Model Railroad Hobbyist magazine™

HAVING FUN WITH TRAINS

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- Hauling N scale passengers

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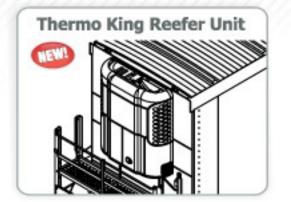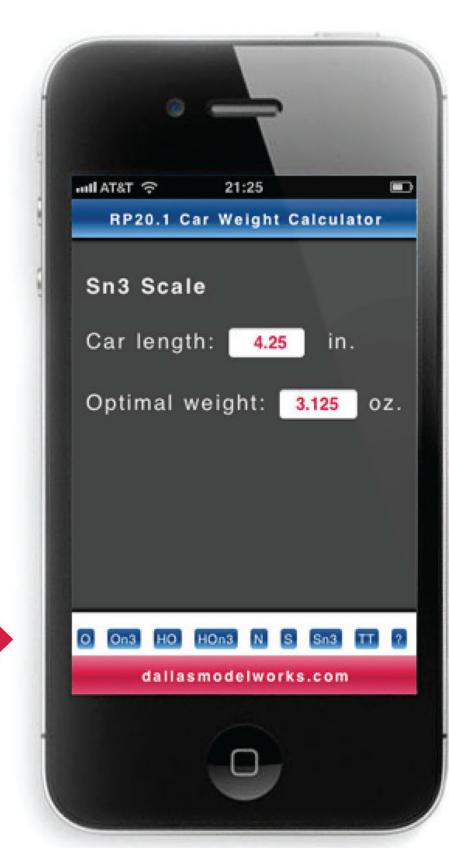
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About the Editor

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

To learn more about Charlie, click here.

EDITOR'S SOAPBOX: The Season of Trains
Remembering good times with trains in the past ...

Reader Feedback
(click here)

Christmas is a season of great joy for many people. Some visit with family and friends. Some find great joy celebrating the birth of their Lord. Others use it as an excuse for overeating.

We model railroaders have an additional reason to celebrate. Many of us got our start with model trains on a long ago Christmas morning when we were greeted by the sight of a locomotive, cars in tow, chugging bravely around a Christmas tree.

Over the years the favorite scale for train sets has changed. The popular sets have included Lionel and American Flyer, then HO and N scale. These days Thomas and Hogwarts play a significant role in the train set market.

My dad gave me my first model train when I was five. We lived at 17 Sherwood Drive in Huntington, New York, not far from Cold Spring Harbor station on the Long Island Railroad. Our backyard ended at the tracks and I remember leaning over a split-rail fence and waving to the engineer and passengers on the trains that came speeding by.

That first layout was a modest beginning – a 4' x 4' sheet of green plywood with a circle of track on it, and an HO Athearn rubber-band drive locomotive (probably a Fairbanks Morse Train Master if I recall correctly after 50+ years). I was fascinated watching that train roll up the miles crossing vast distances one 4' loop at a time.

I've asked my dad, as we were standing together in the large room that holds the BC&SJ, if he had any idea what he was starting with that train set? He said "No!" In some ways that set was like a snowball at the top of the Matterhorn. With a gentle shove that snowball arrives at the bottom slightly larger than when it started!

I recall Christmas at our vacation house in Sonoma County, California, in the late '60s when it was new. One of the items under the tree was an N scale train set. We didn't have an official layout but we did have a few scraps of plywood left over from building the house. We set up the track on the plywood and watched the train run.

It wasn't long before we pulled out the Legos (actually, a precursor to Legos) and made a few buildings next to the tracks and even a plastic brick mountain with a tunnel for the train to run through. Very crude, out-of-scale, and not a bit of realistic weathering, but hey, I remember having a lot of fun doing that. Later on, while I was away in the Navy, my dad and younger brother morphed that set into 4'x10' layout.

Fast forward the calendar to Christmas 2000, when my daughter was three. I spent several hours Christmas Eve laboriously putting together a Disney train set. It had a trough instead of track and a cloverleaf trackplan (if it could be called a trackplan). Each lobe of the cloverleaf had a miniature Disney-esque "ride". The battery powered train would stop at each ride and make it spin around. When my daughter came down the next morning and saw the train chugging around the track, she was entranced!

Since then, my kids loved, and then ignored dad's trains (being a perfectionist doesn't help your kids enjoy the hobby). But who knows, maybe they'll remember trains some Christmas in the future, and their own kids will find train magic that morning?

On a sadder note, my friend Ralph Livermore passed away earlier this week. When I moved to Beaverton in 1996, I sought out modelers in the area and met Ralph (and other members of a Tuesday round-robin group). The day we met, Ralph invited me home to see his trains. He later became a regular on the Bear Creek. Ralph, I'm missing you.

There's a lesson here – don't wait to get together. Another day and it may be too late. Where are you going?

Charlie

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Digitrax Duplex Radio Products now available for Europe!

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Notes from the
MRH Staff

2011 is done, ratings for November, MRH on the Kindle Fire, and more ...

Reader Feedback
(click here)

We made it!

What a year it's been! I look back on 2011 and see 12 issues in 12 months. Frankly, going monthly was kind of scary. Heck it was definitely scary. But we made it and are still going strong and expect 2012 to be even better. But we're not going weekly in 2012!

November's ratings

Drum roll please! The five top articles in the November 2011 issue are:

- 4.5 – Rochester Coal Deliveries
- 4.5 – Up the Creek - Upper Bear Creek Gets Water, part 2
- 4.5 – Kitbashing a Central Valley truss
- 4.3 – Engine house - Kato paint removal
- 4.3 – DCC Impulses - More of the basics
- Issue overall: 4.5

Many thanks to those who rated articles – the more who vote, the better idea we have of what you, our readers, would like to see. This is your chance to have your voice heard!

MRH on Kindle Fire

Amazon's full-color Kindle Fire has been released for $199, making it the most affordable tablet you can get for reading Model Railroad Hobbyist. MRH puts the Kindle Fire through its paces here in this video on YouTube: **youtube/watch?v=MyoeMn6Y7RI**.

The Kindle Fire's 7" screen is too small to show the entire page, but a quick flick of the finger moves the page up so you can see the rest of it.

Kindle Fire with a MRH cover.

We're pleased to say the MRH text is generally readable without zooming, but a pinch out gesture zooms you in quickly if you do need the text enlarged.

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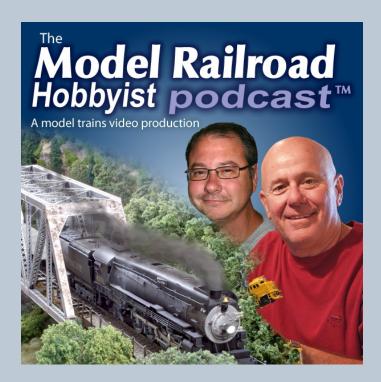
All-in-all, a decent reading experience for $199. Check out the YouTube video for more. (You can also download DVD and HDV versions in the subscriber-only bonus area for December.)

The MRH Podcast

Remember to check out the MRH podcast - we talk with Gary Paulino of **Traintek** about the new Ring Engineering RailPro system. If you are looking for a true wireless system that goes straight to the loco (and not through the track) then you'll want to learn more about RailPro. MRH will be featuring RailPro in an upcoming First Look complete with a video clip!

The MRH Podcast regularly features authors and manufacturers who are doing cool things in the hobby, so go check it out!

Paul Gillette and Ryan Anderson MRH podcasters.

See: **mrhmag.com/itunes** or just search for "model railroad" under podcasts in iTunes.

If you prefer a direct RSS feed: 📶

model-railroad-hobbyist.com/podcast/mrh.xml

Return of the DOTC

What the heck is DOTC? Simple! It's the Model Trains Video **Deal of the Century Holiday Sale** (**model-trains-video.com/deal.php**)

Model Trains Video is the parent of Model Railroad Hobbyist. Last year, their entire DVD catalog was 50% off, and if you purchased all 10 DVDs the set was $56 - that's 77% off!

This time, Model Trains Video is offering even greater savings: the 10-disk set is now a full 80% off. That's right, you can get all 10 disks loaded with lots of model railroading how-to answers for just $52!

Other sets are likewise 60%-70% off, with individual DVDs 50% off.

One more thing, this is an inventory clearance sale. Model Trains Video has decided to phase out physical media (DVDs) completely and move to downloadable videos only.

This means the Deal of the Century sale is the last holiday season DVD sale. Once the DVDs are all gone, they're gone.

If you're the impatient type (like me!) and have a high-speed Internet

connection, downloading your videos won't just save you money. It will let you get start watching right away (and without needing to wait at your mailbox every day).

It's truly the last deal of the century on these videos. If model railroading how-to DVDs are your thing, we don't recommend waiting too long since they won't last at this low price. Click over to model-trains-video.com and get some inspiring expert answers to your nagging model railroading questions.

What's in this issue

Become a Computerized Wall Dog – Ken Ferguson shows how to create

huge, artistic ads for the sides of his buildings – and get them to bed down in the mortar lines between bricks for a painted-on look.

Modeling a Petroleum Industry Flat Car Load – Ken Patterson strikes again with another interesting and oversize flat car load – made from a sausage stuffing tube no less!

Layout Wiring: Planning for the Future – Bruce Petrarca continues his series of DCC de-mystification DCC Impulses columns.

Temporary Bridges: Filling the Gaps in Your Layout – Jerry Boudreaux, a first-time MRH author, tells how he made room for future,

Make your own ads – Wall Dogs

super-detailed bridges, on his ATSF layout without holding up benchwork construction.

The **$35 challenge - part 3** – Matt Snell finishes up with upgrades for the final two freight cars of his modeling-on-the-cheap project.

Choosing a Model Freight Car Fleet – Tony Thompson talks about how to build up a prototypical roster for your model railroad in Getting Real.

Upper Bear Creek gets water: Finishing the scenery next to the creek – Charlie finishes up a water-under-the-bridge scene on his Bear Creek and South Jackson.

The Apple Valley Railroad – read about this club layout in a restored Southern depot.

And lots more!

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Please! W*hen you shop at one of our advertisers, especially if you make a purchase*, be sure to mention you saw their ad in Model Railroad Hobbyist. That little extra bit of effort on your part helps them know the money they spend advertising with us is money well-spent!

Show Dates

The MRH show attendance plans for 2012 (as of December 2011) include booths at the following shows:

■ **Amherst Show** - (Springfield, MA) Jan 28-29, 2012

■ **NMRA National Convention** (Grand Rapids, MI) Jul 29 - Aug 4, 2012

If you're at one of these shows, drop by the booth and say hello!

Author reminder

If you have a wonderful idea for an article, we'd like to hear about it. We're especially interested in layout design and layout tour articles.

Send a proposal through the article submission page on the **mrhmag. com** site. Look under the Authors item in the menu bar at the top of each page to learn how to use the submission system.

When you submit an article or a proposal be sure to include your full name, phone number and e-mail and street addresses (embed it in your text or doc files). Package each article submission in a zip file (if you don't have a zip utility try **ZipCreator**. It's free and easy to use). Attach the zip file to your submission. It's much easier for us to handle a single file instead of multiple files.

We'll try to get back to you in a week or two but often, when we're in a crunch, it may take longer. Sometimes things fall in the cracks and get lost. If you've not heard back from us for several

weeks, send an e-mail asking about your article's status.

Sawdust again

I'm pleased to announce the beginning of sawdust generation on the Bear Creek & South Jackson. Charlie is working on finishing the central peninsula and connecting it to the rest of the layout. You'll be able to read about his progress in the Up the Creek column starting in January.

It's YOU!

Just a quick word of thanks to YOU, our readers. Without you, MRH wouldn't exist let alone have reached 22 issues with more coming soon!

If you haven't subscribed to MRH yet, now is the time to do it! It's simple, just **click here**!

Thank you readers! You make it both possible and worthwhile. ☑

HAVING FUN WITH TRAINS

Model Railroad Hobbyist *magazine*™

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- **Reading MRH on a Kindle Fire – HD and DVD resolution versions.**

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*well, they should be anyway....

MRH
Questions, Answers and Tips

Reader Feedback ▶ 💬
(click here)

QUESTIONS AND ANSWERS

Q: What's an easy way to make some realistically tall and good-looking Douglas fir trees for my HO railroad?

A: I have a number of 24" Douglas firs on my layout. The easiest way I know to make trees like them is to call Pete Vassler, owner of Canyon Creek Scenics.com and order some. He's a good friend and after 15 years of practice he's gotten darned good at making incredibly realistic model conifer trees.

However if your budget is limited, you'll probably need to make them yourself. Here's a quick method.

Start with a cedar shake (roof shingle) and slice it lengthwise to make 24"

tall trunk forms, each of which will be approximately 3/4" square at the base. I use a small hand-plane to round the trunk cross sections, then scrape them vigorously with a coarse-bladed saw to enhance "bark detail". Sometimes I cut the trunks shorter to vary the heights.

Drill a hole in the base of the tree and epoxy a finishing nail into it for use as a planting spike. The size of the hole and the nail depend of the diameter of the trunk at its base. Small base, small hole, small nail. Cut the head off the nail before gluing it in the hole.

Spray paint (or airbrush) the trunks a color like Grimy Black. When that dries, drybrush highlights onto the trunk using a much lighter gray color. If desired, get some very pale light green and dab it on, here and there, to simulate lichen.

I use the same kind of furnace filter for big trees that I used in the May 2011 Scenery Scene: Bamboo Skewer Trees (model-railroad-hobbyist. com/magazine/mrh-2011-05-May/ ss-bamboo_skewer_trees).

Take the batts of furnace filter outdoors and spray them liberally with flat black (or other dark-colored) paint to kill the unrealistic blue color. Shred the filter material and spear the pieces with the tree trunks. You'll need to use bigger pieces of filter than those I used in the Bamboo Skewer Tree article because the tree diameter will be much bigger – at least at the base. Be patient, it will take some work to get them slide down where the trunk gets thicker. Glue the pieces of furnace filter in place (white glue, yellow glue, or ACC all work).

Once the filter is in place and the glue dries, get out the black spray paint and go over the "branches" whereever any blue color remains. Even a blue spruce isn't as blue as that! Try to avoid spraying paint on the trunk.

If your foliage doesn't start at the base of the tree (and it usually doesn't with tall trees), shred some furnace filter to the point of almost individual strands. Pick out the ones that most resemble branches. Drill a number of small holes in the lower portion of the trunk using a bit slightly larger than the furnace filter branches. Dip the branches in glue and stick them in the holes. Keep going until the dead branches look about right.

I recommend using unscented, extra-hold, hairspray – Aqua Net works

well and is fairly inexpensive. Use it to spray the main part of the foliage liberally. Don't spray directly at the trunk, you don't want "needles" growing directly from it. Instead, hold the spray can a little off-center and spray across the edges.

Sprinkle-on ground foam. Woodland Scenics coarse Conifer Green foam looks fairly good. Be liberal with the foam. Let it sit for few seconds, then shake off the excess. Repeat if there are undesired bare areas.

Now hold the tree upright and spray downward with hairspray. Lightly sprinkle with a lighter color of green to represent highlights from the sun hitting the up side of the foliage. Don't overdo the lighter foam.

For an extra touch, try lightly painting one side (presumably north) of the trunk with 50/50 mix of white glue and water then sprinkle some fine ground foam on it to simulate moss.

Now find a suitable spot and "plug" your tree into your scenery. After making 100 they'll probably start looking almost as good as Pete Vassler's (Pete actually goes out in the forest taking pictures of interesting trees – a prototype tree modeler!)

— *Charlie Comstock*

Q: I've heard that the diverging route of a turnout has an easement built into it. Is this true?

A: Turnouts (at least North American prototype) don't have "easements"
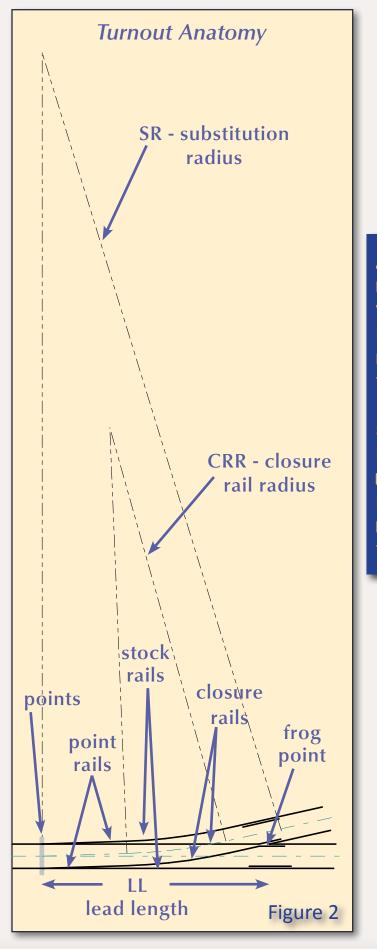
designed into them. Nevertheless, in most cases the diverging leg can be treated as an easement. Here's why.
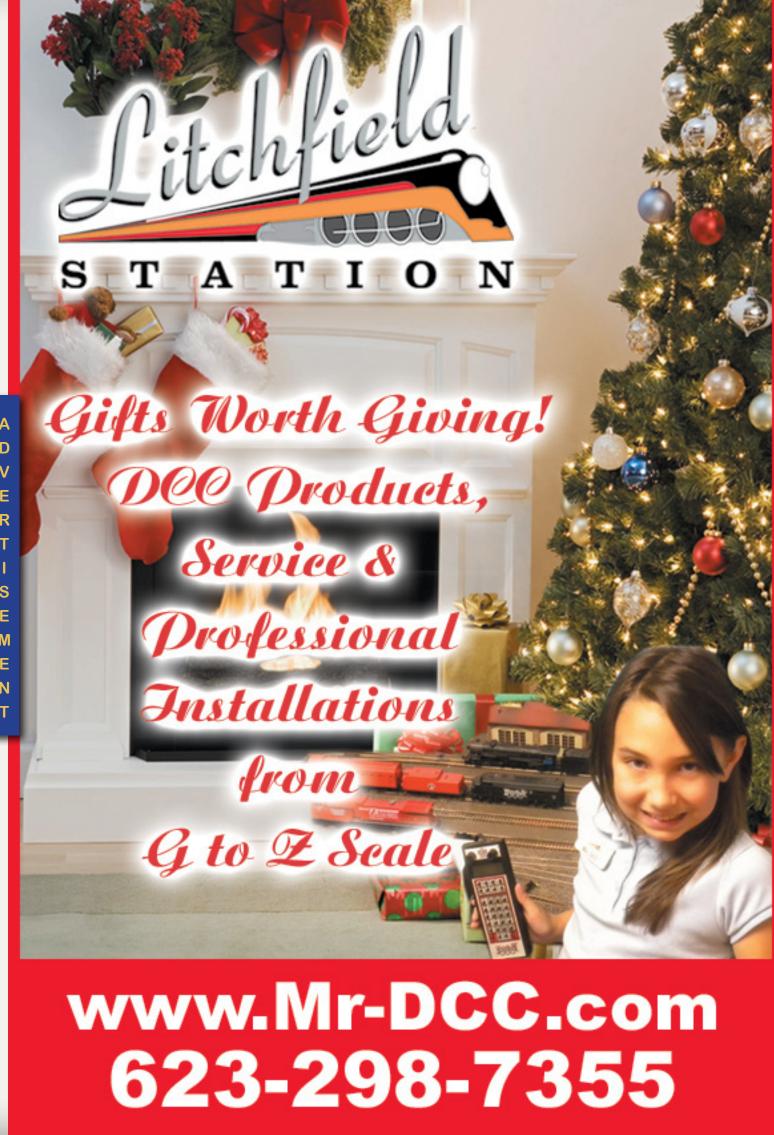
The diverging leg of a turnout has a "substitution radius". That is, from the time a train enters the turnout to the time it leaves, it behaves as though it is on a curve with this radius.

Note that the substitution radius is NOT the same thing as the radius of the closure rail which is much sharper. When you reach a #5 or higher frog the substitution radius gets "generous" – about 56" for a #6 turnout or over 100" for a #8 in HO scale.

The exact substitution radius of a turnout depends not only on the frog number but also something called the "lead length" (the distance from the points to the frog point). Different brands of turnouts have different lead lengths. For example, a Walthers #8 and a Fast Tracks #8 both have a divergence angle of 1 in 8. That is for each 8" you travel from the turnout, the diverging leg will be another 1" away from the straight leg. The Walthers lead length is a little

shorter than the Fast Tracks. This means a Fast Tracks turnout guides trains onto the diverging leg more gradually and has a higher substitution radius.

HO Turnout Info (approximate)

Frog #	CRR	SR	LL
4	15″	29″	5-1/16″
5	26″	43″	5-11/16″
6	43″	56″	6-1/4″
8	67″	110″	9″

CRR - closure rail radius
SR - substitution radius
LL - lead length

Figure 1

Turnout Anatomy

SR - substitution radius

CRR - closure rail radius

stock rails

closure rails

points

point rails

frog point

LL
lead length

Figure 2

Why not use the longest lead available? A longer lead length makes the turnout longer, so space considerations may prevent using a longer lead length. Also, as the lead length gets longer, the angle at which the points hit the stock rails gets shallower, which means the points get longer and more flimsy.

Now back to those easements. The substitution radius for a "typical" HO scale #6 turnout is around 43". So, if a 30" radius curve is connected directly to the diverging leg of a #6 turnout, the relatively "broad" substitution radius acts like an easement for that 30" curve.

There's more information about turnout substitution radii in John Armstrong's must-have book, "Track Planning for Realistic Operation" and on the NMRA website's Recommended Practices pages (**www. nmra.org/standards/sandrp/consist. html**) – check RP-12 and the scale specific RP-12.1 to RP-12.7 for turnout dimension data.

— *Dan Wilson*

Q: What can I use to strip old loco shells? I see reasonable prices online if I buy less popular road-names. I've used Simple Green and it was pretty slow. With cats and small children around, less-toxic would be better if possible.

A: What works best for me is 91% alcohol from a drug store. Put the styrene plastic shell to be cleaned in an air-tight container and let it soak for a half hour or so. I use an aluminum baking tray covered with foil. Test the paint periodically with a an old stiff toothbrush until it scrubs off easily, then rinse the shell in cold water and wash with a mild dish soap like Dawn or one of the eco-citrus brands. Rinse thoroughly and let dry.
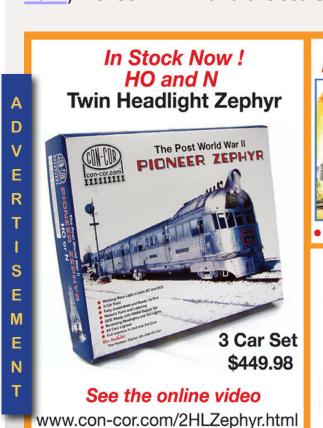
Kato models can be stripped in 91% alcohol, but it takes 12 hours to a day for the paint to react. I have "re-purposed" a couple old Kato-made Atlas GP7s this way.

This will work on most plastic railroad models manufactured in the past 10 to 15 years. If alcohol doesn't work, I migrate to commercial chemical strippers like Testors Easy Lift-Off and Scalecoat Wash-Away. Chameleon Model Paint Stripper is excellent but hard to find. Read the instructions on the container before using the commercial strippers. When done, I pour the liquid back into its bottle through a funnel and paper coffee filter. Alcohol and the commercial strippers can be used several times before they lose their effectiveness.

If liquids don't work, the next step is a compressed-air grit blaster that will shoot baking soda or fine aluminum oxide, but it can get messy. A blasting booth will contain the grit, and shooting baking soda outdoors is probably OK if you keep the kids and cats away.

Figure 3
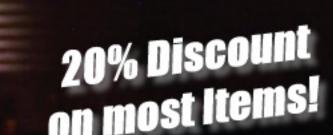
Figure 3: A variety of paint strippers. From left to right: 91% isopropyl alcohol, Testors Easy Lift Off, ScaleCoat Wash Away, and Chameleon Model Paint Stripper.

In days past, when Floquil and lacquer finishes were more common, people used chemicals like oven cleaner, brake fluid, and Pine-Sol. Many of these will dissolve plastic immediately, or later. It's best to test with a scrap of the same plastic before using these.

If you need to strip a brass model, remove ALL of the plastic pieces, spray it with Easy-Off Fume-Free Oven Cleaner and seal it in a heavy plastic ZipLoc® freezer bag. Leave it for a day or two, then rinse and scrub.

CAUTION: All of these processes create obnoxious fumes and will dry out your skin. Keep the kids and pets away while you are working, run an exhaust fan, and wear nitrile gloves – some strippers eat latex in addition to paint.

Useful links:

www.testors.com/faq#4

www.modeltrainstuff.com/Scalecoat-Model-RR-Paint-10568-Wash-Away-Paint-Str-p/smz-10568.htm

model-railroad-hobbyist.com/node/4146

— *Joe Brugger*

Q: Do DCC auto-reversers work with 1156 tail light bulbs in series with the track?

A: I use two Tony's Train Exchange auto-reverser units to switch the polarity of a crossing in Mill Bend and the tail track of the wye in Oakhill on my BC&SJ layout. I also use a Digitrax AR-1 auto-reverser to handle track polarity

on a manual turntable in staging. These blocks have 1156 bulbs in series with them and seem to work OK. But, all my auto-reverse sections are small and my RRampMeter seldom reads more than 1/2 amp, even during an op session. If you can see your 1156 bulbs glowing, even faintly, while operating, auto-reverser operation may be compromised by their current limiting. Bruce Petrarca, our DCC columnist, does not recommend 1156 bulbs.

— Charlie Comstock
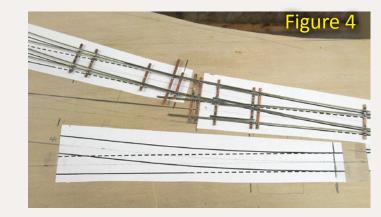
TIPS

Custom Turnout Templates

I finally reached the point in building benchwork where I needed to lay out the throats of the staging yards. I have a Fast Tracks fixture for making #8 turnouts. I wanted to plan the throat BEFORE I build the turnouts needed. In the past I resorted to putting a sample turnout on a scanner, then printing out paper turnouts. That works, but it was hard to align them with the center line of adjacent track.

I used 3rd Planit and drew a NMRA #8 turnout. It was shorter than the Fast Tracks turnouts. I messed around in the turnout properties window for a while and managed to "adjust" a turnout so that, when printed, it matched a Fast Tracks turnout. Then I superimposed another turnout on top of the first, but

Figure 4

instead of rendering as rails, I turned off "track object". Now it printed as a centerline. Four turnout templates barely fit on a sheet of 8.5 x 11 inch paper. I printed a bunch of them and went out to the layout. Now it was easy to line up the turnout center lines with the center lines of the adjacent tracks.

If you're using Walthers or Peco turnouts it should be even easier.

— Colorado Kid

Reader Feedback
(click here)

THE LITE *AND* NARROW:
Build a Model of Your Train Layout
Ramblings on Narrow Gauge and Branchline Modeling

You've been collecting trains for a while and now the time has come to build a layout. Most of us have spent lots of time doodling track plans. If you're a typical model railroader, you probably have lots of trackplan ideas.

Once you know the size of your available space, it's time to get serious about planning the new layout.

One method is to just jump in and begin construction. While this method is immediately gratifying, spending some more time in the planning phase often reveals little gotchas before investing lots of effort (and lumber). Many people draw scale trackplans to help them visualize their new layout in some detail. But a scale trackplan is only two-dimensional.

There's a way to increase the visual utility of a trackplan. How about trying your hand at building a scale model of the proposed layout before you start making sawdust with plywood?

The three-dimension method helps to visualize an entire layout, or build a module, or just a scene. Seeing, as they say, is believing. A scale model will show you not just the look of the track plan, but will help you to visualize terrain, view blocks, back drops,

Figure 1
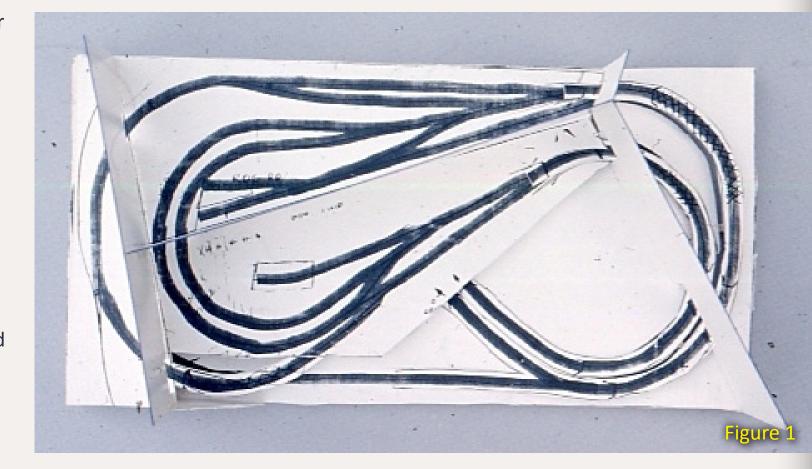
Figure 1: Looking straight down, the 3D model looks like a 2D track plan. For the purposes of description, I'll call the top of the model north, the right side east, etc. The track plan is drawn to scale and with correct track spacings and turnout point locations.

Figure 2

Figure 2: Here's a view of the south side. Wood spacers set the heights. The HOn2 layout will occupy a 4'x 8' table.

Figure 3

Figure 3: The east side features a trestle over a river fed by a waterfall. The model view block's measurements will be used to determine how to cut the full size pieces. The two layout levels meet here.

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Figure 4

Figure 5
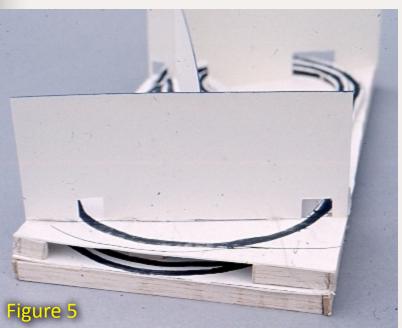
Figure 4: The north side is mostly upper level with an access opening to the lower level in case of derailments or lost equipment. The opening has to be large enough to allow a hand and arm to reach through.

Figure 5: The west side also features the upper level with an access opening below for the lower level.

The structural supports for the upper level are located at the layout corners and along the inside of the loop on the lower level. The separation between upper and lower levels is the greatest here.

operation capabilities, and the placement of buildings in the scenery. The model goes together fast and who knows – it might even show you a place or two where scenery and track just won't fit in the space provided.

Drawing the Plan

Start by drawing your track plan, to scale, on graph paper. If your track plan was done using CAD, it's best to print it instead of hand drawing it.

Use 1/2" = 1' or a larger scale to make it easy to measure distances accurately. A small layout will be best in a larger scale. Use 1/2" to the foot for room-size or larger layouts. Too large a scale makes for an unwieldy model, and you will want to put too much detail into it, so keep these models simple!

Once you have your track plan drawn or printed, make a copy of it. Then, using a felt tip marker, trace over the visible tracks, making bold solid lines, so they are easily seen. Make several copies of the "bold" trackplan. Glue the final copies to thin "shirt" cardboard and, when dry, spray them with Testor's Dullcote, Krylon matte spray, or other flat finish to make them waterproof.

Foam Core Trainboard

Make a scale train board or module out of foam core board and glue a "sealed" track plan to it. If your tracks rise or fall and pass over themselves, cut the upper part of the track plan from a second sheet and glue it over the first

Figure 6
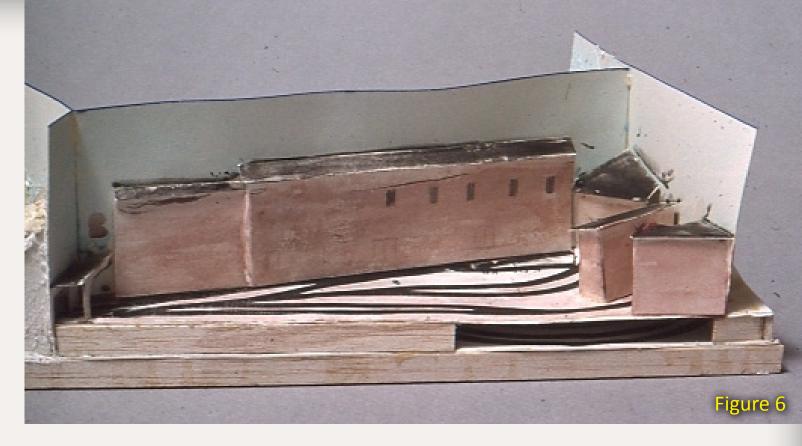
Figure 6: Adding buildings to the north side really gives an excellent idea of the power plant's size and the magnitude of its operation. Now is the time to determine the size and placement of structures. The prototype inspiration for this building complex came from the steam turbine electric generating station at Holtwood, Pennsylvania, owned by Philadelphia electric. The coal loads-in and empties-out tracks go through the buildings and backdrop at the middle right of the scene.

Figure 7: A coal mine nestles into the steep hillside on the south side, hiding the opening where the tracks go through the backdrop for an empties-in loads-out operation. The mining operation is at the highest elevation on the layout. The mine design received its inspiration from a 1950's Jack Work article published in *Model Railroader*.

Figure 7

Figure 8

Figure 10
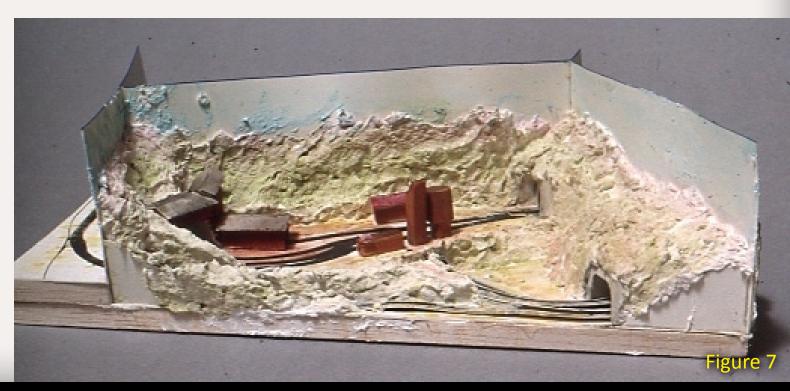
Figure 8: A view of the south after final detail and painting. After being painted with a light blue wash of water color, the sky backdrop promptly warped. Oops. Acrylic washes were used to give all details vivid coloring.

Figure 9: The rugged western view shows the two curved bridges, tunnel portals, and mountain terrain. The tunnel portals are small strips of bond paper folded and glued to the track plan to represent both the portal opening and tunnel liner.
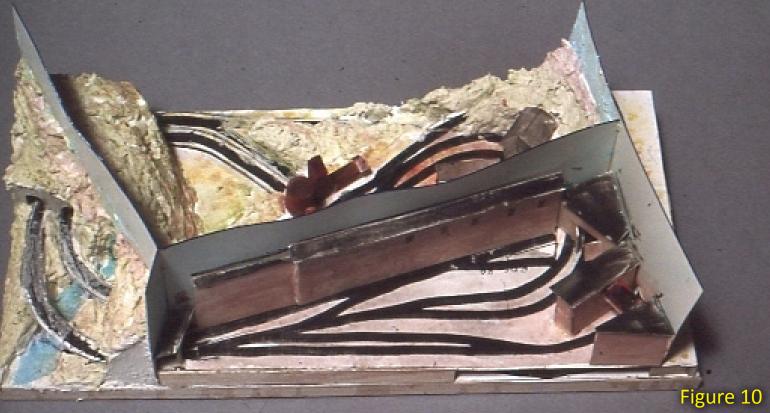
Figure 10: Compare this view to figure 4. The comparison clearly shows how powerful a statement the scale model makes with scenery detail and color. This is an excellent view of the mountain on the western end, showing the bridge and river system.

Figure 9

with foam core or stripwood spacers raising it to the proper elevation. Valleys and streams can be cut in the base foam core (figure 9). Your layout model should now have all the elevation changes the real layout will have. Add scenic dividers or backdrops at this time if your layout or module will use them.

Scenery

Decide what your scenery will look like. Crumpled toilet paper wet-ted with diluted white glue, quickly roughs out scenery contours. Handle the wads of wet toilet paper with toothpicks. You can smooth the sur-face by placing small squares of tissue over the crumpled ones and gluing them down. The glue-soaked tissue will dry faster with a fan blowing on it.

Draw buildings to scale on heavy bond paper, coloring them with colored pencils or crayons. Leave gluing tabs on the sides of the building so they can be folded up, and the tabs glued to hold them in shape. Make the roofs separately. Very small buildings can be represented with small pieces of wood. Remember, this is a three-dimensional sketch, not a detailed model! Adding lots of detail will just slow the process down.

Try-fit the buildings into the scene on the model. If they don't look correct or don't fit in their space, you'll need to modify your plans. Remember that a door must be 6'-8" in your scale and each floor of a building should be 10' or higher unless the building is a small shed. Set the buildings back from

Figure 10

Figure 10: Shawn Jones, of Lancaster, Pennsylvania, just turned 13, created this model based on a track plan by Lew Matt. Building the scale model let Shawn see that a 4 X 8 layout was NOT what he wanted. Instead, a more practical around-the-wall design was built.
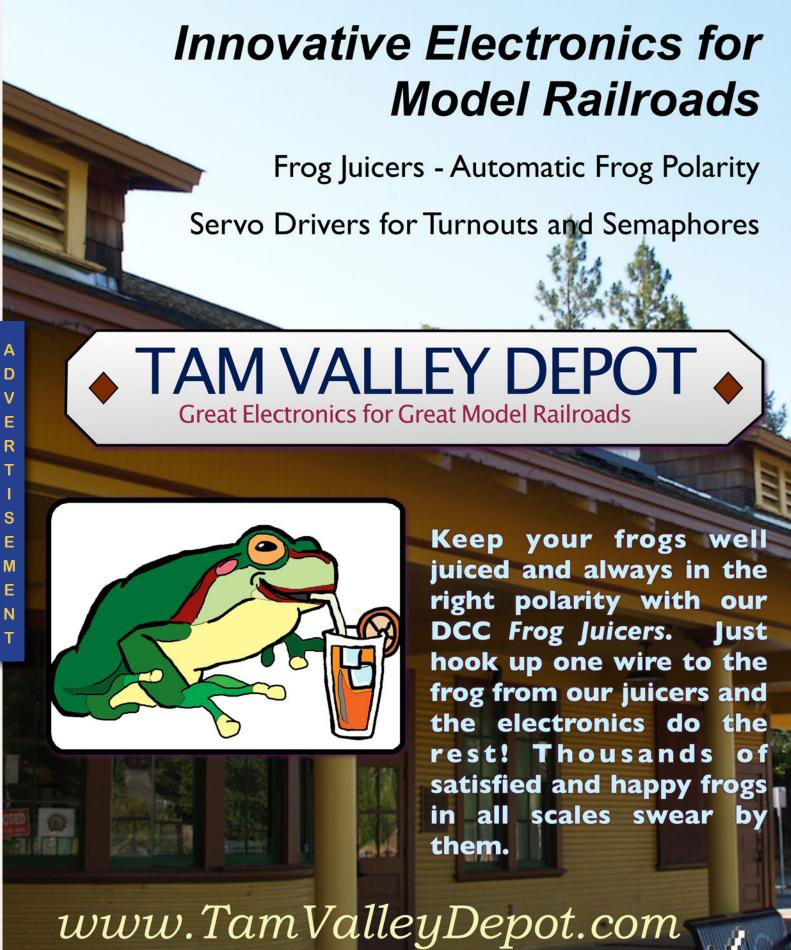
is needed to see if a design will work. But a model of a club layout design proposal will probably need scenery to get backing from other club members.

" ... Remember, this is a three-dimensional sketch, not a detailed model! Adding lots of detail will just slow the process down ..."

Building layout models might be one way a modeler with no layout space could dabble with construction. If you like, try using the micro train to try some operation exercises – how many cars fit in that siding?

Whatever your reason or needs, a scale model of a scale model can be fun to build and share with others – and it just might save you a lot of time building a layout that isn't going to be what you wanted. ☑

the tracks to allow clearance for car and engines – allow extra clearance on curves. For more fun, make micro locos and cars from bits of wood with the same dimensions as their prototypes to check clearances.

A final touch is "scenicking" the model using your favorite brand of paint to color the ground and rocks. Paint the scenic dividers sky blue with drybrushed white for clouds. Clumps of coarse ground foam approximate trees and large shrubs. How much scenery you add depends on the model's use. Generally none

Reader Feedback *(click here)*

GO Train Service November 18, 2011
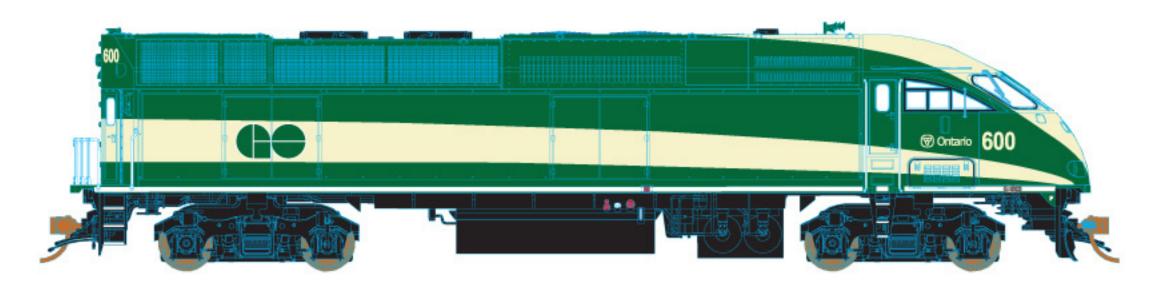
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UP THE CREEK: Upper Bear Creek gets water!

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

Part 3 - Finishing the scenery next to upper Bear Creek ...

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

Click here to learn more about Charlie.

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Reader Feedback *(click here)*

Upper Bear Creek received some real honest-to-goodness **Envirotex Lite**® fake water in November's **Up the Creek** column. This month I'll finish off this scene.

Track

I like my bridges to be removable. To achieve this I cut the track a little beyond each end of the bridge (figure 2). By cutting away a few ties I can slide rail joiners on and off giving me mechanical alignment and temporary electric power feed while I'm fitting the bridge in place and working on the scenery adjacent to and under the bridge.

For final installation I need to add the missing ties next to the abutments. I use Micro Engineering wood ties. I airbrush the ties on the majority of

Figure 2: I don't finish up the track at bridge abutments until late in the bridge installation process. I've added three more ties to carry the rails onto the bridge.
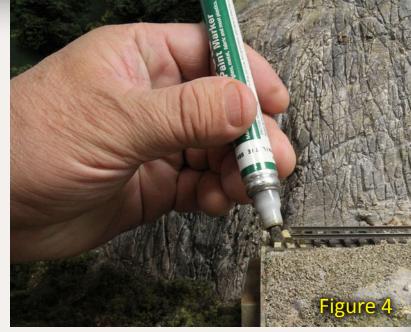
Figure 3: Floquil Rail Tie Brown matches the paint on the other ties.

Figure 4: Paint markers work well at getting paint exactly where it's needed without splatters.
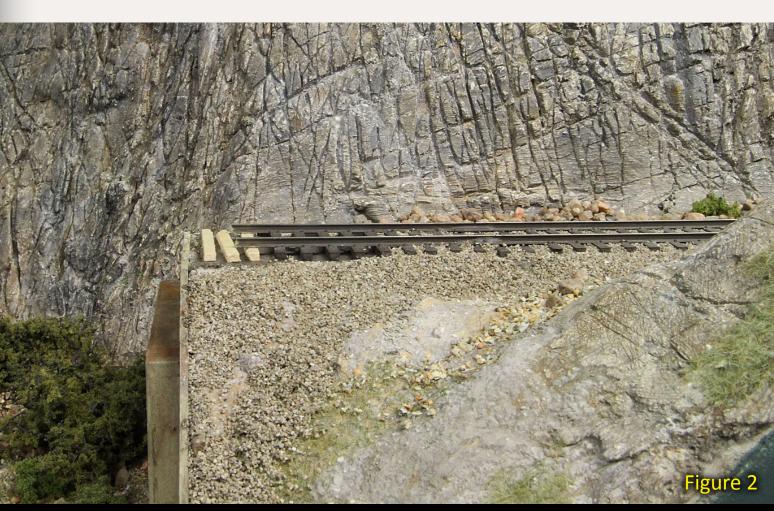
Figure 5: My friend Terry Roberts showed me how to kitbash a cheap toothbrush to make a ballast spreader/rake.

Figure 6. I dribble 70% isopropyl alcohol to saturate the ballast before dribbling on a 50/50 white glue and water mixture to secure the ballast in place. A syringe with a short hose dribbles well.

Figure 3

Figure 4

Figure 5

Figure 2

Figure 6

Figure 7

Figure 8

the layout's track PollyScale Railroad Tie Brown. A Floquil Railroad Tie Brown paint pen matches the other ties and lets me color the new ones without getting excess paint all over the ballast and scenery.

Green Stuff

I used my electrostatic grass gun to apply a bunch of 4mm Silflor® flocking to areas of the creek.

Note, be absolutely certain that the Envirotex Lite water and acrylic gloss

Figure 7: A 1/8" dowel treated with a pencil sharpener makes a good tool for applying small amounts of white glue.

Figure 8: Sprinkling on a mixture of green ground foam to simulate a growth of moss.

Figure 9: A different method of sprinkling ground foam in specific areas.

Figure 10: Vacuuming up the excess ground foam. The drapery attachment is good for this – the side channels reduce suction that might otherwise uproot newly planted (glued) vegetation.

Figure 11: Planting Woodland Scenics Fine Leaf Foliage using tweezers. Grab a piece, dip it in a puddle of white glue, then press it in place.

medium are COMPLETELY dry before doing this or you may end up growing grass in the middle of your creek!

I chose to use their summer grass, which is a darker green, nearer to the water mixing it with late summer grass (also 4mm) elsewhere to simulate grass without as ample a supply of water.

Remember those logs I glued in the creek bed in part 1 of this series? I dabbed the tops of them with some white glue, then sprinkled on Woodland Scenics fine ground foam to simulate a

layer of moss. I finished by vacuuming up the excess foam (figures 7 to 10).

Then I added some Woodland Scenics Fine Leaf Foliage (light and olive green colors). I tore it into clumps and used tweezers to dip it in a small puddle of full strength white glue, and placed it in strategically on the layout (figure 11).

I also added some clumps of Silflor®. I rip a piece from a Silflor® grass mat, then shred it into dime size and smaller chunks. Using tweezers, I dip them into the puddle of white glue and place them on the layout, making sure their edges are flat on the ground (figure 12).

Weathering Bridge Piers and Abutments

I decided to try using alcohol and powered chalk to weather the bridge piers and abutments. I wanted a dirty look with rust streaks so I chose the colors of powdered chalk accordingly.

With this technique (documented in the Feb 2011 issue of MRH), you pour

Figure 9

Figure 10

Figure 11

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Figure 12

Figure 13

Getting Scenic!

After what seemed like years to the local populace (and to railroad officials), Hillmovers Construction proclaimed the area surrounding upper Bear Creek to be complete.

In their environmental impact statement Hillmover's claimed that through Terra Forming™, Hydrology, some rockit-science, and lots of just plain hard work, this area's environment has become a scenic wonderland, sure to attract both nature minded locals, and locally placed nature.

Said the president of Hillmovers in a prepared statement, "We at Hillmovers Construction take pride in the Terra Forming™ of this area, transforming it from plywood and pink foam, to a delightful interlude for the local population as well as the crews and passengers of the BC&SJ railroad. We look forward to the completion of many more such areas in the near future."

The local citizens seemed happy with their new surroundings and with the free food and drink provided for the occasion.

When reached at railroad headquarters, BC&SJ Superintendent Charlie Comstock commented, "Let's run some trains!" ✠

* Enjoy the Gazette? Read more at **bcsjrr.com**

Figure 12: Planting a small chunk of Silflor® late summer grass.

Figure 13: The scene part way through the greenery installation process.

a little alcohol into a small cup, dip a brush in the alcohol, then dip it in the desired color of powered chalk, and paint it on the surface to be weathered. If the color is too intense, dip the brush in the alcohol and wash some of the chalk away. Repeat with different colors. Use enough alcohol so it runs down vertical surfaces leaving streaks.

Finishing the Bridge

I finished the bridge by adding (finally) guard timbers and giving it a liberal dose of alcohol and powered chalk. It turned out to be a bit tricky to get the colors I wanted. The alcohol used to spread each new layer of chalk tends to wash away the previous layers. Finally I set the bridge in place, and slid the rail joiners in place to hold the bridge track in alignment with adjacent mainline.

Since this is (in theory) the final installation of the bridge I soldered the rail joiners at one end to ensure

power is reliably transmitted to the rails on the bridge.

Final Details

I planted a pile of rusty junk and some ties next to the bridge. I also added a few small Scenic Express Super Trees™ and a couple of small conifers to round out the scene.

You can scrape a path through static grass using a fingernail, (vacuum up what comes loose). Repeat until the path looks right.

This completes the upper Bear Creek scene. Next month I'll start a new series about finishing the BC&SJ peninsula benchwork. 🔲

▶ **Reader Feedback** (click here) 💬

Figure 14: A cluster of Woodland Scenics "junk" under the bridge.

Figure 15: The finished creek scene with bridge, water, grass, bushes, weathering, and a picnic table for local checkers fanatics.
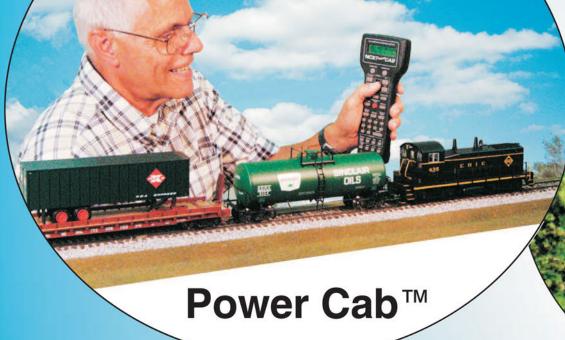
Figure 14

Figure 15
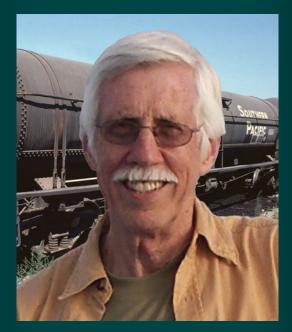
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GETTING REAL: Choosing a Model Freight Car Fleet
Appropriate Car Types and Numbers

Having a prototypical mix of cars on your layout ...

▶ **Reader Feedback** 💬 *(click here)*

Choosing may sound odd, when many of us already have a substantial car fleet. By "choosing" I mean one of two things: choosing which of your existing cars make sense and should be kept (and conversely, which ones might be disposable), or choosing new additions to your fleet.

There are many ways to go about these choices; from sheer impulse, to buying anything lettered for your favorite road, to rational fleet choices. Since the first two don't require guidance, I will talk about the third.

Rational Fleet Choices
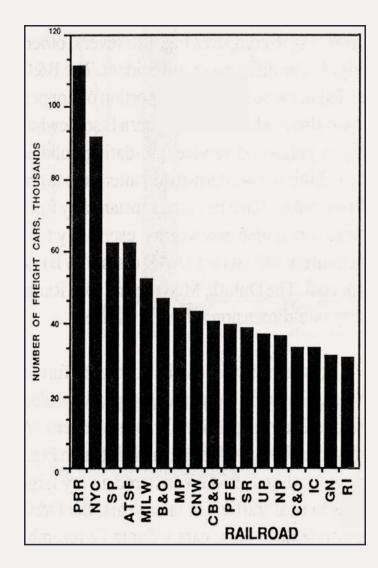
An approach that I like is to determine whether one wants a realistic mix of car types and owners. If so, the first decision is the proportion of home road cars. The division of car types within that group will depend on the individual railroad, and car fleet characteristics do vary widely (I'll come back to this in a moment). Next, the foreign cars need to be chosen. It was long believed that foreign road cars should be represented in proportion
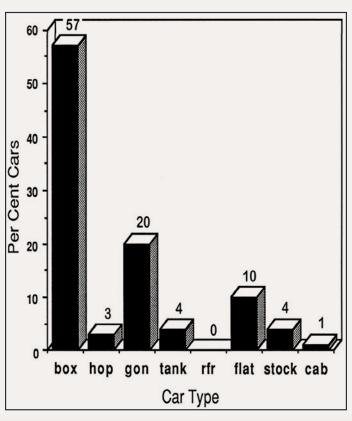
to the inverse of the distance of the owning roads from the road being modeled (farther away means fewer cars, closer means more).

It's now recognized that this is often not true. Dave Nelson and Tim Gilbert (clinicians at many RPM meets such as Cocoa Beach and Naperville) analyzed data for many railroads in various eras, primarily for mainline railroads carrying a large proportion of bridge traffic. For those types of trains, they found an interesting pattern: the proportion of cars from each road was in proportion to that road's fleet size, as a

Figure 1: Data for the car fleets of the largest railroad car owners in 1950. Data are drawn from the Equipment Register for January 1950. Fleet size has been adjusted by removing hopper cars, ore cars, and ballast cars from the totals, since those cars were much less frequently interchanged in most cases. Accordingly these data are the ones needed for the Nelson-Gilbert approach on foreign cars.

Figure 2: The different car types are shown as percentages of the total fleet of Southern Pacific cars in 1950. Refrigerator cars were a large part of SP traffic in 1950, but all were owned by Pacific Fruit Express – see figure 1.

percentage of national fleet size. In other words, a road that owned 10% of the national car fleet would be found to have 10% of its cars in those mainline trains. This pattern is found across the country and appears to apply to railroads of all sizes.

"A table or graph of the principal railroad car fleets then becomes part of your fleet selection guide ..."

Further, this appears also to apply to the types of free-running car: box cars, gondolas, and flat cars (if the cars do not have special equipment).

More specialized cars, or cars in assigned or lease service will have very specific routes and usually return empty over the same route. Nelson and Gilbert were well aware that only the free-running car types fit their idea of national proportions governing car observations.

This tells us that the models of foreign road cars on our layouts, should follow that same pattern. A table or graph of the principal railroad car fleets then becomes part of your fleet selection guide (figure 1). If you find that your fleet overrepresents or under represents any of the roads shown, corrective action may be called for.

But Gilbert and Nelson clearly state there are definite exceptions to these findings: short lines and branch lines usually serve particular groups of customers, or even single industries – obviously their traffic won't follow the proportion of the national car fleet idea. A coal branch is a good example of this.

Home Road Cars

What should be the proportion of home-road cars? A widely remembered idea, dating back to the 1940s and the writings of "Boomer Pete" (Al Kalmbach's pen name) is that home cars would be around half of all cars,

Figure 3: Taylor yard in Los Angles during the early '50s. Note the Mikado in yard service and the different types of freight cars present. – Photo courtesy the Southern Pacific Historical and Technical Society (SPH&TS).

depending on the home road's characteristics and often on which part of the home road is involved.

However it has been recognized that the home-road proportion depends on the individual railroad, and on the region of that railroad, so a broad general rule doesn't always

apply. It may be necessary to find more specific data.

Conductor Time Books

Conductor time books are not widely available, but are worth seeking out for your era and modeled locale(s). They contain a wealth of information about trains and the cars in them. Many are in private collections, but some are available through railroad museums, such as the **California State Railroad Museum**. A few have been posted in the archives of the Steam Era Freight Car Yahoo list (STMFC).

These books are a wonderful source of data regarding the types of cars and their ownership in a train. Time books for the SP's Coast Division in 1948-1952 show a consistent pattern of about one-third home road cars.

Time books also show the proportion of car types, with fewer flat and stock cars on the Coast Division than on the railroad as a whole. The entire Southern Pacific fleet is summarized in figure 2.

Photographs and films can help, but usually represent so small a sample as to be untrustworthy, compared to the hundreds or even thousands of cars listed in time books.

An appropriate pattern of car usage should be recognizable in the fleet of cars on a prototype based model railroad – both for home and foreign cars. Most railroads had distinctive proportions of car types. The Southern Pacific in 1950 is just one example – figure 2

shows a very large proportion of SP box cars but a very small proportion of hoppers (in 1950, nearly all those hoppers were longitudinal-dumping ballast cars). Construction of such a diagram for any railroad is simple with data from an Official Railroad Equipment Register or ORER, available as a reprint from the NMRA (**nmra.org**). Comparing this data with data from your own car fleet may show where you are planning too many or too few of a particular car type.
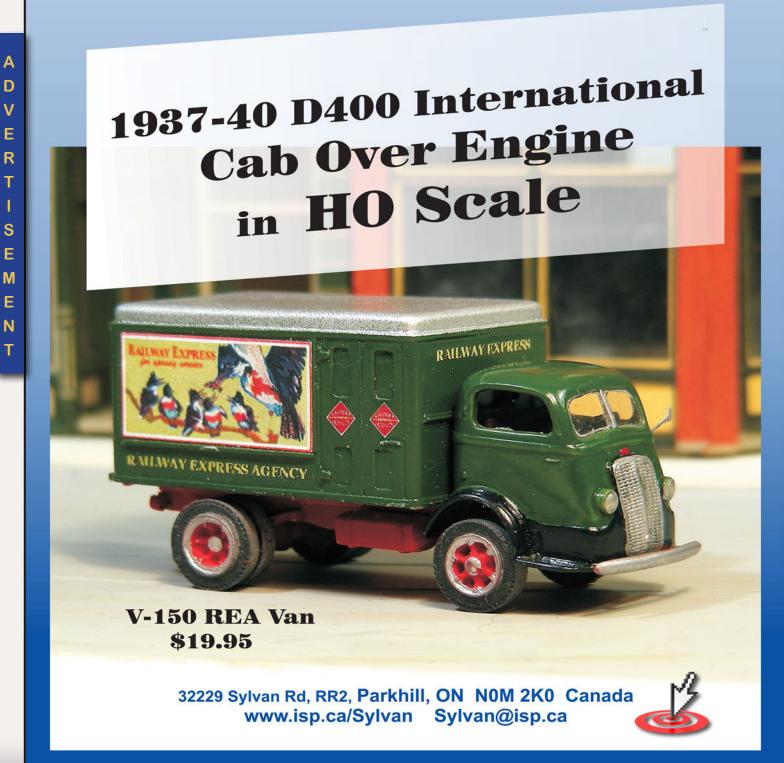
Understanding the details of such diagrams is often interesting. For example, the Southern Pacific carried a large majority of its lumber traffic on its own flat cars, even though general-service flat cars are free runners, that is, flats can be and often are confiscated as empties to be loaded, wherever they are. Why? Lumber traffic was vital to SP and they decided to protect those shippers with an adequate fleet of their own cars.

This is just one example of how region-specific data is helpful. All these suggestions are intended as ways to make a model car fleet more prototypical, and thus more realistic. We all make an awful lot of compromises in our modeling, with selective compression and many other approximations of reality. But car fleets are one area where it is possible to be fairly realistic. ☑
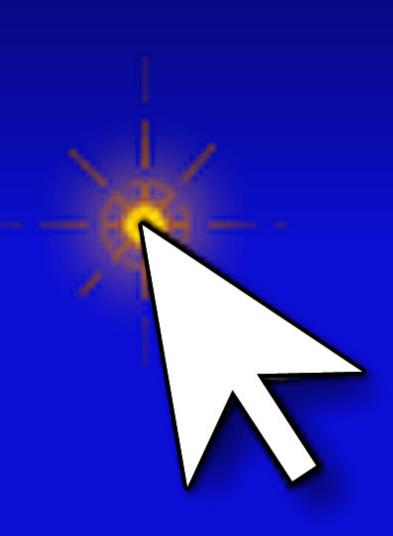
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COMME-N-TARY: Hauling passengers in N scale
A review of the ongoing revolution
Modeling in the hobby's most eNgaging scale

▶ **Reader Feedback** 💬 *(click here)*

N scale passenger car offerings – from the era of streamliners to Amtrak ...

In the 'old days', N scale ticket agents had a simple choice. There was a reasonable selection of passenger equipment: coaches, sleepers, diners, domes, and observation cars, along with cars to handle the baggage and mail. But, the Super Chief looked pretty much like the City of New Orleans because the models were all made by the same few manufacturers. The cars looked and ran well enough – but they all were modeled from the same set of prototypes. That's where things stayed from the '60s into the '90s.

When Kato decided to expand into the N scale market in the early '90s, they produced models of several passenger-hauling diesels: E8/9s, and F3/7s and then produced passenger consists to go with them. These consists looked good and ran well, and even had prototypical-looking couplers. Although they weren't magnetic, there wasn't much demand for switching passenger consists. The cars came in a rainbow of colors, but were all based on another set of prototypes, so consists of Kato passenger equipment still looked the same.

Authentic Consists

Kato must have done well with their passenger train offerings because they followed up the 'generic' cars with a series of named train consists beginning in early 2000s. These sets allowed modelers to run consists that were pretty accurate for the specific railroad.

Figure 1: This heavyweight coach, offered in the 'old days' from a series of distributors, is still available today, is a nice model and a good representation of a PRR paired-window coach. Switching out the six-wheel trucks for Micro-Trains four-wheel passenger trucks improves operation and better represents the wheel arrangement of the prototype.

Figure 1

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Some trains were offered in several sets of four to six cars allowing the customization of consists. They were mostly western prototypes, such as the California Zephyr and Super Chief.

> **"... that no-longer-bored ticket agent has a wealth of accommodations to offer including Pullman and Budd-built cars ..."**

Kato also offers the Pennsylvania Railroad's Broadway Limited for eastern modelers, including a GG-1 electric for those who want to run "under the wires". All indications are that more sets are on the way, including repeats of popular early releases. Kato also offered accommodations for the very end of the pre-Amtrak era with a set of four Penn Central cars, some in predecessor repaint markings.

The Revolution Begins

In most industries, the competition can spot a trend, so Kato's success with passenger equipment was noticed and copied by other N scale manufacturers. Now that no-longer-bored ticket agent has a wealth of accommodations to offer including Pullman and Budd-built cars that ran on a number of railroads, plus railroad-specific cars.
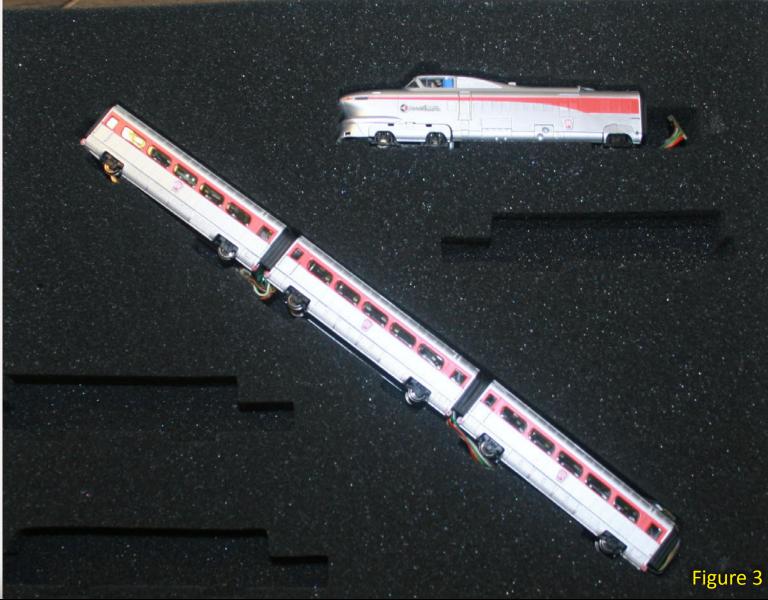
Con-Cor, which has been around since the 'old days', now offers a series of

Budd-built corrugated cars in several roads and styles. Con-Cor also has models of very early streamliners including the UP M-10000 and the Zephyr. These articulated train-sets look great. Operation can be improved by checking wheel gauge and adding an appropriate amount of weight to each permanently-coupled 'car'. These sets are great models of unique early lightweight trains.

Con-Cor offers another articulated prototype, the Aerotrain. The Aerotrain ran on several railroads in the mid-'50s, but never had the revolutionary effect of its earlier brethren. The train is offered with

Figure 2

Figure 2: Kato's PRR "Broadway Limited" is a superb set. It runs well and is an excellent representation of the prototype, from the paired diner to the herald on the observation car. Kato's named train sets established a solid foundation for the N scale passenger car revolution. In the NTRAK community, Kato passenger trains are so reliable, we call them 'bulletproof'. They will run all day without a hitch.

Figure 3: Con-Cor's Aerotrain is the most recent of the company's articulated train offerings. Like the Zephyr and M-10000 the train runs as a unit (up to 10 cars) and is a neat little version of an interesting prototype.

Figure 3

a shorter-than-prototype basic set along with add-on cars to expand to the full 10-car prototype consist. This train can lose money for your railroad in a variety of prototype schemes.

Fox Valley Models joined the prototype trainset revolution with a great model of the Milwaukee Road's Hiawatha. This set recreates the original 1935 consist, including a Class A 4-4-2 steam locomotive. Fox Valley also offers add-on cars to create a longer consist. The set includes Milwaukee's unique beavertail observation car – a car only a modeler could love. These are superb models of this early streamliner, complete with a classic smooth-running steam locomotive to pull the train. Although the Milwaukee Road train did not run on the Pennsylvania Railroad, the

Horseshoe Curve in my basement will almost certainly see this train pass by in the near future.

Intermountain produced a variety of Pullman-prototype sleepers and has added Centralia Car Shop's catalog to their offerings. Your road's agent can now offer accommodations in 6-6-4, 4-4-2, 10-5, 18-roomette or 13-double bedroom sleepers, along with coach seats for day travelers.
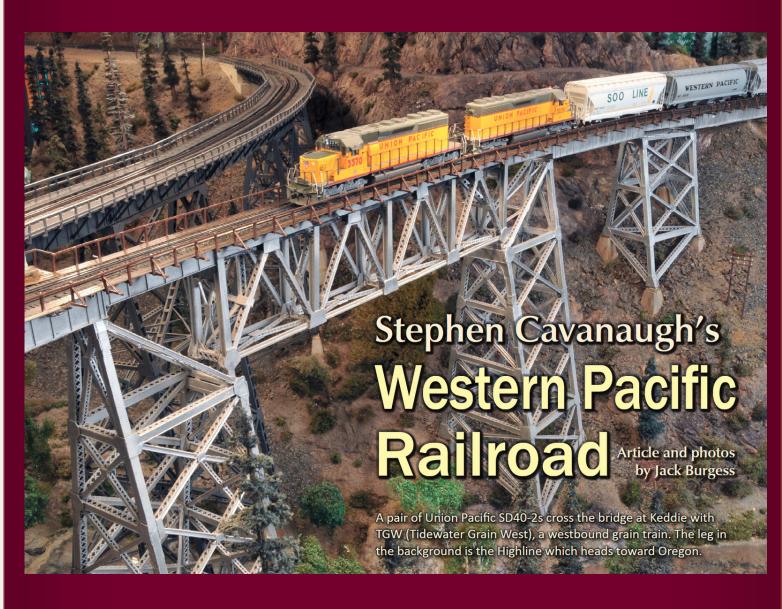
The somewhat mystifying '6-6-4' terminology refers to the accommodations on each car; from double bedrooms to compartments to roomettes (about the size of a small closet, but including a chair and a folding bed). Intermountain now offers enough variety and road names that many prototypical

Figure 4: This Missouri Pacific sleeper from Centralia Car Shops (distributed by Intermountain) is an interesting example of streamliner era passenger livery. Although decorated in a Mopac scheme, the car is owned by the PRR, who painted the car to match the "Texas Eagle" consist. The train was forwarded on the Pennsy from St. Louis to New York. Such arrangements were common, providing the opportunity to operate colorful consists and provide through service for your 1/160 customers.

Figure 4

Remember when?

Stephen Cavanaugh's
Western Pacific
Railroad
Article and photos by Jack Burgess

A pair of Union Pacific SD40-2s cross the bridge at Keddie with TGW (Tidewater Grain West), a westbound grain train. The leg in the background is the Highline which heads toward Oregon.

January 2011

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Figure 5

Figure 5: This Micro-Trains Railway Post Office is a model of a very common element of mid-century passenger trains. Similar cars ran on many railroads. Interestingly, this nice model represents a different prototype than the RPO in the Broadway Limited PRR set.

ADVERTISEMENT

consists can be created for a variety of railroads. These are great-looking, well-detailed models.

"The somewhat mystifying '6-6-4' terminology refers to the accommodations on each car; from double bedrooms to compartments and roomettes ..."

Micro-Trains has chosen to add a variety of earlier-era, heavyweight cars to the passenger revolution. These models match the quality of their freight cars. Heavyweight cars operated well into the streamliner era alongside their sleeker cousins, sometimes in the same train. Already released are 21-1 and 10-1-2 sleepers, a 28-1 parlor, and a 3-2 observation car. These are based on Pullman-built railroad-specific cars that were also operated by other railroads in similar configurations.

Micro-Trains offers a large variety of paint schemes on the same car. Their observation car, for example, is based on a Pullman design for the Southern Pacific. Similar, but not identical window, arrangements were used by other roads. The Southern Pacific also sold some of these cars to various other railroads across the country.

The Micro-Trains observation car is a good example of the hobby's prototype quandary. When a manufacturer offers a 'close-enough' model of a particular car, some modelers are happy to have a reasonable facsimile of the prototype. Others are disappointed and see the 'close-enough' as discouraging other manufacturers from offering a competitive 'spot-on' model of the same car. As always, it is your railroad and you get to choose which models to put in service.

Micro-Trains makes a nice model of a car found on many mid-1900s passenger trains; a heavyweight Railway Post

Figure 6: This Union Pacific coach includes decals to allow lettering for up to six different numbers. The decal sheet includes numbers for all the paint schemes Walthers has offered on this car. The UP numbers are the red ones on the right of the sheet.

Figure 7: This Wheels of Time Lackawanna 70' baggage car comes with doors that open. In fact, they can be a challenge to keep closed. A dab of rubber cement on the inside corners of the doors helps prevent your passenger's luggage from ending up on the right of way. Many through trains carried baggage and mail cars from connecting roads, offering another way to add color to your passenger service.

Figure 8: Athearn offers milk cars in a variety of schemes. Intermountain offers a similar car to carry milk to the city. On some roads, milk trains operated into the early 1960s.

Figure 7

Figure 8

Office car. Micro-Trains has also announced an upcoming paired-window heavyweight coach.

Canada-based Rapido trains has recently joined the revolution. Their N scale 'Panorama Line' offers streamlined cars based largely on Canadian National prototypes. So far, they have offered a 4-8-4 duplex sleeper and a coach in Canadian road schemes as well as prototypes that had similar cars or acquired them from Canada. They also offer easy-to-use lighting kits for their own and other cars. They have announced additional cars for 2012 including a café-bar-lounge and a 10-5 sleeper.

> ## "The availability of quality, reliable passenger service for 1/160 customers is only going to get better!"

Walthers offers the 10-6 Pullman, a 64-seat coach, and a 72' baggage car that offer additional variety for prototypical consists. A feature unique to Walthers is the inclusion of decals with their models to allow lettering in a variety of names or numbers. As with many features, some love it and some don't. Walthers also offers a lighting kit for those who wish to illuminate car interiors.

Wheels of Time focuses on coaches and baggage cars based on Southern Pacific prototypes. They offer a Southern Pacific 60-foot 'Harriman' coach

(named after the road's owner). These all-steel cars were introduced in 1906 with some lasting into the 1960s. They are offered in a variety of passenger and maintenance of way schemes. Also offered is a similar 60-foor baggage car, with a variety of prototype-specific roof and door arrangements. Wheels of Time's 70-foot baggage car is a newer prototype and is offered with Harriman or clerestory roofs depending on prototype. They also offer a variety of busses to carry your passengers home from the station.

Finally, milk cars were a part of passenger train service into the early 1960's. Intermountain and Athearn offer a variety of these cars to add to secondary trains.

The Future of the Revolution

As noted, many of the N scale revolutionaries have announced additional offerings for 2012. The availability of quality, reliable passenger service for 1/160 customers is only going to get better. To keep up with the N scale passenger revolution check out the Yahoo Group "N-scale-varnish" (N-scale-varnish@yahoogroups.com"). It's a great source of 1/160 passenger equipment information. ☑

Reader Feedback
(click here)

The Amherst Railway Society Railroad Hobby Show

Our 2012 Show will be

January 28 & 29, 2012

Save the dates!

About The Show

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

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

Click to learn more ...

DCC Impulses: Layout Wiring – Planning for the future

Getting to know DCC!

Key decisions made in the beginning make for easy progress later ...

First, let me thank you all for your kind comments on my humble efforts. Knowing that MRH readers are getting something of value from this makes it worth the effort. It seems there are enough folks just starting out or early in the DCC trek to make these basic ideas useful.

This month I'm going to tackle a basic subject that can have deep implications for the future expansion of your layout: planning and installing the wiring.

This is not intended to be an encyclopedic treatise on layout wiring. Instead, I'll introduce some concepts and thought processes.

There are a lot of (sometimes conflicting) ideas available from manufacturers' literature, books, webpages and fellow modelers. Let's work on making sense of them.

I am currently president of the club in my subdivision, the PCMRC (**pcmrc. org**). In 2006 we started building a 19 by 41 foot HO layout. It uses three DCC boosters feeding 19 power districts. A full operating session can keep 8 or 9 operators busy for up to three hours. I'll be referring to this layout throughout this column, because it was designed from the beginning to be a "large layout" with radio DCC operation.

Catching the Bus

There are two types of buses in a DCC system. No, these are not public transit, but electrical paths!

■ Track bus – carries power and control data from the boosters to the track and, therefore, to the locos and cars.

■ Throttle bus – connects your controllers to the DCC command station (system) box. This bus is called by various proprietary names, depending upon brand of system: LocoNet, XpressNet, CabBus, etc.

Converting from DC

If you are converting an existing layout from DC to DCC, you may already have much of the track bus done and only need to add a throttle bus.

The "quarter test" (see **www. mrdccu.com/curriculum/basics/ wiring.htm**) will show if the existing DC track bus is adequate (DON'T perform this test with DC power-packs hooked up!) If it is fails the quarter test, I highly recommend that you rip all the track wiring out and start over. Otherwise patching

and testing will probably be time consuming and frustrating.

Planning for DCC

Okay, whether we are talking about a DC layout that needs upgrading or starting with a new layout, the best place to begin is by doing some planning.

I'm going to discuss S and smaller scale layouts in this column, as they cover the vast majority of DCC applications. That lets us use two- to eight-amp systems but precludes 10-amp systems, which are designed for larger (most specifically G) scales.

First, think about how you are starting and what – within reason – you plan for the future:

■ What type of operation – round-and-round or switching – how much of each?

■ How many operators – normal and maximum?

■ How long a wiring run will your bus(es) require?

■ Wireless control, now or later?

Throttle Bus
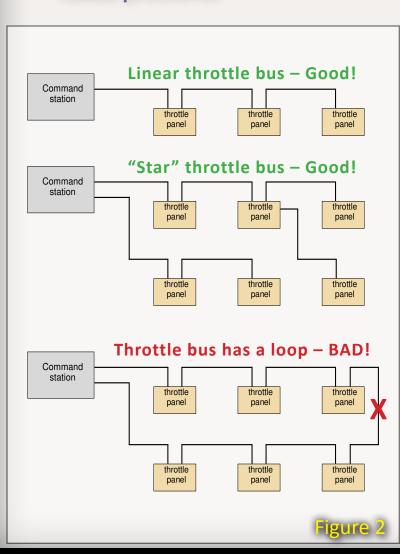
Just like you need a keyboard and pointer device to communicate with your computer, you need a throttle (or cab) to talk to your DCC system.

Figure 1: A Digitrax UP-5 throttle panel on the PCMRC layout.

Figure 2: Good and bad throttle panel configurations. There should be a single path connecting each throttle panel to the DCC system. Loops in the throttle bus will cause problems.

Linear throttle bus – Good!

"Star" throttle bus – Good!

Throttle bus has a loop – BAD!

Figure 2

With your computer, you tend to sit in one place. With your DCC system, trains move around the layout, often with their crews wanting to walk along with them. If that's you, you'll want lots of places to plug in your throttle(s).

Throttle Panels

Throttle panels are where your throttles plug in. They're usually mounted in the fascia (figure 1).

At a minimum, you will need one place to plug-in your throttle. It may be a throttle panel or the front of your system box. That is, of course, unless you have a set, like the Digitrax Zephyr, where a throttle is built into the system box.

If your layout is larger, you may want a large number of throttle panels – the number can increase dramatically depending on how far you are willing to stretch your throttle cable.

Most throttle cables are about five feet long. Throttle panels are often spaced two cable lengths (about 10') apart. Sometimes they're placed in strategic locations, such as at junctions and yards.

Layouts that use mostly radio throttles often have only a few throttle panels. Some radio throttles must be plugged in to acquire and release locos or to change MU (multiple unit) lash-ups, so panels are provided where these actions are most likely to occur.

Bus Interference

There can be interference between the signals on the track bus and the signals on the throttle bus. It's best to allow for this in your wiring. There are three ways to minimize interaction:

- Physically separate parallel runs of the throttle bus and the track bus as much as possible.

- When you need to cross over the other bus, make the crossing at a 90° angle. Separate them vertically as much as possible, too.

- Later, I'll discuss "snubbers" to attack possible gremlins.

Throttle Panel Wiring

Throttle panels are daisy-chained with the appropriate cable. That is, a cable comes from the system box to the first throttle panel. The next cable runs from the first throttle panel to the second, etc.

Frequently folks locate their system box in the middle of the layout to minimize the length of track bus wiring. The throttle bus daisy-chains out in both directions from there.

Throttle buses always run straight out from the system box to the throttle panels. End each daisy-chained throttle bus at the final panel. NEVER loop it back to the system box. Each panel should have ONE path to the system box. Closing the loop will cause interference and unreliable operation on the throttle bus (figure 2).

Throttle Bus Cable

There are two primary types of throttle bus cable:

RJ-25 cable: this is NOT a phone cord, no matter how much it might look like one. It is data-wired or straight-through (figure 3).

Phone cables invert and are not suitable for connecting throttle panels. Remember this when you are buying or making a cable. You will NOT find straight through cables at a hardware or home-improvement store. Buy them from your DCC dealer!

Figure 3: RJ-25 cable (six conductor) for interconnecting throttle panels on your fascia (photo courtesy NCE). Inset shows 6P6C cable end.

Figure 3
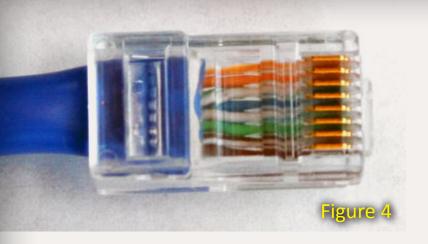
Figure 4: Cat-5 Ethernet cable used by some DCC systems to connect throttle panels.

Some folks incorrectly refer to these cables as RJ-11 or RJ-12 cables. RJ-25 is the official term for six-position connectors containing six contacts (called 6P6C). Although some DCC systems will work with four-conductor cables (6P4C), I recommend that you use six-conductor cables (6P6C) in case you change systems in the future.

Ethernet (Cat-5 or RJ-45) cable: Some DCC panels use industry-standard Ethernet cables. Frequently the design doubles-up data and/ or power lines. The strong insertion force and duplicate communications lines make for added reliability. This is why I recommend Ethernet cable if your manufacturer supports it.

Spacing your panels every 10' or so and connecting them with 12' to 15' cables (behind the layout fascia) allows some slack to pull out the panels for maintenance purposes.

One last caveat: stick with your manufacturer's throttle panels and cables. Don't be tempted to make your own – hardware store jacks and cables are not designed for the frequent plugging and unplugging encountered in DCC operations.

Track Wiring

The #1 rule for track wiring:

> *Every piece of rail should be connected to the track bus!*

Do not depend on rail joiners to conduct DCC track power between sections of rail.

One way to do this is to solder a track power drop (sometimes called a feeder) wire to every piece of rail – the metal rail joiners are responsible only for mechanical alignment of the rails and allow them to expand and contract with changes in temperature and humidity.

Another way is to solder every other rail joiner to the rails and connect power drops to the soldered joiner (figure 5). This still allows for expansion and contraction at alternate rail joints, and it halves the number of feeder wires.

Try to limit the length of your drop wires to about a foot (1/3 meter) and use 20 to 24 AWG (0.8 to 0.5 mm diameter) solid wire.

This many drops may sound like overkill. However, I've never seen a layout wired this way have conductivity issues. I have seen ones with inadequate drops destroy rolling stock with a short. The inadequate wiring didn't allow the DCC system to detect a short and shut down. Power dissipated in a short can damage or ruin car parts! I've even seen photos of brass trucks that fell apart after the solder holding them together melted.

Power Districts

Power districts are areas of track that are isolated from each other for ease of troubleshooting, or to keep one operator's mistake from frustrating other operators by shutting down the entire layout.

Frequently folks look at a layout plan and think, "well, I'll make the mainline one district and the two yards their own two districts." While this will work, it doesn't lend itself to easy expansion.

Instead I offer the following concept. Define each operator's "work area." For example, a yard or an industrial district could be a work area. Make each work area one power district, including an appropriate amount of mainline.

This accomplishes the following:
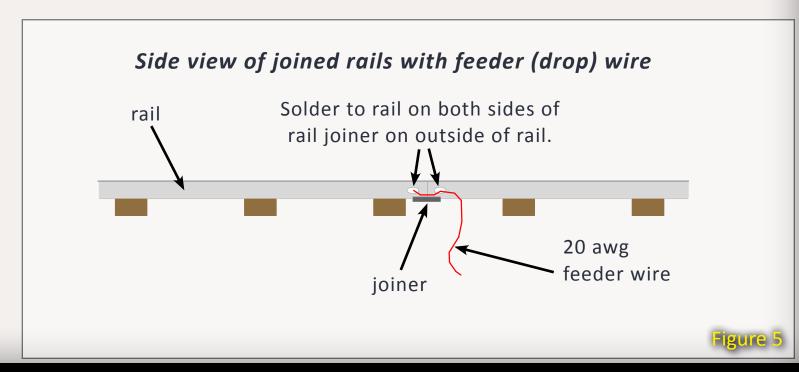
- Since you are working with building blocks of layout functions, expansion is easier – just add more blocks.

- Each operator's section is isolated, so if an operator causes a short circuit, only that section loses power.

- It's much easier to find a short circuit in the track if you can isolate the problem to a small area instead of searching the entire layout. Figure 6 shows how to wire a layout to facilitate trouble-shooting.
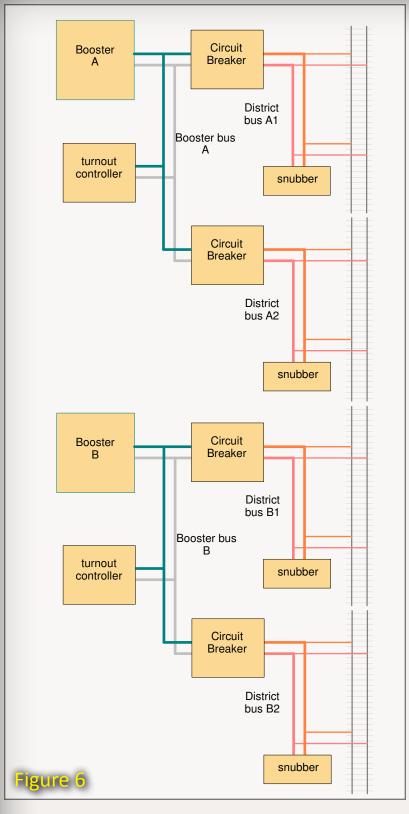
Color Coding

It can be hard to remember which wire goes where while under the layout with a hot soldering iron in your hand! That's why I like to color-code.

For example, here's what we did on the PCMRC layout.

Figure 5: Drawing of soldered rail joiner with a single drop to two pieces of track.

Side view of joined rails with feeder (drop) wire

rail

Solder to rail on both sides of rail joiner on outside of rail.

joiner

20 awg feeder wire

Figure 5

Figure 6

Figure 6: Wiring schematic showing boosters connected to circuit breakers via booster buses, and circuit breakers connected to track districts (work areas) via district buses.

Figure 7: Black and white booster bus (yellow lugs) connected to a barrier strip. The metal jumpers bring the bus to a new set of terminals, ready to be connected to the input of a circuit breaker for a district bus.

Figure 8: Track power drops soldered to a district bus.
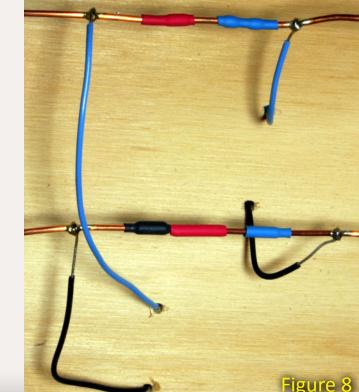
Figure 9: Two district buses in the same section of a layout. Physical position (closest to the plywood) and color allows whoever does the wiring (or repair) to know exactly which bus is being used.
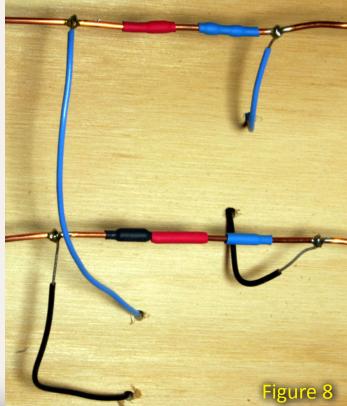
- All booster buses are twisted 12 AWG (2 mm diameter) stranded wire – white and black. This is shown running along the bench-work in figures 7 and 11.

- Each booster district is assigned a color (red, green, yellow). A piece of shrink tubing of the appropriate color can be slipped over the twisted pair wherever differentiation is needed. Barrier terminal strips are used to connect the booster bus to a district bus, as shown in figure 7.

- The district buses are 14 AWG (1.6 mm diameter) solid bare wire with track power drops connected to them. Each district is assigned its own color, such as blue.

- The circuit breakers we used switch only one side of the DCC signal. They were carefully wired so that the un-switched side was con-nected to the black side of the
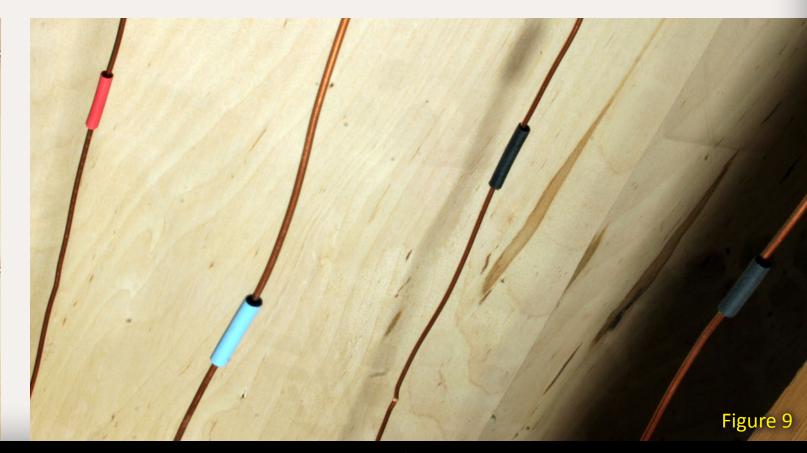
booster bus. So, on the red booster district, the blue district bus com-ing out of the circuit breakers was color coded with red and blue on the switched side and red, blue and black on the un-switched side.

- Track power drops are made using 20 AWG (0.8 mm diameter) solid wire that was also color-coded. For the blue district, discussed above, the rail closest to the aisle got a blue drop. The rail closest to the backdrop got a black drop. The rhyme makes it easy to remember.

That way, when under the layout, no thinking is required. Wire the blue wire to the bus with the red and blue tubing on it. Wire the black wire to the bus wire color coded red, blue, and black (figure 8).

Our main yard has many districts under it. The color-coding allowed the wiring of it without a single mistake. Don't

metal jumpers
Figure 7

Figure 8

Figure 9

cross-wire power districts – keep them separate. When two districts are cross wired, a short on one takes down at least both of them and sometimes, the booster, too! This separation of colors is shown in figure 9.

Layout Style

I'm going to discuss three basic categories of layouts. Yours may not exactly fit one of these, but they should help you get started. Read about all of them and look at your current layout and where you think you might be going. By planning for the largest, you can save time and money spent reworking your wiring!

Simple layout

What is a simple layout? Here's a quick definition …

One or two operators, with at most two trains running at a time and a maximum layout length from end to end of 20 feet. Something like a bedroom shelf layout might fit this category.

A simple layout usually has a single power district and can be readily operated with a two- to five-amp system with a 16 to 18 AWG (1.3 to 1.0 mm diameter) track bus and 20 to 24

AWG (0.8 to 0.5 mm diameter) solid wire feeders.

Why go for a higher-powered five-amp system when a smaller system would easily power two locomotives? One of the properties of DCC is that full power is available on the track at all times. Thus, on a simple layout, lots of things can be powered from the track that otherwise would be powered from an accessory bus on a more complex layout. Items such as:

- Building lighting
- Automation
- Background sound modules

could be powered from the track bus. Lighted cars are less likely to overload the larger system, too.
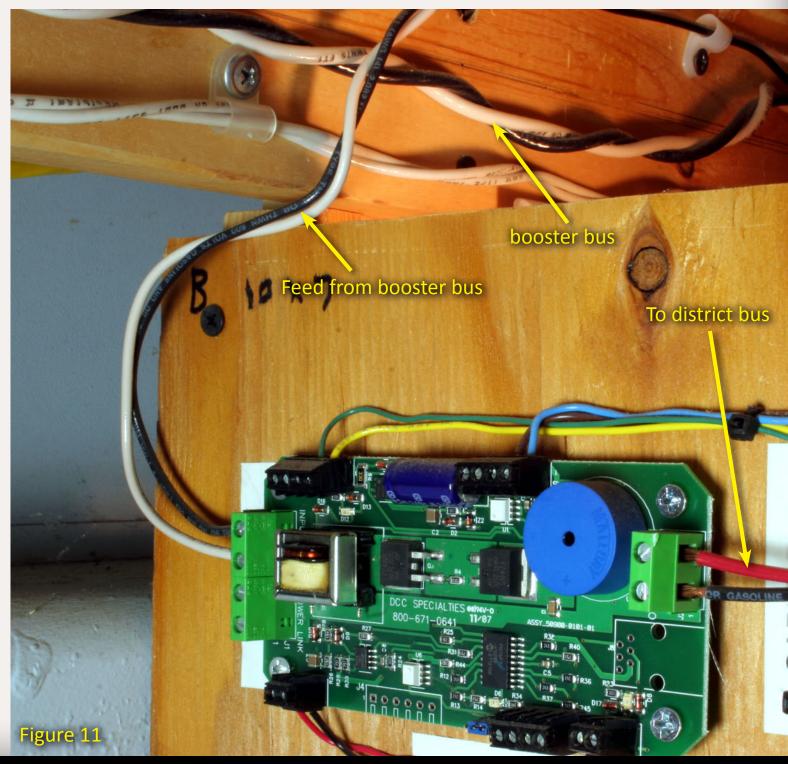
What I did with the layout shown in figure 10 was to start with an NCE PowerCab. Then, as I needed more power, I added an NCE Smart Booster, bringing it up to five amps.

Intermediate Layout

This type of layout might fill a bedroom or be a small club layout. It often has multiple operators and trains. Separate power districts protect trains in one district from a short

Figure 10: Simple shelf layout about eight feet long, suitable for switching problems and loco testing. Built by Bruce Petrarca.

Figure 11: Circuit breaker wiring – black and white twisted 12 AWG booster bus feeds the circuit breaker. The red and black wires are the circuit breaker's output to the district bus.

booster bus

Feed from booster bus

To district bus

Figure 11

Figure 12: A snubber made from a 100 ohm 1/2 watt resistor and a 0.1 µF 50 volt or higher capacitor.

in another one. This sort of layout would have a five- to eight-amp system running it.

The system box would connect to a booster bus to use 12 to 14 AWG (2.0 to 1.6 mm diameter) wire lightly twisted and running around the layout. Stranded wire makes twisting easier. Remember to keep your booster buses as far from the throttle bus as possible to minimize interference. Check out the twisted black and white wiring at the top of figure 11.

One convenient way to set up power districts is using 14 AWG (1.6 mm diameter) bare solid wire. Adding colored shrink (or non-shrink) tubing allows color-coding of the wires. These "district buses" can be stapled to the bottom of the layout cross members or through holes drilled in them. See figures 8 and 9.

Track power drops are 20 to 24 AWG (0.8 to 0.5 mm diameter) solid wire, soldered to the district bus (figure 8).

The district bus is connected to the booster bus through a circuit breaker, as shown in figure 11.

This single-booster layout might grow to need multiple boosters in the future. You might want to think about dividing the tracks into two or three relatively-equal sections. In the future, they could be easily separated, letting each district have its own booster, as described next.
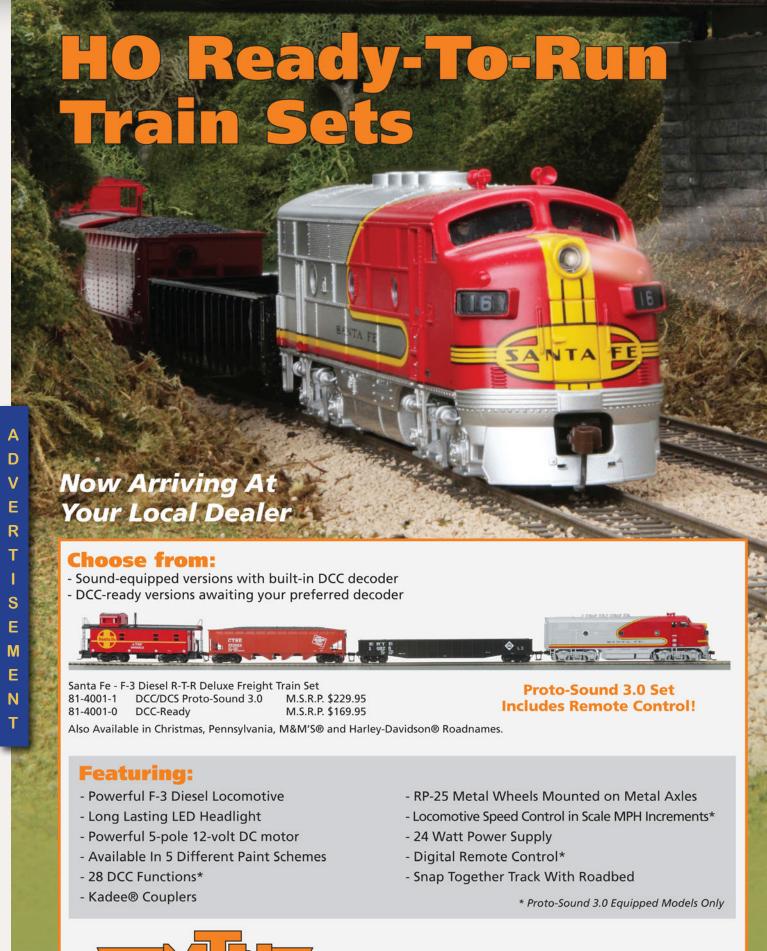
Large Layout

This category covers everything from a full basement layout to medium-size and larger clubs.

An intermediate layout in one corner of a basement may grow into a large layout. That's why I covered some serious issues in the last section.

On a large layout, there likely will be several boosters with multiple power districts each. When wired as multiple, interconnected, intermediate-size layout segments, the wiring won't be much more complex than several intermediate-size layouts.

On the PCMRC HO layout, each of the three booster districts is wired as I described in the Intermediate Layout section. The layout is brought together when the LocoNet (throttle bus) and

the track (frequently a single mainline) connect between booster districts.

An advantage of this separation came up at a recent operating session. One booster didn't want to play. So, we disconnected the booster bus wires from the offending booster and used alligator clips to jumper from the red booster district to the yellow booster district. After the session, we had the time to troubleshoot the problem and make the booster happy again.

Turnout Control

If you plan to control turnouts from your DCC system, you want to have the stationary decoders wired directly to a booster. This "Turnout

Bus" can be as simple as 18 AWG lamp cord.

If someone runs a loco into an incorrectly-set turnout and trips a power district circuit breaker, the turnout bus will still have power and you may be able to correct an improper turnout setting to remove the short, and avoid resorting to the 0-5-0 helper.

Snubbers

Earlier I mentioned snubbers. That is a term used by NCE for a part made by connecting a resistor (47 to 100 ohms) and a capacitor (0.1 μF) in series (figure 12). Snubbers are wired to each end of the track (and

turnout) buses. The effect of this is similar to what you get by twisting all the bus wires everywhere. It reduces interference between packets of data on the bus and, to some extent, interference between buses.

Why use snubbers? Frequently, no matter how carefully you wire the layout, gremlins may hide under the bench. Snubbers aren't expensive and adding them won't hurt. They just might choke a gremlin or two.

Build your layout using best practices and thoroughly test-run it. If you have unexplained problems, such as locos or stationary decoders losing their addresses, then try adding snubbers.

Go and Do It!

By now, I hope that you see that, if you plan ahead, you can start small and build a huge empire without rewiring or throwing out equipment!

Next month, I'll start a two-part series on hard-wired decoder installations. ☑

"One convenient way to set up power districts is using 14 AWG (1.6 mm diameter) bare solid wire. "

▶ **Reader Feedback** 💬 *(click here)*

Modeling a Petroleum Industry Flat Car Load

– by Ken Patterson
Photos by the author

Over the years, I've written articles on prototype modeling using photos. This strange looking flat car load is modeled from my memory of a prototype I saw on a siding about 14 years ago. It appeared to be a section of a distilling vessel for the petroleum industry. I didn't have my camera with me, but I did have pen, paper, and, a tape measure. I carefully studied it and noted how it was secured to a depressed center flat car. The vessel was held by two stacks of railroad ties that had been cut to shape and held by steel framework to prevent them from moving around.

Fourteen years later while shopping at a sporting goods store, I discovered a funnel-like thing in the hunting department. It looked almost exactly like the flat car load I'd seen years earlier. I purchased a few of them to get through the learning curve of recreating a unique model. Walthers manufactures a depressed center flat car similar to that which carried the prototype load, and I still had my notes and measurements. Time to get to work!

Reader Feedback *(click here)*

Figure 2

Figure 3

Figure 2: Lem Products of Harrison, Ohio makes these stuffing tubes. Here you see the 1" and $^3/_4$" stuffing tubes for a #5 meat grinder. You may find them in your sporting goods store or contact Lem Products at 1-877-536-7763. I used the 1" tube for my load as its measurements match my notes of the prototype load very closely.

Figure 3: The flange on the stuffing tube was too wide to look right. I used a divider with sharp points to measure and scribe the flange to remove about $^1/_8$" around. This leaves about a 7 scale inch flange for the bolt holes.

Figure 4

Figure 5

Figure 4: I used a table mounted disk sander to very carefully remove the flange outside the scribe line. You must keep the curvature even and smooth or it won't look right.
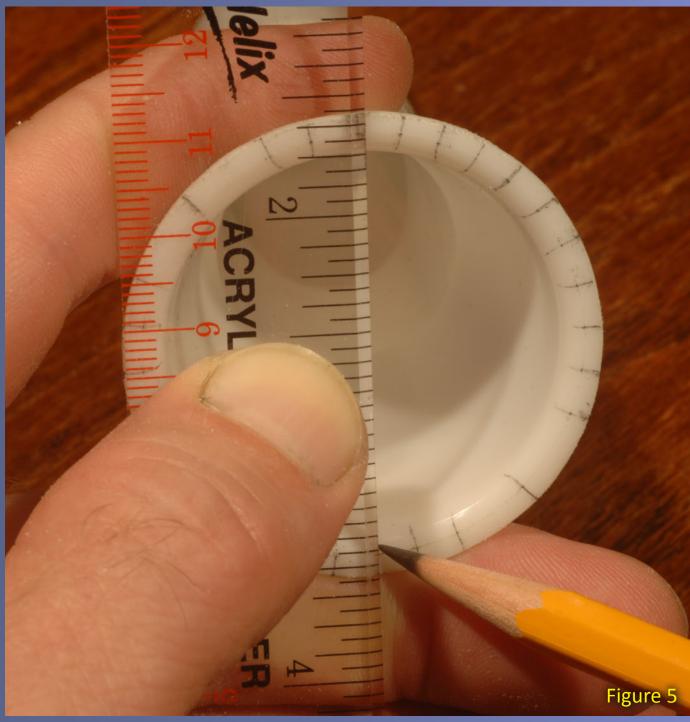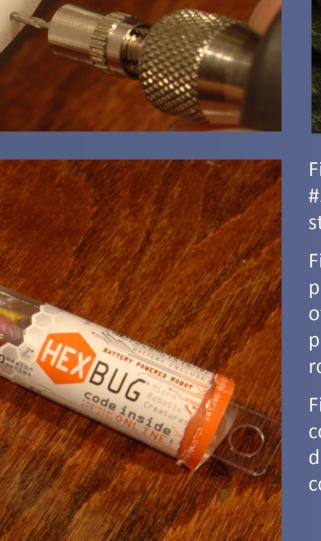
Figure 5: I needed to drill 32 bolt-holes around the flange. To mark the position of each hole evenly, use a straight edge and draw lines dividing the circle in halves then quarters, then eighths, and sixteenths, and thirty-seconds. Take care to keep all the marks evenly spaced.

Figure 6

Figure 8

Figure 7

Figure 6: I drilled the bolt holes using a Dremel at its slowest speed and a #55 drill bit (.052" diameter). After making the holes, I cut off the loose strings of plastic flashing with a sharp razor blade.

Figure 7: The packaging from an inexpensive toy called a Hex Bug happened to be the right size to represent the internal tank in the flared end of the load. I cut the tube about 3" long and wrapped double-sided Scotch poster tape around it to attach it to the inside of the stuffing tube. Its round end is recessed about 1/2" from the opening of the flared end.

Figure 8: I cut a circle from .010" styrene to represent a protective steel cover for the small end of the stuffing tube, taking care to match the tube's diameter. Then I drilled 6 evenly spaced holes near the outside edge of the cover and cemented Grandt Line bolt/washer (NBW) castings in place.

Making the Load (continued)

Figure 9

Figure 10
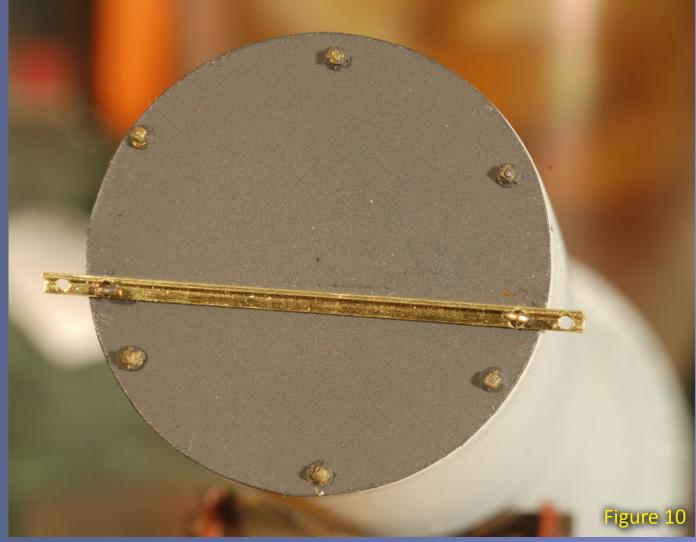
Figure 9: I painted the cap Grimy Black and attached it to the load with Walthers' Goo before adding L-girder stock and eye rings.

Figure 10: The bracket is $^1/_{32}$" L-girder milled brass from Special Shapes Co. and will be used as an attachment point for stay cables. The eye rings are for attaching guide lines. The small holes drilled in the ends of bracket are where the tie-down lines will be attached. I painted the bracket Grimy Black.

Painting the Load

Mounting the Load

Figure 11

Figure 12

Figure 13

Figure 11: I airbrushed the load with Floquil gray primer at about 20 psi using a double-action airbrush. I apply the paint wet for a smooth finish. Too much air here will result in a dry, sandy, finish.
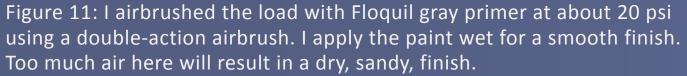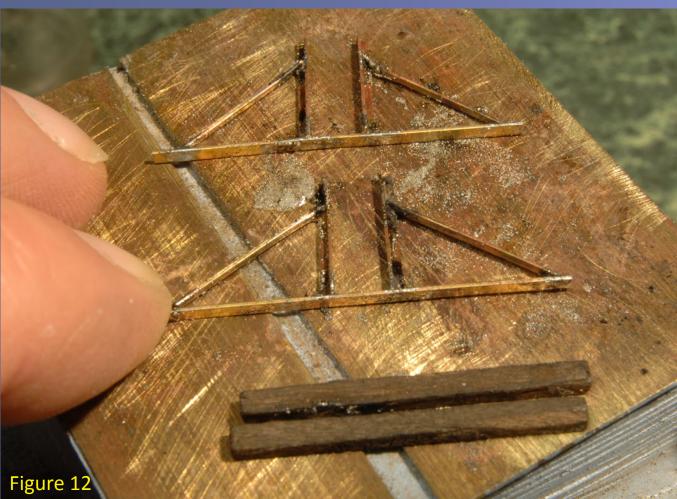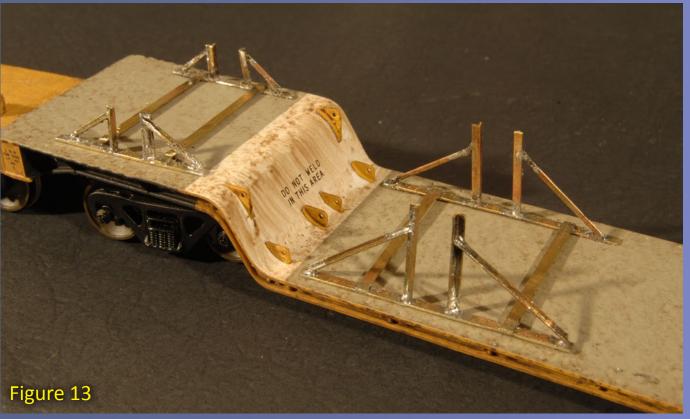
Figure 12: The load will ride on two stacks of railroad ties mounted in a steel bracket system. I used Micro Engineering pre-stained HO scale ties – each tie stack is two ties wide. I made the A-frame tie holders of brass shapes. The two uprights on each side were spaced two tie widths apart. I used Special Shapes Co. $^3/_{64}$" angle for the uprights. The angle braces are $^1/_{32}$" angle stock. The base pieces were cut from $^1/_{64}$" x $^1/_{16}$" bar stock. Everything was soldered together using liquid flux and a resistance soldering rig.

Figure 13: The tie holder frameworks test fit on the flat car. Note the different heights of the two tie holders.

Figure 14

Figure 15
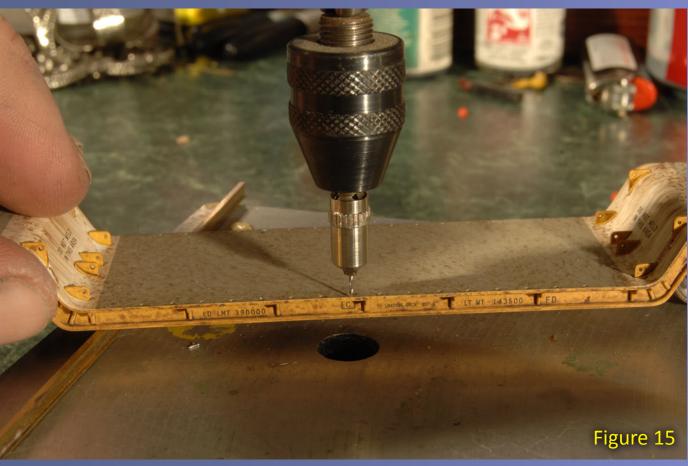
Figure 14: I painted the A-frame tie holders with Floquil Zinc Chromate Primer and glued the stacks of ties in place with white glue. A round file was handy for carving the round depressions in the tops of the tie stacks to match the curvature of the load.

Figure 15: I found it necessary to drill holes for the mounting cables in the floor of the flat car. I weathered the depressed center car with an oil paint wash of Van Dyke Brown and dusted it with Floquil Grime using an air-brush. The stock trucks were replaced with Athearn roller-bearing trucks.

Figure 16: I glued the A-frame tie holder brackets to the flat car using Walthers' Goo. Then I glued the load to the tops of the ties keeping the L-girder bracket on the load's end cap horizontal (level – see figure 17). I let the glue dry overnight before attaching the tie-down cables.

Figure 16

Tieing down the Load

Figure 17

Ken Patterson is an accomplished model railroad photographer and talented modeler who has been published many times in Model Railroader, Railroad Model Craftsman, and other model train publications. He lives with Michelle, his wife of 20 years and two children in the St. Louis, Missouri area. His backyard, on a bluff above the Mississippi River, provides an ideal backdrop for his photography. Ken poses with a section of his layout that he moved outdoors for the 'glamor' shots.

Figure 17: The tie-down cables are 30 pound .023" diameter fishing line painted Floquil Roof Brown. Two cables are strung through the flat car deck holes to the bell end flange holes on each side. Grandt Line bolts are glued to the back side of the flange to make it appear the cable ends are bolted in place with tension. Two more cables wrap around the load and are secured with CA glue in the holes drilled in the flat car deck. Two more lines, one on each side, were run through the flat car deck holes and strung through the holes in the L girder bracket on the small end of the load.

Figure 18 (next page): An overhead photo showing the load moving through a scene on Ken's home layout – moved outdoors and shot with natural light. The track is Micro Engineering code 83, 70, and 55. The roads are made of patching cement. Utility poles are scratchbuilt from brass.

Tell a friend ...   Contents   Index

Figure 18

Reader Feedback *(click here)*

Signs For Your Buildings
Become a Computer Assisted Wall Dog

– by Ken Ferguson, photos by the author

I'm in the process of adding a metropolitan area to my layout. Researching the architectural look and feel of a turn-of-the-century city, one feature that struck me was the extensive use of "wall art."

Wall Ad History

From the late 1800s into the mid 1900s, large signs, some positively gigantic, were often painted on the sides of buildings. The building owners did it to generate some extra revenue selling ad space. Shop proprietors had signs painted to promote their enterprise to passers-by. The ads evolved from simple text, such as the name of a business in

Figure 1: Signs painted on the sides of buildings have long been a form of advertising. Including them on the layout's buildings helps set the era and locale and provide extra detail.

Figure 1

Figure 2

Figure 2: Painted ads still exist in the 21st century. A freshly painted (2008) Coca-Cola sign at the corner of East Colonial Avenue and South Water Street, Elizabeth City, North Carolina.

12' tall letters, often white on black, into a unique art form.

Painters crisscrossed the country using their artistry to paint text and pictures nearly everywhere: their ads appeared on grocery stores, cafes, pool halls, factories, and warehouses advertising drinks of all varieties, food, tobacco, cars, hair products – the list is nearly endless.

The establishment of actual sign painting companies dates to the mid-1800s. The painters, usually men,

were referred to as "wall dogs." They balanced themselves dozens of feet or sometimes hundreds of feet above the ground on two-foot wide scaffolds, enduring the cold of winter, the blazing sun of summer, and wind gusts that knew no season. William Stage, a St. Louis-based photographer, offers this description of "wall dogs" in his book, "Ghost Signs : Brick Wall Signs in America".

> "They would drink beer as they hung from rope scaffolds high above the street, and spill paint on cars and people below."

This succinctly describes the creators of this unique form of advertising. But, what are the "Ghost Signs" referred to by the book? Ghost signs are simply

the remnants of these pieces of art, weathered by time.

Today, many of these advertisements are hidden from view until urban renewal removes an adjacent structure that was blocking it from view. The images endure because at the time, the paint used to create them was mostly lead-based, making it durable.

Looking at a ghost ad, you might see what appears to be a series of overlapping advertisements. By decoding each layer, one can track the evolution of the business over a period of time. Or, if one discovers a variety of ads, it might indicate that this location was a prime advertising site. A curious characteristic of many ghost signs is that when wet, as from a rain storm for instance, the ghosts reveal themselves. When dry, they melt back into their brick canvas.

Computerized Wall Dog

With a short history of this art form out of the way, here is a process for adding wall dog signage to buildings on your pike.

Like the title of the article says, you will need a computer with a raster (not vector) image manipulation application such as Photoshop Elements®. An alternative to commercial photo editing software is The GIMP (**G**NU⁺ **Im**age **P**rocessing Program) which is available for free download from the web. This is not "try and buy" software but a

fully functional open-source application. It has been rated as versatile as or better than many commercial programs. All of the images in this article were manipulated using GIMP.

To produce the "paintings", an ink-jet printer is required. A scanner is optional but very helpful. Several manufacturers offer both in one package.

But the "paintings" rely not as much on the software, as on the medium that the image is printed on. An ink-jet printer is required for all of the methods I describe, and a scanner is required for the third method. Several manufacturers offer both in one package (commonly called a 3-in-1,) which is what I used on this project.

You'll need the signs themselves. Dozens of websites feature old signs, commercial logos and vintage artwork for products that no longer exist. Several websites feature "ghost signs," which can be used as idea starters for your project. See the MRH forum discussion "Gazillions of signs to download" (mrhmag.com/node/5629).

Building Preparation

The examples shown here use off-the-shelf DPM® kits. I prepared the models by washing their pieces in warm soapy water to remove any mold release agent. I let them dry before painting

⁺ GNU stands for (g)not unix and is a collection of free software made available for anyone to use by the Free Software Foundation.

with a coat of red brick colored acrylic to give the surface some "tooth" for the adhesive. Remember too that prototypical bricks may have different colors. Examine photos of the area you're modeling to determine colors (figure 2).

When dry, apply and wipe off an over-wash of cement-colored acrylic, working it into the mortar joints between the bricks. Let the paint dry thoroughly.

Opaque Signs

The first example will be a simple freshly painted advertisement. I wanted to change the prototype sign to reflect a section of the city that I'm modeling, which is named after my granddaughter, Skylar. I found an old Coca-Cola® sign on the Internet that is typical of the era I am modeling and imported it into GIMP.

When using software that works with layers, the easiest way to think about what you are creating is that you are working with clear pieces of plastic, stacked up layer by layer like a layer cake. You are going to build separate parts of the final image on the various layers. When complete, you are looking down at the composite image of all of the layers. In this first example, one layer will be the green background for the whole sign, another will be the Coca-Cola artwork, and on top of that will be two layers of text.

Starting with the imported sign, I created the green background that will also serve as a border (figure 5a).

Since this will be behind the Coca-Cola image, I needed to move the green layer to the layer below the sign. The rectangle was resized to create an even border all of the way around. Next, add text. Again, thinking back to the example of a layer cake, the text needs to be on the topmost layer, so that it will appear on the green background of the top of the sign. On the TEXT palate are tools that allow you to change font, font size, color, and attributes like the width of each letter, and inter-character spacing. Here is where I added the new city name, SKYLAR CITY (figure 5b).

Next I added "Welcome to" on a layer on top of the previous layer. It is a different type face, different point size, and has different horizontal spacing (figure 5c).

Now that the text has been added in a size that fits, there is too much green background at the top of the sign. I took the rectangle tool and highlighted the area I wanted to crop off, and eliminated it (figure 5d)

When you are satisfied with the sign, SAVE it, then do it again as a SAVE AS, giving the file a new name. Work with the SAVE AS file because the next step is irreversible. Under the layer menu, MERGE or FLATTEN the image. This locks all of the above layers together as a single picture. If something goes wrong, or you don't like the results, you can always go back to the original file that you SAVED, and work from there.

The final step is to resize the image to fit on your building. Under the TOOLS

Figure 4
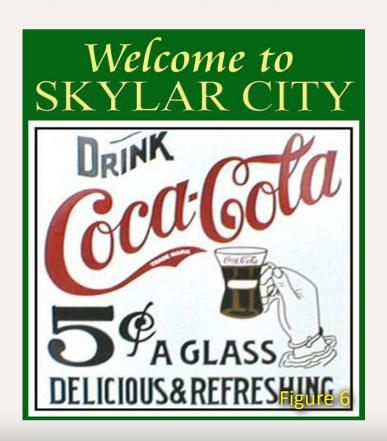
Figure 4: The sign as found on the Internet.
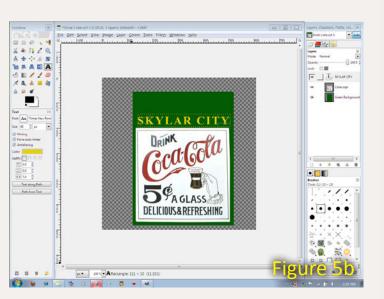
Figure 5: Image modifications using GIMP.
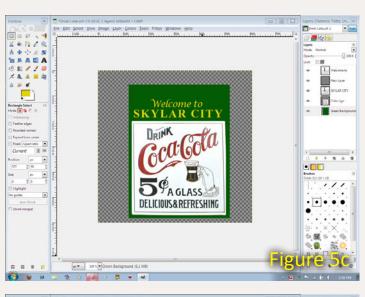
a. Added green background.

b. Added "Skylar City" text.

c. Added "Welcome to" text.

d. Cropped the top of sign
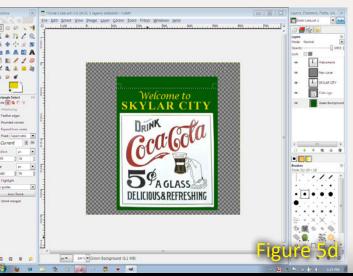
Figure 6: Final sign image.

Figure 6

Figure 5a

Figure 5b

Figure 5c

Figure 5d

drop-down menu is the TRANSFORM menu. Looking at the rulers on the canvas, rescale your sign to the final size for placement (figure 6).

Now you are ready to print. The paper I used in my inkjet printer is normally used with laser printers. It has a very smooth clay coated surface and doesn't disintegrate when wet. This paper is opaque, and will reveal very little of the wall color under the sign. When getting ready to print, I set the printer to one of the better print settings (600 dpi) to put more ink onto the paper. After printing, the ink needs to thoroughly dry. Spraying a thin coat of Krylon Matte Finish® (or Testor's DullCote®) on the image and letting it dry is the final step of the process.

While that was happening I gathered the remaining supplies for this project. The glue is a 50/50 mix of white glue and water. The other items include a small bowl filled with water to wet the signs, a small paint brush, and a fine-tipped burnishing tool like a dental pick.

By now the printed and coated sign had dried and I used an X-acto® knife with a new blade and straight edge to cut out the sign. I painted glue on the building over an area a bit larger than the sign. I dunked the sign in the water for 10 to 20 seconds to thoroughly wet the paper, but not so long as to make the ink bleed or the paper disintegrate. Note, the paper tends to curl when wet.

Figure 7: Burnishing the sign, working the paper into the surface texture of the wall.

Figure 7

Free Software… REALLY!

This may seem to be a little off track for a model railroad article, but just about everything happening with the hobby today, is in some way influenced by or with a computer. Here are two resources that may help you with just about any hobby related task – except actually running trains.

My father-in-law has always said, "Cheap is good… free is better."

There is a world of free, fully functioning software, available LEGALLY at no charge. By definition, these applications are called "open source."

According to the Free Software Foundation, Inc. (**gnu.org**), "'Free software' is a matter of liberty, not price. To understand the concept, think of 'free' as in 'free speech,' not 'free beer.' Free software is a matter of the users' freedom to run, copy, distribute, study, change and improve the software."

Here is such an application:

GIMP

GIMP [**G**NU **I**mage **M**anipulation **P**rogram] is for image authoring, composition, and photo retouching.

It's available in a host of formats to run on many of the most popular operating systems. Think of it as a much cheaper version of Adobe Photoshop®. If you can work in the Photoshop environment, you can work with GIMP. The application has built in HELP that is a little thin, but full HELP and TUTORIALS are also available as downloads.

The application can be downloaded from **gimp.org**, but there is one caveat, the files are big. You'll grow very old downloading over a dialup connection.

Figure 8

Figure 8: The finished Coke sign appears painted on the bricks.

The sign was placed on the building and flattened out. It didn't stay down so constant pressure and working the excess glue out from under the paper was necessary (figure 7).

Starting in the middle of the sign, I horizontally burnished the sign into the mortar strikes. It took a bit of time here to get a feel for how much pressure needed to be applied to the paper to work it into the grooves, but not so much that the paper tears. I alternated the burnishing strokes upward from the middle to downward from the middle, until the whole sign had been worked into the bricks.

This process will force excess glue out from under the sign. I blotted it up with a paper towel. As the sign dried, it shrank a bit, so I continued burnishing until almost dry. At one point when part of the sign was too dry and peeling up, I used a paint brush to add a bit more adhesive under the curled edges.

The critical part of this process is insuring all the edges are completely sealed to the building. When I finished the burnishing and was satisfied, I hit the completed sign with a craft hot-air gun for a few seconds to finish drying it. Figure 8 shows the finished sign.

You would be correct in assuming that the same effect could be achieved by

printing on white decal media, plus, decals are thinner. I concede that point, but laser paper is cheaper for experimenting.

Translucent Signs

The next part of the project, "Ghost Signs" uses drafting vellum (purchased at an art supply store) as the output medium instead of laser printer paper. Drafting vellum is translucent.

All of the initial steps used to produce the opaque sign are repeated here: Create background layers, add artwork, and add text. The difference is that the transparency of each layer will determine the final product.

"Looking at the top sign, it's evident that there are at least 3 layers of wall art. But they are next to impossible to decipher except for the most obvious."

Here is another photo shot in Elizabeth City, North Carolina. The Lowry-Chesson Building, built in 1897 and home to the Bee Hive Department Store and later Chesson's Department Store and "Academy of Music," the city's first opera house. Today it is home to "The Center," headquarters of Arts of the Albemarle.

Looking at the top sign, it's evident that there are at least 3 layers of wall art. But they are next to impossible to

Figure 9

Figure 9: The Lowry-Chesson Building, built in 1897 and home to the Bee Hive Department Store and later Chesson's Department Store (2008 photo).

decipher except for the most obvious. I imported the image into GIMP and adjusted brightness, contrast, and saturation, to extremes until I could see the text and images, layer by layer.

The text "Mitchell's" appears to be the oldest layer, painted in yellow. Moving forward in time, it seems that the new store name became "BEE HIVE." The image under the text turned out to be a bee skep (a straw bee hive) again painted in yellow. The topmost layer, "ONE PRICE STORE," is obvious. But, there is another line of text that overlaps the skep that is very faint. Again,

Figure 10: Layers that make up the sign – text and graphics .

adjusting the attributes of the original image, I was able to read, "THE CITY'S." Looking down a row, the rest of the message comes out, "ONE PRICE" (and next line) "STORE".

The easiest way to explain the process of duplicating this sign will be to describe the contents of each layer from the bottom to the top, and the transparency of each layer in the composition.

If you look on the LAYERS menu, there is a control called OPACITY. This will adjust how strong the layer will appear in relation to everything underneath it. 100% opacity will block every layer under it, while a 50% opacity allows half
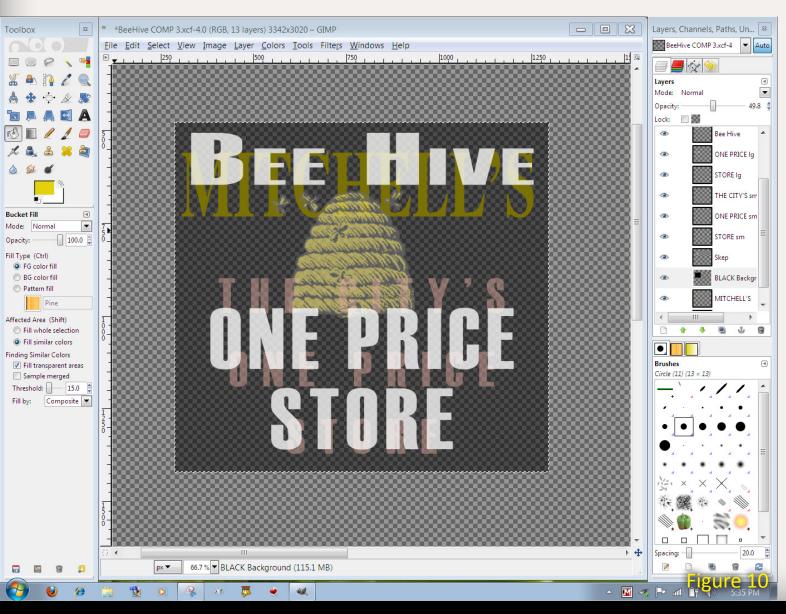
of the image below to bleed through. Here are the settings and color of the various elements of this sign:
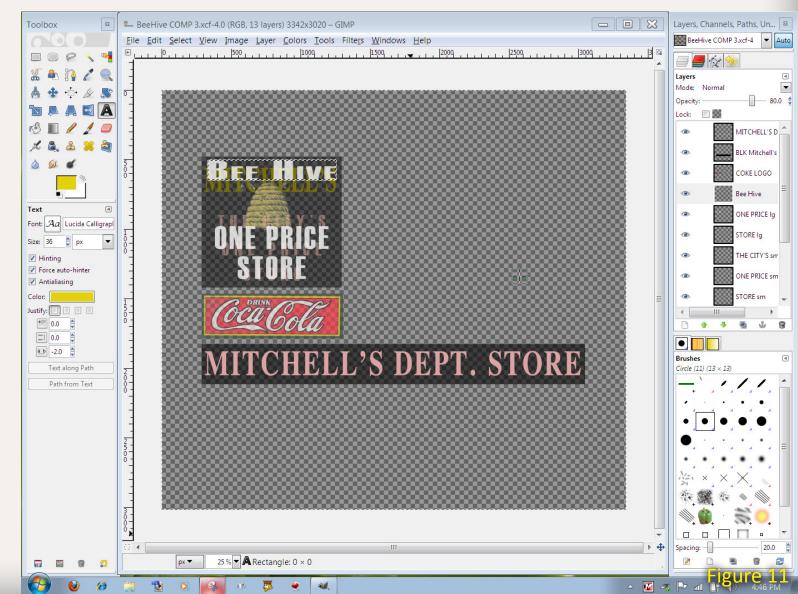
- 1 – TEXT - MITCHELL'S - Solid yellow - 100% Opacity
- 2 – OBJECT - Solid black rectangle [sign background] - 50%
- 3 – IMAGE - Bee skep artwork with alpha channel - 60%
- 4 - TEXT - STORE (small) – Solid brick red - 50%
- 5 - TEXT - ONE PRICE (small) - Solid brick red - 50%
- 6 - TEXT - THE CITY'S (small) - Solid brick red - 50%
- 7 - TEXT - STORE (large) - Solid

white - 80%
- 8 - TEXT - ONE PRICE (large) - Solid white - 80%
- 9 - BEE HIVE – Text - Solid white - 80%

The text on layer #1 is placed below the black background on layer #2, to darken the text to the point that the subsequent layers of "white" text will pop out. This is important because your printer doesn't print white. White is the absence of ink, revealing the paper below which provides the illusion of white paint.

Figure 11: All of the graphics that will go on the wall.

Figure 10

Figure 11

Layers #4 to #6 were created with brick red colorized type. The transparency or intensity of each layer is adjustable as is the placement of each layer in the stack, so a little time should be spent experimenting to achieve the desired look of sequence and aging.

Then I added the two additional layers, one with the Coke sign and another layer with the Mitchell's Department Store text on a solid background, as I did in the first example. With the artwork complete, I printed it on a sheet of vellum (figure 12). When dry, it was
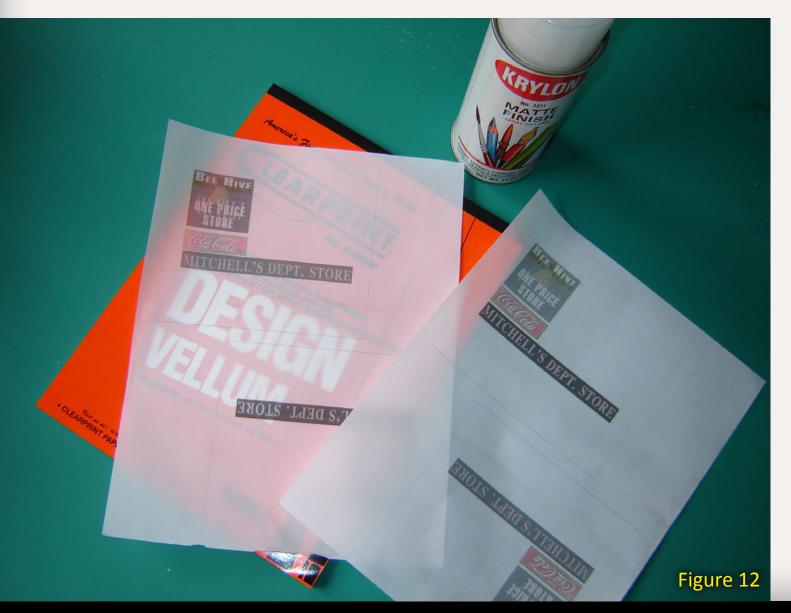
Figure 12: Images printed on vellum with matte finish. Note the translucency of the vellum.

trimmed and applied to the building using the same technique as in the opaque painted sign (figure 13).

Pseudo-Transparent Signs

The third method I use to make wall signs involves a scanner. Select a scanning resolution of 300 or 600 dots per inch to give lots of detail, but expect a very large file. Place the building on the scanner and scan (figure 14).

Import the file into GIMP. Each model of printer varies in how it reproduces an image, with differences in color, brightness and contrast. Without making any adjustments to the scanned image, print it out on a piece of vellum. When

Figure 13

dry, place it on the structure to compare the print with the real surface. Using GIMP, adjust the saturation (how much color), brightness and contrast. When you think you're close, print the wall section again and see if you have better results. Repeat until you're close.

When satisfied, lock the brick layer and import the sign image into another layer, resizing it to fit the building's side. I like this method because you are working full size with the sign and can

Figure 13: The finished Bee Hive composite sign applied to the side of Spud's Bar. Spud's was featured in the May 2010 MRH article "Lighting Structures with LEDs." (model-railroad-hobbyist. com/magazine/mrh-2010-MayJun/ led_structure_lighting)

see how it fits on the building. If your canvas is too small on the screen, use the zoom control to make the image

Figure 12

Figure 14: Scanning a building's wall for pseudo-transparent wall art.

Figure 15: The image on the left is an opaque sign layered over the background. The image on the right is what the final sign will look like when erasing parts of the SIGN layer.

larger. I also found that if you have a black or white border around the sign image, it will look less like a piece of paper glued to the wall when you actually glue it to the wall. If the sign doesn't have a border just create one like the green background in the first example.

Now for a bit of artistry. Select the eraser tool, then set the tool's density between 30% and 50%. Rather than click and drag, use single clicks. Click over the same spot several times and the sign will begin to fade and the image of the wall will come through. Repeat this until you have achieved the overall aging of the sign desired. You actually can make the sign appear to be very thin with the background showing through.

Print the final product on vellum, trim off the excess wall, and glue it to the building side as before. Take extra care to line up the horizontal mortar lines or it won't look right.

Using a fine burnishing tool will again give the artwork some texture on the wall surface, but you don't have to do it to the extent of a sign printed on opaque paper.

You Can Do It

If you are too artistically challenged to hand-paint your own wall signs, get a little help from your computer and you'll crank out professional looking signage for every building on your pike.

This method is relatively fast and inexpensive, and it lets you see the final results before committing to them.

Plus, there are no ropes, no scaffolds, and no paint spilled on the cars or figures below. The beer part of being a wall dog is well... optional. ☑

By day Ken Ferguson is an award-winning TV commercial producer and director. He got his start in model railroading in 1954 when his dad brought home an HO A.C. Gilbert Pennsylvania Railroad locomotive. He lives in northeast North Carolina with his wife, Susan.

Ken has two grandkids – when they visit the first thing they want to see is the trains. His current layout is his third (and so he claims, his last).

Figure 16: More of the author's wall art signs.

Figure 16

Superintendent's Office

Figure 4

Figure 5

Figure 6

Fascia signs
From inkjet printer to fascia ...

Reader Feedback
(click here)

– by Charlie Comstock

Which way is east? Where am I? If you have a largish layout and invite guests over for formal operating sessions, chances are you've heard these questions more than once or twice.

I was looking for a way to install signage so the crewmen who can read might receive enlightenment without needing to track down the Superintendent of Nearly Everything.

But I also wanted the signs to look elegant, be easy to read, easy to make, and easily changed if I ever wanted to use different place names.

I decided to try using my inkjet printer to produce the sign text, laminating the signs on pieces of Masonite stuck to the fascia in strategic locations.

I started by using my favorite word processing program to whip up some signs (figure 1). I print them with my

inkjet printer on photo paper and cut them out, leaving a border around them. I also cut some sign blanks from 3/16" Masonite.
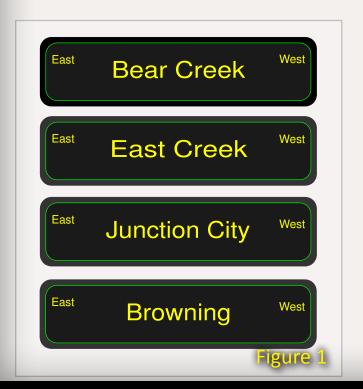
I use non-solvent (water soluble) contact cement to laminate the sign to the Masonite sign blank. Figure 2 shows the sign, blank, and contact cement.
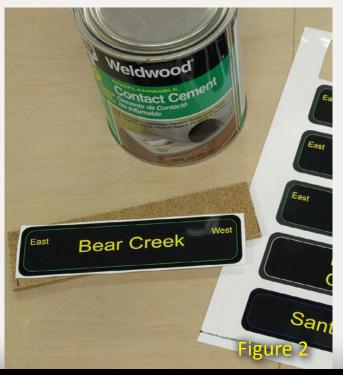
I coat the surface of the Masonite sign blank with latex contact cement using a cheap paintbrush (figure 3), then do the same to the back of the sign. I let them dry until just tacky, then press them together and use a roller to get rid of any air bubbles (figures 4 and 5).

Figure 1

Figure 2

Figure 3

Figure 7

Figure 8

Figure 6 shows the sign after rough trimming with a bandsaw. I use a small belt sander to carefully sand all remaining white edges away (figure 7).

Since the signs are black, I get rid of the Masonite color on the sides with an indelible black marker (figure 8).

I first attached the signs to my fascias using a loop of masking tape. This proved less than satisfactory – over time the tape lost its grip and the sign pulled away from the fascia, becoming easy for a passing arm to knock loose (figure 9).

Figure 9

Velcro® to the rescue (figures 10a and 10b)! I started using self-stick Velcro® to attach fascia signs. It's worked well for me so far.

I stick the "furry" Velcro on the fascia, and the "hooks" side on the back of the sign (figure 11).

Figure 12 shows the sign in place on the fascia. Now my operators know where they are – if they bother to read the signs. ☑

Figures 10a and 10b

Figure 11

Figure 12

The Apple Valley Model Railroad Club
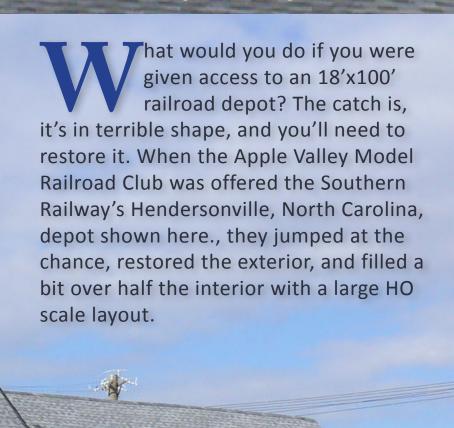
by Mike Nicoletti – photos by the author

What would you do if you were given access to an 18'x100' railroad depot? The catch is, it's in terrible shape, and you'll need to restore it. When the Apple Valley Model Railroad Club was offered the Southern Railway's Hendersonville, North Carolina, depot shown here., they jumped at the chance, restored the exterior, and filled a bit over half the interior with a large HO scale layout.

I have been an active model railroader over the past 30 years, building three large HO scale railroads in that time. Retirement and move from Indiana to Hendersonville, North Carolina in 2008, brought a problem; I longed to settle into beautiful western North Carolina, but our new home, while comfortable, didn't have a space suitable for a large layout.

I wasn't ready to hang up my throttle though, and still needed my daily train fix. So I began to search for a suitable model railroad club.

The Depot

I was pleasantly surprised when I visited the old Southern Railway depot on 7th avenue in Hendersonville.

The first depot on this site was built in 1879 and was replaced by the present structure in 1902, which served the Hendersonville area until the end of passenger traffic.

Carl Sandburg and his wife, who shipped her famous goats from this depot to points all around the United States, were among the passengers passing through the depot. The DuPont family summer home was in the nearby Flat Rock.

There were also summer camps in this area, and many children attending them rode the train from the north and the south. The depot was extremely busy in the summer.

I walked into the depot and was treated to another surprise – a model railroad that spanned over 75% of the depot's interior occupying three large rooms. It was beautiful.

After the Southern Railway was incorporated into the Norfolk Southern in 1983, the depot went through many changes. It fell into disrepair and was scheduled for demolition in 1988. But it was saved by the city of Hendersonville, which was interested in renovating this area; the city stepped in and leased the depot in 1989, intending it to be the centerpiece of their renewal project. The city, along with a volunteer staff, started renovating the depot shortly afterward.

In 1991 the Apple Valley Model Railroad Club was formed and was granted exclusive use of the freight room and one end of the building in exchange for their ongoing restoration work on the depot.
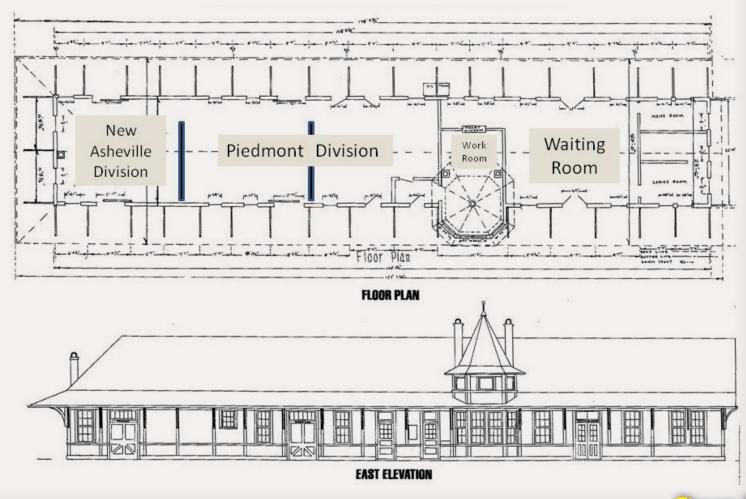
The Renovation Process

Once they had the space, club members immediately began renovation of the building, and started layout construction. Grants made by "The Preservation Society of Henderson County" and the North Carolina

Figure 2

Figure 2: The Depot before renovation started in 1991. The outside was completed in 1993.

Figure 3: The depot plans.

New Asheville Division — Piedmont Division — Work Room — Waiting Room

FLOOR PLAN

EAST ELEVATION

Figure 3

Department of Transportation provided initial capital for the project. These, plus many private donations, covered the high cost of the renovation. The building had not fared well at the hands of time (figure 2) and a lot of work was required.

The exterior of the depot was the initial project, but the club began to clean up the third of the building earmarked for their layout. The building is now on the National Historical Society Registry.

Layout Construction

The first layout built, later called the "Asheville Division," was completed in 1993. It was HO scale, and lasted until January 2010. Although the club had an operating layout, the rest of the depot's interior wasn't finished until September of 2005.

During the second phase of layout construction, the depot interior restoration was finished, including the waiting area at the north end of the building and a work room occupying the space where the station operator used to work.
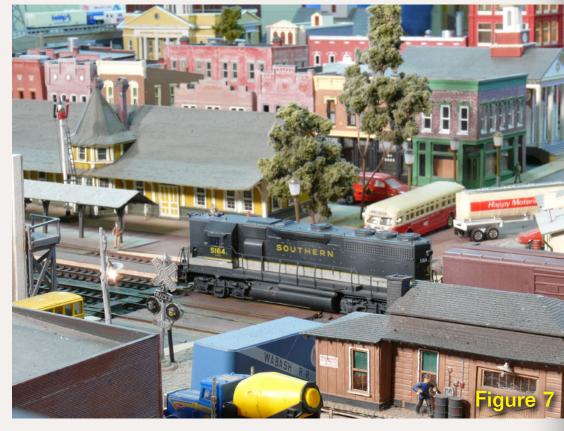
Two areas became the home of a new segment of the layout. The Piedmont Division was built on peninsulas, with construction finishing in May 2008.

The Current Layout

When I first saw the Apple Valley Railroad, I was impressed by the beauty

Figure 4

Figure 5

Figure 6

Figure 7

and detail the members had lavished on it. The entire layout measured 18' X 60' and featured a total of about 2000' of track and 225 turnouts. Trains were controlled using DCC, and the mainlines were signaled.

The scenery on the Apple Valley Railroad was equal to, if not better than, other layouts I've visited over the past 30 years. Many of the structures

Figure 4: The Depot interior in 2005.

Figure 5: Marion Morel, long-time member, working on the new Piedmont Division in 2005.

Figure 6: The old Asheville Division was made up the towns of Hendersonville, Saluda, Canton, and the Asheville freight yard. It was completed in 1993.

Figure 7: In this photo, you can see our favorite Southern Railway depot in Hendersonville. The depot was scratchbuilt by now-departed member Al Means.

were scratchbuilt, including a detailed model of the Southern Railway depot housing this layout.

The layout has areas representing Hendersonville, Asheville, Canton, Saluda (famous for the Saluda Grade), Black Mountain, Marion, Valdese, Hickory, and Spencer. All of these towns are found in or near the Asheville area. Scenic features include mountains, waterfalls, tunnels, bridges, and lakes. Many of the structures are fully detailed inside and out.

The latest addition to the layout is a sawmill with a fully-detailed and illuminated interior (figure 10). A super-detailed logging scene includes a scratchbuilt steam-operated drag line to pull logs up the side of the mountain and load them onto log cars (figure 9). The sawmill has an insatiable appetite!

The Club Today

During my initial visit, I spent some time reflecting on the many layouts I've visited during my years as a model railroader. I thought the Apple Valley Railroad ranked very high in scenic quality, detail, and operability. Obviously the members and their dedication have created a World Class Model Railroad.

Today the club has approximately 60 members. About two-thirds of them are retirees. This may seem like a lot of members, but there's a lot of main-

Figure 8

Figure 8: Two of the five large peninsulas that are part of the Piedmont division.

Figure 9: The Ritter logging operation depicted by a turn of the century steam logging skidder scratchbuilt by club member Richard Hathaway.

tenance, and we are continually adding more scenery and replacing kit structures with scratchbuilt ones.

After 18 years of operation, the original Asheville Division layout was ready for a replacement. In January 2010 it was torn down and construction of a new Asheville layout began.

Figure 9

As of this writing, the new layout is up and running trains. The new layout makes use of more modern technology – for example the main line turnouts are controlled by a computer using JMRI software.

We have a long way to go to match the quality of the rest of the layout, but this is all part of the fun of being a model railroader.

In passing, the rails outside the depot no longer sing with passing freight and passenger trains. These rails once linked Greenville, South Carolina and Asheville, North Carolina, and included the famous Saluda Grade, but have now fallen silent and it's unknown if they will ever sing again.

If you are in the Asheville area or are passing through, this is a must-see model railroad. I urge you to stop in and see for yourself this great layout, and visit the beautiful mountains of western North Carolina.

The Depot is open to the public every Saturday from 10am to 2pm, however

Figure 10: Ed Heeg built this mill and completely super-detailed it inside and out, including working interior lighting.

Figure 11: One of three scratch-built wood trestles on the Piedmont division.

Figure 12: The Old Fort sand & gravel processing plant on the Piedmont division.

Figure 11

Figure 10

Figure 12

if you go to **avmrc.com**, the Apple Valley Model Railroad website, additional information is available. If you are part of a group and would like to schedule a visit, contact the club (at the above website) and we'll gladly make arrangements.

There are also more still photos and videos of the layout available on YouTube. Search for "Apple Valley Model Railroad Club." Admission to the depot and layout is always free.

My Daily Train Fix

My wife and I are both very happy with our new home and I am now able to get my "Daily Train Fix" as a new member of the Apple Valley Model Railroad Club.

Happy model railroading! ☑

Figure 14

Reader Feedback *(click here)*

Figure 13: Our president, Larry Morton, preparing the layout for an operating session.

Figure 14: In addition to renovating the depot and constructing the layouts, the members completely restored this Southern caboose.

Figure 15: The younger visitors enjoy our special Thomas the Tank Engine layout, where kids get to operate the trains themselves.

Figure 13

Figure 15
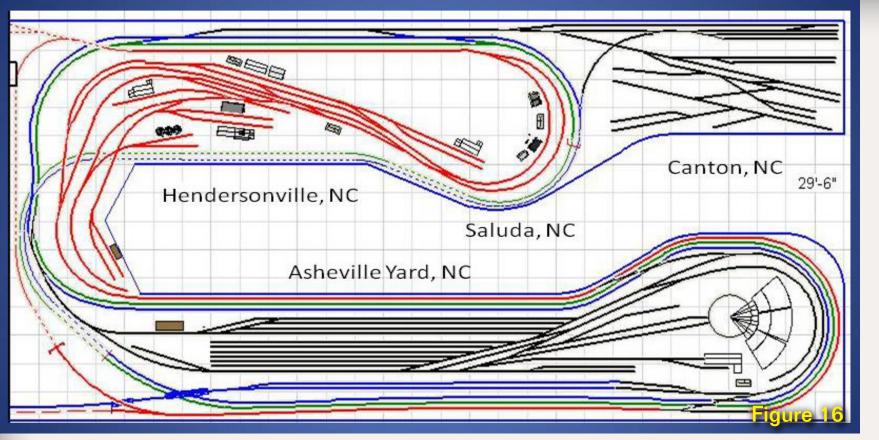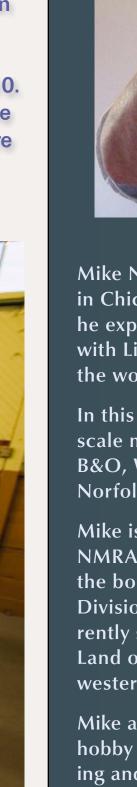
Figure 16: The new Asheville division trackplan. Each color represents a different mainline route.

Figure 17: Construction of the new Asheville division started with demolition in early 2010. By early 2011 trains are running, all turnouts are functional, and scenic work has begun.

Mike Nicoletti was born and raised in Chicago, Illinois. As a youngster, he experienced the joy of playing with Lionel trains. After 40 years in the workplace, he retired in 2006.

In this time, he built 3 large HO scale model railroads modeling the B&O, Western Maryland, C&O, and Norfolk Southern.

Mike is an active member of the NMRA, where he has served on the board of the Central Indiana Division for many years. He currently serves on the board of the Land of Sky, Division 15, located in western North Carolina.

Mike attributes his success in the hobby in large part to his understanding and supportive wife, Alicia, who has been a great inspiration, keeping him focused and moving forward.

Figure 17
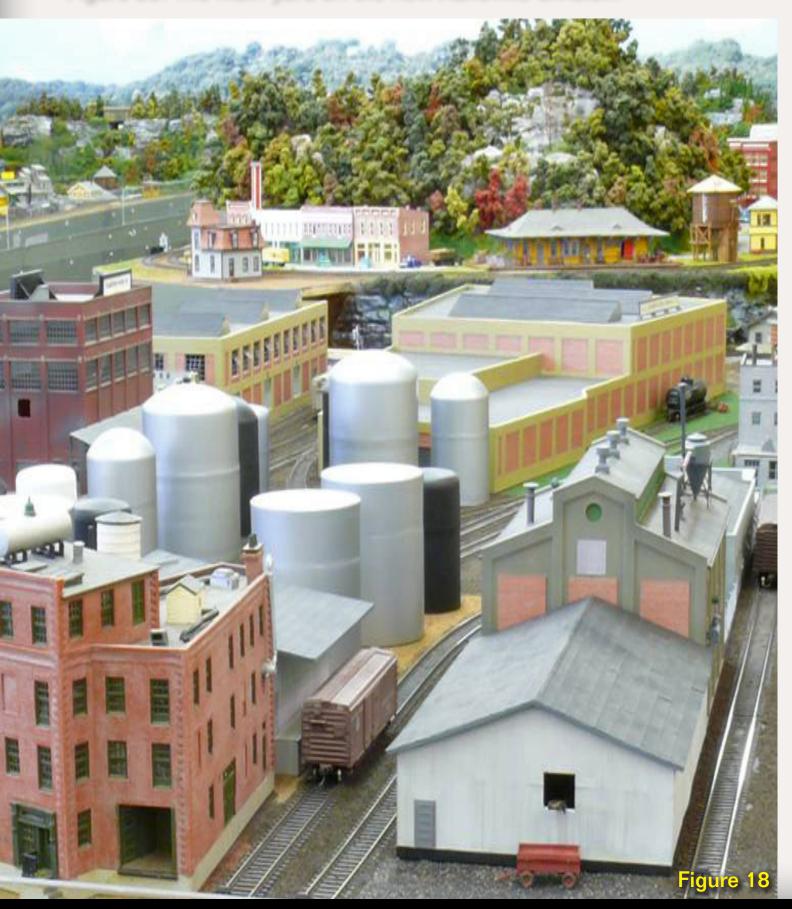
By late 2011 much scenery and many new structures appeared on the second version of the Asheville division layout.

Figure 18: The Champion Paper Company in Canton, North Carolina.

Figure 19: Industrial section of the City of Hendersonville, North Carolina.

Figure 20: The main yard on the new Asheville division.

Figure 19

Figure 18

Figure 20

Tell a friend ...   Contents   Index
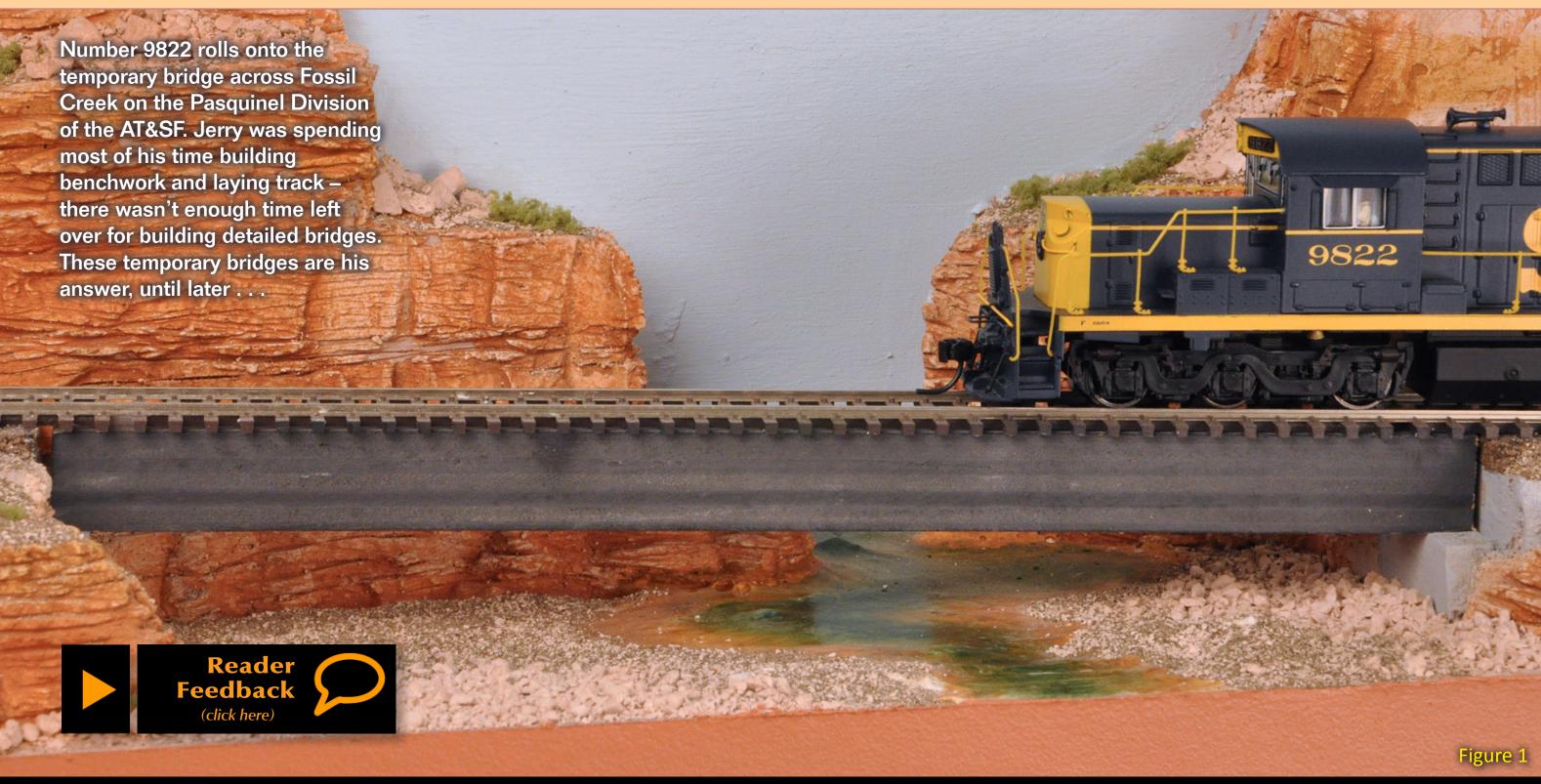
Temporary BRIDGES
Filling the Gaps in Your Layout

– by Jerry Boudreaux

Number 9822 rolls onto the temporary bridge across Fossil Creek on the Pasquinel Division of the AT&SF. Jerry was spending most of his time building benchwork and laying track – there wasn't enough time left over for building detailed bridges. These temporary bridges are his answer, until later . . .

9822

Reader Feedback (click here)

Figure 1

Four Alcos roar and strain as they drag 73 cars uphill, stretching their train around the mountain flanks beneath the track. The rails leave the solidity of the rocks and cross a yawning canyon on a tall steel trestle. The crew tries not to look down at the sharp rocks and frothing mountain stream below. Minutes pass and serenity returns to the scene as the train disappears into the distance. The battle of bridge against the forces of gravity is won again, as it has for many years.

But wait! On my railroad this scene ended with the engines abruptly halting at the canyon's edge, then timidly backing down the grade because the bridge hasn't been built yet. Visitors snicker and I offer excuses; the hobby shop didn't have the parts or I'm out of glue. My mind's eye sees a super detailed bridge crossing this gap but it won't happen in the near future. What? I have to stop mainline progress to build a bridge? Not acceptable!

My railroad's track plan calls for a number of bridges. They carry level track or track on grades. Most are straight but some are on curves. Some are tall, others are low. I needed a way to bridge those gaps that wouldn't take so long that mainline construction progress stops. I wanted something beyond cutting the existing subroadbed down to a thinner profile and laminating plastic bridge girders to the sides. Don't get me wrong, that technique works and

makes nice looking bridges – I've used it before (figure 2).

Bracing the Subroadbed

My desire for more detailed bridges led me to the following method. This article assumes a basic knowledge of benchwork construction. I use time tested "L" girders with stringers above. Vertical risers support subroadbed at about 16" intervals. All framing, risers, and subroadbed are $^3/_4$" plywood.

As I set grades and build subroadbed, my plans specify where canyons, streams, gullies and gulches will be – anywhere a bridge would be needed. When I come to these places, I build the subroadbed right across the gap and keep going.

Prior to laying track I install pre-cut and pre-painted parts (figure 3) to form a series of intermediate subroadbed supports held in place with a base plate. Then I cut out the bridge gap (figure 4). Variable height risers, temporary abutments, and a temporary bridge girder all blend together to create a plausible stand-in and get the mainline across a chasm with a minimum of delay. Some of my "temporary" bridge structures may still be in place five years from now. When it's time to install a real bridge it should just drop in place.

Cutting gaps for bridges can result in significant deformation of the

Figure 2
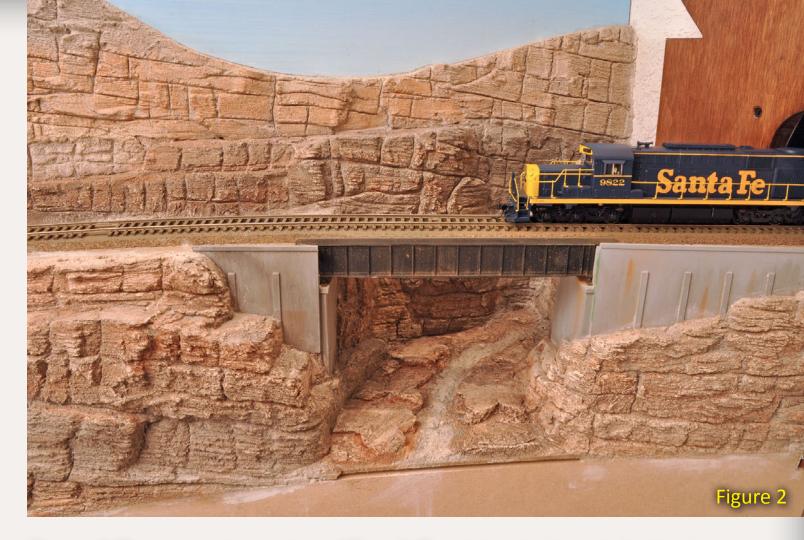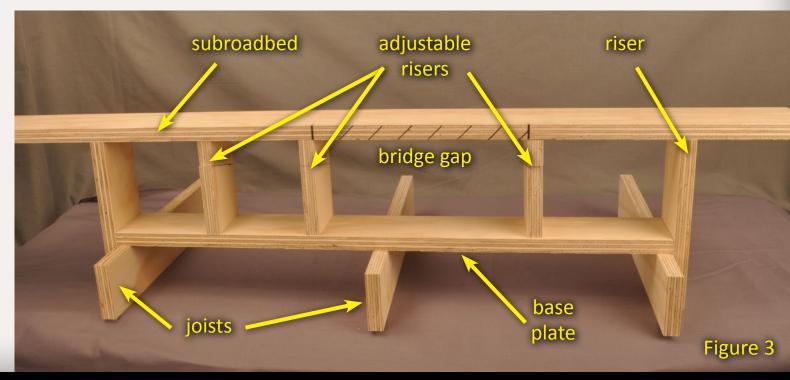
Figure 2: The second crossing of Fossil Creek is a bridge girder laminated to trimmed subroadbed to create not-yet-ballasted, ballasted deck girder bridge.

Figure 3: This framing mock-up shows how I build canyon base subroadbed set on stringers. Variable-height abutment-risers and intermediate risers support subroadbed. The crosshatched piece will be removed leaving a gap for the bridge to span. Note the 15 degree diagonal cut on the adjustable height risers.

subroadbed   adjustable risers   riser

bridge gap

joists

base plate

Figure 3

subroadbed. If the subroadbed is under stress, cutting a gap releases the ends and horizontal or vertical kinks (or both) can occur in the track. Base plates and the additional (and adjustable) risers provide enough bracing to prevent movement of the subroadbed ends.

I cut the gap a bit wider than the length of the bridge to allow for abutment installation. Risers at the ends of the subroadbed gap support temporary and final abutments as well as holding the ends of the roadbed in alignment. Figure 4 shows the bridge mock-up with subroadbed removed for the location of the bridge.

Adjustable Risers

Normally, abutment and intermediate risers require precise cutting to avoid lumps in the subroadbed. I came up with an alternative – adjustable risers. I cut the risers about $^1/_2$" longer than needed. A bit over half the length of the riser I cut across it on a 15 degree angle (figure 5). This creates a simple wedge with a sliding joint allowing perfect vertical adjustment.

Adjustable risers are installed by spreading a little yellow glue on their top, bottom, and diagonal surfaces, putting them in place, and sliding the "wedges" sideways until the correct height is reached. Clamps hold them in place while the glue dries.

Using $^3/_4$" plywood for the subroadbed makes it harder to accidentally deform

Figure 4

Figure 5

Figure 4: The subroadbed framing with the bridge section removed (see figure 3).
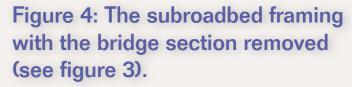
Figure 5: The adjustable height risers. The upper and lower pieces are slid along the diagonal cut to increase or decrease their height. To install, apply glue to the top, bottom, and the diagonal joint, then slide to proper height and clamp until the glue dries.

Figure 6: Abutment alignment fixture made of 3/8" plywood and cork roadbed. The black piece is equal in height to temporary bridge material

Figure 7: Assorted abutments, wing walls, and retaining walls cut from $^1/_4$" MDF and sprayed with rattle-can-gray paint

the roadbed during this process. Use of thinner plywood would require extra care to avoid creating vertical curves. A straightedge laid across the subroadbed quickly shows locations

The tops of abutments should touch the bottom of this abutment alignment tool when it's set on the edge of the opening for the bridge.

Figure 6

Figure 7

Figure 8
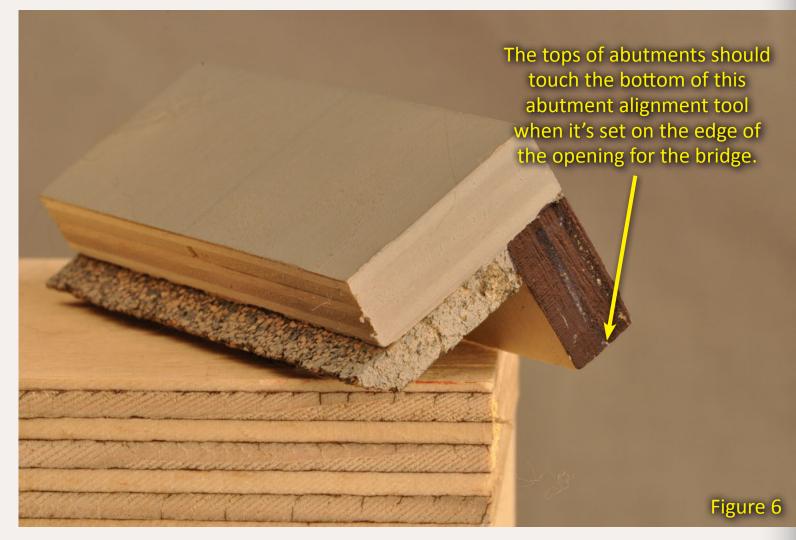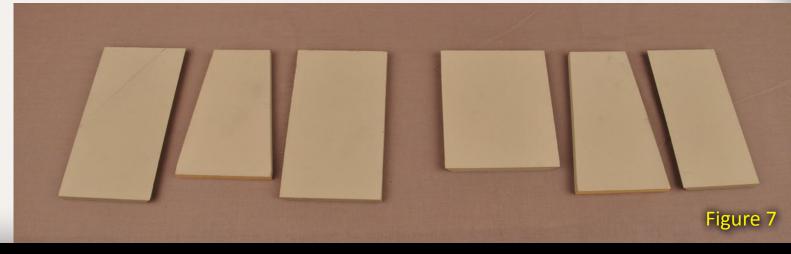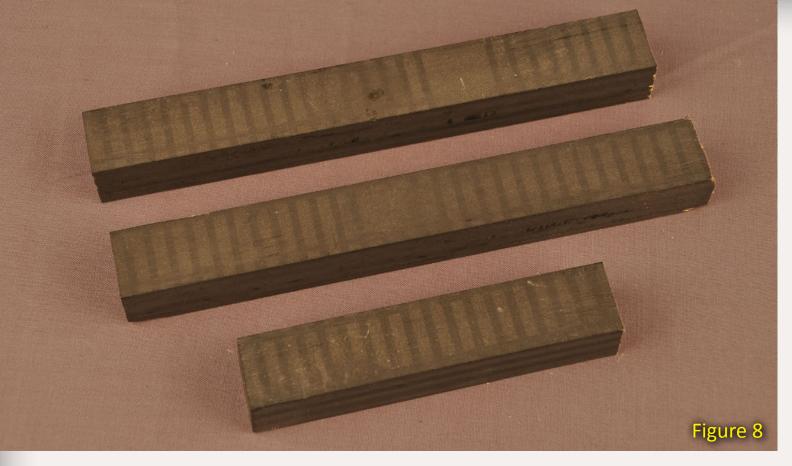
Figure 8: Bridge girder stock. Cut these 3/4" thick by 1" wide in lengths several feet long. They can be rattle canned flat black or silver. Cut to exact length after the gap is cut in the subroadbed.

Figure 9: Wedge detail at the bottom of an intermediate temporary pier.

Figure 10: Intermediate piers support a curved temporary bridge at the top of Rufus Hill on the Pasquinel. Note the wedges supporting the piers

where the track has become a bit like a roller coaster.

Assembly can be sped up significantly by using a pneumatic brad nailer. I use 1 $^1/_2$" brads and wood glue with my $^3/_4$" plywood. Brad nailers hit hard and are fast enough that assembly can often be done without clamps – the assembly isn't knocked out of alignment by whacking on it with a hammer or leaning on it to drive screws.

Remember, however, that at some point parts of this structure may have to come apart – for example, to install the real abutments. I have found that just a bit of glue plus 2 brads per joint seems to be a nice compromise between sufficient strength to hold the subroadbed flat and level and indestructibility.

When it's time to remove the subroadbed where the bridge will be installed, I use a fine tooth jigsaw and cut slowly – no chain saw stuff here!

Abutments

You can make a fixture to insure correct abutment height relative to the surface of the roadbed (figure 6). The fixture allows abutments to be installed quickly. A different fixture is needed for each type of bridge since the distance the fixture extends below the subroadbed must match the distance the bridge shoes or mounting plates extend below the track. If you have multiple bridge types and fixtures, label the fixtures to avoid setting abutments at the wrong height for the bridge being used!

My fixtures are made in three pieces: a vertical piece equal in height to the bridge structure, in my case $^3/_4$"; a horizontal piece of the roadbed material, in my case cork; and a horizontal piece that holds the whole thing together. I used $^3/_8$" plywood for the vertical and top pieces.

Temporary abutments should be made from a material with smooth surfaces. I use $^1/_4$" MDF or $^1/_2$" plywood but most hardboards or even styrene will work. Cut abutments with reasonable angles on them as in figure 7. They do not have to reach clear to the base plate, but should be a bit shorter. Top adjustment is critical here

Wedges make an adjustable height support for the pier.

Figure 9

Figure 10

abutment
height
fixture

abutment riser

abutment

Figure 11

Figure 12
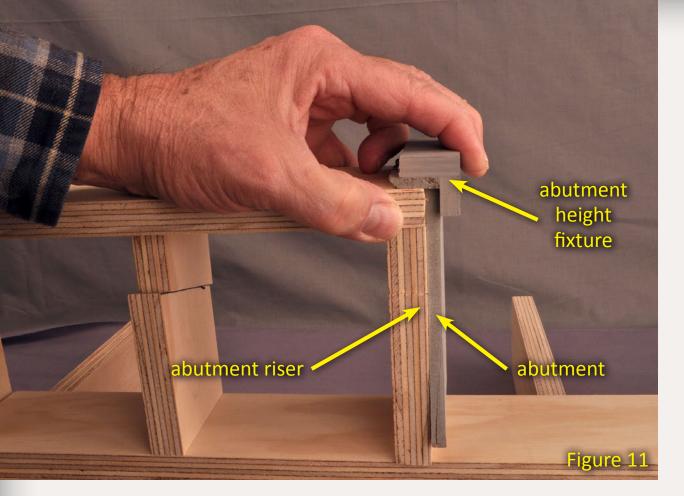
Figure 11: Holding the bridge abutment height fixture tightly to the subroadbed helpa vertically align abutments. Hot glue works well to attach the gray abutment to the plywood abutment riser – it sets almost instantly!

Figure 12: Temporary bridge mock-up ready for trains.

Figure 13: The mock-up with the actual bridge installed.

but the bottom is not (the bottoms will be hidden by scenery anyway).

Cut wing and retaining walls from the same material – I do this at the same time I cut abutments. I mass produce abutments, wing, and retaining walls, cutting them at one time and using a rattle-can to spray paint them gray to approximate concrete.

Attach abutments to abutment risers using the fixture. A friend is a big help when doing this. Because I use hot glue to install abutments, nasty burns are all too likely if I try to hold the

abutment, the fixture, and the hot glue gun by myself.

Hold the fixture so it hangs over the end of the subroadbed, squirt a few dabs of hot glue on the back of the abutment, then place it in position with its top edge against the bottom edge of the fixture. Press firmly on the abutment to make a good joint between it and the riser supporting it (figure 11). The amount of glue must be sufficient to support train weight and the pressures exerted during track cleaning, but not so much that it becomes a permanent bond. At

Figure 13

some point you're going to want to pop these abutments off and install a "real" bridge structure.

Temporary Bridge

I use 3/4" thick by 1" wide pine for my temporary bridges (usually anyway).The 1" width allows the ends of the ties to hang over the edge a little,

adding to the simulation of a deck girder bridge. I use a table saw to rip several feet of this stuff at a time and spray it black with a rattle-can. Silver is another appropriate color – but you don't want to see silver between the ties. I cut lengths from the pre-cut bridge stock as needed. When installed they closely resemble a

Figure 14

Figure 14: Close up of the actual bridge with plywood abutment.

simple deck girder bridge (figures 8 and 12). Maximum span for this material in HO scale is about 12 inches.

If intermediate supports are required, cut them from ³/₄" material and sand to shape. Tapers are nice here. Cut the supports about 1" short and put wedges below them to insure proper adjustment (figures 9 and 10).

Tiny amounts of glue hold the assembly in place but allow easy disassembly when the time comes for a finished bridge. Rattle-can gray makes these look like concrete as well.

Curved Bridges

What about curved bridges? I need a few of these and have done them two different ways.

The first method starts by drawing the appropriate radius track centerline on ³/₄" plywood, then dividing the span into segments that allow short sections of straight girder to make the bend (there is no such thing as a bridge with curved supports – the girder sections are straight with curved track on top of them). A scale 50' to 75' works well for each segment.

You should have a piece of 1" wide roadbed made of a series of straight segments joined at roughly equal angles. For a temporary bridge, perfection in angles is optional.

Alternatively, cut a series of straight pieces from 1" wide stock with each end mitered (beveled) to meet its neighbor are the proper angle. Butt-join these pieces.

Figure 15
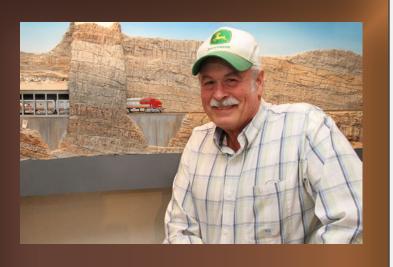
Jerry Boudreaux has loved trains since his early years in Central Arizona's ranch country. He loved chasing trains in the back of his dad's ancient pickup. Warbonnets, zebra stripes, and blue and yellow diesels became a way of life as they twisted their way over the mountains to the desert floor.

Working 33 years as an educator brought Jerry and his wife, Jeanne, to retirement on a ranch in Corvallis, Oregon. Jerry gets to work on his rail-road AFTER the ranch chores are done.

Figure 15: Supai Canyon viaduct on the Pasquinel Division. This 84" long viaduct uses 1" square aluminum tube as a temporary girder which will ultimately have model girder sections glued to the sides complete with rivet and plate detail. Pier footings will raise the towers to the girder level..

It's a bit more work then making all the "girder" sections from one piece of plywood, but uses less material.

These methods produce a more realistic bridge – with straight girder sections. You'll need a pier under each angle in the bridge.

Piers (risers) on wedges work well here (figures 9 and 10).

The second curved bridge method I use is much simpler. I cut a 1" wide curved section from $^3/_4$" plywood. The inner radius of this piece is $^1/_2$" less than the track centerline, the outer radius is $^1/_2$" more. Since it is a continuous curve it doesn't look as realistic as the first method. It will need risers at intervals to hold it up (figures 9 and 10).

Place the simulated girder(s) in position on top of the abutments in the bridge gap. The top surface of the girder should line up with the top surface of the roadbed (figure 12).

I don't glue my temporary girders in place because they will be pulled out and replaced with real bridges someday (figure 13). Curved bridges may have alignment problems as side thrust will kick the track off center. Also thermal and humidity related expansion and contraction will move

unattached track. If track alignment becomes an issue, drill clearance holes for track nails thru the ties and into the girder along the track center-line. Drop track nails into these holes. Loose fits are OK here.

Summary

Most of these components can be pre-cut and pre-painted to minimize bridge construction related delays. Having lengths of riser, subroadbed, and painted bridge material all waiting to be cut to final size can be a real time-saver. Abutments, wing walls, and retaining walls can be cut to various shapes and painted ahead of time. Final trimming can be done once exact requirements are established.

Using pre-cut and painted parts, I can install a temporary bridge in less time than it takes to read this article! No more delays waiting on the B and B gang to get their work done. No more self-imposed pressure to get that super detailed bridge with NBW's and rivet detail completed before you can run trains.

I expect the biggest problem will be maintaining the self-discipline to replace temporary bridges with finished models!

Happy bridge building. ▣

Reader Feedback *(click here)*

– by M.R. Snell
Photos by the author

Recycling – The 35 Dollar Challenge – Part 3

More techniques for customizing secondhand rolling stock, getting it ready for service under the new owner's colors ...

▶ **Reader Feedback** 💬 *(click here)*

In our second installment we transformed a factory decorated 1970s era IPD boxcar into a customized model suitable for service in the present day by distressing the graphics, changing the reporting marks and modernizing the mandated markings. In our final installment let's look at several other methods of customizing factory decorated models into secondhand cars, enabling us to add large groups of cars to our fleets with a minimum of time and expense.

The first car we'll look at is NGWR 2011, a boxcar originally decorated for the Manufacturer's Junction Railway. Rather than simply distressing the markings as we did on the Hillsdale County boxcar featured in Part 2 we'll, completely paint over the car's graphics and reporting marks, a trait common amongst secondhand cars.

Figure 53: More patch painting and decaling to make freight cars look second or third hand.

While creating a 'painted-out' car may seem as simple as applying some masking tape and painting a few 'patches' we must remember what we learned in Part 2 – factory printing is raised above the surface of the paint. Keeping this in mind, we can either sand the printing flush

with the paint to create a smooth patch or we can leave the printing intact for an interesting ghost effect, the factory graphics showing through as a raised image under the patch paint. In the case of the Manufacturer's Junction boxcar I used a combination, sanding most of the "MJ" logo flush while leaving selected portions intact. Only only bits and pieces of the logo show through as 'ghosts'.

Figure 54

Figures 54 and 55: Painting over the markings of a secondhand freight car is a common practice used to return a car to revenue service quickly.

Figure 55

STEP 1: Distressing the Original Lettering

Figure 56

Figure 57

Figure 56: Paint applied directly over the graphics of both prototype and model freight cars results in interesting effects such as this CSX logo peering through the patch paint on this KCS (ex-CSXT) boxcar.
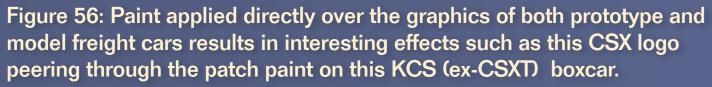
Figure 57: Original lettering.

Figure 58: Sanding selected portions of a logo or lettering while leaving others intact will create an unusual looking 'ghost' that will show through the patch paint applied to the model.

Figure 58

STEP 2: Masking and Patch Painting

Once the logos, lettering, and reporting marks are sanded it is time to prepare the car for patch painting. Wash the car body to remove any dust on the car, either from age or from sanding.

To reiterate, the car is weathered to reflect its age, then it's masked using either painters tape or masking tape, leaving only the areas to be painted exposed. Patch paint masking isn't like working with a standard paint scheme. The locations of the mask lines are entirely at your discretion. The easiest way to mask for patch paint is to mimic the prototype using solid square or rectangular blocks.

Use car body elements such as reinforcing ribs, roof channels, door tracks, and cast-on grab irons to determine where the mask lines are placed. It's considerably easier to mask this way than to go for arbitrary masking lines.

After masking, the car went off to the paint shop to apply the patch paint, creating a 'two tone' car. The paint brand and color used in patch painting is up to the modeler, but a few basic rules will insure a quality finish.

Rule 1 – Use a color that contrasts with the body's base color. In this case the boxcar has a dark blue body so a black or dark blue paint will not leave much of a contrast. A lighter color such as grey or light blue will stand out, letting everyone know this car has had its graphics painted over.

Rule 2 – The second rule is 'do not try to cover a dark color with a light color'. White and yellow will not cover black, no matter how thick you want to apply the paint. All you'll do is ruin the model and frustrate yourself, which leads to rule #3.

Rules 3 – Apply the paint in THIN coats using an airbrush, not a spray

Figure 59: This masking is aligned with the car ribs, making the masking easier to apply.

Figures 60: Applying patch paint in thin coats with an airbrush will insure that the patch paint is applied evenly and does not bleed under the masking.

can or a paintbrush. Apply thin coats of paint with a fine or medium tipped airbrush and direct the paint AWAY from the edges of the masking tape to insure the paint doesn't bleed under the tape. This is good airbrush practice anyway – if it isn't already a habit this is an excellent time to make it one!

Rule 4 – Finally, remove the masking tape immediately after you finish painting by lifting it at a 90 degree angle while pulling it away from the model. This will leave a crisp paint separation line and prevent any paint that may remain on the masking from running and ruining the model.

Now that the patch paint has been applied, finishing the boxcar is simply a matter of changing the reporting marks and blending the weathering, making each patch look like it was applied years ago rather than minutes.

Figure 61: Once complete, a patch of a contrasting color makes a striking addition to the appearance of a car making it stand out, whether in a train or on a siding.

Figure 62: There are dozens or sizes, colors, and font styles of alpha-numeric decals to choose from. Using a stencil style can reinforce the impression that a car was hastily relettered and placed into service.

STEP 3: Multiple Patch Paint Colors

Figure 63

Figure 65
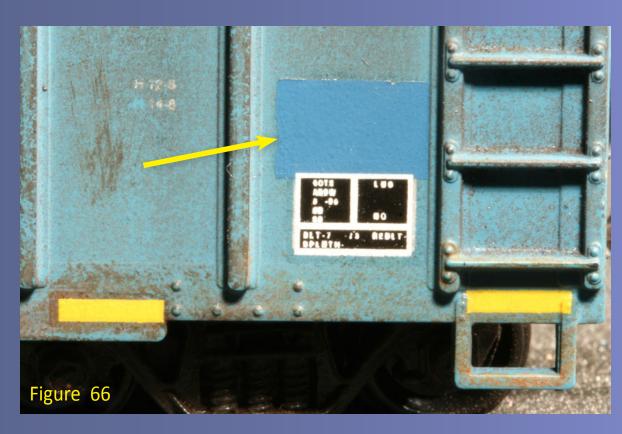
The previous car used graphics distress, decal patching, and full patch painting with actual paint. Our next car employs a hybrid of all these methods, using both patch painting and decal film to create a unique third generation car. In modeling NGWR 50, a former Meridian and Bigbee boxcar, adding a second patch color over the reporting marks implies the car is in the hands of its third owner. However this would require a second mask and session in the paint shop. Rather than spending the time to mask the boxcar again just to add a tiny area of a second patch color, I used a small black decal patch which took minutes to apply – considerably faster than masking and painting.

Figure 64

Figure 64: Add multiple color patches to imply that the car is in the hands of its third or even fourth owner using decal trim film.

Figure 66

Figures 65 and 66: Decal trim film saves the trouble of masking small or difficult areas and saves time when only a small area of patch paint is required.

STEP 4: Other Car Types – covered hopper

Up to this point we've focused on boxcars, but secondhand cars come in all styles. This ACFX covered hopper is the prototype for our next model, NGWR 11811. Keeping in mind the basis for the challenge, how could a car decorated for the Western Pacific – a road that's been gone for 27 years prior to the year I model – become a car suitable for the modern era? Simple! Just follow the prototype and change the graphics.

Transform this Athearn ACF hopper requires only changing the reporting marks and removing the Western Pacific graphic by distressing it. Removing the surface (black & red) layers of ink will leave the white square intact.

Once again I'm using auto body sandpaper and the wet sanding method. This time, more control was required to avoid marring the finish of the car. As this is a slab side car, I began by masking the area around the square, then enlarged the size of the sandpaper so it encompassed the entire square, preventing it from chipping away the sides of the masking tape. After only a minute of sanding the Western Pacific graphic is unrecognizable and the tape can be removed to leave a large blank square that no longer dates the car to the 1980s.

Figure 67

Figures 67 and 68: Almost any car style can be turned into a convincing secondhand car. All we need to do is to look at the prototype, then choose a model that will lend itself to graphics modification.

Figure 68

Figure 69: The side of the Athearn ACF hopper before I started work.

Figure 69

Figure 70

Figure 71

Figure 72

Figure 70: Distressing a logo such as this Western Pacific square without damaging the cars surface requires masking the area around the logo, and using sandpaper large enough to encompass the interior of the masked area.

Figure 71: The Western Pacifc logo is gone except for a white rectangle and a few bits of paint.

Figure 72: Once the previous home of the logo is distressed, it provides evidence that a car has found a new owner, similar to this prototype covered hopper.

STEP 5: Other Car Types – bulkhead flat

With four of the five cars complete we're nearing the end of the project. The final car is a Roundhouse Milwaukee Road bulkhead flatcar. Flatcars are among the easiest of cars to modify into secondhand cars as they have neither large graphics nor any ribbed sides to complicate masking. In fact manufacturers tend to apply the absolute minimum in lettering to flatcars, often resulting in large open areas along the sills of the model.

Figure 74

Figure 74: Alpha-numeric decal sets generally contain multiple sizes of decals, useful on models such as this bulkhead flat whose shallow side sills require small letters or numbers.

Figure 73

This Roundhouse model is no exception as the only change required is a decal patch and new reporting marks, this time using a smaller font to match the shallow patch required by the sill of the car.

To create a better model I added several more decals, not only to show the the multiple eras when this car has seen service, but also to fill some empty space on the car's sills. Representing the car's early days is an ACI label on one bulkhead, a leftover from its days on the Milwaukee. A three-panel COTS stencil and small squares of conspicuity striping added to the sidesill show the car is still active in the present day.

Figure 75

Figure 76

Figures 75 and 76: Decals such as ACI labels or COTS stencils date a car, showing the eras when it was used. This bulkhead flat carries an ACI label, a 3 panel COTS stencil, and conspicuity striping showing the car has been in use from the 1970s to the present day.

Conclusion

I undertook this project as a challenge to see what could be added to my railroad for the price of only one piece of high-end rolling stock and a little creativity. I also attempted to show whether model railroading was becoming too expensive. Although this experiment did run slightly over budget, (the five cars came in at about $50 rather than the targeted 35), I think it shows that we can still enjoy our hobby even if our discretionary spending grows more limited while prices increase.

Best of all, by using a few new techniques and adding a little elbow grease, we can create good looking, realistic rolling stock that is unique. All we have to do is change our mindset from model railroading to miniature railroading, and think like the prototype. ☑

▶ **Reader Feedback** 💬 *(click here)*

Figure 77

Figure 77: The $34.95 challenge has shown that realistic, smooth operating rolling stock can be created even by for those of us on a budget. We just need to keep an open mind and add a little "sweat equity".

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

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

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

Weller WLC100 electronic soldering station

First Look

– by Joe Brugger

Even in the ready-to-run era, soldering is an essential skill for model railroaders. DCC wiring and decoder installations, rail power feeders, and scratchbuilding projects all can involve metal-to-metal joints best made by soldering.

Weller's WLC100 electronic soldering station kit includes a variable power control, a sturdy holder for the iron, and a cleaning pad that needs to be moistened with water. It also comes with a nicely-balanced, lightweight 40 watt pencil iron which has a cushioned foam grip and a replaceable heating element.

The variable power control allows modelers to match the heat to the job. Settings range from 5 to 40 watts. Heavier work like attaching power drops to a buss cable will need the higher wattage setting. For really heavy duty soldering though, you'll need a higher wattage iron, soldering gun, or even a torch.

This unit is really two separate pieces. The iron is not hard-wired to the base station. Instead, the included SPG40

pencil iron has a two-prong plug that plugs into the outlet on the side of the base station. The outlet works with irons up to a maximum of 40 watts.

The plastic-cased unit has an on/off switch with a "power-on" indicator light. Also included is a leaflet with operating instructions, tips on soldering, safety instructions and a listing of available interchangeable tips.

The included SPG40 iron is supplied with a 1/8" wide screwdriver profile iron-plated copper tip. Additional tips can be purchased separately, including small conical tips for circuit boards and connecting small wires, and screwdriver tips up to about 3 millimeters wide.

Retail pricing for the WLC100 kit ranges from $40 to $70. ☑

NOTE: This soldering station does not feature a grounded tip. Take care when soldering electrostatic sensitive components.

▶ Reader Feedback 💬
(click here)

Portland Railroad Atlas - 1963 and 2010

First Look

– by Jeff Shultz

Reader Feedback *(click here)*

Maps can be fascinating. While "the map is not the territory" is always good advice, a good map provides a visual representation of many different things: the location of roads, population centers, waterways, and recreation areas. In this case, the "Portland Railroad Atlas, 1963 and 2010", by M.C. Byrnes, provides 20 two-map snapshots of the railroads of Portland, Oregon at two moments in time.

Researched using aerial photos from both years as well as railroad track maps and ground photos, the included maps are well detailed, with the tracks color-coded by owning railroad. Spurs, sidings, and yard tracks are included. Depending on the area covered, the maps are in either 1:7,000 or 1:10,000, and include page number references to connecting maps where applicable.

The left side of each two-page spread shows the trackage in 1963, the year the railroads were at or near their maximum track miles in Portland. The maps on the right side of each spread

are from 2010. They portray a much different picture of the railroads, in some cases surprisingly so. Referring to figure 2, you can see that in 1963 tracks ran up Water, 2nd and 3rd Streets, as well as to the warehouses to the east and the yard to the north. By 2010 all that was left was a two track mainline, without spurs or crossovers, between Albina Yard or the west side of the Willamette River via the Steel Bridge and the former SP Brooklyn Yard and mainline to Eugene.

Interestingly, on pages 36 and 37, the maps show the creation of a new full-fledged marine terminal in 2010 where there were no tracks at all in 1963 (figure 3). In fact, with all the changes through the years, there are only 15.2 fewer track miles in the mapped areas in 2010 as there were in 1963!

Printed on heavy, glossy, 8-1/2 x 11 inch paper stock, the "Portland Railroad Atlas, 1963 and 2010" is available through several Portland, Oregon area hobby shops or directly from the author at **mcbyrnes.com** or **railatlas@gmail.com** for $24.95. According to the author six copies of the Atlas have been purchased by Union Pacific's Superintendent in Portland, which
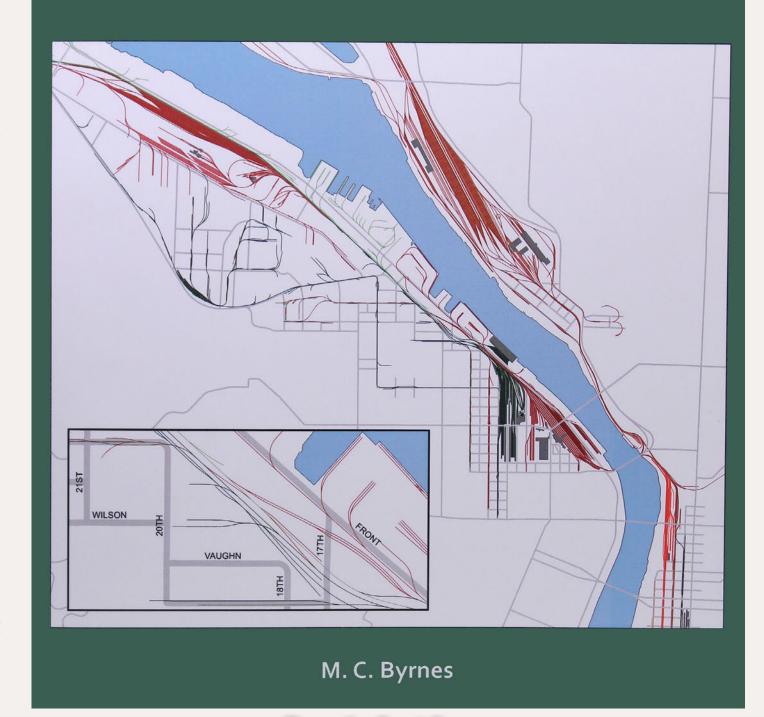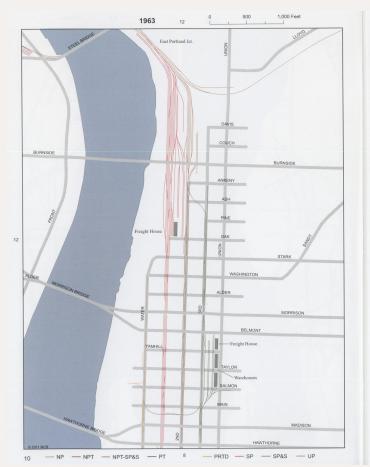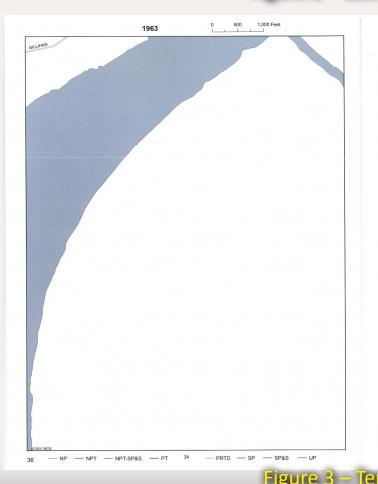

Figure 1 – Front Cover

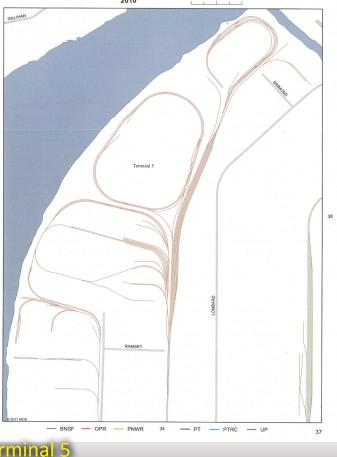suggests good things about its completeness and accuracy. If you're interested in the Portland, Oregon area, either as a railfan, model railroader, resident, or history buff, the Portland Railroad Atlas, 1963 and 2010 should be part of your bookshelf. ☑

Figure 2 – East Portland

Figure 3 – Terminal 5

Model Railroad Hobbyist news™

December 2011

The Old Yardmaster

The latest model railroad news, products, and events
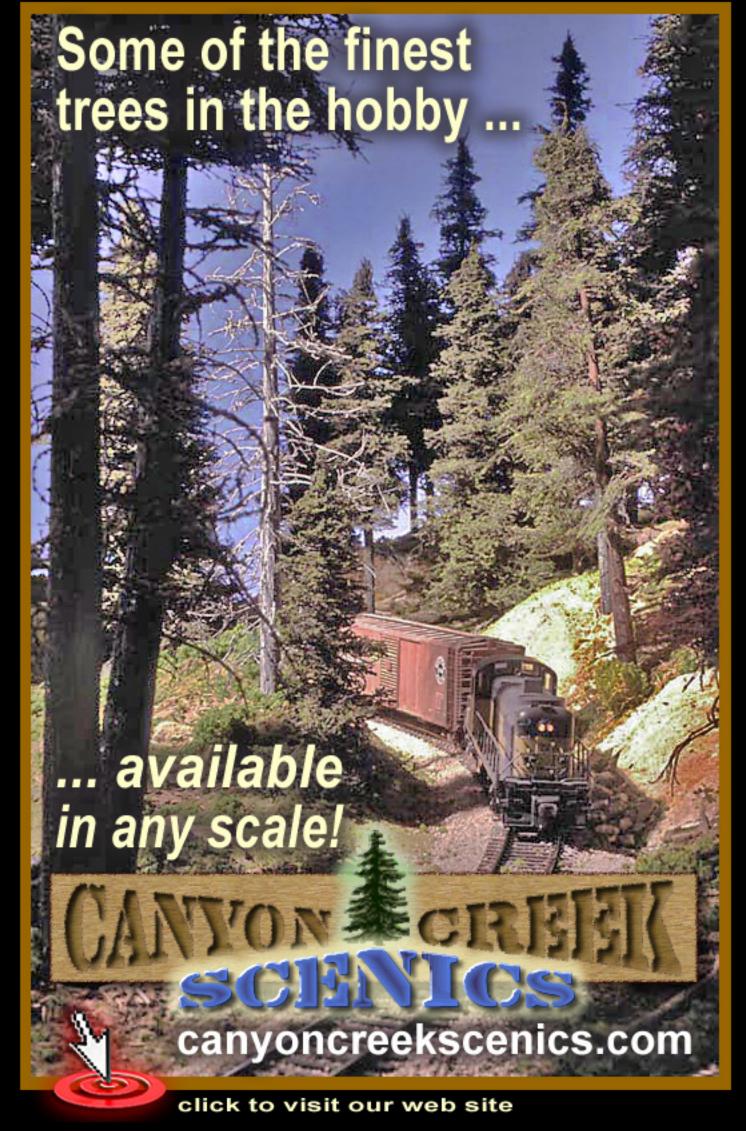
Richard D. Koontz, founder of the well-known model railroad firm of Ye Olde Huff N' Puff, died November 11, 2011 in Lewistown, Pennsylvania. He was 80 years old. In addition to manufacturing and selling his own craftsman-style kits, Dick Koontz acquired several other manufacturers over the years, including Silver Streak Models, Main Line Models, Eshleman Links, LW Models, AC Models, and Sugar Pine Models. He was an active member of the N Track Model Railroad Club and the Nittany Valley Model Railroad Club. Dick Koontz was a student of the American Civil War and participated in reenactments as a member of Battery "B," Third Pennsylvania Volunteers. Mr. Koontz retired in 2003 after selling his company to its current owner, Gene Metzgar…

More than 23,500 people attended the 40th annual Trainfest, held last month near Milwaukee, Wisconsin. True to its mission of educating and promoting the hobby of model railroading to future generations by awarding train sets to young people, Trainfest executive director John Tews MMR, said, "Seeing the excitement on the faces of the kids as we handed them a new train set makes the effort of planning Trainfest all the more worthwhile." Model railroad suppliers from across North America, including 14 historical societies, were among the exhibitors…

Trainfest exhibitor Kurt Lange showed preliminary samples of a resin curved-side Speedrail body kit designed to fit the chassis of Bachmann's HO scale Peter Witt street car. Lange also plans to introduce the high-tension structure that supported overhead wires above the rapid transit right-of-way. Readers can follow Lange's progress at milwaukeespeedrail.com…

Scott Perry, of the Utah Society of Railroad Modelers, is looking for individuals to help organize a future RPM meet in Salt Lake City. Anyone interested in helping can contact Scott at scottgperry@comcast.net…

Work continues at Fox Valley Models on N scale GP60M and GP60B locomotives, with a late winter or early spring release date still a possibility…

Are yellow decals becoming less vivid? Federal consumer protection regulations prohibit manufacturing ink in the U.S. that contains lead – a vital ingredient in creating certain colors, particularly yellow. Microscale, a leading manufacturer of commercial decals for a variety of industries, reports it is virtually impossible to produce bright, opaque yellow decals with lead-free ink. Microscale won't use imported ink since their commercial customers require products that comply fully with Federal regulations…

Here's an easy solution for owners of Kato's E8, PA, or F series locomotive wishing their N scale models had room to accept Digitrax' SDN144KOA DCC sound decoder and speaker assembly.

Disassemble your model and send the bare frame to John Claudino at Aztec Manufacturing who will machine your Kato frame to accept the decoder. Aztec does not stock extra Kato frames, so the machining service is available on a frame-exchange basis only. The cost is $20.00 plus $7.00 for shipping. Visit aztec-trains.com for full details or phone John at 775-883-3327…

A spokesperson for Atlas says N scale hobbyists waiting for a Shay locomotive from the New Jersey-based company, will have to wait a bit longer. A change in a key supplier has postponed production until well into 2012…

In response to numerous inquiries, Kadee has reaffirmed its decision not to make an offset series in its scale-head coupler line. The principal reason given is that the small size of the scale-head does not leave sufficient room to make a dimensional difference when the shank on the back of the head is raised or lowered (offset). Kadee also noted that the scale-head couplers were designed

specifically to achieve a prototypical look, and adding offset shanks tends to make them less prototypical in appearance...

Now let's take a look at some new products...

NEW PRODUCTS FOR MULTIPLE SCALES

Frenchman River Model Works (frenchman-river.com) has launched a kit for a standard GMA barge. After WWII the need for a modern, standardized deck scow was recognized by the various railroads serving the New York Harbor area. The managers of these railroads agreed upon a common design that became known as the GMA (General Managers Association) design. In addition to the one-piece resin hull with a diamond pattern steel deck, the kit includes four bitts and four cleats cast from lead-free pewter. The hull is available with either an empty (shown above) or loaded water-line. At 12.375" x 4.125" the length of the model equals 90' in HO scale, 66' in S scale, and 49' in O scale.

Kalmbach Publishing (kalmbachstore.com/modeltrains-railroading.html) has released two new books including Tony Koester's "Model Railroader's Guide to Mountain Railroading." Koester explores the pros and cons of mountain model railroads including some thoughtful advice on designing for realistic operations in mountainous terrain. The benefits and challenges of both standard and slim gauge modeling are reviewed along with the unique characteristics required of motive power operating on mountain railroads. The 96-page, soft-cover book follows Kalmbach's usual 8.25 x 10.75 format. The retail price is $21.95.

Also new from Kalmbach is "Starter Track Plans for Model Railroaders," a compilation of 25 basic layout designs reprinted from the pages of Model Railroader magazine. The initial chapter introduces the essential 4' x 8' sheet of plywood, the fundamentals of benchwork, and wiring considerations for DC versus DCC. The virtues of flextrack and various brands of sectional track are discussed along with a review of ballasting, structures, and options for scenery development. The focus of the 64-page book is on simple, beginner layouts with some operation. Most of the layouts are intended for HO, with seven specifically designed for N scale. O scale and On30 also get a nod. Two variations on John Allen's famous "Timesaver" switching layout are also presented. The soft-cover, 8.25" x 10.75" book has a retail price of $16.95.

Kutztown Publishing has released "Pennsylvania Railroad Gondolas - Revenue and Work Equipment, 1869 to 1968." Co-authors Al Buchan and Elden Gatwood provide a thorough study of PRR freight cars with a focus on class GA to G44 gondolas as well as MOW gondolas. The 158 page book, which includes some 350 photos, is available at $60.00, plus $6.50 shipping. To order visit **prrths.com**.

O SCALE PRODUCT NEWS

Here is a preliminary look at a new Trainman® series 62' bulkhead flat car **Atlas O** (atlaso.com) plans to release during the second quarter of 2012. Road names will include BNSF, Canadian Pacific, Illinois Central, Trailer Train-TTX, and Union Pacific. The ready-to-run O scale model will be available for 3-rail operation at $49.95, or 2-rail at $46.95.

Bachmann Trains (bachmanntrains.com) has released an O scale Baldwin 4-6-0 steam locomotive. Features of the Ten-Wheeler include a diecast boiler and chassis, flywheel coasting action, traction tires, operating headlight, a smoke generating unit, and Bachmann's True Blast II whistle and bell. The model is designed to handle 0-27 curves. In addition to the Chesapeake & Ohio scheme shown above, road names offered on this production run include Santa Fe, Southern, and Union Pacific. The ready-to-run model has an MSRP of $279.95 each.

Full Steam Ahead (fullsteamahead.ca) has introduced an O scale structure kit named Frary's Furniture. The craftsman-type kit features clapboard siding, laser-cut shake shingles, and several pieces of furniture. The finished structure has a footprint of 4.75" x 5.75". The kit sells for $59.99 plus $11.00 shipping.
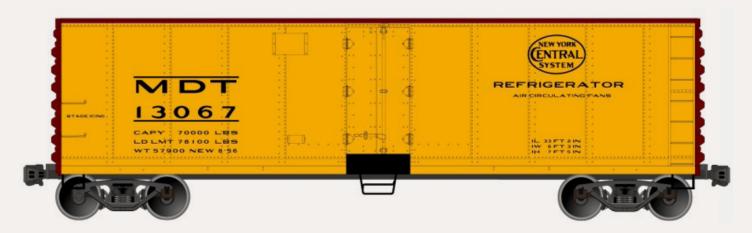
The latest O scale craftsman kit from **Morgan Hill Models** (morganhillmodels.com) is the Rustic Stone Water Tank shown to the right. Components in the kit include Hydrocal® wall castings, laser-cut basswood tank and shed, and shingles laser-cut from real wood. Also included are several white metal and cast resin details. The completed model has a footprint of 7" x 4" x 9" high. The kit is priced at $129.95.

Woodland Scenics (woodlandscenics.com) has added three new fully-assembled O scale buildings to its Landmark Structures® series. The trio includes Lubener's General Store (left), a two-story brick building with special details, including window awnings, bubblegum dispensers, signs, curtains, and light fixtures. It is priced at $124.99. Also priced at $124.99 is Harrisons Hardware (right), a two-story brick structure with plenty of exterior details including dollies, trashcans, snow shovels, a dumpster, signs, shades, and light fixtures. Not pictured is J. W. Cobbler, a three-story structure with a special exterior boot-maker sign. It is priced at $129.99.

HO SCALE PRODUCT NEWS

Accurail (accurail.com) has added a New York/ Merchants Despatch – MDT car to its newly-tooled series of 40' hinged-door steel mechanical refrigerator cars. The HO scale kit is priced at $15.98. Accurail is also selling a pack of three kits for Great Northern 55-ton twin-bay hopper cars at $39.98.

Anvil Mountain (anvilmountain-models.com) expects to begin delivery of a kit for the Iowa-Tiger Ore Transfer structure shown here late this month or early in January, the HO scale model is based on a prototype complex near Silverton, Colorado, served by the Silverton Northern Railroad. The kit includes components for the aerial tram house, a sorting house, a large ore bin, and a separate office building. Laser-cut trestle bents are included for the upper-level service track where incoming ore was delivered to the transfer facility. Interior details for the tram and ore bin are included. The craftsman-type kit is tentatively priced at $274.95.

Athearn (Athearn.com) Genesis series locomotives scheduled for release to dealers next month include Santa Fe's Zebra scheme GP7, and New York Central "Torpedo Boat" GP9. Between late 1949 and mid-1954, EMD produced 2,615 GP7 locomotives including 244 for Santa Fe. In early 1954, EMD began to upgrade the GP7 with a larger engine, generator, and traction motors. The result was the GP9 which varied little in appearance from the GP7. As GP7/9s were assigned to mostly road duty, greater fuel capacity was needed and larger water tanks were required to supply the steam generators. To make room for the larger tanks, the air reservoirs were moved to the roof. These units became known as "torpedo boats."

Athearn's schedule for July will include ready-to-run SD40-2 diesels decorated for CSX YN3 (88" nose); Dakota, Minnesota & Eastern (81" nose); and Kansas City Southern (81" nose). Upgrades on Athearn's SD40-2 include Celcon handrails, wire grab irons, window glazing, operating headlights, DCC ready plug, plus several more prototype specific details. The model has an MSRP of $154.98.

Freight cars coming in July include 2600 cu. ft. Airslide cars decorated for Atlantic Sugar Refineries-GACX, Canadian Doughnut Company-GACX, Nebraska Consolidated Mills-GACX, and Revere Sugar Refinery-GACX. The ready–to-run models have an MSRP of $49.98. Due at the same time is a 50' NACC boxcar decorated for Dresser Magcobar, Brown Company, Pearl Brewing, and Western Pacific. The cars come with metal grab irons, etched-metal end platforms, and separate wire brake piping and grab irons. Road-specific options include Pullman Standard or Stanray (Superior) roof, and either P-S or Superior plug doors.

New vehicles scheduled for arrival in July include a Freightliner truck cab at $21.98 decorated for Consolidated Freightways (green), Consolidated Freightways (white), Canadian Freightways (white with red and black stripe), Pacific Intermountain Express (red), and Red Ball (white). Athearn will also release Ford "C" Short Fire Trucks in six different paint schemes at $29.98 each. Both vehicles feature separately applied details, clear window glazing, some interior detail, and rubber tires.

Atlas Model Railroad Company (atlasrr.com) will release an HO scale 40' postwar boxcar with a 6' door during the second quarter of 2012. Features of the ready-to-run model include road appropriate ends, roof and doors, separately applied details such as ladders and grab irons, and AccuMate® couplers. In addition to the Spokane, Portland & Seattle model shown above, the car will be available decorated for Burlington (red, black and white); Canadian National; Erie

Lackawanna; N de M; and Toronto, Hamilton & Buffalo (yellow/black). They will have an MSRP of $27.95. An undecorated model will also be available at $22.95.

Decorating schemes on the next run of Atlas' Master Line EMD MP15DC diesel locomotive will include Amtrak; Birmingham Southern; Caltrain; Cambria & Indiana; Cedar Rapids & Iowa City; Lake Erie, Franklin & Clarion; and Union Pacific. The run will include a limited-edition version decorated for Stockton Terminal & Eastern, and an undecorated model. Standard DC locomotives will have an MSRP of $159.95. Models with DCC and sound will list at $269.95. The limited-edition model is $10.00 more.
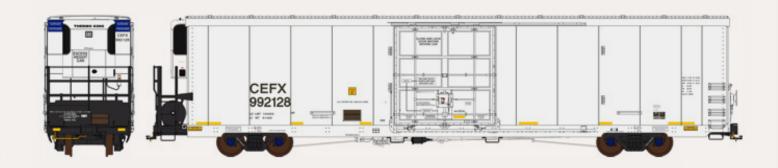

Bachmann (bachmanntrains.com) has released its new HO scale ACF 50' 6" outside-braced sliding-door boxcar in several roadnames including Providence & Worcester (above), Burlington Northern, Chattahoochee, McCloud River, Middletown & New Jersey, and Rail Box. The ready-to-run model has operating doors and comes with 100-ton roller bearing trucks with metal wheel sets. The MSRP is $25.00.

Blackstone (blackstonemodels.com) is booking orders for the second release of its highly-rated D&RGW 5500 series narrow gauge stock cars. Five car numbers (5510, 5578, 5669, 5723, and 5825) will be available in the 1940s-era Flying Grande scheme, as well as car number 5605 in the 1930s style herald. The HOn3 ready-to-run models will be offered in fresh paint at $67.95, as well as weathered at $75.95 each. The model pictured here is from a previous production run.

BLMA (blmamodels.com) is working on a CEFX version of the big 64' TrinCool refrigerated reefer, with delivery planned for the second quarter of next year. Although similar to the Union Pacific cars previously released by both BLMA and ExactRail, BLMA owner Craig Martyn noted that his company's new CEFX

TrinCool cars will have a Thermo King refrigeration unit mounted on the A end of the car, grab irons on the B end, and ASD doors as pictured below.
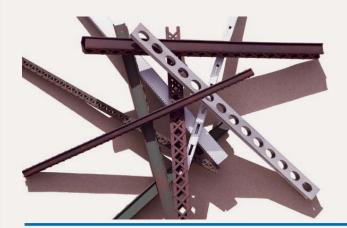
Other features of the ready-to-run CEFX reefer include wire uncoupling levers, Kadee® #58 couplers, screw-mounted 100-ton trucks with blue bearing caps, 36" wheels, and road numbers printed on the truck side frames. The HO scale model will be available in 24 road numbers at an MSRP of $32.95 each.

Brass Car Sides (brasscarsides.com) early December production schedule for HO scale etched sides includes these Great Northern skirted cars: GN/CB&Q cars numbered 1110-1114, Pullman Standard 60-seat coach for 1947 Empire Builder and Western Star; GN cars numbered 1116, 1118, 1138 and 1139, ACF 60-seat coach for Internationals and Red River; and GN/CB&Q cars numbered 1150-1155, Pullman Standard dining car for 1947 Empire Builder and Western Star. Visit the website for details on pricing, ordering, or reserving sides for specific cars.
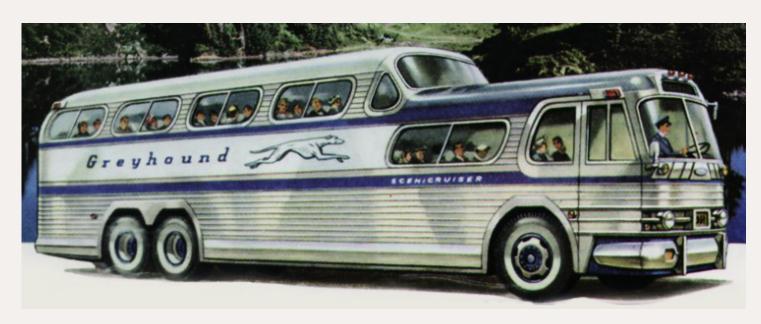
Broadway Limited (broadway-limited.com) has made another release of its HO scale ready-to-run New York Central steel boxcars. The models are available with 7/8 corrugated or Dreadnaught ends, with pre-1955 Roman lettering, or post-1955 extended Gothic lettering. The cars are sold in 4-packs with an MSRP of $99.99.

Central Valley Model Works (cvmw.com) has added girders with heavy duty sections to its assortment of steel girders. The nicely-detailed black styrene girders are available in oval and laced patterns. In HO scale, the girders are 24" deep with a 30" face, by 42' in length. The suggested retail price is $12.95 for enough material to assemble 300 scale feet of girder.

At the recent iHobby trade show, **Classic Metal Works** (classicmetalworks.com) showed HO scale vehicle models for a General Motors model PD4501 Greyhound Scenicruiser bus (above). Features include interior details, and destination signs for Chicago, Los Angeles, New York, and St. Louis, plus a blank sign. Also new from CMW is a 1950 DeSoto sedan (below left). Both new items are scheduled to arrive early next summer.

CMW also introduced a 1953 Ford Courier sedan delivery, a Ford Customline station wagon, General Motors TDH3610 transit buses that will come in four generic paint schemes with a decal sheet of destination names, and several new variations to its 1941/1946 Chevrolet truck, including the Phillips tank truck shown above. All are expected to be available by mid-January. Future HO scale vehicles under development include a 1953 Packard Caribbean, and a 1965 Shelby Cobra.

Con-Cor (con-cor.com) has released its annual HO scale Christmas car. The 2011 edition is priced at $22.98. Visit the website for ordering information. Con-Cor also has an HO scale version of the 1948 twin-headlight Burlington Pioneer Zephyr. The lead unit features a working Mars light that will function properly on standard DC or in DCC applications with a decoder having a P3 function. A basic three-car set is priced at $449.98, with additional cars available at $149.98 each. A special Digitrax sound decoder is available at $74.98. Con-Cor's Zephyr comes with a standard NMRA socket set that will accept any decoder with a 10-pin wiring harness. The Pioneer Zephyr can also be ordered with the sound decoder factory-installed. Details are on the website.

DUHA, a small company in the Czech Republic, produces an amazing selection of HO and N scale resin freight car loads. The list includes industrial cable reels (Alcatel, Seimens & Halske, F&G, and KOW), plastic-wrapped lumber (Boise Cascade, Georgia Pacific, Holz, Irving, and Weyerhaeuser), cut lumber, wood roof trusses, steel and aluminum coils, rebar, Jersey highway barriers, industrial machinery, concrete railroad tie stacks, and a variety of plastic, concrete, and metal pipe loads. DUHA products are sold in North America by JWD Premium Products, Liberty, Maine. In addition to being the exclusive North American agent for DUHA, JWD produces their own line of HO and N scale car loads, and weathered freight cars. A complete catalog of all loads and ordering information can be viewed at jwdpremiumproducts.com/servlet/StoreFront.

ExactRail (exactrail.com) has released an all-new Baltimore & Ohio class M-53 wagontop boxcar. In addition to an undecorated version, the HO scale model is available in six chronologically-accurate paint schemes: 1937 (oxide red, no domed capitol herald), Early Kuhler (next page, oxide red, capitol herald on left, late 1937 forward), Wartime (oxide red, capitol herald on right, late 1940

forward), Olive Coach Green (express/mail car with capitol herald on left, gold lettering, 1942-1959), Early 13 (boxcar red, capitol herald with slogan "Linking 13 Great States With The Nation," 1945 forward), and Bando Blue (no herald, 1947 forward). The cars come equipped with Kadee™ #58 couplers, and 50-ton Barber S-2 solid-bearing trucks with 33" wheels. The grab irons, brake rods, and uncoupling levers are all individually-formed wire. The ready-to-run Platinum series model has an MSRP of $32.95.

ExactRail showed preliminary samples of a new Evolution Series Thrall 2244 cu. ft. gondola at the recent TrainFest event. An identifying feature of the car is the heavy top chord of the prototype that was originally purchased by the Rock Island and Detroit, Toledo & Ironton. Some cars were later acquired by CNW, Conrail, and the South Shore Railroad. Information about pricing and availability was not available at press time.

Funaro & Camerlengo (fandckits.com) is selling a one-piece resin body kit for an HO scale Pennsylvania Railroad class F29 depressed center flat car. The craftsman-style kit sells for $44.99 and comes with decals and a choice of either Buckeye or Kissel 3F-F1 truck frames without wheelsets.

F&C also has a resin body kit for a PRR class X29B boxcar with Merchandise Service decals. The craftsman-style kit is priced at $44.99 each and comes without trucks or couplers.

.**InterMountain Railway Company** (intermountain-railway.com) has scheduled a June/July production run of a newly-tooled HO scale cylindrical covered hopper car with round hatches. In addition to the CP script scheme shown above, the car will also be available decorated for CP (silver), Potash, CNIS, CSX, CNLX, and Procor. The MSRP will be $31.95 each.

Additional models coming from IMRC next summer include an AAR 1937 40' boxcar with new paint schemes and numbers for several road names, including the New York Central, Maine Central, Minneapolis & St. Louis, Monon, Nickel Plate Road, Northern Pacific, Seaboard Air Line, and Virginian. The HO scale ready-to-run cars will have an MSRP of $29.95 each. Also due next summer is a variation on the 1937 AAR 40' cars modified to 10' 6" interior height. Schemes will include ATSF (class Bx-43, Super Chief slogan), CB&Q (Way of the Zephyrs slogan), Erie, Illinois Central (Main Line of Mid-America slogan), Indiana Harbor Belt, Northern Pacific, NYC, and Southern Railway. The modified AAR cars will have an MSRP of $31.95 each.

Covered hoppers on IMRC's summer delivery schedule include an ACF 4,650 cu. ft. three-bay covered hopper decorated for Burlington Northern; Detroit, Toledo & Ironton; Garvey Elevator; Norfolk & Western (early scheme); Pennsylvania Railroad; Prairie Malt; Washington Grain Train, and Montana Rail Link as shown above. The model features an etched metal roof walk. The HO scale ready-to-run model will have an MSRP of $32.95 each.

With proper installation, NWSL's replacement gears can produce a smooth and reliable system, however, NWSL cautions that the installation is complicated, and suggests having a professional repair service handle the job. The replacement set (item #2802-6) of six steel bevel gears sells for $34.95. NWSL has produced a limited number of replacement sets and says it has no plans to run them again.

Kato USA (katousa.com) will reissue its HO scale EMD SD90/43MAC in March 2012. Decorating schemes will be for Canadian Pacific "Golden Beaver" #9138, Indiana Rail Road #9002, and Union Pacific "We Will Deliver" #8065. Features include directional headlight, working ditch lights, preprinted number boards, and a standard 8-pin plug for a DCC decoder (not supplied). The ready-to-run model comes with several consumer-applied details, including windshield wipers, MU hoses, and grab irons. Final pricing will be in the range of $190.00 to 200.00.

IMRC's May/June production run will include 1,958 cu. ft. two-bay open-side covered hoppers with new paint schemes and road numbers for Chessie System; Chicago & Eastern Illinois; Illinois Central (top photo); Detroit, Toledo & Ironton; and Polybor-Chlorate (NAHX reporting marks). The same car with closed sides will be available for Chicago Great Western (above) and Southern Pacific. The ready-to-run HO scale models will have an MSRP of $34.95.

After an extensive development effort, **NorthWest Short Line** (nwsl.com) has released a set of steel gears to replace the original plastic gears on Bachmann's HO scale two-truck Climax locomotive. In announcing the replacement gears, NWSL extended a tip of the hat to Bachmann for attempting to miniaturize the gearing of a real Climax, however, after shrinking everything down to HO size, any minor catch in the gears or improper end-play of the drive shafts or axles, can create excessive force in the gear train that frequently results in breakage of the plastic bevel gears.

Red Caboose's HO scale class S-40-5 stock car will be available next summer decorated for (SP-1946-47 scheme), SP (1952 scheme), TNO (1952 scheme), Western Pacific, and Northwestern Pacific (1946-52 scheme) as shown above. The car will have an MSRP of $39.95. Red Caboose brand finished products are marketed by InterMountain Railway Company (intermountain-railway.com).

Roundhouse (roundhousetrains.com) has scheduled new versions of an old-time boxcar and caboose for release next July. The ready-to-run models are upgraded from the original MDC HO scale kits, and feature wire truss rods, knuckle couplers, and machined 33" metal wheels. A 36' boxcar priced at $24.98 will be available for Colorado Midland; Denver & Rio Grande; and Indiana, Peru & Chicago (Cutler & Savide Lumber Co). New road names for Roundhouse's 30' 3-window caboose will be Grand Trunk Railway, Milwaukee Road, Nickel Plate Road, and Western Pacific. The caboose is priced at $29.98 and comes with clear window glazing.

Sidetrack Laser (sidetracklaser.com) has introduced a kit for an HO scale snow shed. Although loosely-patterned after a Great Northern design, the snow shed is typical of those used by many western railroads in mountainous areas subject to heavy snow drifts. The kit features laser-cut components and has a footprint of 3.5" x 8" when assembled. It is priced at $19.95 each or $47.95 for a 3-pack.

True Line Trains (truelinetrains.ca) will soon announce the delivery date for a new HO scale ready-to-run Canadian National transfer van. A preliminary sample of the newly-tooled model (above) was shown at the recent Trains 2011 show in Burnaby, British Columbia. The suggested retail price will be $45.00. True Line Trains also revealed plans to produce an HO scale version of an EMD SW1200RS 1200 hp switcher. No dates yet, but the preliminary schedule calls for a Canadian Pacific version first, followed by a CN unit.

Walthers (walthers.com) is working toward a June 2012 delivery date for HO scale Gunderson 50' hi-cube paper-service boxcars. Road names will include Arkansas Oklahoma-AOK,

Burlington Northern Santa Fe (small circle-cross herald), Canadian National, and CSX (Big Blue slogan) as illustrated above from a previous production run. Features of the Proto™ series model include 36" turned metal wheelsets, separately-applied wire grab irons, end ladders, brake platforms, and door details. The ready-to-run cars have an MSRP of $29.98.

Also due next June is another release of Walthers 36' wood-chip hoppers. The Mainline™ series models will be available in two numbers each for Baltimore & Ohio, Louisville & Nashville, Northern Pacific, and Western Maryland. Preliminary artwork for the L&N and WM cars is shown above. The ready-to-run cars will have an MSRP of $21.95 each.

N SCALE PRODUCT NEWS

Athearn (Athearn.com) is preparing a group of N scale 2600 cu. ft. Airslide cars for delivery next July. Road names will include Atlantic Sugar Refineries-GACX, Canadian Doughnut Company-GACX, Nebraska Consolidated Mills-GACX, and Revere Sugar Refinery-GACX. The cars feature an etched-metal roof walk and brake platform, and wire grab irons on the roof walk. The ready–to-run models have an MSRP of $29.98.

Atlas Model Railroad Company (atlasrr.com) will reissue its N scale ready-to-run GP7/9 locomotive with new schemes and new road numbers in the second quarter of 2012. Burlington Northern (green and black), Conrail (blue and white), and Milwaukee Road (black and orange) engines will have new road numbers. Locomotives with new schemes will include Kansas City Southern (white and red), Belt Railway of Chicago (black, grey, and yellow), Maine Central (green and gold), Western Pacific (silver and orange), Boston & Maine (blue and white), Canadian National (black and red), Chesapeake & Ohio (blue and yellow), and Western Maryland (black and yellow). Standard DC models will have an MSRP of $109.95. GP7 and GP9 locomotives equipped with an NCE DCC decoder will be priced at $144.95. Undecorated versions will also be available with or without dynamic brake housings.

The second quarter of 2012 will also see the arrival of Atlas' C&O-type steel caboose in a number of new schemes including the traditional Erie livery shown here. Other roads in this release will include Amtrak, Apalachicola Northern, Belt Railway of Chicago, CP Rail, Florida East Coast, Illinois Terminal, Long Island Railroad, National de Mexico, Penn Central, and Western Maryland. The N scale ready-to-run model will have an MSRP of $16.95. An undecorated version will be priced at $12.95.

Bachmann (bachmanntrains.com) has released a new N scale ACF 50' 6" outside braced sliding-door boxcar in several road names including Providence & Worcester (HO version illustrated above), Burlington Northern, Chattahoochee, McCloud River, Middletown & New Jersey, and Rail Box. The ready-to-run model rides on 100-ton roller bearing trucks with metal wheel sets. The MSRP is $18.95.

BLMA (blmamodels.com) is working on a CEFX version of the big 64' TrinCool refrigerated reefer with delivery planned for the second quarter of 2012. Although similar to the Union Pacific cars previously released by both BLMA and ExactRail, BLMA owner Craig Martyn noted that his company's new cars will have ASD doors, grab irons on the B end of the car, and a Thermo King refrigeration unit mounted on the A end. Other features of the ready-to-run CEFX reefer include wire uncoupling levers and screw-mounted 100-ton trucks with 36" wheels. The N scale model will be available in 24 road numbers at an MSRP of $24.95 each.

Brass Car Sides (brasscarsides.com) early December production schedule includes etched sides for the following N scale Great Northern skirted cars: GN/CB&Q cars numbered 1110-1114, Pullman Standard 60-seat coach for 1947 Empire Builder and Western Star; GN cars numbered 1116, 1118, 1138 and 1139, ACF 60-seat coach for Internationals and Red River; and GN/CB&Q cars numbered 1150-1155, Pullman Standard dining car for 1947 Empire Builder and Western Star. Visit the website for details on pricing, ordering, or reserving sides for specific cars.

Con-Cor (con-cor.com) is now selling an N scale version of the 1948 twin-head-light Burlington Pioneer Zephyr. The lead unit features a working Mars light that will function properly on standard DC or in DCC applications with a decoder having a P3 function. A basic three-car set is priced at $449.98, with additional cars available at $149.98 each. A special Digitrax sound decoder is available at $74.98. Con-Cor's Zephyr comes with a standard NMRA socket set that will accept any decoder with a 10-pin wiring harness. For details on ordering the Pioneer Zephyr with the sound decoder installed, or for installation instructions, visit the website. Details on ordering Con-Cor's annual N scale Christmas Car are also featured on the company's website.

InterMountain Railway Company (intermountain-railway.com) has scheduled a June/July production run of an N scale cylindrical covered hopper with round hatches. In addition to the CP script scheme (HO version shown above), the car will also be available decorated for CP (silver), Potash, CNIS, CSX, CNLX, and Procor. The MSRP will be $22.95 each.

Also due this summer from InterMountain are 1937 AAR 40' boxcars modified to 10' 6" interiors decorated for ATSF (class Bx-43, Super Chief slogan), CB&Q (Way of the Zephyrs slogan), Erie, Illinois Central (Main Line of Mid-America slogan), Indiana Harbor Belt, Northern Pacific, NYC, and Southern Railway. The cars will have an MSRP of $21.95 each.

Covered hoppers on IMRC's summer delivery schedule include an ACF 4,650 cu. ft. three-bay car decorated for Burlington Northern; Detroit, Toledo & Ironton; Garvey Elevator; Norfolk & Western (early scheme); Pennsylvania Railroad; Prairie Malt; Washington Grain Train, and Montana Rail Link (HO model shown above). The car features an etched-metal roof walk. The N scale ready-to-run models will have an MSRP of $22.95 each.

Micro-Trains (micro-trains.com) is selling a 4-pack of U. S. Department of Defense troop sleepers. The 4-pack of N scale ready-to-run cars has an MSRP of $69.95. A 4-pack of Canadian National double-door steel boxcars will be available in January at $59.95.

This 4-pack of Micro-Trains Union Pacific tank cars will be available in February at an MSRP of $69.95.

Sidetrack Laser (sidetracklaser.com) has introduced a kit for an N scale snow shed. Although loosely-patterned after a Great Northern design the snow shed is typical of those used by many western railroads in mountainous areas subject to heavy snow drifts. The kit features laser-cut components, and has a footprint of 2" x 6.25" when assembled. It is priced at $17.95 each or $44.95 for a 3-pack.

Walthers (walthers.com) has several new fully-assembled N scale structures from its Cornerstone Series. The group includes an Interlocking Tower (left) and Water Tank (right). The generic two-story interlocking tower sells for $19.98. It is 2" tall and has a footprint of 1.5" x 1.75." The traditional water tank is 3.25" tall and has a footprint of 2" x 1.5". It also is priced at $19.98. Other assembled N scale structures available from Walthers include Rob's Roadhouse, a two-story wood-sided structure with a footprint of 3.56" x 3.13" at $24.98 each, and Grand Junction Depot, a combination station for freight and passenger service with a footprint of 6.38" x 3.19" at $29.98 each.

Z SCALE PRODUCT NEWS

Micro-Trains (micro-trains.com) is offering a 4-pack of Z-scale Canadian National 50' single-door steel boxcars at $74.95. MT's first Z-scale release in 2012 will be a 4-pack of bulkhead flat cars with a lumber load at $74.95.

Stonebridge Models (stonebridgemodels.com) of Medford, Oregon, has a limited-run of Z scale ready-to-install cantilever signal bridges. The structures are made of hand-soldered etched nickel-silver components. Signal lights are represented by non-functioning colored lenses. Both right and left hand versions are available at $49.95 each.
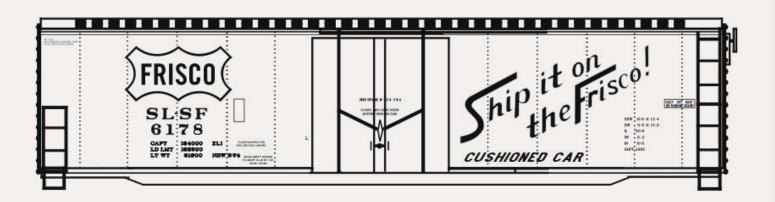
NEW DECALS, SIGNS AND FINISHING PRODUCTS

Aberdeen Car Shops (aberdeencarshops.ca) of Markham, Ontario, sells HO scale decal sets for Canada Southern 40' boxcars (CASO-8701 $5.00),

Canada Southern 40' flat cars (CASO-8702 $5.00), and TH&B double-sheathed boxcars (THB-8715 $5.00). Also Toronto, Hamilton & Buffalo steam locomotives (THB-8701 $17.00), and TH&B diesels (THB-8702 $17.00). Hobbyists considering THB-8702 should visit the website to determine if item THB-8702B, which offers a variation in the pilot striping, is more suitable for their modeling needs.

Archer Fine Transfers (archertransfers.com) has introduced both HO and O scale surface-detail decals for tread plate. The package states the cast resin material is for GP7 and GP9 locomotives, however, the sheet of decals can be trimmed and used to represent any application requiring diamond-tread plate. Each set contains approximately 10 square inches (2.625" x 3.875") of tread plate material. The sheets are $17.95 each.

Archer's assortment of resin surface details has grown to more than 65 items, of which at least 40 are suitable for model railroad applications. Hobbyists unfamiliar with decal surface details might want to purchase Archer Surface Detail Sampler (item AR88000), with test-size samples of gas weld beads, arc weld beads, generic rivets, N scale 7/8" rivets, HO scale tank car rivets, O scale tread plate, casting symbols, and both HO and O scale louvers. The sampler is available at $4.95.

Mask Island Decals (maskislanddecals.com) has released a new HO scale decal set for SL-SF Frisco GATX 50' plug-door boxcar with "Ship it on the Frisco" slogan. Also new is a decal set for a Rock Island PS-2 covered hopper car. The sets are priced at $6.00 each and include enough material to letter two cars.

Among the newest releases from **Microscale Industries** (microscale.com) are decal sets for Seaboard Coast Line (SCL) wood chip and general service gondolas, and Pacific Fruit Express (PFE) post 1970s era orange scheme with 14" black and white reporting marks including delivered and repainted reefers from R-70-15

to R-70-25. Also new are decals for six different paint schemes as applied to Milwaukee Road (MILW) brown and white boxcars in the 1970's including PS 40' high cube, PS 50' 5344 cu. ft., PC&F 50' double-door high cube with outside braces, and GATC 50' offset 10' 6" plug-door boxcars. HO scale decals are $7.00 each, with N scale sets priced at $5.25. Coming soon from Microscale are decals for new REMX Leasing and UPFE yellow reefers. Visit the website for a lengthy list of older decals that are now back in stock.

Daniel Kohlberg Decals (home.mindspring.com/~paducah/) has released three new decals for Gulf, Mobil & Ohio HO scale equipment including sets for GM&O 50' GATC Sill 2/3 RBL green fleet boxcars for 1965 forward (item ICG-55 at $7.00, decorates one car), and GM&O 50' PS-1 green fleet boxcars for 1962 forward (item ICG-53 at $24.00, decorates three cars). Also new is a special decal set of return routes for GM&Os green fleet (item ICG-54 at $20.00, letters up to 80 cars).

San Juan Decals (sanjuandecals.com) has updated lettering sets for D&RGW/RGS narrow gauge steam engines to include data unique to 1920/1930's era D&RGW tender coal tonnage indicators as applied to both C and K type locomotives. Sn3 set #SJD-251, and On3 set #SJD-252 have both been updated. A new HOn3 set, #SJD-250 for D&RGW/RGS steam engines, includes the updated material. Dan Paterson, the new owner of San Juan Decals, says Bumble Bee sets for both C-16 #268 and K-28 #473 in HO, S and O scales will be announced soon. They will include black striping and white headlight numbers as well as detailed application instructions. According to Paterson, decals for Colorado equipment will continue to be introduced, along with non-Colorado narrow gauge sets including Oahu, South Park, SP narrow gauge, and others. Dan is also considering some standard gauge offerings as well. ☑
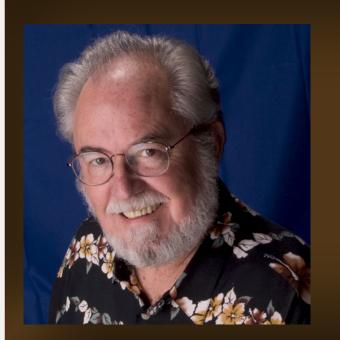

DISCLAIMER

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Our web site and free magazine reach continues to grow, so get on board with this new media train that's hard to stop!

About our news and events editor

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

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

Briefly noted at press time...

We're sorry to report that our friend and MRH colleague Lew Matt ("Lite and Narrow" columnist) has been hospitalized with serious liver problems. The doctors have not yet been able to make a diagnosis. Your prayers are much appreciated.

Athearn has confirmed that the Genesis series HO scale Santa Fe GP7 and NYC GP9 locomotives scheduled to arrive in January will incorporate the latest tooling revisions as described on page 98 of the November issue of MRH. See page 103 of this issue for further details about the two models arriving next month...

Morgan Hill Models is raising money to donate Thomas the Tank Engines to deserving kids this Christmas season. Donations of $5.00 or more can be arranged by visiting morganhillmodels.com/Toysfortotsdonation.html. In addition, Morgan Hill will donate $10.00 for each Water Tank kit (see page 102) purchased before December 20, 2011. The Thomas models will be distributed through the Toys for Tots organization...

The "Friends of the Freight Car" lunch scheduled for Saturday noon at the Prototype Rails 2012 event in Cocoa Beach, Florida, January 5 - 7, 2012, will include a special tribute to the late Terry Wegmann (see page 96 MRH October 2011). Reverend Bill Welch will display some of the models he has built from kits Terry offered over the years, and is urging others attending the event to do the same.

Best wishes to you all during the Christmas season and for the next year from the MRH staff! ☑

Reader Feedback *(click here)*

Selected Events

December 2011

CALIFORNIA, DEL MAR (San Diego), December 3-4, The Great Train Expo, Del Mar Fairgrounds. Info at **greattrain-expo.com**.

COLORADO, DENVER, December 17 and December 30, Open House at Platte Valley & Western Model Railroad, Denver Union Station (basement). Hours and activities vary per date. See website at **PVWRR.org** for details.

INDIANA, INDIANAPOLIS, December 17-18, The Great Train Expo, Indiana State Fairgrounds. Info at **greattrainexpo.com**.

January 2012

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

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

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

INDIANA, INDIANAPOLIS, January 7-8, World's Greatest Hobby Show at the Indianna State Fair. Info at **www.wghshow.com**.

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

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

Future 2012

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

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

CALIFORNIA, STOCKTON, March 10, Winterail, Railroad Photography Exposition and Railroadiana Show. Scottish Rite Masonic Center. Info at **winterail.com**.

CANADA, ONTARIO, OTTAWA, May 5-6, Ottawa Train Expo, featuring layouts, models, displays, clinics, demonstrations, and tours. Billed as the largest train show in Eastern Canada. Carleton University Fieldhouse. Info at **ottawatrainexpo.wordpress.com**.

CANADA, ONTARIO, TORONTO, March 17, Annual Toronto Railway Prototype Modellers Meet featuring expert clinicians, unique show-and-tell, and open discussion of displayed items. Humber College, North Campus, Building B, rooms B201& B202. Info from Brian Gauer at **bdgauer@rogers.com**.

ILLINOIS, LOMBARD, March 16-18, Chicago O Scale Meet, layout tours, clinics, model contests and vendor tables. West Lombard Yorktown Center. Info at **marchmeet.net**.

INDIANA, ELKHART, April 13-14, NMRA Michiana Division Symposium, featuring Friday night banquet, clinics, layout tours, and railfanning at National New York Central Railroad Museum. Info at **www.fallstonflagstop.com/2011/11/a-note-from-jim-six**.

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

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

Selected Events *Continued ...*

NORTH CAROLINA, BREVARD, October 12, 13, Narrow Trak 12. Details are pending.

OHIO, CLEVELAND, October 11-14, iHobby Expo, industry annual trade show, IX Center. Info at **www.ihobbyexpo.com**.

OHIO, HILLIARD, May 18-20, 4th Ohio N-scale Weekend, hosted by Central Ohio N-trak. Franklin County Fairgrounds. Info at **www.centralohiontrak.org**.

OHIO, KIRTLAND, March 17-18, Railfest 2012, NMRA MCR Division 5, operating layouts, historical displays, live steam display, dealer tables. Lakeland Community College. Info at **railfest.org/NMRA/trainshow/index.php**.

OHIO, MARION, April 12-14, Central Ohio RPM, Marion Union Station. Info at **hansmanns.org/meet/**.

OREGON, BEAVERTON, March 31, 2012, A gathering of N scale modelers from the Pacific Northwest. N-trak modular layout, swap meet, and clinics. 10am to 4pm at Valley Catholic High School (west of Murray Blvd. between TV Highway and Farmington Rd.). Info at **meetnmarch.org**.

OREGON, MEDFORD, May 2-5, Siskiyou Summit 2012 joint convention of the NMRA Pacific Northwest and the Pacific Coast regions. Info at **www.pcrnmra. org/conv2012**.

OREGON, PORTLAND, February 25-26, World's Greatest Hobby Show at the Oregon Convention Center. Info at **www.wghshow.com**.

PENNSYLVANIA, MALVERN, March 23-25, RPM-Valley Forge Meet, sponsored by NMRA, MER, Philadelphia Division. Model displays, vendor tables, tour and operating session on Sunday. Clinicians include Keith Albright, Keith DeVault, Ralph DiBlasi, Bruce Elliott, Nick Fry, Jim Harr, Dave Hopson, Larry Kline, Vince Lee, George Losse, Rich Newmiller, Ed Olzewski, and John Teichmoeller. Desmond Great Valley Hotel & Conference Center. Info at **phillynmra.org/RPMMeet**.

TEXAS, HOUSTON, February 18, Greater Houston Train Show, sponsored by San Jacinto Model Railroad Club. How to demonstrations, model and photo contests, operating layouts, vendor tables. Stafford Centre, 10505 Cash Road. Info from **sanjac.leoslair.com**.

UTAH, SALT LAKE CITY, February 4-5, World's Greatest Hobby Show at the South Towne Expo Center. Info at **www.wghshow.com**.
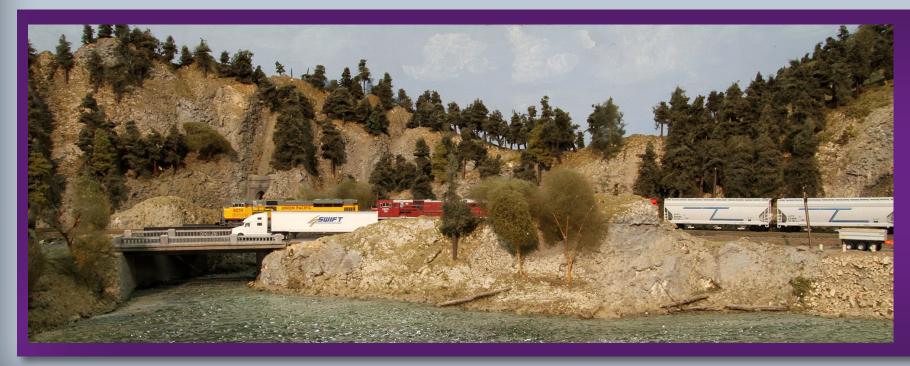
WASHINGTON, BELLEVUE, September 12-15, National Narrow Gauge Convention. Info at **seattle2012.com**.

Future 2013

CALIFORNIA, PASADENA, August 28-31, 2013, National Narrow Gauge Convention. Info at **www.33rdnngc.com**.

MINNESOTA, BLOOMINGTON, April 25-28, 2013, 28th Annual Sn3 Symposium. Info at **Sn3-2013.com**.

NEW MEXICO, ALBUQUERQUE, June 6-9, 2013, Rails Along the Rio Grande 2013, NMRA Rocky Mountain Region, Rio Grande Division 6, convention with clinics, layout tours, train show, OpSig sessions, UPRR and BNSF modelers showcase night, and banquet. Marriott Pyramid North. Info from Al Hobey at **alhovey@comcast.net**. ■

REVERSE RUNNING: Keeping your layout dreams energized

Stepping outside the box with a contrary view

— *by Eric Hansmann*

I've moved a few times over the last decade and each time my railroad concept covered a smaller stretch of a prototype.

I originally wanted to build an HO scale layout of the Western Maryland from Elkins to Thomas in West Virginia. I had a full basement, but it was going to be a tight fit. Then I moved a few blocks away. I lost a basement but gained half of a large two-car garage. The 12 x 24 space was not going to work for the length of mainline I wanted.

About the same time I was gaining new insight on the time and resources a larger layout requires. So I decided I'd model a busy portion of the Western Maryland because it also fit my operational interests.

The South Elkins area with three connecting WM lines, a B&O branch and varied small industries had great appeal. I was amazed that the length of track through South Elkins was just over a mile.

So I began my WM layout project and moved it along. I enjoyed modeling a smaller segment of a prototype and was delighted with a more manageable project. Many of the layout details can be found on my South Elkins website (www.hansmanns.org/south_elkins/index.htm).

I moved again a couple of years ago and came into a still smaller space: a spare bedroom 11 x 11 in size. I was interested I finding a new prototype at that time, and discovered an interesting location not far from the new home.

I kept the 1926 modeling era, but the Wheeling & Lake Erie inspired me, as did the Newburgh & South Shore in metro-Cleveland, Ohio. I designed four or five blocks of the prototype into this new room. A few small industries could be switched and a few operators would keep pretty busy.

I found it exciting to research and plan the layout because it was just a few blocks of the prototype. I was about to lay track this past summer when we moved again. Check out **my blog** that documents decisions and progress on this and future layouts.

Our current home does not have room for a layout, but I do have a few Free-mo modules to complete and use in future set ups. I also have space for a work bench and have started to build some models again.

Next year at this time I should be in another home, possibly with space for the next model railroad project. I really liked the Cleveland locale and operating scheme from the last layout and I hope to continue along that line. For now, I'll work on resin freight car kits and detailing plastic kits for my 1926 era and I'll dabble in some scenery as the Free-mo modules take shape.

The term "manageable" is sometimes mentioned when discussing layout plans and I can't stress that word enough. When we prepare and plan for a model railroad project, we need to consider factors beyond room size, scale, era, and such typical constraints on a design. We should honestly assess our available time and resources for the project, especially if we're in the midst of the child-raising years.

A great deal of free time is often dedicated to family events and activities when the kids are growing up.

Personal work time for the model railroad evaporates and progress slows or stalls. Many of us dream of building a subdivision of a busy class-one railroad line, but we often don't have the room even if we go with a smaller scale or multiple levels.
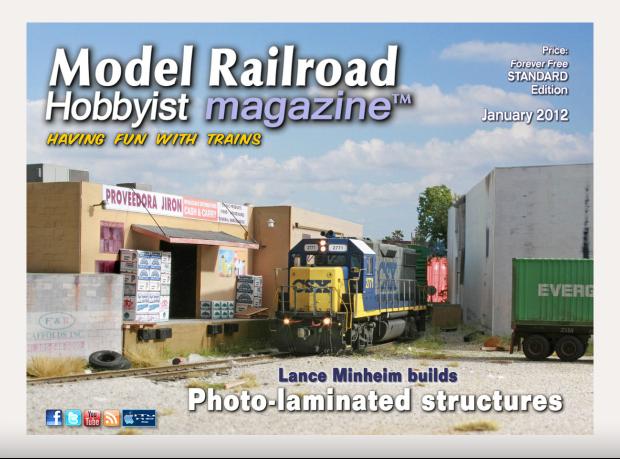
Building a manageable size project has great benefits. A smaller layout can be put into operation in a shorter time. If kids are in the house, they may take more interest in a smaller layout where progress is easily seen and measured. You may be surprised at how quickly young hands learn to spot and pull freight cars like experienced crew members.

So as I look ahead to the next year, I hope to land a 12 x 20 foot space to rebuild the old layout and add an industrial stretch to increase operational possibilities. I like the 1926 era, a rail height of 5 to 6 inches, DCC control, code 70 mainline, Central Valley tie strips and switches, manual switch control from the layout edge, switchlists, and train orders for operation.

But most of all, by restarting and focusing on a smaller segment of a prototype, it keeps the project manageable and it helps "re-energize" my interest in the hobby. ☑

Reader Feedback *(click here)*

For the love of model trains

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January 2012

Lance Minheim builds
Photo-laminated structures

Coming in the Jan 2012 issue

■ Photo-laminated structures

■ Simplified car card system

■ 22 stories up - Lights! Camera! Action!

■ N scale car float

■ Building a biscuit-joined helix

■ N-trak Columbia River layout

... and lots more!

Derailments, humor, and Dashboard on next page ▶

Derailments

humor (allegedly)

"Beware – here be railfans!"

C. I. HERRERA

Q: Why can't an engineer be electrocuted?
A: Because he's not a conductor!

Q: What is the difference between a steam engine and a teacher?
A: The teacher says "Get rid of your gum!" while the engine says "Choo! Choo! Choo!"

Q: What's the favorite railroad of lawyers?
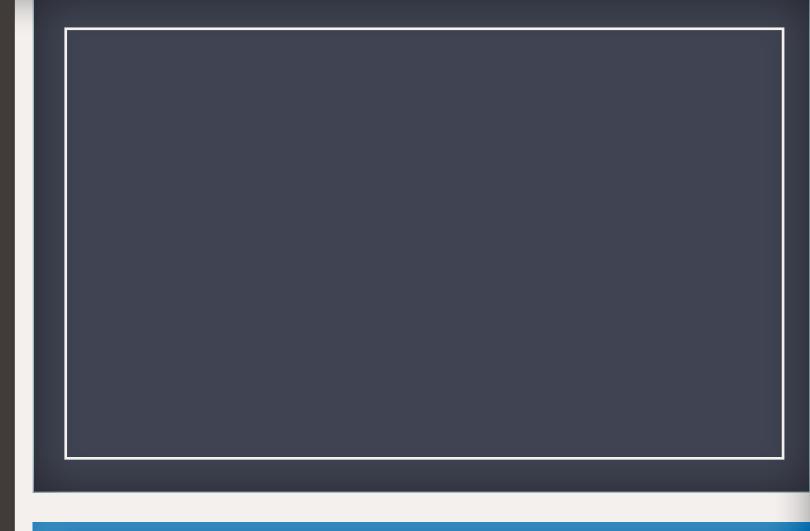**A:** The Soo line ...

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

▶

Reader Feedback
(click here)

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