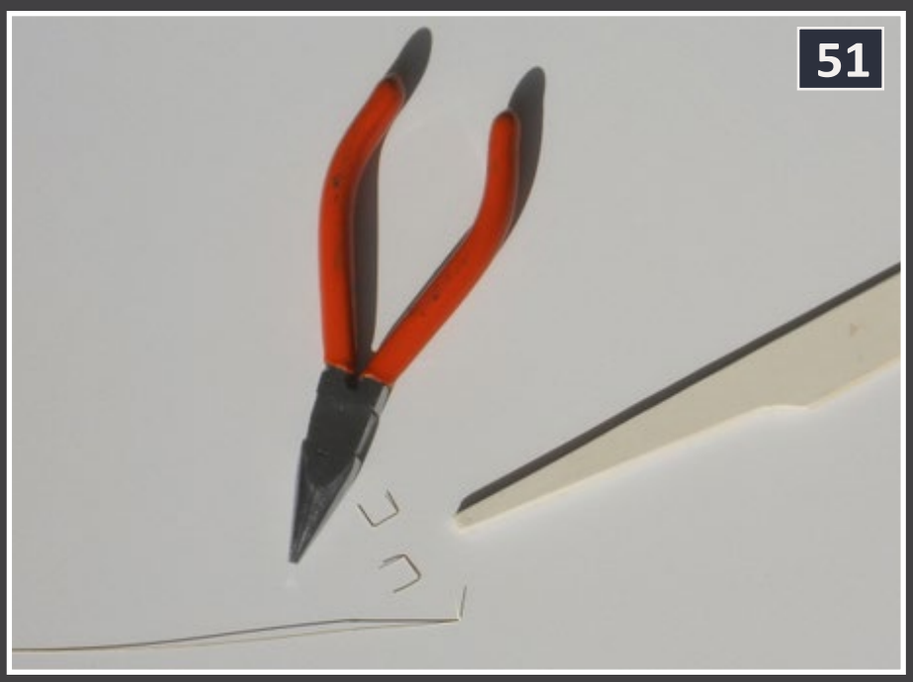
STEP 12: Detailing the Sides and Ends *Continued ...*

50: I have a homemade jig that I use for bending wire for grab irons. The jig is made of two pieces of .060" plain styrene were cut to 5-1/2” long by 3/4” wide. At one end I made a taper from 3/16” (HO scale 16”) to 1/2” (HO scale 3’-10”), and this taper is 3” long. A hole was drilled so I could hang it on a peg at my workbench. A piece of .020" freight car siding was cemented to one side of the jig. I then filed the pieces to create a nice smooth surface along the sides.

With the taper I can bend a variety of grab irons. The car siding provides the locating marks to ensure the proper length of the grab iron. To make sure that I use the proper mark for each grab iron, I put a piece of masking tape next to the desired width. Tape was not needed on this project, since I used the smallest grab irons.

STEP 12: Detailing the Sides and Ends

I then bent DA .012" brass wire for the grab irons located along the bottom rivet line of the ends.



51: Here are two of the finished grabs to give you an idea of how this jig works. With a little practice you can become proficient at making your own.

52: One of each of the ends in the process of being detailed.

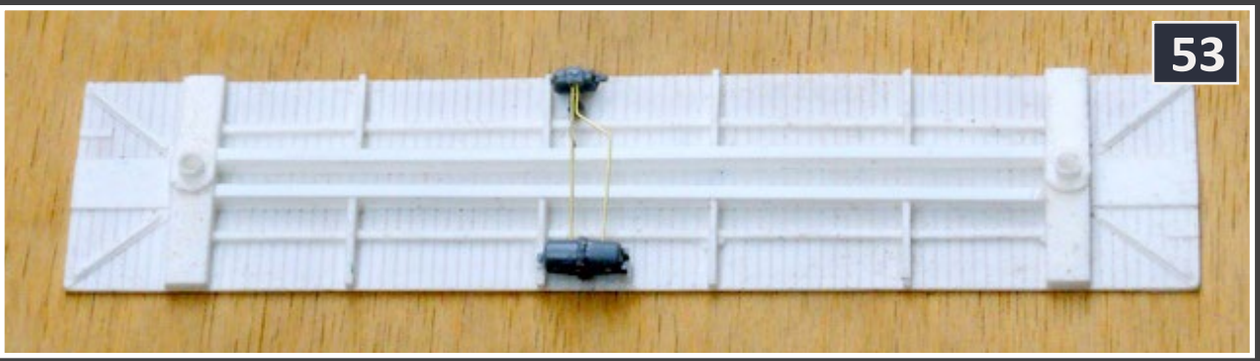
STEP 12: Detailing the Sides and Ends *Continued ...*

Next I cemented one DA 22” grab iron on the right side of each of the ends. For the 75000-75999 series, I cut down a Tichy ladder to five rungs. However, before I cemented the ladder in place, I laid the end along the matching side and made sure that the rungs were lined up. This finishes up all the details for the “A” end of the car.

On the “B” end, Tichy brake detail is added. I used the Tichy Westinghouse AB brake detail set for the cars. I added DA .012” wire for the air release valve at the brake wheel after all of the other detail parts were done.

The process is repeated with the ladders on the 76000 -76999 cars being six rungs tall on the ends. The tack boards on the ends of the cars will be added after the cars are painted. I didn't want to risk white plastic showing under the tack boards.

STEP 13: The Brake Detail



53: As previously stated, I am using Tichy brake detail. I assembled the parts per the instructions. Once all of the parts were assembled, I added them to the underside of the car.

I began by adding the triple valve and the air reservoir. These were located following the drawing provided by Tichy. As I started installing these parts I discovered that I needed to raise the triple valve on a 4" pedestal. A 12" long piece of 4" x 6" stock was cut and placed one board-length towards the center from the cross bearer. I cemented the triple valve to the pedestal after I had drilled out the holes for the brake lines.

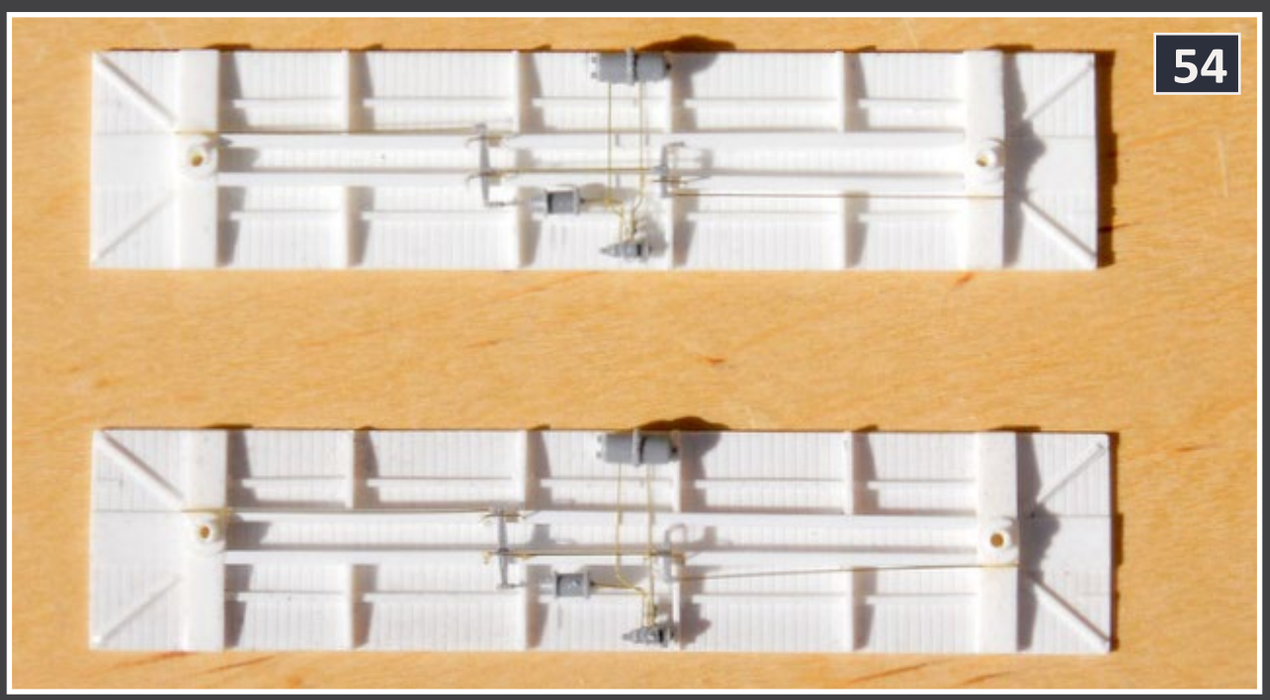
I assembled the brake reservoir following Tichy's instructions. Once the reservoir was assembled, I drilled holes to accept brake lines. Next I cut another piece of 4" x 6" stock 12" long and cemented it to the brake reservoir so the 6" side is vertical. This raised the brake reservoir enough so that it could sit on one of the cross bearers and the center of the reservoir was even with the bottom of the center beam.

STEP 13: The Brake Detail *Continued ...*

The cylinder was assembled following the instructions. Once it was completed, a piece of .080” angle 12” long was cemented to the stringer. The angle was located along the inside edge of the stringer and two boards in from the cross bearer. I then cemented the brake cylinder on the angle.

Finally I cut pieces of .030" rod 14” long as a pedestal for the small brake lever pivot end to set on. This was cemented on the inside of the frame just outboard of the cross bearer.

Once all of the pieces were in place I began plumbing the brake system. I used DA .012" brass wire for the airlines. This is a cut-and-fit process that can sometimes be frustrating.



54: Two of the almost-completed underframes with brake detail. All that needs to be done is to install the rod to the hand brake

STEP 13: The Brake Detail *Continued ...*

Once all of the airlines were installed, I began work on the brake levers. I cut three pieces of .012” brass wire for the brake rods. Two are for the rods that run to the trucks, and the third the connecting rod between the brake levers.

I started with the larger of the brake levers and put the rods in the slots that Tichy provides in the brake levers. The long one will run to the trucks and the short one will be the connecting rod. On the small brake lever, I installed the brake rod only.

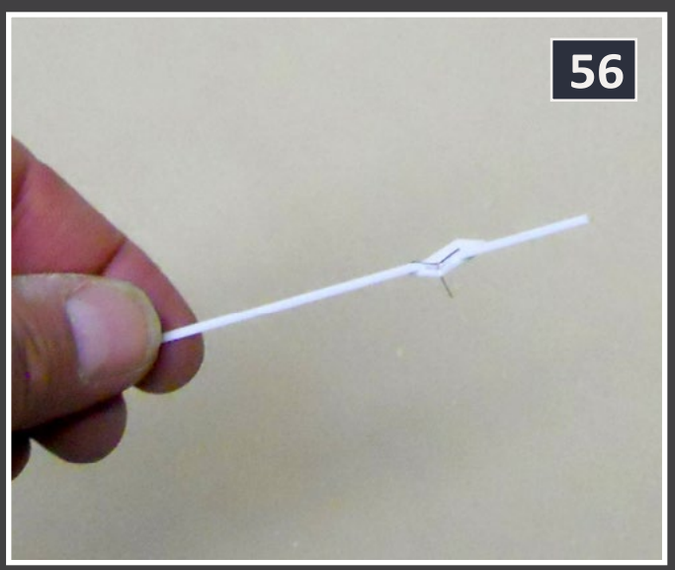
I then placed the large brake lever in the clevis and used my nippers to grab the wire at the .030” pedestal and cut it at that location. I pressed the wire into the small brake lever slot, and then tested the assembly to make sure that it would fit in the clevis and on the pedestal. Once I was sure it fit, I cemented the two parts together. I then cemented everything into place: The large brake lever into the clevis, the small brake lever to the .030" diameter pedestal, and the ends of the brake rods on the bolsters.

A few thoughts about the floors I had cast. You will notice that I do not have a train line for the air brake system. I honestly didn’t think about it at the time I was building the floors. Not that they are noticeable, but it’s a detail I should have added. I didn’t have any of the Tichy AB brake details at the time I made the floors. I wish I had, I would have added the pedestals I needed to set the triple valve and air reservoir on. Maybe next time they will make it on the master.

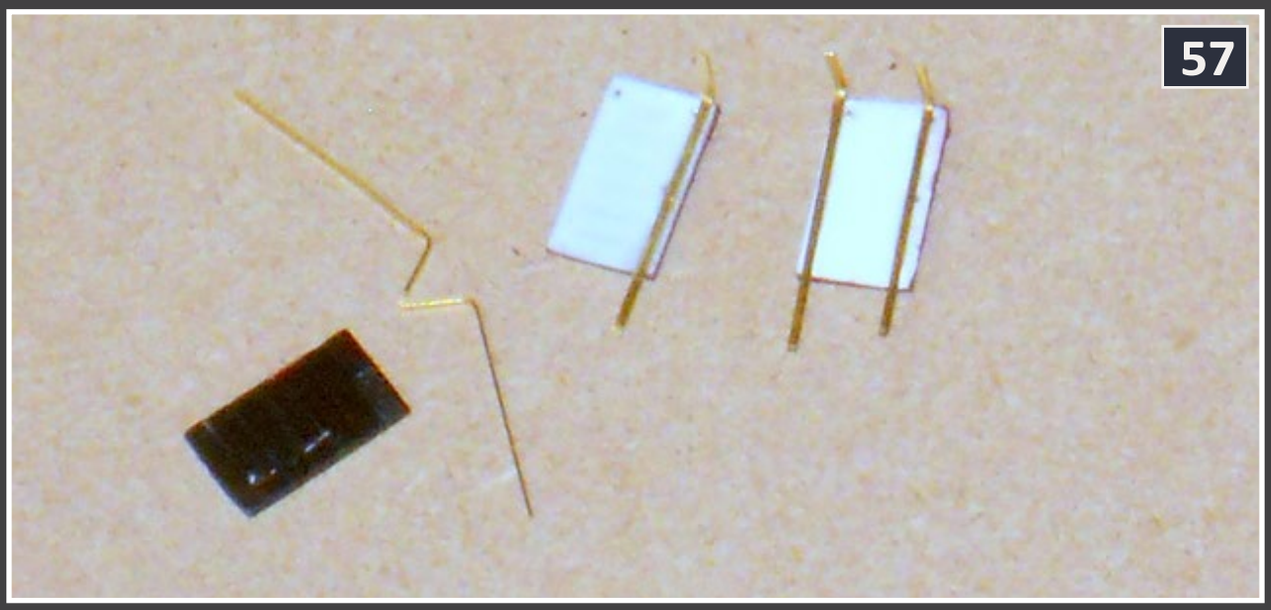
STEP 14: The Running Boards

55: I begin by cementing the eye-bolt at the corner of the roof grab iron. I have found that it much easier to install these using this process. The key is to use the method that works best for you.

56: Holes were drilled at the proper distances and then the corner grabs were installed. A piece of 4” styrene was used as a spacer to insure that the grabs were set at the proper height.



STEP 14: The Running Boards *Continued ...*



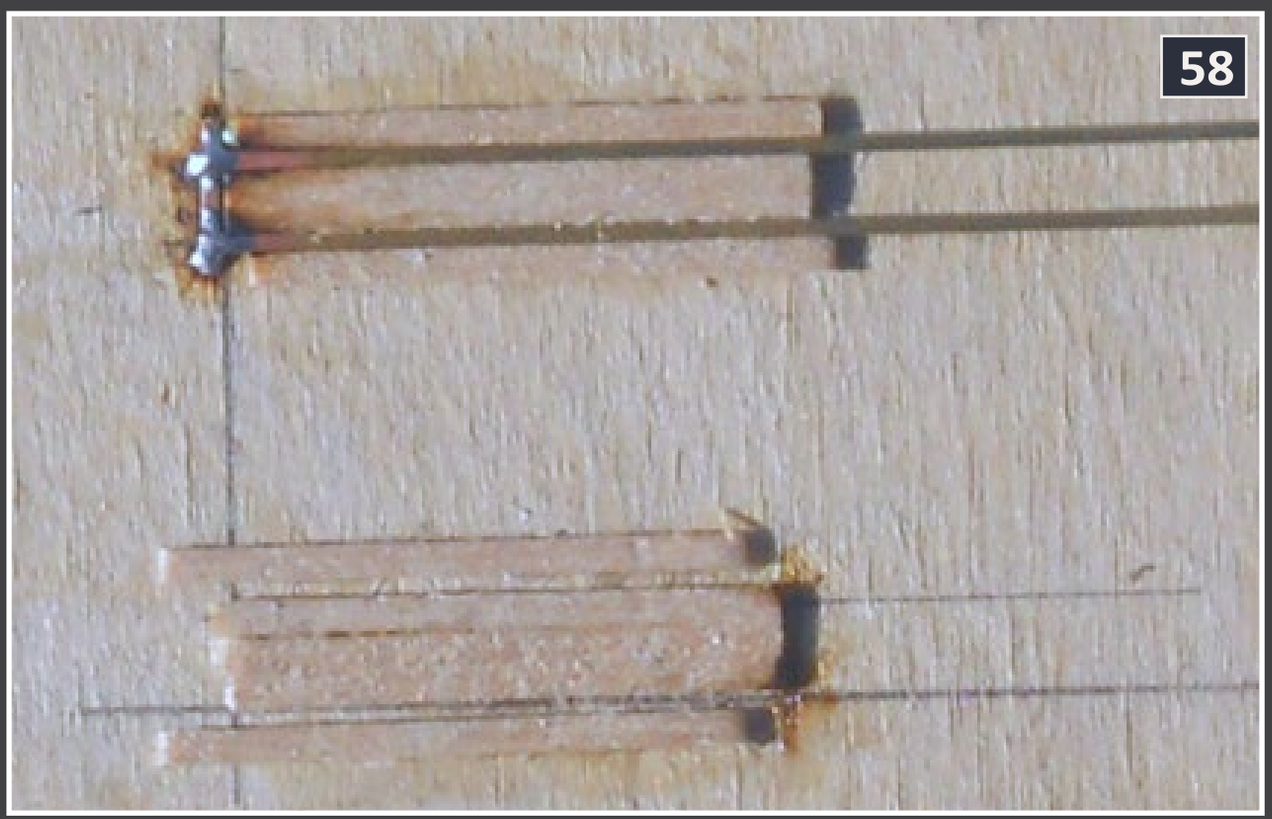
57: Next the mounts for the running board corners were made. Well actually after I had painted the running board corners. It really didn't matter, but they could have been done earlier and I wouldn't have needed to get the airbrush out again, simplifying things.

Don Hanley is the Assistant Editor for MRH, and is interested in the Erie Railroad, specifically the Huntington, Indiana area during the 1950s. Don has had numberous articles published in Mainline Modeler and MRH Magazines describing various structures and rolling stock detailing projects.

STEP 14: The Running Boards *Continued ...*

The mounts were made from DA .010" x .030" brass stock. These strips were bent over the grab iron jig. The short legs were bent over the short end of the jig and are16” long. The long legs were just cut longer than the corner running board pieces. They were trimmed after they were installed. This part of the corner mounts will be cemented under the main running boards.

When I went to install the corner boards, I discovered that the legs were too long and needed to be trimmed approximately 6”. This was no problem. Using nippers, I trimmed them to fit when they were installed.



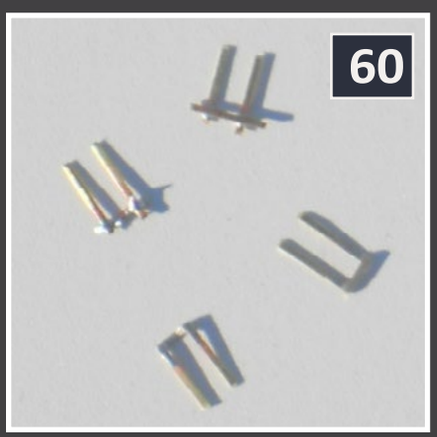
58: Lastly I needed to make the end supports for the running boards. These are delicate

STEP 14: The Running Boards *Continued ...*

things than can be obliterated very easily during handling. So for this project, I made them out of the DA .010" x .030" brass strips.

I made a small jig from Northeastern 2” x 4” and 2” x 8” wood stock. I glued the 2” x 8” piece to a small piece of plywood. Next I laid a piece of the DA brass strip along side the 2” x 8” and then glued a 2” x 4” next to the brass strip.

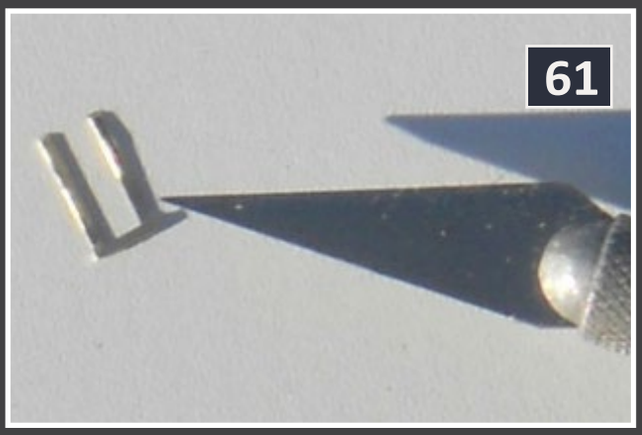
A few minutes after the glue had set, I was in business. I placed a small piece of the .010" x .030" across the end of the jig. Next a piece of .010" x .030" stock was placed in the slots over the first piece. This has the effect of clamping the end piece in place untill I can solder the parts together.



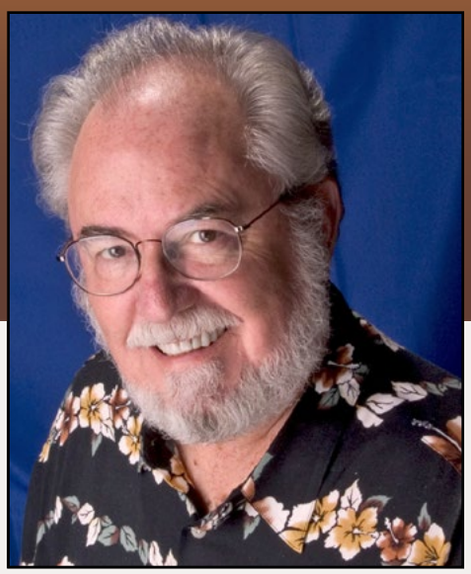
60: As can be seen from the photos I wasn’t concerned with aligning the pieces at the corners or along the lengths of the strips. I also made some extra brackets, which was a good thing. When trimming and filing them to shape, I had one fly away into the vortex of the workshop floor. Little parts like these are hard to find unless they are spotted immediately. After the parts were trimmed I bent the top end approximately 45^0 angle.

STEP 14: The Running Boards *Continued ...*

61: A running board end support and an X-Acto knife to provide a size comparison. ☑



Reader Feedback (click here)



The Old Yardmaster

Reader Feedback (click here)

June 2013:
The latest model railroad products, news & events

by Richard Bale and Jeff Shultz

Floquil, PollyScale discontinued

Testor Corporation has announced that it has discontinued producing Floquil®, PollyScale®, Pactra®, and ColorArtz® paint. Orders for the discontinued brands will be accepted until current supplies are exhausted. Sales and marketing director Kristin J. Schiro said that the company will continue to aggressively support Testor®, Model Master™, and Aztek® brands. In the early 1930s, Harold Rosenlund developed the first successful felt pen using a fast-drying, finely ground, opaque paint that became popular with commercial artists and advertising illustrators. He named his enterprise the Floquil Pen & Ink Company. Rosenlund was also interested in model trains and created a selection of railroad colors for hobbyists. Floquil was acquired by Testors in the 1990s, which was itself purchased by RPM Company several years later. RPM is a $4 billion holding company specializing in commercial and industrial paints and sealants. Some of the company brands familiar to consumers include Rust-Oleum, DAP, Varathane, and Watco ...

ExxonMobil terminates license agreement

ExxonMobil has terminated its trademark license agreement with Microscale Industries effective June 9, 2013. The change will affect Microscale's Mobil decal sets #87-938 and #60-938 which the decal maker has been printing since 1998. To order before the deadline, visit microscale.com ...

Toronto anniversary PCC

Bowser is considering releasing an HO scale PCC car decorated in Toronto's 100th anniversary blue paint scheme. Any reader with quality color photos of the prototype is asked to contact Lee English at bowser@bowser-trains.com or George Huckaby at decals@customtraxx.com ...

Blessed are the volunteers

The folks running the National Narrow Gauge Convention in Pasadena, California are looking for volunteers to help manage the event. A wide range of jobs need staffing, including tour bus captains, clinician assistants, traffic directors, door monitors, ticket takers, and standby gofers. The convention is scheduled for August 28-31. There is also a need for clerks and other jobs that do not require standing. For additional information send an email to Judy at registrar@33rdnngc.com. Please include "NNGC Volunteer" in the subject line of the email ...

Greg Komar closing shop

Greg Komar, a producer of waterslide decals and dry transfers, has announced his retirement and the subsequent closing of his specialized enterprise. Over the past several decades, Komar has supplied model railroad hobbyists with a wide selection of authentic, high-quality lettering systems. Orders will not be accepted after July 31, 2013. To view the latest Greg Komar catalog visit greatdecals.com/GregKomar.htm ...

Scenery manufacturer for sale

Pre-Size Model Specialties, a manufacturer of scenic items, is for sale. Norm and Alyce Rockwell, who have operated the business in Wyoming for the past 15 years, are retiring due to health reasons. The product line consists of about 100 cast urethane products including tunnel portals, retaining walls, abutments, bridge piers, and culverts. The company also produces loads for open-top cars. Products range from Z through G scales. Interested parties can contact grpa@cableone.net ...

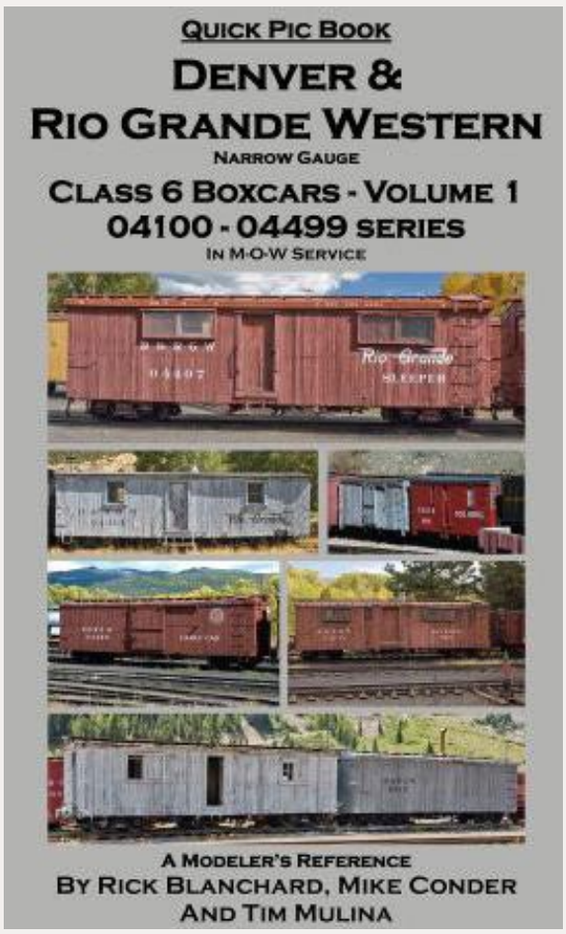
Magic of scale model railroading

The NMRA reports that good progress has been achieved in the first phase of raising money for the "Magic of Scale Model Railroading" exhibit at the California State Railroad Museum (CSRM). The initial level of $250,000 in pledges has been met, which triggered a matching pledge of another $250,000 from private funds. That puts the project well on the way toward its goal of $750,000. When completed the exhibit will bring the hobby of scale model railroading to the attention of the more than 750,000 visitors who visit CSRM in Old Town Sacramento each year ...

NEW PRODUCTS FOR ALL SCALES

"Summer Job" is the fascinating story of The Cliff Line, a small but important manufacturer of model railroad kits and its 25-year struggle for survival. Author Jack Neville details the history of the firm from its beginning under Clifford Roth to its purchase by Harry Weiss in 1958, and eventual demise of the

company in the late 1970s. Much of the narrative involves other California-based entrepreneurs including Irv Athearn, George Hook, John Devore, Russ Clover, Stewart Lundahl, and respected toolmaker Bob Weigner. Familiar brand names such as Kemtron, Central Valley, Varney, Micro-Motive, Robco, Lindsay, and Devore are all part of this interesting story. Neville's well-told perspective is first-hand since he worked for Weiss for two summers in the early 1960s. The 276-page CD book consists of 22 profusely illustrated and fully navigable chapters. It is available on CD at $15.00 postpaid. Send money order or check payable to John Neville, 655 Shelter Ridge Place, Nipomo, California 93444. For additional information email the author at **jgn151@gmail.com**.



Later this month, **BHI Publications** (**quickpicbooks.com**) will release *"Denver & Rio Grande Western Narrow Gauge Class 6 Boxcars, Volume 1",* an in-depth look at 04100-04499 series cars in MOW service. The 8.5'' x 5.5'', 98 page spiral-bound book features more than 500 black & white photos of the nine D&RGW cars in the series. The book is priced at $24.99. To view sample pages visit **quickpicbooks.com/files/DRGW_4100-4499_boxcrs.html**.

O SCALE PRODUCT NEWS

Atlas O (atlaso.com) will deliver six versions of an O scale 25,500 gallon tank car during the fourth quarter of 2013. In addition to the Cargill Vegetable Oil car shown here, road names will also include IBPX, GATX-Rexene Corporation, ADM-Molecule, PLMX, and GATX-BASF. The ready-to-run car will be available for 3-rail operation at an MSRP of $94.95. A 2-rail version will list at $99.95.

Rindt's Relics (rindtsrelics.com) has introduced a kit for a Four Winds Interurban Shelter. The Milwaukee Electric Railway prototype was designed to shelter passengers from wind in all directions – thus the name. The kit combines cast and laser-cut components. Kits are available in N, HO, and O scale. The O scale kit sells for $39.95. See the HO scale listing for a photo of the model.

HO SCALE PRODUCT NEWS

June releases from **Accurail** (accurail.com) include a three-numbered set of kits for Soo Line triple-bay ACF covered hoppers at $49.98. Single kits are also available at an MSRP of $16.98.

Also due this month is a three-numbered set of SP/T&NO 41' AAR steel gondola cars at $45.98. Single kits have an MSRP of $15.98. Visit the above website to see variations on the SP/TNO decorating schemes.

A three-pack of B&O USRA twin-bay hopper cars is available at $42.98 or $14.98 for single cars. Additional items released this month include a UP 89' piggy-back flat car, a Western Maryland 40' insulated plug-door boxcar, and a Central New Jersey single-sheathed wood boxcar with wooden ends and doors. Pricing and more photos are available on the above website.

Athearn Division of Horizon Hobby (athearn.com) has released an extensive delivery schedule for January 2014. Heading the list are HO scale Genesis series PC&F 50' boxcars with 14' plug doors. Road names will be Golden West Service (SP patch) and Golden West Service (SSW patch). Also, SP and Cotton Belt (both with Hydra Cushion slogan). The Genesis series model has an MSRP of $32.98. Additional rolling stock includes a 16,000 gallon clay slurry tank car, and a 40' ballast hopper in nine numbers per road name. Additional details are available at the above website.

HO motive power coming in January includes SD40-2 diesel locomotives decorated for Norfolk Southern, NS (Maersk Sealand scheme), NS (Horse head scheme), Union Pacific (Fast Forty), Wisconsin & Southern, Wisconsin & Southern (30th anniversary scheme), Burlington Northern, and Milwaukee Road. The ready-to-run models will feature many road specific details all of which are itemized on the above website.

Additional locomotives on the January schedule include ALCo RS3 diesels decorated for Interstate, Ferrocarriles Nacionales de México (N de M), and New Haven (McGinnis scheme). The ready-to-run models will have an MSRP of $114.98.

Atlas Model Railroad Company (atlasrr.com) plans to release an HO scale Trainman® series PS-2 two-bay covered hopper car in the fourth quarter. Road names will include Lehigh Valley, Southern Railway, Southern Pacific, C&NW, Norfolk & Western, NAHX-Monon, and NAHX-Stauffer Chemical. The ready-to-run

model will have an MSRP of $19.95. An undecorated version will list at $15.95.

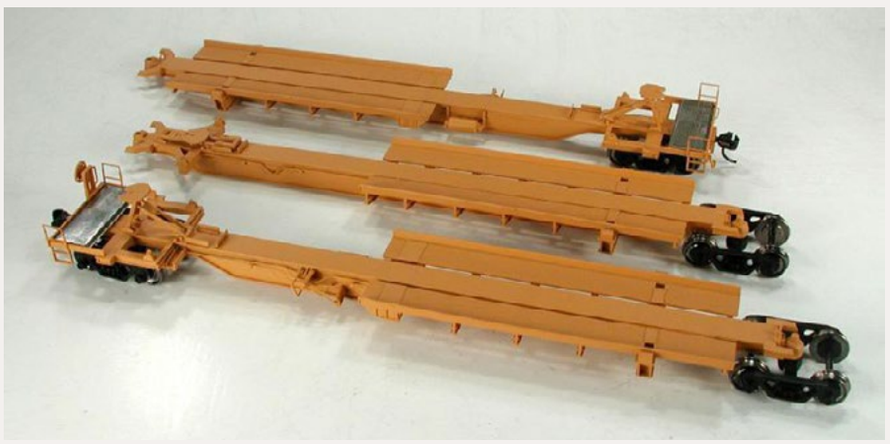
Also coming from Atlas in the fourth quarter are new paint schemes on a 73' center partition car. Road names will be Arkansas-Oklahoma Railroad, BNSF, TTX (yellow), and TTX (brown). The HO scale ready-to-run models will have an MSRP of $64.95. An undecorated model will list at $56.95.

BLMA (blmamodels.com) has scheduled an early 2014 release date for its ACF F89-J JTTX series 89' flat cars. The JTTX designation emerged when TTX realized the need for cars suitable for carrying bulk loads. In the 1990s many F89-J cars were re-configured from trailer to bulk load hauling. The JTTX fleet was the predecessor to the PTTX specialized pipe hauling cars. The BLMA models will have a number of prototype specific JTTX details such as deck modifications with wood beams, lower brake rigging, and specific paint and lettering schemes. The models will be equipped with Kadee #156 knuckle couplers, and 70-ton trucks with 33'' metal wheelsets. The HO scale ready-to-run F89-J JTTX cars have an MSRP of $39.95 each.

Bowser's (bowser-trains.com) December 2013 release schedule includes a run of HO scale Baldwin S-12 diesel switchers.

Baldwin-Lima-Hamilton Corporation built nearly 450 of the 1200 horsepower S-12 prototype locomotives beginning in 1951 and ending in 1956, when the company ceased all switcher production.

Road names on Bowser's Executive Line version of the S-12 will be Monongahela, Great Northern, Katy, Southern Pacific, Lehigh Valley, Erie, Central of Georgia, Pennsylvania (with trainline phone antenna), and Pennsylvania-Reading Shoreline. DCC/ Sound versions of the model will have an MSRP of $279.95. They come with a LokSound Select dual-mode decoder which allows locomotive to be used on DC as well as on DCC layouts. Standard analog DC models will list at $179.95.



Also on Bowser's December delivery schedule are Executive Line models of 53' TTX spine cars in both three- and five-unit sets. The HO scale ready-to-run models are capable of carrying highway trailers or international sea containers. Trinity RAF 33C three-unit spine car sets will have an MSRP of $99.95. The RAF 53C five-unit set will list at $169.95. Full details are available on the above website.

Bowser plans to release its 53' Roadrailer trailers in several new paint schemes in December. Construction types include rivet side, plate wall, and Dura Plate trailer walls. Decorating schemes will be Conrail/NS Roadrailers with Triple Crown logos, UP (We Can Handle It), Schneider, Swift, and four different NS schemes. Also BNSF (Ice Cold Express) trailers with refrigeration units and two variations of the Polar Bear logo. Multiple numbers will be available at an MSRP of $25.95 each.

Additional models due from Bowser in December include a new run of class H21a quad-bay hopper cars. The HO scale Executive Line series models have an MSRP of $24.95 each.

They will be available decorated for six PRR paint schemes plus Penn Central, Norfolk & Western, and Virginian.

Centralia Car Shops has released six versions of an HO scale ready-to-run Santa Fe steel caboose. Multiple car numbers are available for various classes of the caboose including some with radio equipment (above) and with wig-wag signals on the cupola (next column).

An undecorated model is also available. InterMountain Railway is responsible for marketing Centralia Car Shops products. For additional information visit intermountain-railway.com.

ExactRail (exactrail.com) is selling brass and nickel silver HO scale 33'' and 36'' replacement wheelsets that replicate the contour and cross section of the prototype. Both .110'' (NMRA) and .088'' (finescale) treads will be offered. They are available in 12-packs and in packs of 96. Chemically blackened brass 36" wheelsets are also available. All of ExactRail's wheelsets are packaged to protect the axle ends, which measure 1.002'' tip-to-tip.

ExactRail has made a second release of its Pullman-Standard 5344 cu ft boxcar in five new decorating schemes. The HO scale Platinum series ready-to-run models will be available for D & H – Delaware & Hudson, PHD – (St Clair Blue Water Route slogan, above), SBVR – South Branch Valley, and TASD – Terminal Railway Alabama State Docks (next page).

An undecorated kit is also available. All versions are available direct from ExactRail at $31.95 each.

FOS Scale Models (foslimited.com) has released an HO scale craftsman kit for Pier 27 Shed. This is a companion structure to FSM's Red Hook Harbor that was described on page 105 of the October 2012 edition of MRH. The new kit consists of three structures: a large pier shed, a utility building (far right in photo above), and a lunch stand (with Coca-Cola sign). The completed Pier 27 Shed has a footprint of 7" x 22". The kit is priced at $315.00 plus shipping. A photo gallery is available at the above website.

Recent HO scale cast resin kits introduced by **Funaro & Camerlengo** include a Baltimore & Ohio 50' class C-15 round roof baggage car, and a New Haven class GA-2 40' steel gondola. Additional information including pricing is available at fandckits.com.

InterMountain Railway Company has initiated an upgrade program for purchasers of the 1st and 2nd releases of its HO AC-12 Cab Forward locomotive. The upgrade includes a new NorthWest Short Line motor, which is said to provide significantly improved operation of the model. Some phases of the upgrade involve a fee, others are available at no charge. For full details go to ircmodelersclub.com and scroll down to “AC-12 Upgrade.” Meanwhile, a 3rd release of the AC-12 cab forward is expected in August or September.

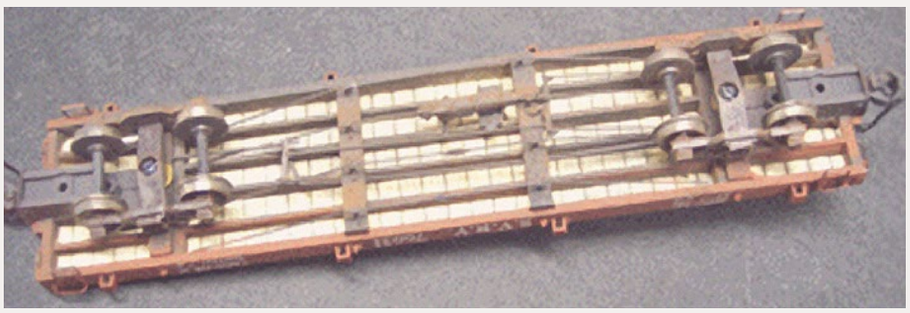
InterMountain Railway Company is creating a special HO scale train set to mark the company’s 25th Anniversary. The six-piece

set will include an F7A locomotive, an R-40-23 refrigerator car, a cylindrical covered hopper with trough hatches, a 4750 cu ft rib-side triple-bay covered hopper, an R-70-20 refrigerator car modernized with a Carrier A/C panel, and a caboose produced by Centralia Car Shops. The price for the set is $299.95 including shipping. For more information visit **intermountain-railway.com**.

In August, **Kadee Quality Products** (**kadee.com**) will release an HO scale ready-to-run model of a 50' PS-1 boxcar decorated for DT&I with a two-color herald and HYDROFRAME-60 slogan. The car comes with an 8' six-panel Pullman Standard door and #2100 couplers. It has an MSRP of $35.95.

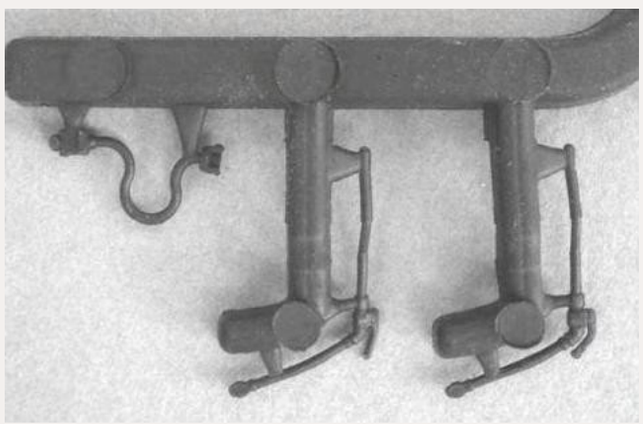
Also due in August from Kadee is a two-bay covered hopper decorated in red lettering for Southern Pacific. The HO scale ready-to-run model has an MSRP of $42.95.

Model Logging Supply (**govair.com/mls.htm**) is selling a kit for an HOn3 scale Sumpter Valley Railway 36' 7600 series flat car. The components are laser-cut with all required holes pre-drilled. Additional detail parts are from Tichy and Grandt Line. Correct SVRY decals are included.



The kit sells for $24.95 less trucks and couplers. The instructions include suggestions for HOn3 truck sources.

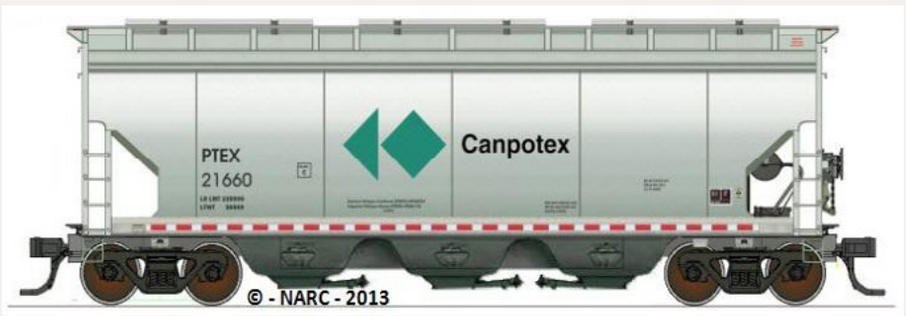
Moloco (molo-cotrains.com) is developing an HO scale PS-3 2750 cu ft triple-bay open-top hopper car based on a prototype Pullman-Standard began building in 1954. Decorating schemes on the one- piece injection molded plastic body will include Utah Railway, Southern Railway, Rock Island, Burlington Northern, Great Northern, Clinchfield, and L&N with Dixie Line slogan. Other features include Santoprene cast rubber air hoses (see below), Kadee® Whisker™ couplers, detailed hopper-door operating mechanism, trucks with metal wheelsets, and hand brakes appropriate to the prototype being modeled. Availability and pricing are pending.



Moloco is selling flexible air hoses molded in tough black Santoprene rubber. The HO scale air hoses are said to resist breaking even with excessive handling. Because Santoprene is a thermo-plastic, rather than a thermo-set, Moloco's air hose will not break down, chalk-over, or lose elasticity over time. In addition to a pair of air hoses, each car needs an ABD valve connection to the main air line. Moloco sells the air hoses at $4.00 for a pack of eight.

Monster Model Works (monstermodelworks.com) is selling an HO scale kit for a small concrete block building. The laser-cut kit includes raised-letter signage for Triple J Repair, but the versatile structure can be re-signed to represent a wide range of enterprises. The kit uses engraved concrete-block basswood sheets. The doors and windows are cut from Lazerboard. The finished kit has a footprint of 3.08" x 1.86" x 1.74" tall. The MSRP is $18.99. Visit the above website for full details.

Also new from Monster Model Works are Jointed Concrete Sheets in 5' and 10' spacing textured in plain, cracked, or mixed surfaces. Sheets sized for N, HO, S, and O scale are available at $14.99 for three sheets.



North American Railcar has HO scale 4275 cu ft Potash Service cars decorated in six different Canpotex schemes. They include PTEX, CITX, CGLX, and CEFX all with yellow reflective stripes. Also PTEX with red and white reflective stripes

(above). Multiple road numbers are available on the 47' triple-bay covered hoppers. The HO scale ready-to-run cars are sold in six-car sets at $239.98.

North American Railcar is also selling Potash Corporation 4300 cu ft triple-bay covered hoppers. Spotting features for the 47' triple-bay covered hoppers are the eight side sheet panels. The HO scale ready-to-run cars are available in six-car sets at $239.98 per set. North American Railcar models are available exclusively from Pacific Western Rail Systems. To order or for additional details visit **pwrs.ca.**

Rindt's Relics (rindtsrelics.com) has introduced a kit for a Four Winds Interurban Shelter. The Milwaukee Electric Railway prototype was designed to shelter passengers from wind in all directions – thus the name. The kit combines cast and laser-cut components. Kits are available in N, HO, and O scale. The HO scale kit sells for $29.95. See the O scale listing for a photo of the prototype.

Next January, **Roundhouse, Division of Athearn** (athearn.com) plans to release 36' wood truss-rod reefers decorated for Jacob Dold Packing Co., Kingan Refrigerator Line, and Morrell Refrigerator Line. The HO scale ready-to-run truss-rod era models will have an MSRP of $24.98. Images and other details are available at the above website.

Sidetrack Laser (sidetracklaser.com) is selling a background kit for a Greyhound Bus Depot. The kit is composed of laser-cut parts, graphics, Grandt Line windows, and various detail parts. Vehicles and figures are not included. The HO scale kit has a footprint of 3.125'' x 9.625'' and sells for $39.95.

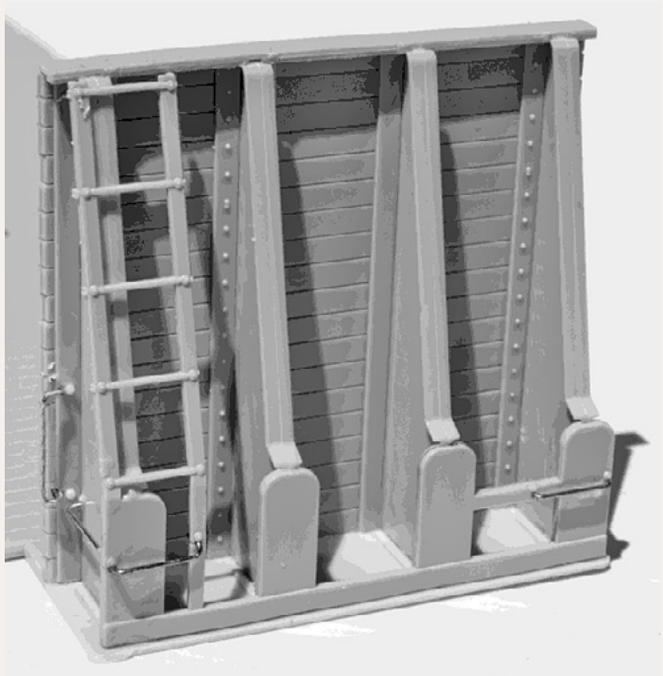
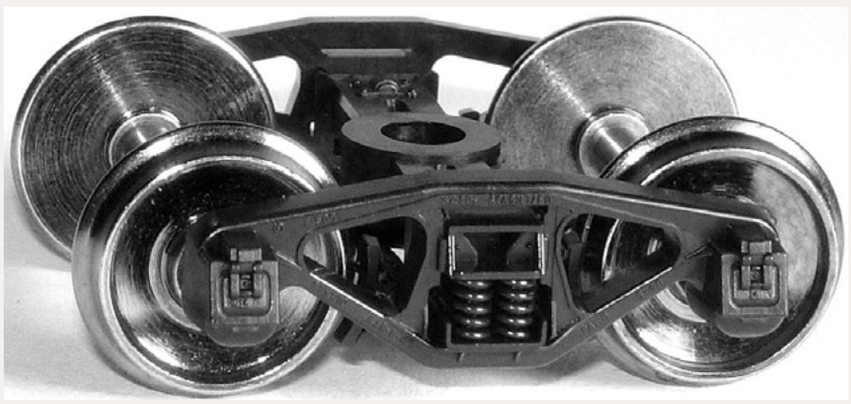


Photo of bulkhead assembly courtesy of Tony Thompson

The Southern Pacific Historical and Technical Society (espeemodels.com) has scheduled another limited-production run of SP class F-70-7 bulkhead flat cars. The HO scale model will be produced from tooling SPH&TS acquired from Red Caboose several years ago. Both the 1956 version with 6' 5'' bulkheads and the 1962 version with 8' 6'' bulkheads (above) will be offered. This is a limited-production run and will likely be pre-sold-out prior to its scheduled August arrival. Interested parties should visit the above website soon. The ready-to-run model is priced at $54.95 each.

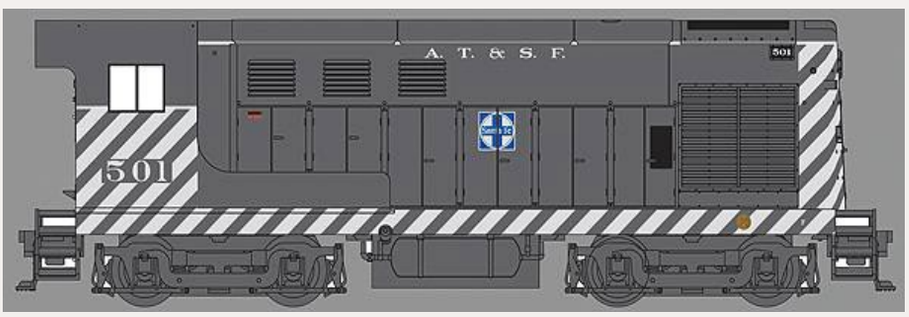
Summit-USA (summit-customcuts.com) has an HO scale kit for a contemporary Taco Bell© Restaurant. The kit consists of numerous structural parts milled from styrene. Some cleanup is required before assembly. The completed structure has a footprint of 8.25'' x 4.50'' x 3.5''. The kit has an MSRP of $99.95.



Tahoe Model Works has added a Barber S-2 50-ton truck to its extensive line of HO scale freight car trucks. Introduced in 1939 by Standard Car Truck Company, the basic design of the Barber S-2 is still in use today. Measurements for the model were taken from a prototype truck under the Milwaukee Road rib-side boxcar at the Western Pacific Railroad Museum in Portola, Calif. Features on Tahoe's HO scale version include a clearly defined bolster end and correctly sized journal boxes. The trucks come with a choice of either an RP-25 or semi-scale wheelsets at $8.35 pair. For additional details including ordering information visit sunshinekits.com/tahoe.html.

In conjunction with the New York Central System Historical Society, **True Line Trains** (truelinetrains.ca) is developing an HO scale version of a New York Central 190000 series standard wood caboose. The ready-to-run model will be available decorated for NYC and P&LE in both pre-1955 Roman lettering and post-1955 gothic lettering. Rutland versions will include models with “Route of the Whippet” slogan, and green and yellow paint schemes. Delivery is planned for 2014. The MSRP will be $44.99. Complete details including reservation information is available at the above website.

Walthers (walthers.com) has scheduled a limited production run of its WalthersProto™ Fairbanks Morse H-10-44 diesel locomotive for delivery in late December. The HO scale ready-to-run model replicates the nearly 200 Raymond Loewy-styled 1000 hp switchers FM produced between 1944 and 1949.



Walthers will offer four road numbers each for AT&SF, Milwaukee Road, Pennsylvania, and KIT – Kentucky & Indiana Terminal Railway. Standard DC models will have an MSRP

of $169.98. Models equipped with Tsunami® Sound and DCC decoder will list at $259.98.

Westerfield Models (westerfieldmodels.com) has re-released its 8100 series resin kits for 41' steel gondolas. The release includes kit #8151 for a USRA clone B&O gondola with flat end and kit #8161 B&O gondola with creased end. Appropriate decals are included in the one-piece body kits. The kits are priced at $37.00 less trucks and couplers. Ordering information and a history of the cars is available at the above website.

Yarmouth Model Works (yarmouth-modelworks.com) is selling a resin kit for an HO scale Canadian Pacific plywood-sheathed wartime boxcar. The craftsman-style kit includes Tahoe truck frames, Tichy brake castings, custom-designed laser-cut running board, brass wire, formed grab irons, various photo-etched details, and decals created by Black Cat Publishing. Couplers and wheelsets are not included. The craftsman-style kit is priced at $55.00 plus $8.00 shipping within North America.

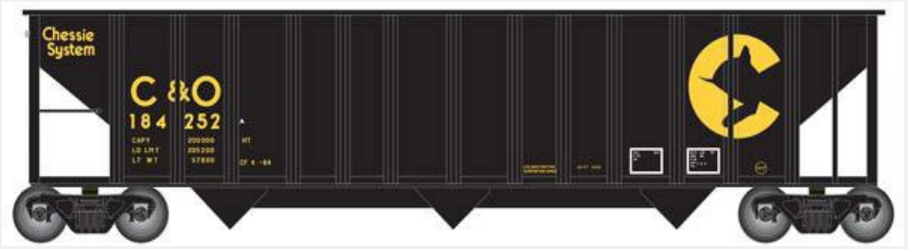
N SCALE PRODUCT NEWS

American Archetype (americanarchetypemodels.com) has released Engine Company 65 Firehouse, its first laser-cut N

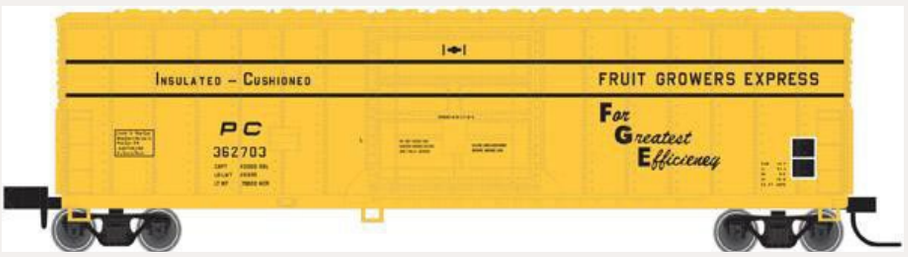
scale structure kit. The kit is composed of wood and Lazerboard components featuring brick texturing created by Monster Model Works. The finished model has a footprint of 3.79'' x 2.06'' x 4.44'' high. It is priced at $59.95. Visit the above website for ordering information and a brief history of the prototype firehouse which is in New York City.

Athearn (athearn.com) has scheduled the release of N scale SD70M, SD75I and SD75M locomotives for January 2014. CSX, Norfolk Southern, and UP road names will be available on the SD70M. Both of the SD75 models will be for BNSF. The MSRP will be $114.98. Also coming in January are four new N scale Husky Stack cars with an MSRP of $24.98. Roads will include BN, SP(speed lettering), TTX, and TTX with new red logo. Additional N scale models coming early next year are five 50' FMC plug-door boxcars with new road numbers for Santa Fe, BN, D&RGW, Grand Trunk Western, and Soo Line. The N scale ready-to-run models will have an MSRP of $18.98 each. Images and additional details are available at the above website.

Atlas Model Railroad Company (atlasrr.com) has scheduled a production run of 90-ton triple-bay hopper cars with new numbers and paint schemes for release during the fourth quarter of this year.



The Trainman® series ready-to-run N scale models will be available in two numbers each for Canadian National, Chessie System – B&O, Chessie System – C&O, Chessie System – WM, Wheeling & Lake Erie, Bessemer & Lake Erie, and Northern Pacific. The MSRP will be $17.95 each. An undecorated model will be offered at $13.95 each.



Atlas's fourth quarter schedule includes new schemes on its Master® series 50' FGE boxcar. Road names will be Chicago & North Western (black body), Denver & Rio Grande Western (Action Road slogan), Erie Lackawanna (large herald, Cushioned Car slogan), FGE-FGER, CSX (NYC patch), and PC-Fruit Growers Express as shown here. The N scale ready-to-run model will have an MSRP of $16.95 each. An undecorated version will list at $12.95

Also coming in the fourth quarter is an Atlas Trainman® series 42' gondola decorated for CNW, CP Rail, Delaware & Hudson, Illinois Central Gulf, Jersey Central, and N de M-Ferrocarriles Nacionales de México. The MSRP on the N scale ready-to-run model will be $14.95. An undecorated version will list at $11.95.

BLMA (blmamodels.com) has scheduled an early 2014 release for its ACF F89-J JTTX series 89' flat cars. The BLMA models will have a number of prototype specific JTTX details such as deck modifications with wood beams, lower brake rigging, and specific paint and lettering schemes. The models will be equipped with Micro-Trains couplers, and BLMA 70-ton trucks with 33'' metal wheelsets. The N scale ready-to-run F89-J JTTX cars have an MSRP of $29.95 each.

InterMountain Railway Company (intermountain-railway.com) is releasing a special train set to mark the company's 25th Anniversary. The six-piece set will include an F7A locomotive, an R-40-23 refrigerator car, a cylindrical covered hopper with trough hatches, a 4750 cu ft rib-side triple-bay covered hopper, an R-70-20 refrigerator car modernized with a Carrier A/C panel, and a caboose produced by Centralia Car Shops. Delivery is planned for early 2014. The price for the N scale train set is $219.95 including shipping. See the HO scale listing for an illustration. Visit the above website for reservation information.

North American Railcar has N scale 4275 cu ft Potash Service cars decorated in six different Canpotex reporting mark schemes. North American Railcars also has Potash Corporation 4300 cu ft triple-bay covered hoppers. Both types of the ready-to-run cars are available in six-car sets at $179.98 per set. North American Railcars are available exclusively from Pacific Western Rail Systems (pwrs.ca). See the HO scale listing for additional details and images of both cars.

Rindt's Relics (rindtsrelics.com) has introduced a kit for a Four Winds Interurban Shelter as described in the O and HO scale section. The N scale kit sells for $19.95.

Sidetrack Laser (sidetracklaser.com) is selling a background kit for a Greyhound Bus Depot. The kit is composed of laser-cut parts, graphics, Grandt Line windows, and various detail parts. The N scale kit has a footprint of 2'' x 5.375'' and sells for $34.95. See the HO scale listing for a photo of the assembled model.

Trainworx has announced eight new decorating schemes for a series of CB&Q, CNW, CGW, and Denver Chicago vans. Pre orders for future delivery are being accepted through June 30, 2013. For complete details visit **train-worx.com**.

Walthers (wal-thers.com) is selling an N scale kit for a Rail Car Restoration building that provides a perfect excuse for displaying vintage equipment or a favorite model that may be inappropriate for the theme of your layout. The baseplate accepts code 55 or code 80 rail. Other details worth noting include positionable equipment doors and six assorted storage tanks. The structure has a footprint of 8.1875'' x 5.250'' x 3.0938'' high. The kit has an MSRP of $44.98.

Z SCALE PRODUCT NEWS

Full Throttle (wdwfullthrottle.com) is selling 33' twin-bay offset-side hopper cars decorated in two different Delaware & Hudson

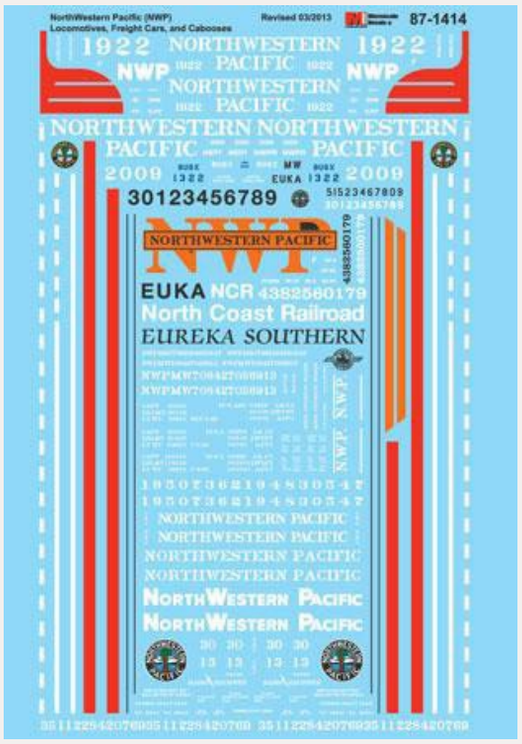
schemes. Coal loads are included for the cars which are manufactured by Bowser. Visit the above website for pricing and ordering information.

NEW DECALS AND FINISHING PRODUCTS

Great Decals (greatdecals.com/GreatDecals/WSM124.JPG) has HO scale decals for Union Pacific 40 class A-50-16 automobile boxcars with yellow and white lettering including yellow "Road of the Streamliners" and "Serves All the West" slogans. Item WSM 124 is priced at $9.99 postpaid and includes material to decorate one car.

Mask Island Decals is selling HO scale decals for Southern 40' Kaolin car with block lettering (Item 87-186, above), Southern 40' Kaolin car with green light to innovation slogan (87-187), Central of Georgia 40' Kaolin car (87-188,

below), Southern 50' green light car (87-189), and Rock Island 50' ACF ribbed side boxcar with small speed lettering (87-190). The HO scale decals are $6.00 per set and have sufficient material to letter two cars. For additional details including ordering information visit maskislanddecals.com.



Microscale Industries (microscale.com) has released several new decals sets including textured decals with plywood grain and solar panels. Also new are HO and N scale decals for lettering diesel locomotives, wood boxcars, and wood cabooses owned by Northwest Pacific, Eureka Southern, and North Coast Railroads (above left). Also new is a Pan Am Railway decal set for diesel locomotives, and FMC 5347 boxcars with dark blue

repaint and reporting marks. Also a set to decorate Missouri Pacific and Missouri Illinois 50' and 60' insulated boxcars (above right), and finally, a new lettering set for Texas Mexican Railway that will handle the road's GP38, GP38-2, and GP60 diesels, PS 5444 boxcars, and TMR bay window cabooses. Visit the above website for additional details and pricing . Still under development at Microscale are decals for Southern steam locomotives including the Crescent Limited; BNSF switchers, slugs and gensets; Erie Lackawanna RPO and passenger cars; and GP59, GP60, and gensets for Norfolk Southern.

Mount Vernon Shops (mountvernonshops.com/SKH34.html) has HO scale decals for PRR class H34 covered hoppers in the shadow keystone scheme. Visit the above website for pricing and detailed information on the various subclasses this set will accurately letter.

Shore Line Decals is selling HO and O scale traction decals with black letters and silver outlining for Interstate Service Corporation parlor cars numbered 158-161, and ISC combine cars 150-157. Also new are O scale gold decals for Rockford & Interurban Railway. Visit shorelinedecals.com for pricing and ordering information.

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!

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Scenery techniques that go outside the box - you won't find many of these methods illustrated on step-by-step video any where else ...

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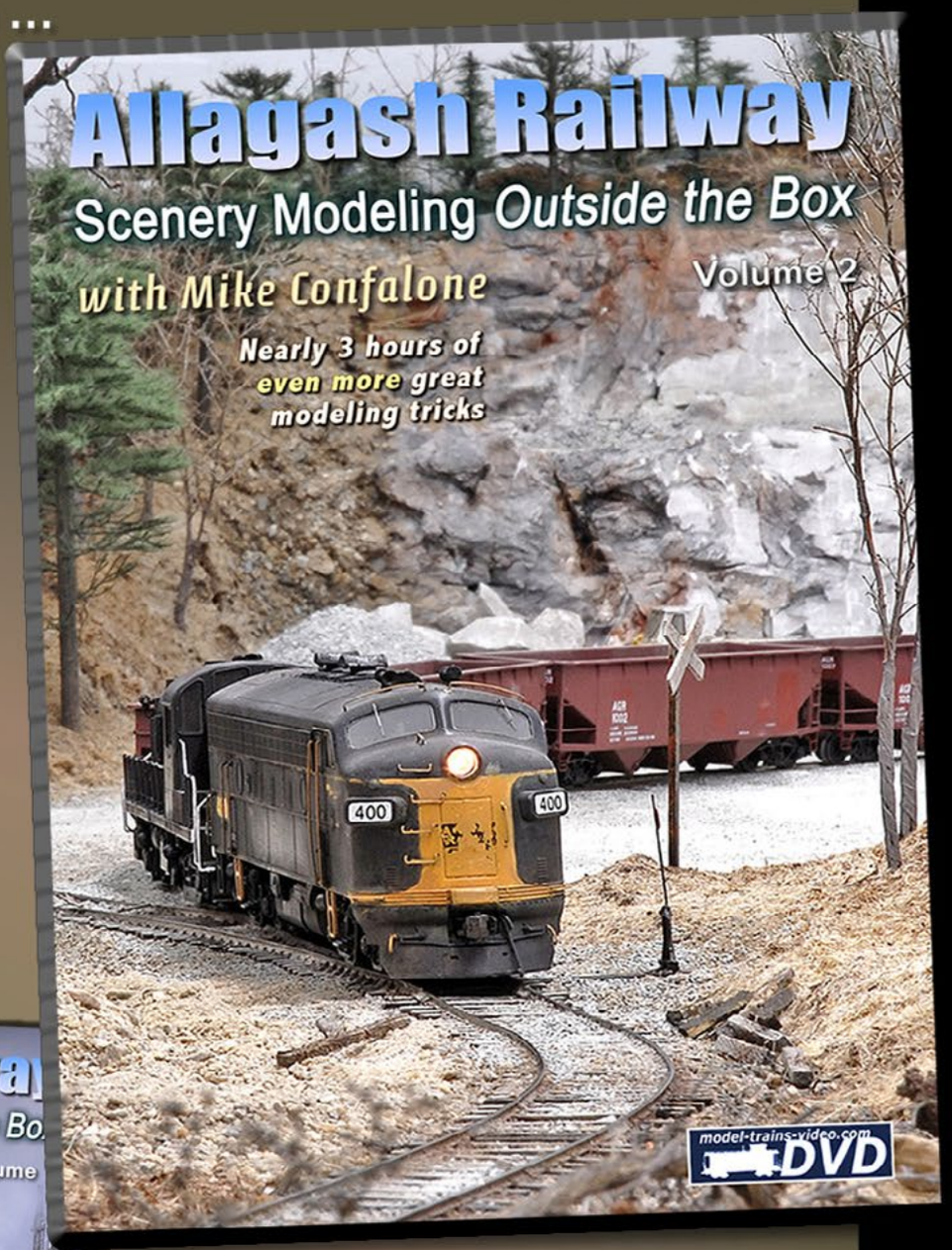
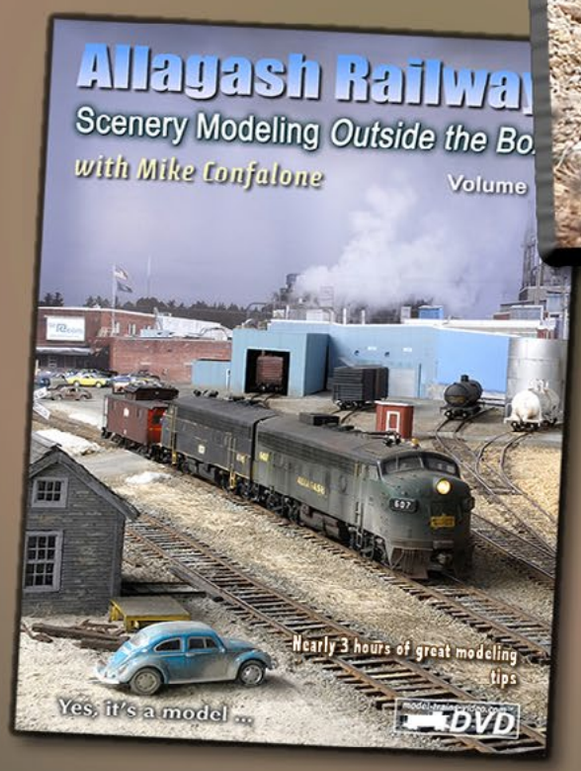




Get both!

Vol 1 + Vol 2 ...

Super-sale!

~~$40~~ **$18.95**

$18 **Instant downloads**

Selected Events

June 2013

CALIFORNIA, ONTARIO, June 1-2, The Big Train Show. All scales, all gauges, including manufacturers displays, clinics, and operating layouts. Ontario Convention Center, 2000 East Convention Center Way. Info at **bigtrainshow.com**.

CALIFORNIA, RICHMOND, June 22, San Francisco Bay Area Prototype Modelers Meet, Hosted by BAPM. St. David School, 871 Sonoma Street. Info at **bayareaprototypemodelers.net**.

CALIFORNIA, SAN DIEGO, June through August, Kids Summer Camp at the San Diego Model Railroad Museum for grades 3-8. Program includes constructing a diorama, creating scenery, structures, and building their own freight cars. Weathering, trackwork, wiring, and an understanding of electricity are all on the curriculum. Also, railroad history, culture, and science with field trips to the Santa Fe Depot and the San Diego Electric Railway Association at the National City Depot. Visit **sdmrm.org/#/model-rr-camp/4533422272** or call 619-696-0199 for registration requirements and fees.

COLORADO, COLORADO SPRINGS, June 15-16, Train Expo Colorado, show and swap meet at 3660 N. Nevada Avenue.

FLORIDA, TALLAHASSEE, June 15, 22nd Annual Model Railroad Show & Sale, sponsored by Big Bend Model Railroad Association. North Florida Fairgrounds, 441 Paul Russell Road. Info at **bbmra.org**.

IDAHO, BOISE, June 26-30, Snake River Special, NMRA Pacific Northwest Region 2013 Convention. Info at **pnr.nmra.org/3div/2013.html**.

KANSAS, MERRIAM, June 29, Kansas City Area Narrow Gaugers 11th Annual Meet, with layout tours and clinics. At the Antioch Branch, Johnson County Library, 8700 Shawnee Mission Parkway. Info from Larry Alfred at **captlalfred@gmail.com**.

KANSAS, OLATHE, June 13-16, NMRA Mid-Continent Region 2013 Convention. Info at **mcor-nmra.org**.

MARYLAND, TIMONIUM, June 22-23, Great Scale Model Train Show, with more than 800 vendor tables. Hosted by Howard Zane at Cow Palace, Maryland State Fairgrounds. Info at **gsmts.com**.

NEW MEXICO, ALBUQUERQUE, June 6-9, Rails Along the Rio Grande, NMRA Rocky Mountain Region, Rio Grande Division 6 Convention, at Marriott Pyramid North. Info at **rarg2013.org**.

OHIO, DAYTON, June 22-23, 2013 Carillon Park Rail Festival with live steam engines, model train displays, vendor tables and free miniature train rides. 1000 Carillon Blvd. Info at **rail-festival.com**.

OHIO, MASON (Cincinnati), June 5-9, 29th Annual National Garden Railway Convention. HQ at Great Wolf Lodge, adjacent to Kings Island Amusement Park. Info at **ngrc2013.com**.

OREGON, PORTLAND, June 28-30, West Coast 2013 Garden Railway Regional Meet, hosted by Rose City Garden Railway Society. Info at **rcgrs.com**.

PENNSYLVANIA, TITUSVILLE, June 15-16, Oil Creek & Titusville Railroad 2nd Annual Train & Hobby Show, at Perry Street Station. Info at **cleveshows.com**.

TEXAS, IRVING, May 29 - June 2, Lone Star Express, 2013 NMRA Lone Star Region Convention at Sheraton DFW Hotel. Call 800-345-5251 for reservations request 2013 Lone Star Region rate.

WASHINGTON, BREMERTON, June 15, Annual Swap Meet, sponsored by Bremerton Northern Model Railroad Club, 9 AM to 3 PM at West Side Improvement Club, 4109 West E Street.

WISCONSIN, MILWAUKEE, June 26-30, National N Scale Convention. Info at **nationalnscaleconvention.com**.

July 2013

ARIZONA, PHOENIX, July 27, In the Heat Swap Meet, models, books, memorabilia, and accessories. North Phoenix Baptist Church, 5757 N. Central Avenue. Info from David Jerry 602-336-0973.

CALIFORNIA, McCLELLAND (Sacramento area), July 17-21, National Summer Steam Up, small scale live steam event. HQ at Lions Gate Hotel & Conference Center, 3410 Westover Street. Details at **summersteamup.com**.

GEORGIA, ATLANTA, July 19-21, NMRA Annual Convention. Cobb Galleria Centre with convention HQ at adjacent Renaissance Waverly Hotel. Info at **nmra2013.org**.

GEORGIA, ATLANTA, July 18-20, National Train Show, in conjunction with annual NMRA Convention. Cobb Galleria Centre, 2 Galleria Parkway. Info at **nmra2013.org**.

ILLINOIS, BELLEVILLE, July 27-28 The Great Train Expo, at Belle-Clair Fairgrounds. Info at **greattrainexpo.com**.

OHIO, VAN WERT, July 13-14, Model Train Show & Swap Meet with more than 100 vendor tables, Van Wert County Fairgrounds. Info from Jan Dunlap at **snapshotjan@embarq-mail.com**.

TEXAS, LIVE OAK (San Antonio), July 27-28, 11th Annual Summer Train Show, sponsored by San Antonio Model Railroad Association. Live Oak Civic Center, 8108 Pat Booker Road. Info at samratx.org.

Future 2013

CANADA, ONTARIO, BRACEBRIDGE, August 10, Muskoka Summer Train Show with historical displays, layouts, and vendor tables. At James Lang Activity Park, Bracebridge Fair Grounds. Info at muskokamodelrailwayclub.org/annual-summer-train-show.html.

CANADA, QUEBEC, LAVAL, November 2-3, Laval Expo Train Modelisme Show, (The Quebec Hobby Show), with product displays and more than 550 vendor tables. Georges Vanier School Complex, 3995 Boulevard Levesque East, Duvernay. Info from M. Didier Piette at didier.piette@videotron.ca.

CALIFORNIA, PASADENA, August 28-31, 33rd National Narrow Gauge Convention. Nationally recognized speakers include Eric Bracher, Jack Burgess, Malcolm Furlow, Steve Harris, and Burton Maxwell. Tours include steam operations at Disneyland, Knott's Berry Farm, and the backshop at the Fillmore and Western Railway. HQ at Hilton Hotel, 199 S. Los Robles Avenue. Full details at 33rdnngc.com.

CALIFORNIA, SAN BERNARDINO, September 25-29, NMRA Pacific Southwest Region Convention with contests, manufacturers displays, 50 clinics and Big Boy raffle. Prototype tours include Union Pacific hump yard, the Victorville CEMEX plant, and the Columbia Park Live Steamers. HQ at Hilton Hotel 285 E. Hospitality Lane. Details at psrconvention.org/sb13/index.html or contact Bob Mitchell at CajonDivision@coastinet.com.

COLORADO, LONGMONT, December 14-15, Annual Train Show, sponsored by Boulder Model Railroad Club, at Boulder County Fairgrounds. Info at **bouldermodelrailroadclub.org**.

FLORIDA, BRADENTON, October 11-13, Manatee Rails, NMRA Sunshine Region 2013 Convention, Courtyard Marriott Bradenton Convention Center. Info at **sunshineregion.org/Conventions.aspx**.

FLORIDA, ORLANDO, Aug 3-4, The Great Train Expo, at Central Florida Fairgrounds. Info at **greattrainexpo.com**.

ILLINOIS, COLLINSVILLE (Metro St. Louis), August 2-3, St. Louis RPM, at Gateway Convention Center. Info from John Golden at **golden1014@yahoo.com**.

ILLINOIS, LISLE (formerly at Naperville), October 17-19, 20th Annual RPM-Naperville Conference hosted by Joe D'Elia. Clinicians include Bob Van Arnem, John Brown, Richard Hendrickson, Tony Koester, Clark Propst, Mont Switzer, and Tony Thompson. At Wyndham Lisle Hotel (new venue), 3000 Warrenville Road, Lisle. Info at **railroadprototypemodelers.com/naper_meet.htm**.

MARYLAND, TIMONIUM, October 26-27, Great Scale Model Train Show with more than 800 vendor tables. Hosted by Howard Zane at Cow Palace, Maryland State Fairgrounds. Info at **gsmts.com**.

MASSACHUSETS, PITTSFIELD, November 7-9, Fine Scale Model Railroader Expo. Focuses on structures with speakers Jon Addison, Michael Duggan, Dave Frary, Brett Gallant, Ken Hamilton, Bernard Kempinski, Marty McGuirk, Bob Mitchell, Dave Revelia, and Bill Sartore. Expo info at **modelrailroadexpo.com**. Event at Berkshire Crown Plaza Hotel, One West Street.

NEW YORK, GARDINER, October 25-26, Semi-Annual Mid Hudson On30 Meet at St. Charles Borromeo RC Church, 2212 Route 44/55. Details at groups.yahoo.com/group/midhudsonOn30meet/.

OHIO, CINCINNATI, August 10, Railroad Art Show and Sale, featuring quality railroad photography, at Cincinnati Union Terminal. Sponsored by Cincinnati Railroad Club. Info at cincinnatirrclub.org.

PENNSYLVANIA, PITTSBURGH, August 28-September 1, Annual Steel Mill Modelers Meet with seminars, model contests, vendor tables, and tour of Carrie Furnace. Info from John Glaab at peachcreekshops.com. At Four Points Sheraton Hotel at Pittsburgh Airport, 1 Industry Lane.

VIRGINIA, STAFFORD, September 13-14, Mid-Atlantic Railroad Prototype Modelers Meet, at Hope Springs Marina Clubhouse, 4 Hope Springs Lane. Info at marpm.org.

WISCONSIN, WEST ALLIS (Milwaukee area), November 9-10, Trainfest 2013, hosted by Wisconsin Southeastern Division of NMRA.

WYOMING, EVANSTON, August 2-4, 16th Annual Roundhouse Festival with model trains, layouts, vendor tables and turntable rides. Hosted by Hostler Model Railroad Club. Info from Mike Murphy at mmurphy@g.com.

Future (2014 and beyond)

FLORIDA, COCOA BEACH, January 9-11, 2014, Cocoa Beach RPM meet.

GEORGIA, SAVANNAH, March 27-29, 2014. 2014 Savannah RPM meet.

INDIANA, INDIANAPOLIS, July 3-10, 2016 NMRA National Convention and National Train Show.

MAINE, AUGUSTA, 2016, date TBA, 36th National Narrow Gauge Convention.

MISSOURI, KANSAS CITY, September 3-6, 2014, 34th National Narrow Gauge Convention.

OHIO, CLEVELAND, July 13-19, 2014, NMRA National Convention and National Train Show.

OREGON, PORTLAND, August 23-30, 2015 NMRA National Convention and National Train Show.

TEXAS, HOUSTON, 2015, date TBA, 35th National Narrow Gauge Convention ■

Yes, MRH is indexed. To learn more, click here.

contents
index

No sacred cows

Reverse Running: Stepping outside the box with a contrary view

by Joe Fugate

I was listening to a recent Scotty Mason podcast, *Model Railroad Hobbyist* columnist Mike Rose was talking to Scott about some drastic changes he had made to his layout recently.

Scott was shocked by the sweeping changes, and Mike responded by saying, "We need to not have any sacred cows when it comes to our layouts. By being open to redoing most anything if it needs it, the entire layout improves."

A sacred cow is an American idiom referring to some idea, person, or thing that is not open to examination or consideration for change. If it's "sacred" then just forget it – you can't change it, so move on.

Mike's point is good – *nothing* on our layouts should be held sacred and nothing should be beyond being re-examined.

As we do the hobby, our skills naturally improve. Sometimes we can look at some part of our layout and see how it might be done better. Well, then, entertain the idea – and see where it takes you!

Look at your layout piece by piece. Think about your skill level when you started, and what you can achieve now. Is there one spot

that has always nagged at you? Has a friend suggested improvements and new techniques? Now is your opportunity.

On my own layout, I'm looking at the main staging and thinking of completely rebuilding it with sectional modules at the workbench. The area is more than 80 inches off the floor, or an apparent 65 inches high when standing on a 15-inch raised floor. There's not much working room between the tabletop and the ceiling.

To make matters worse, there's furnace return-air ducts enclosed in sheetrock over one end of the staging, leaving about 7" of working space above the tabletop.

When I built this staging, it was the last area to go in and frankly, I was in a hurry to get the layout ready for op sessions. I was never completely satisfied with the trackwork in staging, and I've always excused it by telling myself, "Hey, it's staging for crying out loud, so it's hidden trackage. It doesn't need to be great-looking trackwork."

The one big problem is this trackwork may not look superb, but it also did not run as well as it could, either.

I've also thought, "Well, it's done, and it does function. Re-doing it will be a lot of work."

Well, maybe. Every time there's a derailment in staging I'm reminded this area could be better. That adds up to a lot of negative mental energy over time, which can cut seriously into your layout enjoyment.

Mike's reminder that we should not have any sacred cows on our layouts is a good one. Time to get off the dime and replace that staging, I think! ☑

Clickable advertiser index

Clickable topic index

Derailments

humor (allegedly)

You know you have had a bad day when...

When my son was 3 or 4 years old, we would rail-fan locally. He fondly called the grade crossing gates the “ding-ding”. One day while in the bathroom, he was taking quite a while to finish. I asked him if everything was OK. He replied “The ding-ding’s on but the train’s not coming”.

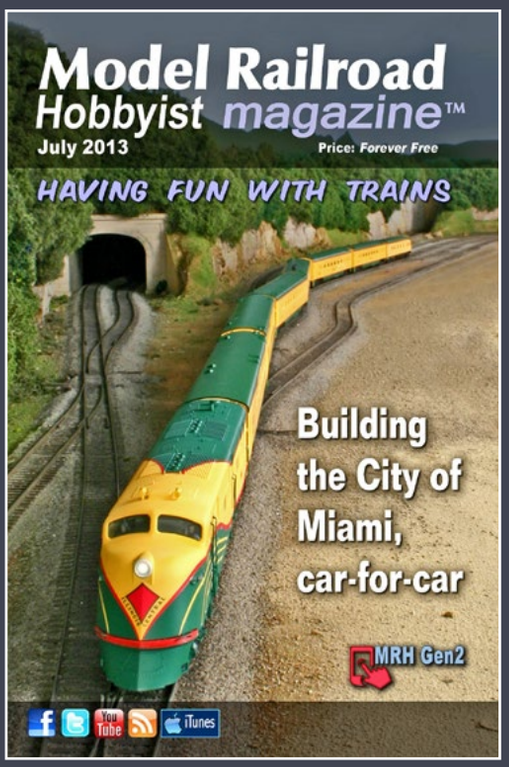
If you’re the first to **submit a bit of good humor** and we use it, it’s worth $25!

Reader Feedback
(click here)

For the love of model trains

Coming in July

- Part 1 of building the City of Miami
- Scale flash photography
- Tar paper roofs
- Modeling Erie boxcars from the 1950s finale
- Prototype ops for modelers
- *...and lots more!*



More Derailments humor ...

Gandydancer: Railroad term for the track worker who hits his toe with the spike hammer instead of hitting the spike.

An engineer calls the dispatcher and asks him for the time. The dispatcher asks him what road he works for.

The engineer snaps back, “What difference does that make?”

“Well,” the dispatcher responds, “If you work for the BNSF it’s 2 pm; if you work for the UP it’s 1400; if you work for the NFS the big hand is on the 12 and the little hand is on the 2; and if you work for Amtrak, it’s Tuesday!”