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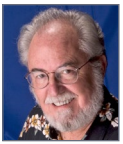
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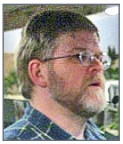
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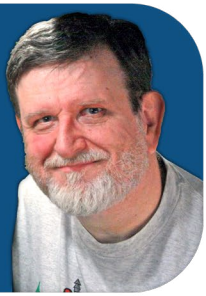

Model Railroad Hobbyist | April 2018 | #98

Joe Fugate asks, can you overdo selective compression?

RATE THIS ARTICLE

Many of us would love to have a gymnasium in which to build a model railroad. In reality, most of us "make do" with a few hundred square feet, if that.

We often start with a prototype and model it faithfully or use it as inspiration to do some prototype freelancing. To get it all to fit we selectively compress things – take that three span bridge and make it a two span bridge. Or take that 10-car spur and shorten it to three, and so on.

We also leave out things completely. We leave out towns, and we leave out industries in towns we do model.

We bend the track this way and that to get it to fit into the space – we make mirror images of towns, or flip things end-for-end. We may take a town that has straight track on the prototype and place it on a curve in our space because that's where it fits best.

One modeler on the *MRH* Forum asked:

At what point does all the bending, flipping and modifying of the track schematic, along with the necessary compression of both track length and structure size significantly alter the character of the scene beyond the plausibility of calling it the place it has been modeled after?

Good question! All modeling in miniature is a simulation, so our model is an interpretation of the real thing. As long as the "essence" of the place is still there, then it's still a miniature representation of that place.

What captures the essence, you ask? That's where the definition "signature elements" comes into play. Capture the most important signature elements and you've captured the essence.

Let's look at the signature elements of a key industry on my 1980s Siskiyou Line, the Roseburg Forest Products mill complex.

First, the real mill is big. It's 1.1 miles long. This industry singlehandedly kept the 1980s Siskiyou Line in traffic. Any model of the Siskiyou Line, like the prototype, needs to have an overwhelming amount of its traffic come from this mill complex.

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Second, it is a collection of different wood products industries all in a line along the track, in this order:

1. Log dump / log storage (cold deck)
2. Sawmill (rough-cut timber)
3. Dimensional lumber
4. Plywood mill
5. Particle board / MDF mill
6. Specialty lumber mill (laminate beams, etc.)

I selectively compressed out mill number 6, but kept the rest (16% compression).

I model the other five mill structures compressing the prototype structures down as to length, but I maintain their order along the main and fastidiously keep their same look – same siding, same roofing, same details down to the same missing siding panel areas.

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Once I have the basic industry configuration worked out, then I adapt the prototype track plan and structures based on the operation I desire. I don't just slavishly downsize the track schematic. I adjust the prototype trackage to give me the traffic volume I need on my layout.

I use an 8:1 fast clock to come close to prototype run times because my main is compressed about 10:1, but switching proceeds more or less real time. This means I may improve the prototype track arrangement to make it flow better to give the switching jobs a fighting chance.

That all said, I don't throw the prototype track arrangement out the window. I try to keep the feel of the track arrangement and make it close schematically. If I can get the proper traffic volume, make switching easy, and follow the prototype track arrangements faithfully (although compressed), I will.

But if something needs to give, the strategic operation will

win out and the track arrangement will be optimized to meet my strategic ops goal. The other wrinkle is the ongoing struggle to force-fit a linear prototype into a room shaped like a rectangle.

That often means flipping track arrangements end-over-end, moving things around to fit into a corner, or moving spurs from one side of the tracks to the other and removing or adding curves as needed.

As I explained this on the MRH forum, the modeler then asked:

Seems like you're committed to the idea of the mill more than the actual mill. Why constrain yourself to the location when you're going to modify it anyway?

I'm not just modeling the function – what you call it the idea of the mill – and nothing more.

I also want it to *look* like the real mill too, right down to the same missing siding panels and same siding rotted spots and same rust streaks on the piping. The buildings along the track are in the same sequence railroad east-to-west as the prototype, too.

The real mill is 1.1 miles long. I do not have 66 feet in HO to devote to one industry in my 20 x 40 (roughly) layout space. I have compressed the industry down to 12 feet long, which is still a huge industry in HO, but that's an 80% compression.

If all I did was compress the looks down by 80%, then the industry that stores 100 cars would store only 20 – which isn't enough to keep my layout properly in trains. So I "cheated" by adding more tracks at the mill to get it up to 50 rail cars, which is still a 50% compression in car capacity.

I think many modelers assume compressing the look of an industry down will automatically also maintain the functional balance as well, but that isn't necessarily so.

You need to analyze the operational balance of your selectively compressed major layout industries to make sure they work as needed to supply cars for your trains if you want to maintain the total essence of the prototype.

Looks are only part of it — make sure the compressed function still works too.

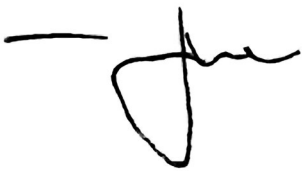
A few notes about this issue ...

The TOMA Grand Prize contest layout design, Benoît Evellin - *Industries along the rail*, has been delayed until the May issue.

The other winners – the first, second and third prize submissions – will be published in the months following.

We also moved the LED loco lighting article to the May issue as well. That sometimes happens – once we build the issue, we find it gets too large to fit into 30 days of production time. That means that if an article is still being worked on when the time runs out and we need to roll out an issue, what's still in production gets rescheduled for the next month.

Also, note this is issue number 98. Issue 100 is coming up in June and we have some very special things planned for it. Make sure you don't miss it, and also make sure you tell all your model railroading buddies about a very special *MRH* issue coming up this June! ☑



Last issue's ratings

The five top-rated articles in the March 2018 issue of *Model Railroad Hobbyist* are:

4.8 Imagineering: Modeling a turntable, part 1
4.7 A dozen DCC questions
4.7 Coal trains on the Allagash
4.7 The realism continuum
4.6 Don Ball's Stockton & Copperopolis

Issue overall: **4.5**

Please rate the articles! Click the reader comments button on each article and select the star rating you think each article deserves. Thanks! ■

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MRH ... Questions, Answers, Tips

Model Railroad Hobbyist | April 2017 | #98

compiled by Joe Brugger

RATE THIS ARTICLE

Wiring track feeders

Q. I'm getting ready to wire up my staging yard. Are there any potential issues with leaving decoder-equipped locomotives on the track while feeder wires are being soldered to the rails? Same question applies to my command station and boosters. My own thoughts are to remove everything, but just thought I'd ask.

—Dennis Drury

A. Prof. Klyzlr: I'd play it safe and remove all active decoder-equipped/powered equipment from the layout. This is one of those cases where, in theory:

- **The command station and boosters are powered OFF**
- **All active track-bus circuitry is disconnected or dead**
- **All wiring is purposefully planned and executed with no "whoops, wrong wire" mistakes**

Arguably, things should be OK to leave on the tracks.

But do you really want to run the risk, when avoiding the risk completely is but a few minutes work?

It would not be the first time I've heard of a loco making an unexpected uncontrolled max-speed "dash for freedom" off the edge of a layout, because the modeler left something plugged-in and turned-on while wiring.

David Husman: It couldn't hurt to remove them, but so far I have wired three larger layouts (two mine, one a friend's) and never disconnected the DCC system or removed the engines. No problems have been noted. The biggest problem is making sure you maintain a rigorous color coding of the wires, one color to one rail, a different color to the other rail, and match the feeder colors to the bus colors.

Test every single track section or switch as it is wired to make sure you haven't shorted-out anything before you start the next section or switch. That way you will always know that the last section you worked on is the source of a problem. Neatness counts.

Tom Haag: If you are worried, just turn off the power to the track.

I almost always do that, as I seem to leave my metal tools on the rails, causing the track power to shut down anyway.

Dennis Drury: Thanks for the comments. My concern centered around any stray voltage spike from the soldering iron affecting the electronics in the decoders and boosters. I'll play it safe and remove all decoder-equipped locomotives and rolling stock and I'll disconnect my command station.

Read the thread and other interesting posts at mrhmag.com/node/32080.

Pushing on cabooses

Q. **I have heard stories of rear-end crews being hurt by this practice. Does anyone have definitive rule book pages?**

—JD

A. Neil: Not an authority on this, but my understanding is there were several general rules/safeguards you will find.

1. No shoving on the rear of passenger trains. Passenger helpers added to the front only.

2. Wood-underframe cabooses were to be removed and then reattached behind the helper.

3. Steel cabooses could be left as-is and shoved against.

Michael Anteau: Choose your answer. In my mind, my answer to this was "for older, wood-framed cabooses, the pusher would be cut in front of the caboose. With the advent of steel-frame cabooses, this was no longer necessary." But I'm no authority so I did a quick check of the C&O Historical Society photo archives at cohs.org.

It seems this might be a general practice, but I'd say check your prototype practices. As in most things, there's a prototype example for just about anything [1-3].

Kurt Thompson: When it comes to what the railroads did, the best source of information on helpers and positions of the caboose comes from the appropriate Employee Timetable (ETT). Erie Lackawanna even posted the appropriate excerpt from Pennsylvania Public Utility Commission (PUC) rule that limited the amount of horsepower allowed behind a steel-framed caboose (most often it reads 3,500 hp). After that the caboose goes behind the helpers.

JD did some research on his own, and responded: Thank you for the replies... Speaking of stout frames, my quick search this afternoon turned up a link to the B&O Railroad Museum. They have caboose C-2222 converted in 1940 (type I-5D) for pusher service. With a concrete floor! ... Kurt Thompson – Not sure if the (PUC) is

the same as the Pennsylvania State Code, but in the code it says if the pusher has more than 3,500 hp, the crew in the cabin car must exit and occupy the pusher or another cabin car behind the locomotive. It also says the crew cannot "cut-off on the fly" if the helper has more than 3,500 hp. The PUC rule is the closest I've come to any rule book so far.

Bob: Brian Solomon's *Caboose* book agrees with what you see above. Pushing on a wood-framed caboose was generally forbidden. Pushing on a steel-reinforced caboose frame was allowed in some circumstances. Pushing on heavy steel cabooses was often permitted, except when the practice was forbidden on grounds of safety.

1. We start with what we believe to be true, with a pusher between the rear of the train and an older wood-framed caboose. *C&O Historical Society photo*

2. Here a pusher is behind the caboose of a loaded coal train. It appears to be a repainted wooden caboose. Did they reinforce the frame when it was shopped? *C&O Historical Society photo*

3. Here's a pusher cut in, but it appears that this is one of C&O's newer wide-vision steel cabooses. Maybe the conductor didn't like being pushed around. *C&O Historical Society photo*

The "Modeling the SP" website has two detailed articles about replicating helper operations, but not a word about caboose placement, covering the steam era and in the 1980s and 1990s at modelingthesp.com/Operations/Helpers.html and modelingthesp.com/Operations/Helpers_Operations.html.

Read the ongoing thread at mrhmag.com/node/32538.

Priming for paint

Q. **If you are using a dark spray paint for the final coat, does it matter if you use gray, dark gray or white primer?**

—kh25

A. Lou in Utah: It depends on how opaque the final coat will be. The general rule of thumb is to use darker primers under darker colors, and light primer colors under light colors. However, if I know I'm going to apply a several solid coats of a dark color, I just use whatever primer I have handy. For light colors, I always use white or light gray.

Bob: Some colors, particularly reds and yellows, can be very transparent even if several coats are applied. Undercoating with a greenish light gray primer, for example, can result in a green tint in the final yellow topcoat – and adding multiple coats is not an option if it will block out details. The same effect can happen when spraying a thin yellow or red over

Handy tip:

If color rendition is critical, test the primer and paint combination on a scrap of brass or white styrene before committing yourself to the finished product. Tossing a failed test is less work than stripping and refinishing a detailed model.

bare gray styrene – the finish will tend to go dull and look a little bit "off." White or silver primer will give a brighter color..

Peter: Most fine-art paintings have an under-painting that lends a base tone to the finished image. Make a field of red or blue or yellow under a topcoat of black and you will have a noticeable difference when finished. This is one reason to select the proper primer, either to match the topcoat closely, or to build up a multi-color finish with subtle tones.

Read more at mrhmag.com/node/32554.

Cleaning weathered rail

Q. **I have some Micro Engineering flex track with weathered rail. What is the best way to remove the black from the top of the rails without scratching. I don't want to use abrasive methods.**

—Bill

4. **Deemiorgos:** You don't need much of an abrasive. I use this eraser and sometimes wrap it in paper. Just a couple of swipes removes the blackened surface. Several swipes with a paper on it polishes the rail head nicely.

A. Rob Spangler: I've used a lot of Micro Engineering weathered rail. Without using some sort of abrasive, I'm not sure you can remove the chemical blackener from the metal. I use abrasive methods on my track and have no problems with wheel to rail contact as a result.

Michael Whiteman: Don't worry about scratching the rail head. Take some 600-grit sandpaper, and wrap it around a wood block and sand the rail lengthwise. If you want it smoother, then go over it again with 1000-grit. You can get paper up to 2500-grit at your local automotive paint shop supplier.

Find more suggestions at mrhmag.com/node/32572.

Tips

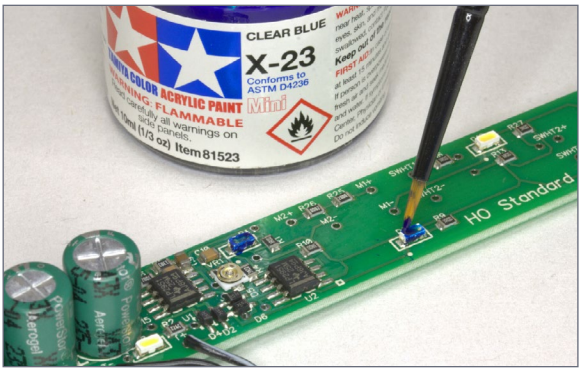
Tinted passenger car lighting

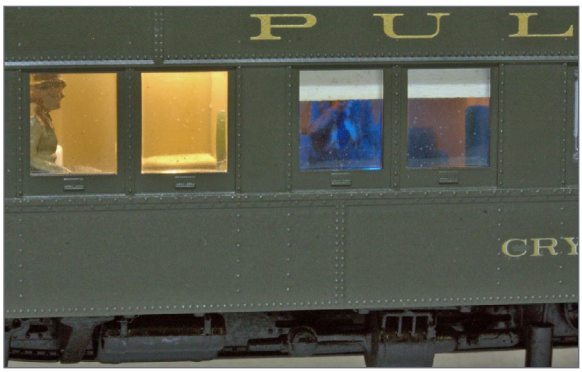
To simulate night lighting in passenger sleeping compartments, apply transparent blue paint to the appropriate LED or bulb. A blue highlighter pen could also be used.

To make some areas dimmer, apply transparent smoke (gray) paint to the light source. If the transparent color is too dark, mix it with clear paint before applying. Vallejo, Testors, Tamiya, and others market transparent paints.

The compartment on the left has normal lighting while the drawing room on the right is lit by a blue-tinted LED.

—Charles Hepperle





5. (Above) Touch up lightboard-mounted LEDs with transparent paint to create a night lighting effect.

6. (Below) Blue sleeping compartment night lights (right) contrast with warm lighting in public areas. *Charles Hepperle photos*

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DCC IMPULSES column

Model Railroad Hobbyist | April 2018 | #98

Bruce Petrarca MMR talks about DCC layouts and locomotives ...

RATE THIS ARTICLE

I'm just now working with two fellas on their layout designs and DCC systems. They are asking some of the same questions, so that suggests that other folks may have similar concerns. This column will deal with some of the common questions.

Ball of Confusion was a song by The Temptations in 1970

I see a lot of confusion in the minds of folks working to get their arms around DCC. Sometimes it comes from a lack of information. Most frequently the source is too much, or conflicting information.

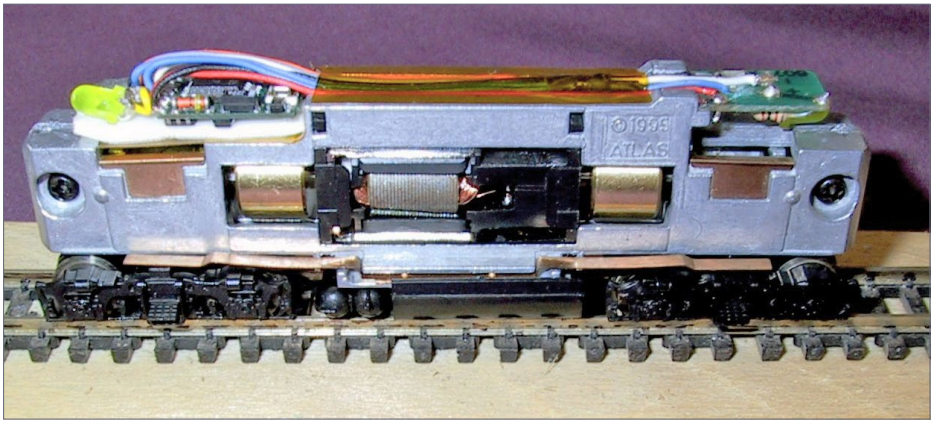
Let's work on getting you toward a layout like Frank Baker's [1].

There is a lot of information on the web about DCC. Quite a bit of it was written one to two decades ago. How confused would you be trying to set up your Windows 10 notebook working from data for

Windows 95 and a desktop machine? Many times folks unintentionally put themselves in this position.

In the first few years of Litchfield Station (founded in 2001), there were amazing changes in DCC awareness and support from manufacturers. One of the first installations I did was in an Atlas

1. The DCC layout belonging to Frank Baker, of Scottsdale AZ. It's a well-planned pike.



2. A 1995 vintage Atlas N-gauge GP9 with a Lenz LE077XF decoder in an installation I did in 2001.

N GP7 [2]. I disassembled and isolated the motor from the frame, using a Lenz LE077XF decoder to replace the rear light board, with the rear LED hard-wired to the decoder. The front light board was modified to pick up track power and isolate the front LED from the track for DCC control. it was a lot of work, but it functioned nicely.

Contrast that with an installation in 2008, only seven years later, using the TCS CN style decoder where both boards are supplied and just plug into the locomotive [3]. The motor isolation step was the same between these two installations, but that's about the only similarity.

Imagine trying to do the CN style [3] installation with the instructions for the Lenz installation [2]: instructions for cutting leads to a discrete LED when looking at a board with a surface mount LED. Since then, there has been another decade of advancements. Even digital photography has improved.

3. A TCS CN decoder in an Atlas RS3, circa 2008. Quite a change from [2] in just over five years.

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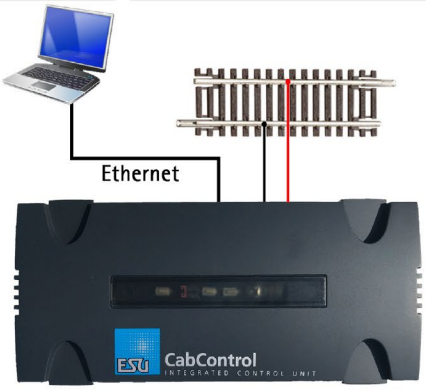

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You can see the need for current information to base your design work upon. In the six-plus years that I've been writing this column, there have been lots of changes. Some of what I wrote about early-on is obsolete now. However, I try to write about the basics instead of "newfangled gadgets" as much as possible to minimize the obsolete data.

One more thought: If you are not a cook, ask a good cook about this. Some iconic dishes have available a large quantity of various recipes for their preparation. How would the dish come out if

4. The Hammond yard in the PCMRC (pcmrc.org) layout. This layout was designed for seven to 10 operators at an operating session. It has three boosters and 19 power districts, each with its own PSx circuit breaker.

you used the first half of the ingredients from one recipe and the second half from another recipe, mixed it per the instructions of a third, put it in a pan as sized in a fourth, and cooked it per a fifth?

That was *per* a fifth, not *drinking* a fifth—which is another issue altogether. Following DCC suggestions from several people or websites can create similar havoc. Find your guru and work with him. Monogamy is important here, too.

Planning is a process, not an objective

Frequent readers will probably be able to chant my mantra: don't over-plan. I know professional model railroad planners. They've been planning for two or three decades and have yet to lay the first piece of track.

Under-planning can cost money and time, but you will be learning in the process — perhaps how not to do your next layout.

I talked about the planning for my two new layouts in my December 2017 column: *Not quite a chainsaw layout* (mrhmag.com/magazine/mrh2017-12/dcc-impulses). Some items to consider were explained there.

One thing I didn't talk about in that column, that has an effect on DCC design, is the number of operators running at the same time [4]. More locos means more power needed. More operators means more cabs needed. But more insidious is that fun-to-operate layouts are broken into power districts where, as much as possible, every operator has his own power district. Thus, one operator's boo-boos don't bring everybody down. That takes some thinking to get right.

Isolating users will necessitate a circuit protector [5] per district. I discussed circuit protection in my November 2014 column: mrhmag.com/magazine/mrh-2014-11-nov/di_short-protection.

Some of the basics of layout wiring were covered in my third column for *MRH Magazine:* mrhmag.com/magazine/

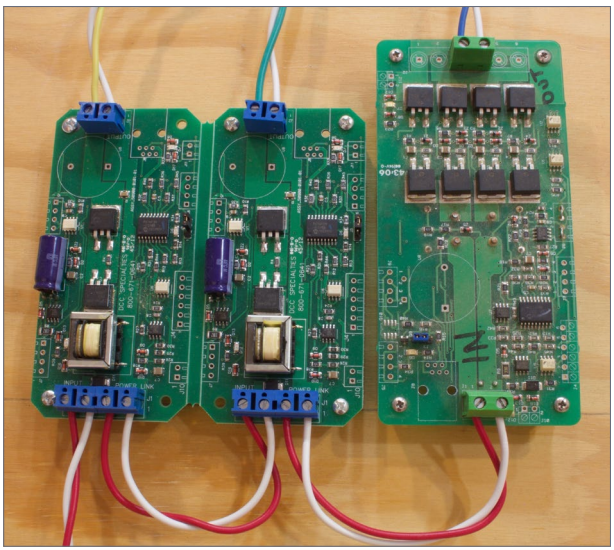
mrh-2011-12-dec/dcc_impulses — check it out for nuts-and-bolts information.

How do I control my turnouts?

I know this isn't the first thing that folks think to discuss when they are planning a DCC layout, but it can be pivotal. Let's look at the ways to control turnouts:

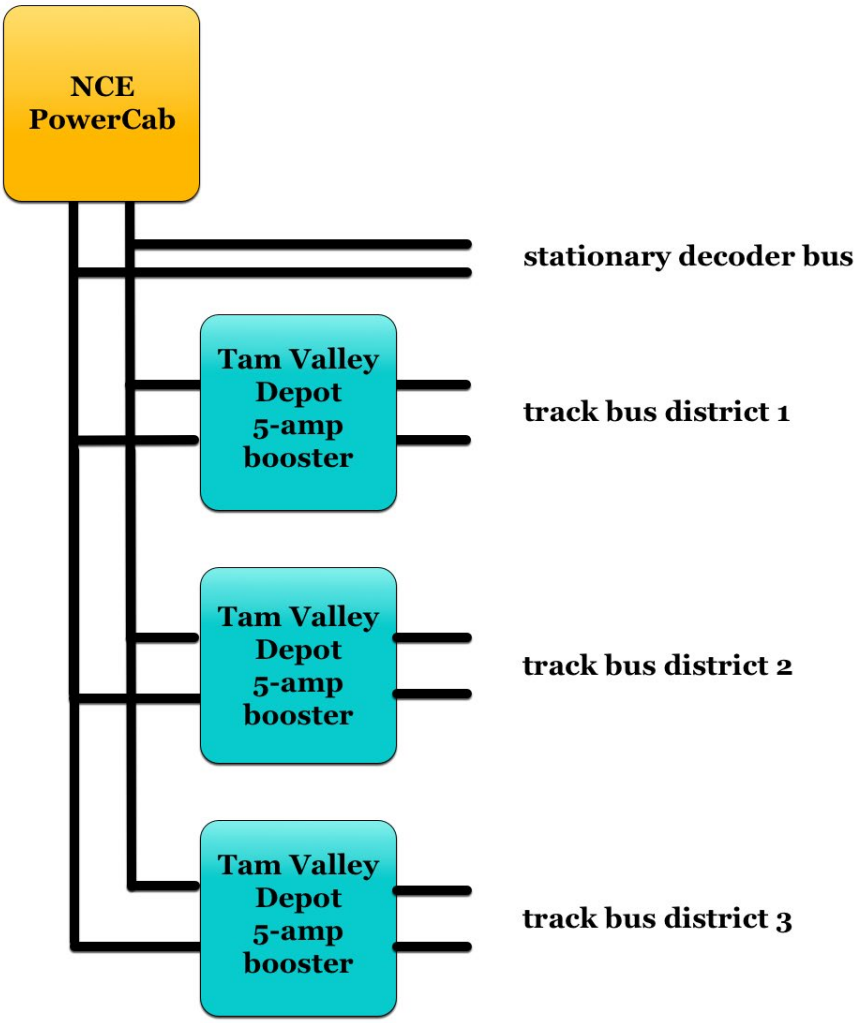
Ground throws or other manual methods, such as Blue Point throws, put no demand on the DCC system. They are difficult to use to route power for the turnout frogs, unlike many of the turnout motors (such as the Tortoise) that contain a switch that can adjust polarity for powered frogs. The Blue Point throws fill both needs: a mechanical throw with an imbedded switch.

Servo motors are becoming popular as the most cost-effective method of electrical turnout control. Servo motors are now driven off an external power supply (removing their load from the DCC system) or decoders powered and controlled off the DCC system.



5. Two PSx circuit breakers and a PSxAR auto reverser as part of my Rocky Mountain Pacific railroad.

Stall motors such as the Tortoise or Switchmaster, to name two, draw power (admittedly



6. Stationary decoders are best served when they come directly off a booster (or system box). Here I have used Tam Valley Depot boosters instead of a single booster and circuit breakers. Less expensive, but with nice performance.

only 0.01 amp) when they are stalled at each end of their throw. They may draw a bit more when they are moving. Some stationary decoders can only be powered from the DCC bus. This will put the added load on the DCC system. Fifty Tortoise machines will draw (50 x 0.01 amp =) ½ amp from the DCC system. That's about the same as an additional locomotive.

Some stationary decoders allow external power input to avoid loading the DCC system with this overhead. This means one more set of wires to run around the layout.

For any stationary decoder, regardless of the type of turnout motor used, I recommend a "turnout bus" [6]. This is a set of wires

7. Peco Electrofrog turnout. Note there are no insulating areas around the (v-shaped) frog area. Some insulation must be used in these diverging rails outside the turnout.

coming directly off a booster to power the stationary decoders in this situation. If your locomotive runs a turnout, the track circuit breaker opens, removing power from the track. If the stationary decoder is driven off a bus that is still powered, it can be controlled. When the turnout is correctly set, the track circuit breaker can reset, allowing the locomotive to move.

I devoted an entire column to stationary decoders in June of 2015: mrhmag.com/magazine/mrh-2015-06-jun/di_dcc-stationary-decoders.

What about turnouts and frogs?

There are two basic turnout designs: insulated frogs and uninsulated frogs. Peco calls them Insulfrog and Electrofrog, respectively. Model railroaders tend to use these terms across multiple manufacturers' products, although the names really belong to Peco.

Note: there needs to be some insulation in the frog area, or that V-shaped piece of track will create a rail-to-rail short. If the frog isn't insulated in the construction of the turnout, it must be insulated as part of the installation of the turnout.

The concept of the insulated frog design is that keeping the insulated section as small as possible results in minimal loss of power. Notice I said, "minimal," not "no." There will be a power dropout. The effects of this are more noticeable with DCC than they are with DC. Some designs, especially the longer (#8 or so) turnouts, have contacts to connect power to the frog [8].

Uninsulated frogs result in longer frog sections. These may range from a fraction of an inch to several inches, depending upon where the installer chooses to insulate the rails. Thus, they almost certainly need some method to deliver power to the frog that switches polarity when the turnout changes position.

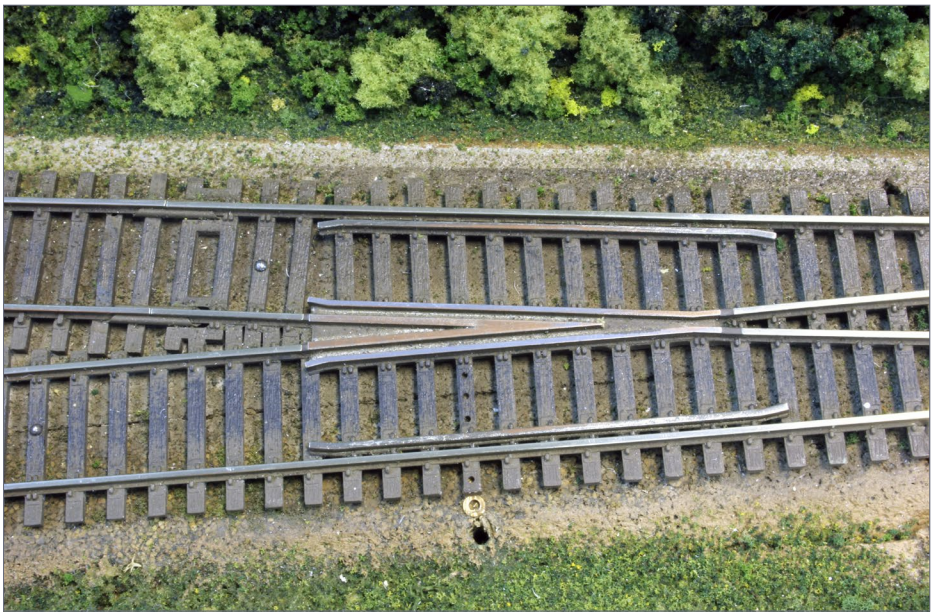
There are several methods to switch the polarity to the frog.

The most rudimentary is a switch, perhaps linked to the manual throw of the turnout, that sets the polarity. I've also seen folks mount a switch on the benchwork that is not tied to the turnout throw. In my experience, operators frequently threw the turnout without throwing the switch and caused a short on that section of the layout.

Many turnout motors, such as Tortoise, have a switch built in which folks use to change the polarity of the frog. The issue here is that many DCC systems put out 5 to 8 amps in a short. The contacts on these switches are usually rated for 1 amp. The end result is that frequent shorting on a given turnout may destroy the switch inside the Tortoise or another brand switch machine.

The most elegant method is to use a specialized autoreverser module that will sense the short and change the polarity of the frog. The most widely used version of this is the Frog Juicer from Tam Valley Depot (tamvalleydepot.com/products/dccfrogjuicers.html). They are simple to wire: one wire to each rail and one to the frog. They are almost imperceptible in their operation. However, they are pricey, adding $10 to $15 per turnout.

When DCC was in its infancy, track designers were less concerned with an occasional short between the rails caused by a passing wheel. The goal was to make the flange clearance as small as possible to enhance the look of the track. A lot of web pages sprung up with solutions for this shorting to allow DCC



8. Atlas HO code 83 #8 insulated frog turnout. Note the eyelet in the center of the photo, lower part. This is a connection to the insulated (black bands on each end) frog of the turnout. Connecting a TVD Frog Juicer or other polarity switch here keeps the long frog from becoming a dead zone.

operation without hiccoughs. Modern (last decade) track has gotten this right and, for the most part, shorting is not a problem with newly designed turnouts.

Older turnouts may need rework. One set of comments are on Allan Gartner's Wiring for DCC web site: wiringfordcc.com/switches.htm. This is one of the pages that confuses folks, as it deals with older turnouts. Most of what is mentioned here is unnecessary for newer turnouts.

One last thought about turnouts for this column. "Power Routing" was common in the DC world. This is the concept of turning off the power to, for example, a siding when the turnout was closed. I eschew this concept for DCC. One, there is no need to turn off the power to the track and, two, the points of

a turnout are inadequate to carry the 5 to 8 amps that may be forced through them in the event of a short on the siding.

By the way, I refer to track pieces as "turnouts" to distinguish them from electrical "switches." I apologize to my UK friends. I cannot get behind the term "points" to describe the entire assembly.

How much power do I need?

This question comes in many forms: "Do I need another booster?"; "How much power do I need?" etc.

Probably from the Citizens Band "booster" amplifiers, there is a misunderstanding that the need for DCC boosters is related to layout size; driving the signal further along the track or bus. Not true. Adequate wiring will distribute the available power over long distances.

Booster power needs are dictated by what the layout (trains, stationary decoders, lights, etc.) are drawing from the DCC bus(es).

The first question to answer is: "What is the maximum number of locos that I expect to be able to move at any one time?" Multiply that number by the average or maximum (more conservative) running current for your fleet to know how many amps you will need for the locos.

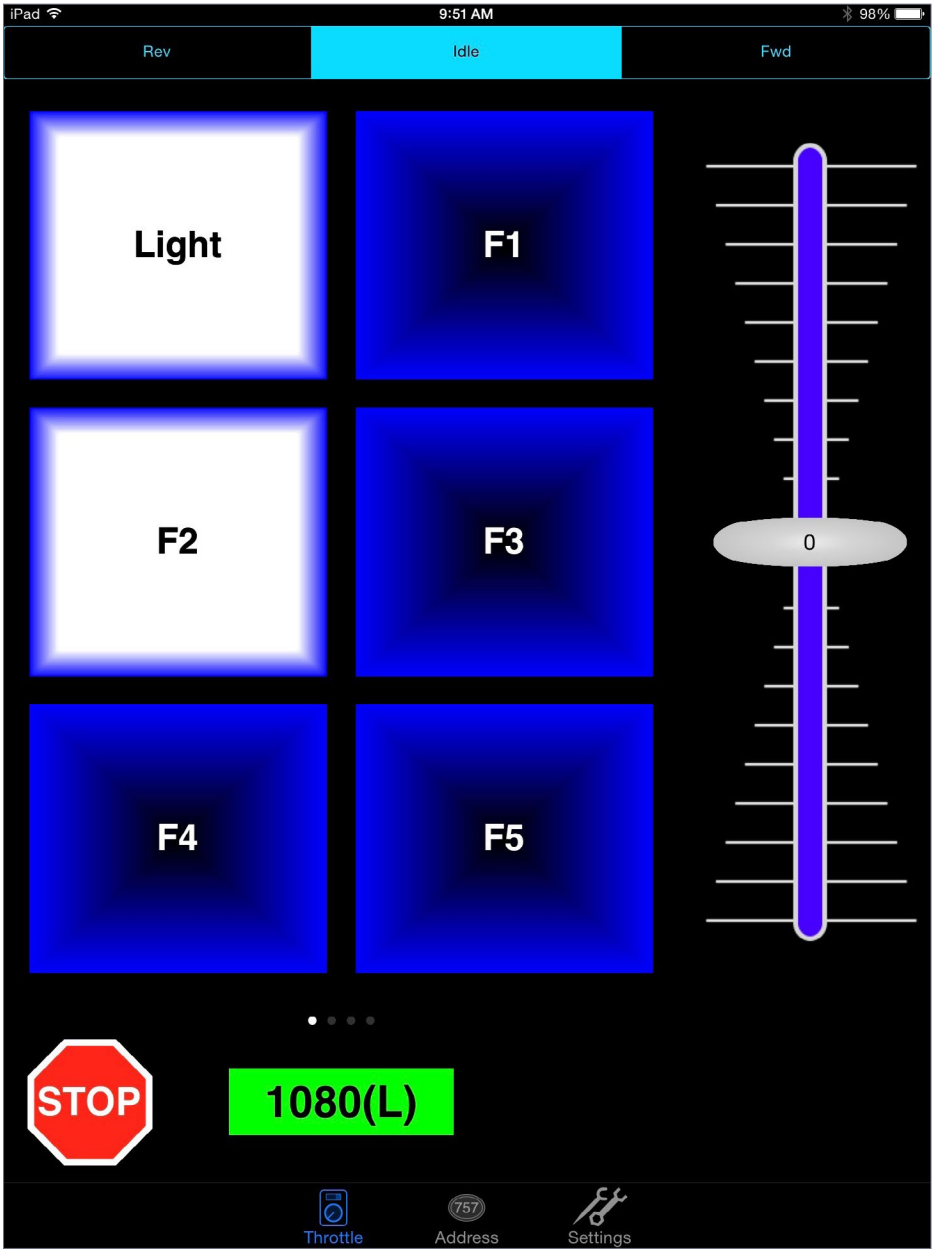
If you are powering your turnout motors from the DCC system, add in the power that they will draw.

Add in for lighted cars, which can draw as much as ¼ amp per car.

Add in for lighted buildings or other electricity-consuming layout items.

Take this number and multiply by 1.5 to 2 to allow for expansion and a safety margin. That's the total amps you will need.

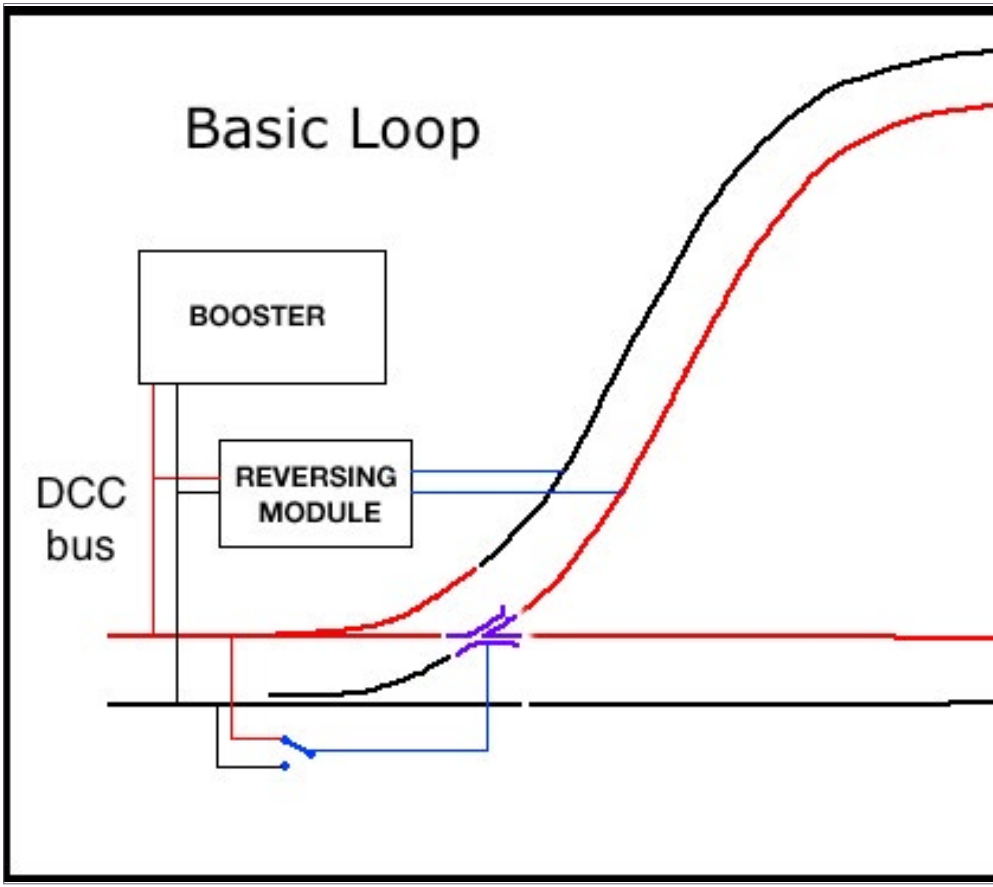
Divide this up into boosters and districts, as I previously described.



9. WiThrottle App allows connection between an iPhone and a DCC system through the JMRI suite of programs.

Do I use radio cabs?

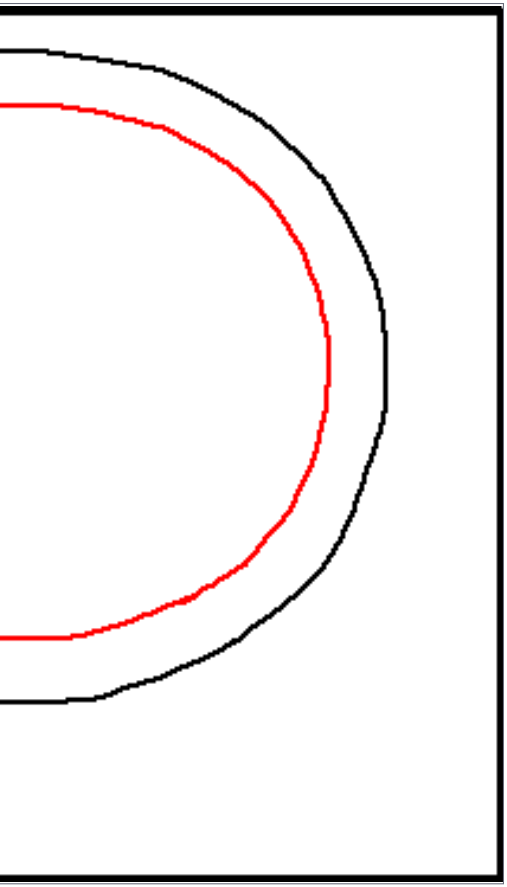
Not being tethered to the layout makes running trains more realistic. DCC has offered wireless options for many years. The mechanisms and features vary from manufacturer to manufacturer. Some options are radio and infrared links (for areas where radio is not legal). There are even some cabs that will work with more than one brand of DCC system.



10. A basic reversing loop. In real life, these can become much more complicated. Note the function of a Frog Juicer as shown by the (blue) switch connected to the (purple) frog.

That said, the current trend for layouts that are designed for more than one or two operators is to use smart phone throttles via JMRI [9]. This is very popular with clubs, saving literally thousands of dollars by not supplying radio cabs for the club members.

I understand the motivation of using phones, but I still favor knobs. However, any wireless cab is more convenient than a wired cab.



STAGGER REVERSING GAPS

It's actually best to stagger the gaps on a reversing section rather than put them directly across from each other. Bruce covers that on the next next page. Take note note and follow his recommendations!

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What are the rules for reversing loops?

I'll cover this quickly. Reversing track work includes loops [10], dogbones, and turntables. The track within a reversing section needs to be longer than the longest consist you plan to put through it. A quality autoreverser will help make the running through the reverser fun, not a hassle.

11. Insulating gaps (yellow) on both rails of my garden layout. Note the about four-inch stagger between the two rails.

I recommend the gaps (both rails) for the reversing loop be staggered a fraction of an inch to several inches [11].

For more information, check out my January 2015 column: mrh-mag.com/magazine/mrh-2015-01-jan/di_dcc-reversing-loops.

This isn't comprehensive, but hopefully this quick trip through some details will inspire folks to move on with their DCC implementation. We'll be discussing issues on the blog for this column.

Please share your ideas with us all. I'd love to hear what you think. Just click on the Reader Feedback icon at the beginning or the end of the column. While you are there, I encourage you to rate the column. "Awesome" is always appreciated. Thanks.

Until next month, I wish you green boards in all your endeavors. ☑

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WHAT'S NEAT column

Model Railroad Hobbyist | April 2018 | #98

RATE THIS ARTICLE

Ken Patterson and Jason Quinn, Kevin Ruble, Steven M. Conroy, John Parker all show us their talents ...

Jason Quinn shows Ken Patterson how to remove factory painted numbers from a locomotive, Kevin Ruble shows us Cadrail, Steven M. Conroy shares more drone footage in "Modeling Ideas From Above," and we visit John Parker's BNSF Fall River Division HO layout. Ken discusses glues to use to reattach metal grilles and screens, and updates fast and accurate construction techniques on the B.T.S. sawmill scene. ☑

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PHOTOS AND VIDEO OF SUPERB MODELING

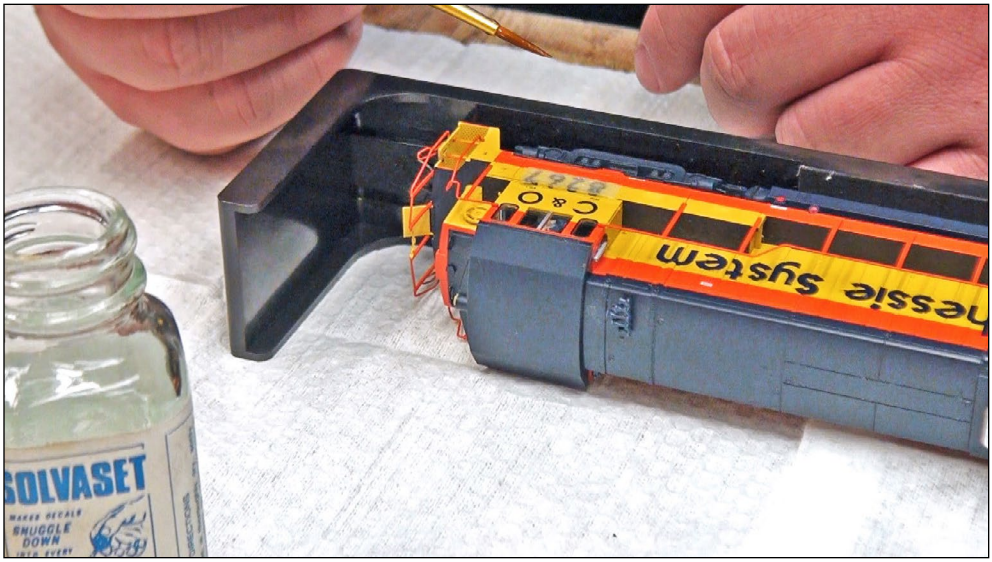
Jason Quinn on removing numbers

1. (Above) Jason's love affair with the Chessie System can be seen in this photo of 11 of his units. Because manufacturers may make only four number schemes, Jason has to re-number many of his factory units. How do you remove the factory-printed numbers on the locomotives? Fine 2000 grit sandpaper with water always seem to cut into the paint. Jason has a cure for this, and the answer to removing the lettering. It's quite simple.

2. (Top right) First, he cuts a piece of paper towel to the exact size of the row of numbers. He places this over the numbers on the side of the cab and wets the towel with Walthers Solva-set. This soaks for about 15 minutes.

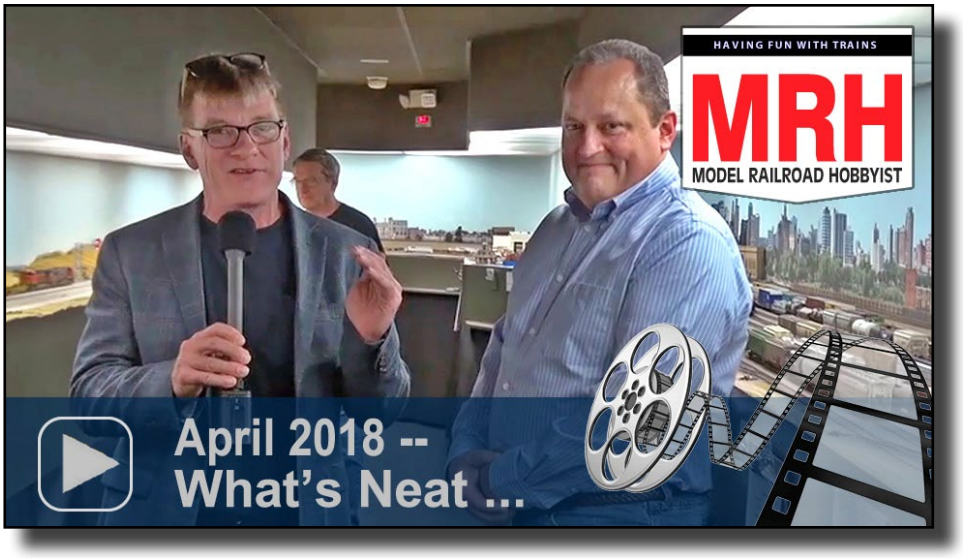
3. (Bottom right) Jason then removes the towel and places clear tape over the wet row of numbers.

Also see the new "What's neat this week" weekly video podcast!


SOLVASET
SNUGGLE DOWN
C & O
8267
hessie system


hessie system

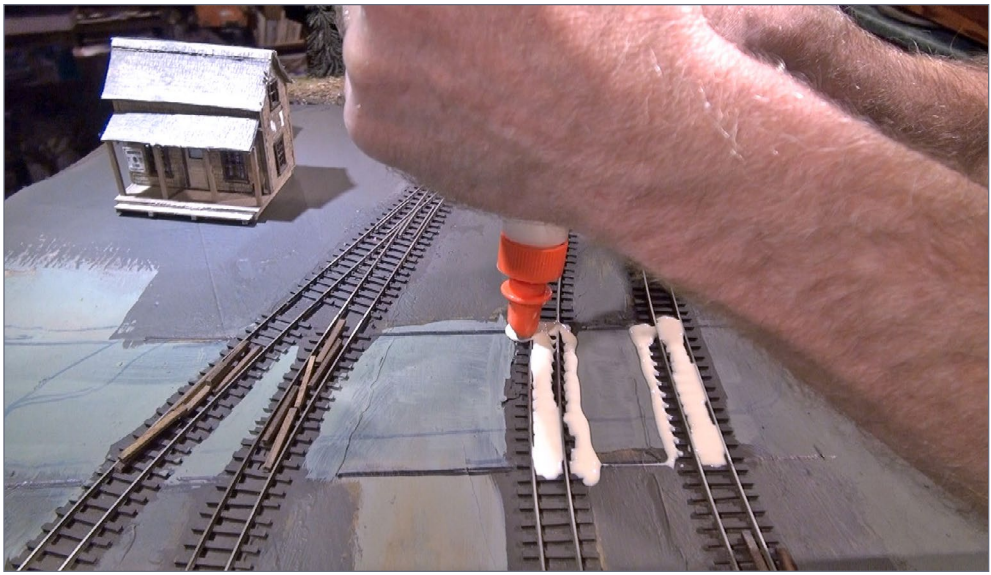
4. The painted-on numbers stick to the tape. As it is pulled off, the numbers come with it. Just like that! It works. You can see the process real time in this month's video.



Playback problems? Click here ...

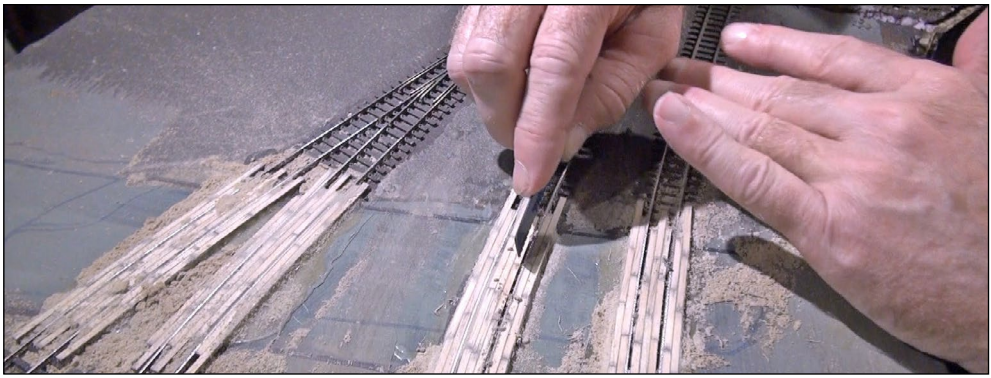
B.T.S. sawmill update

Last month we laid the track and ran a train around the B.T.S. sawmill project on the reverse loop. I pick up this month plotting the roads and the six railroad crossings on this section of my HO/HOn3 layout.



5. After locating the crossings, I filled the track area with a thick layer of wood glue and lined up scale railroad ties, three rows between the rails and two rows just outside the rails to form the crossing deck.

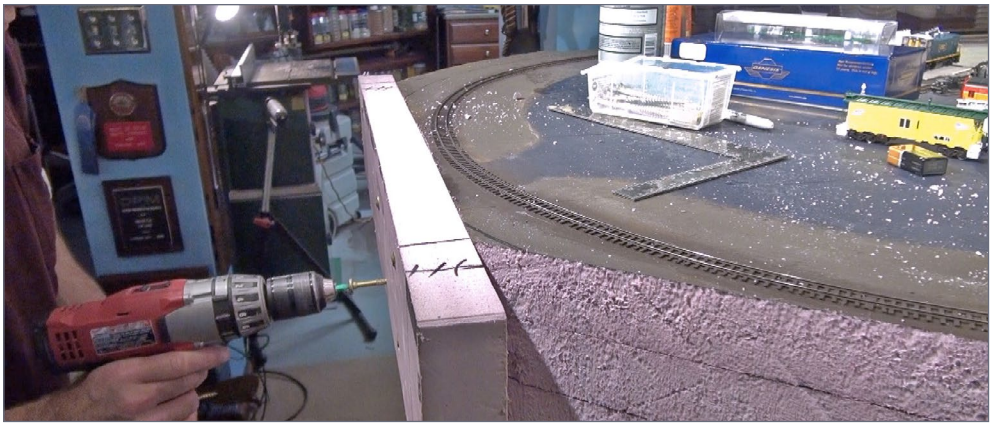
6. After the glue dried for 24 hours, I sanded the crossing deck flush to the railheads using an oscillating sander.



7. I then cleaned out the flangeways with a standard hacksaw blade cut down to six inches in length. This saw provides the perfect width flange clearance. I cut the wood deck with a miter saw to be 22 feet across, stained the wood brown, and followed up with gray chalks. The dirt road will be the same depth as the ties, making for a smooth crossing.

Turning my attention to the edges of the layout, I wanted to form a perfect curve around the peninsula, with about two inches of space around the outside edge of the track in case of a rollover accident.

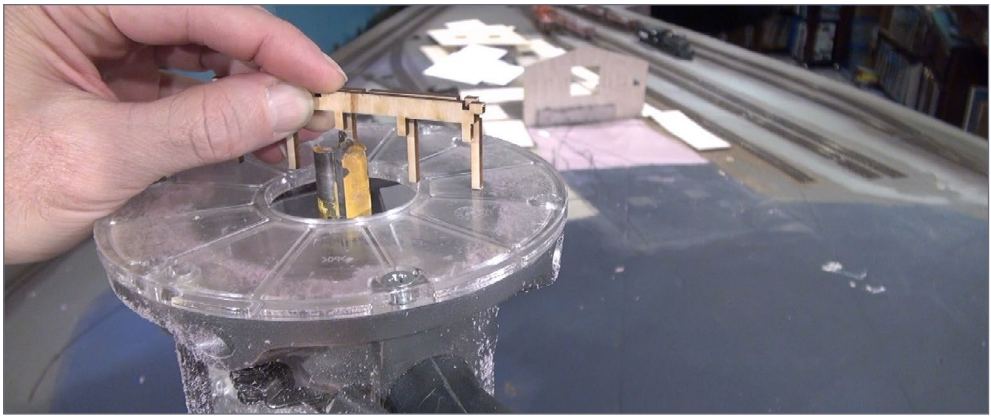
8. I needed to add foam to the sides of the layout and started by cutting and squaring the sides of the peninsula to make a flat surface.



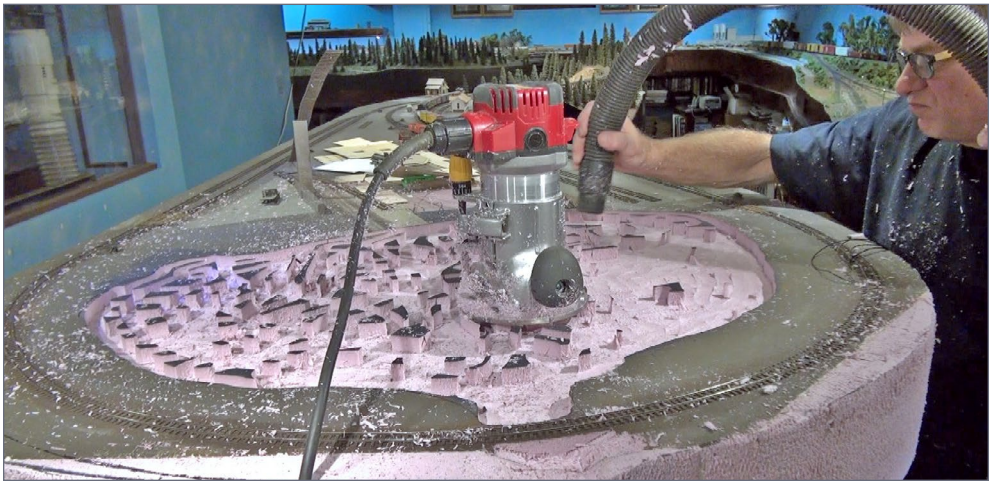
9. To attach two-inch thick foam sections cut to match the 6-inch-tall edges of the scene, I used polyurethane glue wet with water to glue the foam to the sides of the layout. I held this in place with 6-inch pan head screws while the glue cured for 30 minutes. I continued this process until I had an equal distance between the track and the layout edge all the way around the scene.

10. I then drew a line atop the foam in the curve I needed to make a smooth flowing arc. I left four inches depth on the start of the curve to allow space for a log offloading ramp, and then spiraled down to an even two inches outside distance around the track. I cut this line with a pruning saw, ensuring the sides were square. I smoothed the sawed foam with a Stanley Surform planer in one hand and a 12-inch square in the other.

11. It was time to build the foundation of the main sawmill building and cut out the log pond. The depth of the pond will be the water's surface on the model. The sawmill building stair steps from the ponds bank into the water for 30 or so scale feet. This difference in the building's pier height, 3/4-inch from the land to the water, dictates the water's surface level the way I am going to lay out the building relative to the pond.



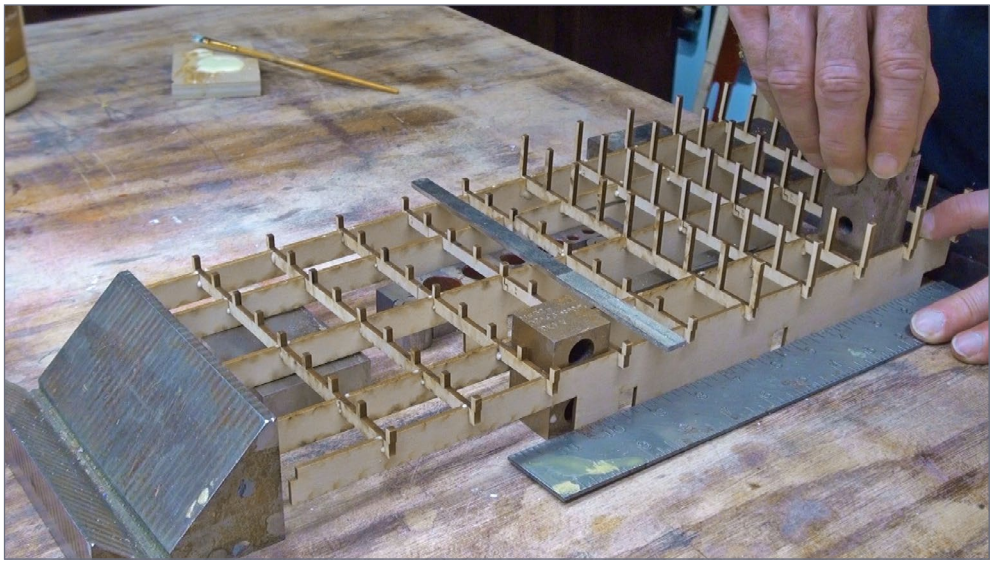
12. This measurement needed to transfer to the router bit's depth, giving me a cut to just the water's surface. I am not modeling the pond bottom, but will fill the scene with resin. I plan to paint the water's surface as I show in a video on my website on "How to model water." See kenpatterson.com for this.



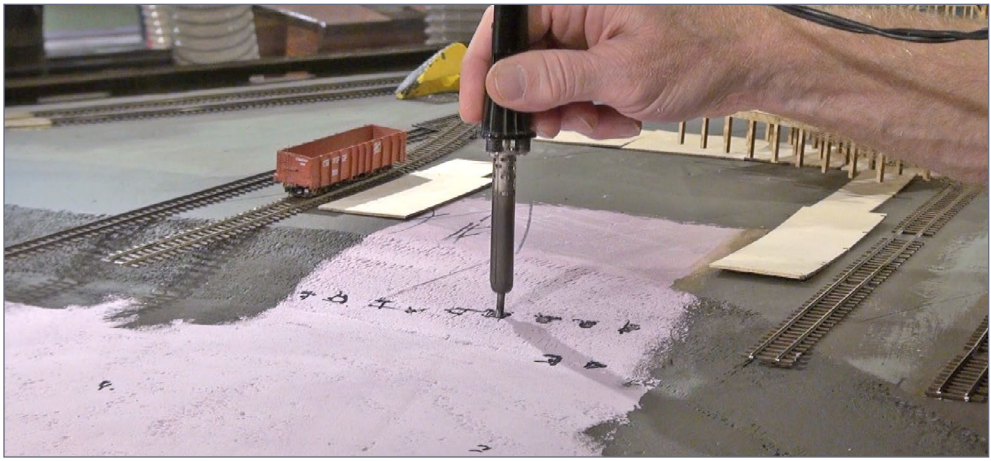
13. Once I understood the measurements and the math, I routed out the log pond about ¾ of an inch deep and removed the cross-cut sections of foam with a vacuum cleaner, breaking off the small remaining pieces as I went along. I followed this up with a Chinese pull saw, cutting flat and flush to remove any uneven foam.

14. I carved the track profile and ballast line with a bent horse rasp, and sanded the log pond water surface with an auto body flat hand sander and 50 grit sandpaper to make everything flat and level.

15. I then hand-sanded the area with 150 grit sandpaper, paying close attention to the area where the water will meet the pond bank.



16. I carefully assembled the sawmill foundation with wood glue and a lot of square blocks to make a perfectly square foundation. I also assembled the mill's six main walls using the same gluing and squaring process.



17. With a soldering iron, I drilled or melted holes where the building piers will be set into the foam along the edge of the pond.

18. If all my math is correct, the building will fit square to the tracks, fitting perfectly into the bank, and the longest piers will sit atop the water's surface. As you can see in this photo, everything fit perfectly.

19. I routed out a ¾ inch square groove along the outside of the foam, and filled it with blocks of wood secured with polyurethane glue and water.

20. I followed this up with ¼ inch oak plywood stapled to the blocks in the foam and glued to the foam following the round flow of the diorama. I contoured the top and sanded the sides smooth with fine sandpaper using the oscillating sander.

21. I then stained the sides with red oak stain to match the rest of the woodwork in my layout room. The section is finished with three coats of polyurethane sanded with water and 1500 grit sandpaper in between coats. In future updates, we will finish the mill diorama's scenery, structures, and block wiring.

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Gluing Foam

Ken does a lot of construction with foam for his modules. One thing Ken has discovered is to avoid Liquid Nails glue for foam as it can encourage foam shrinkage over time. Better is Gorilla Glue or polyurethane glue.

Also see the new "What's neat this week" weekly video podcast!

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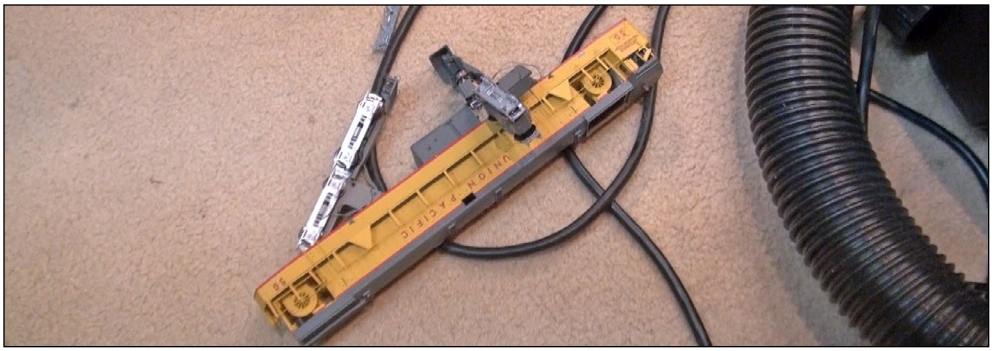
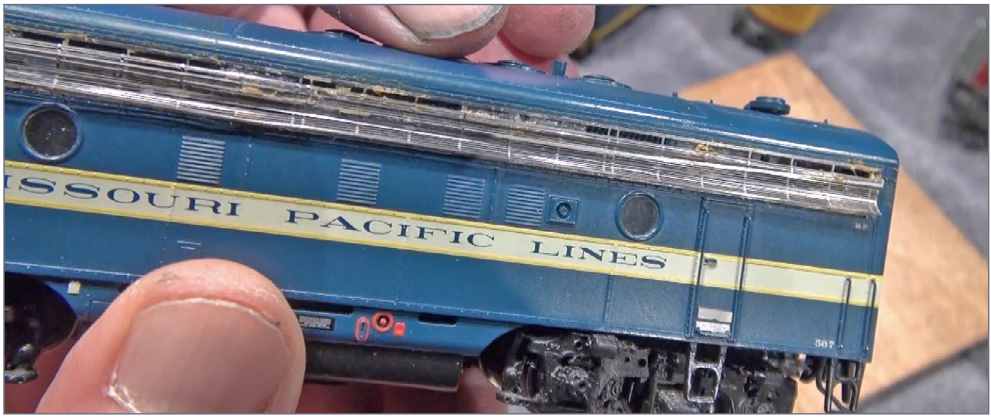
Gluing metal screens and grilles to locomotives



22. After dropping my Athearn U50s 300 scale feet over the edge of the layout and onto the floor when the lift out section was removed – my bad. I do not have a kill switch for the approach tracks to the lift out – I was left with U50 kits. They were easy to put back together and test, so I was now to the point of regluing all the metal screens that popped off.



23. You don't have to drop a locomotive to have the grates pop off as the metal reacts to temperature differently than the plastic sides of the model. The CA glue which the factories use to attach these pieces tends to be brittle at the glue joint. This photo shows a swap meet locomotive where the previous owner tried to attach the grilles with Walthers Goo. Not pretty.

24. I like to use contact cement to reattach grilles and screens and fan grates. It remains flexible, allowing for temperature changes without the side effect of the parts popping off. Start by brushing the glue from the bottle onto a flat working surface. As you see in this photo, I use a metal anvil.

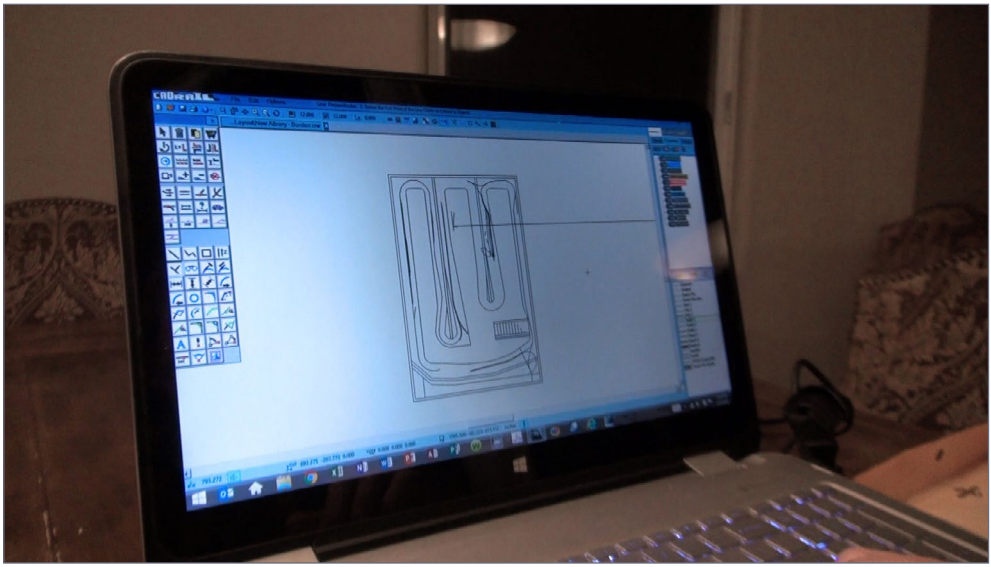
25. Use a dental pick to apply contact cement to the edge of the metal part. This glue is stringy and you can use this string characteristic to your advantage as you "snap the line" with the string along the edge of the part. You can see this real time in the video.

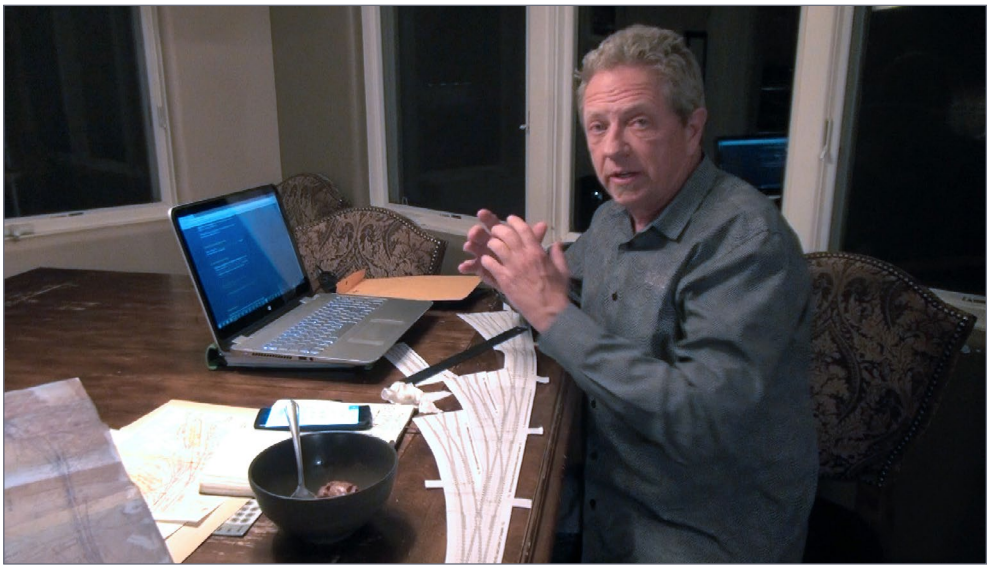
26. After spreading the contact cement, simply press the part into place, wipe away any excess, and the part will remain attached forever.

27, 28. (Top right, bottom right) While watching Kevin Ruble change the layout drawings for his Monon railroad, I asked him why he did not use a pencil and paper. He had Micro Engineering #5 ladder templates on his table and was measuring them and putting these dimensions into his CAD program.

He uses Cadrail by Sandia Software to draw his layout. He said that when he was the CEO of the Marquette Railroad he used Cadrail to plan sidings for industrial customers during the planning stages for new facilities. He has been using Cadrail for 15 years. It has 3D capabilities, along with libraries of many model structure kits and track switches and parts to help you draw and visualize your layout. There is a free trial download on the Cadrail website at sandiasoftware.com/demo.htm. I just received my download a few days ago and look forward to experimenting with the software.

Kevin Ruble on Cadrail for layout planning





RATE THIS ARTICLE

John Parker's BNSF Fall River Division

31. This month we visit John Parker's HO scale BNSF Fall River Division layout. It is well-planned with operation in mind. It is created per prototype standards yet it is a freelanced subdivision The modeled scenes flow and there is a feel of very little selective compression as each mainline scene is expansive.

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32. There are carpeted aisles, and a painted fascia and valance with lighting along the entire 1,000-foot-plus mainline. Two mushroom sections save space, and helixes connect multiple levels. John uses CTC signaling, DCC controls, and radio phones and headsets. Dozens of industries keep crews busy, including a coal mine with loader. There are cameras and monitors to keep track of the car loadings. He has also modeled a power plant, grain facilities, and branch lines with oriented strand board plants and roofing material companies.

33. The benchwork viewing height averages between 48 and 50 inches with photo and painted backdrops. He uses Digitrax DCC with a Digitrax-based signaling system and BLMA signals throughout the mainline. The CTC program is custom-made for the layout. It takes 18 to 22 people to run the layout.

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34. The valanced lighting system gives even and bright light. In night mode, the white lights go off and blue LEDs light the entire layout. That's when you notice the thousands of small LEDs that light up every industry and road on the layout. Add to that the red and green glow of track signals, and locomotive ditch lights and headlights, and you are in for a far-out visual experience.

35. The era of the layout is 2016. The mainlines include wood and cement ties with wide and smooth radiuses, superelevated curves, and scale track distances on the new double track main.

Bridges look right at home in the pine tree-filled wilderness. No detail has been missed on this scale model of the real world. Watch it run in all its glory in this month's What's Neat Video. ☑

IMAGINEERING
column

Model Railroad Hobbyist | April 2018 | #98

RATE THIS ARTICLE

Rob Clark pushes his turntable scratchbuilding project on to completion ...

BUILDING A MANUAL TURNTABLE (Part 2)

Last month I built the pit and assembled the basic deck for an A-frame turntable, and looked at power feed options. This time let's tackle the mysteries of turntable track alignment.

I also will complete some of the A-frame deck detailing, and look at an alternative girder-frame deck option which demonstrates split-rail polarity switching.

The puzzle of turntable alignment

Turntable alignment can be difficult. However some key construction principals can simplify the process.

The most important aid is to add small pieces of approach track, and connect up to the main tracks after alignment is complete. This allows easy movement of rail back and forth in the spikes

to fine-tune the approach/deck rail gap. CA can be used to lock things when aligned.

The center pivot does not need to be precisely centered if the deck rotates with enough clearance to prevent binding. The only critical item is the alignment of the center pivot to the deck rails. If this is right, then everything else will follow.

When aligning, make only one change at a time, and if any change doesn't work, then undo it before making the next change.

A turntable can be part of a busy engine terminal, or can stand alone in a sleepy country terminus. I find them great focal points, and in my case, an essential operational feature for an end-to-end steam shortline.

I haven't yet made my up my mind which version to use for Cornhill. The girder version is probably more practical, since it will be installed at the front of the baseboard. The A-frame version could provide a breakable obstacle when hand-uncoupling on tracks set farther back.

The great thing with this construction method is that I can swap between the two easily, and make a final decision based on practicality.

I hope this article has inspired some of you to build a turntable. What's not to like? ☑

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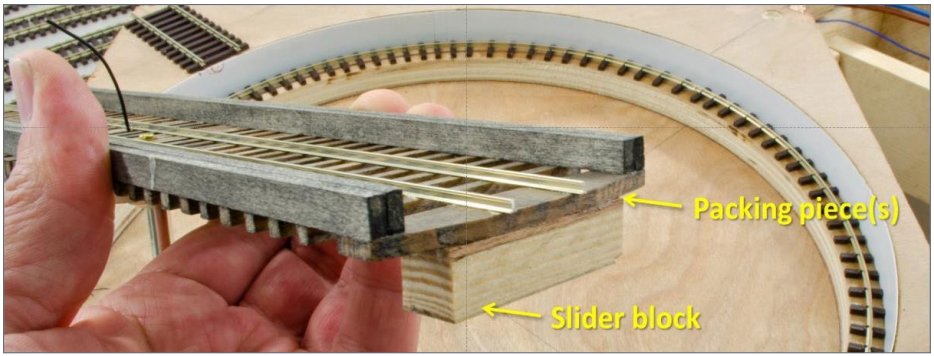
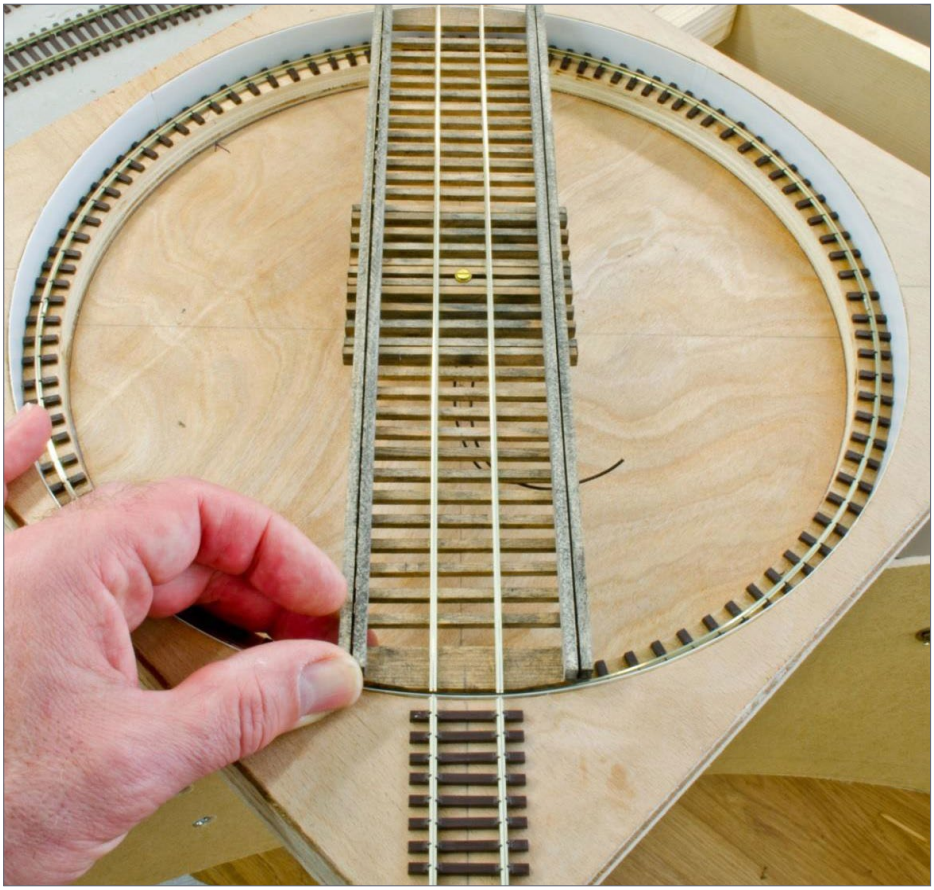
41. The center pivot will need height adjustment and final tightening. Aim for a small amount of downward pressure (from the center contact) when the deck is plugged in. The amount of slack between the socket and the pilot hole also allowed some later adjustment if the center hole wasn't drilled exactly right. Initially I trusted the guide lines I drew. Adjustments came later.

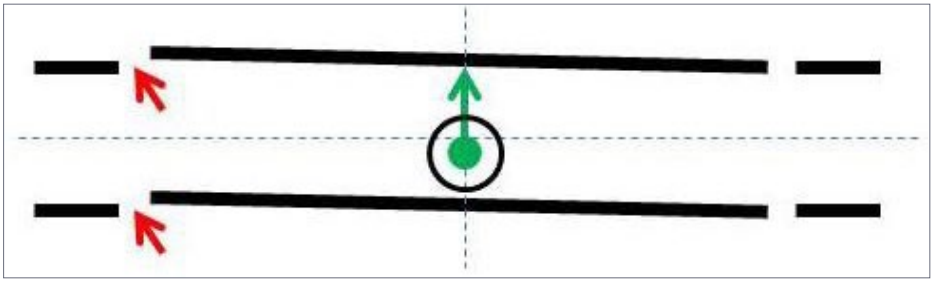


42. Here is the secret for good vertical alignment: the deck has slider blocks fitted at either end which rest firmly on the pit rail. I added packing pieces to get the correct spacing, which required careful measurement and a lot of trial and error. Again, patience paid off. A harder wood for the slider blocks is better, but not essential. Turntables are not spinning all the time, so wear is minimal. Also, the blocks can be easily replaced if they get worn.

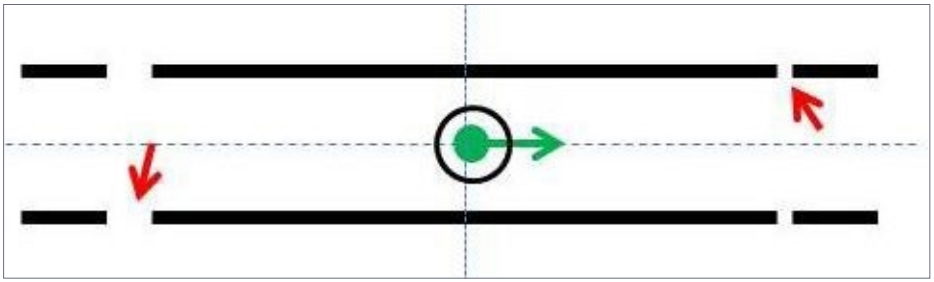


43. I temporarily glued some approach tracks to opposite corners, using the alignment guides. I placed the deck, checked straight-through alignment, then *spun through 180 degrees* to see if *one* end was correctly aligned after rotation.

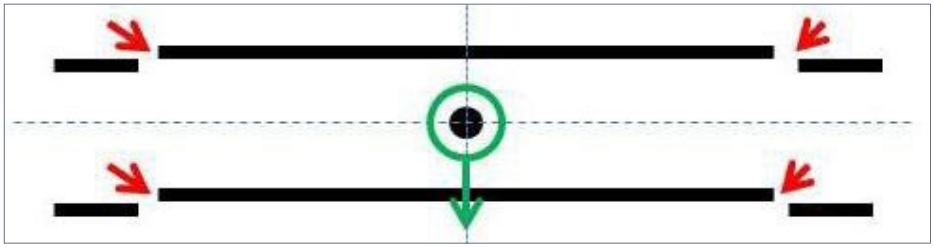
Alignment guidance: Incorrect positioning of the jack socket in the pit base or of the jack plug under the deck can result in visually similar problems. The trick to fixing alignment issues is to make one change at a time, and then check the result. This is not a precise science – a bit of patience is required, but you will get there! Here are some pointers to give you the idea.



44. If the other end of the track is misaligned, move the jack plug under the deck toward the error by loosening the fixing screw/washer on the deck.



45. If the rail gaps are uneven, move the jack plug under the deck away from the error. Try this along with adjusting the approach track rail positions (just slide the rail in or out).



46. If the tracks will not align at both ends in either rotational position, then chances are the jack socket in the pit is positioned wrong. Move it toward the direction of the error.

47. After I got it aligned, it was time to make it permanent. I drew around the plug support disk with a sharp pencil (or scribing tool), and made some vertical registration marks. Removing the securing screw and washer, I applied cement to the disk, and re-assembled, making sure the disk sat exactly in the scribed circle. I rechecked the alignment to make sure I hadn't undone my careful work, and readjusted if necessary before the cement dried. When everything was set, the securing screw and washer from from the top of the deck was removed.

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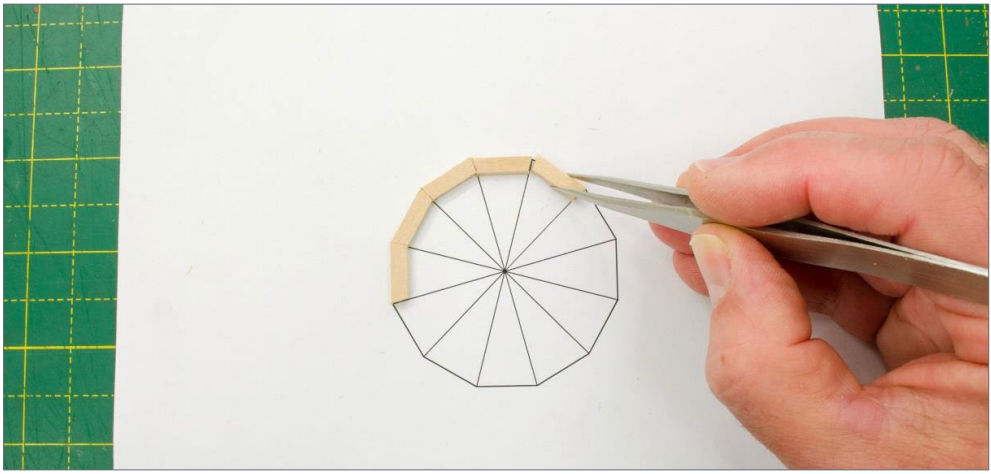
48. At this point it's a good idea to drill though the disk, and route the power feeders up to the rails. By using this model of plug, a couple of pilot holes will already be present. The wires should be soldered to the inside of the pit rails.



49. To make the center rotation rail support(s), I drew a decagon (12 sided polygon) on a piece of paper. The easiest way was to Google an image, and print at a suitable size. I could have also drawn my own (en.wikipedia.rg/wiki/Decagon). Internal angles are 36 degrees, and external angles are 144 degrees. I cut pieces of stripwood to length using the decagon template as a guide to get the correct angles on each end. I cemented it all in place, both to the paper and end-to-end.

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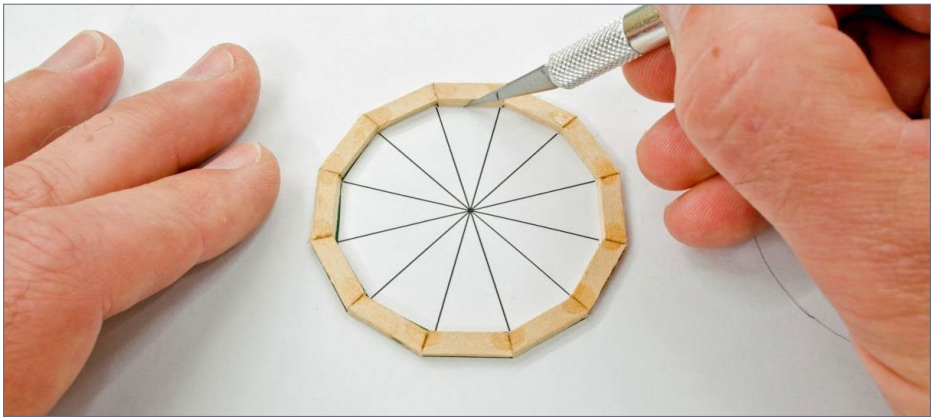
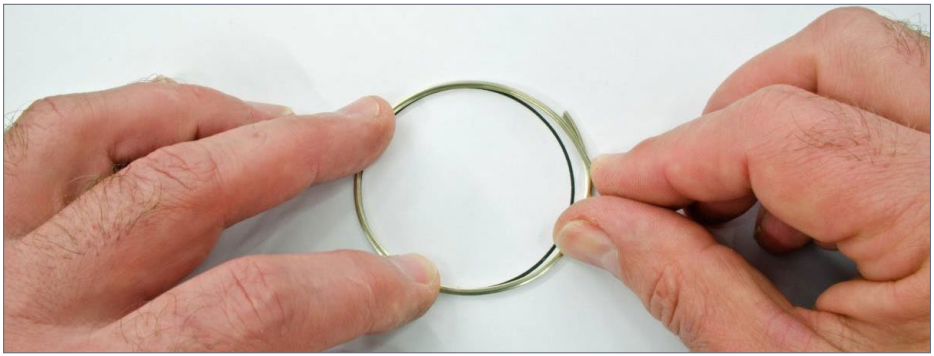
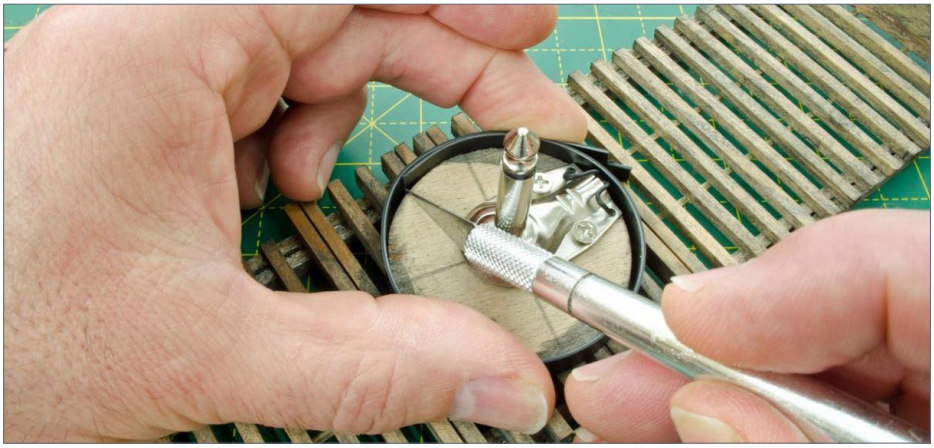


50. When dry, I cut out the support ring with a hobby knife. The paper template helped strengthen the assembly. My decagon had an outside diameter of 60mm and is made from 3/16" x 3/32" wood.



51. The center spindle rails are made in the same way as the pit rails, but to a tighter (55mm) radius. I printed a perfect circle of the correct diameter as a guide, making two of these. I used code 83 rail, but code 55 may look better. Soldering works well to connect the rail ends.



52. In the prototype a spider arrangement of axles supports the bearing wheels. Here I cheated and made a styrene sheet collar to which slices of wood dowel could be cemented. This simulates the rotational wheels. I wrapped a length of 0.020" styrene around the center disk, and marked off the joining point with the tip of a hobby knife. After cutting, I cemented a short piece of styrene on a splice-plate between the ends of the ring.

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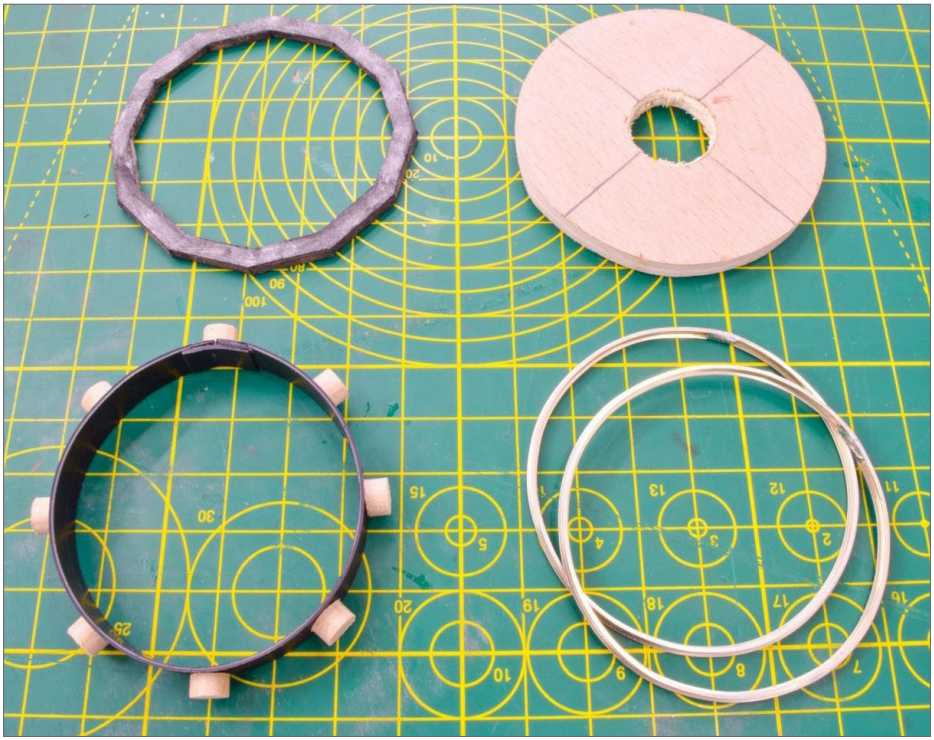
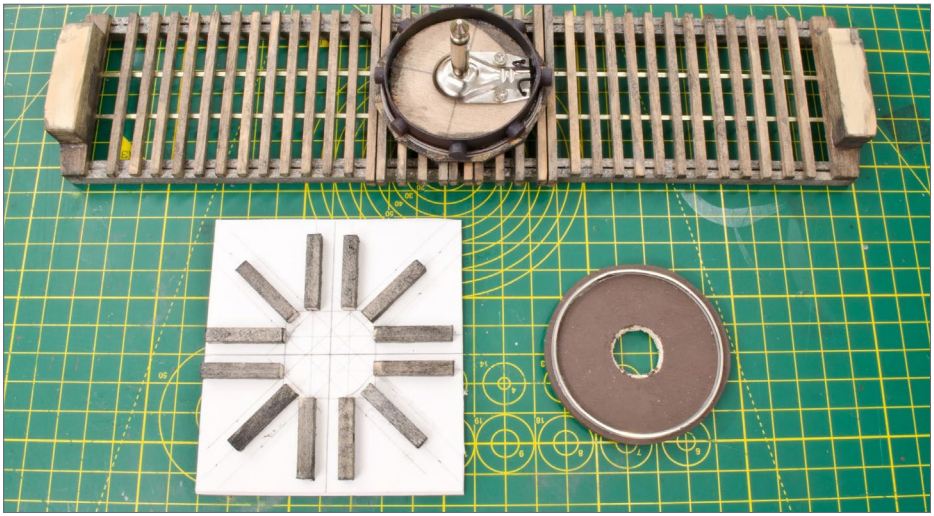


53. These are the components of the pivot assembly. Clockwise from the upper left: The upper rail ring, the lower ring (base) made from a 56mm disk of ¼" plywood, the rails, and the "spider" showing slices of 3/8" dowel, cemented to the styrene collar. If you are using a shallower pit than I did, then you can use a decagon lower-ring rail in place of the plywood-disk. After taking this photo I decided to double the number of wheels, and also apply an outer styrene strip to represent the bolt support ring. See later photographs for details.



54. The upper ring rail has been positioned over the pivot disk, and cemented to the underside of the deck. The upper rail followed by the spider, were cemented in turn. I painted the lower base disk, and cemented the lower rail to it. Finally, at the lower left, I cemented the base timbers to a cardboard template.

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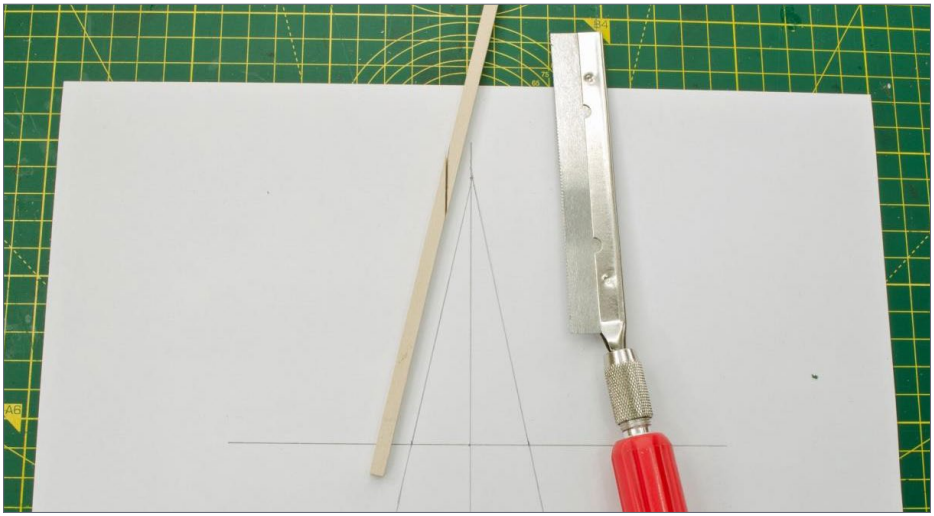
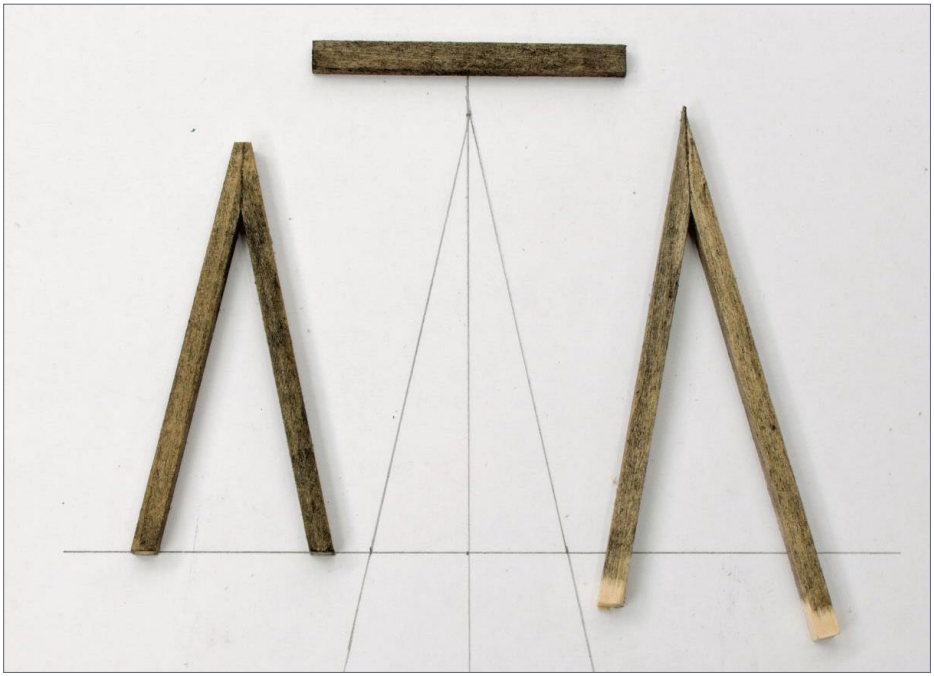


55. I assembled the A-frames on a paper template as shown. The easiest way to match up the obliquely-cut upper faces, is to lay a timber (3/16" square and just over twice the length of an upright) on the template, and cut though the vertical using a razor saw. Flip the upper piece vertically, and you will get a perfect match. Trim the bases of the uprights, and also the top intersection per the plan.



56. On the left is a completed A-frame and on the right the second A-frame in progress. I cut it oversize so the first A-frame could be used as a cutting template for the second. The cross beam can be seen at the top of the picture. Everything has been stained prior to cementing.

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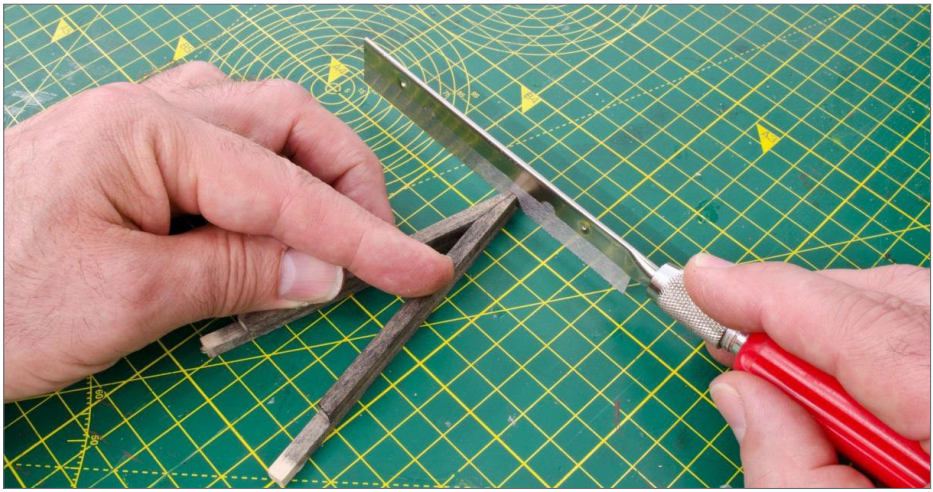
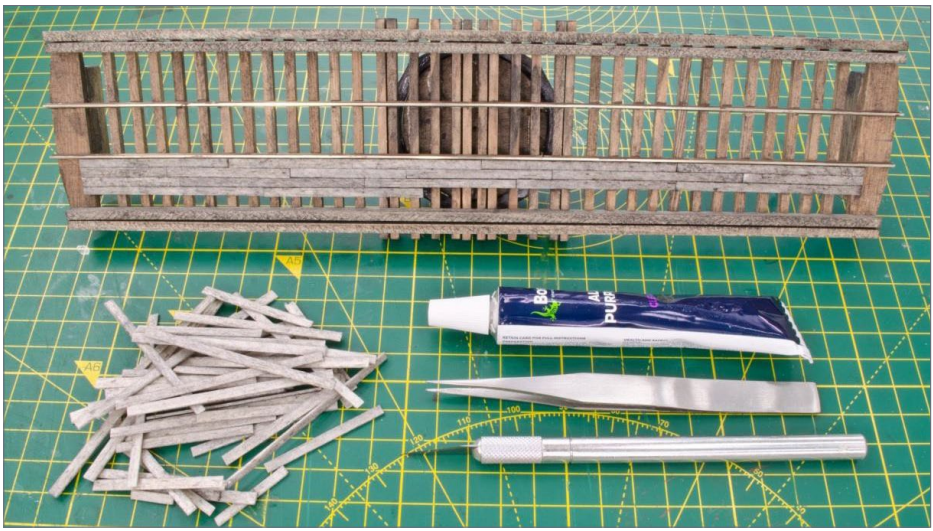
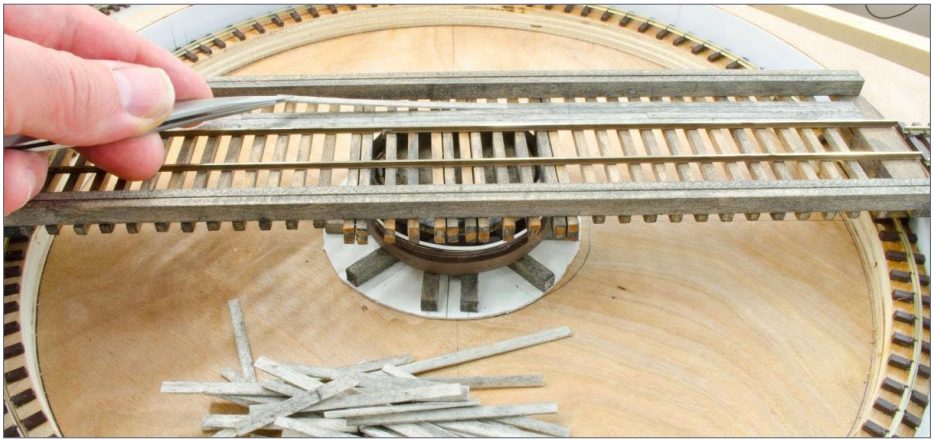


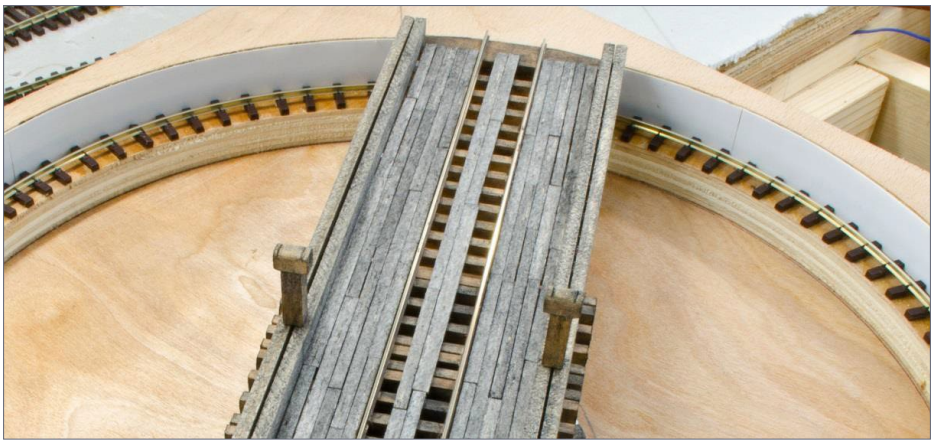
57. Using one assembly as a template for the second is a good way to keep sets square. This technique works well whenever you have identical sets, and minimizes differences.



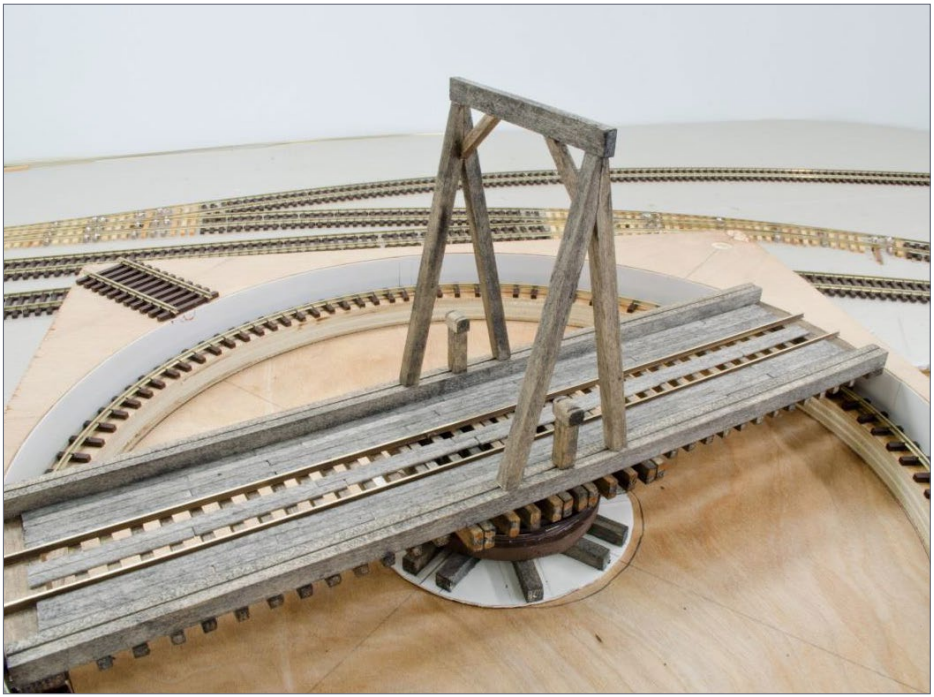
58. I made deck planking from 1/32" sheet material, cut into 1/8"-wide random lengths, which were stained with India ink and alcohol.



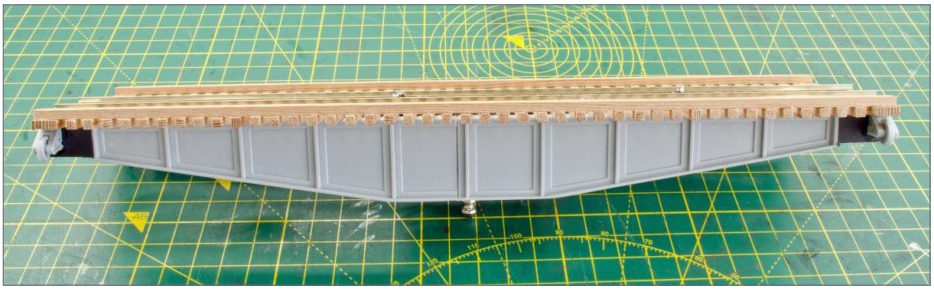
59. I cemented the planking carefully to the deck using tweezers. On my model I didn't fully plank between the rails to make it more interesting.



60. I made the lower suspension posts from 3/16"-square timber. I rounded the small cross pieces using an emery board. I cut the cable guide slots with a razor saw.



61. Here I have cemented the A-frames in place along with the cross-piece and some 45-degree bracers. Note that the cardboard base for the center support battens has been rounded-off to prepare for the addition of a sloped pit base. At this point the turntable is functional turntable (minus the detailing).



62a, 62b. This is an alternative deck option. I constructed the top section using the techniques shown earlier, but added simple wood guard rails connecting the ties. There are no special pivot ties in the center. The jack-plug support disc needs trimming to sit between the girders. To save time, I used a commercial kit to provide the deck girders and dummy guide wheels. These could be fabricated from sheet styrene relatively easily. For those interested, the kit is available from Dapol, a Welsh company that ships worldwide.

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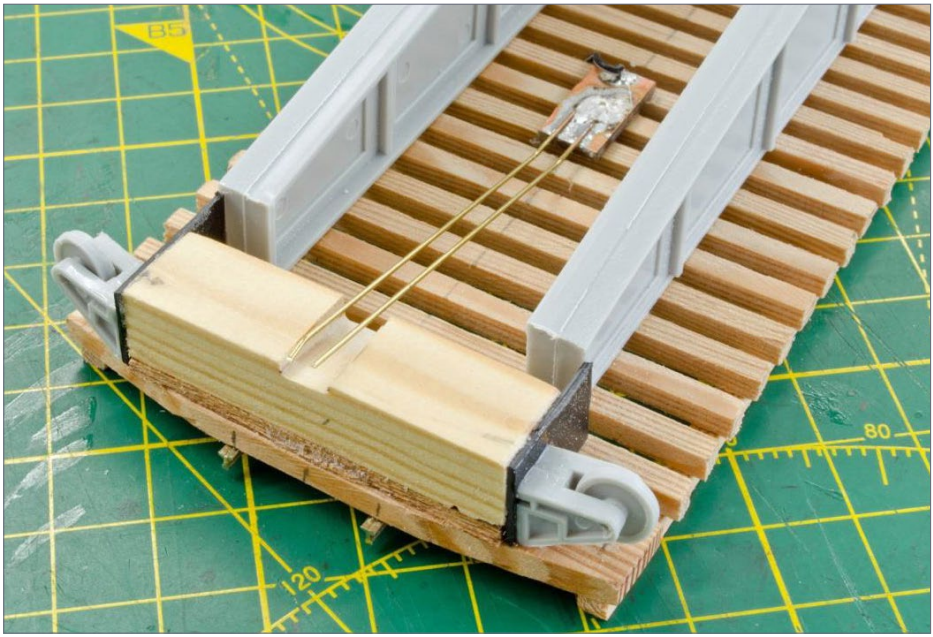
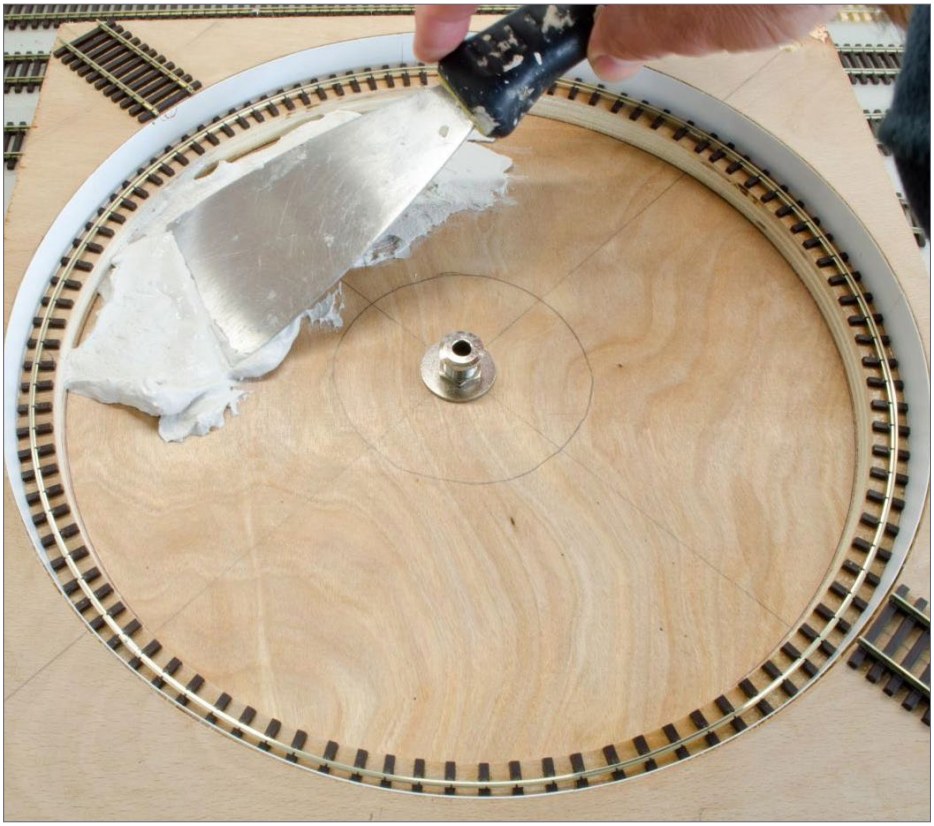


SPLIT RING RAIL

Find more about split ring rail wiring in this issue's subscriber downloads. However with sound locos, split ring can cause the sound to cut out, so an autoreverser module is better.

63. This view demonstrates the split-rail power-pickup method. Two wires (actually a single wire bent 180 degrees) provide improved conductivity. If you zoom in, you will see that I bent one end to sit on top of the ring rail, and the other sits on the top edge of the rail. A slot is required in the slider block to house the pickups. I soldered the wire to a piece of copper-clad board, then cemented it to the underside of the ties. Making the wires 2" long provides a gentle but definite downward pressure. You want just enough to make contact, but not enough to start lifting the slider block off the ring rail. Two pickups are required, each connected to the relevant pit rail.



64. I applied a bed of filler to the pit with an inward slope. The edge should be approximately 1/8" below the pit rail ties, and should taper toward the center. I drew a pencil line around the center base timber support to indicate where the filler should stop. If you want a flat-bottom pit, then you can ignore this and the following steps.

65. To smooth out the filler, used a piece of sheet wood, cut with a notch for the rail.

66. Level off using a small spatula, making an even slope all around the pit. It's easier to do than you might think.

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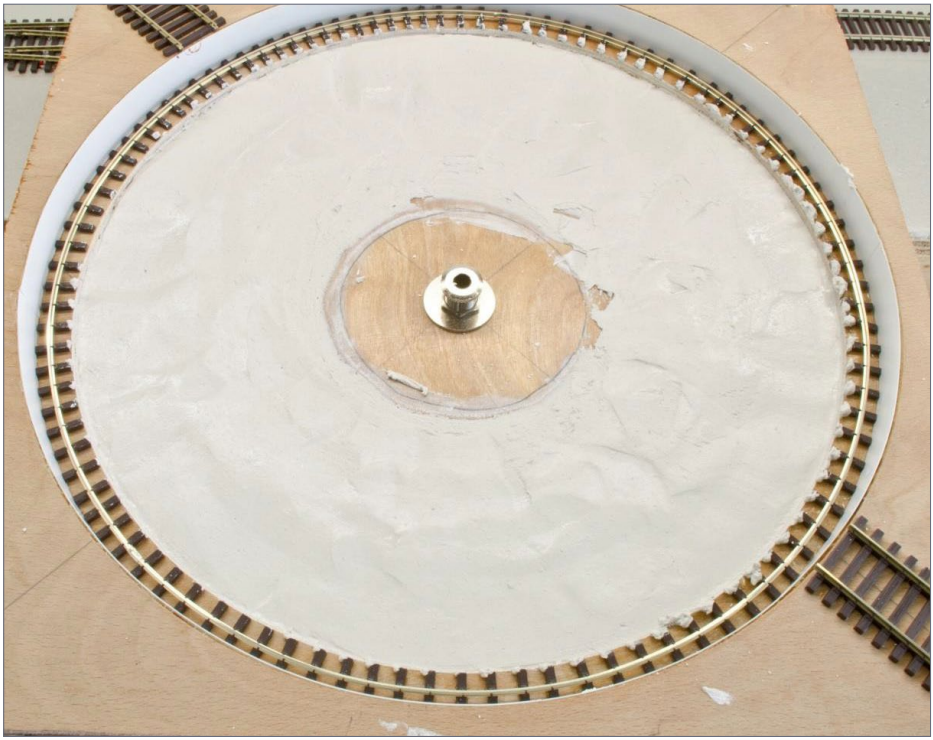
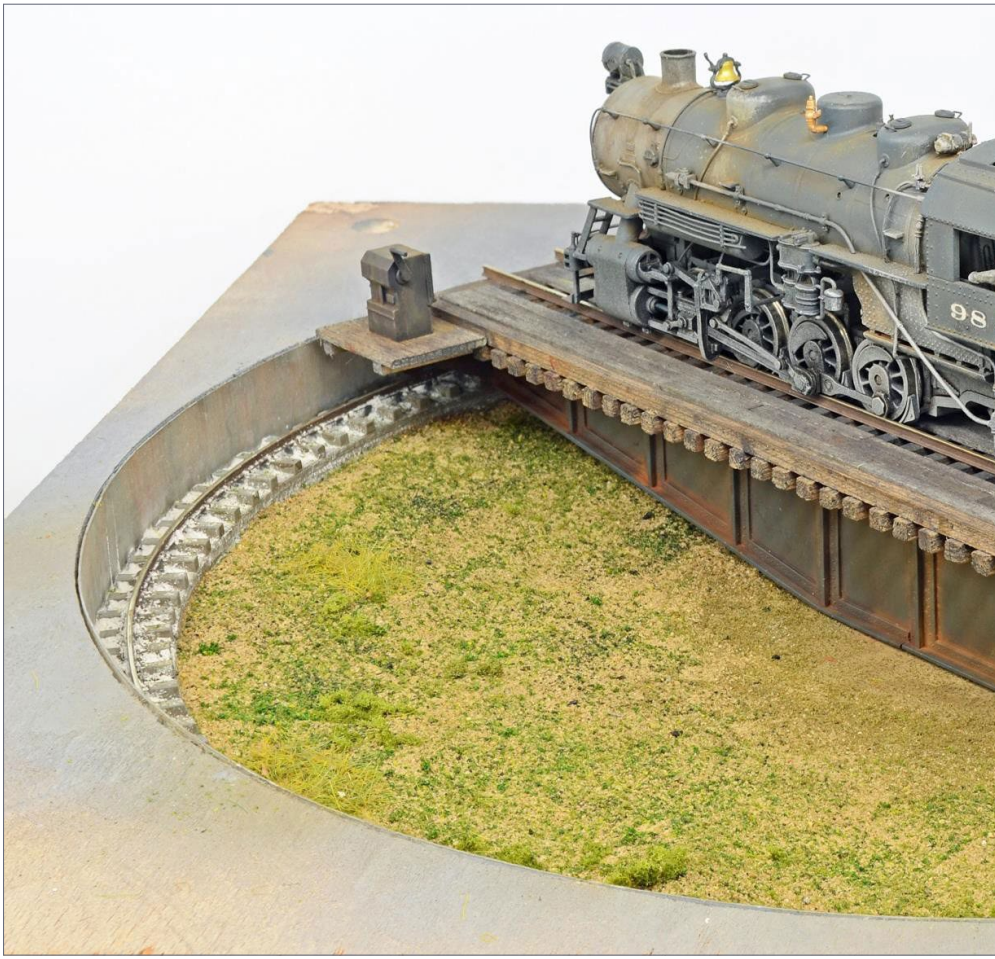


67. Finally, polish the surface with a wet spatula to get a smooth finish. You will need to take more time and care with this than I did if you want to represent finished concrete!



68. Option 1 – Girder deck.

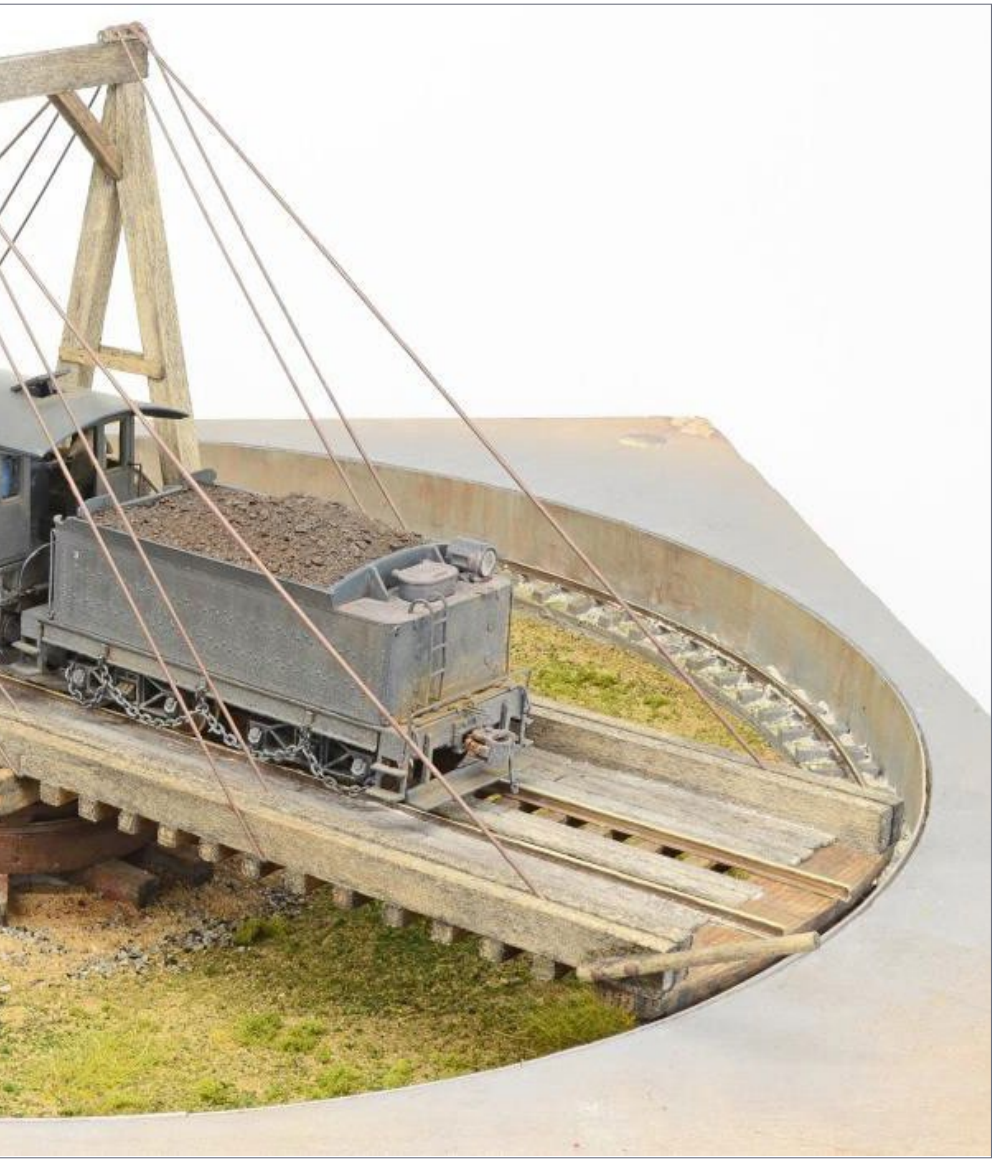
Everything has been assembled, and a capstan unit added on one end of the deck which has the toggle direction-indicator (if you are not using a split-rail system). I have done some basic painting, weathering and scenic work. Since this is an article primarily about the mechanics of the turntable, I am not going into any detail about scenery.

Note the absence of approach tracks in this picture. After the turntable module was installed, I added the approach tracks,

and finally linked-up to connecting trackwork. I made sure previously that the alignment would be correct, so I added safety railings to the capstan platform after final installation to avoid damage.

69. Option 2 – A-frame deck.

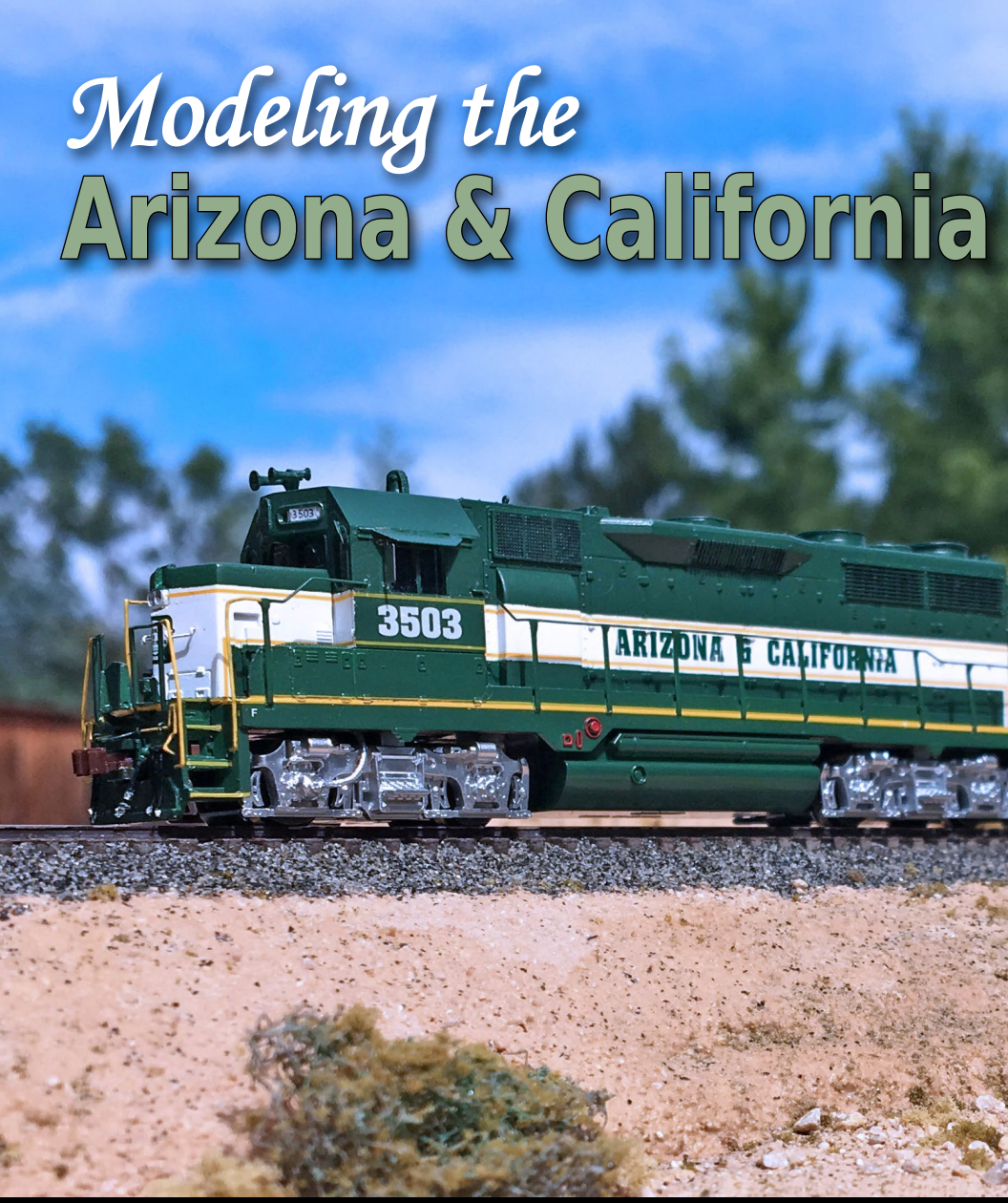
Like the girder-frame version, I added some detailing. I made support-wheels from scrap wood and styrene, and made deck suspension wires and push poles from cocktail sticks.



I pinned-on the push poles, rather than gluing them only, to make them strong enough for an operator to push the deck around.

MRH Marketplace

Modeling the Arizona & California



How* Doug Midkiff *imagineered a prototype into a proto-freelanced moderate sized N scale layout …

• INDEX • TABLE OF CONTENTS

1. A pair of Arizona & California GP35s pull a local freight down to Blythe, CA through the California desert. Doug Midkiff super-detailed and painted N scale Atlas/Kato GP35s to match the ex-SP prototype locos. He also detailed the trailing Micro-Train freight cars, lowering them slightly on their trucks and weathering them.

The Arizona & California Railroad is a short line with a brief but fascinating history. While the operations on the real railroad may lack somewhat, a fun operating model railroad can be designed with just a bit of proto-freelancing of this prototype.

If I kept strictly to the prototype, a layout in my moderate space could keep two to four people plenty busy and would follow what I see as a trend to smaller layouts with more prototypical operating standards.

My concept takes the old "lots of trains basement empire" concept and blends it with the smaller, more realistic new trend to get a more prototype-based design, while adding a

few freelanced enhancements to greatly improve operational possibilities.

My resulting layout plan should keep six to eight operators busy for an operating session and provide plenty of switching opportunities, plus ample run-through railfanning of trains.

I've been to some operating weekends and I've noticed that operating preferences vary greatly with different people. I believe my layout design here will give folks of all skill levels and interest something fun to run and enjoy.

The layout is not a huge basement filler, but it's large enough to be a significant undertaking.

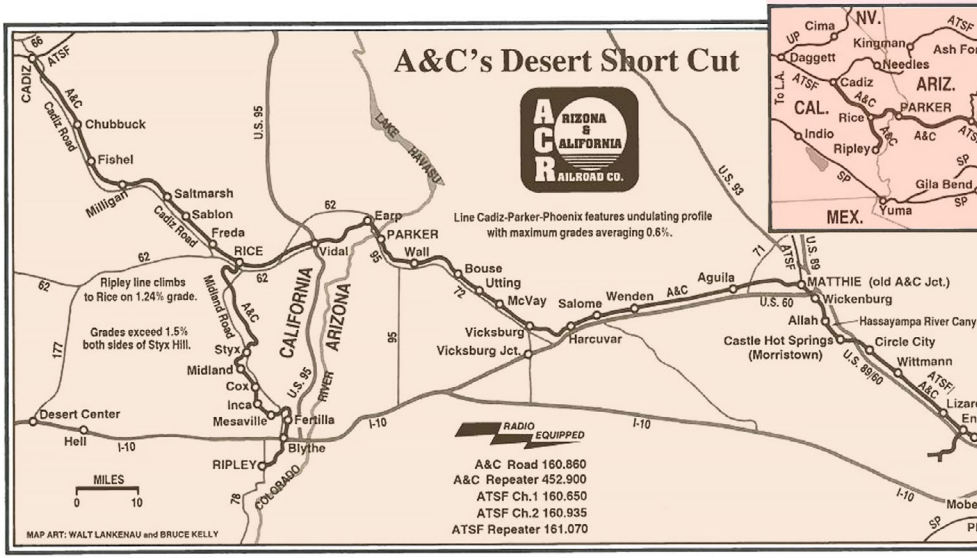
The prototype

The Arizona & California Railroad (ARZC) is a Class III short line that is currently owned by Genesee and Wyoming Inc., previously by RailAmerica. The railroad was incorporated as a private enterprise by David Parkinson, Bill Frederick, and ParkSierra Railgroup in 1991.

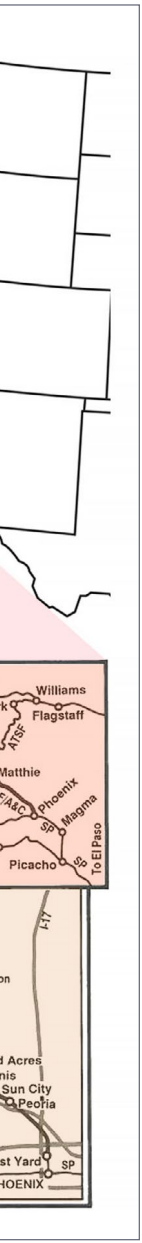
In the early 1990s, the AT&SF began evaluating lines to streamline its divisions between Chicago and Los Angeles. The three subdivisions that currently belong to the ARZC, the Cadiz, Parker, and Ripley subdivisions, were put up for sale by the AT&SF.

The core of the line [2] consists of 190 miles between Cadiz, CA and Matthie, AZ located on the Cadiz and Parker subdivisions [3]. This part of the railroad runs as a bridge route for the BNSF, previously AT&SF, and also serves a few online customers. Over the history of the railroad, traffic on the line has included intermodal, perishables, petroleum, lumber, chemicals, and contaminated soils.

Arizona & California Railroad



2. Map of the Arizona & California Railroad. *Copyright Railfan & Railroad, courtesy White River Productions*



A branch ran 50 miles south from Rice, CA to Ripley, CA on the Ripley subdivision. The branch line to Ripley provided the majority of online customers before traffic declined and all but four miles of this subdivision was abandoned.

The ARZC interchanges with the BNSF at Cadiz and at Castle Hot Springs, AZ; Castle Hot Springs is located roughly 15 miles south of Matthie on the BNSF Peavine Route. Two daily turns run between Cadiz and Castle Hot Springs, both originating and terminating at Parker where the railroad is headquartered.

The turns run as a single train called eastbound out of Parker with cars headed for Phoenix, however, interchange is performed at Castle Hot Springs with the BNSF Phoenix Local. After interchange, the turn returns westbound to Parker.

Upon arrival at Parker, any necessary work is completed on the inbound train including power swaps and maintenance. Once the turn is reassembled, it heads westbound for Cadiz and interchange for cars headed to the west coast [4].

The final leg of the journey sees the train return to Parker from Cadiz, completing the day's two runs. The Cadiz Turn, both westbound and eastbound, performs work at Rice during the run. Cars destined for the Ripley branch are set out at Rice for the Blythe local to pick up. Additional train sorting is also done at Rice to help switching duties upon arriving at Parker.

The Blythe Local ran three times a week during the early years of the ARZC until traffic declined. Locomotives

would be stationed in Blythe for the local and run to Rice to pickup cars set out by the Cadiz Turn.

Prototype industries

There are very few online customers between Cadiz and Matthie, and they are concentrated at Parker, where you'll currently find a team track and a chemical distributor. Previous industries also included a rebar former and a beer distributor.

The team track hosts numerous types of railcars and loads, including carbon black, waste oil, grain, and contaminated soil [5]. The chemical distributor, Matlack, which became Superior Bulk, is

3. This prototype scene of the westbound Matthie Turn illustrates the look I'm after with this layout. This is Harcuvar Hill, one of the more scenic portions of the railroad. While I don't have this exact location on my track plan, it does show the kind of dry western scenery that will make up much of my layout. *KL Smith*

4. Cars await sorting in Parker Yard to be built into the Matthie and Cadiz Turns. *KL Smith*

still in operation. Superior Bulk utilizes two tracks of a wye and an additional spur that has been added in recent years [6].

Dayton Superior was the rebar former and traffic was sporadic. They would receive steel wire coils that would be converted to rebar.

Outside of Parker, on the east side of the subdivision, customers still see periodic traffic; a petroleum distributor, Knight Industries, and a contaminated soil reclaimer, Sonas Corporation. Sonas has gone out of business and a new recycler, Ecology Corporation, has moved into the site.

On the west side of Parker, Rice is the only location where any switching occurs. After the abandonment of the Blythe Branch, anhydrous ammonia was transloaded on a siding for truck transfer down to Blythe [7].

5. A lone grain car awaits transloading on the team track at Parker Yard. *KL Smith*

6. Tank cars full of chemicals are unloaded at Superior Bulk (previously Matlack). *KL Smith*

It's hard to pinpoint the exact number of online customers that existed on the Blythe Branch as they changed over time, but I know of at least seven that were active in 1998. Those industries include:

- 5 Star Pallet – Received wood in boxcars to assemble pallets.
- Helena Chemical – Received tank cars of anhydrous ammonia and liquid fertilizer. The ammonia operation was moved to Rice for transloading after the branch was abandoned.
- RDO Equipment – Received shipments of John Deere equipment on flatcars.
- Tohshin Trading – Shipped containers of packed alfalfa pellets for feed in Asia.
- Dune Company – Received tank cars of anhydrous ammonia and fertilizer, same as Helena Chemical.
- Deseret Grain – Received feed grain in covered hoppers.
- Arizona Grain – Shipped feed and grain in covered hoppers. This facility was located at the end of the line in Ripley.

7. Tank cars of anhydrous ammonia sit in Rice at the wye switch leading to the Blythe Branch. *KL Smith*

Prototype motive power

The ARZC roster is exclusively rebuilt EMD units. When the railroad was incorporated in 1991, the roster included five GP20s, four GP38ACs and two MP15DCs. The GP20s and GP38ACs were painted into the familiar green and white scheme, while the MP15DC's were left in Conrail blue and re-lettered.

The GP20 units are ex-UP and were rebuilt with deturbocharged EMD 645 prime movers. Three of the four GP38ACs are ex-B&O GP40s that were rebuilt and deturbocharged. The final GP38AC has a long lineage that started with the Illinois Central, moving through MKT and UP before being acquired by the ARZC.

In 1995 and 1996, the railroad acquired five GP30Ms and three GP35s. The GP30Ms all have lineage back to C&O/B&O. The

8. ARZC 4003, a rebuilt SCL SD45-2 rebuilt to an SD40M, crosses a dry wash at MP 137 near Rice. *KL Smith*

GP35s come from two different lineages; two of the locos are former PRR units while the third was built for the SP. All of these units were rebuilt with no modifications.

In 2001, the railroad acquired 4 SD40Ms. Two of these units were rebuilt from SCL SD45-2s and the other two were rebuilt from SP SD45s. All four of these units were rebuilt to upgrade the electronics to EMD Dash 2 standards [8].

With the selling of the railroad to RailAmerica, and later Genesee and Wyoming, various other leased locomotives, and units from the larger shortline systems, showed up on the ARZC from time to time. These locomotives included SD40-2s, GP40s and GP60s.

The most recent acquisitions during the G&W era include a GP40-3 from FEC and 2 SD40-2s from the UP [9]. All three of these units have been repainted into the orange, black, and yellow that is familiar across the G&W system.

Designing the layout

Since we model railroaders don't have the space of the prototype, we need to apply considerations and compression when designing a layout. The space I have available for a layout is roughly 8×20 feet with a 4x4 foot alcove in one corner [11].

I have designed it as a shelf layout with a peninsula that occupies two decks. I used two decks to gain ample staging but keep the majority of the operations on the upper level. With two decks comes at least one helix. My plan has two [12, 13].

I would have preferred a single helix and a peninsula with a nolix, but the 8-foot wide space is just too narrow to allow that. I adopted an 18-inch minimum radius on the main line and 16 inches on the branch line.

Curves at this radius give a nice visual appearance for N scale rolling stock.

I made my siding lengths a minimum of 96 inches long, which provides room for a train with two or three locomotives and 18 to 20 cars of mixed lengths [14].

As for what locomotives can be had in N scale, all of the prototype locomotives can be modeled in N scale.

LifeLike produced GP20s years ago and they can still be found on the used market. Atlas currently produces the MP15DC, GP30, GP35, GP38, and GP40.

Kato produces the SD45 models that represent the SD40Ms. Intermountain produces SD45-2s and they even offered the models in Arizona and California paint.

9. ARZC 3112, a former FEC GP40, sits in Parker Yard after receiving a new paint job. *KL Smith*

Other than the Intermountain units, all models need to be custom painted and, depending on the prototype accuracy required by the modeler, need additional details.

Not only do I plan include the GP20, GP30M, GP35, MP15DC, and the two SD40M (SD45) locos of the prototype, I also plan some locos the prototype did not have [15a, 15b, 15c].

I love GP40-2s and SD38s, so I plan to build models of these as well. I feel they will fit right into the ARZC roster of rebuilt EMD units. As modelers, we can also decide to have some locos the prototype did not have, but could have had.

My track plan is proto-freelanced, based on real locations and industries with some extra operations built in. I feature

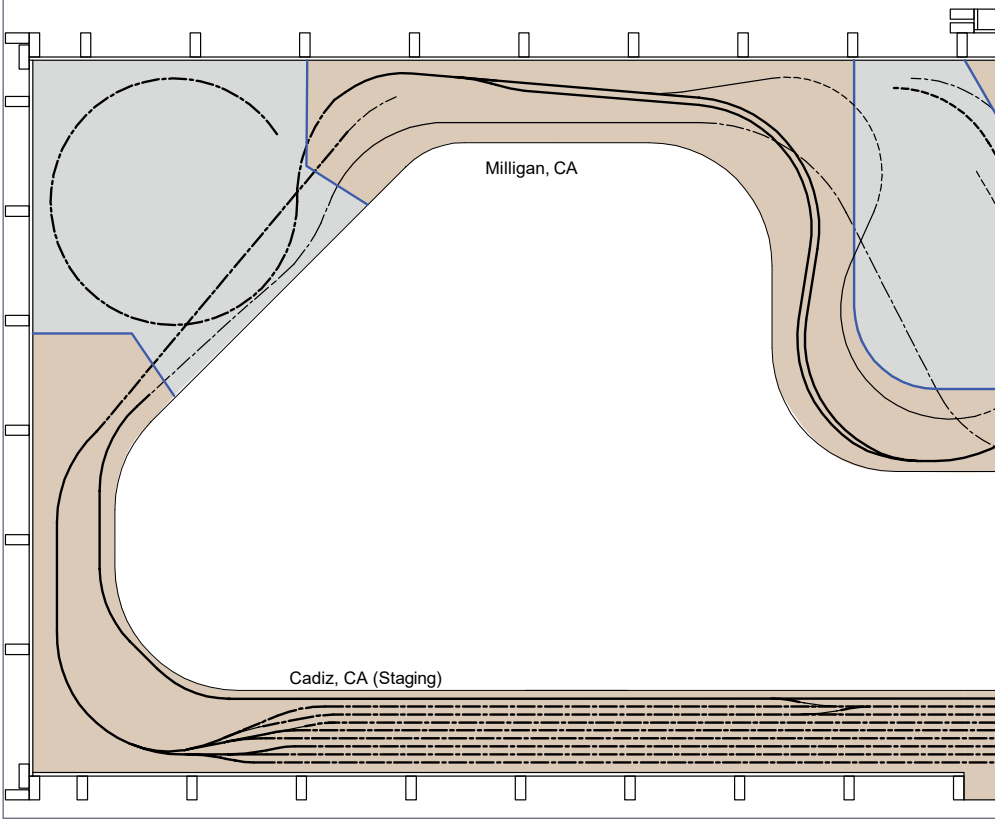
11. My layout room, looking from the 8×20 area towards the 4x4 alcove at top left.

Lower Level

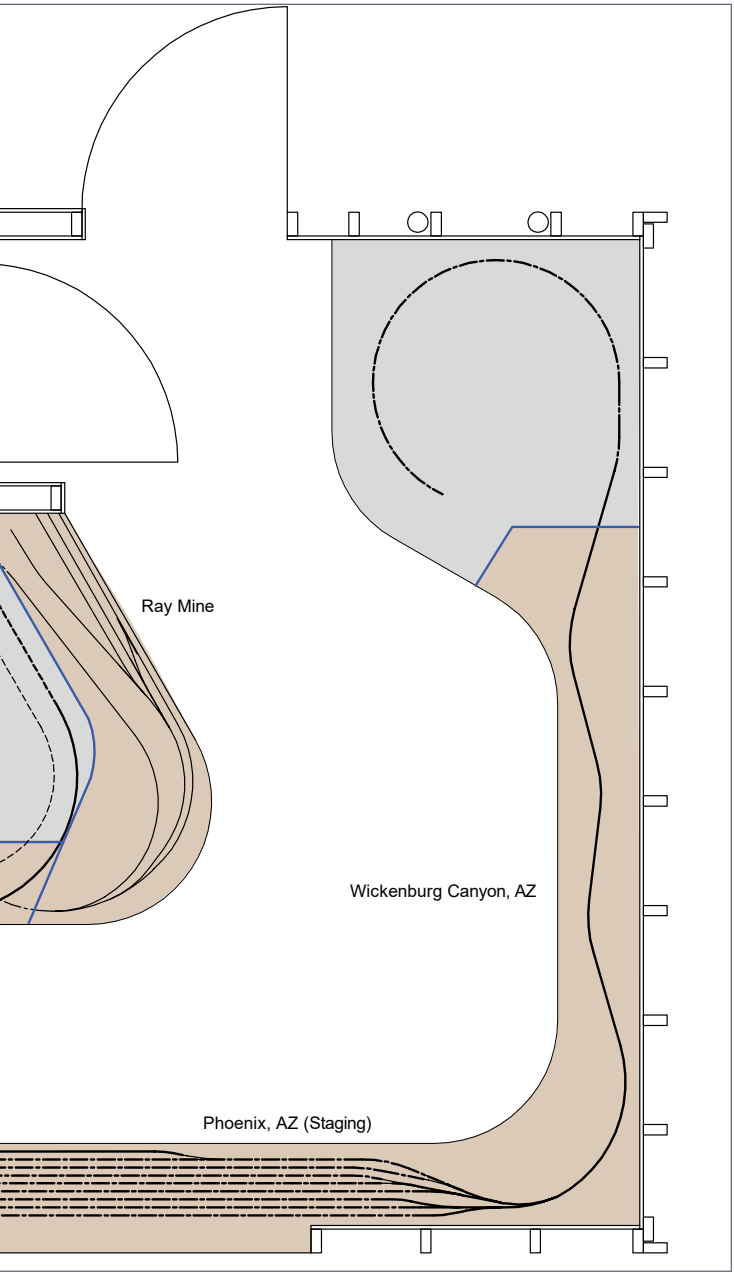
click here

There's more!

Check out the Subscriber bonus extras



10a. The Arizona & California lower level track plan.


Ray Mine
Wickenburg Canyon, AZ
Phoenix, AZ (Staging)

Upper Level

click here

There's more!

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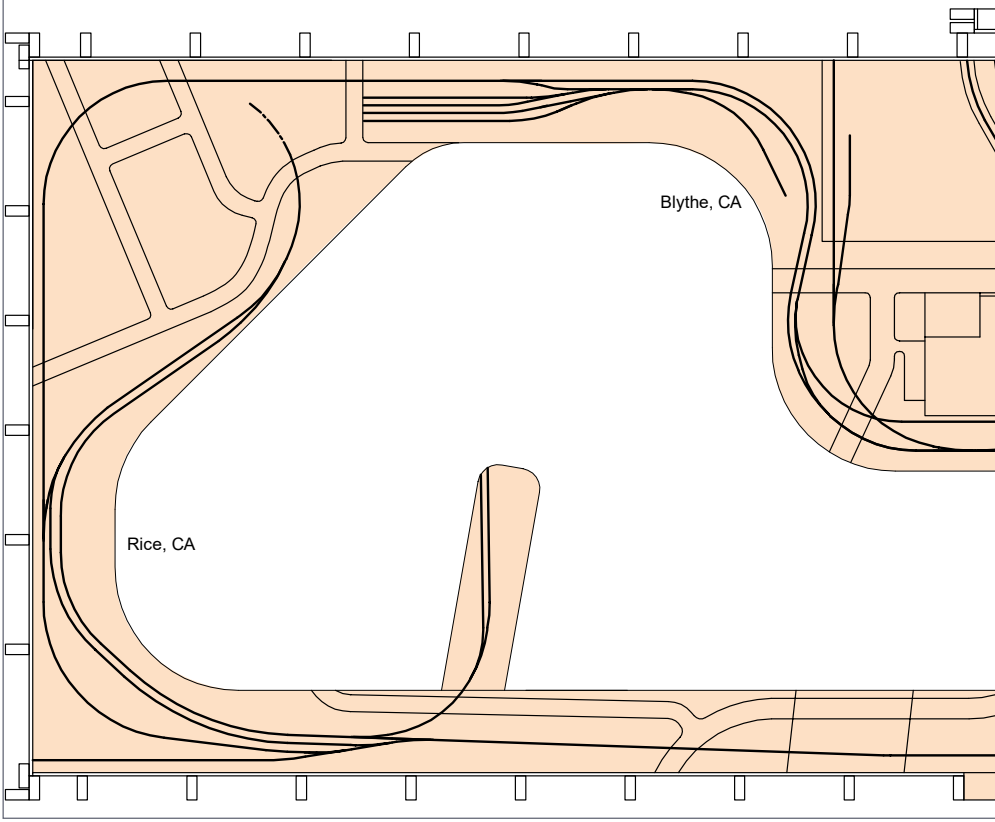
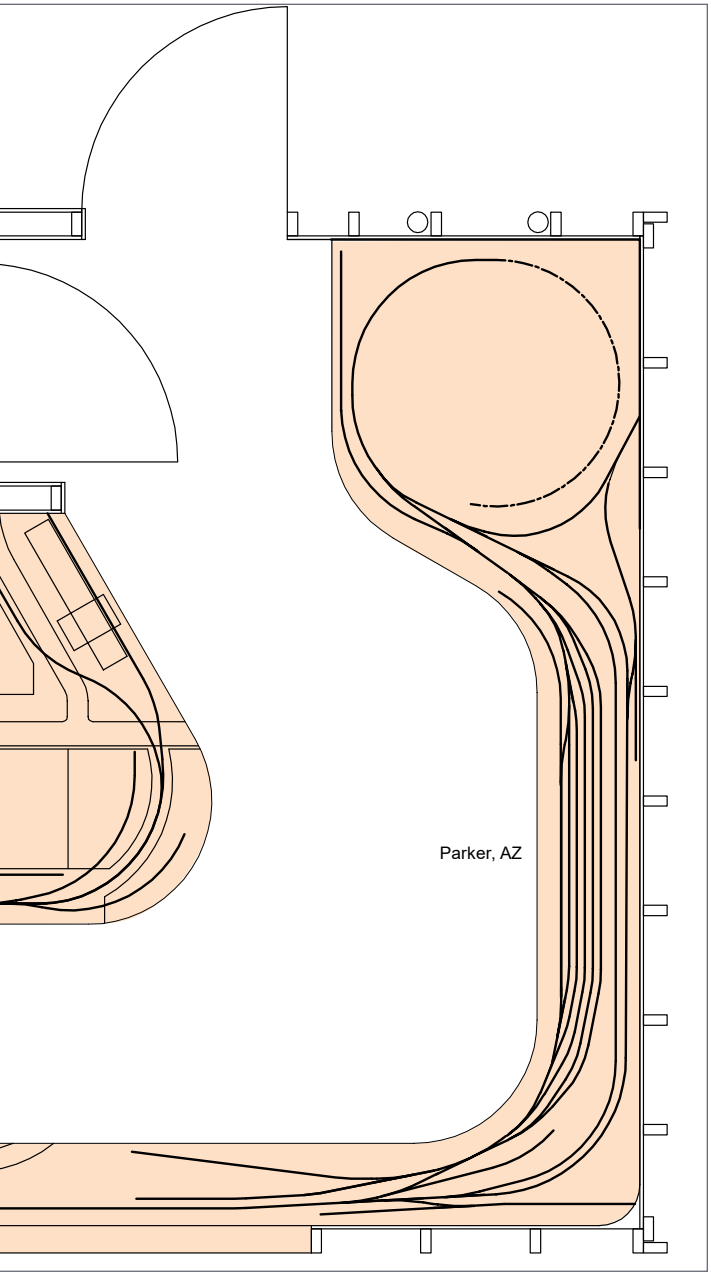


10b. The Arizona & California upper level track plan.


Parker, AZ

12. The helix in the alcove entering Parker Yard, to the right. Radius is 18" with a climb of 2-3/8" per loop.

13. The other helix is between Rice and Milligan, in the opposite corner of the room, also an 18" radius and a 2-3/8" climb per loop.

a run-through staging yard for continuous running during open houses, but plan to operate the layout as a point to point between the two ends of the staging yard.

The line starts in Phoenix and moves north through Wickenburg Canyon and on to Matthie where the ARZC mainline starts. I elected to have the model start and interchange in Phoenix

Nolix?

A "nolix" is a layout shelf that constantly climbs a grade around the room, allowing a second deck over the first after traversing the room. In other words, a multi-deck "non-traditional helix" lay-out, or a "nolix" for short.

14. A 20-car mixed freight led by California Northern GP30 3009 sits on the siding at Rice.

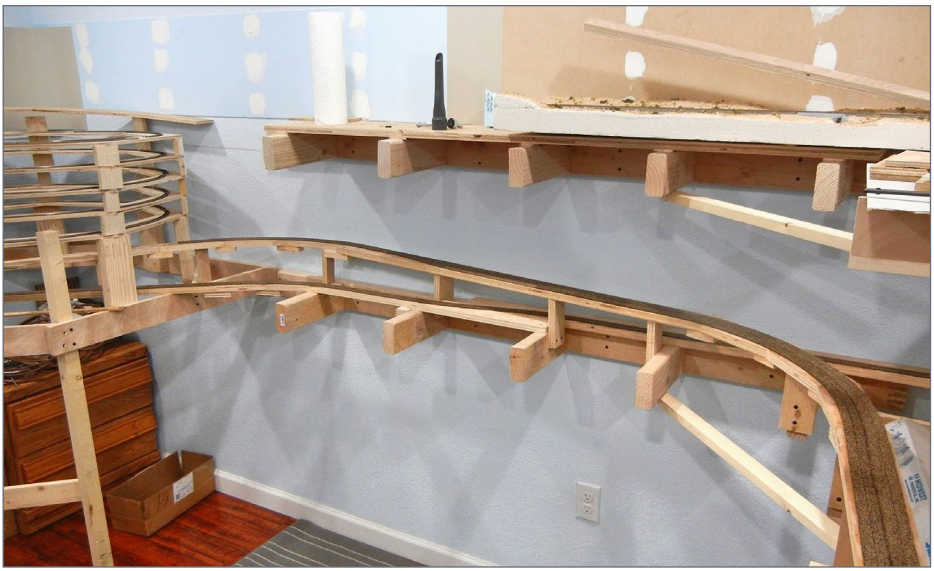
rather than Castle Hot Springs due to the large prototype yard at Phoenix. After Matthie, the layout climbs the first helix, heading west, to Parker where the railroad is headquartered.

I am setting the layout in 1995 and feature a number of customers in Parker and Rice, however nothing on the east side of Parker. In Parker proper, I have the wye for Matlack and the team track.

Additional customers include a grain elevator and an abandoned ice rack, both of which occupy the same track. I will be modeling the ice rack into the backdrop and as a switchback for the grain elevator.

A decent-sized yard and a few industries occupy Parker. Continuing west from Parker, we cross the Colorado River and head towards Rice, now moving through California.

The branch line to Blythe starts at Rice and there are a couple of industries there as well.



16. On this second helix, the main descends from Rice to Milligan, CA.

15a, 15b, 15c. N scale Atlas/Kato GP35s super-detailed to represent prototype GP35 3503, a former SP unit, and 3504.

In Rice, I have a spot for transloading the anhydrous ammonia and a trash transfer facility.

After heading through Rice, the mainline descends the second helix and comes out at Milligan, CA [16]. The mainline then runs from Milligan to Cadiz to complete the layout.

Additional trackage includes the Blythe Branch and a fictional branch for the Copper Basin Railway.

17. Locomotives are at the ready for the westbound Cadiz Turn. *KL Smith*

The Blythe Branch splits from the mainline at Rice, curves above the helix and runs onto the peninsula. On the model, Blythe features a small yard and seven industries.

The Copper Basin Railway is a real railroad that runs from Magma, AZ to Hayden, AZ and interchanges with the UPRR. On my layout, the CBRY is represented from Ray Mine at Hayden and runs into Phoenix to interchange with the ARZC.

The ore shipments were actual traffic on the ARZC, however, my CBRY/ARZC interchange is entirely fictional.

Lastly, at Milligan on the lower level, a totally fictional short line railroad comes into the layout. I call this shortline the Secant Railway or SEC.

I am assuming the Secant Railway is owned by a cement producer that operates a kiln in the middle of the desert. I plan to have trains of cement interchanged between the ARZC and the SEC.

Operating the layout

Train operations planned on the layout mimic the prototype operations.

A session would start with the eastbound Matthie Turn departing from Parker. The mixed train first descends the helix and then traverses Wickenburg Canyon to Phoenix.

In the Phoenix staging yard, the locomotives would cut off from the train, run around and couple onto a new train, then return to Parker westbound. Upon arriving back at Parker, a yard crew would sort the incoming train, pulling cars for Parker, Blythe and remaining westbound cars to be interchanged at Cadiz.

After the Turn is rebuilt, it leaves Parker with a new crew but this time as the westbound Cadiz Turn [17]. The Cadiz Turn first stops at Rice to drop cars for Blythe and pick up cars destined to Cadiz and westward. The Turn then continues along the mainline to Cadiz staging.

At Cadiz, the crew performs the same shuffle that was done in Phoenix, dropping the train, running around, and pulling new cars back onto the layout [18]. During the return to Parker, the Turn will stop once again in Rice to set out and pull cars, this time for Blythe and Parker.

The Copper Basin Railway interchange is fairly straightforward. A singe loaded ore train per session would pull from Ray Mine to Phoenix where it would meet an empty ore train from the ARZC.

The two would swap trains, the CBRY returning to Ray Mine and the ARZC running over the entire layout to Cadiz.

Additional locals with supplies for the mine, especially hydrochloric acid, could be run from Parker to Phoenix and onto Ray Mine.

All of the industries on the prototype present quality modeling potential.

My version of the Blythe Branch ends in Blythe rather than continuing down to Ripley due to space. I'm able to fit seven customers on the branch with a small yard for sorting before spotting cars.

Seeing as I have provided a team track at Rice, the two chemical customers, Helena and Dune, will be represented there for tank car transloading.

The track plan represents Tohshin Trading with a track in the small yard dedicated to loading well cars. I am modeling the industry of 5 Star Pallet as a large warehouse with doors for unloading boxcars. Pallets are shipped either by railcar or truck.

I have combined Deseret Grain and Arizona Grain into one facility at the end of the modeled branch. The facility will have the capability to load and unload covered hoppers, reefers, and box cars.

I have also included RDO Equipment on the branch as a small trans-load facility with a freight house.

18. The BNSF Cadiz Local waits for the ARZC Cadiz Turn to exchange cars at Cadiz. *KL Smith*

19. A lone BNSF locomotive pulls a special transformer train through the dessert. *KL Smith*

The three additional customers include Bol Concrete, Searls Building Supply and Grothe Scrap and Steel. These industries are named for modeling friends of mine.

I am a structural engineer by trade, so Bol Concrete was an industry I wanted to model, and in a way I have never seen modeled before. The industry receives covered hoppers of cement but also ships precast concrete components.

Searls Building Supply receives flatcars of lumber for the building industry. Grothe Scrap and Steel ships cars of scrap.

The goal of the Blythe Branch is to provide an independent switching job during operations and to give me a place to switch and operate on my own without holding a full session.

The large peninsula also gives me the opportunity to exhibit large industries and build an expansive scenicked area.

The Blythe Local is also worked during a session. At the beginning of the session, the crew starts in Blythe and pulls any cars from the previous session. About midway through the session, and hopefully after the Cadiz Turn has been through Rice, the Local runs to Rice to set out and pick up cars, then returns to Blythe to finish the day's work.

20. An ARZC ballast train moves through Harcuvar Hill. The five ballast hoppers in tow are rebuilt ATSF PS2 hoppers with open tops and ballast unloading doors. *KL Smith*

Added attractions

Additional run-through trains called as extras can serve to keep a session lively. The prototype often ran extras for the AT&SF and BNSF. These extras included a unit cement train, and dedicated UPS piggyback service as well as intermodal and auto rack reposition trains.

The railroad would also host special movements of generators on depressed center flat cars and plenty of MOW work [19, 20]. All of these extras can be modeled fairly easily.

There is one train that I have added for operations that was not prototypical: the Rice Local. On the prototype, the only industry or customer at Rice was the anhydrous ammonia trans-load, the switching of which was conducted by the Cadiz Turn.

On the model, I have two industries at Rice and have elected to run a dedicated local from Parker to Rice for this work.

Progress so far

I started this layout four years ago when we moved into our current house, and my life has changed dramatically in those four years with the birth of our first child and many other "life" things that cut into hobby time.

When I started the layout, progress was quick, but then time became sparse with my life changes. I also started to learn more about the prototype, which meant redesign and rework [21].

As of today, all the benchwork is complete and I am slowly laying track, which includes handbuilt switches over the entire layout.

As I said previously, I love to build models, and I am currently spending most of my hobby time building the locomotive roster

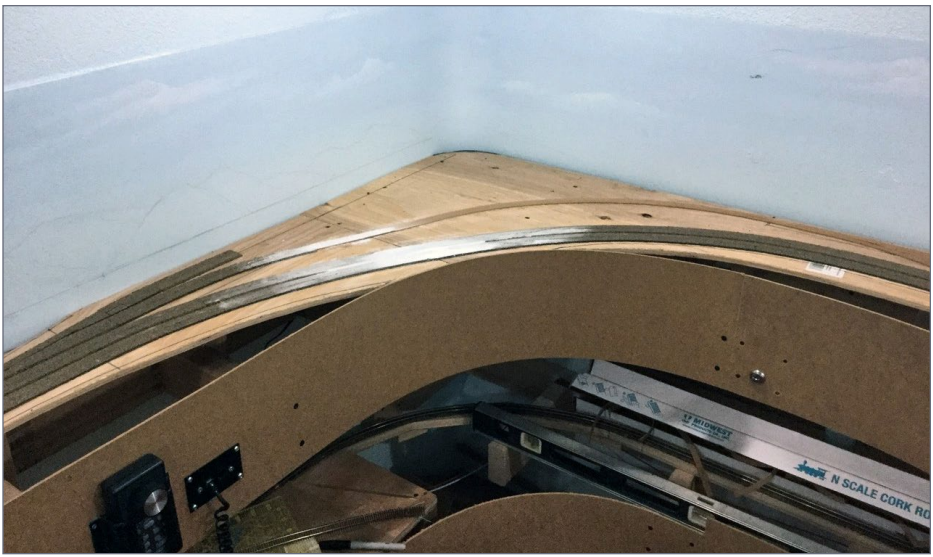
and converting all my rolling stock to body mount couplers and metal wheels.

I think I can speak for most modelers when I say we move from project to project and from discipline to discipline when building a layout – it's one of the great things about this hobby. I'm sure I'll get burned out on locomotives and rolling stock at some point and move back to other aspects of the layout.

My goal is to get the Blythe Branch operational by the end of the year so I can hold mini sessions and have something to play with [22a, 22b].

For more on my progress, see my MRH blog (mrhmag.com/blog/parkerlocoworks).

A big thank you to Chuck Weirt and KL Smith, both previous employees of the ARZC. They have provided me with excellent



21. A rework of track layout at Rice to allows me to better represent the prototype operations there.

22a, 22b. Overview of the Blythe Branch peninsula and track layout.

information and photos of the railroad. They have helped me to hone the design and its operations to reflect the prototype.

A thank you also goes out to my friends in the 3D N Scale group who helped me get the benchwork started. ☑

Doug Midkiff

Doug was first exposed to model trains at the ripe age of 4 by his grandfather with an N scale Atlas set. During his adolescence both his father and grandfather encouraged the hobby, the former by helping build models and layouts, the latter by talking him to museums and train shows. There was a brief foray into HO scale and then Doug went back to N scale during high school. College saw the trains take a back seat and it wasn't until graduation that he got back into the hobby and met some local folks who introduced him to operations and prototype practices. His current passions are operations, and painting and weathering equipment.

Doug lives in Parker, CO with his wife and daughter, both of whom enjoy seeing the layout progress. He spends his days as a structural engineer designing bridges and retaining walls for transportation infrastructure. His other interests include playing golf, auto racing and railfanning. His layout is always open to visitors, just e-mail if you are in the area. ■

YES ... IT'S A MODEL

Model Railroad Hobbyist | April 2018 | #98

compiled by **Joe Fugate**

RATE THIS ARTICLE

1. It's late in the afternoon as Allagash Railway Alco RS3 303 runs the second-trick yard switcher, at the south end of the railroad's Division Point yard at Madrid. It is dusk, but the sun pops through the spring clouds for just a moment. Mike Confalone fired up the layout, and shot this photo with just the available light. He applied a minimal amount of Photoshop tweaking. About this photo, Mike observed, "I could never get this effect with the room lighting. That's real sunlight, and you just can't get any better."

MRH'S MONTHLY PHOTO ALBUM

2. This photo shows an ex-Guilford high-nose SD45 that now belongs to MRL, weathered by Rodney Walker along with three beautiful cars from Gary Christensen.

Jürg Rüedi took the photo on his swamp diorama featuring a BLMA Bridge. The diorama was build by Stefan Foerg from Germany and is one of his favorite dioramas for creating pictures.

The photo was taken in February 2018 with a lot of snow outside and a dark sky. After correcting the colors in Photoshop Elements to get an even more dramatic look, Jürg downloaded two free brushes for Photoshop. The first was a lightning bolt brush and the other one a rain brush. It took him less than 10 minutes with these new brushes to get the final result.

FUN PHOTOSHOP EFFECTS

Jürg did some clever and fun photoshop effects in this photo. Modeling stormy weather isn't something done very often in model photos and when it's done well, it really catches the eye.

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TOMA

Bringing it all together

Model Railroad Hobbyist | April 2018 | #98

Peter Randerson gets module sections perfectly aligned and tightly coupled *quickly* ...

Recently, I have been involved in developing a new modular exhibition layout for my club in Wellington, New Zealand. The layout is made up of 16 modules connected for exhibitions.

This new layout broadly follows the TOMA principles discussed by *MRH,* including some specific improvements for easy setup and breakdown. In the new design, we incorporate some special technology to make our lives a lot easier.

1. Achieving accurate and repeatable alignment on modules such as these can be a challenge. Here is an alternative method to quickly connect and auto-align modules.

After giving 22 years of sterling service, the old layout was starting to show its age and it became increasingly difficult to maintain reliable operation. The club decided it was time for a replacement layout.

When discussing a replacement, we decided a number of things needed to be changed. The problem areas included:

1. Clamping modules together with G clamps and using short pieces of removable track across module joins is a problem.

2. Using pull-out legs on each module, with each pair having to be matched to a specific module end, is a pain.

3. The timber transit and module storage frames are bulky and take up too much space.

4. Module wiring is a real spaghetti nest.

5. The current continuous run design focus does not allow much in the way of more involved operation.

One of the biggest problems has been the slow and tedious method of connecting the module sections.

This article looks at ways to improve the module connection, with the goal of getting fast and automatic alignment.

Aligning modules

One of the biggest challenges facing modular railroad builders is bringing two modules together and achieving 100 percent accurate vertical and horizontal alignment every time.

We realized a first and essential part of that process is to cut and machine adjoining module faces in mirror image pairs. They should be exactly the same size and any process taken on one face should be perfectly mirrored on the other face as well.

That means the cutting and drilling operations should be done in batches. Batch work can also ensure all the components get cut to the same size. Fences and jigs only need to be set up once.

In this way, operation can be completed faster with far less likelihood of making dumb mistakes. Be careful though, as it can also be a way of making several pieces with the same fatal flaw.

This might be in conflict with a strict TOMA philosophy, but I believe any layout design needs to be thought through as a whole. In addition, during the build, module joins, including track work, should be completed at the same time on adjoining modules.

2. These 8mm steel alignment dowels are perfect for achieving exact vertical and horizontal alignment between modules.

In need of a fast, easy and economical way to clamp modules together, I looked into the Kam Konnect system.

One of the techniques they commonly use is to include steel alignment dowels or "table pins" [2] on the joining faces of each module.

I also knew that I could source these from a firm called Brimal Components (brimal.co.uk/chromatized-steel-baseboard-alignment-dowel-for-o-8-mm-hole.html). These can also be found online at many sources if you search for "table pins". These are also available from Amazon (a.co/bAr2p9b) for about 75 cents each.

At eight millimeters (5/16 inch) in diameter, they can be pressed into a 5/16-inch hole with a good smear of five-minute epoxy. If the two module faces have been drilled at the same time, absolute vertical and horizontal alignment accuracy is assured.

Clamping modules

Probably I wanted a fast and easy way to quickly clamp the module sections together, and I have been a fan of the modular connection system Kam Konnect uses with their benchwork system. However, I wanted only the connector, not the whole benchwork system.

One of our club members came across a post on the Railroad-Line Forums from James Koretsky of the New England Free-mo group [www.nefree-mo.org/]. James posted a build thread of several new Free-mo sections and highlighted a latching system made by Norse Latches in Torrington, CT. See www.norse-inc.com/site/type3latch .

Eureka! This was exactly what I had been looking for. The Norse Type 3 Latches [3] use a 0.25 inch diameter steel hook. The hook engages with a steel pin in the receiver unit and then a

further small turn of the 7/32-inch Allen key operating handle over-centers the cam and provides a clamping force of 450 lbs.

The latch can be operated from either side of the unit. Pricing is $10.45 for each latch and receiver pair.

Even with freight costs added, this was exactly what we were looking for, so a big shout out to James for this idea. Norse is a small family-run business and their customer service is exceptional. They are currently investigating setting up PayPal for international customers.

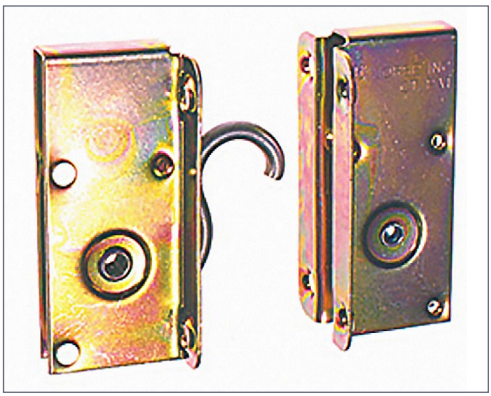
Installing the hardware

Having sourced the hardware, I needed to fit it to the module end plates. I am a great fan of using jigs when a process needs to be repeated several times.

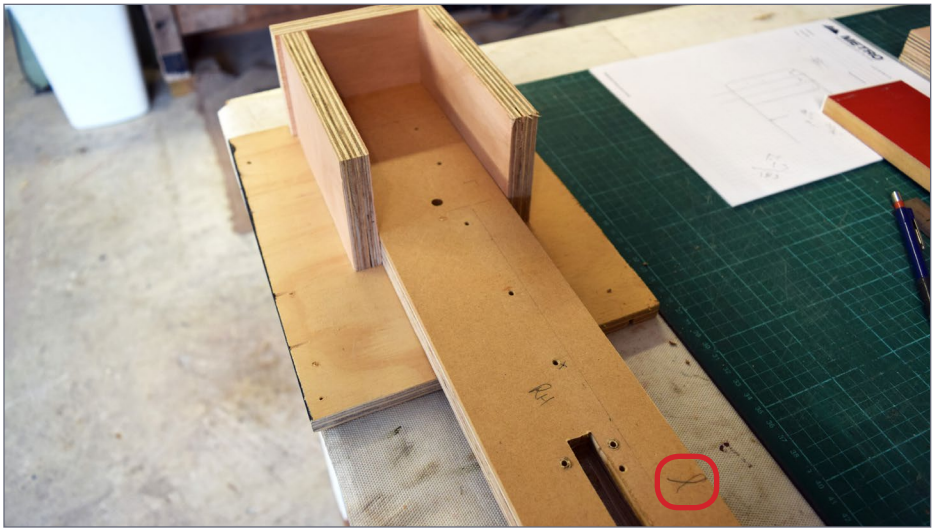
In this case I manufacture a simple jig to hold the module end plates in alignment and a make a "story board" plate [4] for marking hole and cut out positions.

I also mark each module end-plate with a face side mark that looks like a ribbon bow, to indicate which edge is the top.

With the story board plate in position in the jig, I mark the slot and four screw holes for the latch [5] and the holes for the alignment pins.



3. Norse Type 3 latch and receiver.



4. A simple plywood jig will align module end plates with the module end-plate in position and the "story board" on top indicating where to drill/cut. Note the facing mark (looks like a bow) indicating the top edge.

5. Mark the slot position and the drill holes through the story board.

It is important to note that the latch and receiver units must be installed the right way round. To achieve this, each end plate must be an exact mirror image of the other. To get this mirror image, I simply flip the story board over and make sure that the second face plate is fitted in the jig with the face side mark pointing the other way.

When drilling the alignment pin holes in the second end plate, I use the first end plate as the drilling template to start the hole. I use a drill press to complete the holes to ensure each hole is perpendicular to the face.

I used my scroll saw to cut the ½" wide rectangular slot for the latch and receiver case. For those who don't have the luxury of a scroll saw, you can use a jig saw or a handheld coping saw.

Another method is to drill out the bulk of the waste and then use a sharp chisel to pare to the marked lines. A good accurate fit around the Norse Hardware is nice to have but not essential to the performance of the units.

Next step is to machine the face of the wood for the flanges on the latch and receiver unit. For this I use a router with a template guide and then spent some time making a template that will accurately locate the recess.

The latch and receiver units need to be fitted flush with the surface of their respective end plates. I believe there is a 1/16-inch tolerance, so I work on fitting the units about 10 thousandths below the surface [6].

For those without a router, this work can be done with hand tools. The flanges are only 50 thousandths of an inch thick, so you can cut around the perimeter with a sharp craft knife and trim out the wood with a sharp chisel. I should note that the mounting screw holes have been punched into the latch and

receiver flanges so the corresponding holes in the timber end plates need to be countersunk to match.

At this point it is important to label each end plate so you know which are matching pairs. I use masking tape labels as a temporary solution. Once I build and paint the modules, I apply stenciled markings to permanently match them.

Norse sells several types of operating Allen keys for these units. My preference is to visit my local auto parts store and pick up a long reach T-handle Allen key. The Allen key holes are exactly 1 inch back from the face, so I have the choice of drilling a hole in the baseboard or reaching from underneath. Norse also sells plastic cover plates for these holes.

Given that our clubrooms are in an old damp building, we paint all woodwork to keep mold at bay.

6. Check the fit of the receiver flange into the hole and routed groove. Note the groove routing template above.

Here then [7] are the completed end plates for modules 1 and 2. I use stencils and a rattle can to permanently identify the end plates. Note to self: allow the paint to dry before removing stencil!

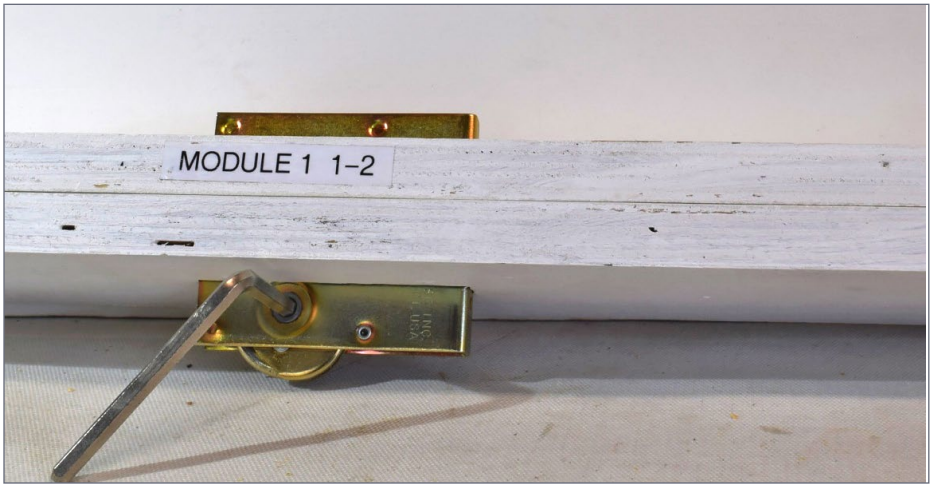
With the end plates brought together and the latch engaged a nice tight module join can be achieved [8].

Trackwork across module joints

As I mentioned at the start, we wanted to avoid using short pieces of connecting track at the module joints. These are very time-consuming to fit during layout assembly, and are easily damaged or lost. We are currently are considering a couple different approaches.

The first approach uses printed circuit board in place of the ties, with the rail soldered to the PCB with a suitable isolation gap in the copper foil [9]. So long as you securely glue and pin the PCB in place, this can be a very robust method. The only real problem is disguising the PCB. I find this method better for tracks crossing joints either in a curve or at an angle.

7. Completed end plates with alignment dowels, latches, and receivers fitted. I paint identification marks on each module end plate so I know which ends go together.



8. The two end plates have been brought together and the latch engaged to provide a nice tight fit between modules that are in perfect alignment, thanks to the table pins.

9. Soldering rail to some PCB at module track joints.

The second option is solder the rail to #4-gauge x ½-inch brass CSK slotted screws. With this method I use an aluminium plate as a template to drill pilot holes for the screws. The tops of the screws and the underside of the rails are first tinned with solder. With the rail in place, the screws can be adjusted to the correct height and then soldered.

I find the screws easier to disguise [10]. The module on the left has been ballasted and the ties and rails painted. The module on the right is still at Plywood Pacific stage. The solder blobs on the outside of the rail can be carefully ground back with a Dremel.

Once the track over the joint has been proven to work reliably, the rails can be cut at the module joint. Make sure you cut the rails before you try to remove the module. Don't ask me how I know!

With either method, I find it helps to slightly round the inside edges of the rails to allow for slight movements in either module.

Summary

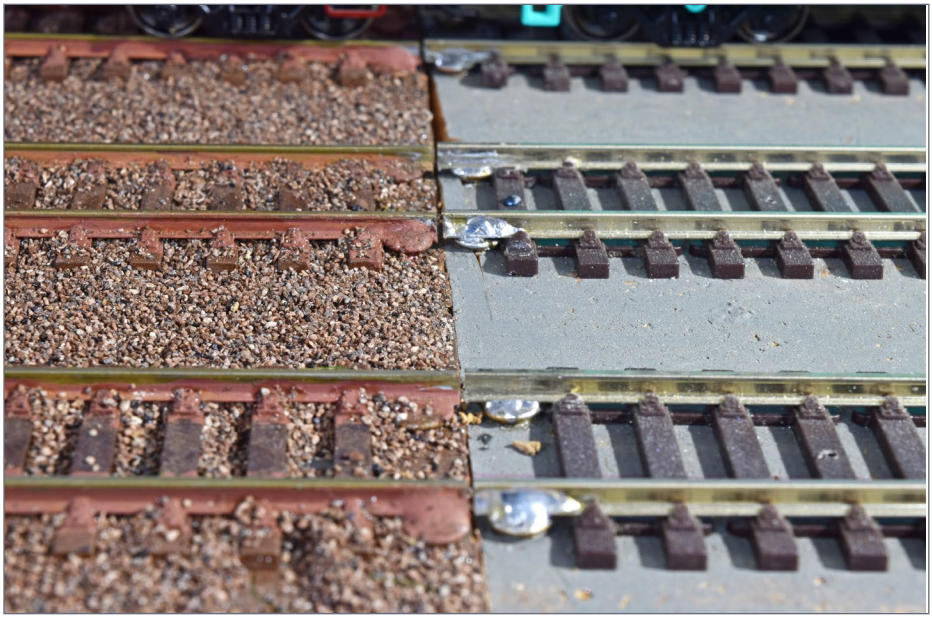
By using these three methods – table pins, latches, and fixed rail joints – we can reduce the set up time on our new exhibition layout by at least two hours.

PCB ties

Using individual PCB ties rather than a single solid board solves the disguising problem. Paint the individual PCB ties to look like wood ties and then ballast as normal and the joint will disappear.

Is all this effort and expense worth it for the home builder who wants to follow something like TOMA or some other sectional/modular approach?

I answer that with an unqualified yes!



10. With ballasting, the screws almost disappear at the module joint.

Had I known about the Norse Latches when building my own layout (mrhmag.com/node/25098), I would most definitely have included them. ☑

Addendum: An alternative approach

While reviewing my original article, Joe Fugate observed, "I want to make it easy to remove a TOMA module section by sliding it forward or backward when it's between two other module sections. Using the table pins seems to limit you to assembling/disassembling a module section in only one direction – directly on or off end-wise: no sliding to separate the module sections. That seems rather limiting for a home layout."

Joe is absolutely correct of course, which makes the table pins best suited to an exhibition layout. Most home layouts, however, need to be fitted between pesky things called walls.

After thinking about it for a few minutes, I realized we could take a chapter out of the RC airplane handbook and adapt one of their wing alignment options. Basically, this involves K&S brass tube and piano wire.

I also realized that Norse has a slightly different latch and receiver design that reduces the woodworking to just cutting slots with a jigsaw and then drilling some holes.

So let's review these alternatives.

Taking the alternative

I am tempted to call this the "grenade" method since you need to "pull the pin" to get things apart! But then blowing stuff up may be a bit excessive.

Folks I know have used bolts and wing nuts to hold modules together. However, unless protected, the holes in wood components wear quickly and repeatable alignment accuracy goes out the window.

However, if we "line" the hole with a piece of brass tube, and then slide in a piece of steel rod, we can achieve repeatable alignment accuracy. Fortunately, K&S Precision Metals make a wide range of brass tube and music wire. If you get the sizes right, you get a nice slide fit between the wire and the brass tube.

I chose 9/32-inch diameter music wire and 5/16-inch OD brass tube. The sizes aren't critical as long as the music wire is at least ¼-inch diameter and the tube has a snug but sliding fit on the wire.

Making the slots and metal pin holes

As mentioned in the main article, the key to repeatable accuracy is ensuring we cut all module end plates the same size. We need to mark mirror image slot and hole positions on each pair of adjoining end plates [11].

11. Mark slots ½" x 3" on the center of each module plate (the top plate here). Also mark the hole centers for the brass tubes on one of the module plates (bottom plate here).

Addendum: An alternative approach *Continued ...*

The slot sizes are ½-inch x 3-inches and should be centered. Cut the holes at least 3 inches in from either end. I cut the slots with a scroll saw but a jigsaw will also do a good job.

Once the slots are cut, the two adjoining end plates can then be clamped together (face side to face side) and the holes drilled for the brass tubes. Accuracy is critical here, so align the two plates exactly [12]. I prefer to drill the hole about 1/64-inch less than the tube size to ensure a very tight fit.

The pins and latch

Picture [13] shows the components I used. Remember to select a good size of music wire that is at least ¼-inch diameter and then check for a snug sliding fit inside the brass tube.

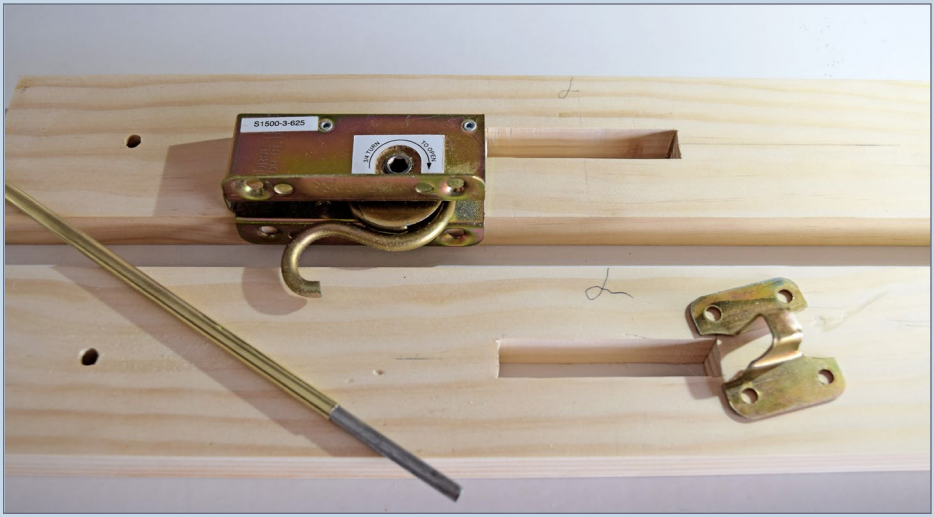
12. I clamp the two module end plates and align them accurately, then drill the holes for the brass tubes.

K & S Precision Metals makes a nice little tube cutter [14]. You can pick one of these up for about $6.50. I recommend cutting the tube about 1/64" shorter than the thickness of your module end plates.

I find I need to file the inside of the cut edge to remove any burrs. It also helps to sand a slight bevel on the outside edge. This can be done by chucking the tube in an electric drill and holding the edge lightly on a piece of sandpaper with the drill running.

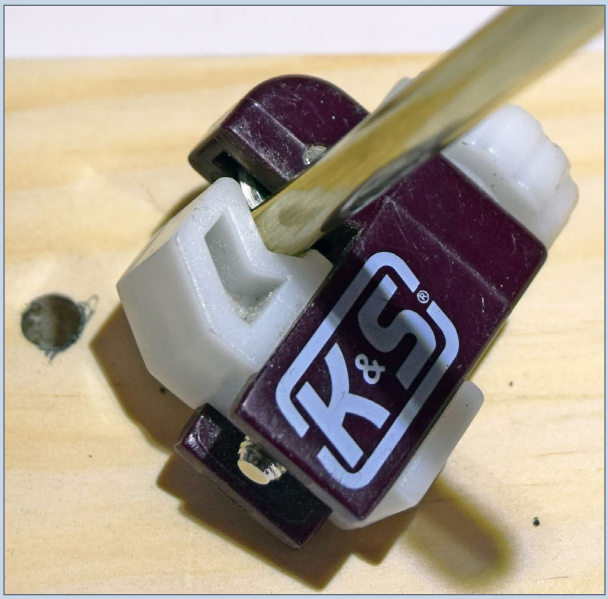
I also bevel the cut ends of the music wire.

I glue the brass tube into the hole using a light smear of 5-minute epoxy. I rough up the outside of the brass tube with 80 grit sandpaper to give the glue some extra grabbing surface.



13. Here are the components. On the top is the Norse S1500-3-625 latch. On the right is the Norse HR 466-562 receiver. On the left is K&S 5/16" OD brass tube with K&S 9/32" music wire slipped inside the tube.

Addendum: An alternative approach *Continued ...*



14. K&S brass tube cutter.

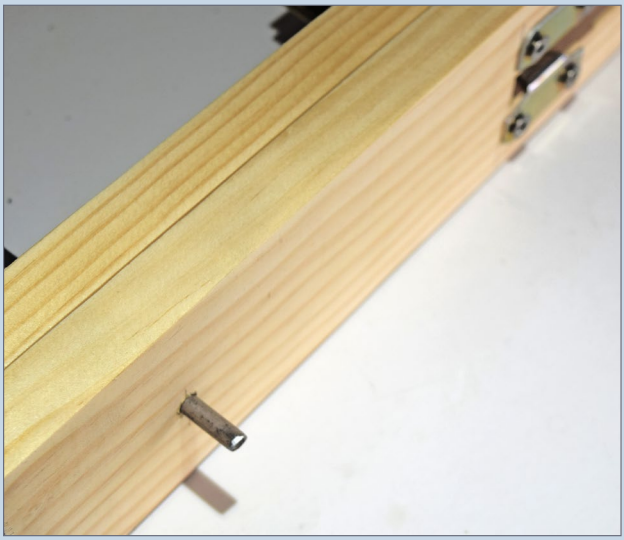
15. The Norse latch and receiver mounted in place.

I screw this style of Norse latch and receiver into place as shown in [15]. It pays to check that the latch will have full freedom of movement through the slot before screwing it into place.

Bringing two modules together

With this arrangement we can simply slide the two modules together, align the modules so we can push in the two alignment pins, and then lock down the Norse latch [16].

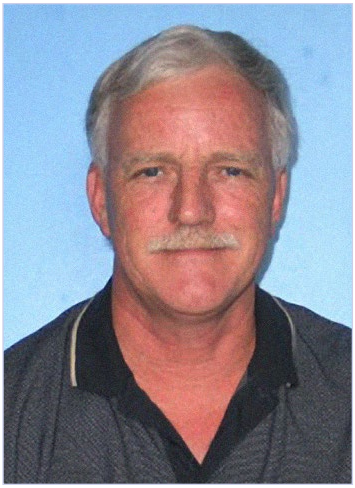
For this you need access to the underside of at least one module. Make the music wire pins an inch or two longer than needed to allow gripping them with pliers.



There we have it. We still have perfect alignment and great clamping force but now the modules can simply be slid into position from any direction! ■

16. With all the components installed, we bring the module end plates together. Inserting the two steel pins ensures perfect alignment, and turning the Norse latch clamps everything together nice and tight. I cut the alignment pin 1 inch longer than the end plate thicknesses to allow easy insertion and removal.

Peter Randerson



Like many, Peter started in the hobby at a young age. A 34-year career flying Iroquois helicopters and fixed wing transport aircraft in the New Zealand Air Force meant a lot of moves to some diverse parts of the world including Antarctica, Singapore, and the Sinai. After leaving the Air Force, he owned and managed a small business in the construction industry for a further eight years.

Following retirement two years ago, he now has the time to devote to model railroading and other interests – which include cabinetmaking along with building and flying radio-controlled aircraft.

Peter has been married for 40 years and has three adult children and three grandchildren. ■

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There's more!

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Animal feed mill SWITCHING PUZZLE

Model Railroad Hobbyist | April 2018 | #98

Greg Baker gives us more head-scratching switching puzzles to solve ...

Our challenge is to switch an animal feed mill. Although it takes in only a few cars a day, there are some added wrinkles that can make this location a bit tricky.

First, there are multiple spots for the cars to be unloaded, and specific cars have to be matched to specific spots. Track A is closest to the building and Track B is closest to the main – both tracks have four spots numbered 1-4 west-to-east.

Next, there is a major road crossing here. Avoid leaving a car standing on it for more than five moves!

Finally, as another wrinkle, there is a signal (red circle) that protects the switch to the east. Once you go by the signal heading west, you may not pass it heading east.

RATE THIS ARTICLE

See the "What constitutes a move?" sidebar for an explanation of how to count moves.

Puzzle answers in the subscriber bonuses >>
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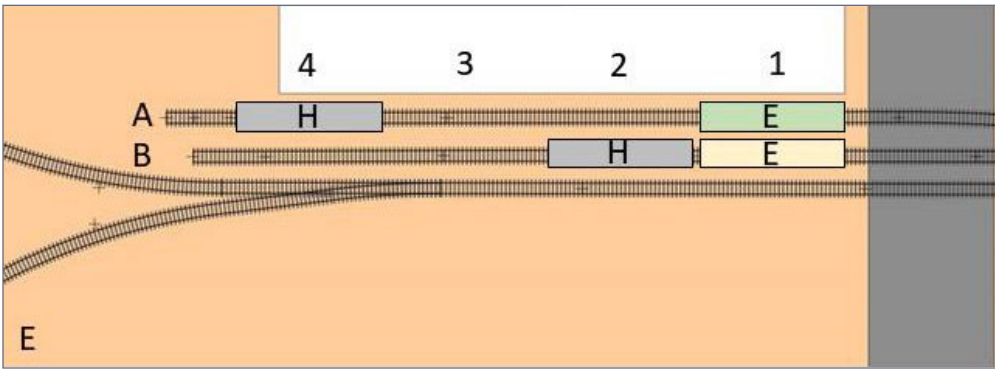
Puzzle 1

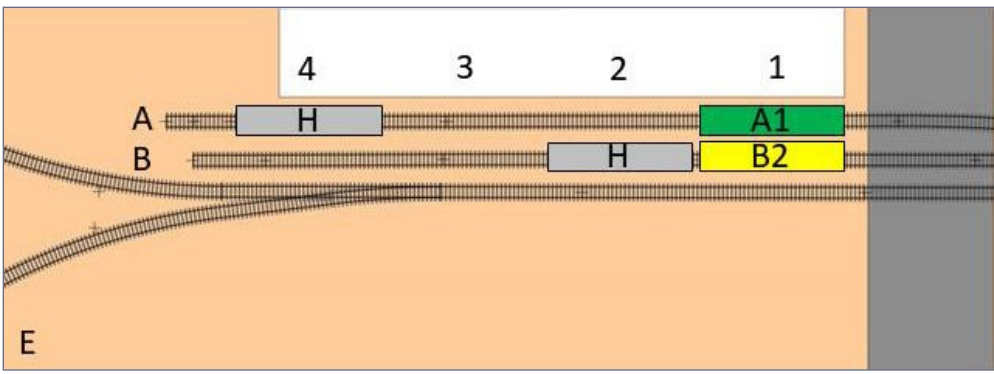
You have two cars to spot, two cars to pull, and have already cleared the switch.

Starting



1. Feed mill switch 1 starting position.

Ending

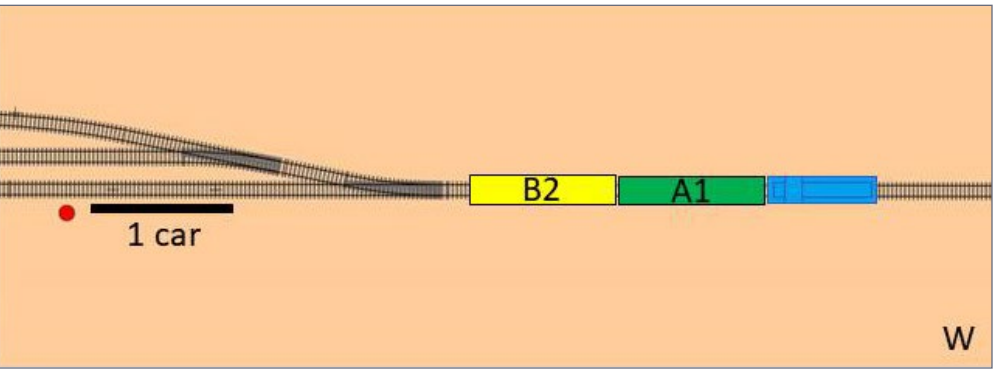


2. Feed mill switch 1 ending position.

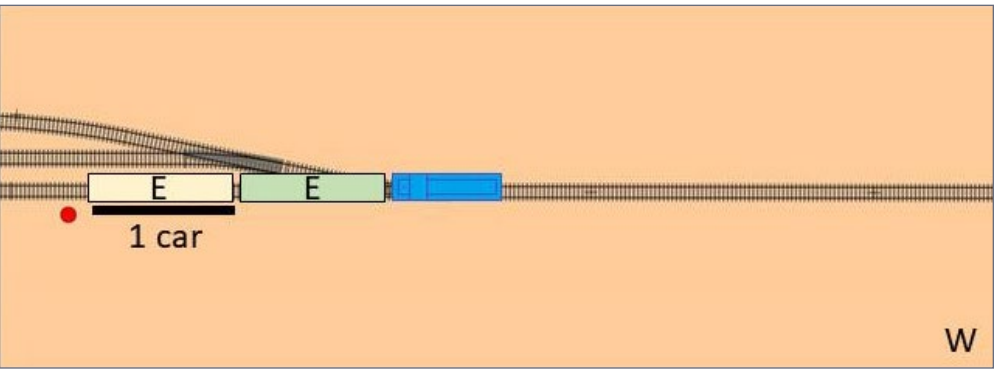
Switching puzzle | 4

Remember to avoid blocking the crossing for more than five moves. Also, the hold cars are not able to be moved.

I was able to finish the work in 13 moves.



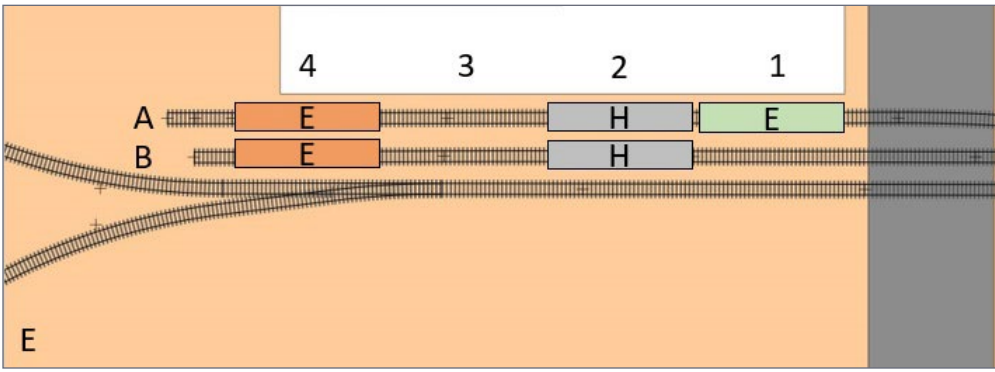
Answer in the subscriber bonuses >> CLICK HERE!



Puzzle 2

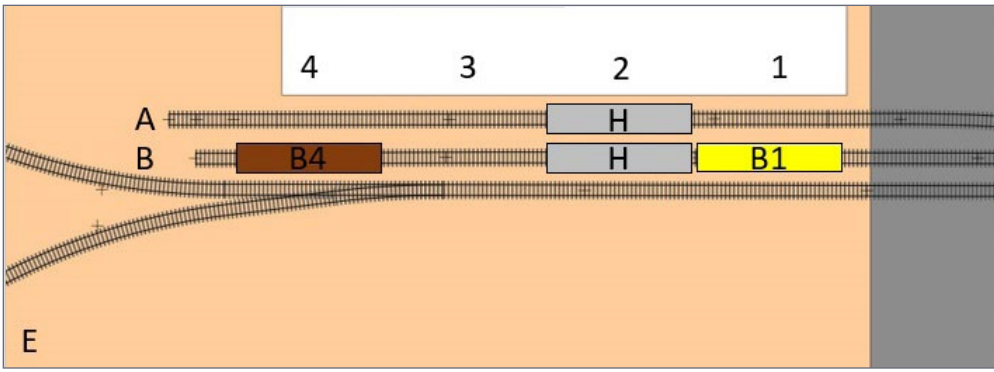
You again are spotting two cars, but now have three cars to pull, and the train is already past the signal. Remember to avoid blocking the crossing for more than five moves.

Starting



3. Feed mill switch 2 starting position.

Ending

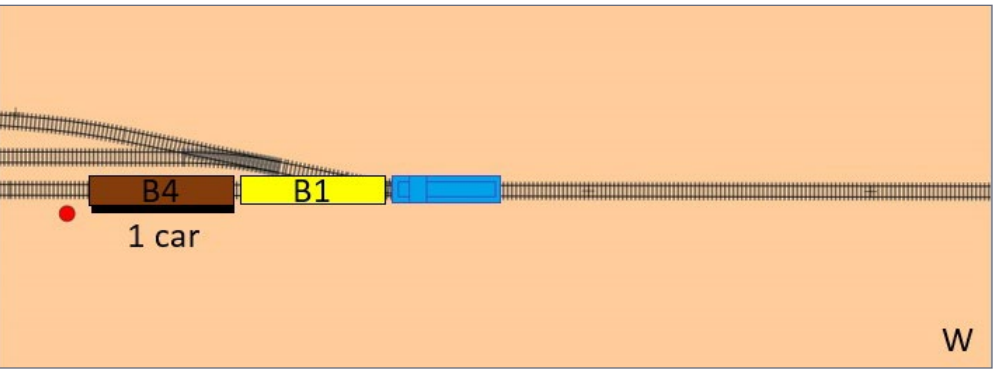


4. Feed mill switch 2 ending position.

Switching puzzle | 6

This time, the hold cars can be moved, but must be placed back exactly where you found them.

I was able to get this work done in 19 moves.



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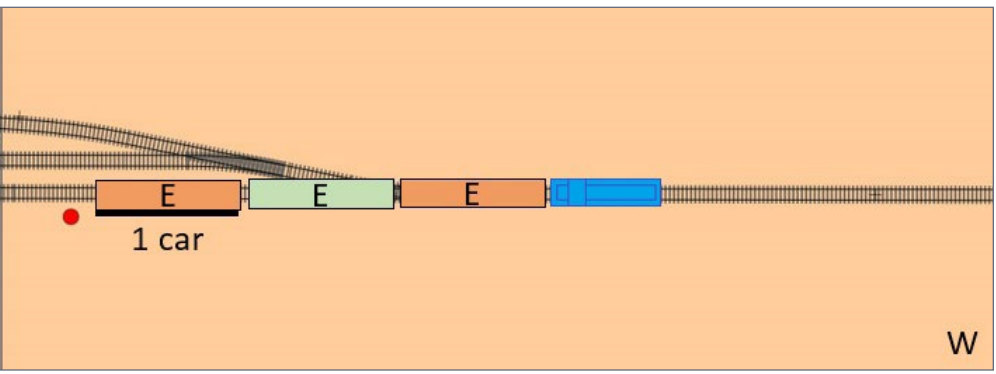
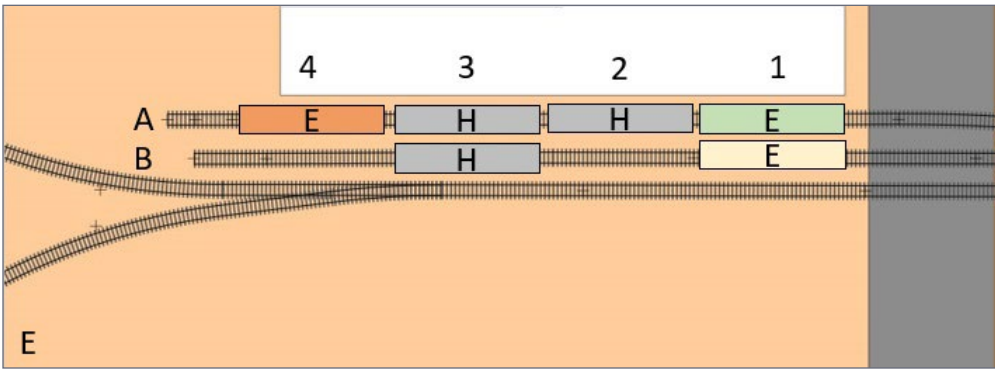


Puzzle 3 (bonus)

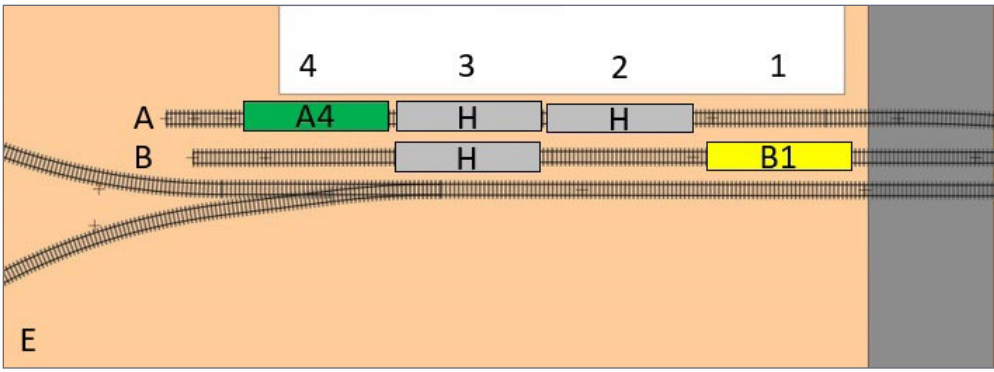
You need to pull three empties and spot two loads. Note that we again have "hold" cars that can be moved around as needed, but must be placed back where they originally were.

Starting



5. Feed mill switch 3 starting position.

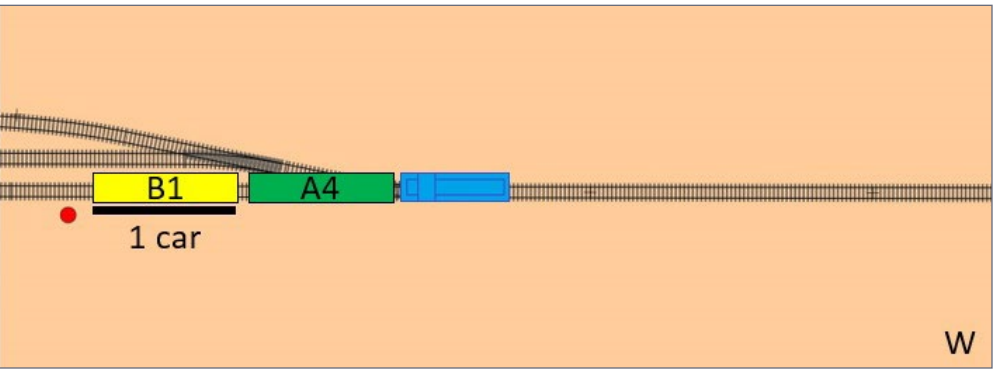
Ending



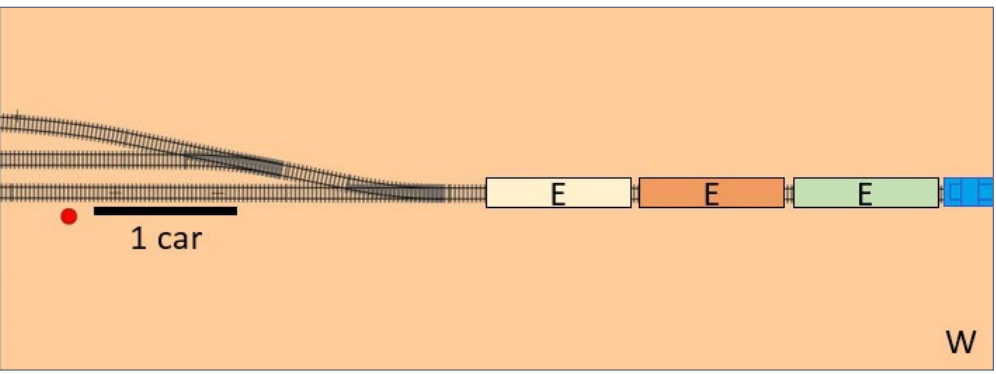
6. Feed mill switch 3 ending position.

Also we are not allowed to leave any cars blocking the crossing, and again we will be starting just clear of the signal.

I was able to complete the job in 20 moves, and I did not leave any cars standing on the crossing. ☑

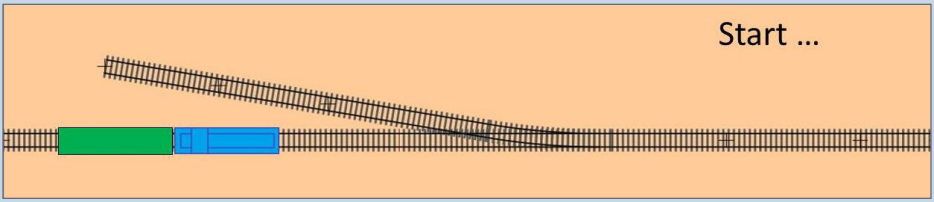


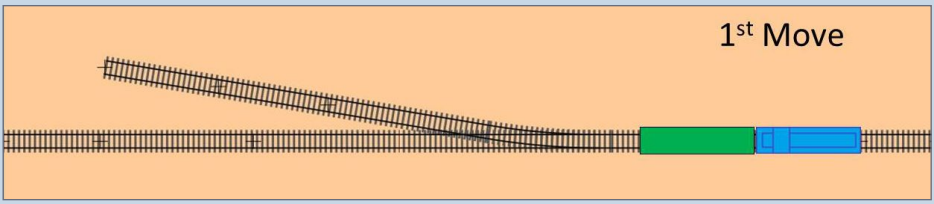
Answer in the subscriber bonuses >> CLICK HERE!

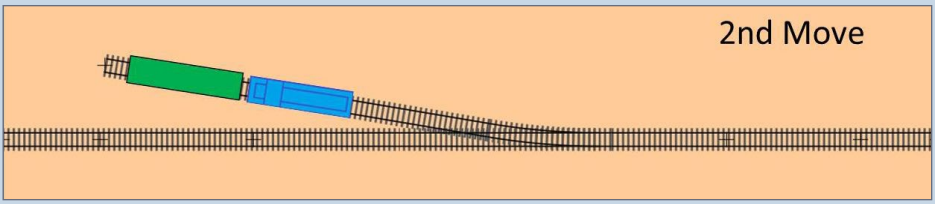


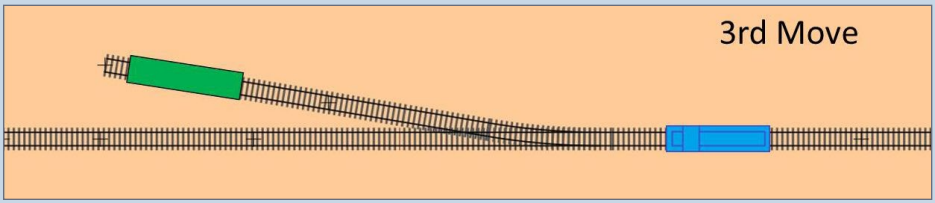
What constitutes a move?

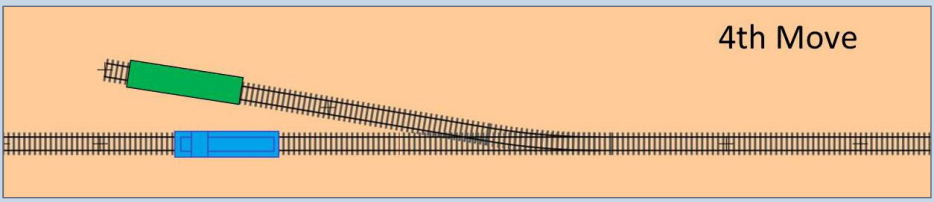
One "move" occurs any time cars or the locomotive move in either direction. See the example images here, which show the starting position and four moves.











Greg Baker

Greg Baker has been serious about model railroading since 2000, but as long as he can remember he has been fascinated by trains.

Greg's main interests are the railroads of Central Oregon in 1968, with the focus on the Spokane Portland & Seattle, Great Northern, and the Union Pacific along the Oregon Trunk. He is also interested in the City of Prineville Railway and its connection to the Oregon Trunk.

He currently resides in Lewiston, Idaho, with his wife and two children as he continues his career in railroading. He is actively involved in promoting Free-mo and has created an Idaho Free-mo group. ■

Answers in the subscriber bonuses!

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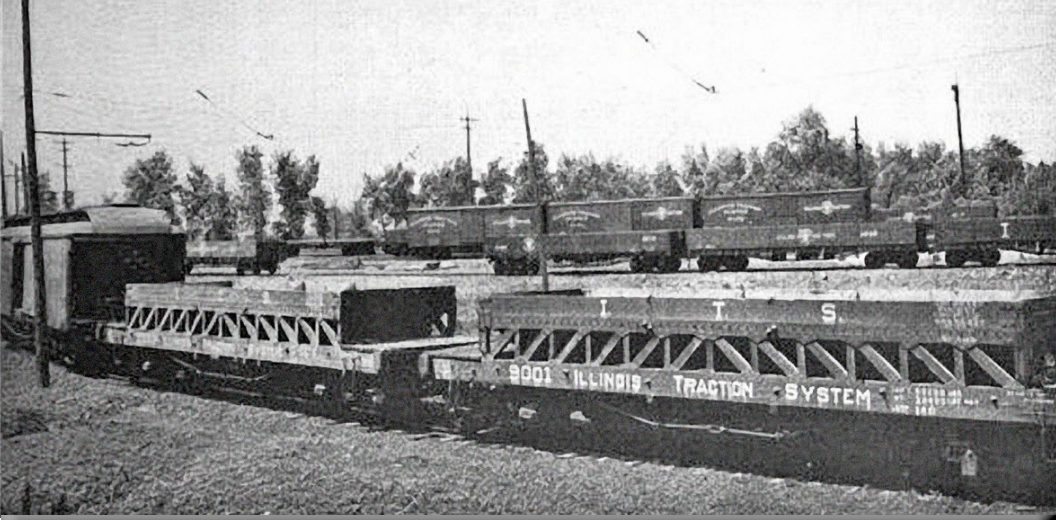

Using 3D printing to model an Illinois Traction ballast car

Model Railroad Hobbyist | April 2018 | #98

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Doug Forbes shows how he delved into 3D printing to produce a unique railcar ...

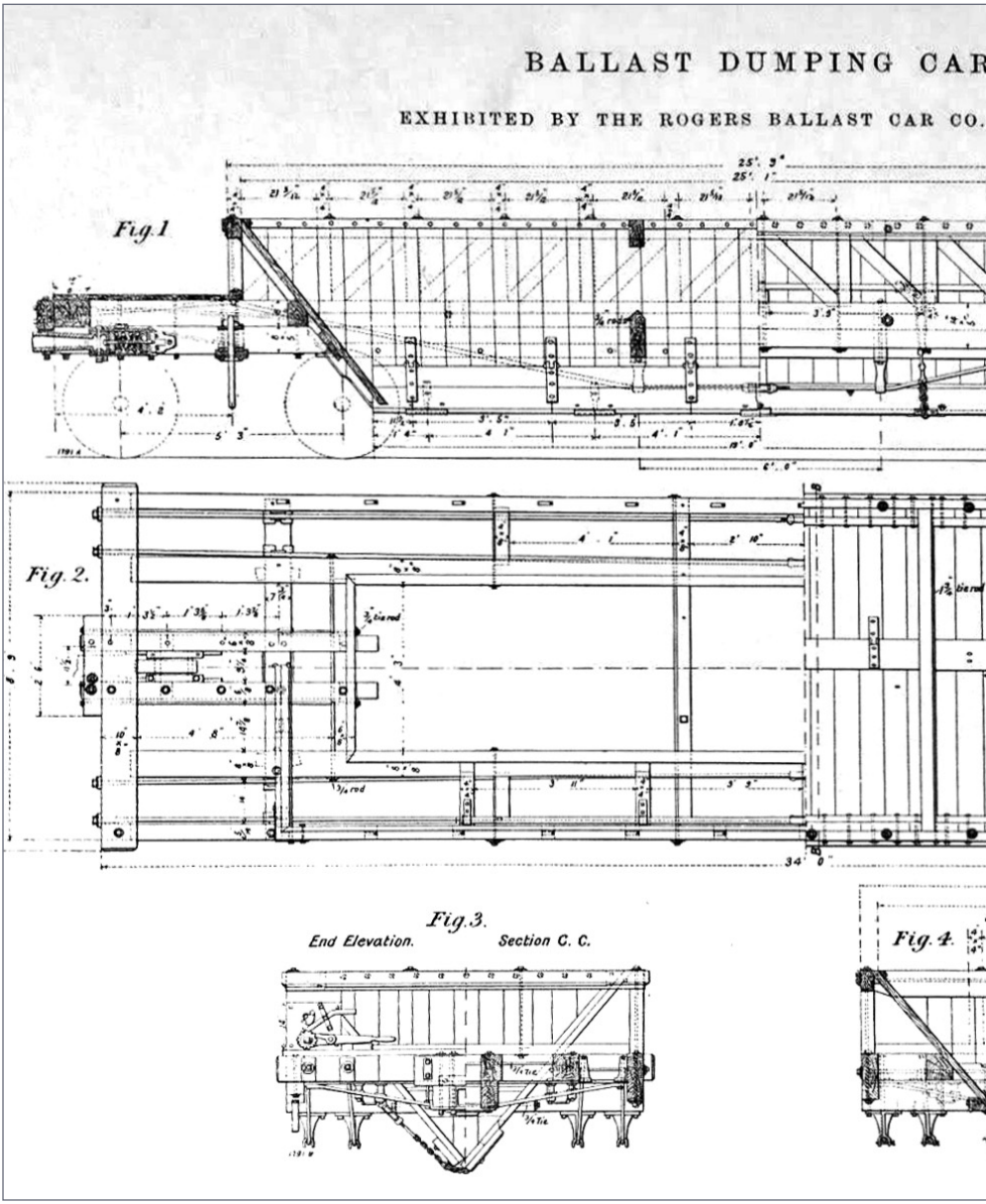
I HAVE FALLEN IN LOVE WITH A NEW RAILROAD, THE Illinois Traction System (ITS), or the Illinois Terminal Railroad, as it was renamed later on. It was the largest electric railroad in Illinois, connecting major central Illinois cities to St. Louis. In doing research for images, I found an article called "Developing Carload Freight Traffic on Illinois Traction System (illinoistractionsociety.org)". This article included the image shown in [1] of a Rodgers ballast car. A quick email to a friend in the Illinois

1. Image from p. 49 of July 8, 1916, Volume 48, Number 1, of the *Electric Railway Journal* by McGraw Publishing Co, Inc. See here goo.gl/XkGsRj.

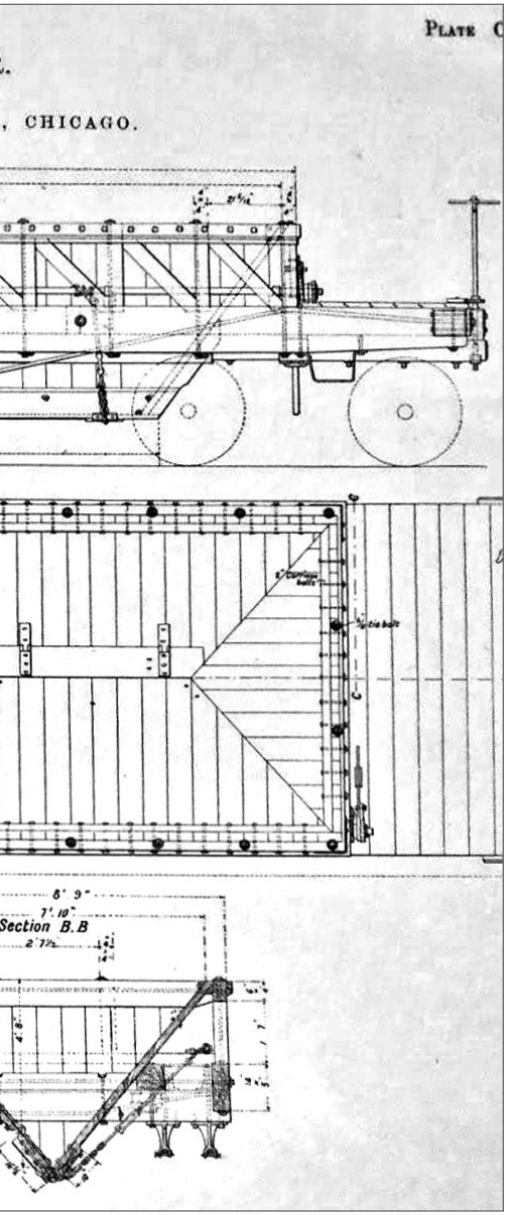
Traction Society confirmed that the the ITS bought these cars, numbered 9000-9006, in 1909 according to ITS records. This seems to be the only image of an ITS ballast car that exists. It was also confirmed that this car was 34' in length. After seeing this picture, I decided I needed a couple of these ballast cars to haul cinders from my coal fired power plants to provide ballast loads on my layout. That would certainly add some interesting operations.

An eBay search resulted in a print of the original plans from the Rodgers Ballast Car Co. for a ballast dumping car that is 34' in length [2]. The prospect of buying scale lumber and trying to cut and glue all of those parts together was rather daunting. This is where 3D printing becomes very handy. These plans were used to create a 3D model using SketchUp (sketchup.com), a free 3D modeling software started by Google but now maintained by Trimble Navigation. I left off some of the detail, such as the sideboards, to create a more general model that others might be able to use as well. Also, since I am relatively new to 3D modeling, I decided to add detail parts such as stirrup steps, queen posts, and truss rods instead of trying to include them in the 3D print.

The resulting model design was uploaded to Shapeways (shapeways.com/product/ULX6R7TSH/illinois-terminal-rodgers-34-ft-gondola-hopper-ho?optionId=62058234) and printed using their Frosted Ultra Detail material. [3], [4], [5]. I added Kadee whisker couplers, along with Tahoe Model Works (resincarworks.com/tahoe.htm) arch bar trucks. Then I added details such as the stirrup steps, along with the queen posts and truss rods, and K brake



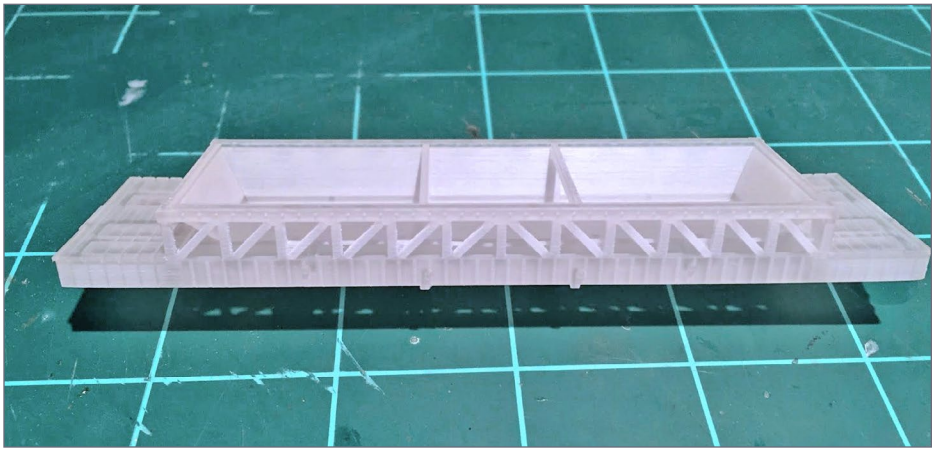
2. Plans for a 34′ Ballast Dumping Car purchased on eBay. These plans were scaled down into millimeters and modeled in SketchUp.



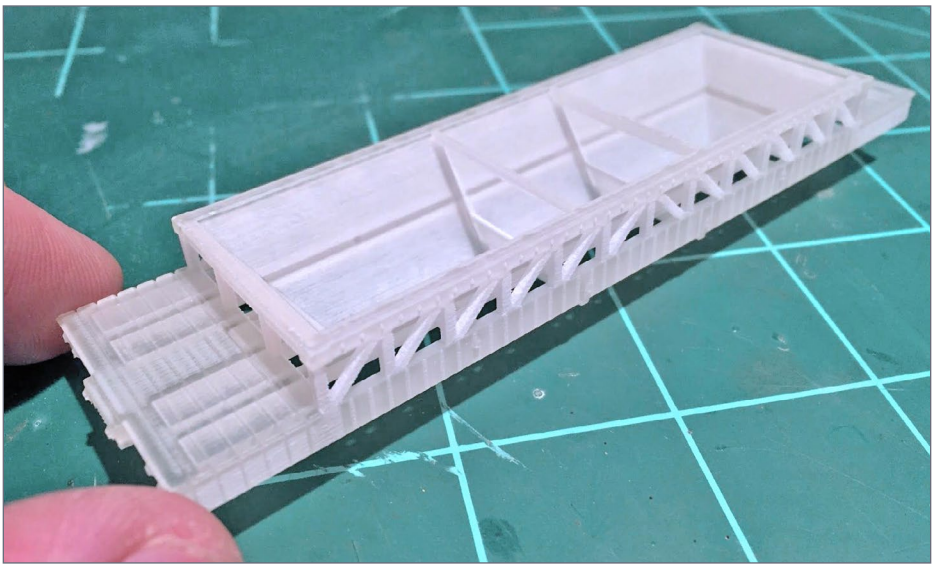
detail. I primed the model, then painted it in Brewster Green, as apparently all early ITS equipment was.

I have blogged about this build on the MRH Forums (mrh-mag.com/node/29466). If you haven't checked these, I highly encourage you to do so. I have received lots of helpful advice and tips by browsing the topics there. The following pictures explain in more detail how the car was built.

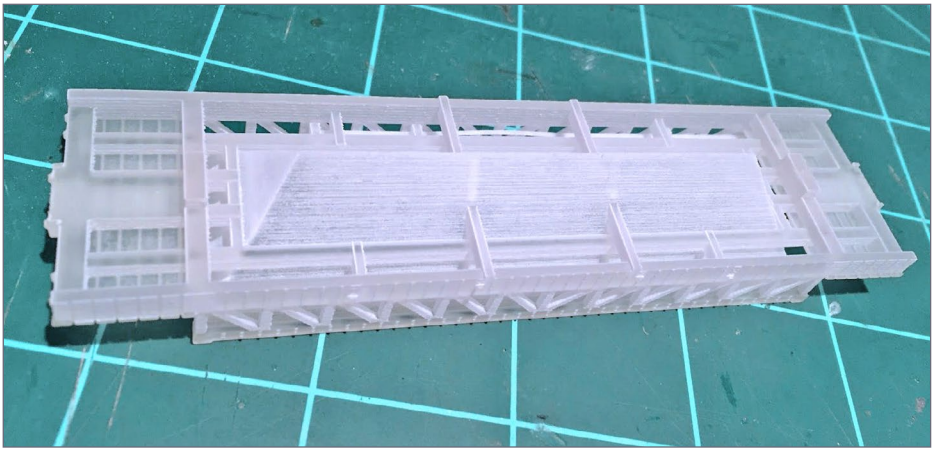
This has been a truly rewarding experience. By learning to use 3D printing, I employed the latest technology to transform a picture of an obscure prototype car into a model. Many people have shared knowledge and advice during this process, and I thank them very much. If you have something like this you would like to model, maybe you should give 3D printing a try. ☑



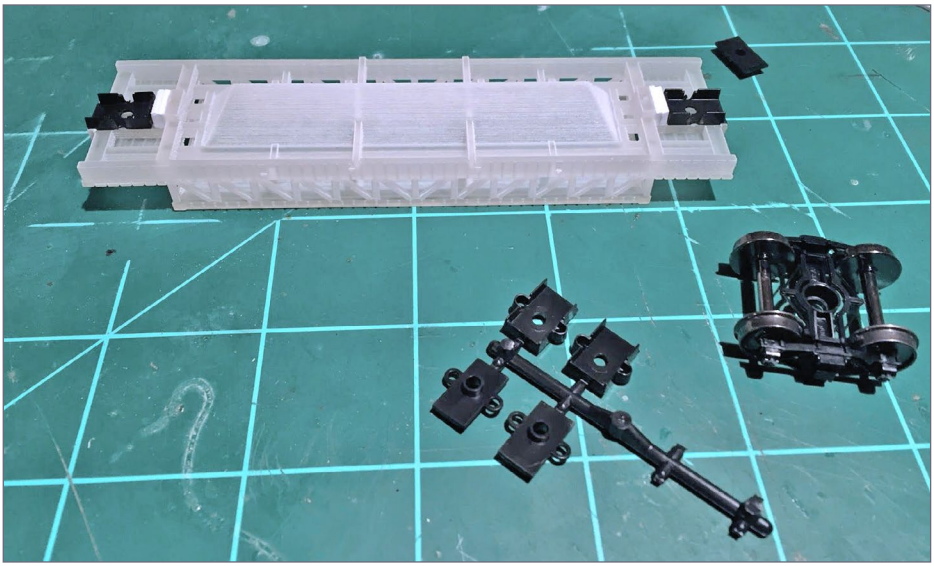
3. Side view of the resulting Shapeways 3D print in Frosted Ultra Detail. For my first printed car design, I am extremely happy for how this car turned out.



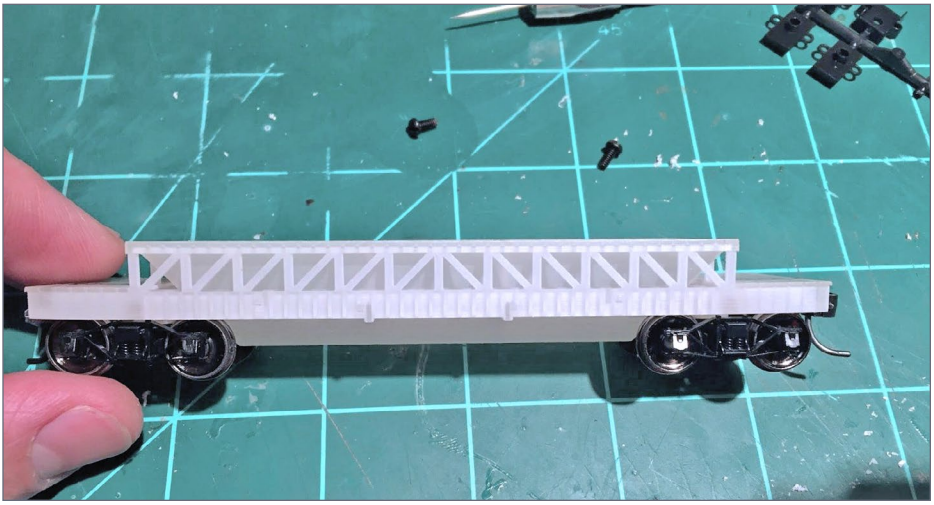
4. This top view shows how the 3D printing can easily create the openings of the ballast car. It's hard to imagine the amount of work to stick-build this car.



5. Bottom view of the ballast car showing the detail of 3D printing.

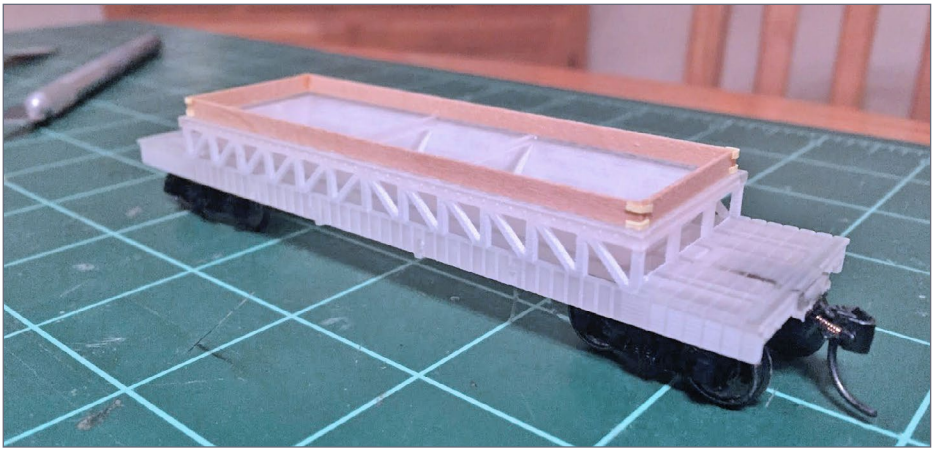


6. The couplers and trucks are being installed. I left room for a Kadee coupler box to fit with its “ears” trimmed off. I cemented the box in place and then drilled and tapped a hole for a 2-56 screw. Kadee whisker couplers were used.

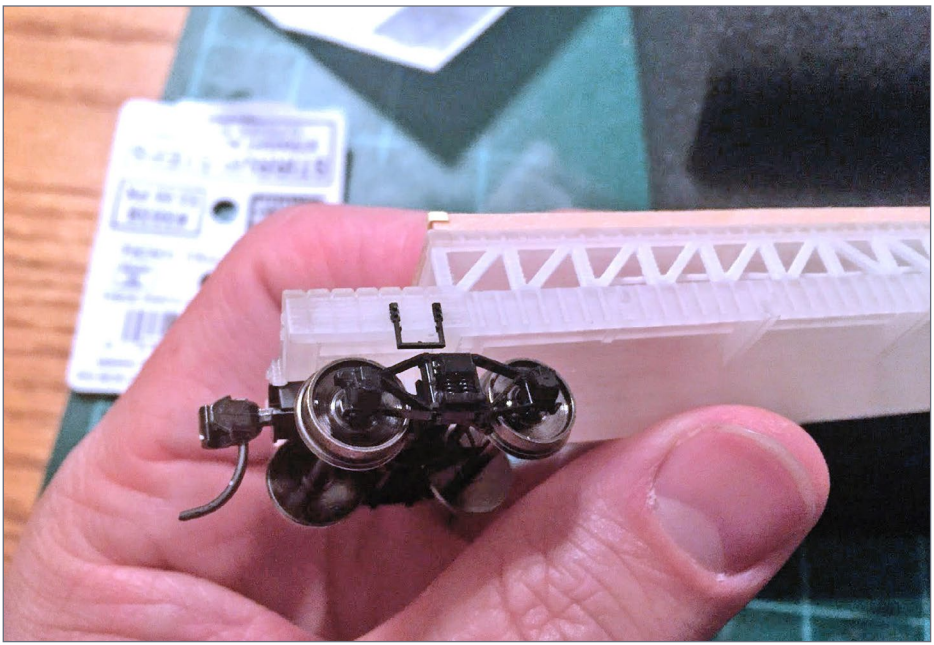


7. This side view shows the couplers and trucks attached.

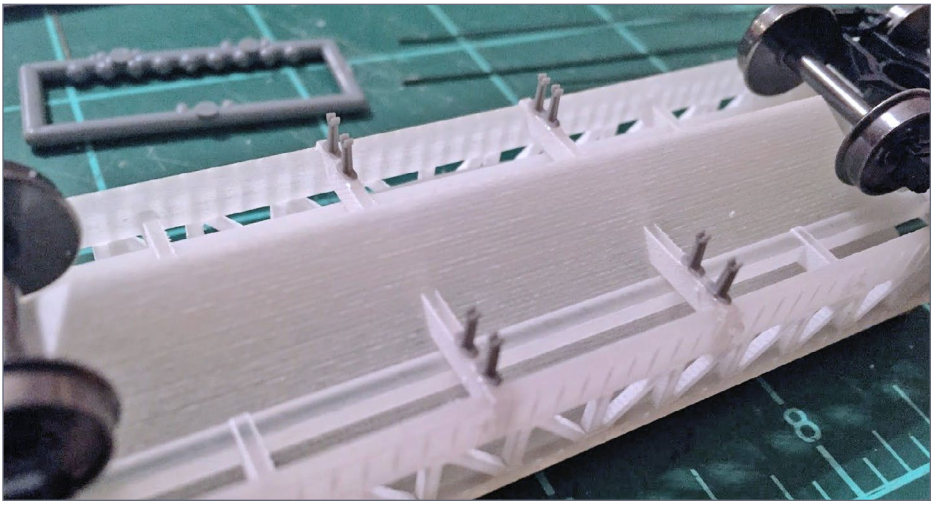
8. I built a module with 10"-radius track curves to test inter-urban equipment on this tight radius. The car performed just fine.



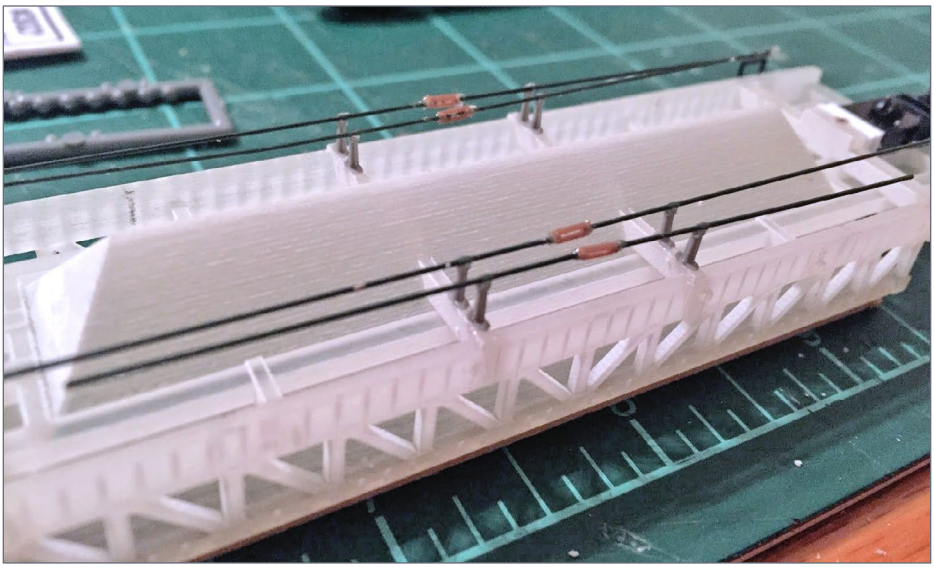
9. Here I have begun to install the details. These boards are scale 2" x 10" with pieces of paper for the corner braces.



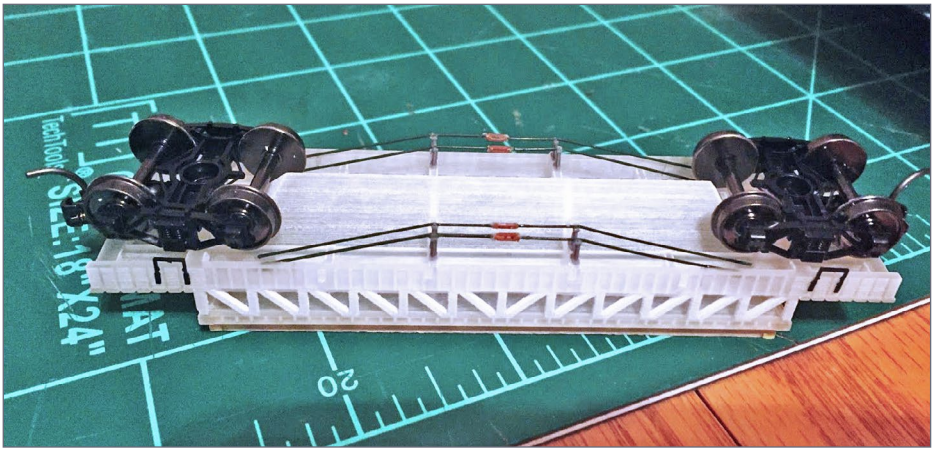
10. Tichy stirrup steps are added.



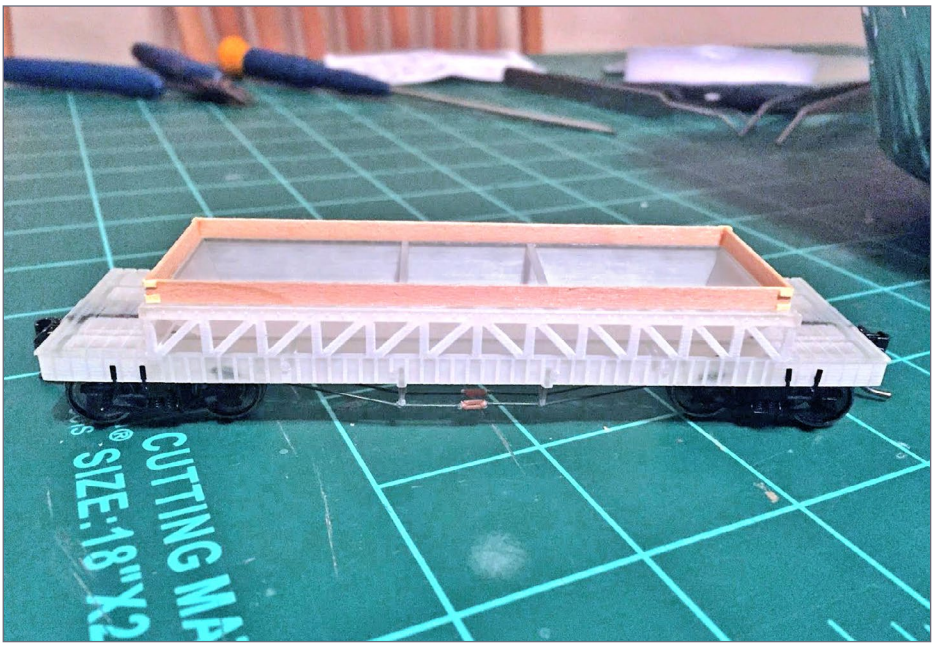
11. Tichy 10" queen posts being installed. The plans really helped position them correctly.



12. The turnbuckles are from Tichy as well. The ends were drilled out to accept pieces of leftover floral wire from some resin kits. They were then glued in place.

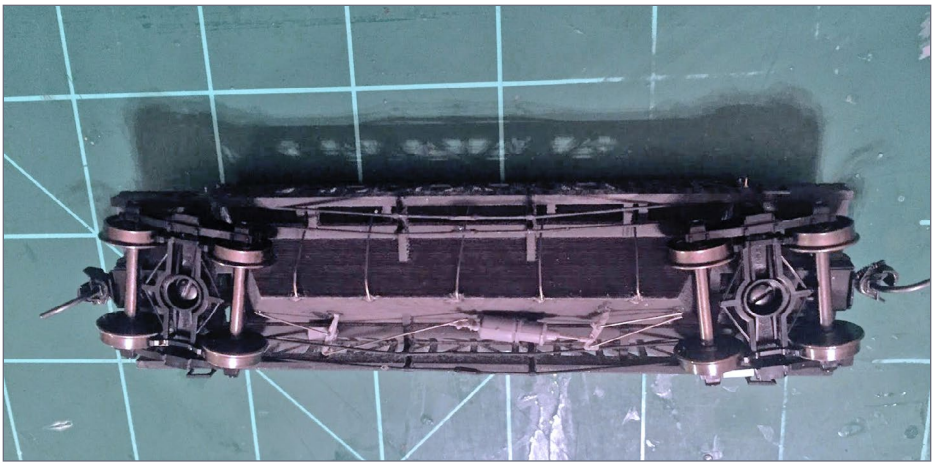


13. The floral wire was trimmed and bent, then glued to the frame to finish the truss rods.

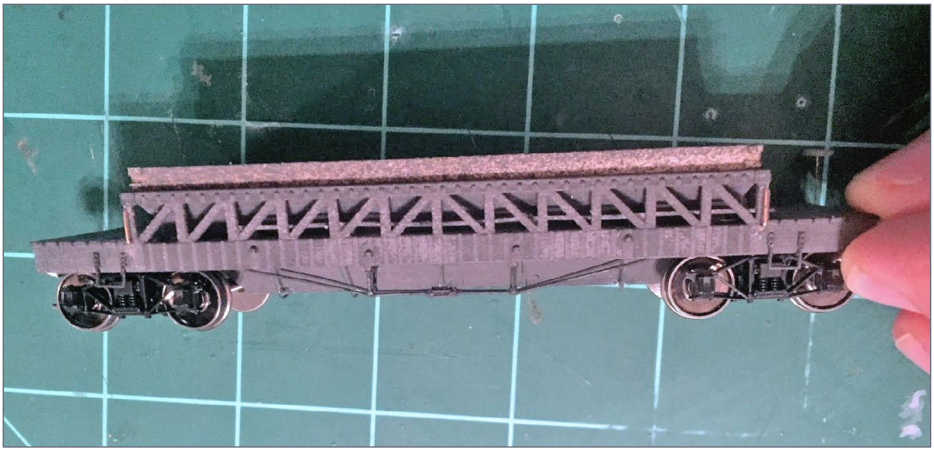


14. The finished truss rods.

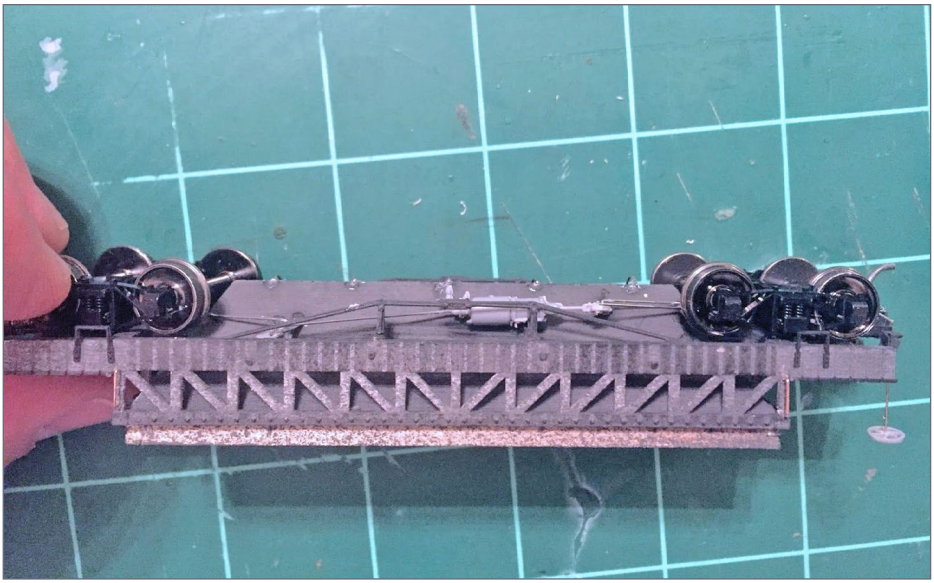
15. I primed the model to help see the parts better, as it is hard to see holes drilled in the clear print from Shapeways. This shows the brake wheel installed from the Tichy K brake set.



16. The blueprint for the ballast car does not include any brake detail. I used my best guess and some pictures others had posted on my blog to create a K brake setup. The wires on the other side are to simulate the chains used to open and close the doors of the hopper.



17. The finished underframe. The rod running horizontally through the car was 3D-printed along with the car. There is a mechanism on the end to turn that rod, which opens or closes the hopper doors.



18. The K brake on the other side of the hopper car and the grab irons.

19. The car is on my homemade paint stand. It allows me to paint all the way around the car. It has two pieces of 2-56 threaded rod screwed into the truck holes.

20. The car has been painted Brewster Green. I believe all early ITS equipment was this color. Decals from a Microscale set were used to piece together these words, since no commercially made decal set is available for this car.

21. The finished ballast car behind my Class A Illinois Traction locomotive. I am glad I undertook the challenge of making these cars. They will add to the distinct character of the ITS on my layout.

click here

There's more!

Check out the Subscriber bonus extras

Doug Forbes

Doug has enjoyed model railroading since his junior high school days. He currently enjoys modeling the Illinois Central and the Illinois Terminal. He enjoys sharing his hobby with his family, as well as various outdoor activities. ■

★★★★★
RATE THIS ARTICLE

Model Railroad Hobbyist | April 2018 | #98

RATE THIS ARTICLE

The MRH Staff has a sneak peek at North American Railcar's HO pre-production variants for the 50' Pullman Standard 5077 single-door boxcar ...

North American Railcar is a model manufacturer known for embracing some of the more challenging model railroad car projects. NARC sells their cars through the Pacific Western Rail Systems (PWRS) website [www.pwrs.ca].

NARC is working on their most comprehensive HO and N scale model railcar project yet: the 50' Pullman Standard 5077 cubic feet single door box car. They're currently taking pre-orders.

Pullman Standard built 4,301 of the 5077 cubic foot plate B box cars with sliding doors between October 1972 and August 1979 for seven original customers.

Throughout its production life, this car had two different body styles, five different side sills, three different roof versions, three different end variants, and eight different door styles as well as some minor road-specific modifications.

North American Railcar is bringing HO and N modelers as many of these variations as they can. See for yourself in the following pages! ☑

Pre-production sneak peek | 2

1. Lot 9602 - PC 168000-168499 10/72

2. Lot 9832 - RBOX 21000-21599 6/76

These two photos represent just the beginning of the variations of this car produced. For a detailed accounting of all the variations made, visit the PWRS website link below.

WEB: www.pwrs.ca/announcements/view.php?ID=11796

Lot 9602 Version 1 – Penn Central

Body version 9602-1 with 12 side posts. *Photo courtesy of Ron Hawkins*

Pullman Standard built 500 of their original 5077 cubic-foot, plate B, single door box cars at their Bessemer, Alabama plant during October 1972 (Lot 9602) for Penn Central in series PC 168000-168499 (PC class X-75). These cars were delivered in jade green paint with white italicized "Penn Central" to the left of the door and a large, white PC "worm" to the right of the door. Other features on the as-delivered version of Lot 9602 include:

- Type 1 body with 12 side posts (6 on each side of the 10-foot centered door) which include a Z-post for the first post with the remaining posts being hat-section channels
- L-channel side sill unique to this lot
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's N4/5 "sine-wave" corrugated ends (with narrow top corrugation)
- Pullman's embossed panel sliding doors
- Ajax hand brakes
- Type 1 stirrup steps

Lot 9602-1/PC pre-production model. Click this image to visit a web page and spin this model a full 360 degrees to study the details.

NOTE: Adobe has discontinued support for Apple's Quicktime 360 VR inside a PDF. This means we can no longer embed these animations inside the embedded edition.

- Rigid (non-cushioned) underframe
- Horizontal-level brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers
- As-delivered jade green paint with large PC worm logo

This detailed replica of Pullman Standard's 5077 cubic-foot single door box car (Lot 9602) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: pwrs.ca/client_services/reservations/product_profile.php?ProductID=253508

Lot 9602 Version 2 – Conrail (yellow door)

Body version 9602-2 with 12 side posts. *Photo courtesy of Grant Lowry*

Pullman Standard built 500 of their original 5077 cubic-foot, plate B, single door box cars at their Bessemer, Alabama plant during October 1972 (Lot 9602) for Penn Central in series PC 168000-168499 (PC class X-75). These cars were later transferred to Conrail and were repainted box car brown with a block "Conrail" to the left of the door and a medium Conrail "can opener" to the right of the door. Other features on the as-delivered version of Lot 9602 include:

- Type 1 body with 12 side posts (6 on each side of the 10-foot centered door) which include a Z-post for the first post with the remaining posts being hat-section channels
- L-channel side sill unique to this lot
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's N4/5 "sine-wave" corrugated ends (with narrow top corrugation)
- RCS replacement 6-panel sliding doors

Lot 9602-2/CR pre-production model. Click this image to visit a web page and spin this model a full 360 degrees to study the details.

- Ajax hand brakes
- Type 1 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-level brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers
- Repainted Conrail livery with yellow door

This detailed replica of Pullman Standard's 5077 cubic-foot single door box car (Lot 9602) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: pwrs.ca/client_services/reservations/product_profile.php?ProductID=253507

Lot 9602 Version 4 – CPR (extended roof)

Body version 9602-4 with 12 side posts. *Photo courtesy of Darrel Sawyer*

Pullman Standard built 500 of their original 5077 cubic-foot, plate B, single door box cars at their Bessemer, Alabama plant during October 1972 (Lot 9602) for Penn Central in series PC 168000-168499 (PC class X-75). Some of these cars were later transferred to Canadian Pacific Railway (CP) and were repainted red with their beaver logo and stacked block "Canadian Pacific Railway" to the left of the door. These cars were modified for pulp and paper service by raising the roof, adding a taller (plate C) door, adding vents along the roof and floor lines on both side of the door, increasing the capacity from 70 to 100-tons and replacing the original 70-ton trucks with 100-ton versions. Other features include:

- Type 1 body with 12 side posts (6 on each side of the 10-foot centered door) which include a Z-post for the first post with the remaining posts being hat-section channels
- L-channel side sill unique to this lot
- Pullman's proprietary 15-panel "bow-tie" roof with a roof extension that raises the roof to better accommodate stacked rolls of paper
- Pullman's N4/5 "sine-wave" corrugated ends (with narrow top corrugation and reinforcing plates added between the corrugations)

Lot 9602-4/CPR pre-production model. Click this image to visit a web page and spin this model a full 360 degrees to study the details.

- Prime replacement 8-panel sliding doors
- Upper vents along the roof line (separate parts)
- Lower vents along the floor line (separate parts)
- Ajax hand brakes
- Type 1 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-level brake gear
- NARCorp high performance/low friction 100-ton Barber S-2 trucks with 36" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers
- Bright red livery with Beaver logo

This detailed replica of Pullman Standard's 5077 cubic-foot single door box car (Lot 1059) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: pwrs.ca/client_services/reservations/product_profile.php?ProductID=253752

Lot 9794 Version 1 – Railbox

Body version 9794-1 with 10 side posts. *Photo courtesy of Christopher Palmieri*

Lot 9794 was Pullman's second order for their 5077 cubic-foot single door box cars, built at the Bessemer, Alabama plant 1-3/75. Some 1000 cars were built for American Rail Box Car Company for general service and placed into series RBOX 14000-14999. Lot 9741 differed from Lot 9602 in several ways (different body, different side sill, different ends, different stirrup steps):

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 1 side sill
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's N4/5 "sine-wave" corrugated ends (with narrow top corrugation and vents)
- Pullman's embossed-panel sliding doors
- Ellcon-National hand brakes

Lot 9794-1/RBOX pre-production model. Click this image to visit a web page and spin this model a full 360 degrees to study the details.

- Type 2 stirrup steps
- Rigid (non-cushioned) underframe
- Vertical-lever brake gear (hook and eye)
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers
- Original "early" Railbox paint scheme

This detailed replica of Pullman Standard's 5077 cubic-foot single door box car (Lot 9794) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: pwrs.ca/client_services/reservations/product_profile.php?ProductID=253639

Lot 9831 Version 1 – ATSF

Body version 9831-1 with 10 side posts. *Photo courtesy of Ron Hawkins*

Lot 9831 was Pullman's third order for their 5077 cubic-foot single door box cars, built at the Bessemer, Alabama plant 8-11/75. Some 1500 cars were built for American Rail Box Car Company for general service and placed into series RBOX 15000-16499. In 1983, 676 cars from RBOX 15000-15675 were transferred to SOUTHERN ownership and put into the SOUTHERN 15000-15675 series, with only the reporting marks changed. 386 cars (RBOX 15676-16061) were transferred to ATSF 51336-51712, 218 cars (RBOX 16062-16279) to C&O 400305-400522 and 220 car (RBOX 16280-16499) to BN 249249-249460. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 2 side sill
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's N4/5 "sine-wave" corrugated ends (with narrow top corrugation)

Lot 9831-1/ATSF pre-production model. Click this image to visit a web page and spin this model a full 360 degrees to study the details.

- Pullman's embossed-panel sliding doors
- Ellcon-National hand brakes
- Type 3 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers
- ATSF 1980s circle/cross logo

This detailed replica of Pullman Standard's 5077 cubic-foot single door box car (Lot 9831) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: pwrs.ca/client_services/reservations/product_profile.php?ProductID=253641

Lot 9831 Version 4 – CSXT

Body version 9831-4 with 10 side posts. *Photo courtesy of Bill Gawthrop*

Lot 9831 was Pullman's third order for their 5077 cubic-foot single door box cars, built at the Bessemer, Alabama plant 8-11/75. Some 1500 cars were built for American Rail Box Car Company for general service and placed into series RBOX 15000-16499. In 1983, 676 cars from RBOX 15000-15675 were transferred to SOUTHERN ownership and put into the SOUTHERN 15000-15675 series, with only the reporting marks changed. 386 cars (RBOX 15676-16061) were transferred to ATSF 51336-51712, 218 cars (RBOX 16062-16279) to C&O 400305-400522 and 220 car (RBOX 16280-16499) to BN 249249-249460. The 218 cars assigned to C&O were later assigned to SBD 141306-141522 and then to CSXT 141306-141522. The CSXT cars were typically shopped, new doors installed and then repainted into the CSX blue and yellow scheme with the large, underlined CSX to the right of the door. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 2 side sill
- Pullman's proprietary 15-panel "bow-tie" roof

Lot 9831-4/CSXT pre-production model. Click this image to visit a web page and spin this model a full 360 degrees to study the details.

- Pullman's N4/5 "sine-wave" corrugated ends (with narrow top corrugation)
- YSD replacement corrugated-panel sliding doors
- Ellcon-National hand brakes
- Type 3 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers
- Dark blue livery with bold yeloow CSX logo

This detailed replica of Pullman Standard's 5077 cubic-foot single door box car (Lot 9831) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: pwrs.ca/client_services/reservations/product_profile.php?ProductID=253643

Golden Tye Kit Car Version 4 – B&O

Body version GT-4 with 10 side posts. *Photo courtesy of Alan Gaines*

Pickens Railroad purchased a number of kits from both Berwick Forge and Fabricating (BFF) and Pullman Standard to be assembled in Golden Tye's Pickens, SC shops. Between 5 & 7/76, Golden Tye (GT) assembled 81 kits and put them into the PICK 55500-55580 series. In 1985, Chessie System took possession of 30 of those 1976-built kit cars, refurbished them and placed them in the B&O 401170-401199 series. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 5 side sill (no jack pads, Golden Tye rivet placement)
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's N4/5 "sine-wave" corrugated ends (with narrow top corrugation)
- Pullman's embossed-panel sliding doors with NRUC logo plate
- Ellcon-National hand brakes

Golden Tye-4/B&O pre-production model. Click this image to visit a web page and spin this model a full 360 degrees to study the details.

- Type 3 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- Hennessy "Slide-Well" power-assist door opener with type 3 hand wheel
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers in semi-scale coupler boxes
- Chessie System blue and yellow B&O livery with blank NRUC logo panel on the door and Chessie kitten logo to the right

This detailed replica of Pullman Standard's 5077 cubic-foot single door box car (Lot 9831) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: pwrs.ca/client_services/reservations/product_profile.php?ProductID=253650

Lot 9832 Version 1 – Railbox

Body version 9832-1 with 10 side posts. *Photo courtesy of Ric Hamilton*

Lot 9832 was Pullman's fourth order for their 5077 cubic-foot single door box cars, built at the Bessemer, Alabama plant 4-6/76. 600 cars were built for American Rail Box Car Company for general service and placed into series RBOX 21000-21599 (class XPF11A). In 1983, 360 cars from RBOX 21000-21359 were transferred to Union Pacific ownership and put into the UP 130800-131159 series, while RBOX 21360-21599 (240 cars) were transferred to UP 130400-130637. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 2 side sill
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's 5/5 "sine-wave" corrugated ends
- Pullman's embossed-panel sliding doors

Lot 9832-1/RBOX pre-production model. Click this image to visit a web page and spin this model a full 360 degrees to study the details.

- Universal hand brakes
- Type 3 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Body-mount Micro-Trains couplers
- "Late" Railbox livery (small logos) with black doors

This detailed replica of Pullman Standard's 5077 cubic-foot single door box car (Lot 9832) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: pwrs.ca/client_services/reservations/product_profile.php?ProductID=253648

Lot 9832 Version 2 – MRL (lions head)

Body version 9832-2 with 10 side posts. *Photo courtesy of Eric Larson*

Lot 9832 was Pullman's fourth order for their 5077 cubic-foot single door box cars, built at the Bessemer, Alabama plant 4-6/76. Some 600 cars were built for American Rail Box Car Company for general service and placed into series RBOX 21000-21599 (class XPF11A). In 1983, 360 cars from RBOX 21000-21359 were transferred to Union Pacific ownership and put into the UP 130800-131159 series, while RBOX 21360-21599 (240 cars) were transferred to UP 130400-130637. In 1997 UP 130800-131151 were transferred to MRL 21457-21599 and to SSAM 41500-41599. During 1998, 55 cars were transferred to MRL 21620-21674 and painted into MRL's blue livery with the large white "Washington Group" logo with the lions head. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 2 side sill
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's 5/5 "sine-wave" corrugated ends

Lot 9832-2/MRL pre-production model. Click this image to visit a web page and spin this model a full 360 degrees to study the details.

- RCS replacement 6-panel sliding doors
- Universal hand brakes
- Type 3 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers

This detailed replica of Pullman Standard's 5077 cubic-foot single door box car (Lot 9832) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: pwrs.ca/client_services/reservations/product_profile.php?ProductID=253651

Lot 9832 Version 3 – UP

Body version 9832-3 with 10 side posts. *Photo courtesy of James Kirkman*

Lot 9832 was Pullman's fourth order for their 5077 cubic-foot single door box cars, built at the Bessemer, Alabama plant 4-6/76. Some 600 cars were built for American Rail Box Car Company for general service and placed into series RBOX 21000-21599 (class XPF11A). In 1983, 360 cars from RBOX 21000-21359 were transferred to Union Pacific ownership and put into the UP 130800-131159 series, while RBOX 21360-21599 (240 cars) were transferred to UP 130400-130637. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 2 side sill
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's 5/5 "sine-wave" corrugated ends
- EZ-Roll replacement 7-panel sliding doors
- Universal hand brakes
- Type 3 stirrup steps

Lot 9832-3/UP pre-production model. Click this image to visit a web page and spin this model a full 360 degrees to study the details.

- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers
- Mineral red livery with small UP shield

This detailed replica of Pullman Standard's 5077 cubic-foot single door box car (Lot 9832 has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: pwrs.ca/client_services/reservations/product_profile.php?ProductID=253647

Lot 9962 Version 1 – NSL

Body version 9962-1 with 10 side posts.

Lot 9962 was Pullman's fifth order for their 5077 cubic-foot single door box cars, built at the Bessemer, Alabama plant 9-10/77 and 4/78. Some 300 cars were built for The National Railway Utilization Corporation (NRUC) for general service and placed into series NSL 101600-101899. This order was unique to all the other PS 5077 orders in that these cars were equipped with diagonal-panel roofs instead of the typical PS bow-tie roof. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 2 side sill
- Stanray 15-panel "diagonal panel" roof
- Pullman's 5/5 "sine-wave" corrugated ends
- YSD 5/6/6 sliding doors with separate NRUC logo panels
- Hennessey "Slide Well" power-assist door openers

Lot 9962-1/NSL pre-production model. Click this image to visit a web page and spin this model a full 360 degrees to study the details.

- Ellcon-National hand brakes
- Type 3 stirrup steps
- Rigid (non-cushioned) underframe
- Horizontal-lever brake gear
- NARCorp high performance/low friction 70-ton ASF Ride Control trucks with 33" diameter metal wheels
- Genuine Kadee #158 semi-scale magnetic couplers
- As delivered St. Lawrence Railroad distinctive red, white & blue National Railway Utilization Corp. livery with logo panel and door opener

This detailed replica of Pullman Standard's 5077 cubic-foot single door box car (Lot 9962) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: pwrs.ca/client_services/reservations/product_profile.php?ProductID=253646

Lot 1059 Version 3 – CNW

Body version 1059-3 with 10 side posts. *Photo courtesy of Stephen Borleske*

Lot 1059 was Pullman's seventh and final order for their 5077 cubic-foot single door box cars, built at the Bessemer, Alabama plant 7-8/79. Some 300 cars were built for Chicago and North Western for general service and placed into series CNW 163000-163299. This car represents a car shopped and repainted with black ends, yellow car body with a small red and black "System" logo and a Rail Car Specialties replacement sliding door. Features include:

- Type 2 body with 10 side posts (5 on each side of the 10-foot centered door) with all 10 side posts being fabricated from hat-section channels
- Type 3 side sill
- Pullman's proprietary 15-panel "bow-tie" roof
- Pullman's 5/5 "sine-wave" corrugated ends
- RCS 6-panel replacement sliding doors complete with latches, handles and other fine detail
- Universal hand brakes

Lot 1059-3/CNW pre-production model. . Click this image to visit a web page and spin this model a full 360 degrees to study the details.

- Type 3 stirrup steps
- Cushioned (15" end-of-car cushioning) underframe
- Vertical-lever brake gear (hook and eye)
- Brand New NARCorp high performance/low friction, super detailed 70-ton ASF Ride Control trucks with 33" diameter metal wheels with spinning bearing caps
- Genuine Kadee #158 semi-scale magnetic couplers
- Repainted yellow CNW livery with "system" logo

This detailed replica of Pullman Standard's 5077 cubic-foot single door box car (Lot 1059) has been meticulously researched and designed by North American Railcar. The plastic body shell will have accurate details in plastic, wire and etched metal. ■

WEB: pwrs.ca/client_services/reservations/product_profile.php?ProductID=253645

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APRIL NEWS column

Model Railroad Hobbyist | April 2018 | #98

RATE THIS ARTICLE

Richard Bale and
Jeff Shultz report the latest hobby industry news

Grandt Line

Grandt Line, one of the most respected suppliers of narrow gauge rolling stock, specialty supplies, and architectural components, is closing its doors. Founded in the 1950s by the late Cliff Grandt, the company became a pioneer in developing a wide range of mostly narrow gauge products that were meticulously researched and scaled from the real thing. Although the focus was on On3 and HOn3, Grandt Line's selection of products ranged from ½-inch to N scale. A major segment of sales in recent years has come from the company's broad selection of windows and doors for the architectural and doll house industries. The Gold Belt series of HO scale injection molded styrene structure kits and R/Robb Publishing are part of the family owned business. Grandt Line will continue to accept new orders through May 1, after which it will sell only stock on hand. The

targeted closing date is June, 2018. For information about product availability visit grandtline.com.

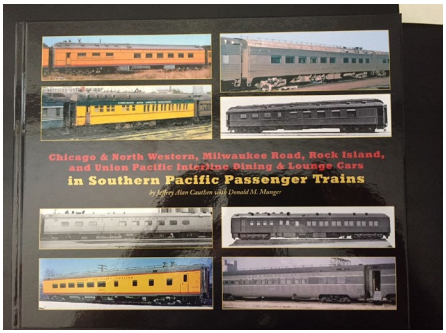
Bowser

Bowser is selling its inventory of repair parts for non-house brands. The stock includes approximately 20,000 replacement items for Athearn (old Blue Box era), Model Die Casting (Roundhouse brand), Mantua (pre-Model Power era), and AHM-Rivarossi. The collection is being sold as a single lot and includes the parts cabinets currently used to store the items. The buyer will be required to pick up the items since it is impractical to package or crate. For additional details contact Lee English at Bowser Manufacturing, PO Box 322, 1302 Jordan Avenue, Montoursville, PA 17754. Phone 800-327-5126.

NEW PRODUCTS FOR ALL SCALES

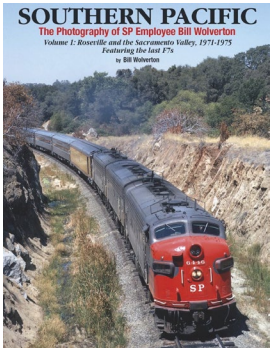
Digitrax has released the BXPA1, a LocoNet DCC auto-reverser incorporating detection, transponding, and power management. Featuring solid state auto-reversing with non-mechanical relays, the BXPA1 also has an integrated transponding zone and will report the location of transponder-equipped locos and rolling stock to LocoNet. It also detects most powered locomotives, and rolling stock equipped with resistor wheelsets. The BXPA1 includes addition connections for opto-isolated occupancy detector output manual power control, and a remote status indicator. For more information see your dealer or digitrax.com.

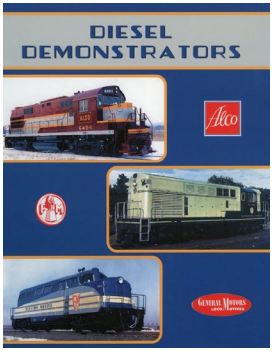
Excalibur Games is selling a video game for young children titled Tracks - The Train Set Game. The game involves positioning wooden track pieces, assembling towns and surrounding environment, commuting passengers, and riding wooden trains from the engineer's seat. For additional information visit store.steampowered.com/app/657240.



A major new book titled *Interline Dining & Lounge Cars in Southern Pacific Passenger Trains* is now available from **Union Terminal Publications.** Noted passenger car experts Jeffrey Alan Cauthen and Donald M. Munger present an in-depth study of the dining and lounge cars of the Chicago & North Western, Milwaukee Road, Rock Island, and Union Pacific that were assigned to jointly operated trains on the Overland and Golden State Routes. The 8.5 x 11-inch, 208- page hardbound book includes 265 photographs and 59 plans, rosters, and a glossary of terms. For additional information including ordering instructions write to Union Terminal Publications, 1737 Via Di Salerno, Pleasanton, CA 94566-2226.

New hard bound publications from **Morning Sun Books** include *Southern Pacific: The Photography of SP Employee Bill*



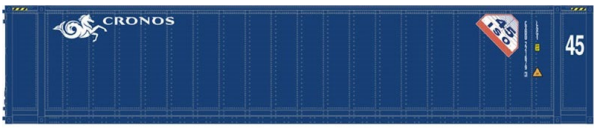


Wolverton, Volume 1; Union Pacific Power 1965-2015, Volume 4, by Stephen M. Timko; and *New York Central West Shore Commuter Territory,* by Walter E. Zullig, Jr. Also available now is a reprint of *Diesel Demonstrators,* by Karl Erk. Originally published in 2007, Erk presents a detailed review of various diesel prototypes offered to railroad buyers from ALCO, Montreal, Baldwin, EMD, GM, FM, GE, and Lima-Hamilton. The 256-page book features color and black & white photos, as well as vintage art and rare advertisements. For additional information on all Morning Sun products contact a dealer or visit morningsunbooks.com.

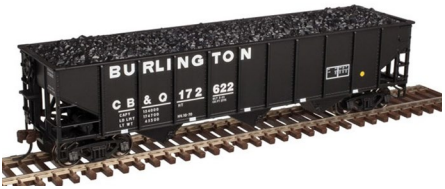
O SCALE PRODUCT NEWS

Atlas O has scheduled a third quarter release for the next run of its 17,600 gallon corn syrup tank car. The O scale ready-to-run model is based on a popular prototype built in large numbers by Trinity Industries between 1984 and 1998. Separately applied details include train line hoses, uncoupling levers, outlet fixtures, and metal grab irons. Additional details include see-through walkway

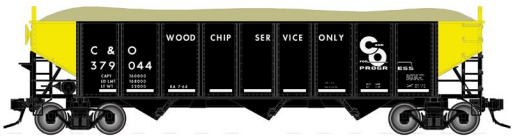
end platforms and 100-ton trucks with rotating bearing caps. Road names will be ADM (Molecule), Cargill Foods, GATX, SYRX, and Union Tank-Corn Products.



Also set for release from Atlas O during the third quarter is a group of 45-foot containers that feature operating loading doors. Decorating schemes will be Cronos, Evergreen, Lykes, and Maersk.



Completing Atlas O's third quarter release of O scale models is a Trainman series 70-ton triple-bay open hopper car with nine side panels. Cars with standard flat ends will be available for Union Pacific, and Burlington.

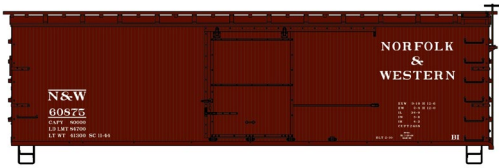


Cars decorated for MKT, Central of Georgia (wood chip service), Chesapeake & Ohio (wood chip service), and Grand Trunk Western will have arched ends. All Atlas O rolling stock is available with trucks for either 2-rail or 3-rail operation. For Additional information on all Atlas O products contact a dealer or visit atlaso.com.

Fos Scale Models has introduced an O scale craftsman-style kit for a waterfront structure called Neptune Boat & Bait. The clapboard building features corrugated roofing and board-by-board walls. Assembling the pier is simplified with precut holes for the wood pilings. Cast

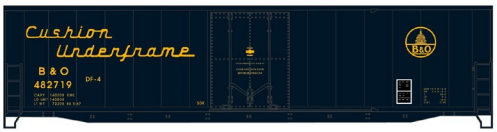
metal details include a vintage pay phone, welding tanks, and an outboard motor. The assembled model has a footprint of 4.5 x 6-inches. For additional information visit fosscalemodels.com.

HO SCALE PRODUCT NEWS



Accurail has released several new HO scale kits, including one for this Norfolk & Western 36-foot double-sheathed wood boxcar. The model follows a prototype built in 1910 with a steel roof, wood ends, and a straight steel underframe. Accurail's version represents the prototype as it was rebuilt in 1944.

A kit for a 36-foot Fowler boxcar is available decorated for New York, Susquehanna & Western. The single-sheathed wood boxcar is based on a prototype built in 1913 and rebuilt in 1939.



An HO scale version of this 50-foot insulated plug-door boxcar with welded-steel sides is available in kit form from Accurail. It follows a car delivered to the Baltimore & Ohio in 1967.

Accurail has released HO scale kits for ACF triple-bay covered hopper cars decorated for New York Central

with a large cigar band herald. The model is available in a three-pack with different road numbers.

Also available in a three-pack are 41-foot AAR steel gondolas decorated for the New York, New Haven, & Hartford Railroad. All Accurail kits include appropriate trucks with plastic wheels and Accumate knuckle couplers. For additional information on Accurail products contact a dealer or visit accurail.com.

Athearn's February 2019 production schedule includes Genesis series SD70ACe/SD70M-2 diesel locomotives decorated for EMD Leasing, Union Pacific, Ferromex, and two Norfolk Southern heritage schemes: Reading and Virginian. In addition to several road specific details, the HO scale models will come with rubber MU hoses and all LED lighting. Sound versions feature an onboard DCC decoder with SoundTraxx Tsunami2 sound.

Also scheduled for release next February is a new run of Genesis ACF 4600 cu. ft. Center Flow triple-bay covered hoppers. Three body styles will be produced in this run with each representing a

specific ACF production period. Early versions built in 1965 will have high side ladders and brake wheels, and a single side stiffener. Mid production cars will have a lowered brake wheel, shortened ladders, and a single side stiffener. Late versions of the car (post 1971 production) will have double side stiffeners. The brake wheel and ladders will also be lower.

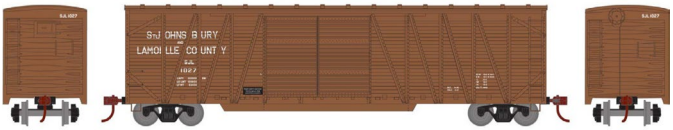
In addition to Chicago, Burlington & Quincy, decorating schemes will be Burlington Northern, BNSF, Union Pacific, and Pennsylvania Railroad.

Ready-to-Roll models coming from Athearn next February include both EMD SD40 and SD40-2 diesels. The SD40 will be available in Southern Pacific's inadvertent "Desert Storm" as seen above with Athearn's unique primed for grime paint. Three additional Southern Pacific red and grey schemes will be available along with a GM&O version and a primed for grime CSX (ex-Chesapeake & Ohio).

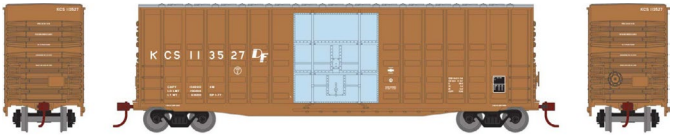
In 1972 EMD launched the SD40-2, an SD40 upgraded with high-traction HT-C trucks and a modular electronic control system.

Athearn's HO scale Ready-to-Roll model will be available for Norfolk Southern Operation Lifesaver, NS/Maersk Sealand, Rock

Island, and Union Pacific Desert Victory.



Athearn plans to release an HO scale model of a 50-foot single-sheathed wood boxcar next February. Road names for the Ready-to-Roll model will be St. Johnsbury & Lamoille County, Illinois Central, Des Moines & Central Iowa, Southern Pacific, Texas South-Eastern, and Milwaukee Road.



Roundhouse Brand models due from Athearn early next year include a 50-foot high-cube waffle-side boxcar with a plug door boxcar. The HO scale model is based on a prototype with internal bars and posts positioned between each indentation for securing load restraining straps.

The HO scale model will be produced from former Model Die Casting tooling upgraded with crisp new lettering, knuckle couplers, and machined metal wheelsets. Road names will be Kansas City Southern, Canadian Pacific, Southern Railways of British

Columbia, Illinois Central, CSX (ex-Seaboard), Guilford/Maine Central, Canadian National, and Amtrak. For additional information on all Athearn products contact a dealer or visit athearn.com.

Atlas Model Railroad Company is booking advance reservations for the next release of its HO scale Alco C420 diesel locomotive. Availability is planned for the fourth quarter of 2018. The 1:87 model represents a Phase 1 version of Alco's Century series engine. Features of the Master series ready-to-run model include redesigned AAR type B truck sideframes with optional bearing covers, 3,100 gallon fuel tanks, directional lighting with golden-white LEDs, and numerous separately-applied details.

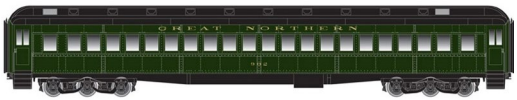
Road names will be Lehigh Valley, Long Island, Delaware & Hudson, D&H (ex-Long Island), Buffalo Southern, Roberval & Saguenay, and Vermont Northern. Units decorated for Long Island will be equipped with Bowser HiAD trucks. Atlas Gold series models come with a LokSound Select Dual-Mode decoder. Atlas Silver series DC models are DCC-ready with an NMRA 8-pin plug to simplify installation of an aftermarket decoder.

Atlas has scheduled a third quarter release for the next run of its 17,600 gallon corn syrup tank car. The HO scale ready-to-run model is based on a popular prototype built in large numbers by Trinity Industries between 1984 and 1998. Atlas will offer the car in three different

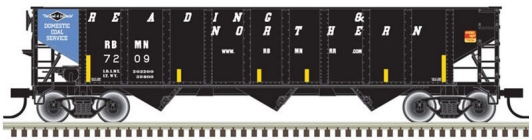
manway-platform-ladder arrangements that reflect the practice of the road name being modeled.

Decorating schemes include Dow Chemical, ADM (Molecule), Cargill Foods, GATX, NJ Transit, Union Tank, and SYRX. An undecorated version will be included in the release.

Atlas has added more road names to the selection of paired-window heavyweight steel coaches scheduled for release during the third quarter of this year. The new road names are Chesapeake & Ohio, Toronto, Hamilton & Buffalo; Duluth, Missabe & Iron Range; Chicago & Eastern Illinois, Milwaukee Road, New Haven, Northern Pacific, and Virginian.

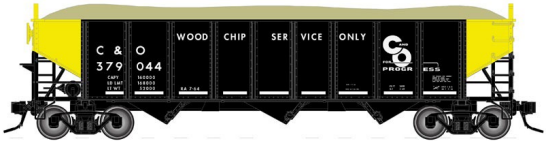


Previously announced single window coaches include Great Northern, Delaware & Hudson, Virginian, Rutland, Canadian Pacific, Pere Marquette, L&N, Burlington, and Spokane, Portland & Seattle. Notable features of the ready-to-run coaches include interior detailing, window glass, operating diaphragms, separately applied underbody details, six-wheel trucks, and AccuMate knuckle couplers. A minimum radius of 24 inches is recommended for trouble-free operations.



Completing the Atlas third quarter release of HO scale models is a

Trainman series 70-ton triple-bay 9-panel open hopper car. Cars with standard flat ends will be available for MKT, Canadian National, Burlington, and Reading & Northern.



Cars decorated for Chesapeake & Ohio, and Central Vermont have arched ends. Each model comes with a removable coal load. For additional information on all Atlas products contact a dealer or visit atlasrr.com.

The newest version of **Bachmann's** HO scale ACS-64 electric locomotives with DCC and TCS WOWSound is set for release in June. The impressive WOWSound package includes horn, bell, cooling fan and power inverter, pantograph extension and retraction, coupler close and release, brake application and release, crew alert, grade crossing quill, and station announcements. Light functions include blinking ditch lights, on/off marker lights, and directional headlights with Rule 17 dimming. A switch provides a choice between rail or pantograph operation. The system includes a Keep-Alive circuit that keeps the model engine running during power interruptions due to dirty track or loss of electrical contact.

Decorating schemes will be SEPTA (Southeastern Pennsylvania Transportation Authority), and four Amtrak versions including Salutes

Our Veterans and Flag Demo. For additional information on all Bachmann products contact a dealer of visit bachmann-trains.com.

Bowser has announced G39 Ore Jenny Cars in HO scale. Designed by the Pennsylvania RR and built in their Sam Rea shops in 1961, they were built to haul lighter ore from the Philadelphia and Cleveland docks to steel mills in Pennsylvania, Ohio, and West Virginia. The follow-on G39A class was built at Sam Rea in 1964, with the G39B class consisting of G39 cars refitted with modern trucks that increased their weight limit from 70 to 77 tons. Bowser's release includes PRR & Penn Central G39 cars with Crown Trucks, PRR, Penn Central, and Conrail G39A cars with original solid bearing trucks, and PRR, Penn Central, and Conrail G39B cars with more modern solid bearing trucks. For more information see your dealer or bowser.com.

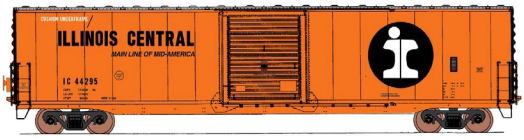
Broadway Limited Imports plans to release HO scale Chesapeake & Ohio J3a 4-8-4 steam locomotives in June. Lima Locomotive Works delivered a dozen of the real 4-8-4 J3s to C&O in 1948. Designed to handle heavy, high-speed passenger service, they were among the last major steam locomotives built in the United States.

While most railroads called their steam locomotives with a 4-8-4 wheel arrangement Northerns, C&O management did not think that would be appropriate for a big classy locomotive operating in the South. After considerable discussion, C&O decided to name its

4-8-4s after the Greenbrier Hotel, a major resort on the railroad's main line in White Sulphur Springs, West Virginia.

Liveries on BLI's HO version will include the green Presidential Express (above) and three standard black in-service schemes (below). Variations in tender lettering will include "Chesapeake & Ohio," "Chessie System Railroads," and "Family Lines Rail System." An unlettered model will be available painted brass color.

Broadway Limited's J3 Greenbriers will feature the Paragon3 Sound & Operation System which includes Rolling Thunder sound and operation in both DC and DCC environments. The J3 is one of BLI's Brass-Hybrid series models with the superstructures of both the locomotive and tender crafted in brass. The chassis and power train are diecast. For additional information on all BLI products contact a dealer or visit broadway-limited.com.



New HO scale models coming this fall from **InterMountain Railway** include several versions of a 60-foot PS-1 boxcar. New decorating schemes will be Illinois Central, Grand Trunk Western (two schemes), Rock Island, and Chicago Great Western.

Popular road names that will be reissued in this production run include Milwaukee Road, Southern Railway, Union Pacific, Santa Fe (Super Shock Control slogan), Chesapeake & Ohio, and Baltimore & Ohio.

An undecorated model will be included in the release. For additional information on all InterMountain Railway products contact a dealer or visit intermountain-railway.com.

Kadee Quality Products plans to release this 50-foot Illinois Central boxcar in May. The HO scale ready-to-run model follows a prototype built in 1968 that is still wearing its original orange paint and the then-new IC railhead logo.

Kadee's June release will be based on this Minneapolis, Northfield & Southern 40-foot PS-1 boxcar. Like the prototype, the Kadee HO scale version will have 10-panel welded sides fitted with Superior 6-foot, five-panel sliding doors. The original was built by Pullman-Standard in 1952. Kadee presents the 1967 blue repaint with all ladders shortened and the running boards removed. Both of the models discussed here will be equipped with Kadee #2100 knuckle couplers and two-piece self-centering trucks.

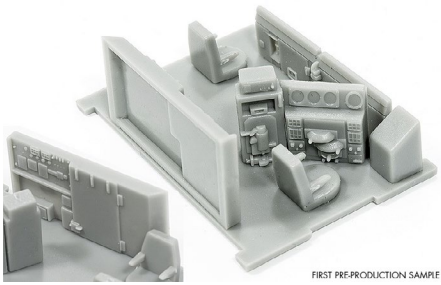
Kadee long range plans include development of a new 40-foot PS-1 body style representing prototypes built in 1947-48. Notable differences between the earlier cars and post-1949 PS-1s include the length of the bolster tabs and side sills, roof panel configuration, variations in the end ribs, and the lack of indentations at the top of the ends. Kadee's initial release of the new PS-1 is expected to be a 1947 ATSF boxcar. It will have a Superior 6-foot sliding door with seven panels of equal height. For additional information on all Kadee products contact a dealer or visit kadee.com.

KatoUSA is taking advance orders for an HO scale SD90/43MAC locomotive custom decorated for Iowa Pacific Holdings/ San Luis &Rio Grande. Each model will be custom painted in Japan. They may be ordered online through March 30th at katousa.com/Zcart/index.php?main_page=product_info&cPath=157&products_id=1911 or through an authorized Kato dealer. To find a dealer go to katousa.com/recommended-dealers/index.html.

KatoUSA has added four new models to its lineup of HO scale Amtrak Superliner passenger cars. Scheduled for release later this month is a Superliner II Transition Sleeper (above) in Amtrak's Phase IVb decorating scheme. Additional Superliner cars coming next month include a diner (below), coach, and sleeper.

Amtrak's fleet of Superliners operate all over the country except in the Northeast Corridor where limited clearances preclude their use. The Superliners were built in 1979 by Pullman-Standard. The design was based on the Budd-built hi-level El Capitan cars Santa Fe assigned to their famous all-coach train. Kato's HO scale version features full interior details, crisp lettering and striping, and flush tinted windows. An optional interior lighting kit is also available. For information on all Kato products contact a dealer or visit katousa.com.

Rapido Trains has announced plans to produce a General Electric B36-7 in HO scale. Development of the 1:87 version of the four-axle high-horsepower diesel from the early 1980s will rely heavily on 3D scans and many measurements taken from prototype locomotives owned by the Transkentucky Transportation Railroad and the Minnesota Commercial Railway.


First pre-production sample

Rapido has issued a long list of road-specific features for their B36-7 that includes extensive underframe detail with a large number of separately-applied parts, complete cab interior including correct orientation of the control stand, and straight metal side handrails with plastic stanchions. Lighting package options include directional headlights, operational classification lights, flashing ditch lights, switchable number boards, cab interior lights, dual Oscitrol lights and red Gyralites. Operating systems for the model include DC/Silent (DCC-ready with a 21-pin socket), and DC/DCC/Sound with ESU LokSound with sound recorded from a prototype B36-7 operating under load.


First pre-production samples

Road names will be Atchison Topeka & Santa Fe, Conrail, CSX Transportation, Norfolk Southern, Seaboard System, Southern Railway, Southern Pacific, British Columbia Railway, Minnesota Commercial Railway, and Transkentucky Transportation. The last three roads listed (BCOL, MNNR and TTI) are conditional announcements with final production

dependent on the level of advance reservations. The deadline for ordering is July 4 with delivery planned for early next year. For additional information contact a dealer or visit rapidotrains.com.

Summit USA is selling an HO scale kit for a modern Walmart store. The shallow building is designed for use as a backdrop. All building parts and signage are supplied including a tall street sign. Components consist of milled and laser-cut white styrene and clear acrylic building elements. Illustrated assembly instructions with painting suggestions are included. Vehicles shown in the illustration are not included. Dimensions of the finished Walmart Supercenter are 35 x 5 x 3.375-inches tall. For more information visit summit-customcuts.com.

Tangent Scale Models has released a new version of its highly-regarded HO scale PS-2CD 4750 cu. ft. covered hopper car. Features of the new model include revised body shells with or without holes in the side posts, variations in the brake systems, outlet gates, roof overhangs, roof hatches, end ladders, jacking pads, brake wheels, and brake wheel housing. Road names include Illinois Central Gulf (1973 scheme), CRDX- Chicago Freight Car Leasing, PTLX- COOP Yetter, Iowa; and PTLX -E&M Grain.

Road names completing this release of PS-2CD 4750 hoppers are Milwaukee Road (original Federal Yellow), and UTCX- GTA Grain Marketing. Standard Tangent features include Kadee couplers and appropriate 100-ton trucks with 36-inch machined metal

wheelsets. For additional information visit tangentscalemodels.com.

Walthers will release a limited edition of a 60-foot high-cube Plate F boxcar in June. The HO scale Mainline series model will have separately applied latch bars, underframe details, and 100-ton roller bearing trucks with 36-inch machined metal wheelsets. Road specific details of the ready-to-run model include either an X-pattern or diagonal panel roof. Road names will be CSX, AOK-Arkansas-Oklahoma, BNSF, Canadian Pacific, Canadian National, CSXT, and TTX. An undecorated model will also be available.

Also scheduled for release in June is a 59-foot cylindrical hopper with quadruple discharge outlets. The Walthers Mainline series HO scale model follows a prototypes built by National Steel Car that had a rated capacity of 4550 cu. ft. Road names with trough hatches will be available for BNSF, Canadian Pacific, Canadian Wheat Board, and NdeM-National Railways of Mexico. Cars decorated for Canadian National, and Toronto, Hamilton & Buffalo will have round hatches. Both versions will be fitted with see-through etched-metal running boards, and roller bearing trucks with 36-inch machined metal wheelsets.

Walthers is readying a Mainline series AAR 50-foot exterior-post mechanical refrigerator car for release

this summer. The HO scale ready-to-run model follows a prototype built in the 1960s at CB&Q's Havelock Shops in Lincoln, NE. Spotting features include a diagonal panel roof with an exhaust stack, see-through running boards, detailed plug doors, Improved Dreadnaught ends, and side grilles over the refrigeration compartment. The car comes with appropriate 70-ton roller bearing trucks with 33-inch machined metal wheelsets. Road names will be Chicago & North Western, Santa Fe, Burlington Northern, Conrail, Northern Pacific, and Pacific Fruit Express.

This 53-foot GSC flatcar fitted with an early-type trailer hitch, rub rails and bridge plates is coming from Walthers in June. The Mainline series HO scale model is intended to handle 40-foot trailers in piggy-back service. Road names will be British Columbia Railway, Ontario Northland, Western Maryland, and TTX-Trailer Train. The ready-to-run car comes with knuckle couplers and trucks with 33-inch machined metal wheelsets. For additional information on all Walthers products contact a dealer or visit walthers.com.

Westerfield Models has released a cast resin kit for Southern Pacific class B-50-15 single-sheathed boxcar with a Murphy radial roof and side posts in a Pratt truss arrangement. The one-piece HO scale body kit replicates SP's series 14480-15229 cars built in 1925 by Standard Steel Car Company. SP began converting the cars to steel sheathing in 1935. Retrofitting the cars with AB brakes began in 1942. In addition to the one-piece cast urethane body, the kit includes numerous cast detail parts, Hi-Tech rubber air hoses, Yarmouth etched bronze corner steps and Carmer uncoupling levers, proprietary decals covering all freight versions of the car, detailed instructions, and a history

sheet. Trucks and couplers are not included but are available separately from Westerfield. For additional information visit: westerfieldmodels.com.

N SCALE PRODUCT NEWS

Athearn plans to release an N scale 4600 cu. ft. covered hopper next February. The ready-to-run model is based on a triple-bay CenterFlow car introduced by American Car & foundry in the mid-1960s. Athearn will offer the model in three body styles with each representing a specific ACF production period. Early versions built in 1965 will have high side ladders and brake wheels, and a single side stiffener. Mid-production cars will have a lowered brake wheel, shortened ladders, and a single side stiffener. Late versions of the car (post-1971) will have double side stiffeners. The brake wheel and ladders will also be lower.

Road names will be Chicago, Burlington & Quincy; Burlington Northern, Burlington Northern Santa Fe, Union Pacific, and Pennsylvania Railroad. Special details include photo-etched metal roofwalks, wire grab irons, body-mounted knuckle couplers, and 100-ton screw-mounted trucks with 36-inch machined metal wheelsets.

Completing Athearn's February 2018 production of N scale products is a group of railroad-owned 40-foot Fruehauf Z-Van trailers. Road

names will be Rock Island Lines, Burlington Northern, Clinchfield, Union Pacific, Santa Fe, and Vermont Railway.

Features include separately applied mud flaps and rubber tires. For additional information on all Athearn products contact a dealer or visit athearn.com.

Atlas Model Railroad Company is booking advance reservations for a fourth quarter release of its N scale Alco C420 diesel locomotive. The model represents a Phase 1 version of Alco's Century series engine. Features of the Master series ready-to-run model include separate uncoupling levers, directional lighting, and painted hand rails. Road specific details include 2,400 or 3,100 gallon fuel tanks, and long hood with or without dynamic brakes.

Road names will be Buffalo Southern, Delaware-Lackawanna, Delaware & Hudson, D&H (ex-Long Island), , Roberval & Saguenay, Lehigh & Hudson River, Lehigh Valley, and Nacionales de Mexico. Both DC and DCC models will be available.

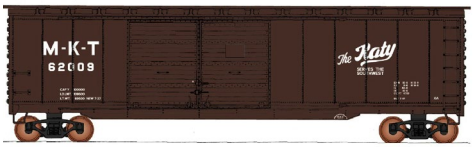
Atlas has set a third quarter release date for a run of 17,600 gallon corn syrup tank cars. The N scale ready-to-run model is based on a popular prototype built in large numbers by Trinity Industries between 1984 and 1998. Atlas will offer the model in

three different manway-platform-ladder arrangements that reflect the practice of the road name being modeled.

Decorating schemes include ADM (Molecule), Cargill Foods, GATX, NJ Transit, and SYRX. An undecorated version will be included in the release.

Atlas has planned another release of its N scale 3500 cu. ft. Dry-Flow covered hopper for the third quarter of this year. Cars decorated for Burlington Northern, Monsanto, Quaker Oats, Pennsylvania, and Union Pacific will be included in the release.

The ready-to-run model features separate brake detail, 70-ton ASF Ride Control trucks with 33-inch metal wheels, and an etched metal brake platform. For additional information on all Atlas products contact a dealer or visit atlasrr.com.



InterMountain Railway will release a new production run of 50-foot AAR boxcars with double Youngstown doors this fall.

The N scale ready-to-run models will be available in six numbers for MKT, New York Central, Rock Island, Norfolk & Western, CB&Q, Pennsylvania Railroad, New Haven, Louisville & Nashville, Union Pacific (in tuscan with "Route of the Streamliners" slogan) and Erie. The release will include an undecorated kit. For information on all InterMountain Railway products contact a dealer or visit intermountain-railway.com.

Jacksonville Terminal Company is selling N scale 40-foot HC containers that feature IBC connecting pins and a proprietary magnetic connecting system. Carrier names include CMA-CGM, CP Ships, APL, Interasia, Beacon, Beacon GCL, Liski, and American Red Cross. For complete details go to jtcmodeltrains.com.

KatoUSA has announced plans to release an updated version of its N scale SD70ACe diesel locomotive in August or September of this year. Revisions include a reworked body with the headlight in the nose. In addition to the Union Pacific "Spirit" scheme shown above, the model will be available decorated in six UP Heritage schemes: D&RGW, SP, CNW, MoPac, MKT, and WP. Models decorated in UP's standard Flag scheme and CSX Dark Future will also be available.

The locomotive has bolsterless non-radial HTSC trucks, directional headlights, working ditch lights, and several body details to match

the railroad being modeled. Kato's SD70ACe diesel locomotives will be available in both standard analog (DC) and DCC. DCC with sound must be special ordered through a dealer. For additional information contact a dealer or visit katousa.com.

Micro-Trains Line has released several new N scale models to dealers including two heavyweight passenger cars. The Union Pacific car with an open observation deck represents an early steel car repainted in the two-toned grey scheme UP introduced after WWII.

This 70-foot Southern Pacific heavyweight baggage car was built in 1927. In addition to handling regular baggage and express merchandise, the full-width end doors indicate it was also capable of transporting race horses.

Micro-Trains has released several 70-foot Husky-Stacks decorated for Burlington Northern. The N scale model represents a group of well cars Gunderson built for BN in 1991.

Although this 50-foot steel insulated boxcar was built in 1955, the short ladders and

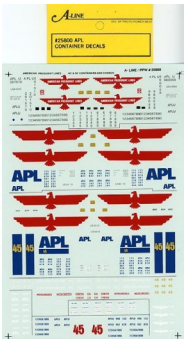
absence of running boards on Micro-Trains N scale version indicates the car's safety features were updated when it was rebuilt and repainted in 1968.

Concluding this month's look at new models from Micro-Trains is a 31-foot Norfolk Southern bay window caboose. The N scale model is based on a prototype built from a boxcar repurposed by Southern Iron and Equipment Company in 1969. For additional information on all Micro-Trains Line products contact a dealer or visit micro-trains.com.

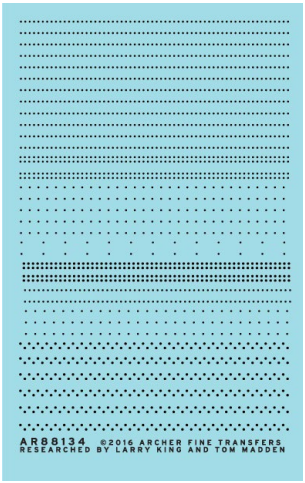
N Scale Works has opened preorders for a high detail 3D printed N scale point motor designed to fit Atlas Code 55 tie spacing. A non-functional model, it is designed after a US prototype that allows turnouts to be both remotely and locally controlled. For more information see: nscaleworks.com/shop.

NEW DECALS, SIGNS AND FINISHING PRODUCTS

A-Line Division of Proto-Power West sells a range of intermodal products including HO scale decals for HO scale containers. Shown here are waterslide decals for APL, Sea-Land

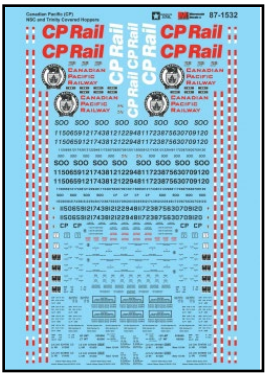


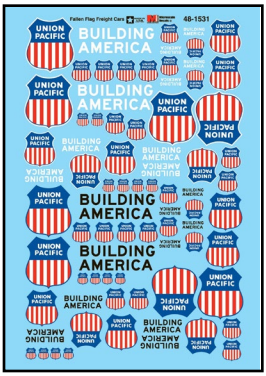
and BN containers. For additional information visit ppw-aline.com/collections/a-line-container-decal-sets.



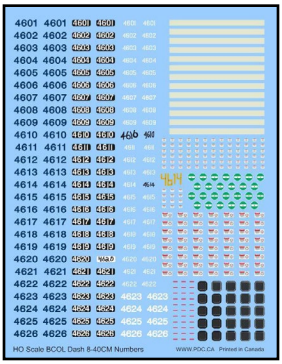
Archer Transfers sells 3D rivet patterns for heavyweight steel cars. The water-slide decals offer rivet patterns researched by passenger car experts Tom Madden and Larry King. The patterns include horizontal rows for the top, waist, and bottom of the steel sides. The unique patterns for splices found on and around letterboards, belt rails, and windows are included. The set also has vertical rows for rivets adjacent to windows, door openings, and car ends. In addition to heavyweight passenger cars, the 3D rivet patterns are ideal for use in a variety of other modeling applications including metal structures, rolling stock, and traction models. Rivet patterns are available for N, HO, S, and O scale. For additional information visit archertransfers.com. A how-to video about 3D surface decals can be viewed at youtube.com/watch?v=aptnvFeEqio.

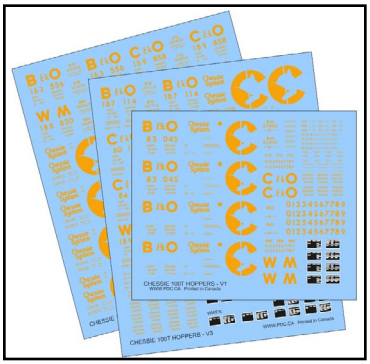
Microscale Industries is selling decals for Canadian Pacific NSC and Trinity covered hopper cars. Both N and HO scale versions of the water-slide decals are available. Microscale also has





N, HO and O scale decal lettering sets suitable for decorating a wide range of Union Pacific freight cars. For additional information on all Microscale products contact a dealer or visit microscale.com.





Precision Design Co. has released HO scale decals for the NY Cross Harbor RR, BCOL & CNA Dash 8-40CM number decals, and Chessie System locomotive number, hopper topper, and 100T hopper decals. For more information on Precision Design Co. products visit pdc.ca/rr/catalog.

Send us your product announcements

If you are a hobby manufacturer with a product announcement, just click here and submit your announcement to us. Our web site and free magazine reach continues to grow, so get on board this new media train! ▪

DISCLAIMER .....

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Please take this survey, it really helps us know much better what kind of articles and videos to make for you!

Briefly noted at press time ...

Kadee Quality Products has introduced a new series of HOn3 freight car trucks. Available styles include Andrews, Bettendorf T-section, Vulcan, ASF A-3 Ride Control, and arch bar trucks with 3-foot 7-inch, and 4-foot 6-inch wheelbases. The trucks come with 26-inch ribbed-back metal wheels with plastic axles. The truck frames are cast in HGC (high gravity compound), a high-tech plastic that is almost as heavy as metal.

Morning Sun has released a digital reprint of *Northern New England Color Guide to Freight and Passenger Equipment.* Authored by David R. Sweetland and Stephen Horsley, the book includes some 300 color photos of 1950-70 rolling stock from B&M, BAR, MEC, International of Maine (CP), and Rutland. Info at morningsunbooks.com.

San Juan Car Company, a well-regarded producer of authentic narrow gauge products, has announced that it is for sale. The sale covers the firm's three product lines that include On3 car kits, San Juan Decals, and the American Limited brand of detailed HO scale passenger car diaphragms and ready-to-run freight cars. The firm was founded in 1978 by the late John Parker who moved his company from Union City, California to Colorado in 1998. Following Parker's death in 2011, SJCC was purchased by the current owners, Robert Statt and John Engstrom. The company is now located in Garden Grove, CA. In making the announcement, Engstrom emphasized that SJCC will continue to operate until such time as the sale is completed. Interested parties can contact John at 714-504-7033 or Robert at 502-594-2446.

SELECTED EVENTS

RATE THIS ARTICLE

April 2018

(Many events charge a fee. Check individual info website for details.)

CANADA, ALBERTA, CALGARY, April 14-15, Annual Supertrain hosted by Calgary Model Railway Society at Genesis Centre, 7555 Falconridge Blvd, NE. Info at calgarymodelrailway.ca.

CANADA, ONTARIO, LINDSAY, April 7-8, Annual Spring Train Show sponsored by Lindsay & District Model Railroaders at Victoria Park Armoury, 210 Kent Street West. Info at ldmr.org/what-we-do/annual-spring-train-show.

CALIFORNIA, PERRIS, April 27-28, Spring Meet, sponsored by NMRA PSR Cajon Division at Orange Empire Railway Museum. Info at cajondivision.org/Cajon_Images/Events%20Images/Events-20/OERM-2018-EARLY-REG.jpg.

CALIFORNIA, ROHNERT PARK, April 4-8, NMRA Pacific Coast Region Convention co-sponsored by PCR and Northwestern Pacific Railroad Historical Society at Double Tree Hotel. Info at pcrnmra.org/conv2018.

CALIFORNIA, SAN BERNARDINO, April 28, Western Prototype Modelers Meet, Santa Fe/Amtrak Station, 1720 West 3rd Street. Info at railroadprototypemodelers.com.

Selected events | 2

CALIFORNIA, SAN DIEGO, Register now for Model Railroad Summer Camp conducted June through July at world-famous San Diego Railroad Museum. Includes kit construction classes and field trips. Info at sdmrm.org/camps/4592677498.

COLORADO, COLORADO SPRINGS, April 28-29, Train Expo Colorado (TECO) at The Event Center in Chapel Hills Mall, 1710 Briargate Blvd. Info at tecoshow.org.

GEORGIA, SAVANNAH, April 14, Savannah Railroad Prototype Modelers Meet, at White Bluff Presbyterian Church, 10710 White Bluff Road. Hotel accommodations at Marriott Spring Hill Suites Midtown, 11317 Abercorn Street. Info at savannahrpm.com.

MASSACHUSETTS, BRIDGEWATER, April 14, Spring Training Show sponsored by NMRA HUB Division of North East Region at St. Thomas Aquinas Parish Center. Info at hubdiv.org/springshow/index.htm.

MICHIGAN, WYOMING (metro Grand Rapids), April 14, Spring Train Show, sponsored by Grand River Valley Railroad Club, at HSB, 5625 Burlingame Ave SW. Info at grandrivervalleyrrc.org/shows.html.

MINNESOTA, WOODBURY, April 7, Train Show & Sale, sponsored by Newport Model Railroad Club, at Woodbury High School, 2665 Woodlane Drive. Info at newportclub.us.

NORTH CAROLINA, HICKORY, April 7, 16th Annual Railroad Expo hosted by Alexander Chapter of the National Railroad Historical Society at Hickory Metro & Convention Center. Info at tarheelpress.com/Trainshow.

OHIO, MARION, April 26-28, Central Ohio RPM, at Marion Union Station. Info at facebook.com/groups/438383252883060/about.

PENNSYLVANIA, MONACA, April 15, Beaver County Spring Model Train Sale, sponsored by Beaver County Model Railroad & Historical Society, at 1700 Old Brodhead Road. Info bcmrr.railfan.net.

TEXAS, GARLAND, April 5-7, 33rd Annual Sn3 Symposium sponsored by NMRA Lone Star Region at Hyatt Place Dallas Firewheel Conference Center Hotel. Info at 2018sn3symposium.com.

VIRGINIA, ROANOKE, April 21-22, Coalfield Railroads RPM & Scale Train Show, at Valley View Holiday Inn. Info at facebook.com/TheCoalfieldRailroadsRPMMeetAndScaleTrainShow.

WISCONSIN, MADISON, April 13-15, 2018, Midwest Region NMRA Regional Convention – Capitol 400, Hosted by South Central Wisconsin Division, Radisson Hotel Madison, 517 Grand Canyon Drive. More info at nmra-scwd.org/capitol-400.html.

May 2018, by location

AUSTRALIA, NSW, ALBURY, LAVINGTON, May 23-24, Annual Train Show, hosted by Murray Railway Modellers Inc., at Mirambeena Community Centre, 19 Martha Mews. Info at murrayrailwaymodellers.com.

CANADA, BRITISH COLUMBIA, BURNABY, May 4-6, 2018, 3rd Annual 7th Division PNR Modellers Meet, at Simon Fraser University (Burnaby Campus), West Mall Centre. Info facebook.com/RailwayModellersBritishColumbia.

NEW ZEALAND, MOSGIEL, May 12-13, Dunedin Model Train Show, at Taieri Bowling Club, 12 Wickliffe Street. Info at dunedinmodeltrainshow.nz.

CALIFORNIA, SANTA CLARA, May 24-26, O Scale West, S West & Narrow Gauge Meets, at Hyatt Regency Hotel, 5101 Great America Parkway. Info at oscalewest.com.

NORTH CAROLINA, SPENCER, May 17-19, Norfolk & Western Historical Society Convention at North Carolina Transportation Museum. Info at nwhs.org/convention/2018spencer/index.php.

OHIO, WEST CHESTER, May 17-20, Cincinnati Express Convention hosted by NMRA Mid Central Region at Cincinnati Marriott North. Info at cincy-div7.org/convention.html.

OREGON, PORTLAND, May 30-June 2, Stumptown Express Convention hosted by NMRA Pacific Northwest Region at Red Lion Hotel, 909 North Hayden Island Drive. Info at stumptown2018.org/pnr2018.html#home.

SOUTH DAKOTA, SIOUX FALLS, May 18-20, Regional Convention hosted by NMRA Thousand Lakes Region at Best Western-Ramkota Hotel Conference Center. Info at thousandlakesregion.org/tlr-siouxfalls-18.

VIRGINIA, FISHERSVILLE, May 6, 32nd Annual Shenandoah Valley Model Train & Railroading Show sponsored by Augusta County Railroad Club at Augusta Expo, 277 Expo Road. Info at acmrrc.org.

WYOMING, CHEYENNE, May 18-20, Cheyenne Express Convention hosted by NMRA Rocky Mountain Region at Frontier Park Exhibition Hall, 1312 West 8th Avenue. Info at rmr-nmra.org/2018%20Convention%20Flyer%20-%20Revision%202.pdf.

Future 2018, by location

CALIFORNIA, SAN DIEGO, September 12-16, NMRA/PSR Convention, sponsored by San Diego Division, Pacific Southwest Region at Marriott Courtyard Hotel Mission Valley. Info at psr-convention.org/home/index.php.

ILLINOIS, COLLINSVILLE (Metro St. Louis), July 20-21, Railroad Prototype Modeler's Meet co-hosted by NMRA Gateway Division, John Golden, and Lonnie Bathurst, at Gateway Convention Center, One Gateway Drive. Favorable rates are available at Double Tree Hotel next door to the convention center. Info at icg.home.mindspring.com/rpm/stlrpm.htm.

MARYLAND, ROCKVILLE, August 22-26, 2018, 50th O scale National Convention, Co-sponsored by NMRA MER, Standard Gauge, Narrow Gauge, P48 and Traction modelers, at Rockville Hilton Hotel, 1750 Rockville Pike. Info at 2018oscalenational.com/newsletters/september-2017-newsletter.

MINNESOTA, BLOOMINGTON, September 5-8, 38th Annual National Narrow Gauge Convention at Double Tree by Hilton, 7800 Normandale Blvd. Info at nngc-2018.com.

MISSOURI, KANSAS CITY, August 5-12, 2018, NMRA National Convention and National Train Show. Host hotel is Westin Kansas City at Crown Center. Info at kc2018.org.

TENNESSEE, JOHNSON CITY, June 2-3, George L. Carter Railroad Museum 10th Anniversary Celebration, at East Tennessee State University. Includes presentation by the East Tennessee & Western North Carolina Railroad Historical Society. Info at etsu.edu/railroad.

Beyond 2018

UTAH, SALT LAKE CITY, July 7-13, 2019, NMRA National Convention and National Train Show. HQ hotel is Little America Hotel. Info at nmra2019slc.org.

MISSOURI, ST. LOUIS, July 12-18, 2020, NMRA National Convention and National Train Show. HQ hotel is Hilton St. Louis at the Ballpark. Info at gateway2020.org.

CALIFORNIA, SANTA CLARA, 2021, NMRA National Convention. ■

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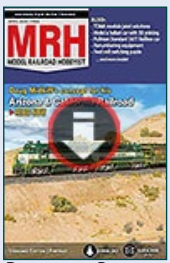

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REVERSE RUNNING commentary

Model Railroad Hobbyist | April 2018 | #98

★★★★★
RATE THIS ARTICLE

Joe Fugate asks if there isn't a simple way to get more layout for nothing...

In this issue's editorial, I discuss layout design selective compression — how to get more layout into less space, if you will.

But there also is another way to get more layout for nothing – and that's by running slower.

As Lance Mindheim has pointed out, this is a hobby, so if we're enjoying operations, why are we in such a hurry to get the fun over with?

▶ STEPPING OUTSIDE THE BOX WITH A CONTRARY VIEW

Lance makes a good point. Is there a place for selective compression of speed? We selectively compress other things, why not speed – make scale speed to be 15-25-35-45-55 mph to represent 30-40-50-60-70 mph? You get more or less 40% more layout doing this ... for no cost!

Once you get used to running at the slower speeds, they will seem normal.

With that said, there's also the problem that the mainline trains on the model tend to get where they're going a lot sooner than they do on the prototype because almost all model railroads have a much shorter mainline than the prototype.

The end result is switching operations proceed closer to prototype speed, while the mainline trains come way too often because of the foreshortened main. The poor yard crews are almost always struggling to keep up because the trains get where they're going so much more frequently.

So my proposal would be this: drop the speed of the mainline trains by 50% to keep the crew engaged longer and need fewer trains. Meanwhile, keep the switching operations at full prototype speed or no more than 25% slower. That way the mainline trains take longer and the crews are engaged longer, so you're less tempted to run another train just to keep the crews busy. The switching jobs have a better chance of keeping up that way, too.

The bottom line for me would be to compress the mainline train speed more than the switching train speed. If that's being done with DCC speed curves and max speed CV settings, then this might be an argument for separate dedicated locos for switching vs mainline runs. Or at least have rules for the mainline guys to *slow it down* when they're running on the main.

So again, what's the rush? Selectively compress train speed a bit to make the ops fun last longer — and make your layout seem larger in the process. ☑

DERAILMENTS

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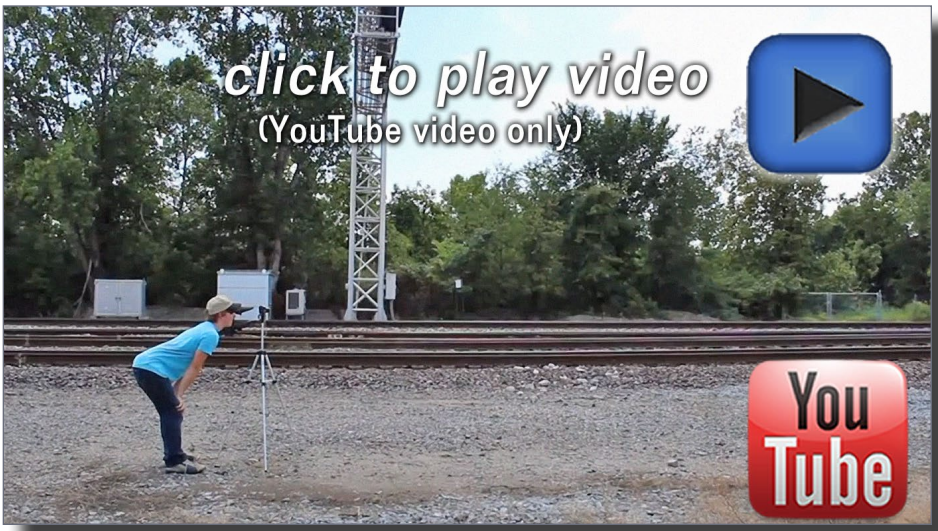


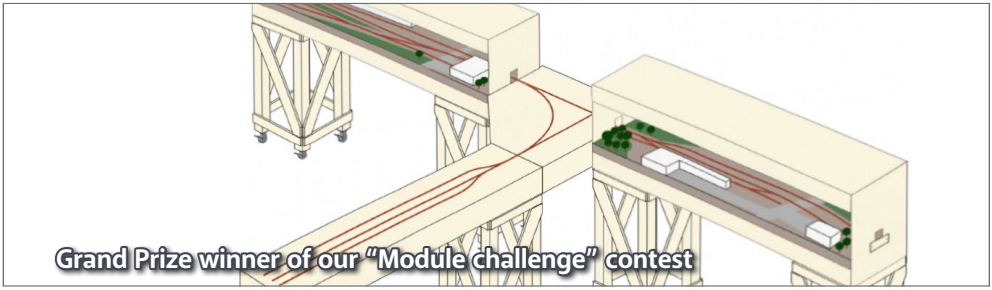
April issue fun: The railroad foamer

Foamer: A term railroad employees use to describe a railroad enthusiast / railfan and the railfan community at large. This fun short video spoofs how foamers behave. ■

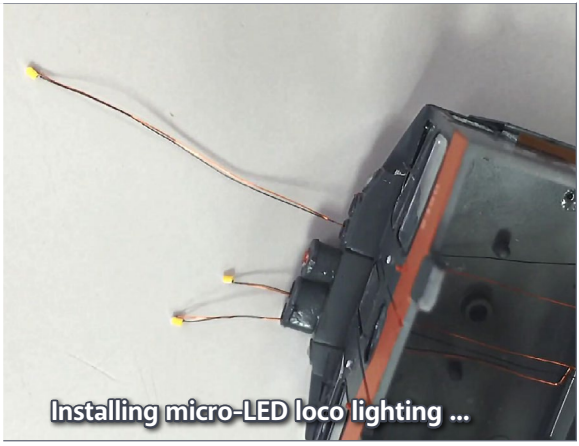
BIZARRE FACTS AND HUMOR (SUPPOSEDLY)

Coming next issue ...

Rick McClellan's Frisco line (Kansas City 2018 NMRA layout) ...



Grand Prize winner of our "Module challenge" contest



Installing micro-LED loco lighting ...

... and lots more coming in the May MRH!