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Model Railroad Hobbyist magazine™

December 2014

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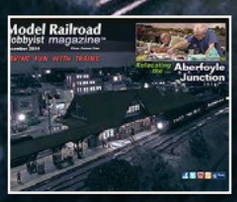
HAVING FUN WITH TRAINS

Relocating the ...
Aberfoyle Junction



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Standard edition - Portrait

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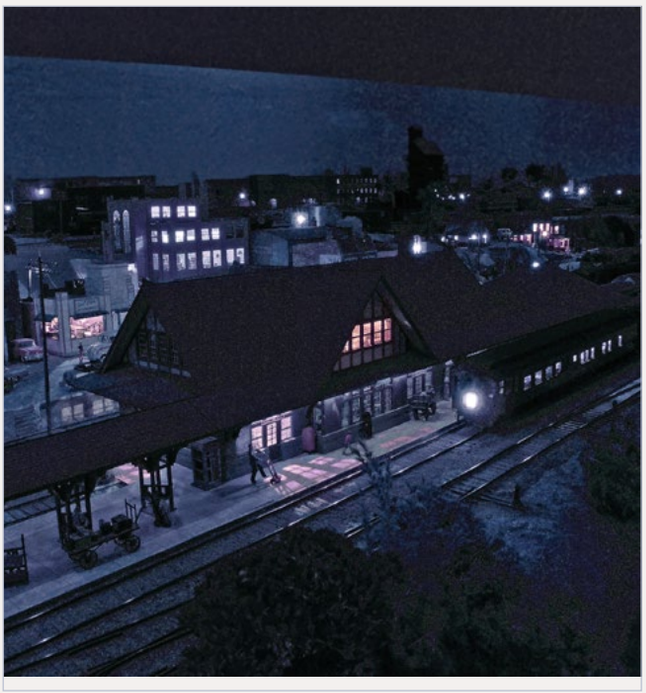
Model Railroad Hobbyist magazine™

Issue 58

Front Cover: Follow the story of the O-scale Aberfoyle junction through two moves to its reopening this last fall. It's a great holiday tribute to the undying spirit of model railroading!



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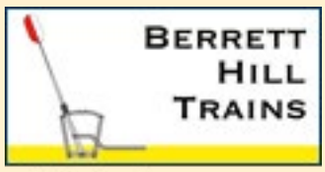

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Frog juicers or keep-alive?

Reducing intermittent power feed issues with our locomotives

Reader Feedback
(click here)

Publisher's Musings

by Joe Fugate

With modern Digital Command Control has come two very useful methods for reducing intermittent power feed issues with our locomotives: frog juicers and keep-alive supercapacitors.

Back in the early days of DCC, those experimenting with the technology realized they could build a circuit to detect a short in the track and swap the polarity in the rails in mere microseconds, well before the short actually affected loco behavior.

The result? Now reversing loops and wyes could automatically detect a polarity mis-alignment in the rails and electronically flip the polarity to eliminate any short, with no mechanical Rube-Goldberg devices needed.

Duncan McCree of TAM Valley Depot took this concept even further when he applied this auto-reversing approach to swapping turnout frog polarity. No longer did you need to wire separate mechanical contacts somewhere to flip frog polarity. You could just have a smart reversing circuit do it all electronically with no moving parts!

Thanks to a frog juicer, you can now power any frog simply by running a single wire to that frog from the frog juicer board and it would take care of the rest. Instead of dead frogs you

could power all your frogs quite easily. No more problems with short wheelbase locos or sound unit sound cutting out at dead frogs.

Meanwhile, developments in super-capacitor miniaturization have allowed the DCC manufacturers to develop practical keep-alive circuits for DCC decoders. Now it's possible to have a decoder keep-alive circuit that keeps your loco running over a dead section for several seconds, sometimes as much as 5-10 seconds!

To see this in action, check out Bruce Petrarca's DCC column in the March 2013 issue of MRH. The video in this column shows the keep-alive in action as Bruce removes the loco from the track and lets it keep running for several seconds while off the track!

So this begs the question – which of these approaches are better? If I have keep-alive in my locos, I clearly don't need frog juicers too. And if all my frogs are powered, my track will

not have deliberate dead spots any longer. How do the two approaches compare in price? To answer this question, let's look at a real-life example on my own layout.

On my HO Siskiyou Line, I have a dozen or so LifeLike Proto 2000 SD9s. These locos have great detail and proportions, but as the models age, they develop power pickup problems.

While the power truck design looks a lot like Kato's with the axle tips riding in a metal plate just behind the truck side-frame, there is one significant difference. Kato uses a drilled phosphor-bronze plate, while LifeLike uses a stamped soft copper plate.

The LifeLike copper plate is a lot softer metal and it's thinner than the harder Kato phosphor-bronze plate. By stamping the axle-tip holes in the soft copper plate, the axle holes actually have jagged "splayed" metal around the axle-tip holes, which gather dirt and lint, making axle-tip contact less reliable.

As the loco ages, these soft copper plate axle holes wear larger, to the point a loco can easily stall because none of the axle tips are contacting the plate on a given rail!

I've installed sound in a few locos as well, and they always cut out at my dead frogs. If the power pickup is working okay, my locos generally run fine across the dead frogs, but the sound decoders seem more sensitive to the dead spot such that they cut out consistently at turnout frogs, which is very annoying. For the SD9s with iffy power pickup anyway, having dead spots anywhere in the track is just asking for more instances of stalling – and that's exactly what happens.

My layout has 120 turnouts on it. Frog juicers come six per board for $80, and I'll need 20 boards to power all the frogs on my layout, which is a $1600 investment.

But if I look at keep-alive instead, I have 65 locos. Not all of them will need keep alive in them, but let's say 75% of them do, which is 49 locos. I can add a TCS KA-2 keep-alive module

The Amherst Railway Society Railroad Hobby Show

Our 2015 Show will be

January 24 & 25, 2015

Save the dates!

AMHERST RAILWAY SOCIETY
RAILROAD HOBBY SHOW

Click to learn more ...

About The Show

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

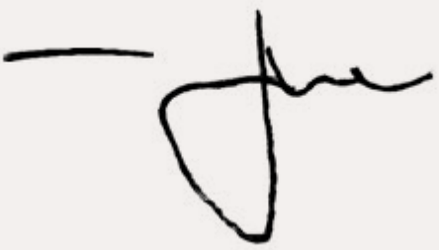
The event features real life railroads and scale model railroads, historical societies, travel agencies, art shows, flea market dealers, importers, manufacturers and photographers. You have to see it to believe it!

to an existing loco for about $24 (assuming there's space). That means I'd need about $1200 to equip 75% of my loco fleet with KA-2 keep alive.

Equipping the problematic locos in my fleet with keep-alive is not only less costly in this scenario, I also get the advantage the locos will run better across other problem areas like turn-out points or even areas of hard-to-reach track for cleaning.

Thanks to these modern developments in DCC, we have a lot of choices with frog juicers and keep-alive. But to apply both is overkill. If just a few frogs are giving you trouble, then clearly frog juicers are an easy answer.

But if like me, you're finding you have some loco power-pickup issues, adding a modern super-capacitor keep-alive can be just what the doctor ordered to get reliable performance from your locos. ☑



Reader Feedback
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Special pricing to celebrate our first birthday!

1-year: ~~$60~~ **$48**
4.00 / month

2-year: ~~$96~~ **$84**
3.50 / month

3-year: ~~$108~~ **$90**
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Backshop Clinic: What's in your toolbox?
Backshop Clinic: Soldering a brass kit
NMRA 2013 National Train Show Report
MLW's pinnacle modern diesel locomotive, CPR 4744
Lex Parker's On3 D&RGW layout 1
Lex Parker's On3 D&RGW layout 2
Mike Daugherty, Whistlemaker *HOT!*
MyLayout: Gail and Greg Whayman
Backshop Clinic: Painting detail parts
Cass Scenic Railway
Jim Rollwage's Union Pacific layout
Oak Ridge Horn Honk 1
Oak Ridge Horn Honk 2
Barry Birkett's G scale garden RR 1
Barry Birkett's G scale garden RR 2
Barry Birkett's G scale garden RR 3
Backshop Clinic: Painting backdrops 1
Backshop Clinic: Painting backdrops 2
Backshop Clinic: Painting backdrops 3
Backshop Clinic: Painting backdrops 4
The Amherst Railroad Hobby Show 1
The Amherst Railroad Hobby Show 2
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Bob Bartizek's O scale Pennsy
MyLayout: Watertown club
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DCC Decoded: TCS Solution for electrical gremlins
O-scale structures by the book
Michel Boucher's Delaware & Hudson
Basic Tsunami Decoder Programming
Steel industry modeling
New York Alcos story
First op session on Barry's Backyard
Vendor Profile: North American Railcar
Jerry Fassnacht's Pennsy/Reading
Streamliners at Spencer 1
Streamliners at Spencer 2 *HOT!*
Streamliners at Spencer 3
DCC Decoded: All about TCS WOWSound for steam
Back to the basement - room prep and backdrops *HOT!*
Lionel sneaks into the 2014 Train Show setup
Layouts at the 2014 National Train Show
Lionel visits the 2014 NMRA Celebration Room
Back to the basement - track planning
Backshop Clinic: Structure graphics
John Miller's Kanawha and Lake Erie
New Free-Mo Roadshow series - concepts
MyLayout: Dick Joyce's Ingleside & Oakdale
DCC Decoded: 44-tonner sound
Back to the basement: benchwork
Quebec & New England RR operations
Backshop clinic: Switchman's class
Roadshow 2: benchwork
Back to the basement: Subroadbed
NTS 2014: SoundTraxx SoundCar demo
Backshop Clinic: Structure scratchbuilding

Notes from the MRH Staff

MRH's new look, books coming in 2015, and some recent great MRH website threads ...

Reader Feedback (click here)

MRH's new look, coming in January!

That's right, we're giving MRH's look a major update in the January issue. Among other things, we're updating the MRH logo to take it from stylized text to an actual logo we're calling "the MRH shield".

November 2014 MRH Ratings

The five top-rated articles in the November 2014 issue of MRH are:

- **4.5** DCC Impulses: Short protection
- **4.5** Hiding modular seams
- **4.5** Battery-powered models
- **4.5** Questions, Answers, and Tips
- **4.5** November Derailments humor/fun/bizarre facts

- Issue overall: **4.7**

Please rate the articles!

Click the reader feedback button on each article and select the star rating you think each article deserves. ***Thank you!***

We worked with graphic designer and model railroader Scott Thornton earlier this year to give MRH an updated look – including the major change of a new “MRH Shield” masthead logo. The old Model Railroad Hobbyist Magazine stylized text logo will be around too; we won’t abandon it completely.

The new look changes go from cover to cover, with everything being given a new look. This change also enables what we’re calling our new “Gen3” format of the magazine.

Starting with the January 2015 issue, MRH will also be available in a reflowable ePub (Apple iBooks and many web browser plugins like Readium can read this) as well as the Amazon Kindle format. This means you can read MRH on any device and it will reformat the page to fit the device screen. You can also make the font as large as you need for easy reading.

The new reflowable format is experimental for now, since it's somewhat bleeding edge, especially when it comes to things like ad link hotspots.

The state-of-the-art today with the increasing variety of screen sizes is to make web digital content "responsive", which means it will resize intelligently to your device screen, remaining highly readable and usable regardless of the screen size.

The current ePub standard, called ePub3, allows for smarter reflow of graphics, but this is pretty new stuff, and the tools for creating this kind of advanced content are not quite here yet.

So we're calling the reflowable format experimental for now. Long-term, we expect the reflowable format to eclipse the PDF format in popularity, because it's so smart in how it reflows to fit your screen.

Brute Power
That Does More

An ALL-NEW M.T.H. Electric Trains HO articulated steam locomotive is rolling into your local retailers this Fall. The Chesapeake & Ohio 2-6-6-6 Allegheny, one of the heaviest steam engines of all time, is sure to amaze and entertain all who see her. Outfitted with sprung drivers, a powerful five-pole skew wound flywheel equipped motor, LED lighting, synchronized puffing smoke, full digital sound and a 28-function DCC decoder make this and all M.T.H. die-cast metal steam locomotives HO's best steam power value.

The Allegheny is offered in four cab numbers, including 1601 and 1604, both still on display in the Henry Ford and Baltimore & Ohio museums. Choose from 2-rail versions or our all-new 3-rail stud rail version for use on Marklin stud track.

Featuring:

- Die-Cast Boiler and Chassis
- Die-Cast Tender Body
- Engineer and Fireman Figures
- Metal Handrails
- RP25 Metal Wheels
- Sprung Drivers
- (2) #158 Scale Kadee Whisker Couplers
- Prototypical Rule 17 Lighting
- Constant Voltage Headlight
- Operating Marker Lights
- Operating Numberboard Lights
- Lighted Cab Interior
- Operating Tender Back-up Light
- Powerful 5-Pole Precision Flywheel-Equipped Skew-Wound Motor
- Synchronized Puffing ProtoSmoke™ System
- Locomotive Speed Control In Scale MPH Increments
- Wireless Drawbar
- Operates On Code 70, 83 and 100 Track
- Built-in 28-Function DCC Decoder
- Proto-Sound 3.0 Digital Sound
- Operates On 22" Radius Curves

80-3249-1 Chesapeake & Ohio 2-6-6-6 Allegheny Steam Engine

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Over time as the reflowable format matures, we will be able to do more interactive things with it that we've only been dreaming about so far. Adobe's PDF standard is intended primarily as a static print format, and so it doesn't have the interactive capabilities we'd like to use for our model railroad how-to publishing.

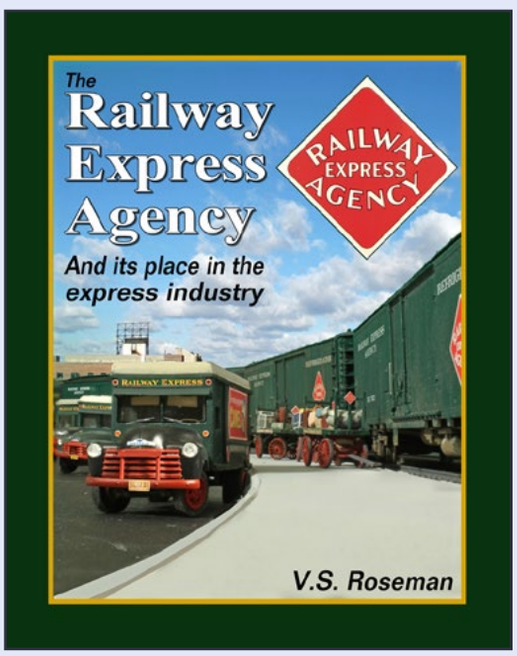
We'll still offer the PDF formats (Landscape and Portrait) for as long as they're popular. Once the reflowable format matures and gets more powerful interactive features, we expect our readers will increasingly feel the PDF format is "too static and too limiting".

For now, the main thing is the completely updated look. We also encourage you to explore the reflowable format, if you're interested. It is experimental for now while we try out its capabilities and wait on the content creation tools for ePub3 reflowable to mature.

Books coming from MRH in 2015

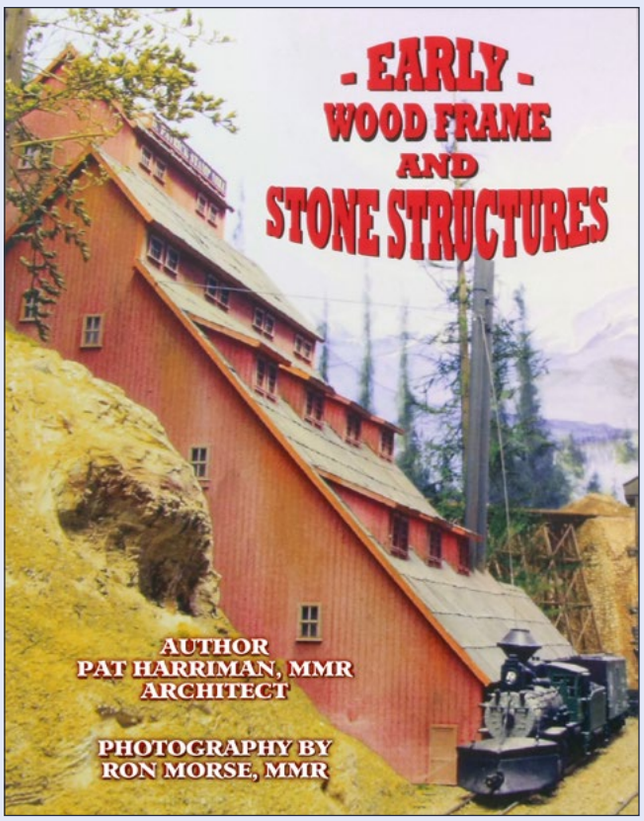
We have a lot planned for 2015!

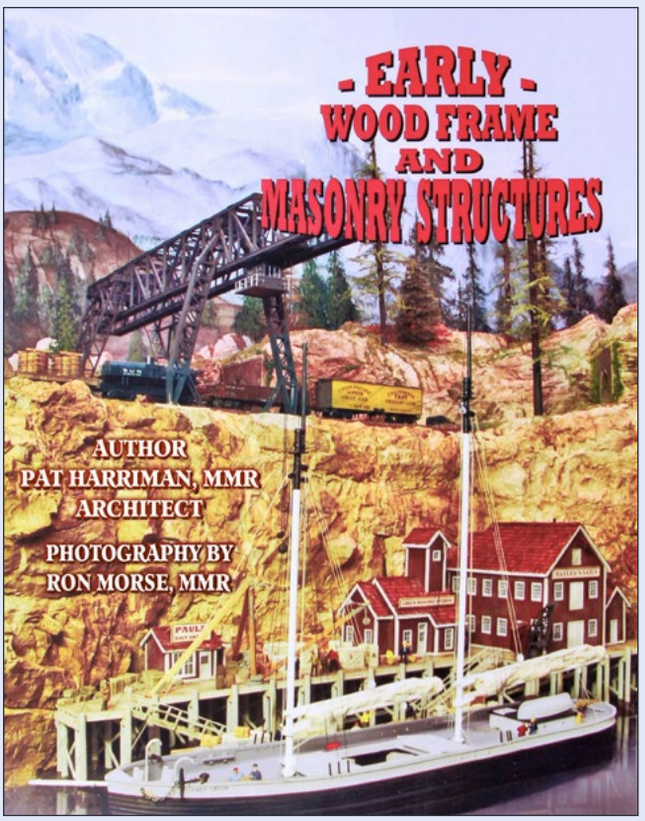
We have several new books coming. Here's just some of them.



The Railway Express Agency: Here's the definitive volume on this passenger train fixture of the twentieth century.

By Victor Roseman, this is the perfect companion to the Daylight passenger train series Victor is doing for MRH. You'll know everything you ever needed to accurately model REA operations on your layout. Will be available as an eBook, paperback, or hardbound.





Two structure plan books from Pat Harriman, MMR and architect: Pat first mentioned these two books on his TMTV segment in May 2014, so we're making them available.

December 2014
Bonus Extras!

Available to subscribers!

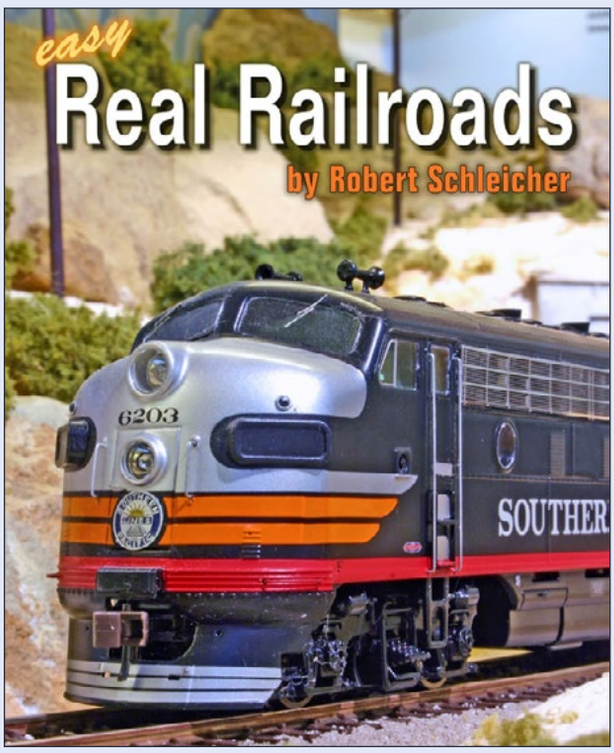
DVD and HD quality versions of this issues videos, plus:

- **Plans from the Fast Loader article**
- **Sample pages from Pat Harriman's structure plan eBook volume 1**

Click here to access

MRH mag Subscribe

One has plans of early wood and stone structures, and the other has plans of early wood and masonry structures. Each will be available as an eBook or as a spiral-bound paperback (so it lays flat when you're using the plans).



Easy Real Railroads by Robert Schleicher: Bob Schleicher, past editor of *Railmodel Journal*, has written a very nice book about how to better model real railroads, complete with actual layout examples.

Not only will we be publishing this book, but we'll also be presenting some of the example layouts as articles throughout 2015.

Real Railroads will be available as an eBook and a softbound book.

And these are just *some* of the many new books we have planned for 2015. They'll be available as either eBooks or in paper form.

Some interesting new MRH website threads

Here's some interesting threads from our website this month.

When to remove masking tape from a painting project
mrhmag.com/node/20064

How common are crossings on industry sidings?
mrhmag.com/node/20076

Helix minimum radius ...
mrhmag.com/node/20316

Reader Feedback (click here)

Enjoy the December MRH! ☑

We're not mind readers!

Please click reader feedback buttons on articles.

QUESTIONS AND ANSWERS

Realistic sand

Q. **Been working on my Walthers HO sand house and I've been contemplating what to fill the sand bin with. How well does real sand scale down? I'd like to find a common everyday type item that would work.**

– Michael

A. Sand is a fine subject! Sand feels gritty when rubbed between the fingers. Silt, by comparison, feels like flour. Geologists define sand as particles ranging in diameter from 0.0625 mm to 2 mm. For a very rough conversion to HO scale, move the decimal point two places to the left; a large grain is .02 mm, or 0.000787402".

Rick: Oftentimes, scale-size items don't look as good as out-of-scale (too-big) items. Sand is a perfect example, in that HO (or smaller) scale sand would look like a completely smooth surface.

I'd use artistic license to justify sand that looks like sand even if it is out of scale (too big).

Dave Husman: Look at diatomaceous earth from a pool supply company.

Matt: I recently was sanding down some plaster castings with 80-grit sandpaper. I'm thinking the sanding dust would be about right. You might want to just use solid plaster and color accordingly. When I'm at the beach, unless I'm closer than a few feet I don't see sand, I see a sand-color landscape.

Joe Atkinson: Sift dirt from a gravel road or lot. I've found that this works great for hard, packed dirt or sand. I sift it through a piece of window screen, then again through a Tide laundry bag, available at Walmart for around $3.

Diatomaceous earth has a particle size typically 10 to 200 microns, or 0.007874". A #80 mesh screen has a 0.007" opening. That leaves you with a particle that's 10 times bigger than a large grain of sand, but will still look granular instead of powdery.

Barr-CEO: Cut a block of foam to fit the bin, paint the top generously with craft acrylic "sand color" (whatever that is for your railroad) and sprinkle on baking soda. If necessary, touch up the edges with more paint and soda after installing. Vacuum up any loose dust. Using a form under the soda keeps it from shrinking and cracking, and it's less of a mess overall. It also lets you get a more precise shape.

Other suggested materials include plaster dust from sanding, sandblaster sand, white pepper, beach sand, garlic powder, and tile grout.

Sand: mrhmag.com/node/19099.

Truck weathering

Q. I have a question regarding the Rustoleum spray paint. The flat brown is sometimes used for weathering trucks but do you think the result would be as good with the satin enamel dark brown or chestnut brown? I am from Argentina and cannot find the flat brown anyway. It is really a pity because this technique for weathering trucks seems so easy, with great results.

– Alejandro

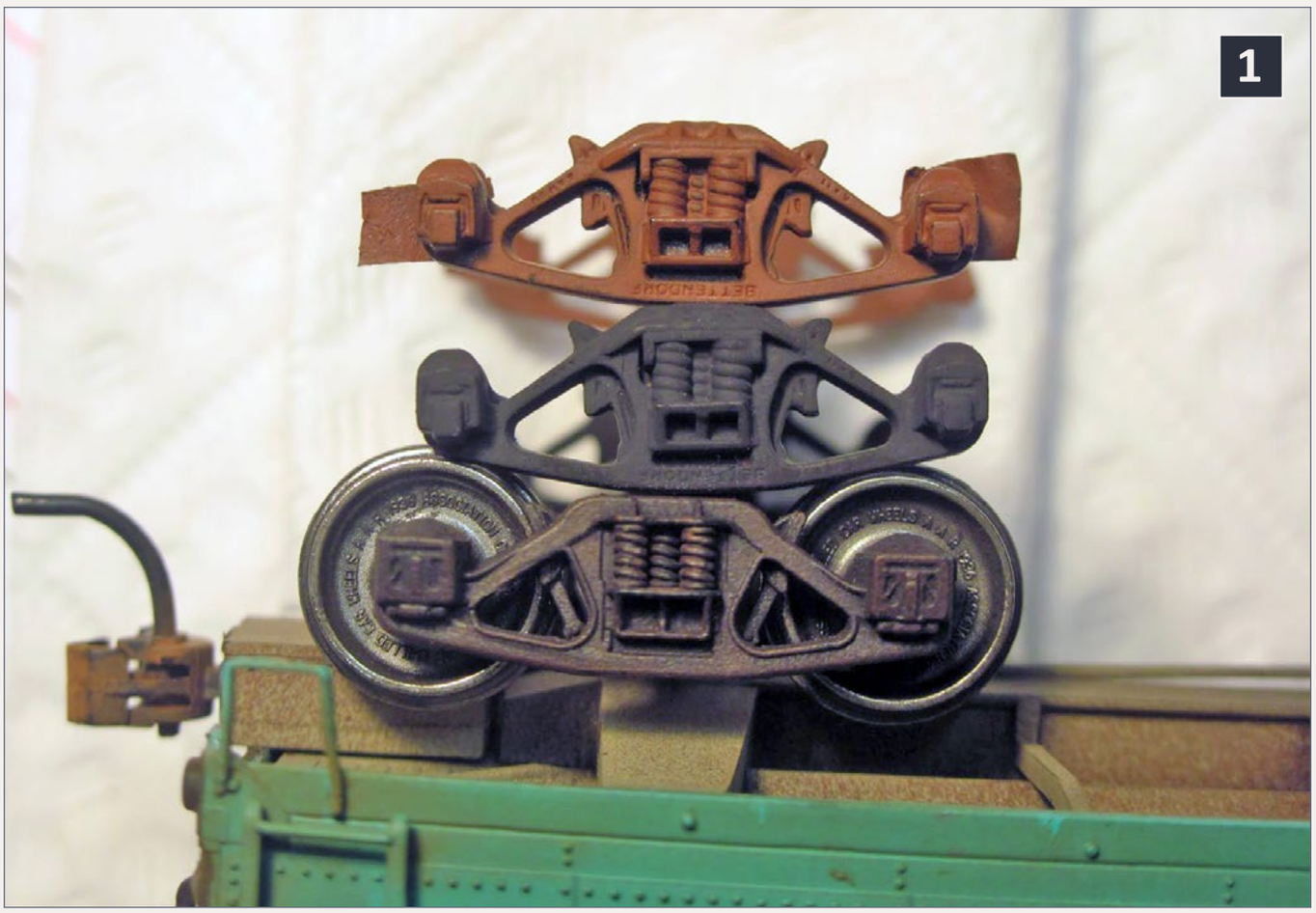
A. Matching up materials is a problem when advice crosses borders. Products can have different names in different markets, and local regulations can keep some products out of some areas.

Bob Bochenek: Automotive paint primer is what I use. The technique illustrated at theweatheringshop.com/jtrucks.html.

Prof Klyzlr (from Australia): Have noted recently that Rustoleum colors outside the USA have different names, and may not be a color match.

Ezeyhomero: I am from Argentina, too. I did the test with satin brown and the result was too shiny. I make a mixture using Tamiya paint, and airbrush it.

Jeff Youst: I don't have an answer for your lack of luck in finding the brown primer, but here is how I weather trucks starting with matte brown. After the initial coloring, I make a syrupy wash from grimy black weathering powder and a very small amount of water. Liberally paint the truck with this and allow to completely dry. Don't worry about losing detail … it will return with a pop! Once dry, use a stiff bristle brush to brush off the majority of the color pigment. The black will remain in all the nooks and crannies and give an overall black sheen to the truck, all the while allowing some of the original brown to come through. It ends up being a slightly rusty grimy effect. A dab of rust powder onto the truck springs, a light dry brush over that, then a spritz of dull clear-coat, and there it is.



1. In steps, from the top: spray with matte brown paint, dab on a layer of black weathering powder "syrup," then brush and highlight for the final product. Jeff Youst photo.

Good luck in your search for the brown.

Weathering trucks: mrhmag.com/node/19357.

– James Ogden

Street running

Q. Has anyone experimented with putting tracks down the middle of the street? I'm not talking about streetcar or trolley. I'm talking about an industrial area with warehouses on one or both sides. Running freight trains down the street.

– Roadglide

A. Art: Our area involves a warehouse industrial track that is embedded in a street and parking lot. We are using balsa wood

to build up the road around the track, which is mounted directly to plywood benchwork. We will cover this with roofing tar paper, for asphalt roads. The goal is to have the tar paper just below the top of the rails so that it looks good but does not interfere with good electrical pickup. Another option is to encase the track in concrete using styrene pieces, asphalt up to the concrete.

Dave B.: I've done this in O scale using plaster, cleaning it off the rails and flangeways before it sets. I'd look for photos of your prototype or of a similar railroad and location and follow their lead.

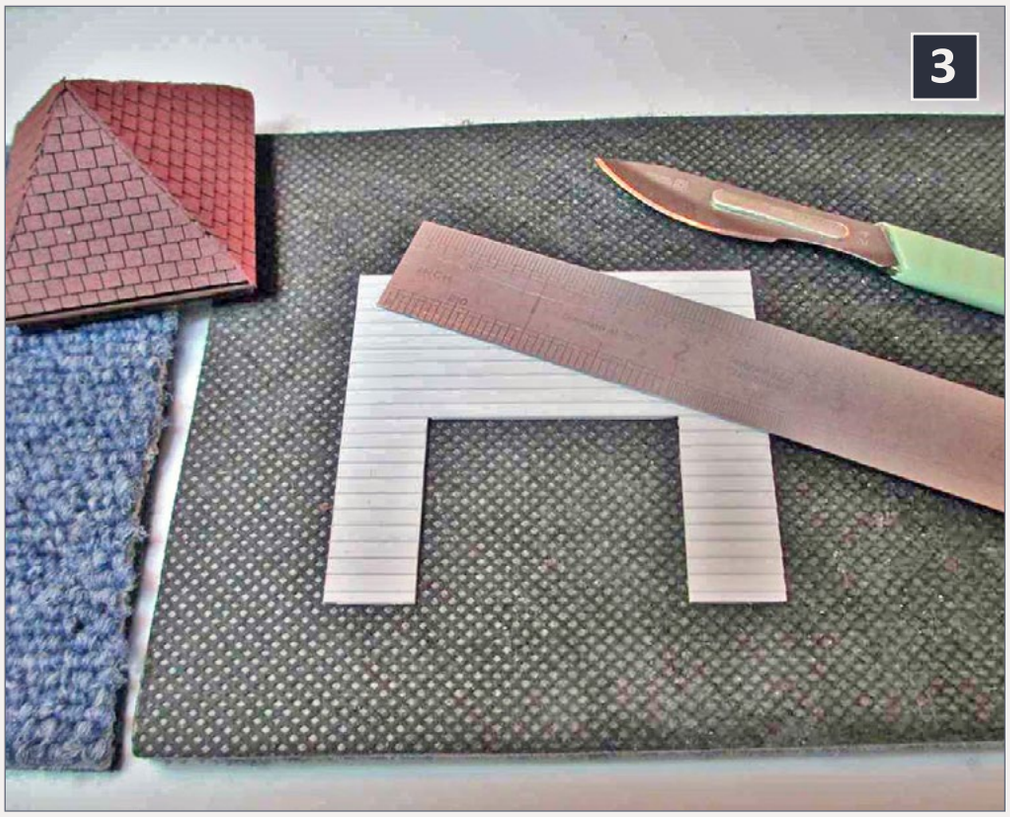
Nick Biangel: I have used plaster, which to me is a nightmare – dirty, messy and nasty. I have used styrene, not too flexible. When I was in Walmart getting some office supply stuff, I saw this black poster board 28" x 22". It was thick but not too thick for HO and great for O scale, which I am modeling now. Clean, sturdy and very easy to work with. I covered the seams with Durham's water putty. I did my mix on the thick side, let it dry for 10 to 15 minutes and then smoothed it out with a damp rag. Once it dried, I sanded it and painted.

2. Rick Abramson has some street running on his HO New Haven layout.

John Elwood: Get John Pryke's book, "Building City Scenery," available on Amazon, in hobby stores, and through abebooks.com.

Jeff Shultz: I used a combination of Woodland Scenics "Smooth-It" for the road and Walther's Street Track Insert. If you go to www.youtube.com/watch?v=5YaWU1vvVCo and forward to 4:45, you can see what it looks like. The section where I have Smooth-It between the tracks, I laid down string alongside the inside of the rails and pulled it up as the Smooth-It dried, in order to get flangeways. If I had to redo it, I might go with BLMA Concrete Grade Crossings down the middle of the street.

For more: mrhmag.com/node/15037.



3. This piece of carpet tile has had months of use without showing wear. Good quality scalpel blades and a steel rule are essential for accurate work.

TIPS

Carpet tile cutting mat

Cutting mats are essential for most model makers but they can be expensive. An alternative is a piece of carpet tile. The synthetic, rubber-like backing material takes prolonged cutting without showing wear, and is very firm – essential when cutting delicate parts. If you can get a off-cut, or spot a clean one in a dumpster, it will cost you nothing! The woven side of a carpet tile is ideal for supporting delicate or painted models without scratching the surface.

– Mick Savage

Cleaning acrylic paint spills

Occasionally, paint drips and spills on work surfaces and floors under the workbench. Dried acrylic paint spots can be dissolved and removed using lacquer thinner. I recently laid my favorite paint brush down after use, and promptly forgot about it. The next day, I discovered the error. Remembering that lacquer thinner dissolves acrylic paints, I soaked the brush for a few minutes and blotted it on a paper towel. The brush was as good as new.

Warning: Lacquer thinner isn't suitable for all surfaces, so be sure you don't destroy the surface as your remove the paint.

– Nelson Moyer

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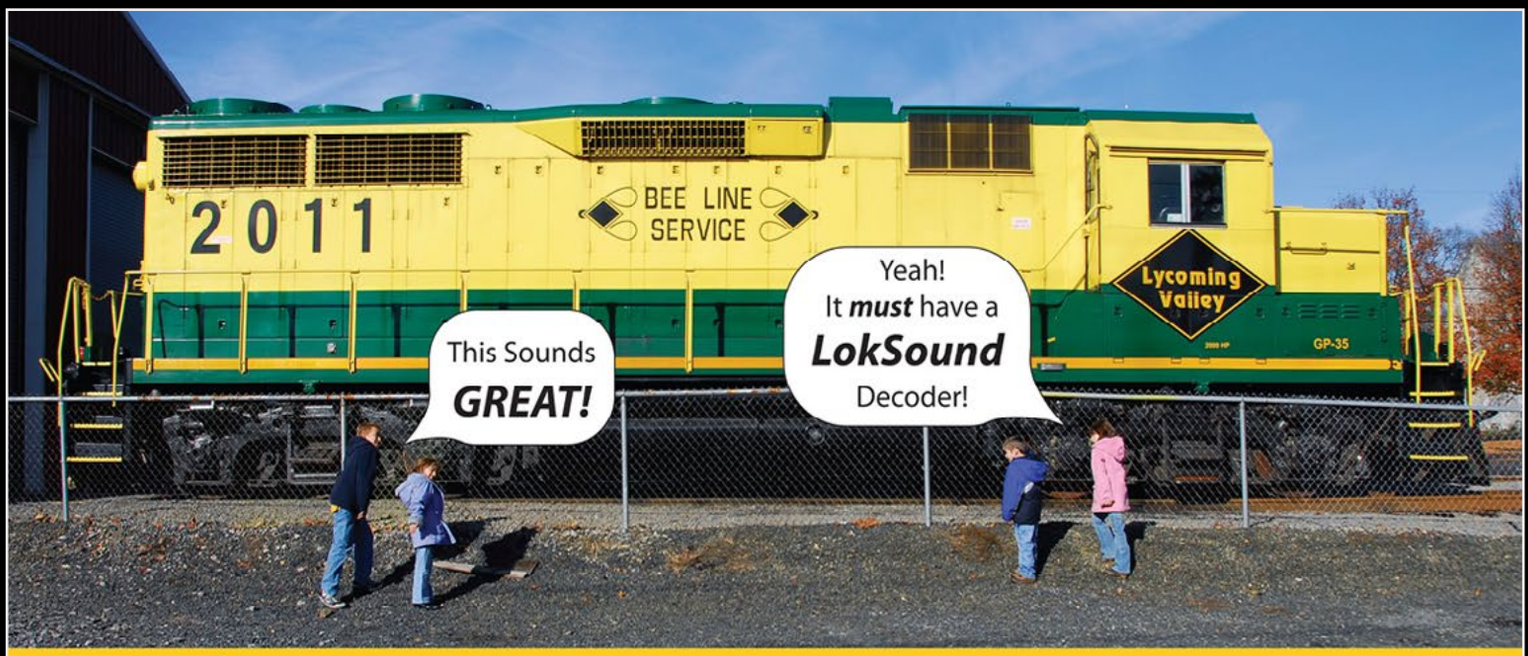

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** ESU LokProgrammer needed to "Replace" Sound and for Firmware updates, not for normal editing*

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A look at LokSound DCC

DCC tips, tricks, and techniques

Reader Feedback
(click here)

DCC Impulses column

by Bruce Petrarca

A personal tour with Matthew Herman of ESU...

In my October 2013 column mrh10-oct, I featured an interview with the folks from SoundTraxx. In that column, I offered equal time to other manufacturers who wanted to get their message out to MRH readers. ESU was the next to take me up on my offer. The offer still stands for other manufacturers.

Matt Herman was in the Southwest in early October, doing dealer training and customer clinics. I caught up with him when he was in the Phoenix area. We had breakfast and chatted. Later, I attended a user clinic he gave at Litchfield Station. Here is a look at the products from ESU with an eye to the future.

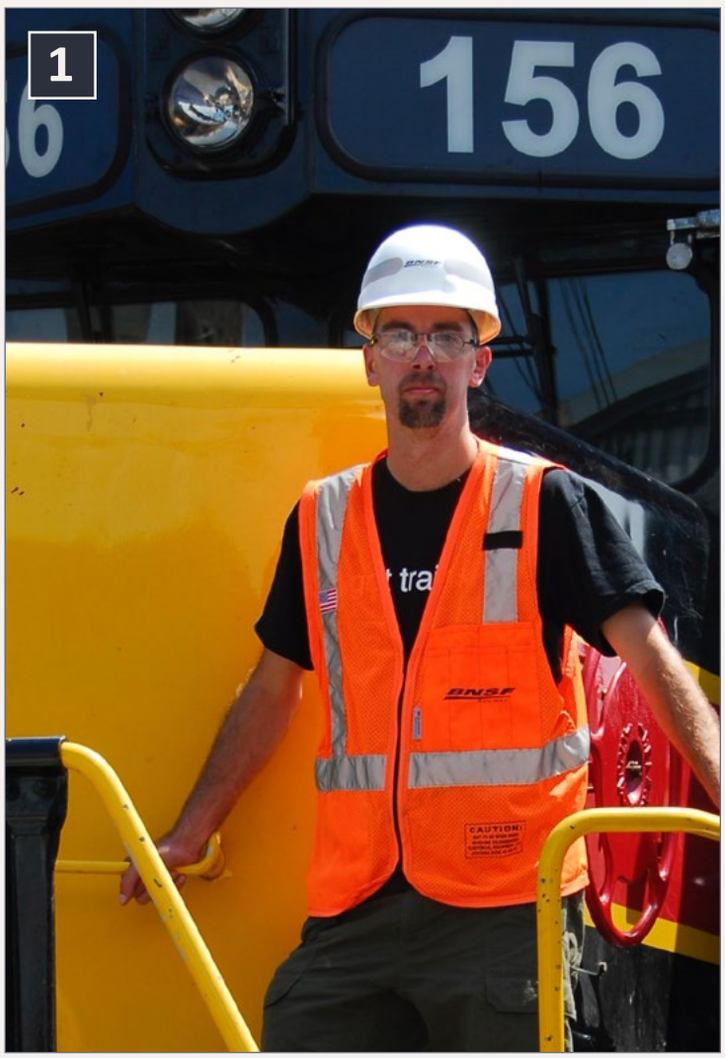
ESU (Electronic Solutions Ulm) GmbH & Co. is a Germany-based company which markets everything from locomotives to DCC command stations worldwide. Matt said they are likely the largest sound and DCC manufacturer in the world. In the

North American market, they are best known for their decoders: LokSound and LokPilot (non-sound). FYI, LokSound is not pronounced LahkSound, but LōkSound with a long ō, like bōat.

Who is Matthew?

Matt's title is General Manager, ESU, LLC. As such, he serves the USA, Canadian and Australian markets. He is, in fact, the spark plug behind the big steps that LokSound has made in North American-style sound and operations.

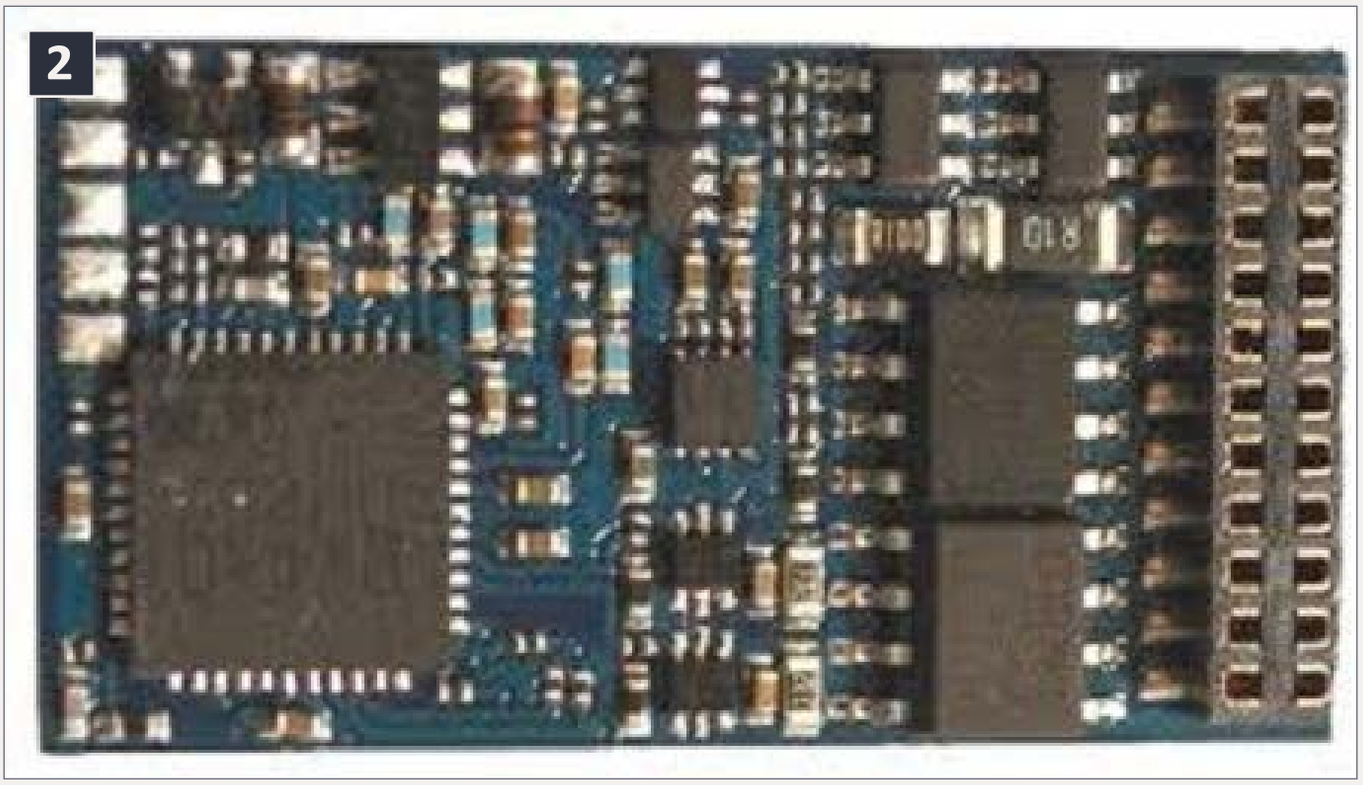
A long-time modeler and railfan, Matt worked for Bowser after he left the Marine Corps. At Bowser, he was responsible for the super-detailed Executive Line of locomotives, which fit with his nit-picky personality.



1. Matt Herman, General Manager of ESU North America. ESU photo.

Matt introduced sound to Bowser, starting with LokSound. He then changed to the SoundTraxx' Tsunami, feeling the detail of sound was, at the time, a better fit for the super-detailed Executive Line locomotives. His recent improvements in LokSound's sound have prompted Bowser to change back.

When Yvonne and Dennis Gapinski, the prior importers, retired in 2010, ESU



2. LokSound Select 21MTC 21-pin decoder, used in OEM locos and available for separate sales, too. ESU photo.

approached Matt to take over its North American operations. The detail-oriented Marine and the German company make for an interesting combination. Matt wanted to bring his extreme interest in the minutiae to the product line. I believe the modeler is the winner as a result of the give-and-take relationship between Matt and the factory.

Matt states that his goal was to bring the best of all decoders together to provide the modeler a better product and encourage development and enhancement by other manufacturers. He has worked to create a product that has the sound quality of the Tsunami, the motor control of TCS, and the robust horns of QSI. It is his goal to allow as much flexibility for the modeler as possible and give them the best of all features desired in today's market. ESU has labeled it: "LokSound... Sound Super-Detailed!"

ESU and locomotive manufacturers

You will be seeing LokSound Select decoders factory-installed in lots of locomotives soon. Part of that shift relates to the improvements that Matt has pushed for in the LokSound product (new recordings plus very sophisticated algorithms for sequencing sounds, motor and light operations). The hidden part is that ESU has significantly reduced the supply chain to the plants in China through a local warehouse with programming and repair capabilities.

When Matt explained the details of the process, I realized that ESU is significantly reducing the inventory, shipping, and handling costs to the loco manufacturers. Part of this savings relates to JIT (just-in-time) delivery to loco factories in China. The factory in China can get next-day delivery on production releases and less than a week turnaround on warranty replacements.

One of the cost-saving elements of ESU's distribution method is that every manufacturer uses the exact same hardware. Every HO loco, for example, uses a LokSound Select 21-pin [2] decoder. This decoder just plugs into a mother board installed in the loco, making installation and repair a snap, or a plug, actually.

Even though they use the same hardware, each manufacturer selects the sound, features, and function mapping that individualizes the decoder for their locomotive. ESU's warehouse bulk programs the decoders just before delivery to the loco factory.

Why do you care about who is putting what decoder into a locomotive? The modeler will be able to duplicate the sound and feel of a newly purchased LokSound-equipped locomotive in any LokSound Select decoder-equipped loco in their

stable. It doesn't matter if the loco came from a different manufacturer or was originally a non-DCC loco that has had the decoder installed after the fact. All OEM sounds are available for free download on the LokSound website LokSound.com. The end user or dealer can use a LokProgrammer to load the OEM sounds and settings to any LokSound Select decoder, even in a different size.

ESU is not offering stripped-down decoders to manufacturers to save a dollar or two.

Currently ESU is partnering with the following North American manufacturers.

- Atlas
- Bowser
- Fox Valley Models

- Hornby America (Rivarossi)
- InterMountain Railway
- Kato
- PBL
- Rapido Trains
- True Line Trains

The LokSound product line

LokSound has a decoder for (almost) every scale. They also have two programming types, both in many sizes. Within any programming type, the same program can be loaded in any form-factor decoder. Table [3] compares the different products.

The goal is to have a very few different hardware items, allowing the dealer to customize hardware to the customer's need, rather than stocking tens of different, virtually identical, pieces of hardware with only software differences.

The LokSound Select line is designed for cost-conscious users who want the features without the fuss. The sounds and other features are user-installable in the Select series. What this means is that the user or dealer can load a factory-designed file into the Select. If the exact file you want is not available for the Select, then you will want to look at the LokSound V4.0 product, which you can tweak to your heart's desire.

Sound and operation

All of the previous is meaningless unless you like the results. I've been away from the LokSound product for over 4 years, since I sold Litchfield Station. I'll admit that the LokSound was

LokSound Decoder Features Summary

Family	LokSound Select			LokSound V4.0		
Model	**Select**	**Micro**	**Direct**	**V4.0**	**Micro**	**XL**
Target scale	HO	N	HO	HO	N	G
Size inches	1.18 x 0.59	0.98 x 0.42	2.72 x 0.67	1.18 x 0.59	0.98 x 0.42	1.57 x 2.00
Motor Amps	1.1	0.75	1.1	1.1	0.75	4
Functions	6 x 250 mA	4 x 150 mA	6 x 250 mA	6 x 250 mA	4 x 150 mA	12 x 500 mA
Speaker ohms	4 - 16	4 - 16	4 - 16	4 - 16	4 - 16	8 - 32 / 2 speakers
Programmability	User or dealer can load factory−defined sound files			User or dealer can create and load custom files, too		
Connection	NEM-652 8-pin or 21MTC 21-pin	NEM-652 8-pin	wired board	NEM-652 8-pin or NEM-651 6-pin or 21MTC 21-pin or PluX12 12 pin or PluX16 16-pin	NEM-652 8-pin or NEM-651 6-pin or Next18 18-pin or PluZ12 12-pin	Screw terminals or pins
Supplied Speaker		16 x 25 mm with sound chamber		23 mm round	16 x 25 mm with sound chamber	
Railcom	Not Supported			Supported		
Format	DCC			DCC or Selectrix or Motorola		all V4.0 + LGB MZS serial

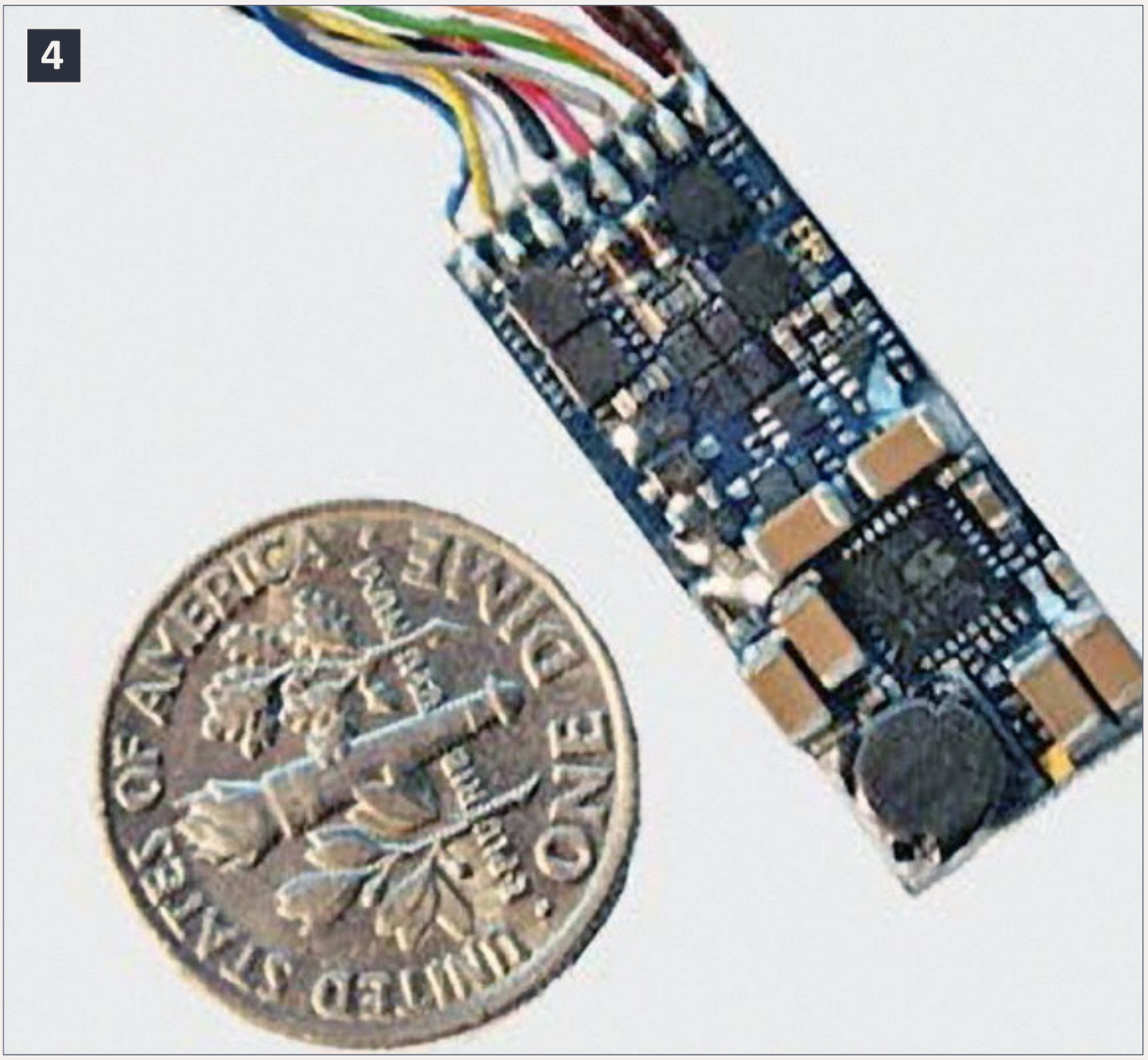
3. LokSound decoder features summary.

not my first choice back then. With the newer products coming out, it is time for me to reboot and rethink my position.

I was very favorably impressed with what Matt demonstrated in his clinic. The sounds in HO-scale locos are crisp and clear and well defined. Without getting into specifics of bits and sample rates, I will say that I was more than satisfied with all sounds, and I'm a picky person, soundwise.

One loco he showed was an Atlas S2, which is one of my favorite-sounding locos. I've installed Tsunamis in at least a dozen of them and run some of those on two layouts where I operate at least monthly.

His after-market installation of a LokSound Select Micro was measurably better in sound, motor control and ease of use than the units with Micro Tsunamis that I've used. That's a lot to say. Matt explained the continuous nature of the air throttle



4. LokSound Select Micro decoder, as was installed in an Atlas Alco S2. ESU Photo.

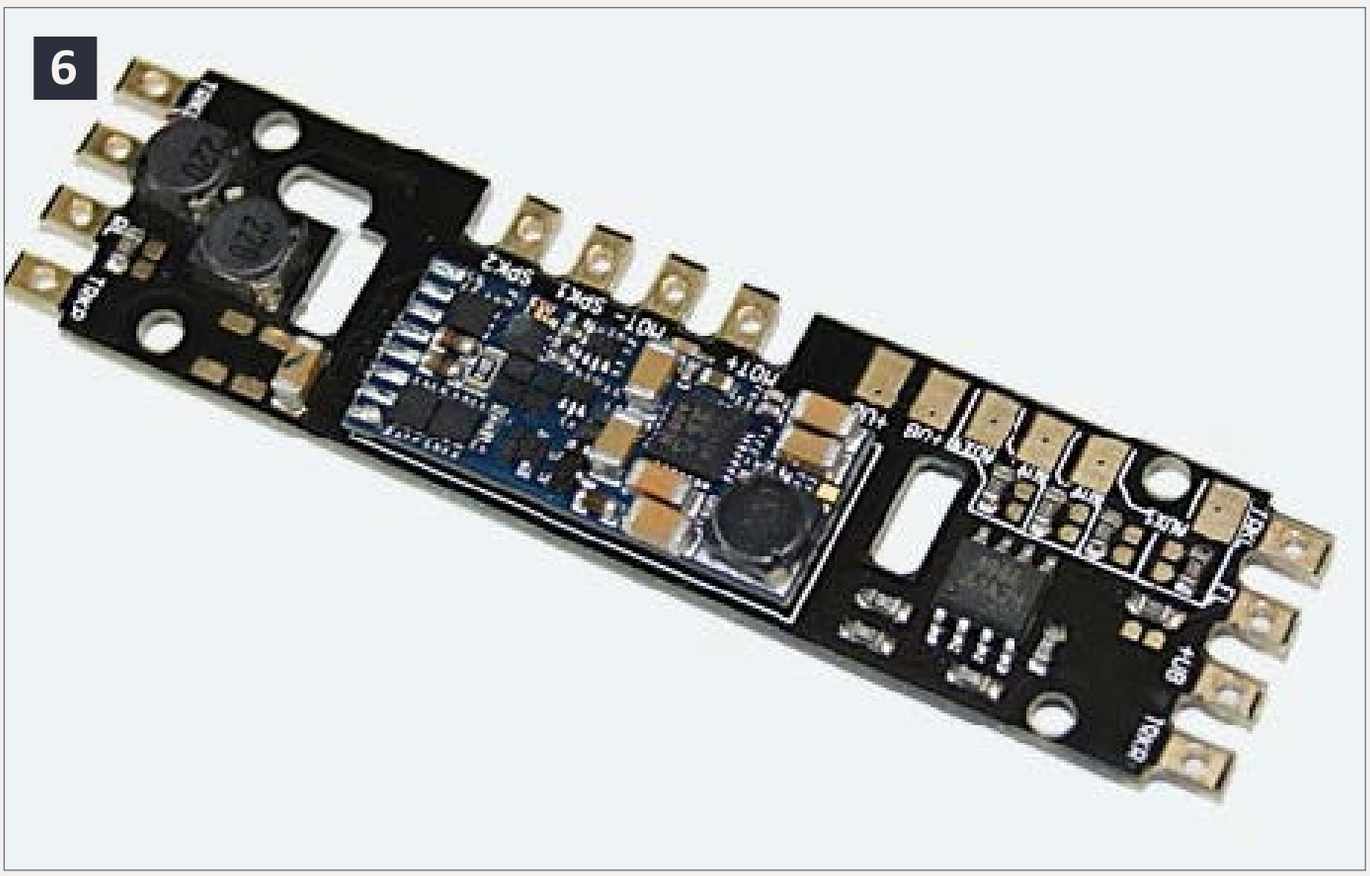
in the Alco S-series locos and demonstrated the lack of notching in that sound file. This is important as not all locos have notched throttles. LokSound is working hard to make the sound files correct for specific locos in this regard.

Another loco that he demonstrated was an F40PH with accurate head-end-power (HEP) sounds available when used in passenger service. With the HEP enabled, the motor ran at notch 6 (HEP Standby) or notch 8 (HEP Run) regardless of loco speed, as the prototype does.

While the specific examples that Matt demoed were interesting, it was his experience as a railfan and comments about specific locomotive operation that seemed to impress the attendees most. For example, areas that we discussed included:

There are three basic types of bell (manual, air and electronic) with various sounds within the types. While the electronic version can sound like either of the other, depending upon what was recorded, there is one sonic difference. When you shut down an electronic bell it stops immediately, even in mid-clang. The other two will fade out when either the air supply is interrupted or the operator stops pulling the cord. Matt reinforced

5. LokSound V4.0 XL decoder for large-scale locos. ESU photo.



6. LokSound Select Direct HO-scale light board replacement decoder. ESU photo.

that the appropriate type and sound would be included in any LokSound prefabbed sound file for the Select and all would be available to the tinkerer who “rolls his own” for the V4.0 decoders. He also showed how, for the first time, LokSound has made it possible for the E-bell to play automatically when the horn is blown as is prototypical in many modern diesels.

Another sonic aspect of prototype locos that is supported by LokSound is “smart start.” Since I reside in the warm Southwest, I was not aware of this operation. To save fuel (and, of course, reduce pollution and noise), modern locos will shut down after an extended period of idling. In cold climates, they will then automatically restart when they get too cool and run for a bit to heat things up. Changing a CV will allow a LokSound

decoder to emulate this feature or not, without having to put your model in the freezer. This feature is available in many of the current sound files, where appropriate.

Matt pointed out that some locos don't change motor speed from the idle setting when going into run 1. In many cases notch 1 in a loco only engages the traction motors. He discussed and demonstrated locos programmed to start to run without increasing RPM and another that revved up. All this is user adjustable.

Another place where LokSound is working hard to emulate prototype performance is "coast mode." When you have been pulling hard and throttle back, the motor may drop to an idle, then bump up a few notches for a bit and then drop back to an idle, when running on the flat or down grade.

7. LokProgrammer – you "get to" use it to change the sound or internal logic or upgrade the decoder. ESU photo.

Matt expressed his displeasure with decoders that do things on such a tight time schedule that you can predict when a sound is going to occur. He is justifiably proud of, for example, LokSound's "spitter" sound.

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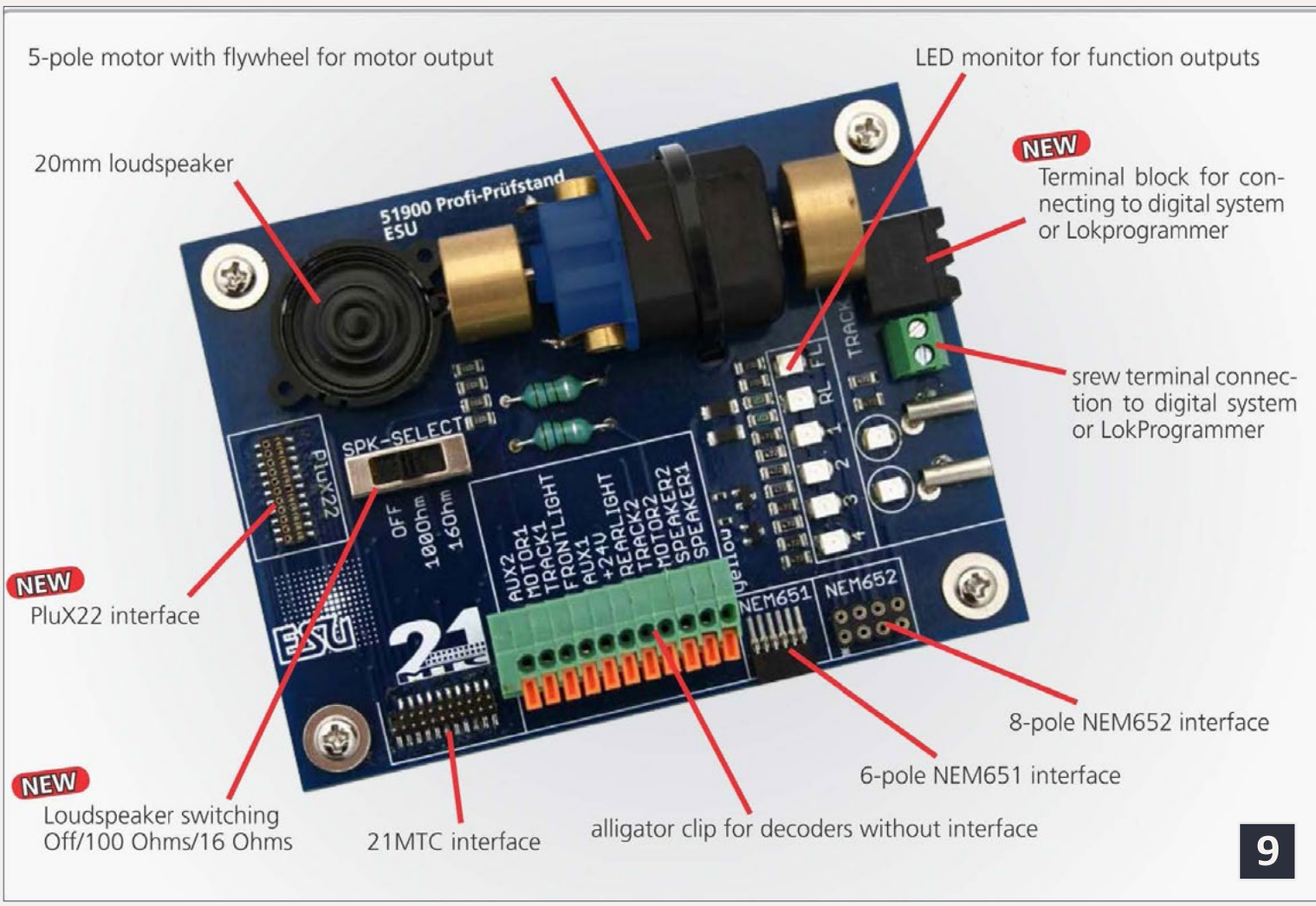
8. ESU ECoS DCC System. ESU photo.

There is a valve in the bottom of the air reservoir that pops off to vent condensed water from the tank. This distinctive sound is pretty random on prototype locomotives. Recent LokSound decoders have as many as 13 different spitting sounds with random spacing between the sounds. The results, being totally unpredictable, are fun.

On the topic of energy storage, Matt was asked about ESU's response to the TCS Keep-Alive product. Matt explained that programming LokSound decoders with an attached energy storage device ran the gamut from problematic to impossible, depending upon what is being programmed and what hard-ware is doing it. ESU offers their "Power Pack" which is an



9. ESU Decoder Tester. ESU photo.

intelligent energy storage device that, amongst other things, disconnects itself when the decoder is being programmed. To use a conventional unit, the installer should provide a method of disconnecting it (with a small switch) during programming.

The LokSound decoders have a playable horn. Not in the sense of the Digitrax version where you modulate your pressure on the F2 key to change the horn. No, this is not quite as exotic as that, but also doesn't require any specialized hardware. Varying how long you hold down the F2 key (or whatever key you have assigned to your horn), will give many different lengths of horn with a few different exit sounds. Thus, with a bit of experimentation, you can make some very interesting sounds. It is especially notable that LokSound decoders have eliminated the need for a short horn button as their method has this all built into the main horn button. As many throttles only give you easy access to about 10 buttons, this frees up one button for another use.

Function mapping can frustrate modelers. Multiple versions of what functions-are-where throughout a stable is no fun. LokSound allows any function to be mapped to any button. If

10. ESU BR151 German electric locomotive. ESU photo.

you establish a standard set of sounds or effects for specific buttons throughout your stable, LokSound will be able to comply. This does lead to a lot of CVs needing to be programmed, but more on that later.

The myth of the LokProgrammer

One of the biggest myths is that one must have a LokProgrammer to work with LokSound decoders. Nothing could be further from the truth.

You do not need a LokProgrammer to do any of the adjustments you can do normally with other decoders. If you want to change the sounds in your locomotive or tweak the logic that runs the sounds, or update your decoder firmware, you will need access to a LokProgrammer. Many dealers offer this service for free or for a small fee.

One can set up all the CVs, literally numbering in the thousands, with most any current DCC system. ESU decoders DO NOT need a programming booster. They use a more efficient power management system than other manufacturers. It does not require the sound amplifier to be powered during programming.

With the large quantity of CVs, it is nice to have someone else keeping track of things for you. The latest version of JMRI will seriously simplify keeping track of your CVs.

If you are going to do lot of fiddling or install a lot of LokSound decoders, then the programmer is a valuable addition. For example, with the LokProgrammer, all the CVs in a LokSound

11. ESU Mobile Control II Android throttle. ESU photo.

decoder can be read in less than a minute. With JMRI, it will take closer to 30 minutes.

Other ESU products

While they are known for decoders in the American market, ESU makes lots of things in the world of DCC. Most are sold in the USA.

The ECoS DCC system [8] and its accessories are one of the more inventive units out there with user definable loco names and even the ability to have a color photo of your loco when you select it. But that could be a column in itself.

The ESU decoder tester [9] has been one of my favorites for years. Initially it had a motor, a 100-ohm speaker and LEDs on the board for decoder testing and set up. Now that LokSound decoders no longer use 100-ohm speakers, the tester allows switch selection between 100 and 16 ohms for compatibility with all decoders. There are 6 LEDs to show what's going on with all functions. There are connectors for every imaginable decoder and clip terminals for decoders with wires.

In Europe, ESU sells their own line of locomotives. Matt demonstrated a German electric [10] with amazing features. A few are:

- Pantographs that react to the loco direction and even bounce as they come out and contact the catenary.
- Amazing lighting effects including cab lights, dash lights, sparks from the drive motor and off the brakes when they are applied quickly.
- Flange squeal sounds that react to track conditions, like going through S-curves, and even frog thump in turnouts.

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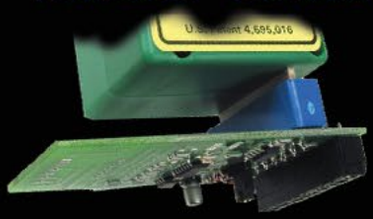

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Space limitations prevent me from waxing poetic any longer on these items.

Coming soon

In the next few months, ESU will unveil some new products. Here are a few.

O-scale decoders

ESU will be providing OEM decoders to the Atlas O-scale locomotives soon. It is not hard to figure out that there is an end-user product here, capable of O-scale currents and yet easier to fit into an O-scale loco than the XL series is.

Adapter board

Matt saw a need to help customers use the 6 available outputs of the LokSound decoders in engines with the 9-pin JST

connectors. The Adaptor Board will be an interface to go between the 21MTC Select decoder and the 9 Pin JST connector. This board can take advantage of pre-supplied resistance for bulbs. Also, there is a 1.5 volt regulator on the board, for those folks who want to use these low-voltage bubs. There will be soldering pads on the adaptor boards for the functions beyond the four that come through the 9-pin JST connector.

Android throttle

Part of ESU's ECoS system is their Mobile Control throttle. A forthcoming update to their system will move that throttle into the Android realm, as the Mobile Control II [11].

I am excited about this event. This hardware plus some Android software, perhaps Engine Driver, will allow this throttle to operate any DCC system that will interface with JMRI.

This throttle features a motorized knob for the “feel” of a real throttle while supporting the features we have come to expect with smartphone throttles.

So there you have a walk down the path of where ESU has been, and a look to where it is going. I hope you enjoyed the journey and will share your experiences on the MRH web site. Just click on the “Reader Feedback” logo at either the beginning or end of this column to go there.

While you are there, feel free to register an “awesome” vote for this column if you found it helpful. Thanks. ☑

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Rebuilding Part 3:

Modeling real railroads and what they do

Reader Feedback
(click here)

Getting Real column

by Marty McGuirk

Your work sessions are always fun ...

In my last "Getting Real" column I told the story of how I removed and then reinstalled the Williams Creek scene. The main reason I had to remove the scene from its original location was to accommodate a longer passing siding in the new town of Randolph. Actually, the addition of the Randolph scene was the second-to-last step in the long process of building and then rebuilding my layout.

When I completed the massive rebuilding of the layout (as related in the March 2013 issue of Model Railroad Hobbyist, mrhmag.com/magazine/mrh-2013-03-mar/gr_course-correction) a year and a half ago, one remainder of the original layout was a freelanced town centered around a large paper mill complex.

This town, which I christened "Everett" was included to provide a place for a large "destination" industry that required a dedicated switch job to work each shift. My good friend Paul Dolkos had included just such an industry on his former Boston & Maine White Mountain Division and working the "Mill Job"

proved to be incredibly popular assignment with his operators over the years.

Everett was based on a mishmash of inspirations from various New England locations, and by some model railroad scenes – I imagined it to be something like Bellows Falls, St. Johnsbury, or Bennington moved north of White River Junction along the CV … I got as far as roughing-in some of the buildings but, while the operating interest was there, the scene never really came together. The main issue was such a large complex really didn't fit with the theme of the CV in the 1950s in northern Vermont.

And therein lay the problem. Although I tried no end of building arrangements, street arrangements, and the like I could

1. Here's how the Green Mountain Paper Co. complex in Everett looked just before I decided to shift gears and abandon the freelanced scene in favor of a prototype scene.

never move forward since I didn't have a firm grasp on how the place should look. So the scene stalled and sputtered.

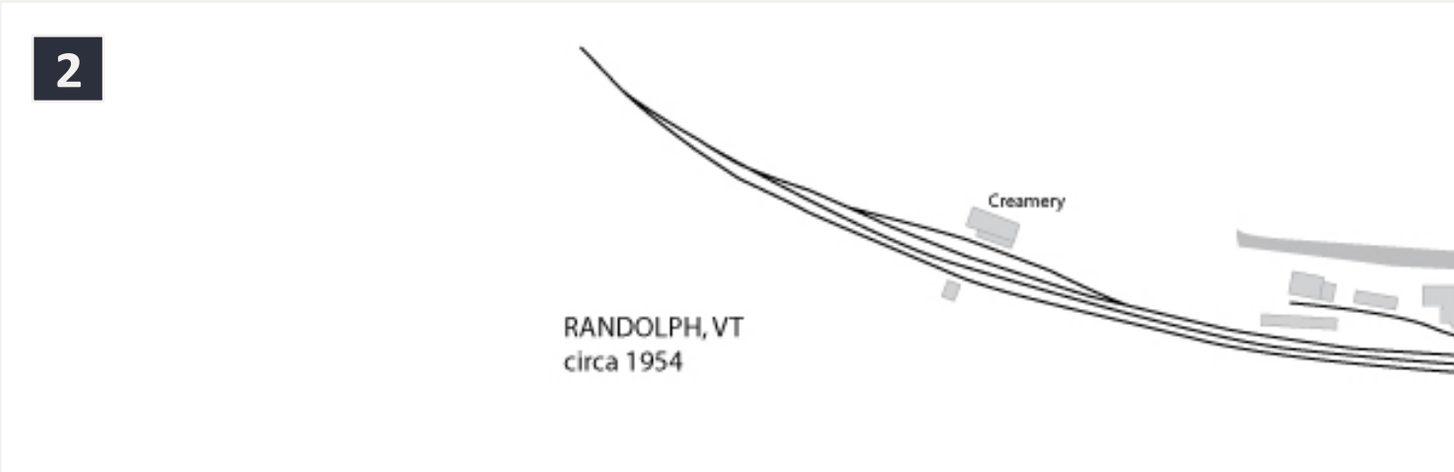
Fate intervened when a couple of the turnouts in the mill yard were mangled during an operating session last fall.

Although I don't host regular "every other Wednesday night" or some such work sessions, I will on occasion have some local modelers over to get things done on the railroad. We usually don't get half the things done that are on the to-do list, but the work session itself, and the inevitable post-session "bull session" are always a great deal of fun.

This month I'd like to share with you what happened during the work session held last January. One of the main items on the list for that session was to "Repair/replace the mill yard turnouts." The session ended up seeing several improvements made to the layout, although it seemed at first like a massive series of backward steps.

After the gang arrived, two members of the crew got to work on the peninsula shift (see below) while the rest of us got started on the mill track repairs. Perhaps thinking this was the perfect opportunity to do some small tweaking to the mill yard to improve how the scene fit together at some point, we started discussing the track arrangements. At this point I mentioned that if I had it to do all over again I wouldn't have the freelanced mill town; I'd include another CV town, "like this one." And I produced an aerial photo of Randolph.

I'm not sure who said it first, but everyone was thinking the same thing. "This paper mill isn't coming together. So why not replace it with this really neat prototype scene?"

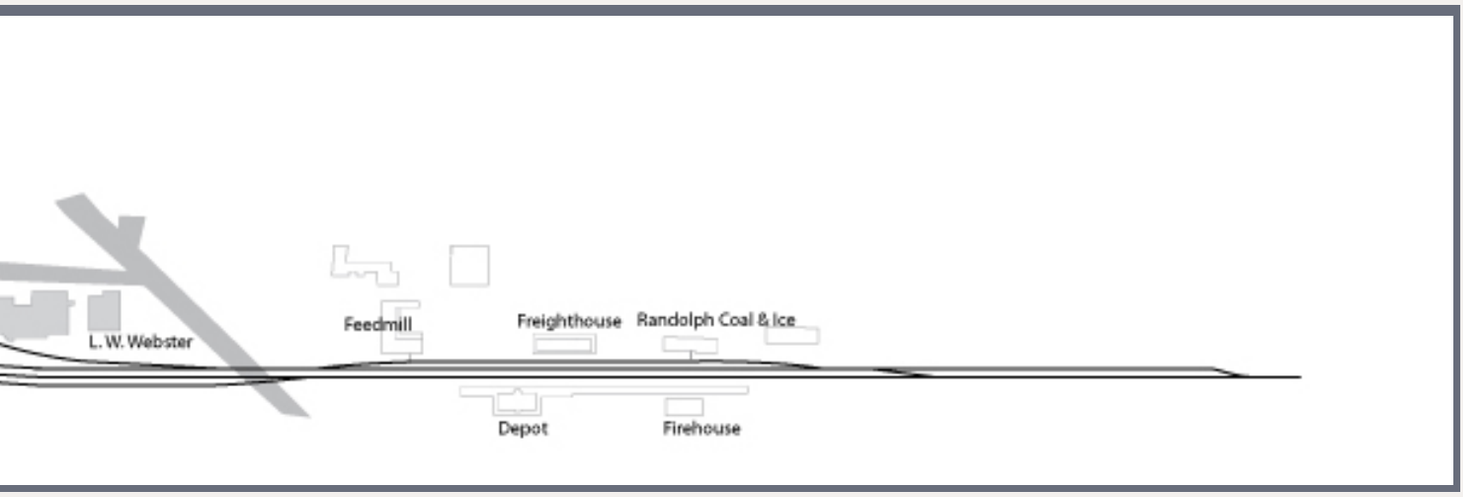


2. Composite drawing showing the track arrangement, roads, and industries in Randolph, Vt., circa 1954.

To give you an idea of what the Randolph scene looked like, I drew this sketch of prototype track arrangement and some of the other key elements in the Randolph scene from the time period I'm modeling. I drew this in Adobe Illustrator by scanning-in various railroad engineering department maps and Sanborn Fire Insurance valuation maps.

After I scanned the various source materials, I placed them as individual layers in Illustrator, resizing them until they were in scale relative to one another, and then traced the outlines in Illustrator. This isn't precision work – the diagram shown here is actually sourced from four different railroad track maps and two Sanborn Maps. Getting them perfectly aligned with one another is difficult at best. Luckily, since the goal is not a true scale rendering but a diagram that captures each of the key elements in relationship to one another, an accurate scale rendering isn't really necessary.

Of course I don't have the length available to exactly duplicate this in HO scale on my layout. So why bother with the prototype map at all? (I've done them for all the other towns on my layout.)



Eventually the “notes” layer, not shown here, will be filled with everything from thumbnail photos of the prototype buildings to various notes and comments on types of siding, years it was built and/or altered, interesting notes on who lived where.... even a location of a particular tree if it somehow “makes” a prototype scene! In short, these maps centralize much of what I know about the scene. That way, when it comes time to build the models I have an idea of where to look – or at the very least a place to start!

Once I get this information together, the next step will be to develop a track arrangement that will actually fit in place on the layout – most of that layout planning is not done on paper, but instead is done full-size with flextrack and paper cutouts of the various buildings I’ve deemed essential to capturing the look of the prototype.

Signature structures for Randolph

Randolph is populated with a variety of modelgenic structures that seem to be built with the model railroader in mind. On the next page are some of the key structures in Randolph I want to include on the layout [3-6].

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John Swift Photo, Courtesy Central Vermont Railway Historical Society Collection

3-4. First and foremost is the station area. The first photo shows the station in the Amtrak era, the other is obviously from my 1954 modeled era.

5. The building with the tower in the vintage photo is the old Randolph firehouse, which is now the town museum.

6. Perhaps one of the most recognizable structures is the Randolph Coal and Ice building. That's the old fire-house in the background.

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From idea to the layout

It was a fairly simple matter to identify the key elements in the Randolph scene, and incorporate them onto the paper plan "full-size." You'd think I would have thought about it for a few days, ruminating on the positives and negatives. I think my crew is still shocked at how quickly I made the decision. I just knew the mill scene had to go. In retrospect, it was an easy choice to make. After years of struggling with the paper mill

7. To see if the Randolph scene would fit I covered the layout with a large piece of paper and used the under-construction Waterbury station as a "stand-in" for the Randolph depot (the two are very close in size). Other structures were either sketched on the paper or various boxes and cutouts were used. The 1x2 indicates the main line route through town.

8. Here's Stic Harris working on removing the foam subroadbed from Everett. Shortly this will be down to the bare grid benchwork and Randolph will start to appear in its place.

and getting nowhere, this scene virtually designed itself in less than an hour.

But there was one issue that almost killed the entire plan. The paper mill could get away with a short runaround track, but substituting the Randolph scene meant we needed a passing siding equivalent to those in the other towns. Unfortunately, a favorite (and finished!) scene – the Williams Creek bridge – was in the way of a longer passing track and several other industries.

After crawling around under the layout and studying how the section had been built, two of my crew, Stic Harris and Tom Potthast, felt that the Williams Creek scene could be removed intact with little damage to the bridge, abutments, or water. After some heroic effort, they managed to pull it off (I didn't have the heart to try it myself!) and Williams Creek was placed off to the side. At the time I had no idea what I was going to do with it. I just knew I didn't want it to end up in the dumpster!

As I related in my last column, the scene is now secure in its new location on the railroad.

While they were working on the bridge scene, Ben Hom and I went to work on the track in the paper mill. Within an hour we had removed all the track. At first I planned to reuse the 2" Styrofoam sub-roadbed. However, this area was at the point where the "new" peninsula joined the original lower deck around-the-wall benchwork which is a 1x4 grid with plywood sub-roadbed. Despite my best efforts, the foam was never perfectly level or flush in this area, and it seemed to change over time (likely a result of the wood shrinking and swelling with the seasonal temperature shift}. Since I was going to have to extend some of the sub-roadbed in a couple of spots, it made

9. The 2" Styrofoam subroadbed was replaced with new birch plywood subroadbed. This is how the scene looked the day after the decision was made to alter the scene.

10. Even in its raw benchwork state, Randolph has become a favorite of my operating crew. My son Matthew is trying to get a handle on the situation as three trains converge on Randolph.

more sense to simply strip everything down to the 1x4 grid and rebuild with birch plywood sub-roadbed.

The photo below shows the current state of the new Randolph scene. Although it's still in the raw benchwork stage, the town is fully operational, with all the track and wiring complete. We've already had a couple of operating sessions with the new town, and the crews like working the local freights here, and the dispatchers love the addition of a longer passing track.

The Randolph station is complete except for final signs and weathering. My plan is to build several of the other structures and complete the basic scenery this coming winter.

11. After making a few measurements and setting up his Fadal saw, Tom Potthast sawed up through the fascia and benchwork on the neck of the peninsula. A handsaw finished the cut through the scenery.

Shifting the peninsula

Nothing is set in stone, and nowhere is that more apparent than on my home layout. I'm constantly tweaking the railroad in an effort to get the finished product to look more

like my vision. I fully understand that it would have been much easier to spend months or years developing a detailed design and then building to that design. Of course, saws and crow-bars are much more exciting modeling tools than a pencil and eraser!

But I really do make changes only when I think they will noticeably improve the railroad.

One of the biggest changes we made, which turned out to be a lot easier than it sounds, was shifting the position of the lobe end of the peninsula. Testing with locomotives revealed that Central Vermont 4-8-2s and 2-10-4s needed at least 34” curves. The result was a peninsula slightly wider than I originally planned – which meant the aisle between the peninsula lobe end and one wall of the basement was just a little too tight. The answer was to move the peninsula over, but that would make the aisle on the other side too tight instead. The solution was to lengthen the peninsula about 32” and then shift it about 24”.

Of course, finished wired track and a nice hand-painted backdrop were in the way. I’m particularly fortunate to have a group of model railroading friends who are willing to lend their considerable talents to this enterprise. All I can figure is they are sufficiently interested in the layout – or at least bemused by my antics at getting this thing built. After thinking about it for several months I put the

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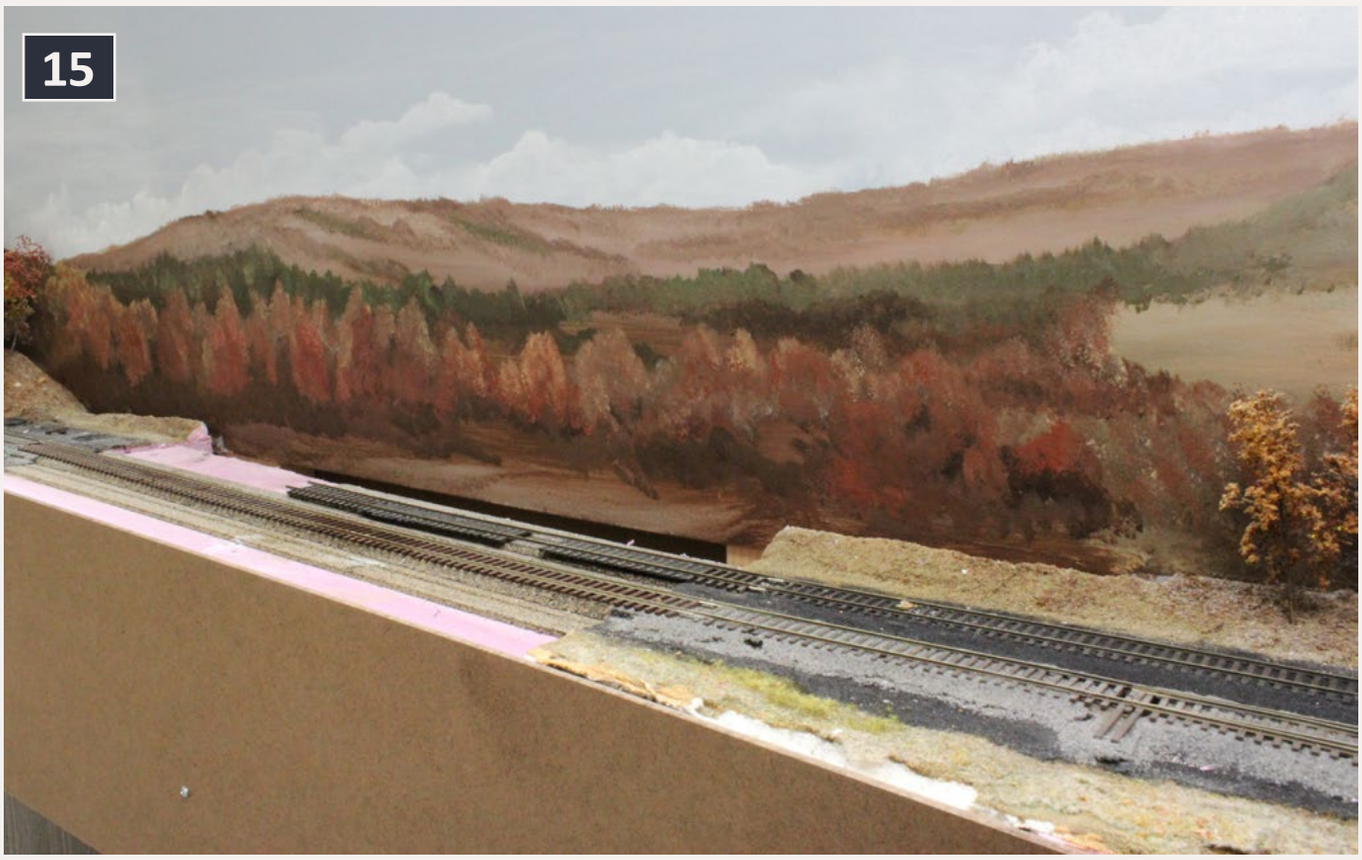
12. We briefly considered cutting the backdrop loose from the benchwork but it turned out to be much less damaging to simply clamp the saw guide to the backdrop and slice through it as well.

13. It took five of us to move the lobe end of the peninsula into its new position. Then it was a simple matter of filling the gap with some new benchwork. This is what it looked like two hours after the first saw cut.

14. I knew it was going to be difficult, if not impossible, for me to match the colors of Bernie Kempinski's back-drop painting. Luckily Bernie was able to fill in the gap.



15. The unfinished pink foam and unpainted fascia are the only indicators that this area has been sawed in half and then patched.

← back to previous page of text ...

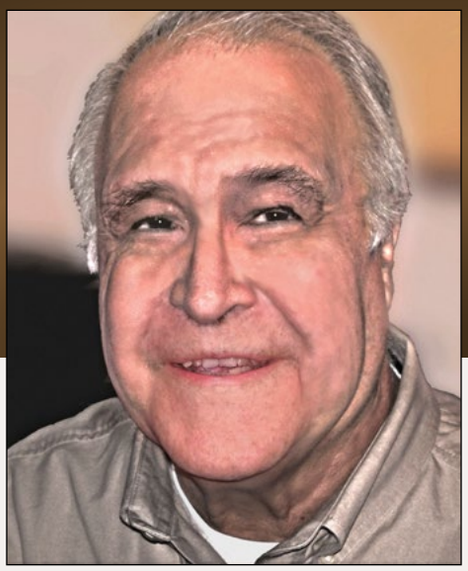
peninsula shift challenge to a member of my work crew, Tom Potthast. Tom has a lot of experience building displays for such places as the Holocaust Museum and the Smithsonian. That means he has an assortment of tools to match.

Tom thought about it for a few minutes, studied how the peninsula was constructed, and identified the location to make the cut – right at the narrowest portion of the peninsula neck. He made no guarantee that the effort wouldn't end in a loud thud as the layout hit the floor, but luckily it went very smoothly. In fact, the entire process took us less than two hours.

The biggest challenge was getting Bernie Kempinski to take enough time out of his busy schedule to patch his backdrop painting. He did manage to find a Saturday afternoon to head out to my place and in short order painted and blended the new three foot section of backdrop such that unless you knew the story you would never notice where the alteration was made.

As I said, I enjoy these occasional work sessions although I've promised the rest of the gang that the next time we will spend more time modeling than wielding implements of destruction!

Last time I sent out an email invitation announcing a work session one immediate reply was "Of course I'll be there – your work sessions are never boring." I wonder what that means? ☑



Modeling East Broad Top hoppers

Ramblings on Narrow Gauge and Branchline Modeling

Reader Feedback
(click here)

The Lite and Narrow column

by Larry Smith

A signature car offered in multiple scales ...

1. Photo courtesy of BHI Publications.

Every railroad has a signature car, either in standard gauge or narrow gauge. For the Rio Grande, it was the 4000-series boxcars. For the mighty Pennsy, it was

several cars, and for the East Broad Top, it was the hopper car – not just any hopper car, but the three-bay 35-ton cars. However, this car didn't develop overnight; it evolved as the design of hopper cars changed (over many years) to meet the fluctuating needs of the railroad.

The beginning

From the outset, the East Broad Top Railroad was part of a greater scheme – that of being the method of moving iron ore and fuel from the mines to the iron furnaces, then moving finished pig iron to the interchange with the Pennsy and on to the iron foundries of Pennsylvania.

Construction of the railroad began in 1872, and the first section of the railroad from the interchange with the Pennsylvania railroad at Mt. Union to the new company town at Rockhill, across Blacklog Creek from the town of Orbisonia was completed in 1873. The rest of the 30-mile main line to Robertsdale completed in 1874.

Although the primary purpose of the railroad was to serve the iron furnaces at Rockhill, it was unable to do so until the two furnaces went into blast in January 1876, with the first shipment of pig iron made in March. The term pig iron comes from the ingot cavity in sand castings that fills when a furnace is tapped. A channel leading from the tapping mouth of the furnace allows molten iron to flow into the ingot molds much like the cast metal parts we used today in modeling. When cool, the tail, or sprue, is removed before shipping.

For a comprehensive look at the early history of the East Broad Top in the Iron Age (1876-1909), I recommend the four-part series that Lee Rainey wrote in *Railroad Model Craftsman*,

2. Typical four-wheeled car from the late 1800s. This is a one-ton car as modeled by Grandt Line in O scale. Photo courtesy of Grandt Line.

"The EBT in the Iron Age," March-June, 1990. While focusing on the East Broad Top, the series also gives an insight into railroad operations of the late 19th and early 20th centuries where equipment was changing almost daily as demands for more capacity resulted in heavier tonnage and larger locomotives.

The dumps

The first hopper cars purchased for the East Broad Top were 20 four-wheel cars in June, 1873. Used for construction of the railroad, an additional 20 four-wheel cars joined in 1874. The East Broad Top referred to these as "dumps," the same as they called the coal hoppers of the time. On other railroads they named this design "buck jimmies" for the way they rocked and rolled along the tracks due to their rigid trucks and the rough track of the time. Very little data exists on these cars, but speculation exists that they were one of three possible four-wheel

designs that Billmeyer and Small, a York, Pennsylvania car builder, offered. EBT purchased other cars from this car builder during the same time. Based on the designs at the time, the cars were probably 12 feet long and had a capacity of 4.5 tons, based on the locomotive performances at the time. Other versions of the four-wheel cars were for molten slag, iron cars lined with fire brick and with spouts on each side for unloading, much like contemporary slag cars, and unusual funnel-shaped cinder cars. The listing of freight cars in the 1880s gave the number of coal cars at 180, the ore cars at 30, and 10 cinder cars. This increased to 254 coal cars and 40 ore cars, with an unknown number of cinder cars by 1905.

3. The "buck jimmy" produced in On30 by Boulder Valley Models. It is very similar to the cars used by the East Broad Top. The car following the "buck jimmy" is a Bachmann side-dump car and, while of the same era, it was never used by the EBT. Photo courtesy of Boulder Valley Models.

These cars did not survive much past 1893, when the furnace closed down and the Billmeyer and Small eight-wheel 10-ton self-clearing hopper cars replaced them.

Modeling these cars in the larger scales is easy with availability of the "Buck Jimmy" cars in On30 from Boulder Valley Models. While based on Mann's Creek prototypes, they are very much usable for the similar designs the East Broad Top used. The Grandt Line car seen in the photo could be a substitute. The BTS mine car could be the starting point for the car, but these are stationary models and a lot of work is needed to get them to run.

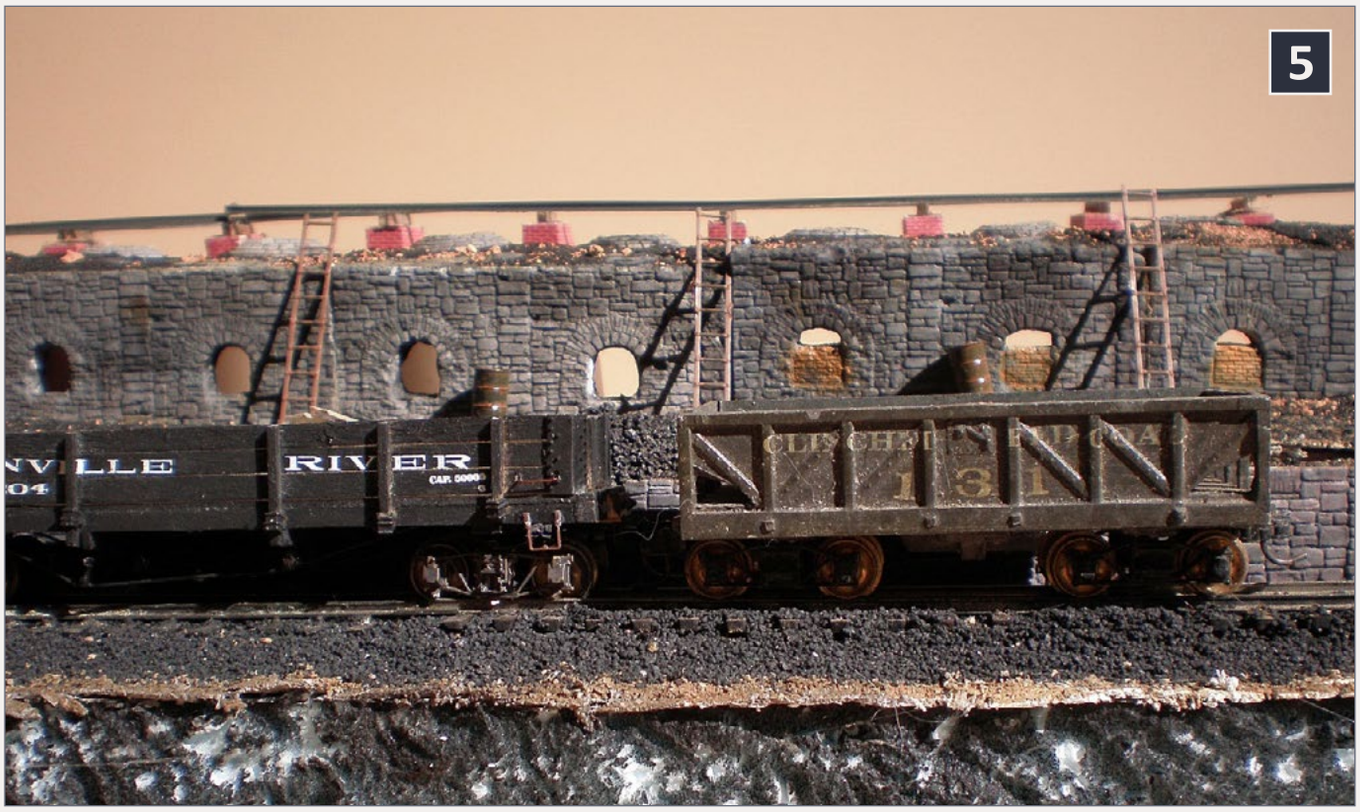
The eight-wheel dumps

In 1874, the East Broad Top received the first cars from Billmeyer and Small that became the standard hopper car until the advent of steel cars. These were eight-wheel, 10-ton all-wood hopper cars. They were 23'6" long and 6' wide with a light weight of 9,500 pounds, and a capacity of 10 long tons (22,400 lbs.). The cars were so popular that the railroad purchased 132 of the design by 1882. In addition to purchasing the hopper cars, the East Broad Top began to build their own copies of the car. Apparently there were some deficiencies with the design, as the EBT began to beef-up the cars, increasing their light weight to 11,400 lbs. or more, yet retaining the same 10-ton capacity. This particular design became the standard East Broad Top hopper, with the number of cars in service growing to 366 by 1913.

While the majority of these cars remained the 10-ton size, the railroad built 94 of the cars with a capacity of 15 tons and 10 with a 20-ton capacity. During this period the railroad also scrapped or retired 117 of the 10-ton cars.

For those of you modeling turn-of-the-century equipment in either standard or narrow gauge, this would be an excellent car for you to roster, as it was a standard design that many railroads used. However, modeling the 10-ton cars can be easy or difficult, depending on your scale. In O scale, David Crement has the car as a resin kit and will make them available if there is enough demand. Contact him at 0n3@comcast.net. These cars are also very good, because of their size for On30. In HO scale, there was a wood model of the car available from Quality Craft/Gloor Craft, but they are no longer available and are very hard to find. Another car that was on the market was the Red Ball metal version of the car, but again it is very hard to find. Funaro and Camerlengo offers the car in HOn3 and HOn30 in a two-pack. This is a flat resin kit but is easy to assemble. For

4. Hopper number 523 is an example of the 15-ton cars used on the East Broad Top. This is an On3 model by David Crement. David Crement photo.



5. Red Ball hopper similar to the Billmeyer and Smalls hopper used on the East Broad Top in service at coke ovens on my layout.

those of you wishing to scratchbuild the car, an excellent set of plans for #346 were drawn by John Robinson, and published in March/April, 1979 *Narrow Gauge and Shortline Gazette* (now out of print). Copies of the plans are available from the NMRA library for nominal fee.

The modern era

The Hancock and Calumet cars

In 1902, the East Broad Top made its first and only venture into the used freight car arena when they purchased 40 hopper cars from the Hancock and Calumet Railroad. The railroad was one of several narrow gauge shortlines serving the copper mines in the upper peninsula of Michigan. The most famous of these was the Quincy and Torch Lake. The Duluth, South Shore and

Atlantic purchased the railroad and standard-gauged it, making the cars surplus equipment.

When the cars arrived on the East Broad Top property, they were equipped with arch bar trucks and hand brakes. They probably had link-and-pin couplers as well. The cars were 20’ 6” long and 7’ 7” wide with two hoppers. They had a 40,000 lb. capacity and were the largest cars on the roster until the advent of steel cars in 1913.

In 1914-1915 the EBT rebuilt the cars with steel liners inside the wood bodies, Vulcan trucks, automatic couplers and air brakes. These upgrades also increased the load capacity to 60,000 lbs.

6. On3 model of Hancock and Calumet car in service on David Crement’s East Broad Top layout. The car is scratchbuilt. This is an updated car with steel lining and Vulcan trucks. David Crement photo.

The cars operated in service until 1927 when numbers 618, 633, 636, and 638 were retired. Remember these numbers, as you will see them again in a different configuration. 616, 619, and 637 were retired in 1931; eleven more were retired in 1934, leaving 22 of the cars remaining on the roster until all were retired in 1943 – a 41-year stretch.

The only model of this car, or one similar to it, was in HO, and it was a brass import from Overland in the early 1980s. This leaves the only option of scratchbuilding the cars in all scales. The *Timber Transfer* published plans for this car, and *Railroad Model Craftsman* published a similar car used by the Quincy and Torch Lake in May, 1987. The following month, June, 1987, *Railroad Model Craftsman* published a construction article for the Q&TL cars by Wayne Wesolowski. *Model Railroader* published an article by Jack Work in October 1958 on a wooden hopper car used by the Canadian Collieries Ltd Rwy in British Columbia that would also be useful. All of these articles are out of print.

The 800-series two-bay steel cars

1913 was a pivotal year for the East Broad Top, as it brought the beginnings of the fleet modernization in the form of the first steel hoppers arriving on the property. Steel hopper cars weren't new – the first cars were constructed for the Pittsburgh, Bessemer, and Lake Erie in 1887. The mighty Pennsy started with their famous GL class of hoppers in July, 1898, and had more than 20,000 on the roster by January, 1904.

The East Broad Top took delivery of 10 steel hoppers from Pressed Steel Car Company in 1913. The cars were 25' 9" long and 30-ton capacity. They were numbered 800-809. Then in 1914, the railroad again took delivery of 30 more cars from PSC numbered 810-839, and produced an equal number of

7. Steel hopper car 809 with clamshell hoppers. The high sulfur content of the Broad Top coal causes the heavy rusting of the cars. Photo courtesy of BHI Publications.

steel cars in their own shops, 840-869. It isn't clear if the EBT licensed the design from PSC or just went ahead and copied them. The first 10 cars were a bit top-heavy so the EBT stretched them to 28' 2" which became the standard hopper length for the railroad.

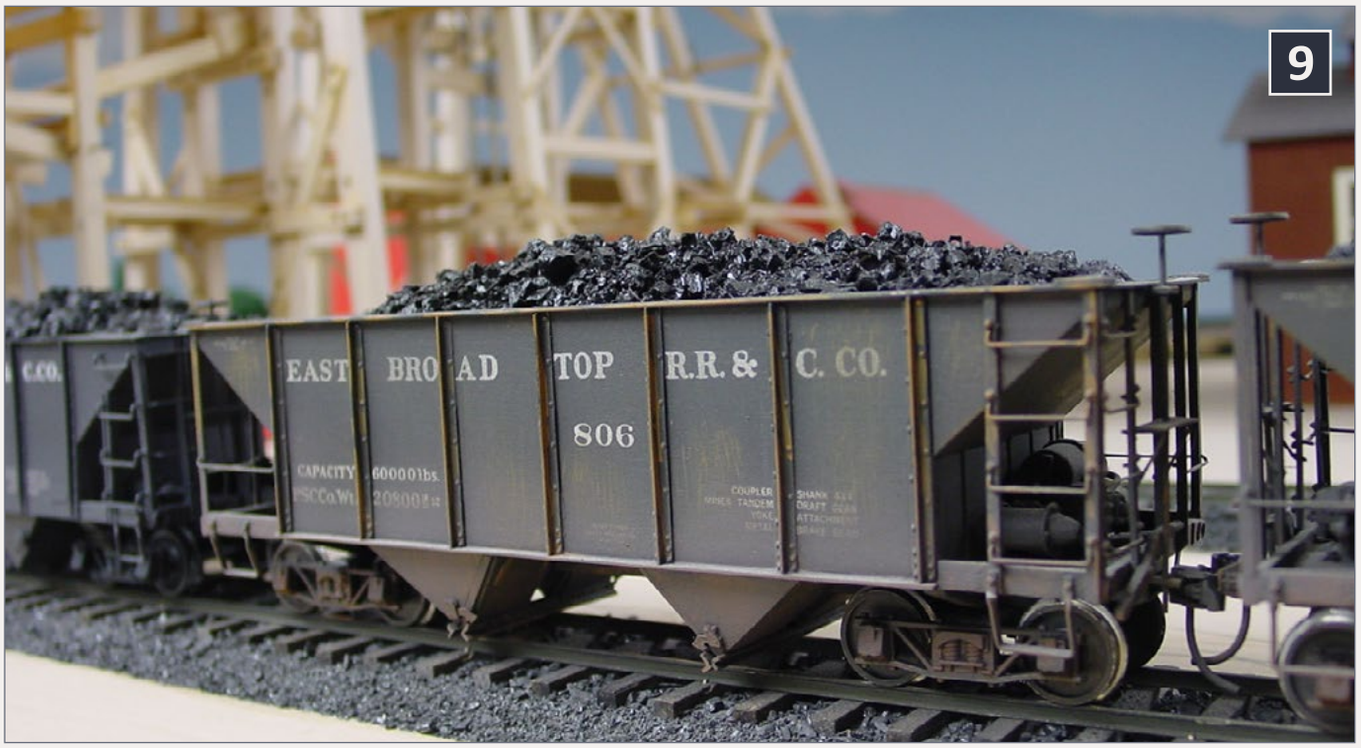
The following year, 1915, the EBT refined the design of the three-bay hopper which became the standard hopper car for the railroad. The two-bay hoppers stayed in their configuration until the railroad completed the construction of the three-bay hoppers in 1927. When that occurred, the railroad began to rebuild the 1914 order to the three-bay configuration, leaving only the 10 original cars as two-bay cars. In time these cars also received modifications, with four of them receiving side-dump doors and three receiving clamshell doors for slag service. The railroad converted four of the cars to three-bay cars in the mid-1940s. Although heavily rusted, these cars are still in existence in the Mt. Union yard.

Modeling the two-bay cars can be easy, if you are in the right scale. The original 10 cars are available from Funaro and Camerlengo as a cast resin kit in HOn3. These are upgrades from the original flat-casting kits and have a one-piece body, making for much quicker construction. This is the 25’ 9” car. Bachmann has offered this car in On30, which I have seen converted to On3, but it is not available in the current catalog. To the best of my knowledge, I have not seen these cars offered in On3 or Sn3.

Two-bay short rock cars

In 1930, the East Broad Top built four short two-bay hopper cars for rock service. Rock service on the EBT meant ganister rock, which was used in the production of refractory brick by brick producers in Mt. Union. The cars were 22’ long and 7’ 7” wide, and had a 30-ton capacity. There were four numbers

8. East Broad Top Hopper 805 in the original lettering scheme modeled in HOn3. This is the cast resin kit from Funaro and Camerlengo. Funaro and Camerlengo photo.



9. East Broad Top hopper 806 in the original lettering scheme modeled in On3 by David Crement. In the background is the Woodvale tipple. David Crement photo.

assigned to the cars – 618, 633, 636, and 638. These were the four numbers of the H & C cars that were dismantled in 1927. 618 and 636 still exist at Mt. Union.

Modeling these cars can be done easily, using the old Gloor Craft/Quality Craft hopper kits in both O and HO. You can modify the kit by replacing the wooden sides with styrene sides that have been reduced to 22'. Replace all wooden parts with the appropriate styrene, and use the metal parts to add to the superstructure. The East Broad Top used Vulcan trucks on all of their cars except the Billmeyer and Small cars, and they are now available from Blackstone.

Three-bay hoppers

In 1915, the East Broad Top refined their hopper design to become a three-bay hopper. In addition to adding the third

10. Hopper car 663 is one of the shorty rock cars used on the East Broad Top.The car is really 636 and the painters messed up when stenciled as there is no listing of the number in the Rainey and Kyper book "East Broad Top". Photo courtesy of BHI Publications.

hopper, they also increased the cars to a 35-ton capacity. From 1915 to 1927 they added 204 three-bay hoppers to the fleet, thus becoming the largest car type on the railroad. When construction on the three-bay cars was finished, the railroad began converting the two-bay cars purchased and constructed in 1914 to the three-bay configuration, and that was completed in 1936.

The modifications didn't stop there, when 40 of the three-bay cars were assigned to rock service in 1939, as were the 22 remaining 600-series cars, reflecting the drop-off of coal during the depression years. Additionally, two cars were given steel

covers between September 1932 and August 1933 in an effort to cut down on coal freezing in the cars. It was a very short-lived experiment.

The remaining 600 series cars were scrapped in 1943, and the East Broad Top began adding extensions to 124 three-bay cars, raising their capacity to 40 tons. The East Broad Top stopped the adding of the extensions in 1949, and no other cars were converted.

Modeling these cars is very easy with ready-to-run brass and plastic cars available in both O and HO.

In HO, three different companies have offered this car in plastic and wood. For the longest time, the only model available

11. Three-bay hopper 944 with the simplified lettering seen on the cars at the end of service. This car is in storage at Mt. Union.

12. Clinch River 870 is a C&BT Shops plastic model and the EBT 912 is a Gloor Craft wood model. Both are HOn3.

was the Gloor Craft/Quality Craft hopper. If you have ever tried to make wood look like steel, then you know how frustrating it can be, so most of us began to substitute .020" plastic for the sides. While this did the job, it was at a time when we didn't have the CA glue to attach the metal castings in the kit. Then we were fortunate to have the C&BT hopper come on the market, allowing us to have a fleet of hoppers where we didn't tear out our hair building them. These two kits were also available in O scale, so we had sympathy from our large-scale brethren. Blackstone entered the market two years ago, and now offers a ready-to-run version of this car in HO with several different paint schemes and in both weathered and unweathered version.

The travelers

Even if you don't model eastern narrow gauge, you can have one or more of these cars. Because of their small size, they can be used in both HOn30 and On30 by just replacing the trucks.

13. Blackstone HOn3 EBT hopper. This car is only offered ready-to-run with multiple numbers and paint schemes. This is the 1930 paint scheme. Dave Phillips photograph.

14. C&BT Car Shops On3 hopper on Dave Crement's lay-out. David Crement photograph.

15. East Broad Top hopper purchased by the White Pass and Yukon. This is about as far away from Pennsylvania as you can get. Photo courtesy of BHI Publications.

The following is a list of where three-bay cars went:

Durango & Silverton

Cumbres & Toltec

Georgetown Loop

White Pass & Yukon

Sumpter Valley (some were lettered White Pass, and others lettered for SV, but the EBT acorn was painted-over poorly)
Tweetsie RR (used the frames and center sills for homemade passenger cars)

Roaring Camp & Big Trees

Dollywood (Rebel Railroad also owned by Tweetsie at the time). Six cars in 1965 with frames and center sills used for homemade passenger cars for amusement park. One car in 1990 converted to passenger car. All cars upgraded to steel bodies and are still in service. ☑

Reader Feedback
(click here)

16. Cars in service on the Sumpter Valley. Nice patch paint job on the car. Photo courtesy of BHI Publications.

contents index

A Christmas Potpourri

Photos and video of superb models

Reader Feedback
(click here)

What's neat this week column

by Ken Patterson

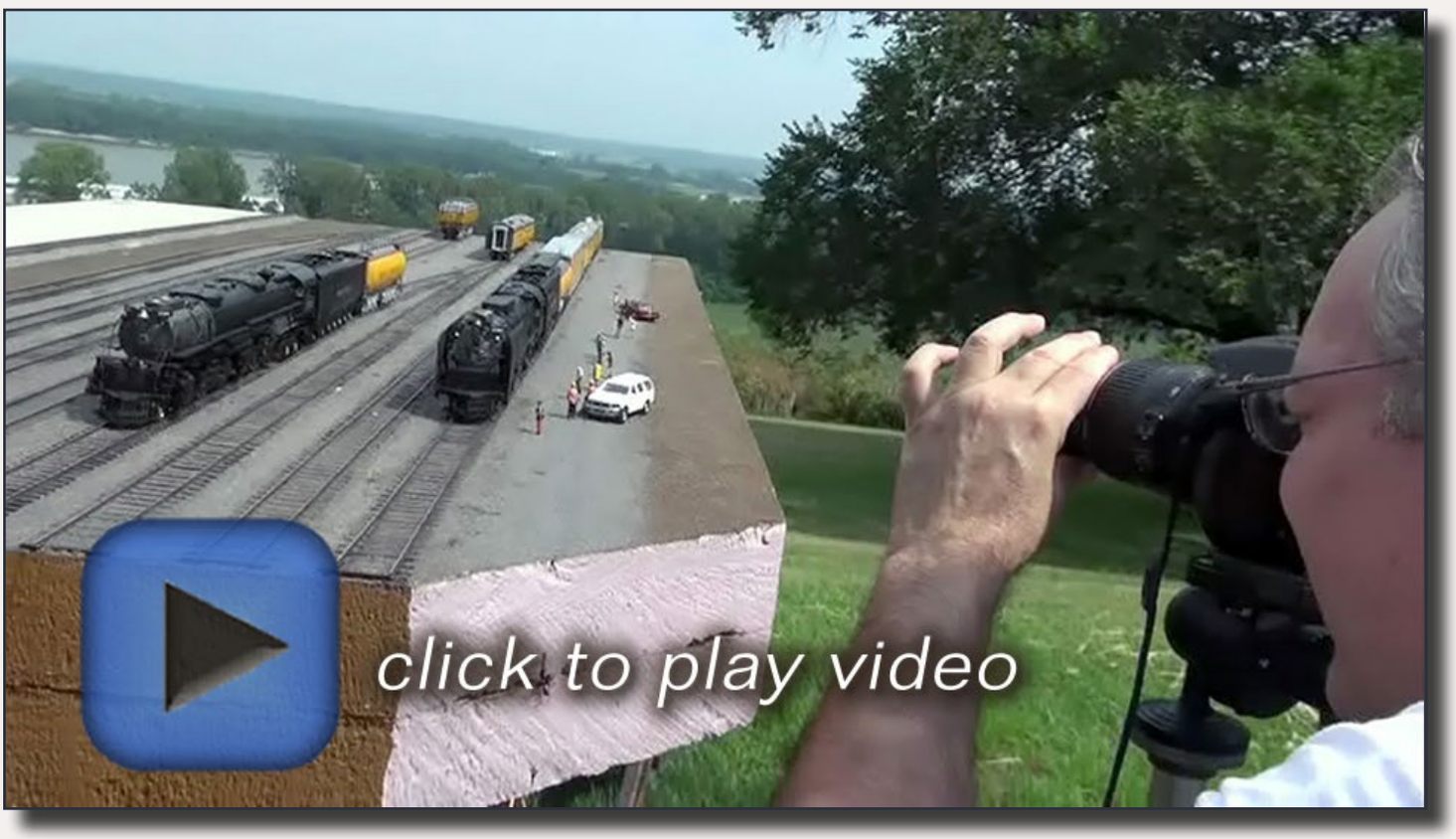
1a-1b. This scene was made for Blackstone Models last year.


1b

This month we discuss workbench design, Dirk Reynolds' excursion train support cars, and the Soundtraxx Sound Car decoder (also available in Athearn refrigerator cars). It's December and this marks my two-year anniversary, with 24 months of videos and monthly photos and text for *Model Railroad Hobbyist* magazine.

Blackstone Christmas

I open this month's text with a Christmas shot. The scene was made for Blackstone Models last year. It took 45 hours over three days to build the scene from scratch. I used foam to create a base for a running train, road, and farmhouse where a family is bringing a Christmas tree up to the front porch. The moon is rising among the mountains. The mountains are a flat carved in foam. The scene is HO scale with a 3-foot gauge train. The grass is fake fur. The exposure was very complicated. To



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make the picture look right, the moon had to be lit for 15 seconds, the farmhouse was lit for one minute, and the pickup truck had its lights on for nine minutes. You can see the photo results and the whole scene set up and running in this month's video.

Excursion cars

Dirk Reynolds came by to photograph his excursion train support cars. He has built a gift-shop car, generator car, tool car, and a baggage/support car. His four models represent some of the Union Pacific's current heritage fleet. In the video, Dirk

2. Dirk Reynolds photographs his carefully built replicas of Union Pacific excursion fleet cars on a prop yard at Ken Patterson's place. For more on the UP excursion fleet go to utahrails.net/pass/heritage-fleet-index.php and up.com/aboutup/special_trains/historical_equipment/index.htm.

describes each car and the effort that was made to create realistic representations of the prototypes. ☑

3-4. Dirk scratchbuilt the equipment car by combining two Athearn plug-door boxcars and then making a roof from styrene plastic and body putty. The car was converted by UP from an express boxcar. It carried needed tools and parts, as well as steps and other items needed when the train was on public display.

5-6. This was the easiest car to represent. Dirk replaced the trucks and decaled this Walthers ACF baggage car to represent the Art Lockman maintenance tool car. Dirk scratchbuilt the GPS antenna and vents on the roof.

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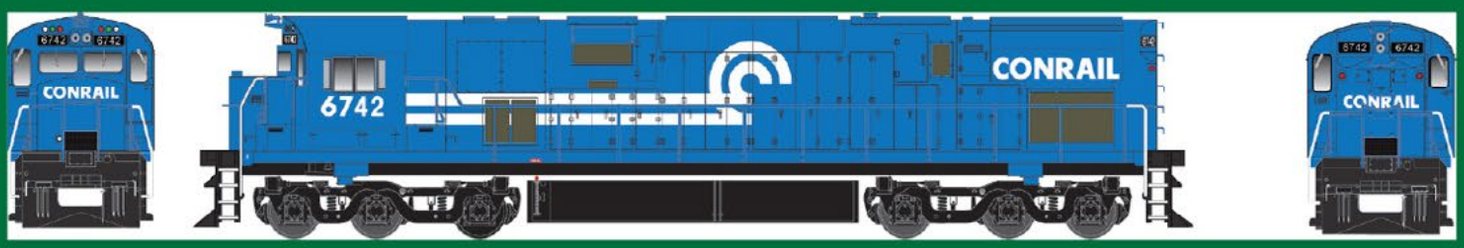

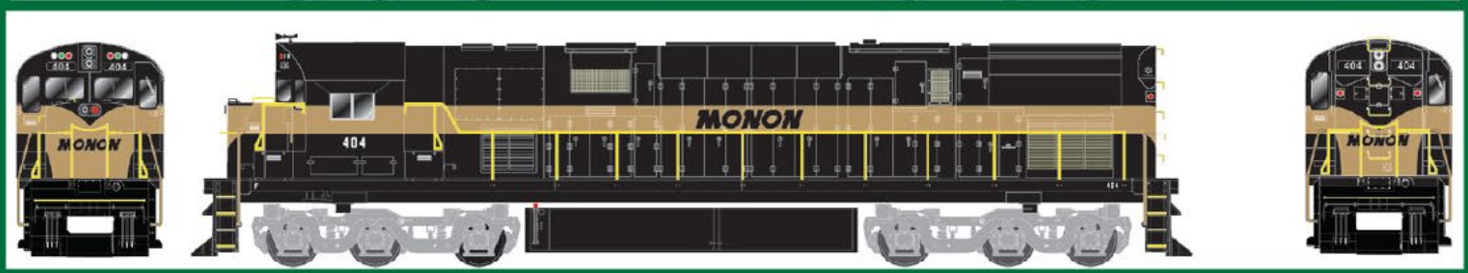

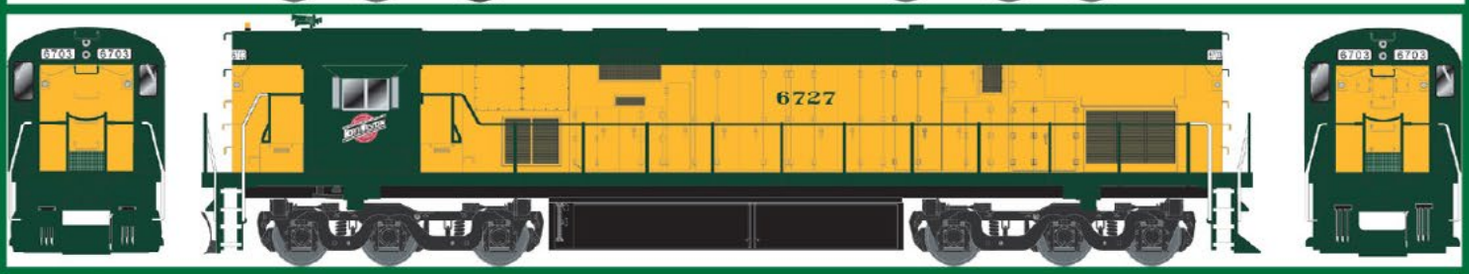

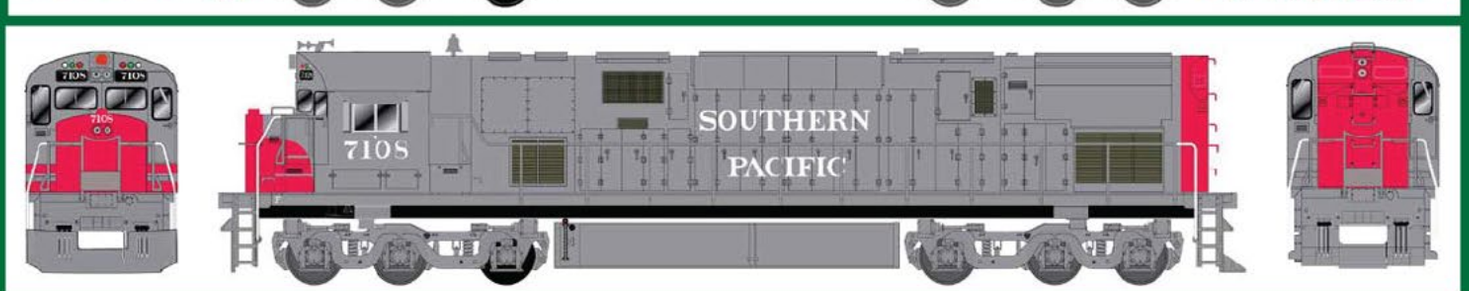

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7-8. The head-end power car was a real challenge, and was the hardest car to make. This car produces electric power for the excursion train passenger cars. Dirk added exhaust vents for the generator and breathing screens on the side, using etched brass. I really wish Walthers would manufacture these cars to run with excursion locomotives.

9-10. In the next segment of the video, I talk about workbench design for model builders. The common tools need to be within hands reach to have the perfect work space for efficient model construction. From the electrical outlets, to the DCC and decoder programming station, most of my studio operations center around this custom-made work space.

11. In the last segment of the show I talk about the Soundtraxx Sound Car decoder. The decoder has a full range of the prototype sounds that you would expect to hear in a string of freight cars. Flange squeal, joint bar click-clack, flat spot thumps, uncoupling sounds with air release, couple-up sounds with air pressure increasing in the lines, and a lot more sounds that can be programmed to operate at various levels of volume and frequency. Add in a new feature called Intelligent Consisting and this decoder will link itself to your lead locomotives without consisting through button operation, That's right, you wave a magnet above the car and it finds the locomotives when you push function 8 four times. The sound in the car lets you know when it is consisted with the locomotives. Another sound tells you when you have released the car from a consist. It's all built-in, like magic, and I bet you will see this feature in other decoders. There's cool stuff on intelligent consisting in this December video.

12. Because it is winter, I added one runby of the garden railroad plowing snow, to get you into that winter spirit. Be sure to vote in the Reader's Feedback. Rate the column between 1 and 5 stars, because we depend on feedback to help us know which articles better meet people's needs.

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MRH HOBBY MARKETPLACE - 1

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MRH HOBBY MARKETPLACE - 3

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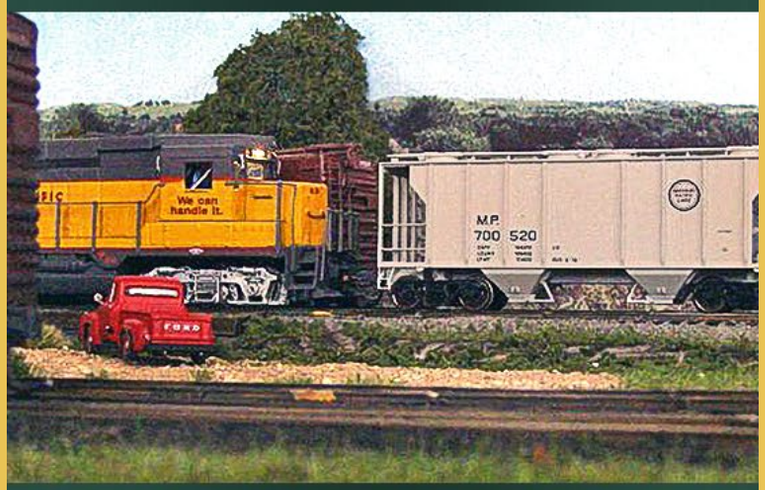

Ken Glover's Shelf Layout
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Mike Rose's N scale empire
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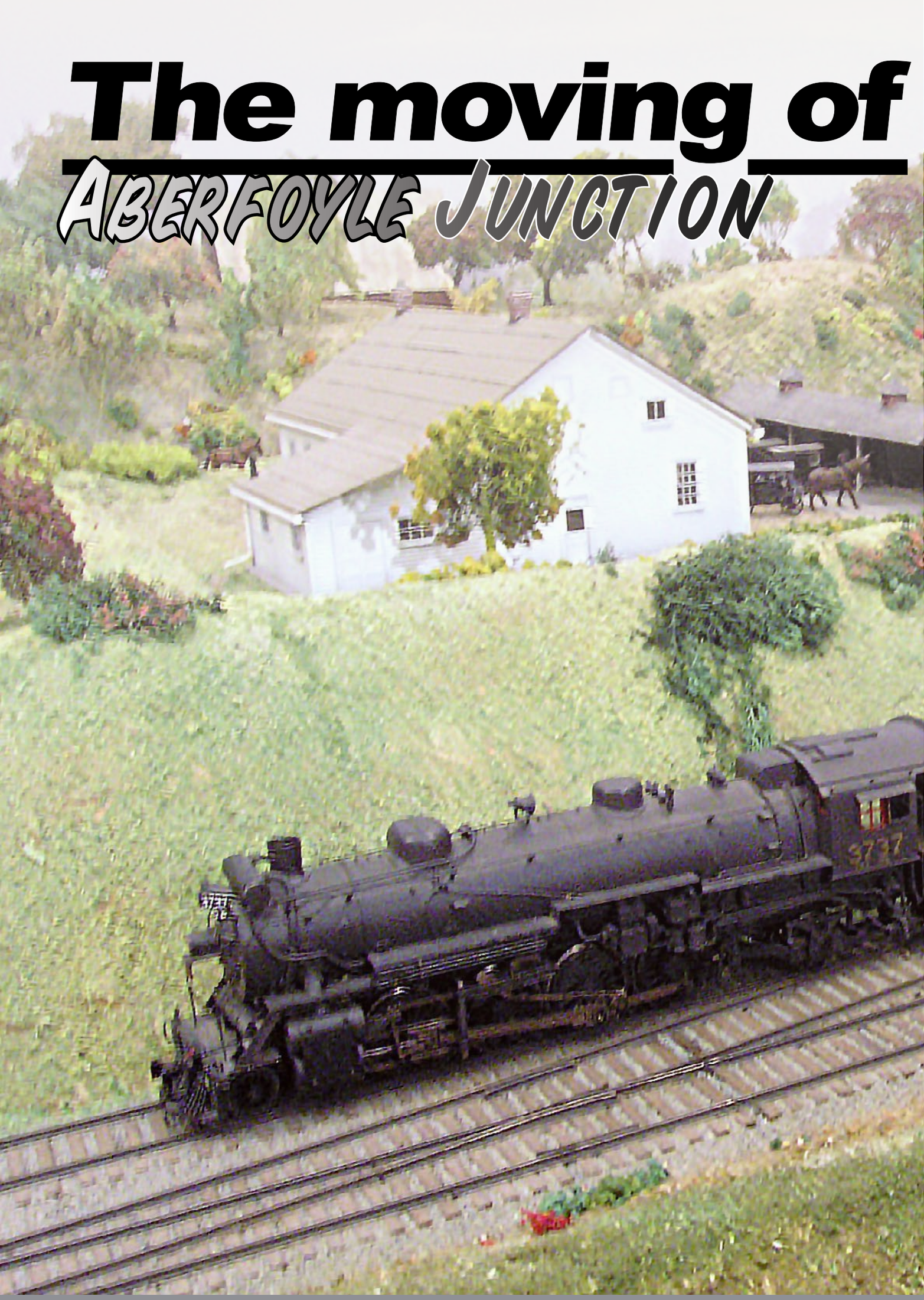
MRH HOBBY MARKETPLACE - 4

The moving of Aberfoyle Junction



– Craig Webb MMR
Photos collection of Waterloo
Counnty Heritage Preservation, Inc.

An O scale layout surviving two moves ...

In 1972 Frank Dubery, then a member of the Model Railroad Club of Toronto, had a dream of building an O scale display railroad to introduce people to the hobby. At the time he knew the original owners of the Aberfoyle, ON, Antique Market, and they offered him a room on the second floor of a small barn roughly 32 feet by 32 feet. With the support of his wife, Gay, Frank began making the room look presentable, lining the walls with sheets of wallboard, and began to build his railway.

Reader Feedback (click here)

1. St Jacobs is in the heart of Old Order Mennonite country in Canada, The building is a model of a meeting house located near our new home. The Mikado is a Sunset Model of a light USRA engine that Frank Dubery re-detailed to match the CNR #3737.

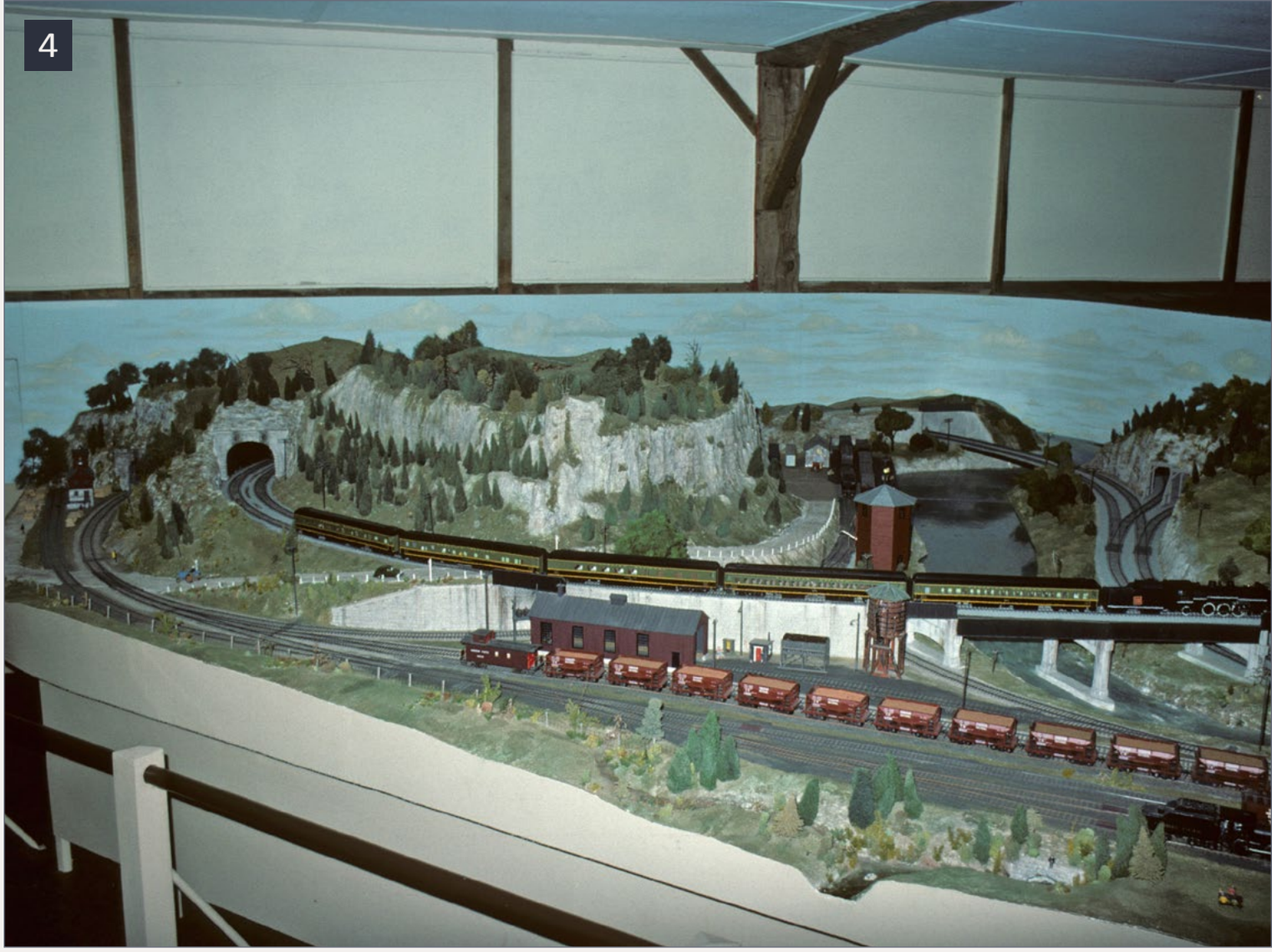
2. CP #1201, another of Chuck's creations, drifts past Caledon Jct. depot. Craig built the station and section houses from plans provided in the registration package at the 1979 NMRA national convention in Calgary, AB.

The front fascia ran diagonally across the room, leaving about half the room as viewing area.

By the next spring Frank was working on the benchwork, when he met Chuck Bard during a steam fan trip. Chuck immediately became interested, and joined Frank. Chuck's wife, Gwen, who is very artistic and enjoys making scenery, also came on board. That same year, Wayne Pfeiffer, who knew Chuck through a common interest in Lionel trains, joined the group. In 1975, Craig Webb, a member of the Hamilton, ON Society of Model Railroaders, discovered the group, and was invited to join. The way the group's interests dovetailed made possible the now-developing layout.

3. November 1972, we find Frank Dubery standing by the beginning benchwork in the barn at the Aberfoyle Antique Market.

First, the overall concept would be recreating a Southern Ontario scene from the late 1950s, featuring both Canadian National and Canadian Pacific as two separate railways. Frank really enjoyed track work, and Chuck enjoyed



4. A portion of the layout in the barn. The mountain scene has now survived two moves.

building models of CN and CP steam locomotives, but professionally was a master electrician, and so he devised the electrical circuits. Craig had a fondness for building models of CN or CP passenger equipment. But we all had a hand in everything. The layout needed many structures, and rolling stock, some of which were built by other friends in the hobby.

The model railway progressed a few more years with some additions, such as a small stub freight yard, but by 1979 we were envisioning a larger layout, if we could find suitable space. Also, by this time the Antique Market had new owners, and we were under a lease agreement. As luck would have it,

Frank, a project manager on the Bruce Nuclear hydro project, had the chance to buy a Quonset-type hut his firm had been using as a warehouse. Wayne owned a 14-acre property a mile south of the barn, still in Aberfoyle, which had room for such a building. The group made a number of weekend trips to the site and, with the help of family and friends, dismantled the structure.

The pieces were put on pallets and trucked to Wayne's property. Over the next couple of summers, we re-erected the building, again with the help of family and hobby friends. The

5. Adding sheets of drywall to the framing in the Quonset hut, November 1982.

6. Aberfoyle Jct. Model Railway as it appeared in the Quonset building. Trains were controlled from the elevated tower in the center of the room.

aim was to have the building ready to receive pieces of the lay-out in November 1982, when our lease at the Antique Market ended. With the help of friends again, this time some from as far away as Detroit, the railway was dismantled and the pieces moved to the new site in one weekend. Now a larger project could commence.

The big project

Before the railway was moved over, some major prep-work had been done in the Quonset hut. The vertical H-beams to support the control tower had been placed in a five-foot-deep pit, and conduit pipes had been laid in channels in the gravel floor

going out to where the railway benchwork would eventually be. With this done, we had a contractor pour a concrete floor on October 5, 1982. We then studded and drywalled the south end of the building. Six-foot-high knee walls were built northward along both sides.

Where a knee wall met the arch roof, we found a way to run framing boards horizontally up the curved surface to the 11' mark. This area was then drywalled. Finally a suspended ceiling was installed across the room. By the time the layout was brought over, this work had been completed in the south half the structure, allowing it to act as storage for the pieces while we worked our way northward.

"Our first set of weekend shows, October of 1984."

We had decided we would have a lounge area across the north end. The footprint of the building was 100' by 40'. By allowing for a 17'-deep lounge, the train room became 83' by 40'. Above the lounge area. we constructed a storage attic and a small balcony overlooking the train room. Each end of the Quonset hut had sliding barn doors. We sealed these shut at the south end, creating a blank wall. At the north end, a studded wall housed windows and the entrance doors. The sliding barn doors on the north end were closed when we weren't there, providing security.

By early 1983, construction was well along at the north end. This allowed us to reassemble the original layout at that end, and it became the beginning of the new layout. Plans for the new layout were being devised throughout this same period. As the new sections were built we used L-girder benchwork

and spline roadbed, covering the splines with ½" Ten-Test, a commercial paneling product. The track work was largely complete by spring of 1984, with the exception of the city of Wellington, which would be a later project. Wiring was installed by May of that year, and the control panels in the tower were wired up.

Opening for shows again

We planned to have our first set of weekend shows for October of 1984. We wanted the layout to have a finished look, even though it was far from that. We gave the layout a plaster-over-wire-mesh covering and finished this with ground cover made of dyed sawdust and chopped foam. Gwen had been making trees throughout the construction phase, and there were over 1,000 ready for planting. Over the next few years many more trees and scratchbuilt structures were added.

As the night scene was being developed in 1987, building interiors were installed, along with lighting. To operate the night scene, Chuck constructed a slowly rotating drum. There are 64 micro-switches on cams of various lengths. These are wired to the hundreds of lights in the buildings and street lights. Two switches on the drum begin the dimming of the ceiling lights, and after eight minutes bring them back up again.

"... the night scene was developed in 1987."

Work on Wellington began about 1989, first installing the benchwork and track, followed by designing and building the structures, with completion about 1993. From then on, we

continued to add small items, as we saw fit. We ran two sets of shows each year: two weekends in May, and three in October/ November. Throughout our time in Aberfoyle, we had great help from many friends in general construction, model-building, and running our shows.

The control system Chuck designed was standard DC. The throttles were variable transformers, the AC being rectified after it became low-voltage. There were six operating positions in the tower. Two controlled each of the CNR's double-track mainline. Two controlled the CPR, and two took care of

7. The interior of the St. Jacobs building as the model railway group took possession.

the two CNR yards, Kelso and Wellington. When a turnout into a yard was opened, the mainline operator could bring a train in, or run a train out. Once the gate was closed, the train was under yard control. The CPR main line is a little more complicated given that it is essentially a single track with return loops at both ends. Rotary selectors allow the two operators to select who is operating which area. This method worked well, considering the type of showbiz operation we were after.

Several events happened as we moved into the 21st century. In 2005, our senior partner, Frank, died at age 87. Several friends then joined the group to help keep things going. They served for several years. Back in the late 1980s, Wayne, for business reasons, sold the property, but arranged a long-term lease with the new owner. In 2009, that lease ended. We were able to get yearly extensions to the end of 2012, at greatly increased rent.

In early 2012, the property again changed hands, and the new owner had great visions that did not include a model railway. At our May, 2012 spring shows, we were introduced to our prospective new St. Jacobs landlord by a person who had been a visitor many times, and did not want to see the railway destroyed. The St. Jacobs people felt we would be an asset in St. Jacobs, which is a major tourist town. We inspected several buildings that might be suitable, and made a choice. We had a new home.

The dismantling

Our lease in St Jacobs would begin on August 3, so the decision was made to use the intermediate time to take the layout apart and prepare the pieces for moving. Work began mid-May, and the pieces were ready to go on July 14.

Work began slowly. All the rolling stock had to be removed, and then packaged according to its various owners. Several members had put shelving in their garages or basements to store equipment as it was removed. Next came the removal of detail pieces; figures, road vehicles, telephone poles, switch stands, fire hydrants, and a variety of other items. Again, these had to be packaged up for safe-keeping, and removed to members' homes. The structures came next. Here things became more complicated, as they were wired for our night sequence, so the wires had to be cut, as long as possible, under the layout, and again, packaging and removed.

"Details and rolling stock were packaged up for safe-keeping."

Now work on the layout began. The first task was to remove all the wiring, which meant pulling it out of conduits that ran from the central control tower to terminal blocks under the benchwork. There were thousands of feet, which were then sorted according to size and length for reuse in the new location. The control panels were dismantled and all the various components boxed for reuse. These items were stored in closets and the balcony of the building, as space was running out in the members' homes.

Deciding how to break the layout apart was next. The layout was built with L-girder benchwork, with scenery hung between the pieces of roadbed. Scenery which could not be saved was torn out, so there were open areas between the various layout sections making it easier to decide where to make the cuts.

Our cityscape, and the town of Westport had been built on plywood, so these pieces could be salvaged, making the rebuilding of these townsites go faster.

One of our members had access to a 16’ box van. We decided to cut the layout sections into pieces as close to this length as possible, though there were many smaller pieces as well. All the legs were numbered, so we’d know where to replace them. Most of the cuts were made with a Sawzall. Prior to any

8. Early September, 2012, and the train room is almost complete. At this point, HVAC ductwork, lighting fixtures, and cameras are being installed above the T-bar ceiling.

cutting, small sections of rail were removed and labeled so they would go back to same spot when rebuilding.

The bus wires to the track and switch machines were left in place, so they were cut at each joint, and labeled for reconnecting at the new location. We had great help from a number of volunteers to get this work done. Some were friends who

9. The connection of two adjacent sections as the layout was being set up. Track work has been reconnected and the scenery is now being addressed. The windows in the distant wall are in the control room.

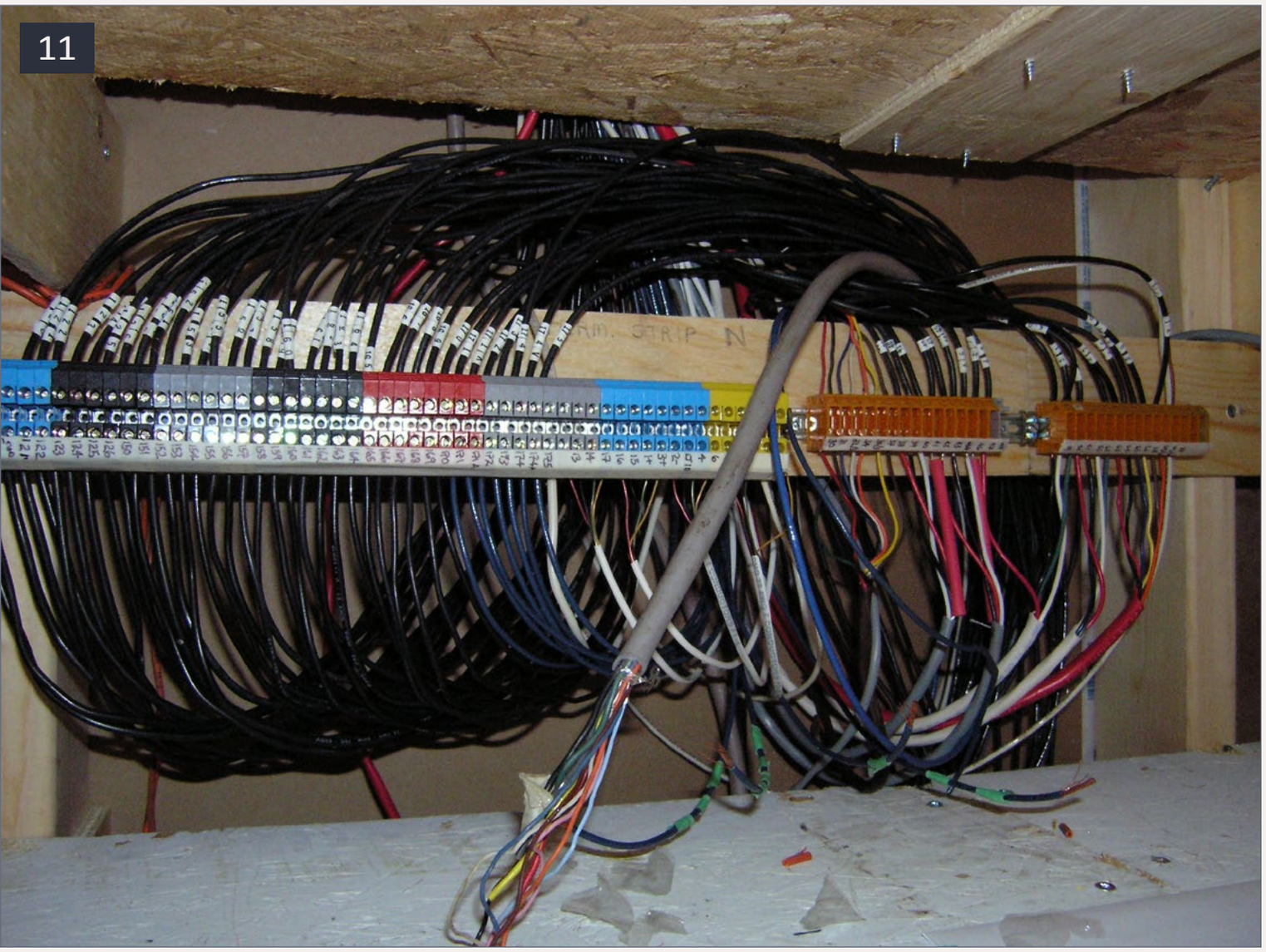
10. The control room as the wiring was being drawn in.

regularly helped out during our shows. Others were hobbyists who answered the call because they were happy that Aberfoyle Junction was moving, not to landfill, but a new beginning.

Preparing the new building

We took possession of our new quarters on August 3. Most of the building was open space, having previously been used as a warehouse. However, there were several small rooms at the east end that had to be demolished. Also, the lighting fixtures were not in keeping with our vision, along with inoperative heating equipment on the ceiling. All of this material had to be removed as well. Our goal was to have the “train room” ready for the layout by mid-September.

The new structure was 100 feet long by 50 feet wide. Our plan was to build the layout room on the southwest side 83’ by 40’, which would match the size of the old location. This allowed for a 10’-wide hallway along the side of the main room, which would be the entrance hallway, and provide space for washrooms. The east end would have a lounge area complete with a balcony which would house the control room, with a storage area below. Work began by dry walling



11. One of several terminal areas on the skyboard where wires from the control room [12] are connected to the wires going down to switch machines and track blocks in that section of the railway.

12. The finished control room. Each desk controls a section of the railway, as described in the text. Each monitor is connected to two cameras, which gives the operator of that area good top-down views of areas where there are uncoupling magnets, or hard-to-see switch locations.

the two outside walls of the layout room, while studs were erected for the two inner walls. Drywall was placed on the layout side only, for the time being.

Once again we received a lot of help. Hobbyists from the Kitchener-Waterloo area, and a few from farther afield helped with all this work. Several have since become members of the group. A family member who had experience tinsmithing installed

13. Continuing the Mennonite theme, there is a barn-raising just down the road from the meeting house. In behind, one of Chuck's scratchbuilt CNR cabooses brings up the rear of a freight, which has just passed a local creamery.

ductwork for the two HVAC systems that are above the ceiling in the hallway. He also was the main carpenter on this project, doing the stud walls, framing and finishing the woodwork.

Now it was time to hang the T-bar ceiling. Again we had some good luck. Another hobbyist who does this work as a profes-sion volunteered his time, and the T-bar went in quickly. As this was being done, others erected a skyboard that wrapped around the entire room matching the one at the old location.

Thought had been given to operating the layout. At the old location, the central control tower gave a good view of the whole layout. In this place, all the operators would be on the balcony at one end of the layout. The solution to viewing areas close up was to mount cameras in the ceiling, feeding monitors mounted above each control panel. Chuck planned this by using the ceiling at Aberfoyle as a grid to plot positions on the layout. The new ceiling became the new grid. This made it possible to install the lighting fixtures and the cameras while the room was empty, much easier than trying to work over the layout later. It also allowed Gwen to paint the backdrop at that time, knowing the scenes would match up with the layout when it was installed. While all of this was going on, other volunteers framed up the balcony.

By mid-September the room was complete. It was time to bring the layout over. This was done in four days over two weekends. Each trip took roughly three hours. It was grunt work, but went efficiently, thanks to the previous planning. Eleven round trips involving 51 layout pieces got the job done. Now the rebuilding could begin.

Putting the puzzle back together

As the layout pieces came off the truck, they were placed in roughly the position where they would be re-erected. The pieces closest to the skyboard were set first. This required going through the stack of legs, to identify which went where. As each section was set on its legs, it was attached to its neighbor with gussets joining the sawed roadbed back together. Then the pieces of rail that had been removed were re-installed. Care was taken to make sure each section was level, and joined the adjacent pieces exactly. Track switches were

also checked at this time. Some switch machines had been damaged in the move, along with some of the throw bars, so these were replaced as needed. (We use war-surplus rotary relays for switch machines.) Each machine was tested using a 12-volt battery to make sure it was working properly.

Next, the scenery was redone from the skyboard out on these pieces. We made a wire grid of old electrical wire, covered it

14. The family camping at the base of the escarpment is about to feel the ground shake as a CNR freight rolls by. It is pulled by Pacific #5588, one of Chuck's scratchbuilt locomotives. Below, CPR 0-6-0 #6161 works the Aberfoyle Jct. yard area. The 0-6-0 was scratchbuilt by Frank.

15. At Aberfoyle Jct. station, A CNR passenger train waits for CPR's "Canadian" to roll to a stop. The Junction is the only place where the CNR and CPR tracks meet. The diamonds are protected by semaphore signals, one of which appears just behind the "Canadian's" "Park" series observation car. The passenger equipment was built by Craig, mostly from scratch. The carbody shells for the "Canadian" came from Mac Shops in Florida. The tracks in the foreground are part of the CN-CP interchange yard.

with newspaper, and applied paper towels soaked in a soupy mix of dental plaster. An overcoat of patching plaster was added, carving it into rock formations, or smoothing it out for soil. Gwen was making trees and ground cover all this while,

so they could be added as we went. Ground cover was made from sifted and dyed sawdust, and ground foam as before. Deciduous trees were made from a variety of dried weeds, such as goldenrod. Evergreens were mostly done by carving horsehair packing material.

16. While bathers enjoy the public beach in the foreground, CN Northern #6153 pulls a passenger train into Eastport Beach station. Behind the station is a model of the Canada Crushed Stone mill that sat on the CNR mainline at Dundas, ON, on the Niagara Escarpment. Hopefully the wind is blowing off the lake, as hiding behind those stock cars are cattle pens.

17. CN 0-6-0 #7470 drills freight cars in Kelso yard. Frank knew the late Bill Lenoir of Florida, and Bill built two locos for Frank, this being one of them. For a while Frank and Gay lived in Chesley, ON. He measured and photographed the station there, and then built the model of it seen behind the switcher.

Once the rearmost benchwork sections were completed, the next row out was set up, and so on until everything was back together. While all this was going on, other volunteers continued to frame the lounge area, and dry wall it, along with entrance hallway, and completing the job by hanging T-bar ceilings. A furnace contractor installed the two HVAC units in the hallway before the ceiling was installed. Our landlord put in three washrooms and a janitorial closet at the far end of the

18. Westport comes across as a busy little town, seen here from the CPR coaling tower. All the original members of the group had a hand in building the structures. Most are based on real buildings, but their size was adjusted to suit the footprint we had.

entrance hall. Things were progressing, and we were now into the spring of 2013.

Wiring! A major consideration! Chuck constructed five control panels in his basement; eventually there will be a sixth. Some of us worked at his place some days, installing the toggles, switch selectors, etc, wiring them to terminal strips on each unit. On the layout, the various bus wires that had traveled with the layout were now reconnected, and sections were tested with batteries, looking for short circuits or other

19. All our locomotives at the original Aberfoyle location were either scratch- or kit-built. Some of them are approaching 40 years old, so we have purchased a few of the commercially available units to help provide some down time for them. Here, an MTH Royal Hudson rides the CPR turntable in Westport.

problems. Terminal strips were placed on the rear side of the skyboard [11] in a number of locations. Wires were then run from each bus wire to the terminal strips.

Hundreds of wires were then pulled through conduits from each control panel to the various terminal strips, identified at both ends and numbered to match the numbers on the terminal strips. Most of these wires were #12 or #14, so there is minimal voltage loss on the long runs. We then brought the control

panels over to the site. The wires in the conduits were connected to the terminal strips on the skyboard and the panels.

When we were planning the move, we wondered about converting from DC to DCC, but chose to stay with DC. One reason was the cost. We had all the components on hand for the DC system. To buy the new DCC equipment and set up 40 O scale locomotives would be prohibitive. Also our style of operation works well with DC. Once again, there is a control panel for each of the tracks on the CNR double track line. There are two more for the CPR. The fifth panel is Kelso terminal yard on the CNR. The sixth panel, under construction, will be for the other terminal yard of Wellington.

20. Chuck's scratchbuilt Royal Hudson pulls into the CPR Westport station. This structure was built from plans for the CPR station at West Toronto, ON.

21. The city of Wellington glows in the distance, while the industrial area of Eastport occupies the foreground during our very popular night scene.

By early October, 2013, we were ready for an open house. All the rooms were finished and flooring was installed in all the major areas. During these final phases of construction, Gwen and a friend, Nancy (wife of one of our volunteers), were making craft items to be sold in the gift shop. We set October 18th as the official ceremony day. Local officials from St Jacobs and Woolwich Township made short speeches to a group of invited guests. Frank's wife, Gay, now in her early nineties, cut the official ribbon, and trains started running. We then opened to the public for most weekends up to Christmas.

We shut down in January and February to get our "night scene," a favorite of the public, up and running. Since the wires to the buildings had been cut during the dismantling, Craig worked on identifying which wire in each building went to which room. (We had made a chart of all the structures when we first installed the night scene.) With the structures back in place, and their circuits labeled, volunteers now ran telephone cables from the drum's terminal strips to various locations under the benchwork connecting the buildings, street lights, etc.

We opened to the public on a limited schedule in March and April of 2014, and then every weekend since May. The layout is now running as it did during the first 10 years we were at our Aberfoyle location. The major project still to be completed is to get Wellington Terminal wired and running. And, oh yes, there's Chuck's bascule lift bridge in our port scene still to be made operational. Check our website, **stjacobsmodelrailway.com** and come visit if you get the chance. ☑

22. CPR's "Cape Race," a bedroom-lounge car, brings up the rear of an overnight train, stopped at Westport during the night scene.

23. October 18, 2013, was opening day at the St. Jacobs location. Gay Dubery is cutting the official ribbon, helped by her grandson Mike Craig, who is also a member of the group. Standing at the ribbon to Gay's right is Todd Cowan, mayor of Woolwich Township, and son-in-law Doug Craig, mayor of Cambridge.

24. An overview of the model railway in its St. Jacobs location. (Compare this view to the one in figure 6.)

Craig Webb has been a pivotal spoke in the Aberfoyle Junction Model Railroad wheel since its beginnings in the early 1970s. He joined with Frank Dubery, Chuck and Gwen Bard in 1975.

Craig retired from teaching school after 35 years. One of Craig's most pleasant memories is starting an after-hours model railroad club for the many interested students.

Craig was an early member of the O-Scale Hamilton (Ontario) Society of Model Railroaders, having joined in 1956. Craig received his NMRA, Master Model Railroader certification number 254 in 1995.

Craig's true love in railroading are passenger cars, both prototype and models. Craig has scratchbuilt, complete with full interiors and people, 80 passenger cars in both 36 inch and standard guage. His cars grace the St Jacobs and Aberfoyle MR on trains representing both the CPR Dominion, and the Canadian plus numerous CNR trains as well. When not building passenger cars, Craig has proven his flexibility by building 75% of the hundreds of scratchbuilt, illuminated buildings on the layout.

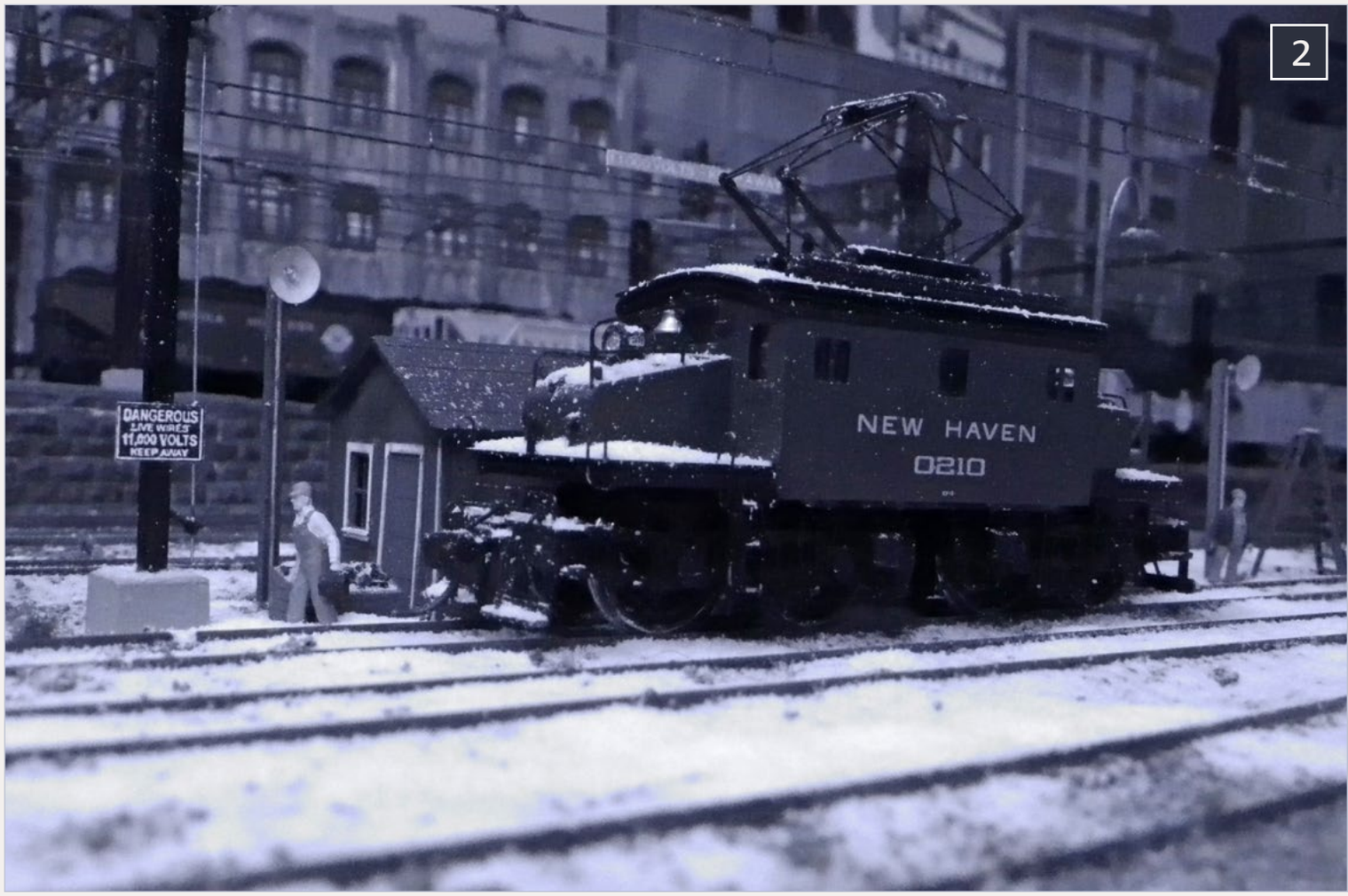
Craig lives in Hamilton, Ontario where his own 36-inch gauge, O scale model railroad occupies most of his basement.

Yes, it's a model

Model Railroad Hobbyist's monthly photo album

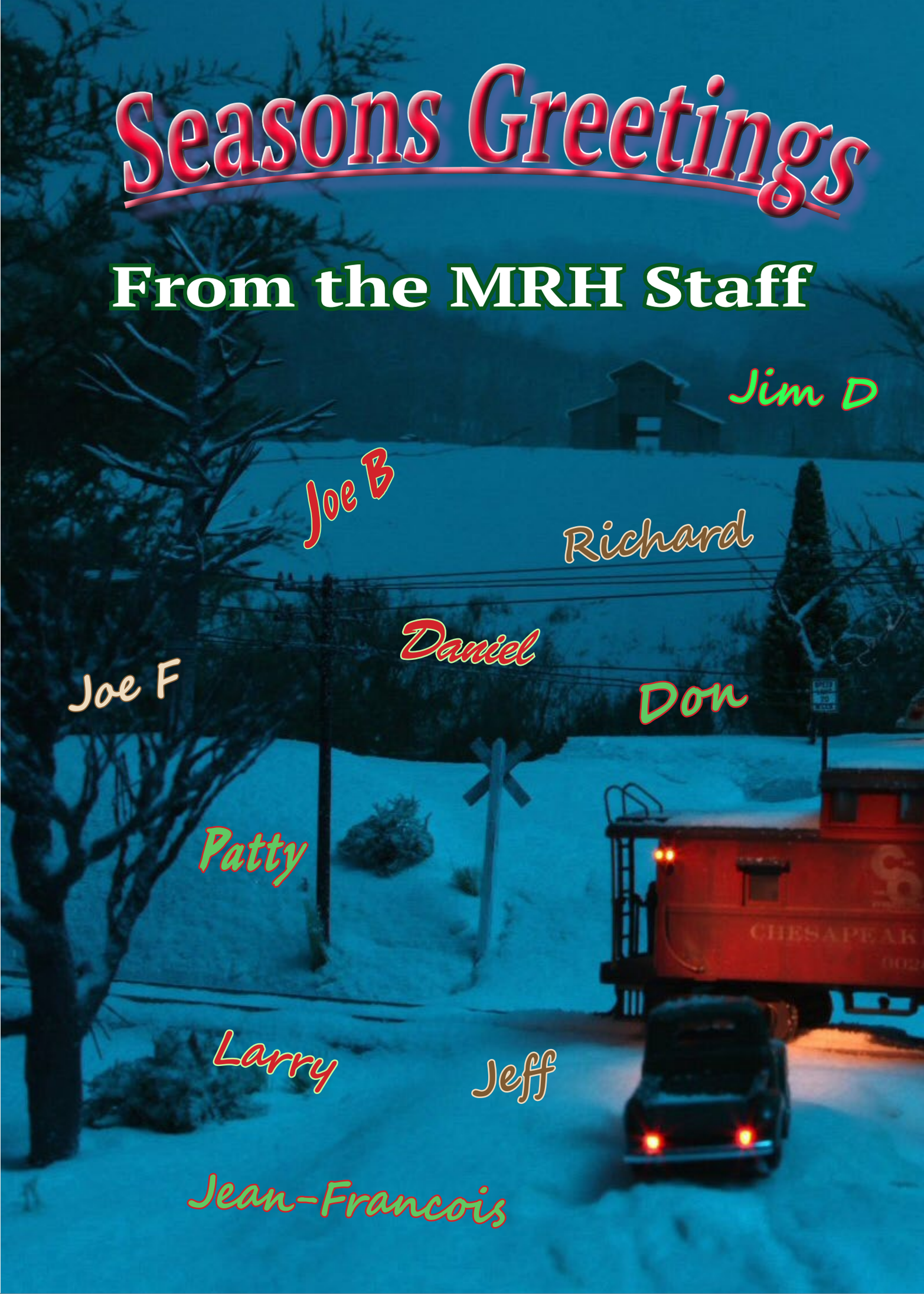
1. CR 623008 kicks up snow as it brings up the rear of a local. The photo was taken by Jürg Rüedi who posts regularly on the weekly photo fun.

Reader Feedback (click here)



2. NH 0210 is sitting on the motor storage/service track waiting for the switchman to throw the switch before starting a night's work in East Bridgeport CT.

Richard Abramson took the photo on his NYNH&H layout.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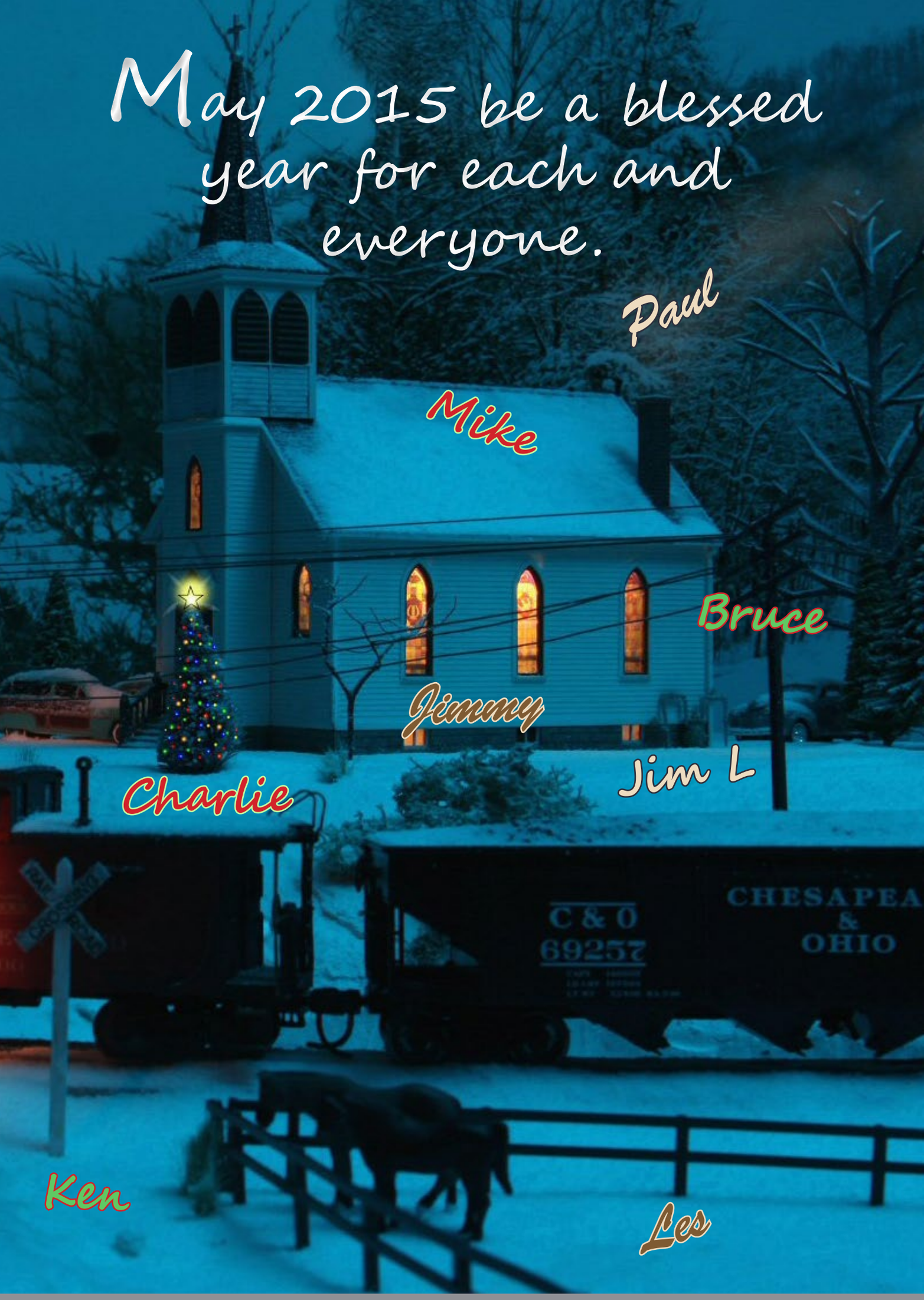
Joe B
Richard
Daniel
Joe F
Don
Patty
Larry
Jeff
Jean-Francois


May 2015 be a blessed year for each and everyone.
Paul
Mike
Bruce
Jimmy
Jim L
Charlie
Ken
Les
C & O
69257
CHESAPEA
&
OHIO

3. It's Christmas Eve and a church member is waiting for the train to clear the crossing.

James Butler took this photo on an 18" x 18" diorama to have a nice Christmas image. "The rolling stock is Walthers that I lightly weathered. The truck waiting at the crossing is a Busch model equipped with head and tail lights."

"The church is a Walthers kit, the stained glass windows are photographs of a local church windows, printed on clear plastic. The snow is Woodland Scenics, and the trees are from various sources, including a couple of small trees hand-made from wire. The background image of the barn on a snow-covered hill was photographed by my wife, Becky, in Fayette County, WV."

4. No it is not a model, but rather a painting. Forum member sabre422 (Marc Magee) painted this picture titled January Pause. The painting is of a CNR Mikado east of Whites Road in Trenton ON. The painting can be viewed at **www.marcmagee.com**.

5. It is late in the day and 801 is about to be shut down for the evening. Forum member MikeC in Qld posted this photo. Mike models late-winter/ early-spring, and has captured the season very nicely. To see more of his work visit his blog at model-railroad-hobbyist.com/node/14628.

Get your photo here!

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

Many of the photos posted show HO modeling, but we encourage modelers in other scales to post on the MRH website as well. We don't want this to be just an HO photo feature!

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

Reader Feedback (click here)

MAINTENANCE
FLAGS AND SIGNS

Add interest to your op sessions by simulating prototype maintenance indications ...

– Roy Buchanan
Photos by the author

Reader Feedback
(click here)

Railways use flags to designate particular types of trains, and for maintenance-of-way safety. Most modelers are aware of the white flags flown on the front of engines to designate extras, and the green flags flown on engines to designate a second section following. However, there are five main

Lead photo. Simulated rail-mounted blue flag on the team track.

types of maintenance-of-way safety flags that are used wherever necessary on a railway.

The explanations are general only, and do not cover all circumstances. These are the rules that we, as modelers, can easily incorporate into our modeling and operations. I've deliberately left out the distances in most of the rules that the flags must be placed before a hazard, as most modelers would not be able to replicate the scale two-mile distance required. I have made reference to the current Canadian Rail Operating Rules (CROR) which for all intents and purposes are the same as the General Code of Operating Rules (GCOR) used in the United States. The Uniform Code of Operating Rules (UCOR) preceded the CROR and GCOR and were usually modified to represent

2. Simulated tie-mounted blue flag on team track.

rules for specific railways. As an example, the UCOR were modified in 1940, 1951, and 1962. PDF links to some rule sites are listed at the end of the article. Rules in other countries will vary, and modelers outside North America are urged to consult local operating rules. The diagrams referred to throughout the article come from the CROR, and are used with the kind permission of the Railway Association of Canada. I must also note at this time that rules 840.1 and 843 are going to change sometime in the near future according to the Railway Association of Canada.

Regardless of the era you model, flags are made of cloth or metal, and can be different sizes. The type of cloth used in the various eras is irrelevant, as we will be using modeling materials to simulate the flags. The size of the flags depends upon the railway, or railway contractors, rules and whether or not the flags are made in-house, or are purchased from an equipment supplier. Blue flags, for instance, must be a minimum of 18” x 12” according to the American Railway Engineering and Maintenance of Way Association, but can be larger. Modelers who want to be true to a specific prototype, or era will have to research their favorite railway and the operating rules in force during their era to determine the size and how the various flags are, or were mounted.

The red, yellow, yellow-over-red, and green flags I measured at Southern Railway of Vancouver Island varied in size, even though it appeared that they were made by the same company or person. Overall measurement of the yellow-over-red flag was 24” x 27” while the red, yellow and green flags measured 22” x 29”. Metal flags are mounted on a metal pole which can be anchored to the rail by various types of mechanisms that support the flag staff, modern magnetic supports that sit on top of the rail, anchored to a tie, or can be driven into the ballast on the side of the track. The height of the staff varies

3a-3b. Prototype rail-mounted blue flag.

between suppliers and railways, but they must be high enough so approaching trains can easily see them. See Rule 846, CROR in the sidebar. Cloth flags with a metal stake on each side of the flag are used along the side of the track to indicate slow orders, stop orders and resume normal speed.

Some blue metal signs have lettering on them to tell staff what type of work is being done on the equipment. As an example a blue sign might say, “STOP CREW AT WORK.” Metal signs are usually blue, but might also be red, yellow, or green and must be painted on both sides. For those modeling the modern era, these signs must be reflective. In some cases a white reflective border is used on blue signs. The era being modeled will determine whether or not trackside flags are metal or cloth. For maintenance crew convenience almost all modern trackside signs are cloth.

4. Rail clamp detail.

Blue flags are one of the most common flags used on a railway, and are used universally to designate maintenance personnel working on rolling stock or equipment. Rule 26 in the CROR defines how blue flags are to be used. These flags are used mostly in yards, around engine houses and sidings, and are placed on the track where the damaged/broken piece of rolling stock is situated. They can be coupler-mounted, rail-mounted, or tie-mounted, are usually made of metal, and must be at least 18” x 12”.

The maintenance foreman in charge of the work will place the flag on the track before work is started on the designated piece of equipment. Only the person who placed this flag, or another employee of the same grade may remove the flag. Blue flags placed on a rail can be clamped to the rail with various types of clamps, depending upon who manufactured the clamp. Blue flags that are secured to a tie would have a simple spring-loaded plunger type locking/unlocking mechanism that allows them to be lowered and lie flat on the ties when the flag is no longer required. Some railways also allow the use of coupler-mounted blue flags. These are usually used in the area of equipment maintenance facilities. If the track is double-ended then a blue flag must be placed on both sides of the car, or row of cars, in a clearly visible location that will allow approaching engines sufficient time to stop. If the flag is to remain in place during the hours of darkness, a blue light will be mounted to the flag. Blue flags are the easiest flag to incorporate into our model railroads [1, 2, 3 and 4].

Red flags are used to indicate a Stop Order. Except under the circumstances outlined in Rules 840.1, 840.2, and 840.3, they are always preceded by a yellow-over-red flag. Maybe a track crew is clearing a downed tree, fallen rocks, replacing a rail, or

performing some other type of track maintenance. The track foreman would place the flag as directed by the operating rules before the work is started, and remove the flag when it is safe for a train to proceed. The location of the red flag will always be published in the General Bulletin Orders (GBO) and the Daily Operation Bulletin (DOB) [5a-5b].

If the flag is to remain in place during the hours of darkness, a red light must be mounted to the flag. If the red maintenance flags are designed to be secured between the rails they could very well be metal with a central mounting stake. Red flags mounted on the right side of the track will most likely be cloth and be mounted with two metal stakes. See Rules 840.1, 840.2, 842 in the sidebar. Red flags used judiciously during an operating session could easily make the session more interesting [12].

Yellow flags indicate a Slow Order and require a train to proceed at the designated speed in the operating rules, often only five or 10 MPH. Maybe a rail has cracked, or a maintenance crew is working on an adjacent track, repairing a turnout, or performing other maintenance on the line. Yellow flags can also be used to indicate slow orders in areas where unforeseen hazards like falling rocks may occur. As with the blue and red flags, if the flag remains in place during the hours of darkness, then a yellow light must be mounted to the flag.

Yellow flags are placed on the right side of the track and may be metal with a single stake, or cloth with two stakes, depending upon the railway. Yellow flags would always be followed by a green flag at the end of the Slow Order area. Slow orders will also be published in the GBO and in DOB. See Rules 840.1, 843, 845 in the sidebar. Yellow flags can be very easily incorporated into our model railroads for operating interest [6 and 13].

5a-5b. Prototype yellow-over-red flags.

A combination of the yellow flag over the red flag indicates to the train crew that a slow order is in effect and that a stop will be required. These flags are one piece and are generally the same size as other flags used on the railway. Yellow-over-red flags are always placed on the right side of the track. As with the red and yellow flags, yellow-over-red flags must be published in GBO and in DOB [6 and 14]. See rule 842 in the sidebar.

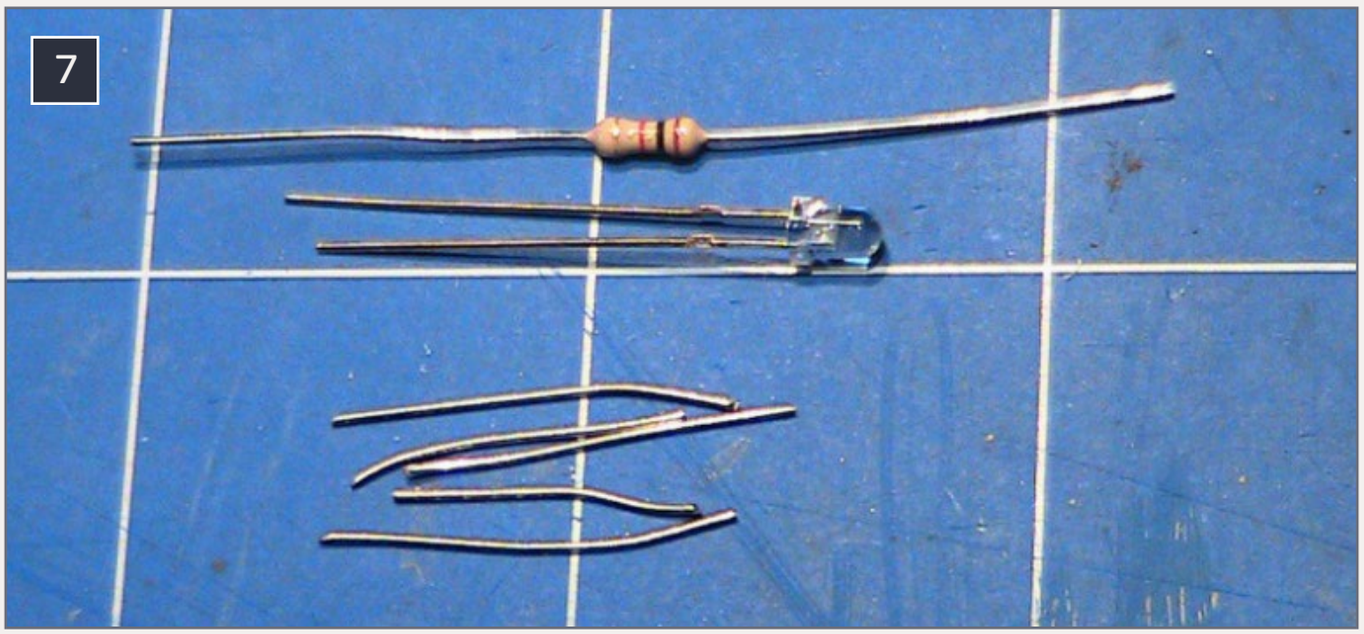
Green flags indicate that a train may resume normal operating speed for the track that is being used and are always placed on the right side of the track. (Note: Some railways used a white flag in earlier eras to designate that a train could resume normal operating speed.) See Rules 843 and 845 in the sidebar [13].

Rather than waste my brass wire (I live in a hobby shop-void area) I use the excess wire I clip off LEDs and resistors to make my flags. The resistor wire is a little stronger and round, whereas the LED wire is somewhat weaker and square. The difference in wire profile is really not noticeable in HO scale once the flags are placed on the layout. I've used colored 24-pound paper for my flags that would be rail-mounted and styrene for signs that would be mounted on a central stake to a tie, and for the trackside signs. One strip of paper, or styrene, makes lots of flags which you can then share with your modeling friends [7].

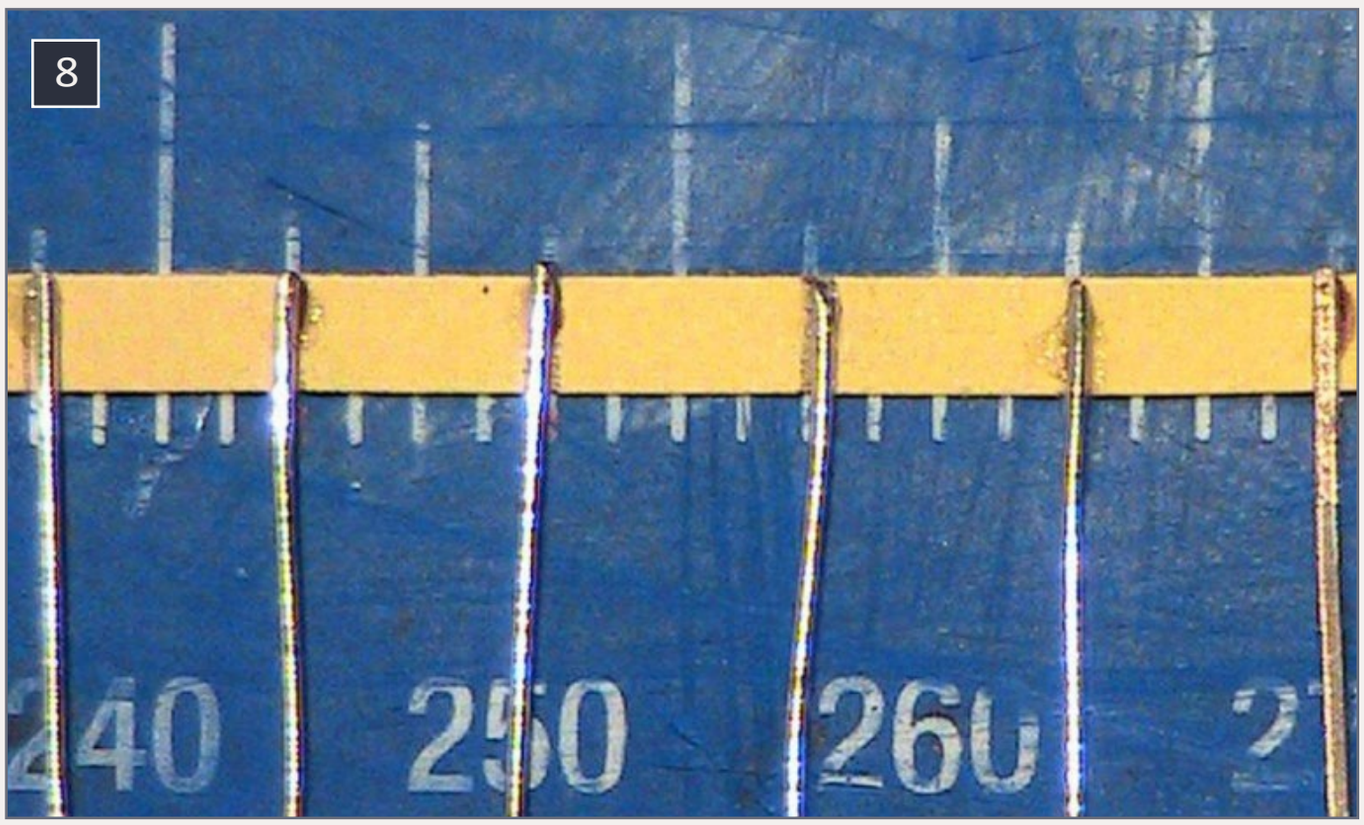
To make blue or red paper flags, start by carefully cutting a scale 12 inch strip off a sheet of blue paper. (Note – I used yellow paper in the photos so the paper would show up against the blue cutting mat.) Tape this strip to your cutting mat and carefully align your scale rule or use an inch scale along the strip of paper. Mark off every 36" with a sharp pencil. This is the line you use as a guide when gluing your wires to the paper strip [8].

6a-6b. Prototype yellow flags.

Don’t trim the wires to length, as their height above the grade will be determined by the depth of the hole you drill to hold the wire. To hold the wires onto the paper a miniscule amount of CA glue is all that is needed. Make sure the ACC glue doesn’t

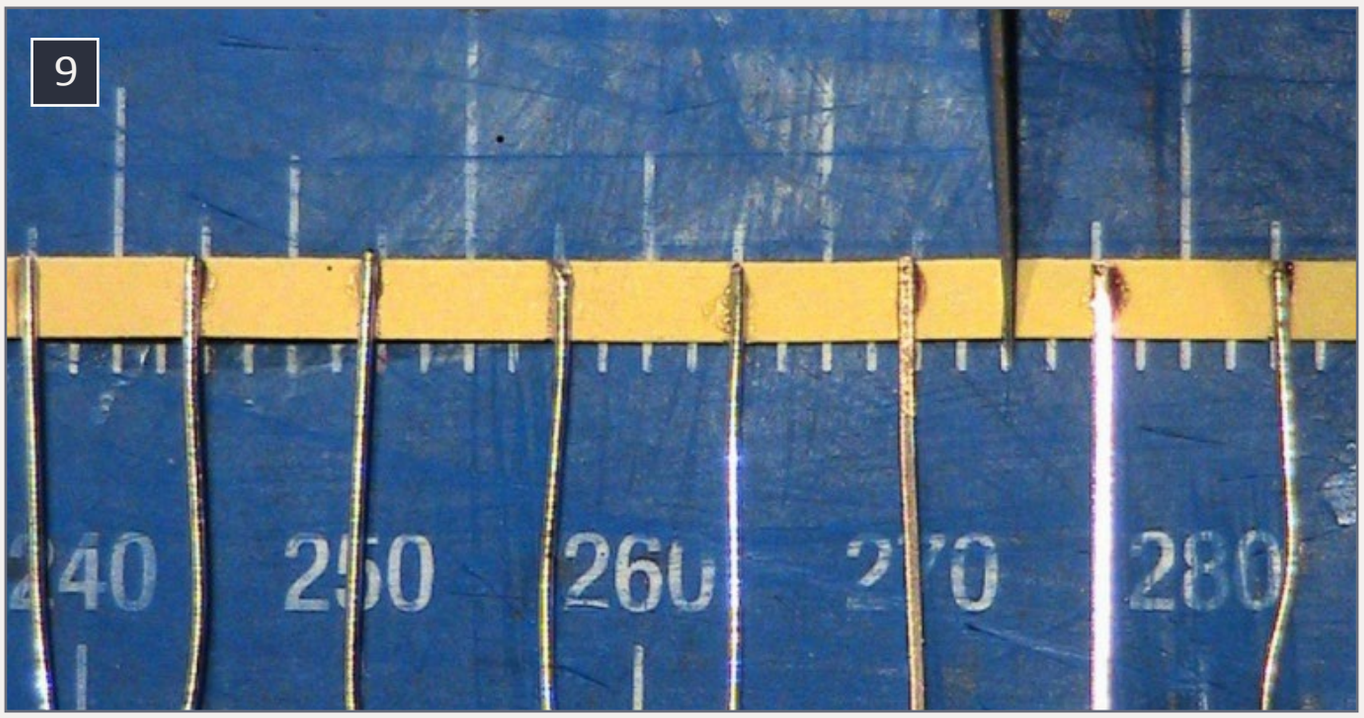


7. LED, resistor and trimmed wires.

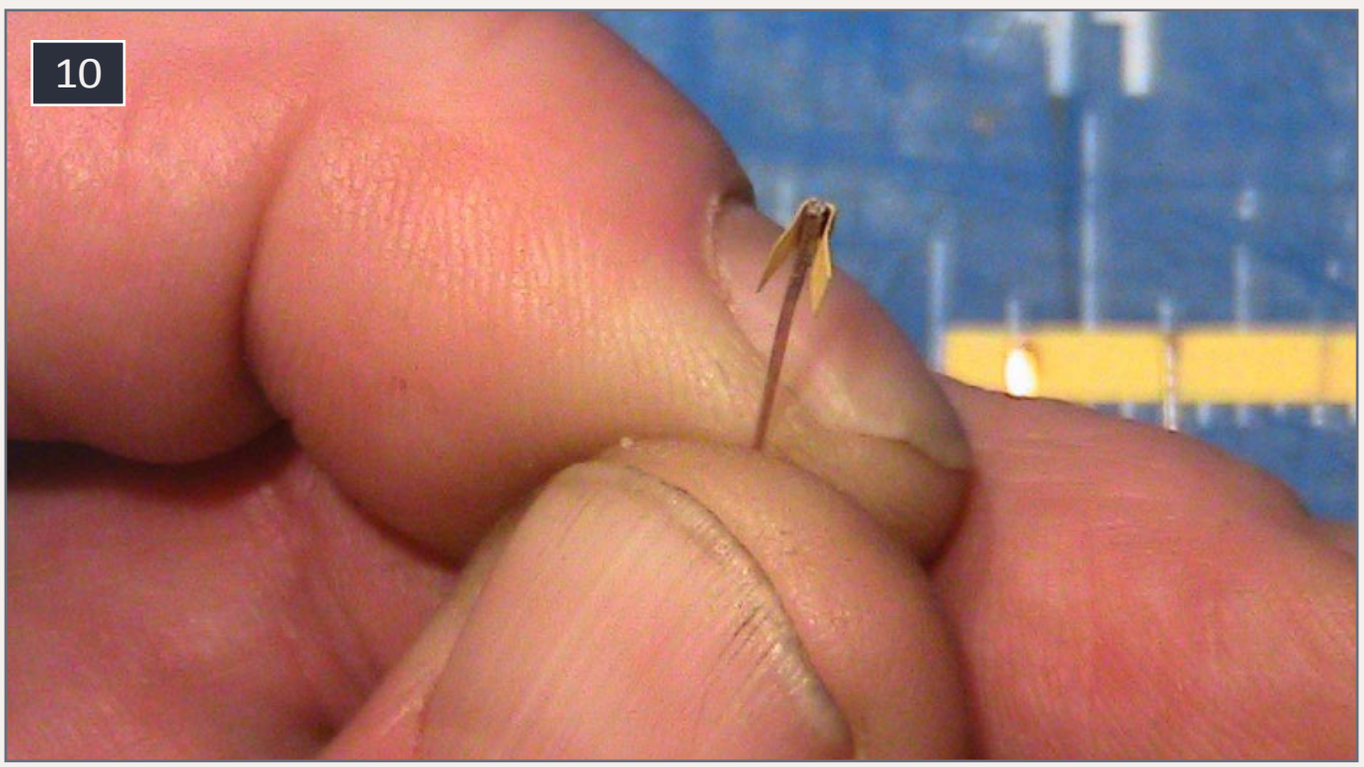


8. Resistor and LED leads glued to paper every 36 inches.

extend beyond the paper's edge or you'll end up with a flag that was run over by a locomotive. Once the CA has dried, cut the paper with a sharp razor blade, or X-Acto knife, 18" either side of the wire [9].



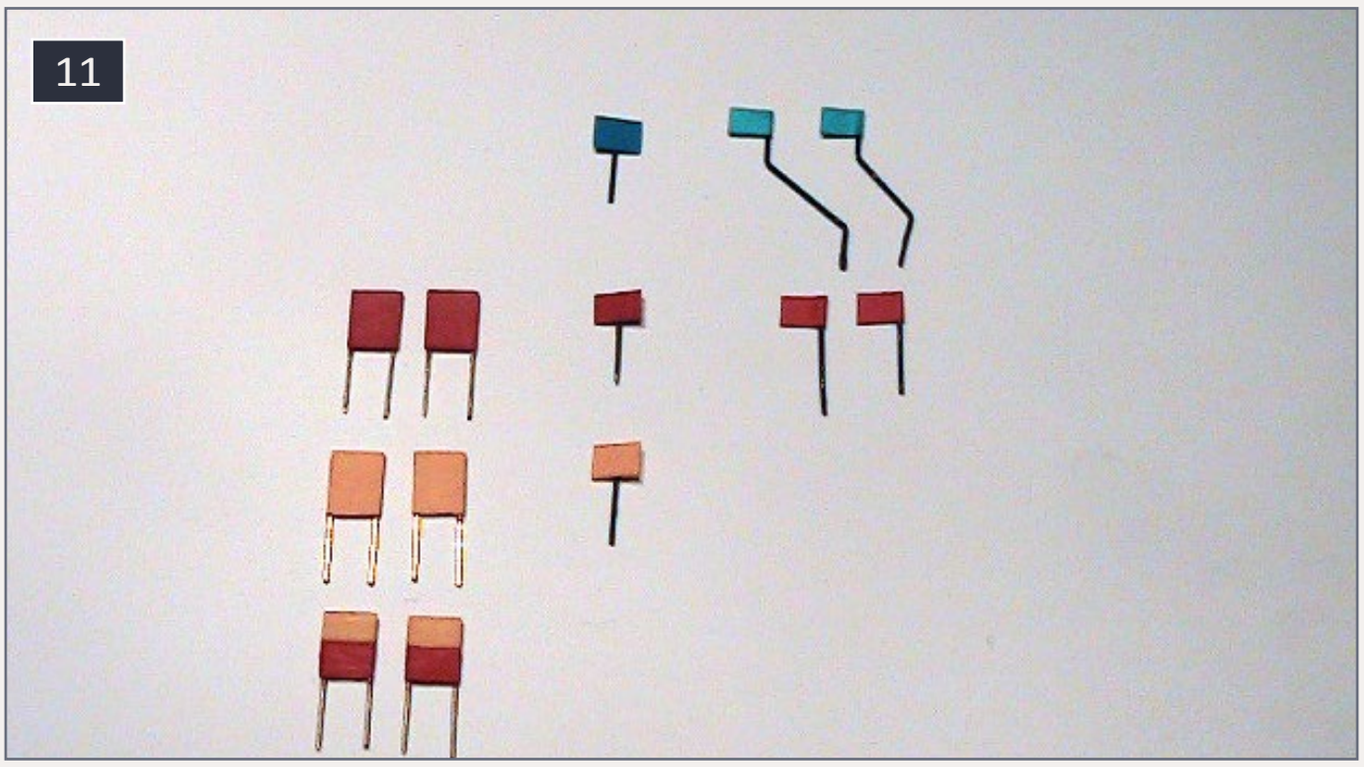
9. Cutting paper every 36 inches.



10. Fold over and glue the flags.

Fold the paper over the wire so that the open ends meet. The shortening of the flag by the fold around the wire isn't noticeable on the finished scale flag, but if you do want your flags to be exact, just add one or two scale inches to your scale measurements above. Glue the paper together with a tiny dab of white glue, and paint your wire black, gray, or a rust color [10]. You now have a flag ready to be used on your layout.

To simulate a rail-mounted flag, bend the flag staff like the blue flags in [11] and then drill a hole of the appropriate size between the rails close to either rail. For a flag mounted to a tie between the rails drill a hole centered on a tie or use the rail spike hole that is pre-drilled on flextrack.



11. Modeled flag assortment, left to right, top to bottom. Blue tie-mount metal flag and blue rail-mount metal flag. Red cloth flags, red tie-mount/right side ballast-mount metal flag, alternate red tie-mount/ right side ballast-mount metal flag. Yellow cloth flags and right side ballast-mount metal flag. yellow-over-red cloth flags. Green cloth flags and right side ballast-mount metal flag.

12. Model stop order, red flag.

For blue styrene signs to simulate metal, I changed the measurement to 15” x 18’” using .010” styrene. For red, yellow, yellow-over-red and green styrene flags, I like the proportions of HO flags that are 18” x 24”, so this is what I used. Red, yellow and green styrene flags can be supported by one stake to simulate a metal sign, or by two stakes for cloth signs mounted on the right side of the track. Yellow-over-red flags are always mounted on the right side of the track, and would most likely be made of cloth. Single-stake yellow and green metal flags may also be used by some railways [11].

As model railroaders, we likely won’t be able to place the flags the specified distance from a hazard, but we can place them far enough away from a hazard to allow our trains to come to a slow stop, or proceed at a slower speed. Whether you make paper or styrene flags, are serious about operations, or you just

want some additional detail interest on your layout, flags are one more way we can achieve these goals [12, 13 and 14].

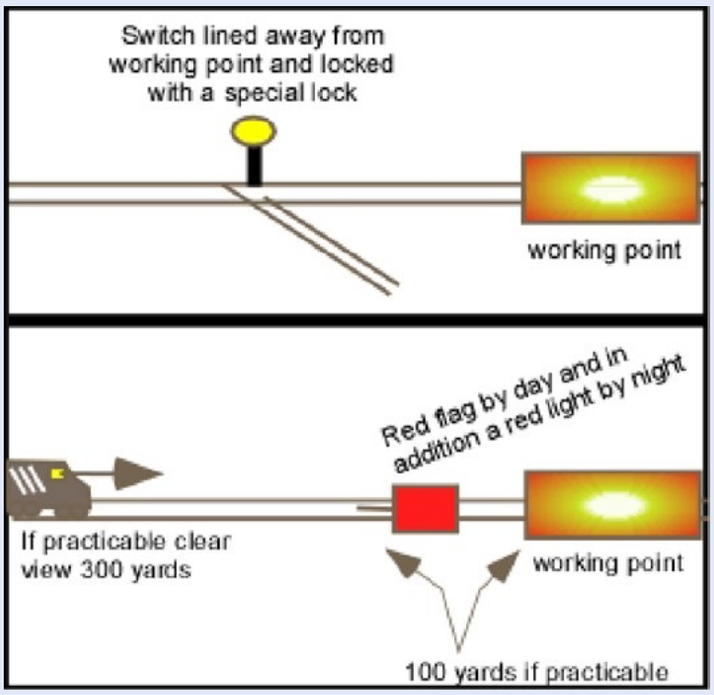
13. Model slow order, yellow flag and opposite direction resume speed green flag.

14. Model yellow-over-red flag. *Article continued on the next page ...*

Extracts from the Canadian Rail Operating Rules CROR

840.1 PROTECTION OF TRACK WORK ON NON-MAIN TRACK – RULE 40.1

Note: *Before starting any track work on a siding, the RTC must be advised. Before starting any track work on a yard track, the employee (if any) responsible for the yard tracks, must be advised.*



Before any track work is started, the foreman will provide protection as follows:

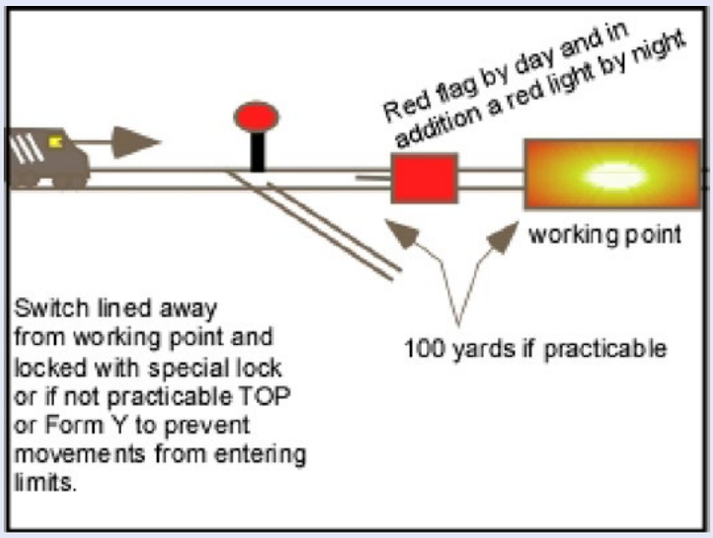
(i) each switch must be locked with a special lock in the position which will prevent a movement from operating on the portion of track where work is to be performed; or

(ii) place a red flag by day, and in addition, a red light by night, or when day signals cannot be plainly seen, between the rails in each direction from the working point. When practicable such signals must be placed at least 100 yards from the working point and where there will be a clear view of them from an approaching movement of 300 yards if possible. Where there is equipment on the track which prevents a clear view from an approaching movement of 300 yards the red signals must be placed to include such equipment.

Protection may be provided by using a combination of the requirements of items (i) and (ii).

(iii) Before starting any track work at any location where the work will be protected by the use of the prescribed red signals, foreman must ensure the signals will be visible to all movements operating or switching within the limits.

840.1 PROTECTION OF TRACK WORK ON NON-MAIN TRACK – RULE 40.1



Unless otherwise specified in special instructions,

(a) Before any track work is started, the RTC and/or the employee responsible for the track must be advised, and in addition:

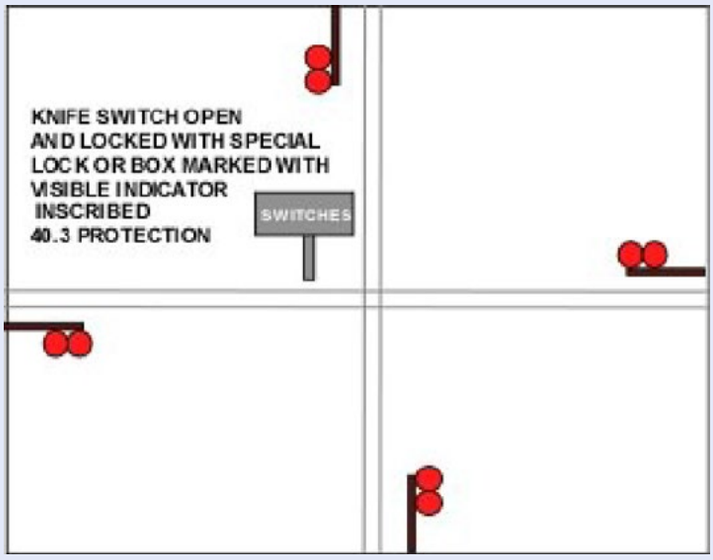
(i) The working limits must be protected by a red flag by day, and in addition, a red light by night, which must be placed between the rails, at least 100 yards where practicable, in each direction from the working point.
The limits must be protected by lining and locking one or more main track switches to prevent access to the working limits. Such switches must be locked with special locks;

(ii) When not practicable to line and lock switches to prevent access to the working limits, TOP or Rule 842 protection must be obtained to restrict movements from entering the cautionary limits;

(iii) Switches within the working limits that provide access must be lined for normal position and locked with a special lock.

(b) After track work is completed, main track switches lined to protect the track work must be restored to normal position. The RTC and/or the employee responsible for the track must be so advised.

40.3 PROTECTION OF TRACK WORK AT AUTOMATIC INTERLOCKING – RULE 40.3



When the foreman is in possession of other protection encompassing all routes within the interlocking limits, protection as per Rule 840.3 is not required. Track work may be performed within the limits of an automatic interlocked railway crossing at grade after protection has been provided as follows:

(a) Permission must be obtained from the RTC of both railways (where applicable).

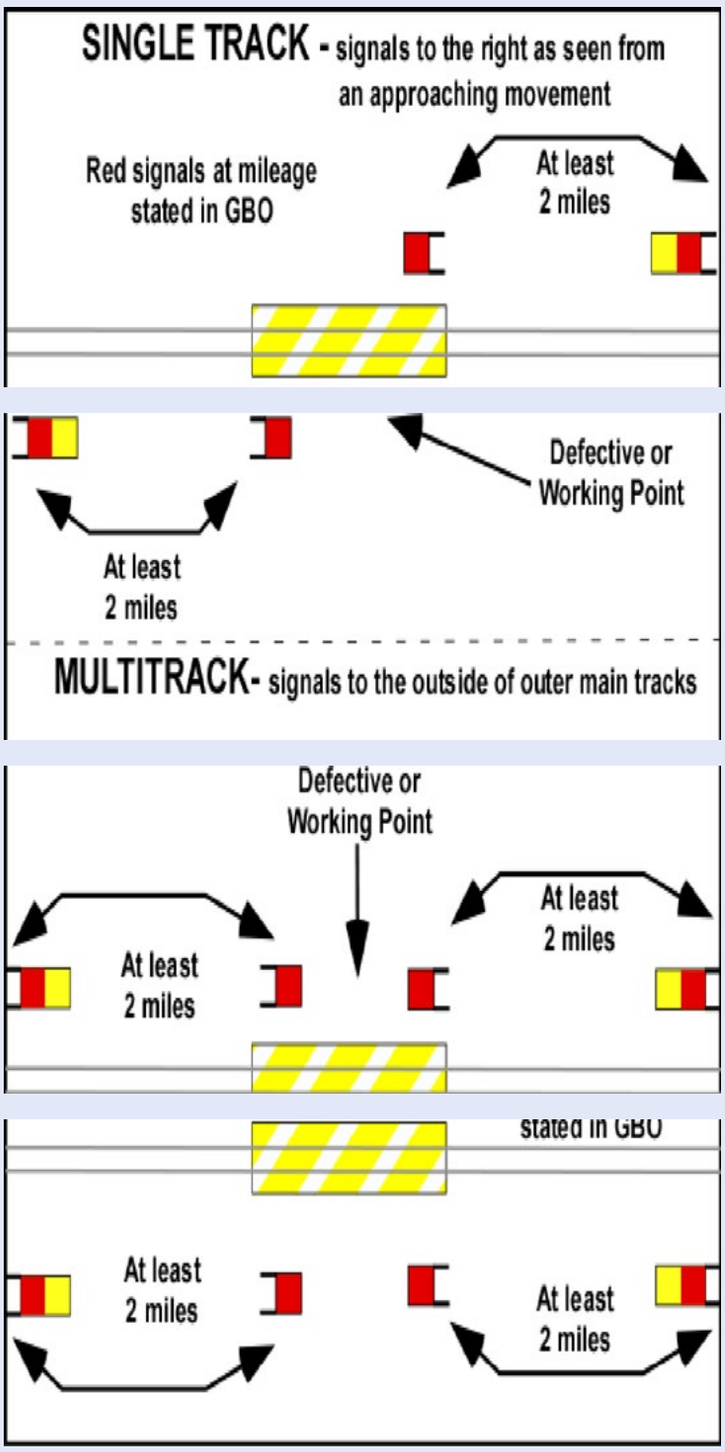
(b) After permission has been obtained and before any track work is started, the foreman must open the box marked “switches”, open the knife switch and must wait five minutes or such greater time as may be posted in the box. The switch must be left open until track work is completed.

(c) In addition, a visible indicator marked “40.3 Protection” or special lock must be secured to the box marked “switches” to indicate that track work is ongoing.

(d) After track work is completed the RTC of both railways (where applicable) must be notified.

842. PLANNED PROTECTION – RULE 42

(a) When protection is required, the request must be in writing and on the prescribed form. When protection has been provided, the track and time limits must be confirmed in writing prior to the foreman named in the GBO arranging for the display of the prescribed flags as follows;



(i) place a red flag at each location stated in the GBO to the right of the track as seen from an approaching movement; and

(ii) place a yellow-over-red flag at least two miles outside the track limits defined by the red flags, to the right of the track as seen from an approaching movement.

(iii) Track work must not be undertaken until the prescribed signals are in place in all directions.

(iv) Rule 842 flags must not be in place more than 30 minutes prior to or after the times stated in the GBO unless provided for in the GBO.

(v) Rule 842 limits must not be overlapped.

(b) When a specific track is to be used, instructions from the foreman must specify the track upon which the instructions apply.

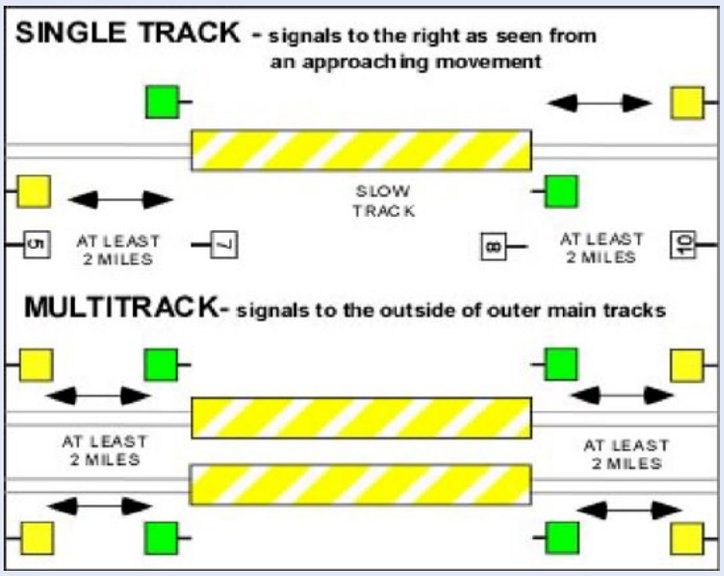
In CTC, when Rule 842 protection is in effect on more than one track or when signalled turnouts are within the limits there must be a clear understanding in writing between the foreman and the RTC as to what route(s) movements are to use. The foreman's instructions to the movement must be identical to the routing arrangement with the RTC. Should the foreman require operation on a specific track when the arrangement with the RTC was for more

than one route, the foreman must make a new arrangement with the RTC before authorizing the movement.

(c) Track limits shall be kept as short as practicable and be expressed in whole miles or by other identifiable locations.

(d) The GBO must indicate the location of flags that cannot be placed at the distance prescribed by Rule 842.

843. SLOW TRACK PROTECTION – RULE 43



(a) When slow track protection is required the request must be in writing and when practicable on the prescribed form, and after GBO protection has been provided, the speed restriction and limits must be confirmed to the foreman in writing who will arrange to:

(i) place a yellow flag at least two miles in each direction from the defect, to the right of the track as seen from an approaching movement; and

(ii) place a green flag in each direction, immediately beyond the defect, to the right of the track as seen from an approaching movement.

(b) The GBO must indicate the location of flags that cannot be placed at the distance prescribed by Rule 843.

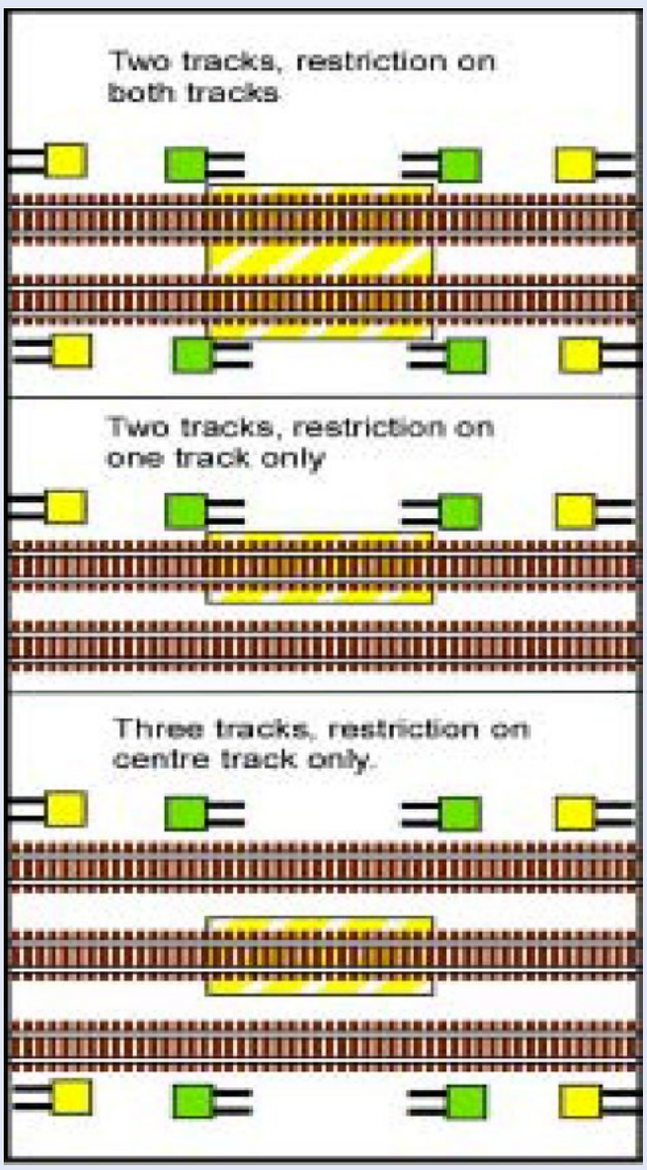
(c) When the placement of flags as prescribed by Rule 843 is delayed, the RTC must be advised and the following must be added to the Form V: “Signals may not be in place.” The flags must be placed as soon as possible and the GBO changed accordingly.

(d) When a Rule 43 restriction is located at a single mile point, one green signal will be displayed to identify the restriction and may be displayed to either side of the track.

(e) When a rail break has been detected by an engineering employee and it is safe to operate over the break at a speed less than posted speed, the RTC will provide GBO protection to affected movements stating the authorized speed over the break and how such location is marked in the field, by either a Rail Break Sign or foreman, at the break. Flags required by Rule 843 will not be in place.

(f) The regular placement of flags as required by Rule 843 must be utilized after twenty four (24) hours if the defect is continuing.

845. SIGNAL PLACEMENT MULTI-TRACK



Except on a subdivision designated in special instructions, signals required by Rules 842 and 843, must be placed to the outside of the outermost track(s) and not between the main tracks.

846. MOUNTING OF SIGNALS

(a) Signals displayed for protection of impassable or slow track must provide an unobstructed view of them as seen by the crew of an approaching movement.

They will be of the prescribed color, size and shape.

(b) When a day signal cannot be plainly seen, each flag must be reflectorized or equipped with a reflectorized lens, target or disc, or a reflectorized sign may be used instead. In the application of Rules 840.1 and 840.2, the required light must be displayed.

(c) Red, yellow, and yellow-over-red flags may display those colors only in the direction of an affected approaching movement. Green flags must display that colour in both directions. ■

Reader Feedback (click here)

Bill of Materials and Tools

- Colored 24 lb. paper
- .010” styrene
- LED and resistor wire trimmings, or brass wire
- Wire cutters
- Pencil
- Scale rule or cutting mat with inch scale
- X-Acto knife or razor blade
- Masking tape
- CA glue
- White glue
- Acrylic paints

Links

Canadian Rail Operating Rules
https://www.tc.gc.ca/eng/railsafety/rules-tco167.htm

General Code of Operating Rules
watcocompanies.com/safety/pdfs/GCOR%202010.pdf

Burlington Northern Santa Fe
bnsf.com/employees/safety/pdf/MWSafety2004.pdf

Acknowledgements

I thank the following people and organizations who assisted me in my research for this article. Without their help the project could not have been completed:

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Ken Rutherford – Western Vancouver Island Industrial Historical Society

Kevin Hunter – Western Vancouver Island Industrial Historical Society

Al Kutaj, Roadmaster – Southern Railway of Vancouver Island Limited

Railway Association of Canada – for the kind permission to use excerpts of the Canadian Rail Operating Rules ☑

Reader Feedback
(click here)

Roy returned to the hobby after a 20+ year hiatus in 2009. A fan of the Canadian Pacific maroon and gray, Roy models the '50s and '60s on his two level 7 x 10-foot Ghost River Railway, a fictional logging and mining subsidiary of the CP. Geared locomotives dominate the logging branch with first- and second-generation diesels seen on the branch main. Living in a hobby shop void, Roy enjoys kitbashing, scratchbuilding and problem solving. He is a returning contributor to MRH, with his first contribution the Rock Molds using Kitchen Caulk article in the MRH issue 10 – Nov/Dec 2010 issue. Roy and Anne live in Port Alberni on Vancouver Island.

Painting and decaling A RESIN CAR

Finishing the undecorated car ...

– Rob McLear
Photos by the author

In Part 1 of my resin car article, published in the August *MRH* mrhpub2014-08-aug, I finished building the car. Now it is time for paint and lettering. This Sunshine resin kit is of a Swift reefer, and for my time period of 1947 the car needs to be painted with orange sides, boxcar red roof and ends, and a black underframe.

The tools you need are simple: an assortment of small brushes to apply the decal

Reader Feedback (click here)

setting solution, a dish for soaking the smaller decals with water, tweezers with a fine point, and a sharp hobby knife. I will use Floquil enamels until my current stock runs out, but you use what you feel comfortable with.

The first step is to clean the car to remove finger oils and the mold release that is used on these resin kits. Wash the car with denatured alcohol, and with a soft brush give the car a gentle but thorough wipe-down. Alternatively, you can use a detergent water solution, Goo Gone, or something called Shout

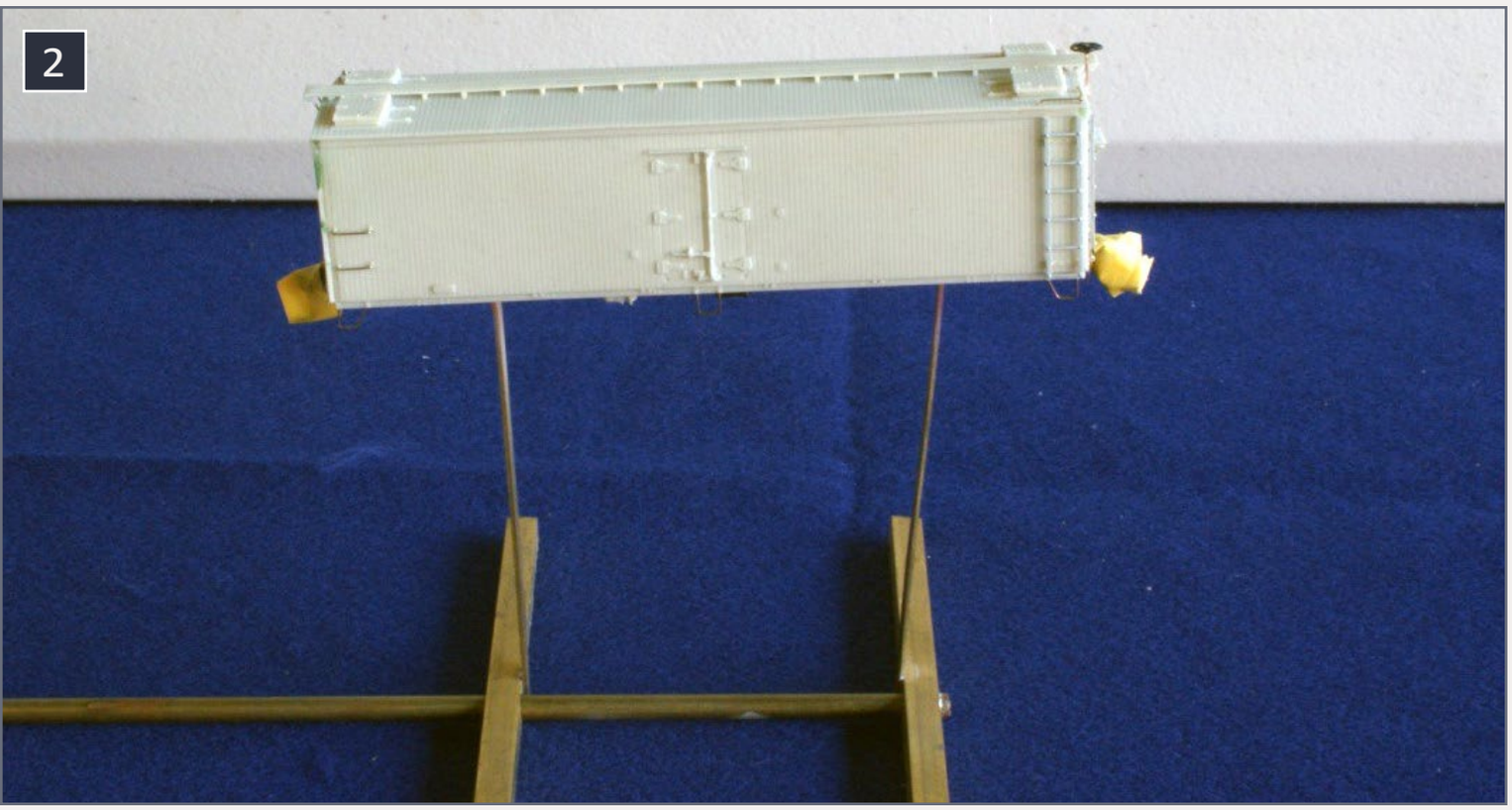
which my friends in the U.S. use. This product does not seem to be available in Australia.

Prime the cleaned car. This gives us a solid base coat and it will show up any small imperfections in the build. I use a holder that I made out of brass stock that screws into the truck holes. One end simply slides through the upright, enabling me to have different sized cars on the holder [2 and 3].

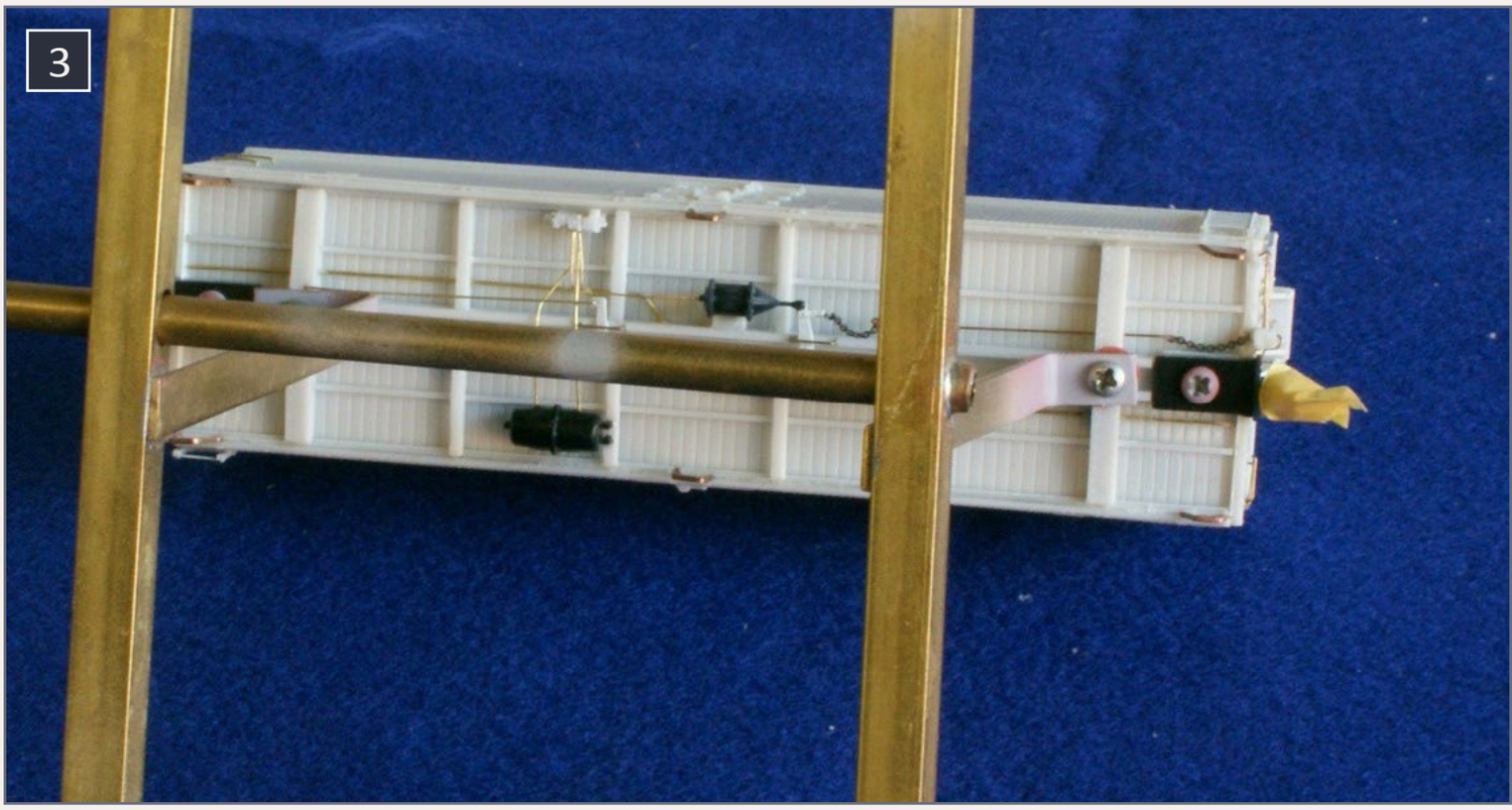
When the car is mounted and ready for priming, tape over the couplers with Tamiya tape to stop the paint from gumming up the Kadee 158's works. This tape has a low tack, especially if you cut it to size on a glass sheet. I have never had it pull anything off the car or remove paint.

Use a primer

For the priming coat, I use Rustoleum Flat Gray Primer with 2X Coverage. Don't be fooled by the name, as I have tested this



2. Car in its holder, ready for primer.



3. Holder attachment points to the car via the truck screws.

and it is not what I would call flat, certainly not like Dullcote. It is more like a satin or semi-gloss finish. It is also self-levelling to a certain extent and dries fairly quickly. It does take some time to harden before you can add a top coat. I found it here in a hardware store called Masters which I believe is the same company as Lowe's in the United States.

The trucks, ready to be primed, are mounted to a piece of brass shim stock and have the journals stuffed with some masking tape to protect them as well.

The priming coat is a simple matter of following the instructions on the can and holding the can about 6" to 8" from the work. Remember to use several passes and spray in light coats. I don't spray paint at the workbench, but take the model and the rattle can outside to spray.

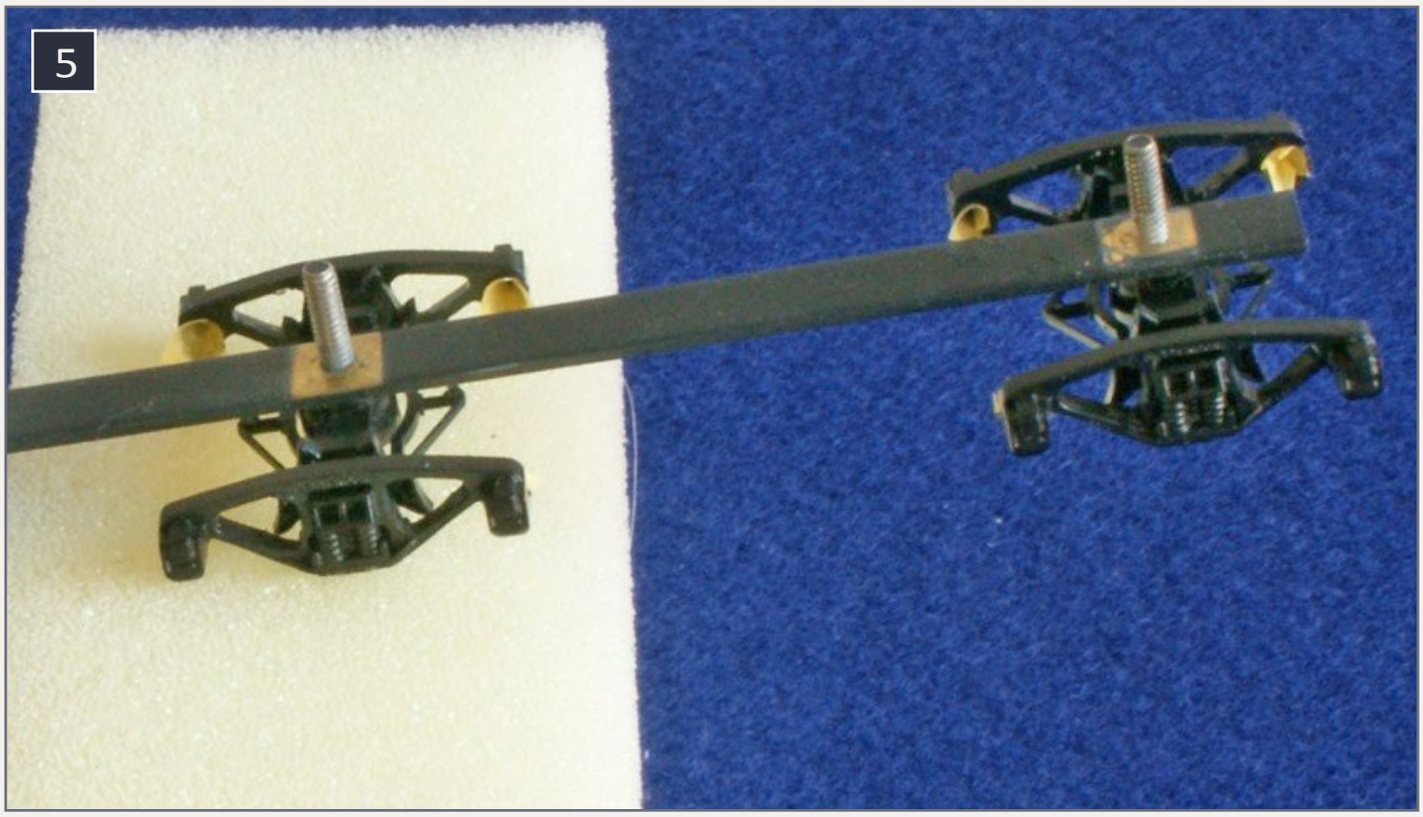
Note: *Wear a mask, some eye protection, and gloves as the paint fumes may be harmful.*

To apply the top coats, I use a Badger Crescendo dual-action airbrush [8]. Dual-action means paint and air are controlled by the same trigger. My compressor is fitted with a pressure air supply tank and water trap. The air tank helps to maintain supply, and maintains a steady flow of air without pulsations that can be common in cheaper compressors. The water trap stops water coming through the air lines to spoil your work.

4. The Rustoleum primer in a spray can.

Painting the color coat

I use Floquil paints to paint the top coats, starting with the yellow/orange for the car sides. Start with the lighter color when possible, because it is easier to cover a light coat with a darker one than the other way around. I used Floquil Light Orange as a good match to the sides of the car. There have been as many discussions and arguments about color as there are colors on



5. Trucks mounted on the holder.

the palette. For color selection you have to consider your lay-out lighting, and what time frame are you looking at – is the car freshly painted or has it been in service for some time?

I mix the paint 50/50 with Testors universal thinner and spray at around 20 psi. Keep the brush even and moving parallel to the work. Spray several light coats rather than one heavy one, to avoid the chance of runs. The paint should go on wet. If you are ending up with something that looks like fine sandpa-per, then either the pressure is too high, the paint is not thin enough, or you are holding the brush too far from the work.

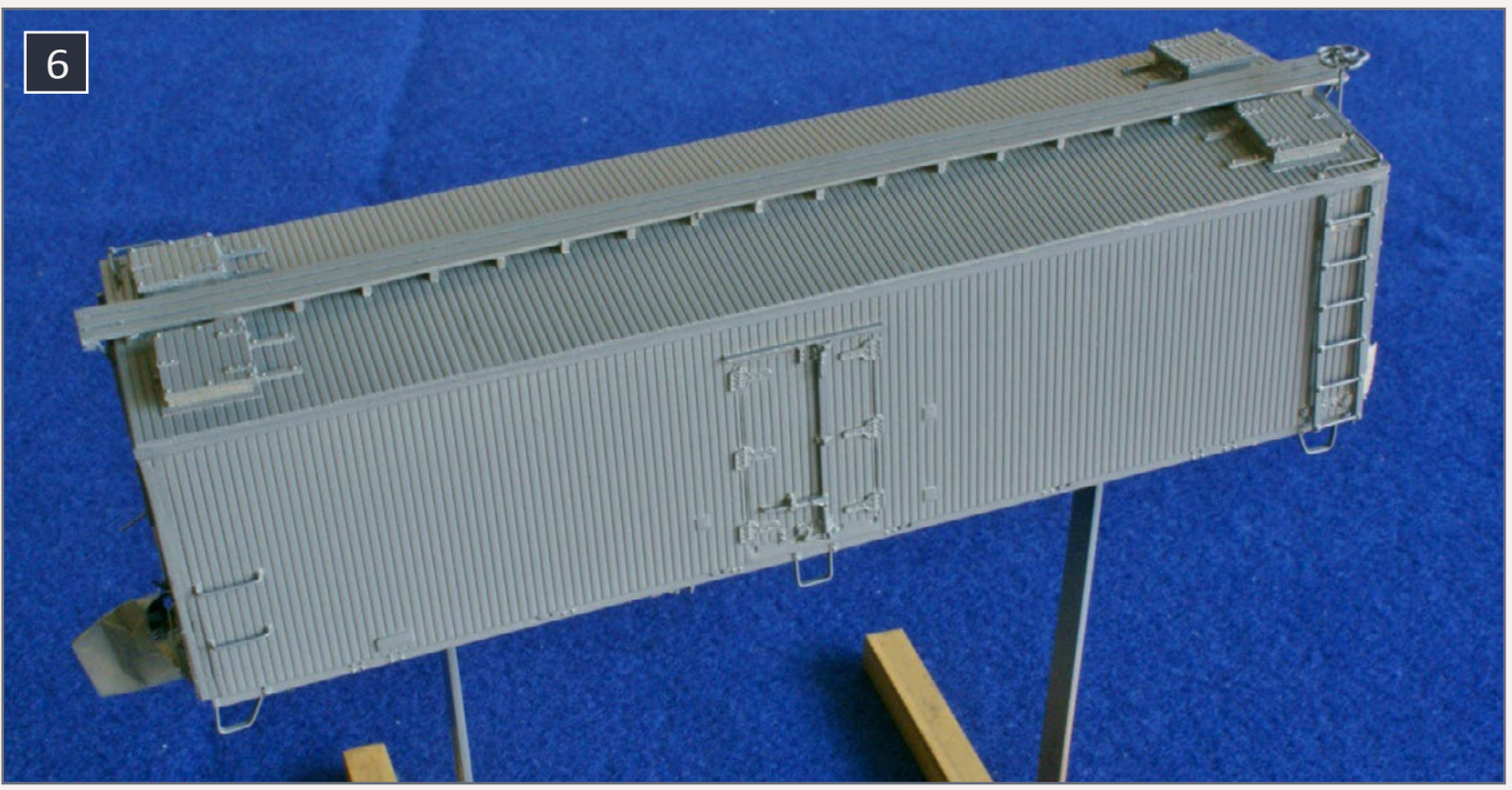
If you haven't painted much before, then experiment with your gear on something that is not as important. I have a couple of clunky-looking old cars which I don't intend to use on the layout, and I always test on these before spraying the more detailed model. In a pinch you can also test on a piece of white card or other flat surface like an old piece of scrap styrene.

When I do the top coats I set up a workbench next to the door of the garage, where the compressor and airbrush are. I don't have a proper spray booth with an extraction fan, and all the painting is done outside. Gloves, eye protection and an air filter/respirator take care of any potential problems.

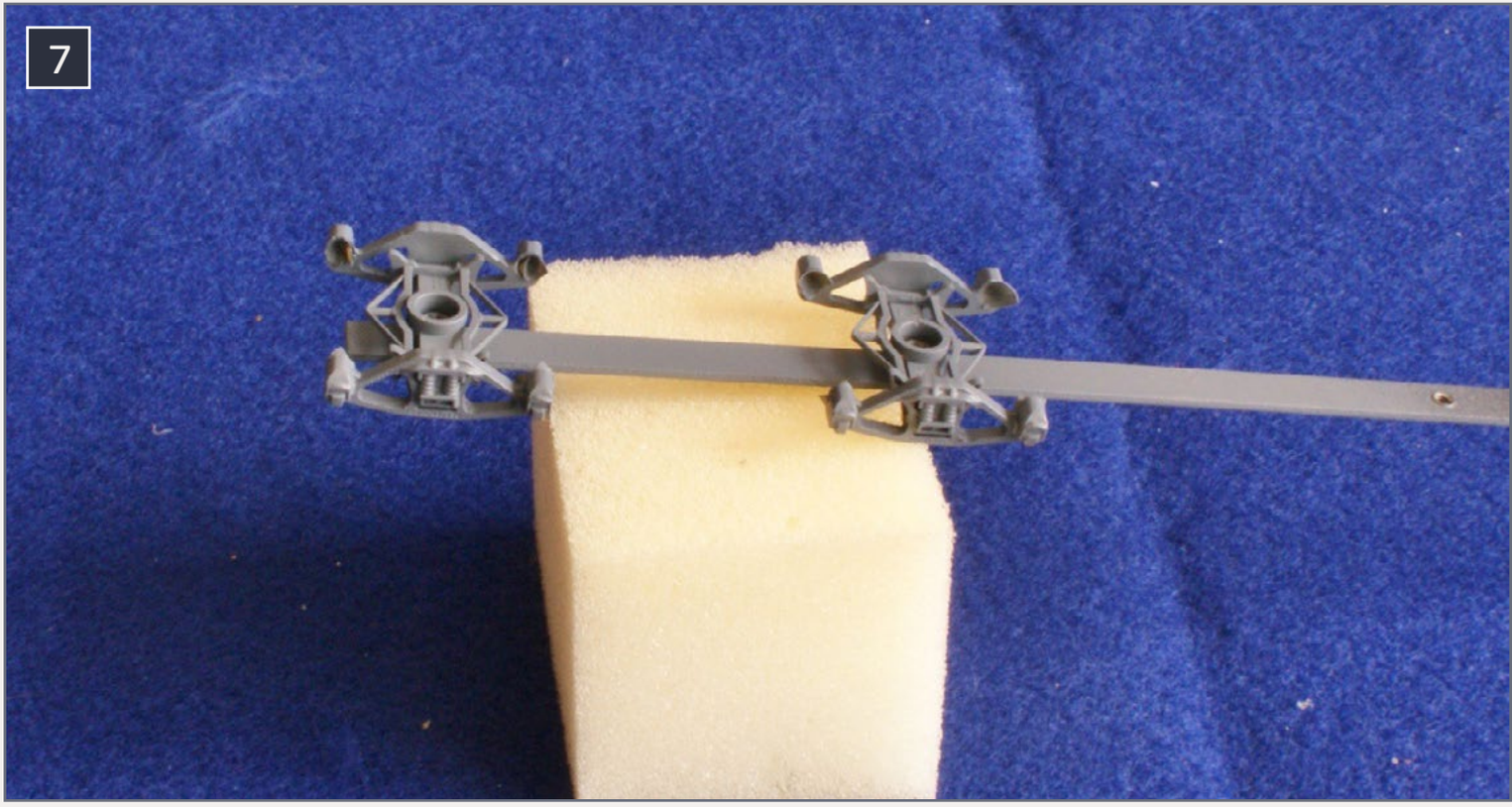
Masking off

Now it's time to mask for the roof and ends. I use Tamiya tape, which is available in a number of sizes with its own dispenser. It is a low-tack tape which does not remove paint or details, especially if it is cut into strips on a sheet of glass. Apply the tape in thin strips in those places where the details are close to the end or sides, such as the ladders and the grab irons.

Because the tape is a yellow-orange color I have adjusted the exposure on [10] to make the tape stand out. Here you can see what you need to do with thin strips to mask around the detail



6. Body of the car primed.



7. Trucks primed.

parts. This is so the tape can be removed later without causing damage. Finish off the masking using the wide strips from the tape reel [11].

Now spray the roof and the ends Boxcar Red. Some people like to spray the tape edge with the last color used to prevent bleeding. I have not needed to on most occasions. I have had some over-spray creep under the masking tape once or twice in my painting efforts but it is easy to remove with some thinner, rubbing gently with a cotton swab while it is still fresh. I remove the tape after about an hour or two. Waiting for the paint to dry only hardens the bond between the tape and the paint. I would rather remove it now and re-mask, rather than have the tape bond too hard to the surface.

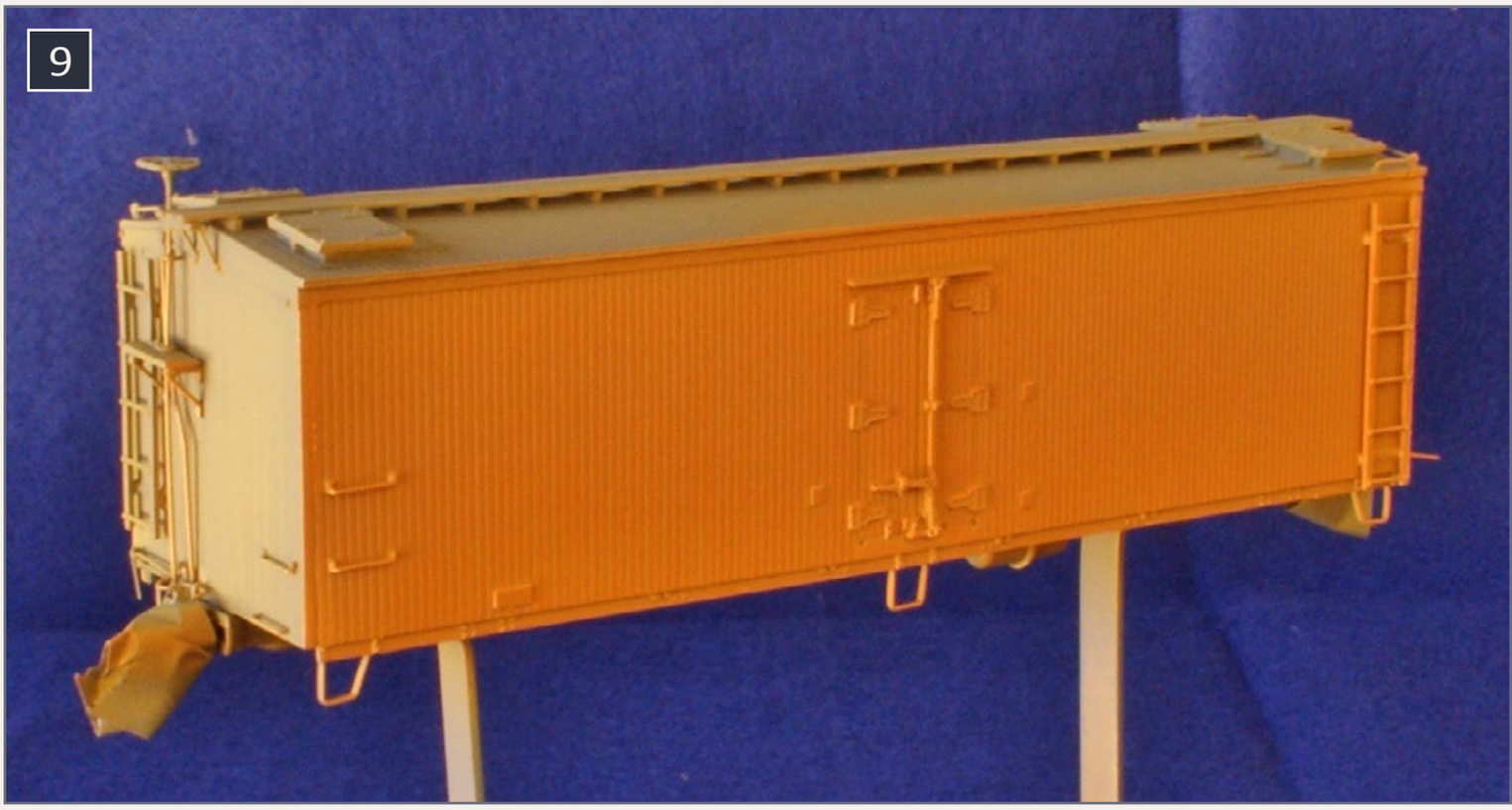
Wait for the red to dry before masking these areas for the underframe to be painted black. I use a 50/50 mix of Floquil Engine Black and Weathered Black. This gives a slightly

off-black color which looks better under layout lighting and details don't tend to become lost. To mask then ends, I used the thin strip technique again. You can see here that this time I have covered the whole car including the roof; I don't want any over-spray hitting the sides or the roof at this stage. My technique of masking twice does use a lot of tape but when cars are as detailed as these, I don't take any chances.

I thin the mixed black paint 50/50 with thinners, painting at the same pressure and distance.

On this job careful masking paid off. There was no bleeding of paint under the tape anywhere on the model. Some areas were missed, in particular the front of the coupler boxes, the

8. Badger Crescendo airbrush.



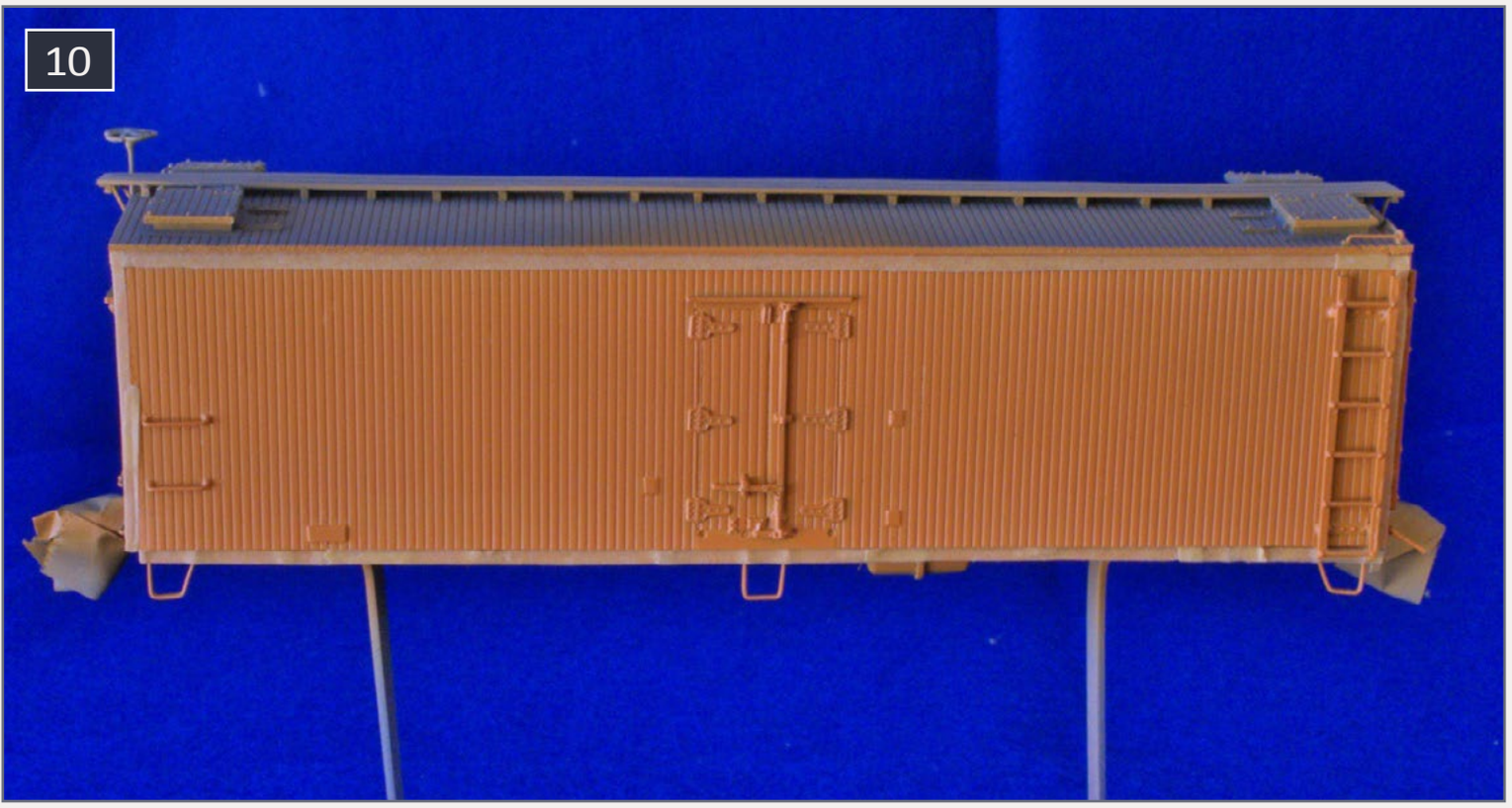
9. Car with the sides painted.

uncoupling lever handles and the side and corner steps. These were touched up with a brush.

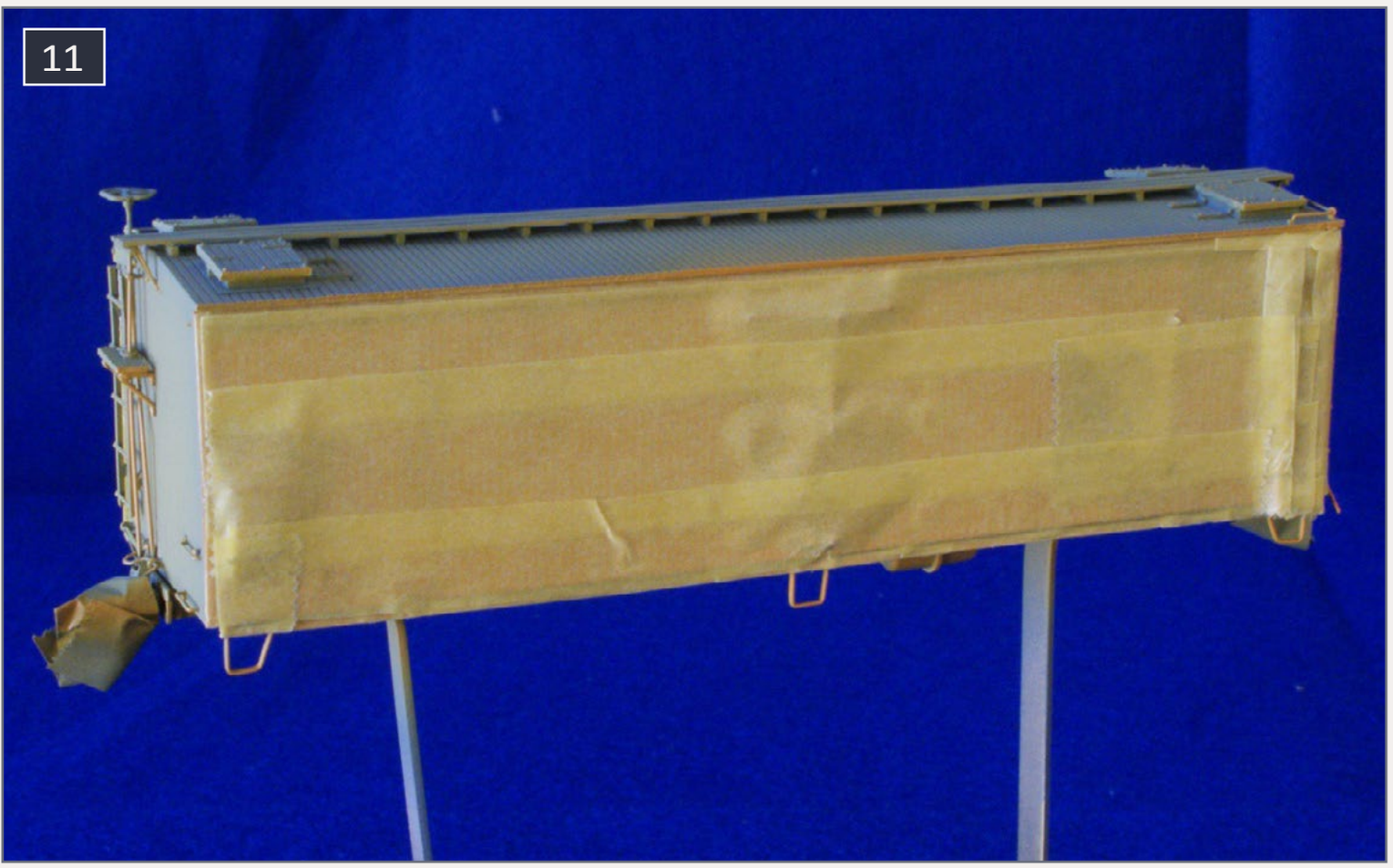
Trucks

Rapido have not yet, at the time of preparing the article, released their Barber Stabilized S1 trucks as separate items, but I “borrowed” a pair from a painted but undecorated reefer I have. These were primed and then painted along with the underframe. I will use the wheels that came with the truck, but am waiting for some semi-scale wheels to arrive. These look much better on detailed resin cars. To paint the wheels I use Floquil Paint Pens [16] that give good coverage and are easier to use than a brush.

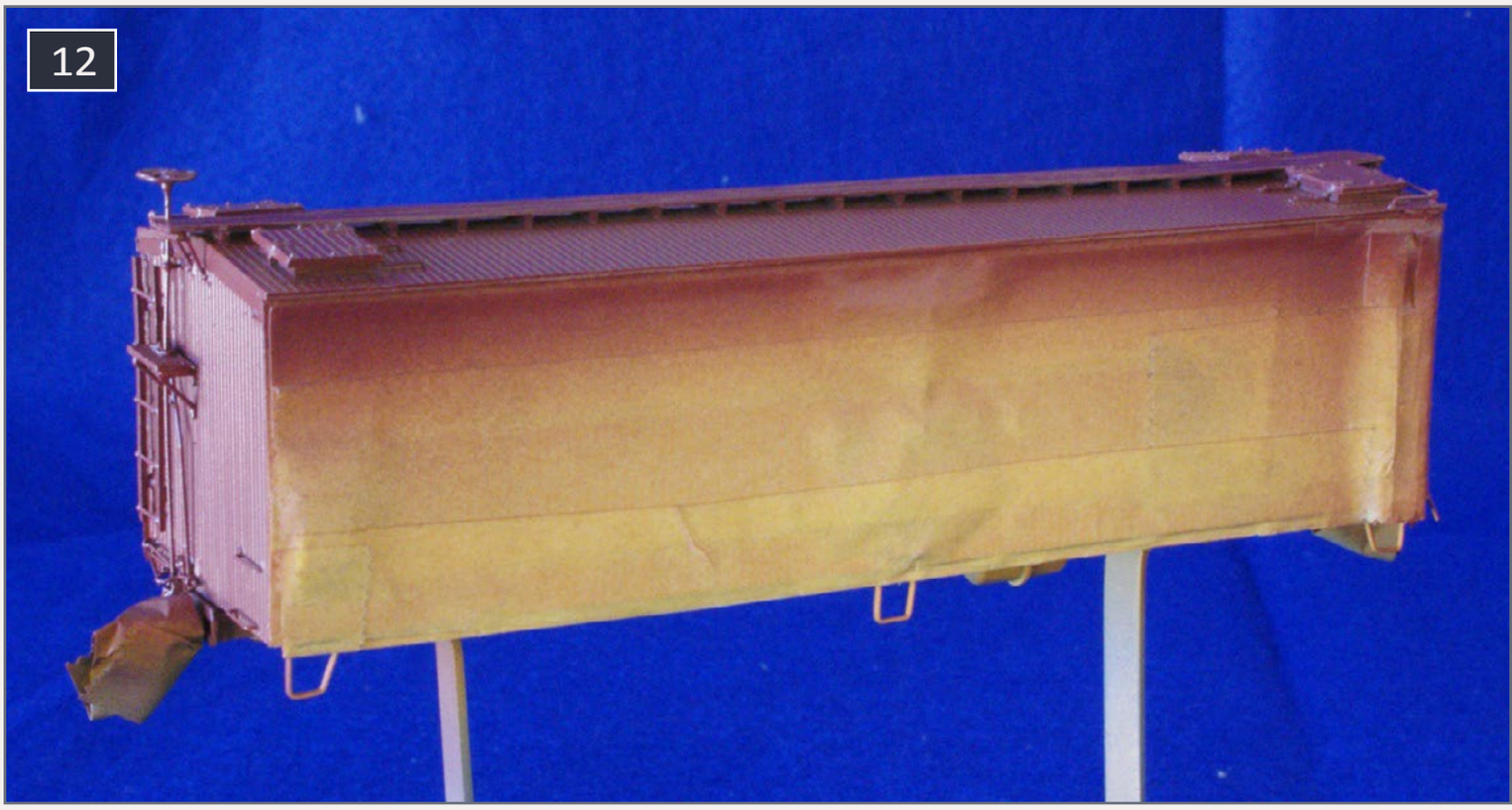
I leave the wheels out of the truck and paint the faces with Weathered Black. In my era, the cars had solid bearings as opposed to roller bearings and the journal boxes were loaded with waste covered in grease. This migrated to the wheel face.



10. Strips of tape applied.



11. Sides masked and ready for paint.



12. Roof and ends painted.

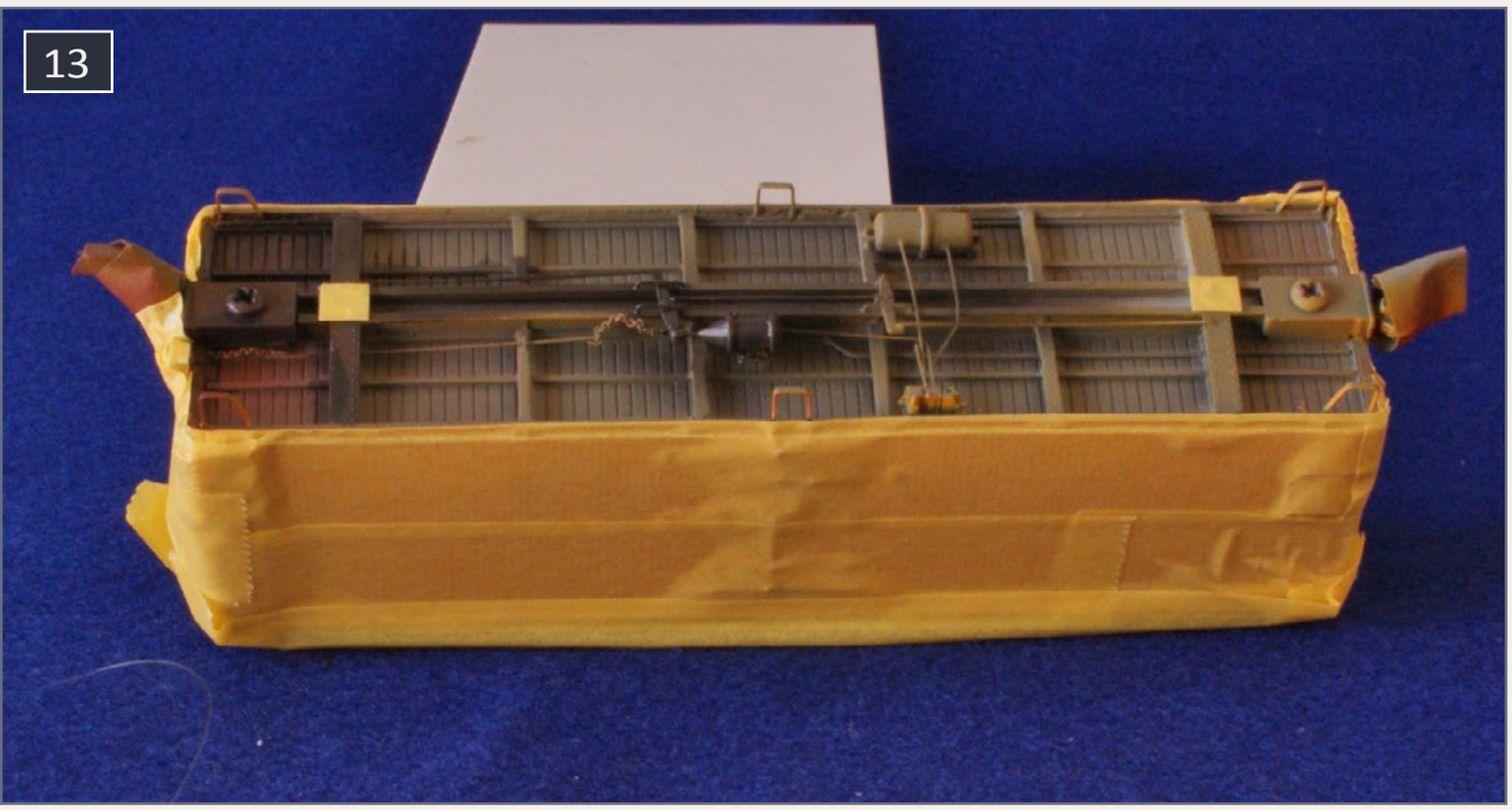
I use weathered black to simulate this. On the back of the wheels and on the axles I use the Rust pen after the wheels have been re-inserted into the trucks, when it is easier to turn them to get good coverage.

Lettering technique

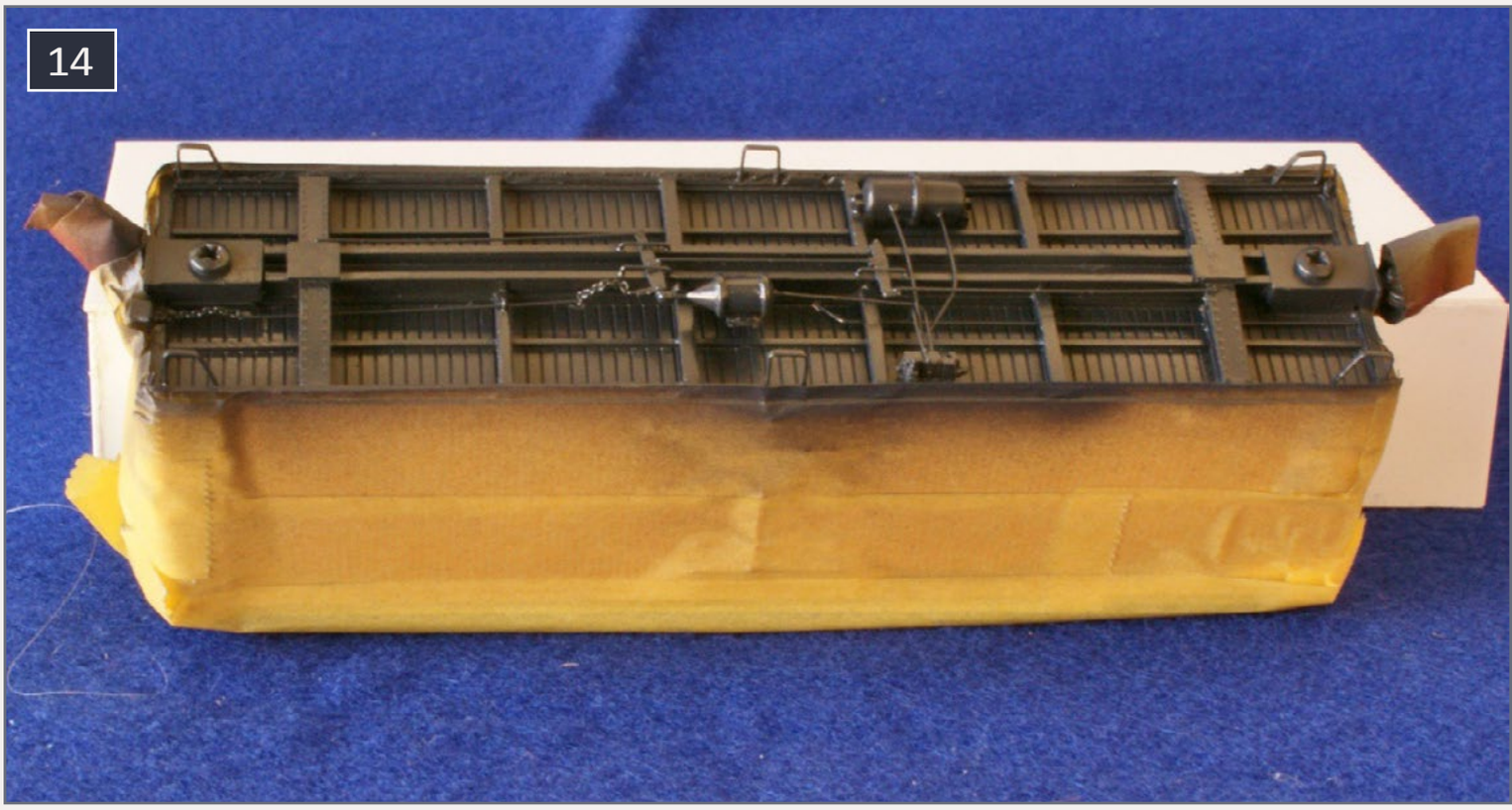
Put the trucks aside for the time being, as we will need to do a bit more on them later when we weather the car. Now that all of the paint has dried it is time to apply the decals. Spray a coat of gloss finish to cover the sides and ends where the decals will be located. I use Testors Gloss as it is reasonably fast drying and gives a good coverage. It is a lacquer and I use a lacquer thinner that I pick up in bulk from hardware stores. Again thin the paint 50/50. I usually use the same pressure as for Floquil but always test on a piece of scrap to find the correct pressure for your equipment. Once you have done this a few times you will know what pressure to use.

I have not had problems putting lacquer over enamel, providing the enamel is completely dry and there is no smell left on the painted surface.

Once the gloss is dry, it is time to apply the decals. In the past I have had problems with old decals breaking up when trying to apply them. Now, as a precaution, I use a wide, soft brush to apply a coat of Microscale Liquid Decal Film over the decal sheet to be used. You might say once bitten, twice shy. In any case, decals in these kits are probably not what you are used to. They're not like Microscale decals where the decal carrier film is located close to the design. The carrier sheet on these decals usually covers the whole sheet and you need to cut out the decals individually as close to lettering as you can. You will need a good pair of sharp scissors for this, or a new blade in a hobby knife.



13. Roof and sides masked, underframe ready for paint.



14. Underframe painted.

For my era I will not be using the large red blocks [17] or the large “Swift” lettering. These came into being in 1948, after my modelling period. It is always handy to have a picture of the prototype car to help with location of lettering and reporting marks. I wasn’t able to find one of the 2500 series reefers but was able to locate one of a similar car. This, along with the instructions from Sunshine, was good enough to help me position the decals.

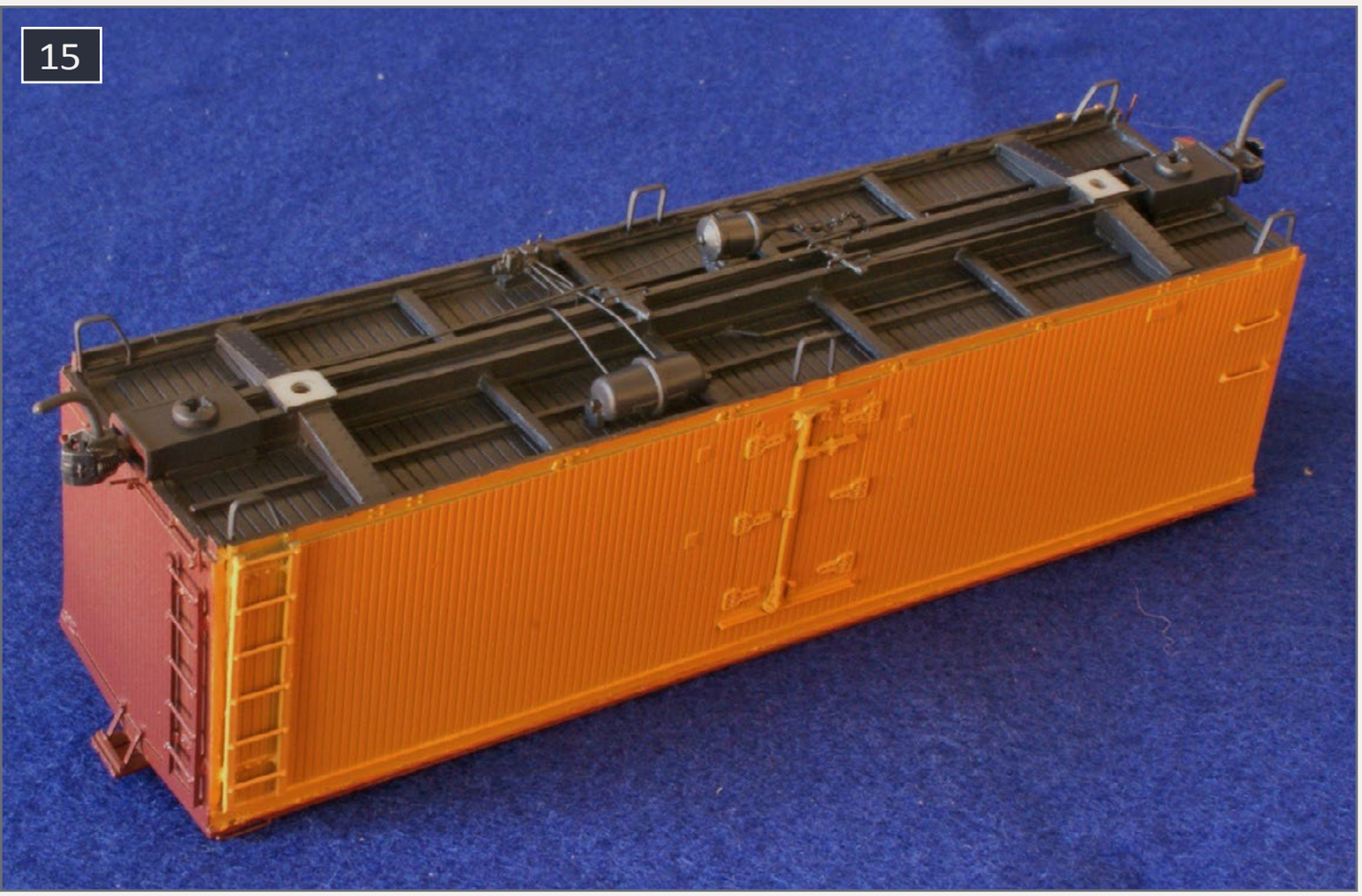
To apply the decals, I use distilled water in a jar and soak the cut-out decal for 15 to 20 seconds so that the backing paper is wet. You will know this when it goes a darker shade. I then remove the decals and place them on my glass sheet at the workbench. A foam cradle to hold the car is handy but not essential. A piece of cloth will do; all you are doing is protecting the car side opposite to the one you are going to decal first.

Leave the decal damp for a few minutes and then check to see if it can be moved with a small brush. Pick up the decal and

backing paper with a pair of tweezers. With some water on a brush, wet down the place where you want to place the decal. This will help reduce the air bubbles that will form under the decal; it does not eliminate them. Place the decal where you want it and slide it off by holding the decal with the back of a hobby knife and pulling the backing paper out. Some people put decal setting solution on the car before applying the decal. I don't do this because it can be difficult at times to get the decal in the right place before it starts to react with the setting solution. In any case, this takes longer to explain than it takes to do.

Setting solutions

You can see in [19] how close the decals are trimmed to the lettering. The more you leave, the harder it is to get the decal

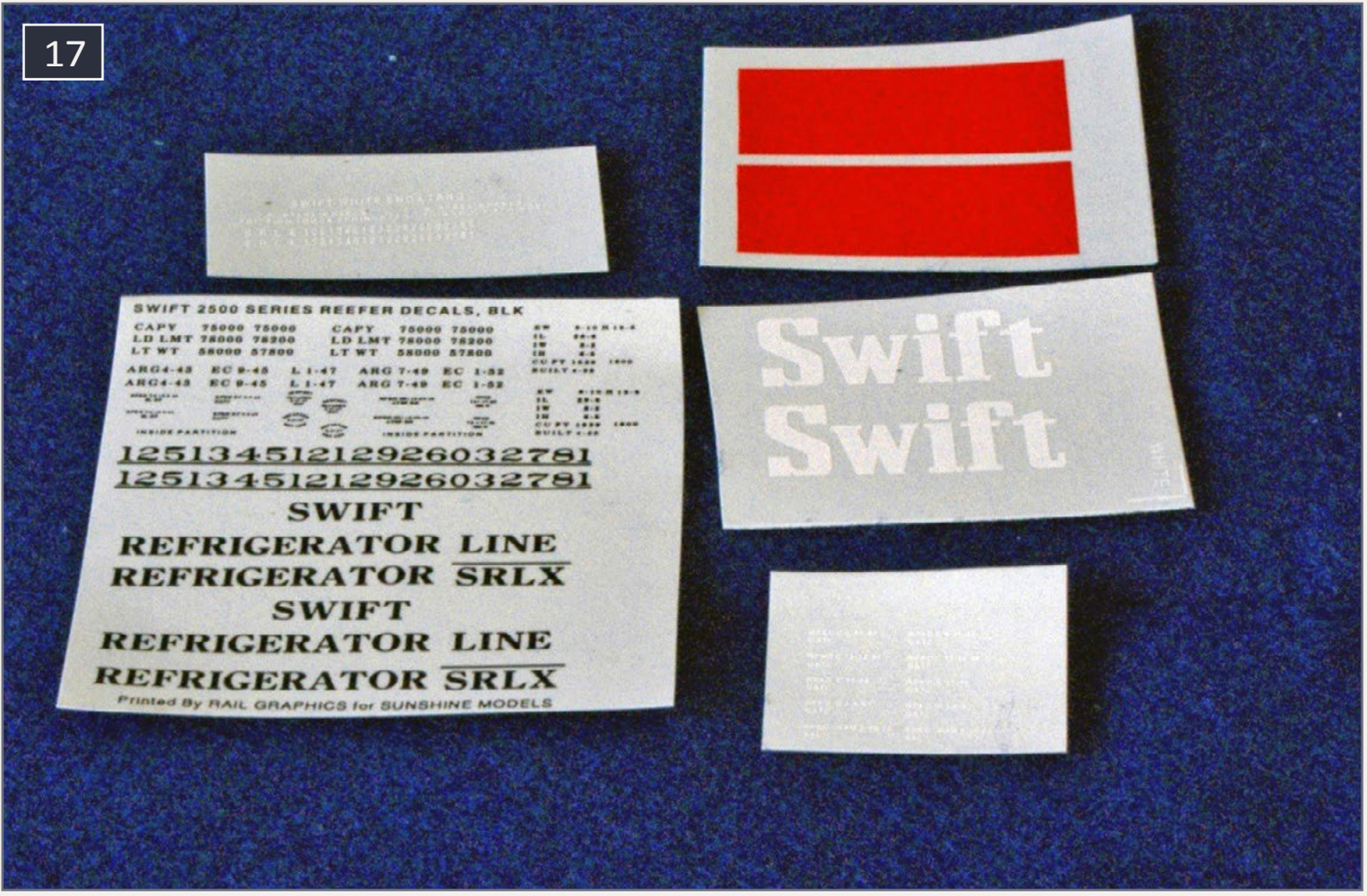


15. Masking removed to show the color separation.

16. Floquil paint pens in Weathered Black and Rust. I had to relabel the pens because they have been with me for a while and the color marking has worn off.

to settle down on to the details later. Once the decal is positioned you can use some setting solution on it to help it conform to the details of the car. I have both Microscale Decal Set and Walthers Solvaset on hand; if one doesn't work well then the other usually does the trick. Be careful with Solvaset. It is quite strong and can damage the decal if you are not careful. I start off with the Microscale and if it is having trouble settling the decals then I try the Solvaset.

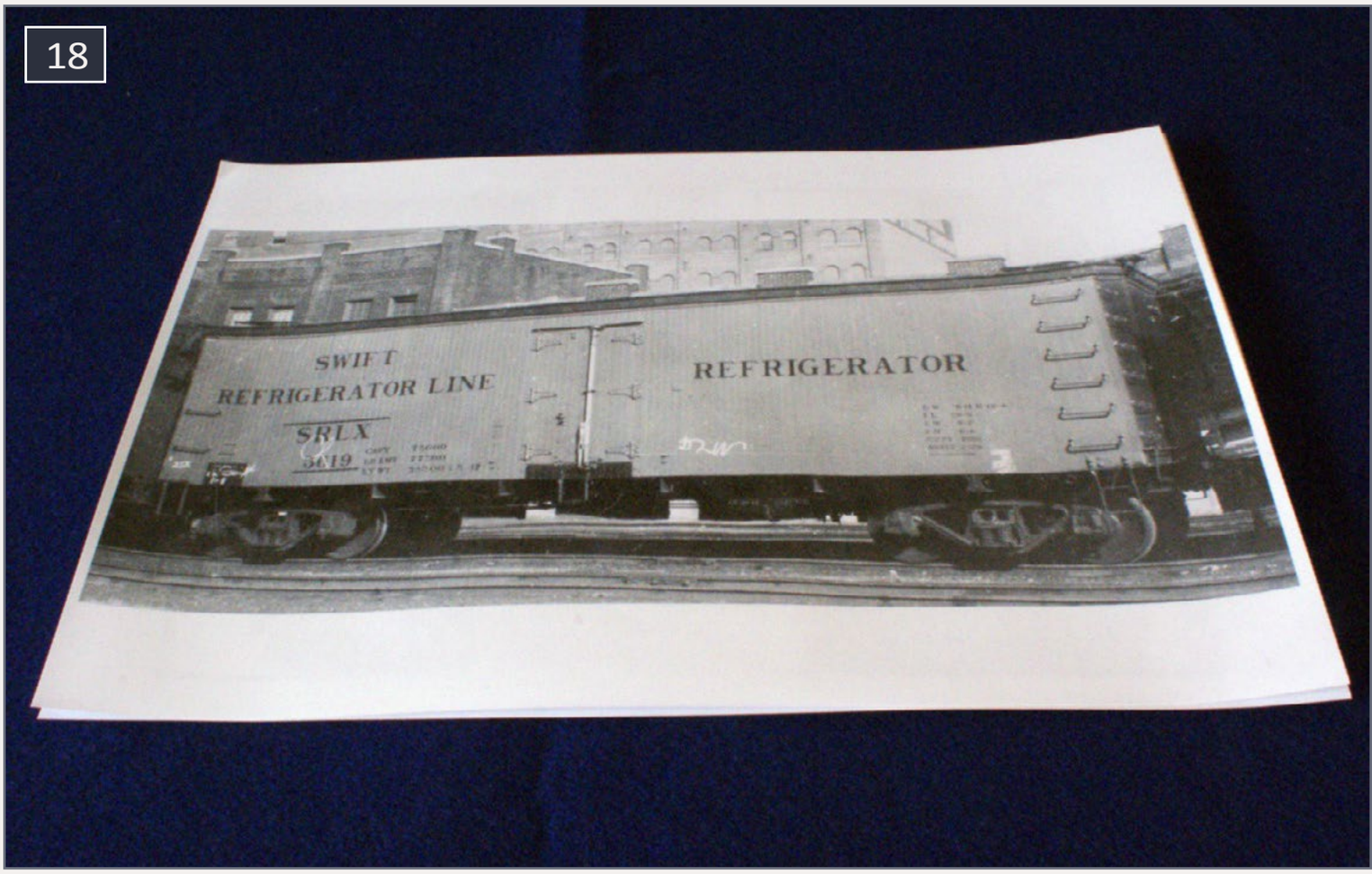
No matter what solution you use, you may find that nothing would help to settle down the decals between the board lines



17. The decal sheets supplied with the kit.

on the model. This will show up as a white line behind the decal where it has not settled down. The solution to this is to slice them ever so gently with a hobby knife down the length of the board through the decal. I don't use a sharp blade for this as it can wander if you are not careful. Use a used blade, not one that is blunt, but just not that new. The rest is a simple matter of repetition. Take your time and position the decals where you want them. The same applies to the ends of the car.

Once the car is completely decaled and dry, it is time to put on another over-spray, this time of Dullcote or another flat finish. This helps to hide the edge of the decal film and makes the lettering and heralds blend in to the sides and ends of the car. It is also helpful in giving the finish some "tooth" for weathering.



18. The photo of the prototype.

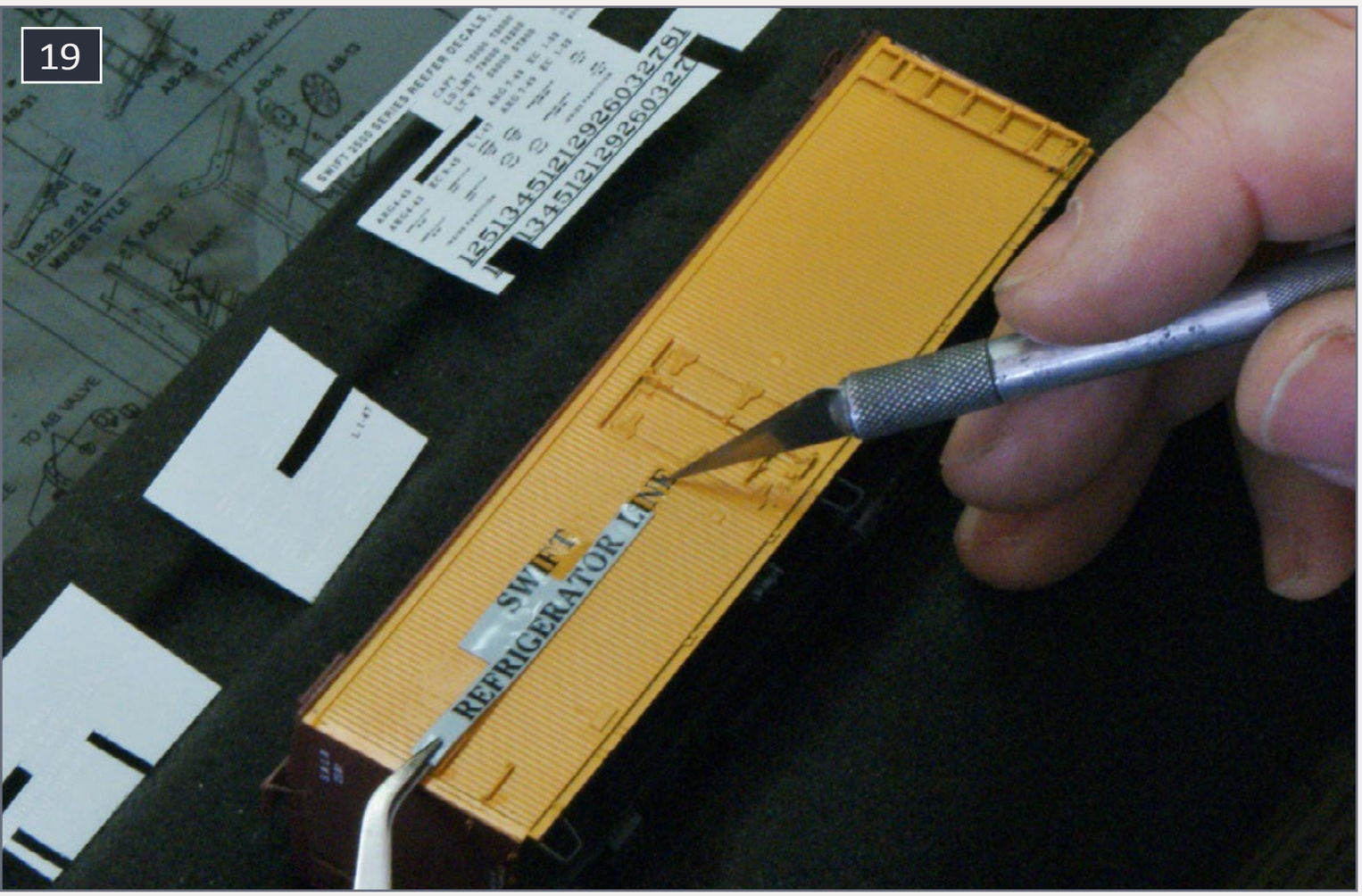
Once Dullcote has been applied and has dried, it is time to do some basic weathering. For me, a little grime on the roof and down the sides of the car simulates soot from the steam locomotive exhausts at the time. Some earth coloring along the bottom of the car and the ends simulates the dust and earth that is thrown up under the car. Once that is completed it is time to re-assemble the car.

The centering hole in the Rapido truck bolster was too large for the 2-56 screw that I use to secure the truck to the underframe. My solution was a piece of 1/8” plastic tube drilled out with a tap clearance drill and mounted as a sleeve in the truck centering hole. You can see the finished item in [22]. It is essential for future operation that the truck spins freely on the mounting, otherwise you will have trouble with the car tracking.

There is one more detail part to apply, the air hose on each end of the car. These are extremely fragile and would have been damaged during painting and decaling. I use Kadee air lines for the time being but will be changing over soon to MagnaLock Air Hoses.

I have also decided that the Kadee scale couplers with trip pins don't really enhance the look of my equipment. With better-looking air hoses I need to be a bit more discerning so I am changing over slowly to Sergent couplers. They look the part and operate more closely to the prototype.

The curse of the resin builder got me at this stage, with Rapido announcing the release of the Swift cars with black letter-ing appropriate for my era and, yes, they will be lettered for

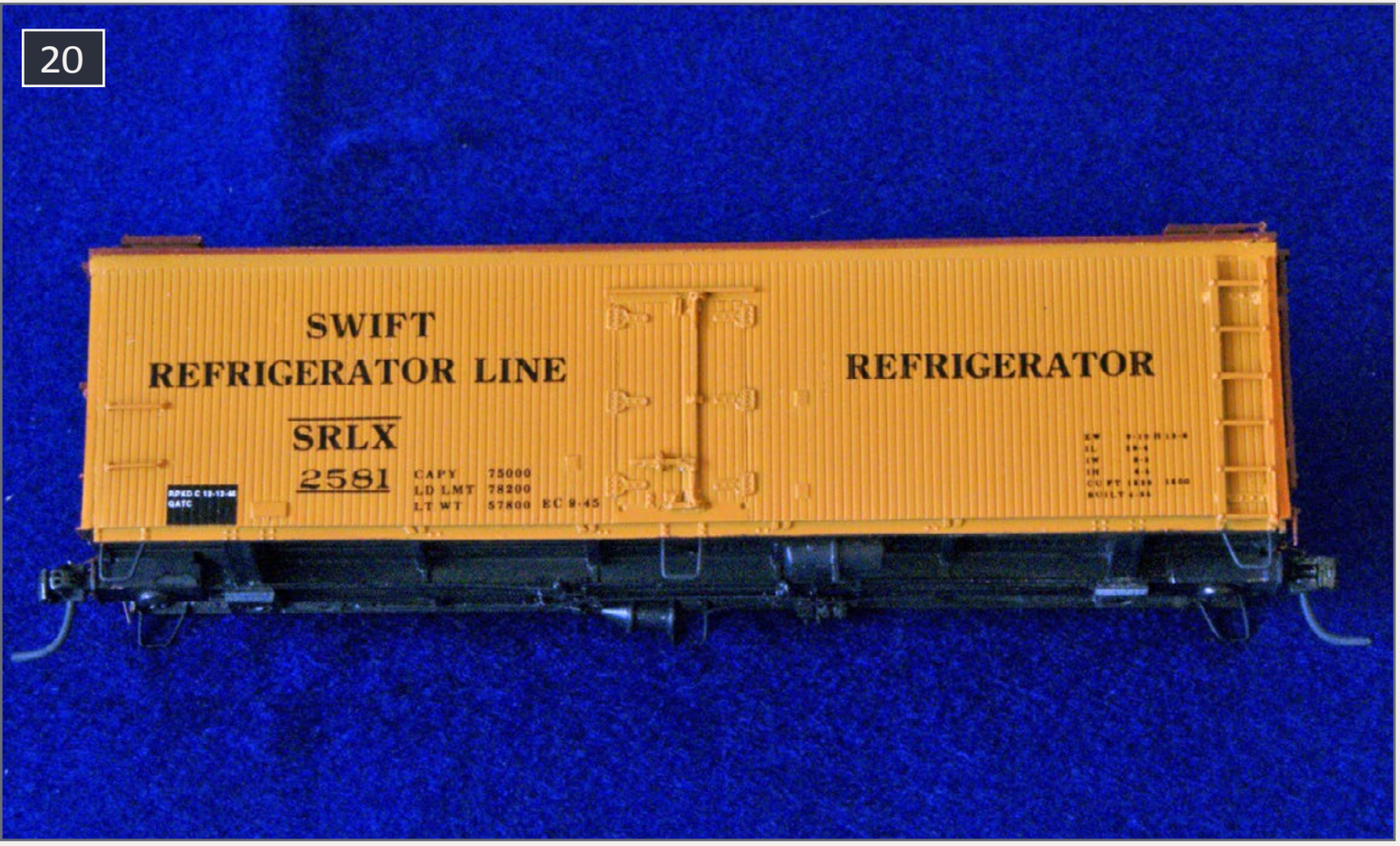


19. Applying the decals.

the 2500 series reefers. It's always that way, if you build it they will release it. Still, there is nothing like the satisfaction that comes from finishing one of these cars. Good luck with your future resin car building and enjoy. After all, the hobby is fun.

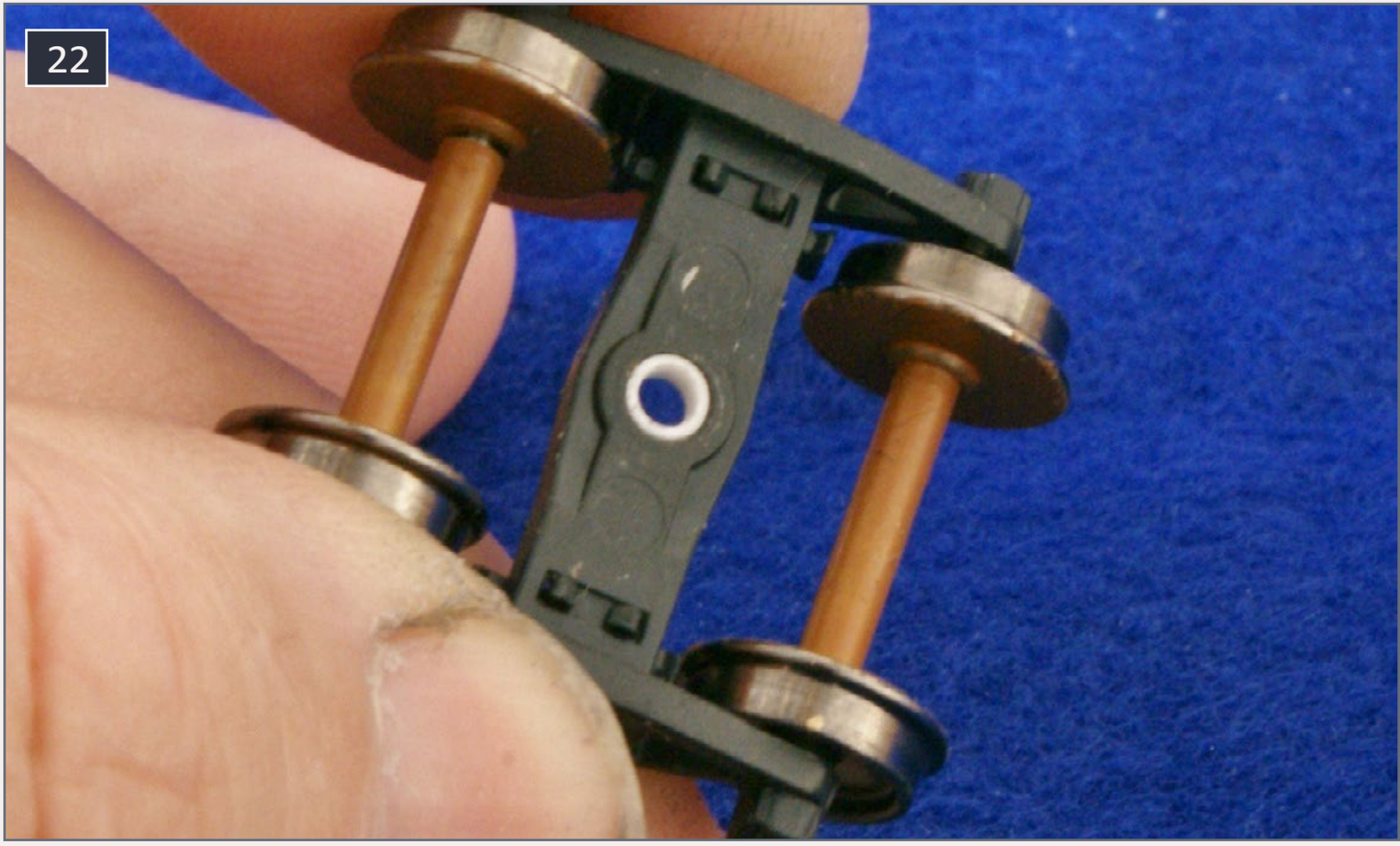
I would like to dedicate this article to my good friend, fine teacher, and mentor Richard Hendrickson, who passed recently. Richard, I will miss our conversations and your expert counsel. ☑

Pictures continue on next page ...



20. Sides decaled.

21. The end decaled.



22. Sleeve in the Rapido truck.

23. The finished car, decaled and over-sprayed with Dullcote

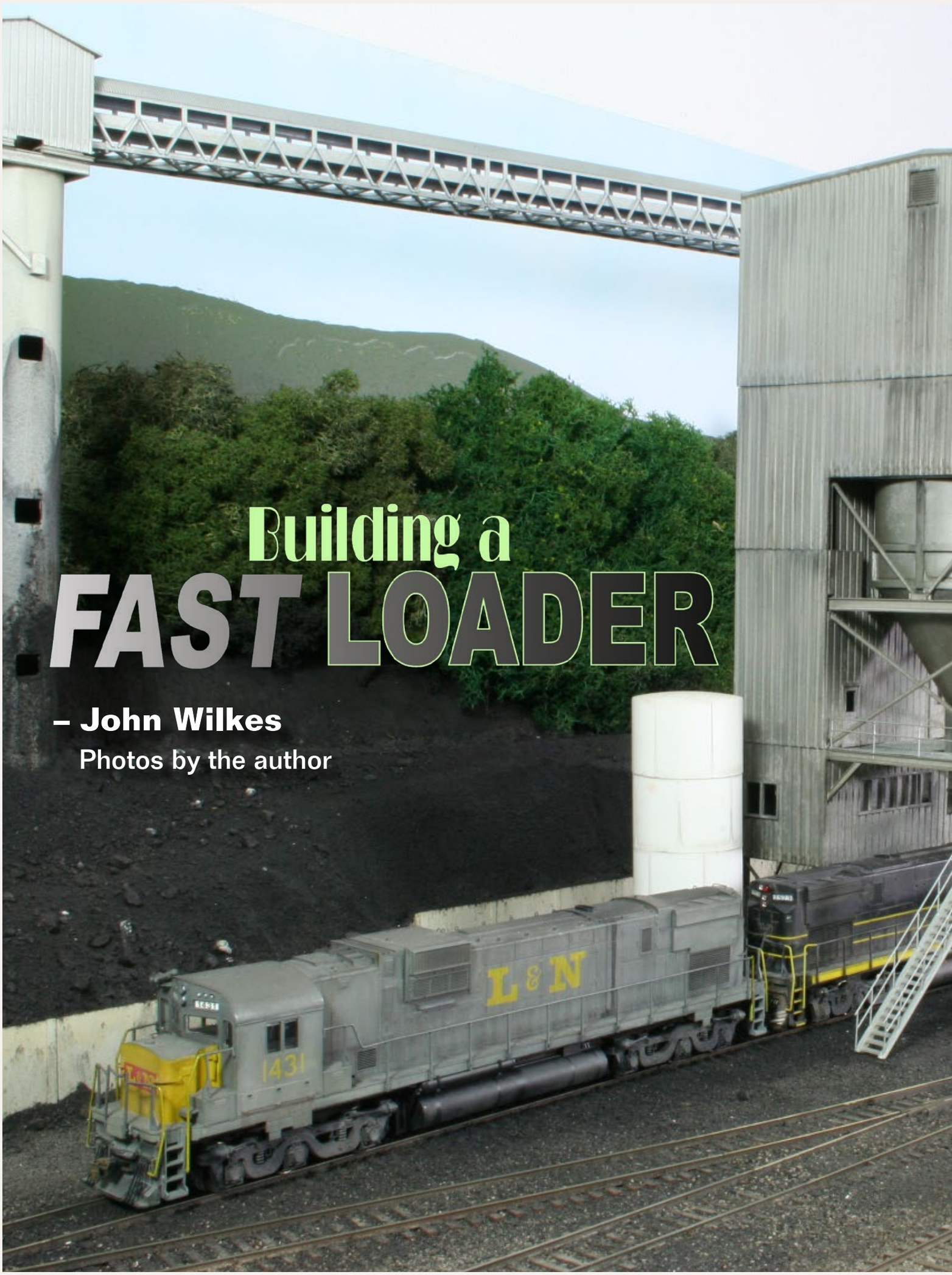
24. The car after weathering, on a friend's layout.

Rob McLear is a retired police officer and Vietnam veteran living in Kingaroy, Queensland, Australia.

He has been in model railroading since 1976 starting with a small Hornby train set given to him by his wife. She also gave him a copy of HO Primer that encouraged him to model the North American scene. The Warbonnets, cat's whiskers FT's and the heavy steam engines by Baldwin attracted him to the Santa Fe.

Rob has been married to his wife Jan for 42 years and has two daughters and three grandchildren.

Reader Feedback (click here)



Building a FAST LOADER

– John Wilkes

Photos by the author

A modern industry for your layout ...

A key industry on the Virginia South Western Railroad is coal. When all coal operations are finished, I will have 13 different facilities modeled. The most prominent of these facilities is the John Roberts Preparation Plant at Eljobean. This large complex was salvaged from my previous layout for use on the VSW. Some extensive changes were needed to the plant buildings and their orientation in order for them to fit in the new layout location. I also wanted to have a larger fast loader at this site. (The L&N used the term fast loader instead of flood loader.)

1. L&N Alco C630 1431 with two Alco C628s are ready to begin loading today's train.

Reader Feedback
(click here)

I had a photo of a fast loader from an underground mining operation near Oakwood, VA that I used as a reference. This operation had most of the features I wanted to model. In addition to a large fast loader, this facility had a concrete storage silo, open coal pile, and trucked-in coal. The conveyor transfer point was an unexpected bonus.

The flow of coal for layout operation starts with the coal feed off the conveyor from the underground slope mine. Coal is also delivered by rail from coal tipples on the layout. Trucked-in coal from surrounding strip mines is represented. Coal is moved

2. An underground coal mine near Oakwood, Va. This is the scene that inspired the fast loader project at John Roberts Preparation Plant. This scene embodies the look and feel of Appalachian coal.

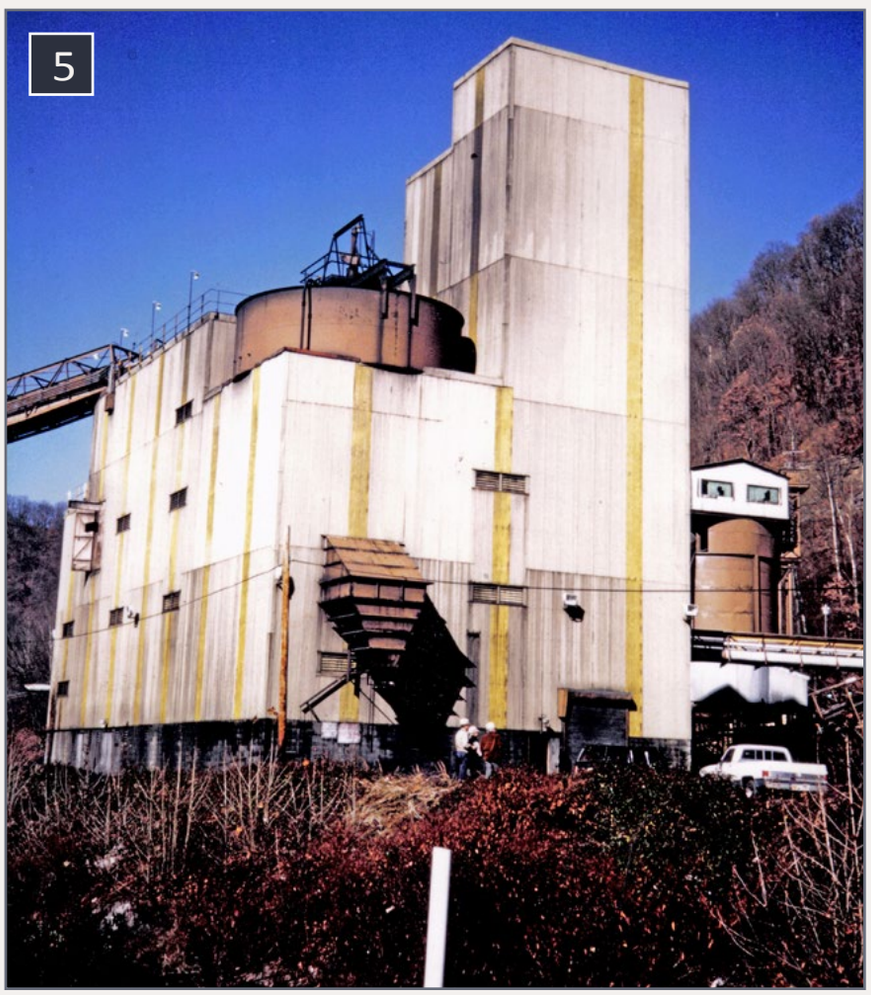
3. A fast loader that resembles the Walthers Flood Loader kit. This facility is Alamo-Harber Coal at Alamo, KY.

from these areas to the main preparation building where it is cleaned. From this point the coal is sent to the storage silo or moved to the storage pile. When a train is loading, the coal is pulled from either source, then sent to the storage bin at the fast loader to be loaded. In a prototype scenario, these different grades of coal can be stored and then blended per customer order at train-loading time.

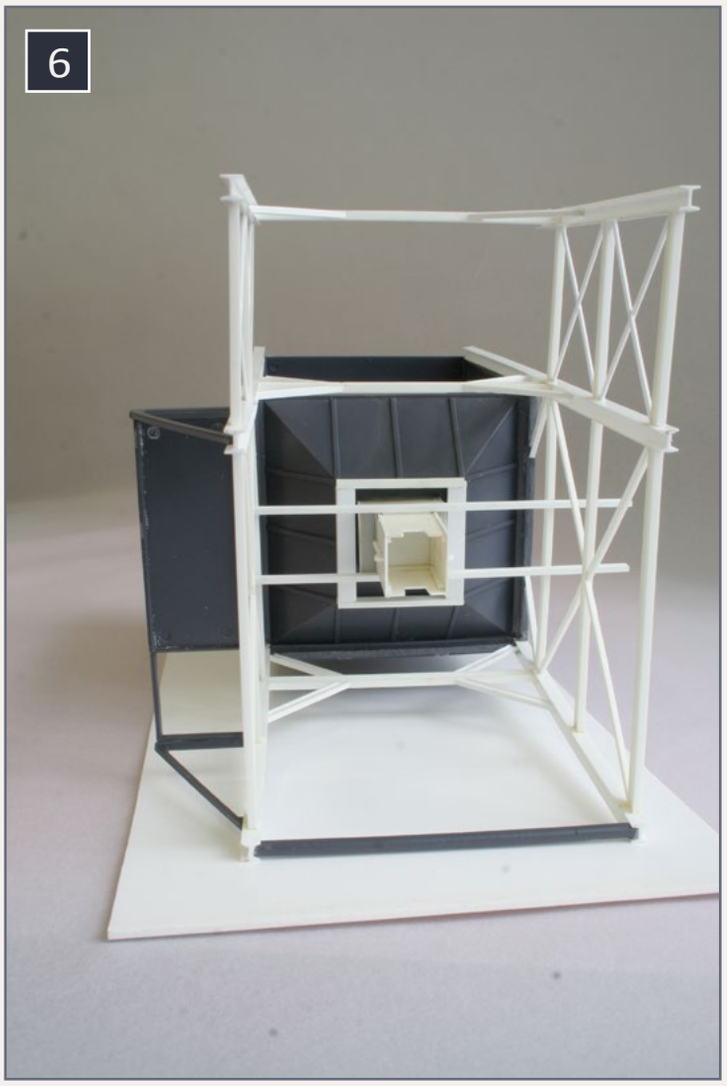
Planning

The major change to the prep plant was the layout of the buildings. On the L&N Thornhill Division, the coal movement through the facility went from left to right. At the new site,

4. Bulldozer working ICG's coal stacker preparation plant near Raven, KY.



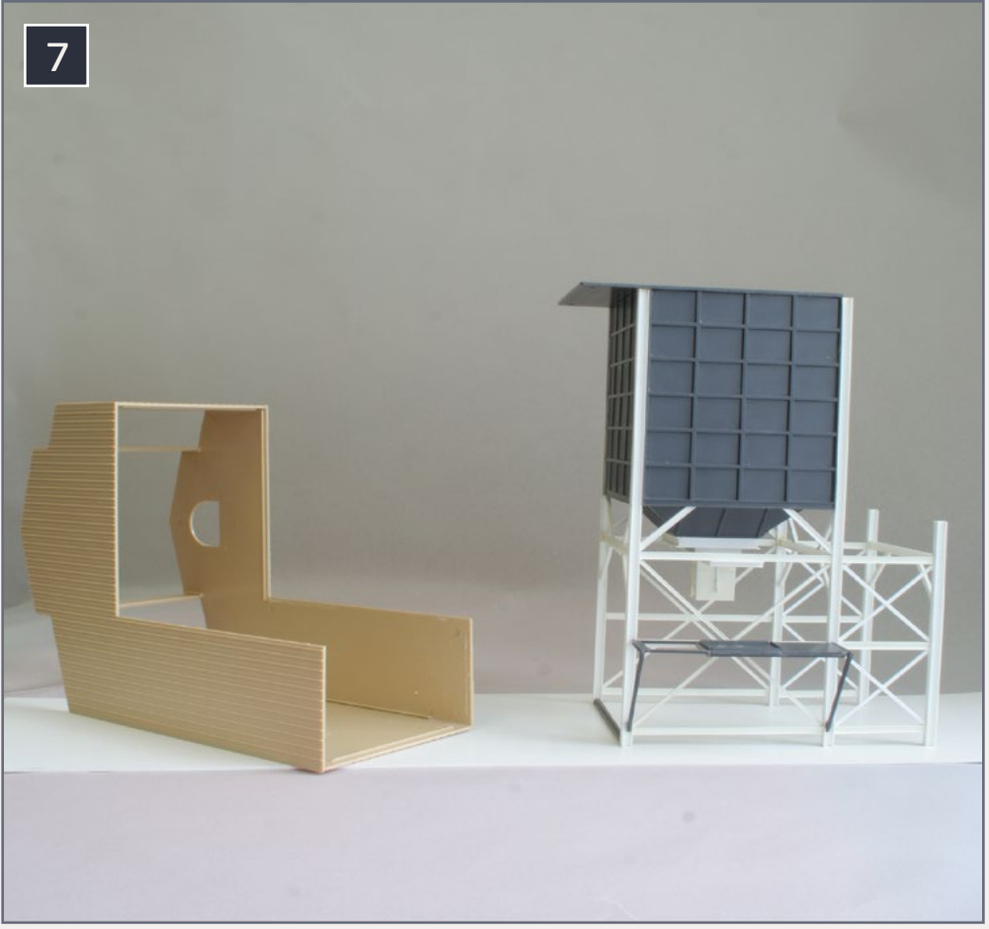
The Wheeling-Pittsburg Steel coal preparation plant near Omar, WV. This photo was the basis of the main preparation plant on my layout.



6. Reworked Walthers Flood Loader kit.

the coal movement would be from right to left. A conveyor originating in an underground mine is a new addition. I kept the run-of-mine coal rail delivery operation from coal tipples located on the layout, as well as trucked-in coal from nearby strip mines. Another important addition was increased rail capacity for inbound run-of-mine coal, and separate trackage for loading unit trains. The previous track arrangement had two tracks for run-of-mine coal unloading and unit train loading. There was not enough room for either operation, plus the two operations could not be accomplished at the same time.

I begin a coal load-out project, or any other aggregate operation, at the rail loading point, and work back toward the main complex. For starters, I use some basic clearance dimensions for the type of railcars that will be loaded/unloaded. 100-ton hoppers are 12.5’ high from the top of the rails while 55-ton/70-ton hoppers are 11’ high from the top of the rails. Peaked ends generally bring the height of these cars to 12.5’. These dimensions determine the height from the top of the rails to loading chutes or other equipment that may be over the rails.



7. Reworked base and bins of the Walthers Flood Loader.

8. Comparison of the new ironwork with the ironwork that comes with the Walthers kit.

9. ¾-view of reworked Walthers Flood Loader kit.

10. End view of reworked Walthers Flood Loader kit.

I usually have a range of 14’ - 16’ as a minimum height. Older wood structures would have the lower 14’ height, with more modern structures at 16’. If I plan to run locomotives under the load-out I have an 18’ minimum height. 50-ton / 70-ton covered hoppers need 14’ of minimum clearance, while 100-ton covered hoppers need 16’ minimum.

As far as side-to-side clearance under the structure, I allow 16’ - 18’. If I am planning two tracks under a load-out, I use 18’ track centers with the side-to-side distance at 18’. The next consideration is the total height of the load-out structure. This measurement is determined by the conveyor to load chute

equipment height above the rail. The height of the loader determines the location of adjacent structures and buildings.

Fast loader construction

I started this project with an HO Walthers Flood Loader kit. I replaced the H-columns and I-beams in the kit with Evergreen H-column #283 and #284 and I-beam #274 and #275. Evergreen #123 .020" x .060" styrene strip material was used for the cross bracing. The structure turned out pretty well, but I didn't like the fact that the long dimension was straddling the rails, and it just wasn't massive enough. The conveyor entrance was from the side, but I needed it to be from the end. So I decided to scratchbuild a suitable fast loader.

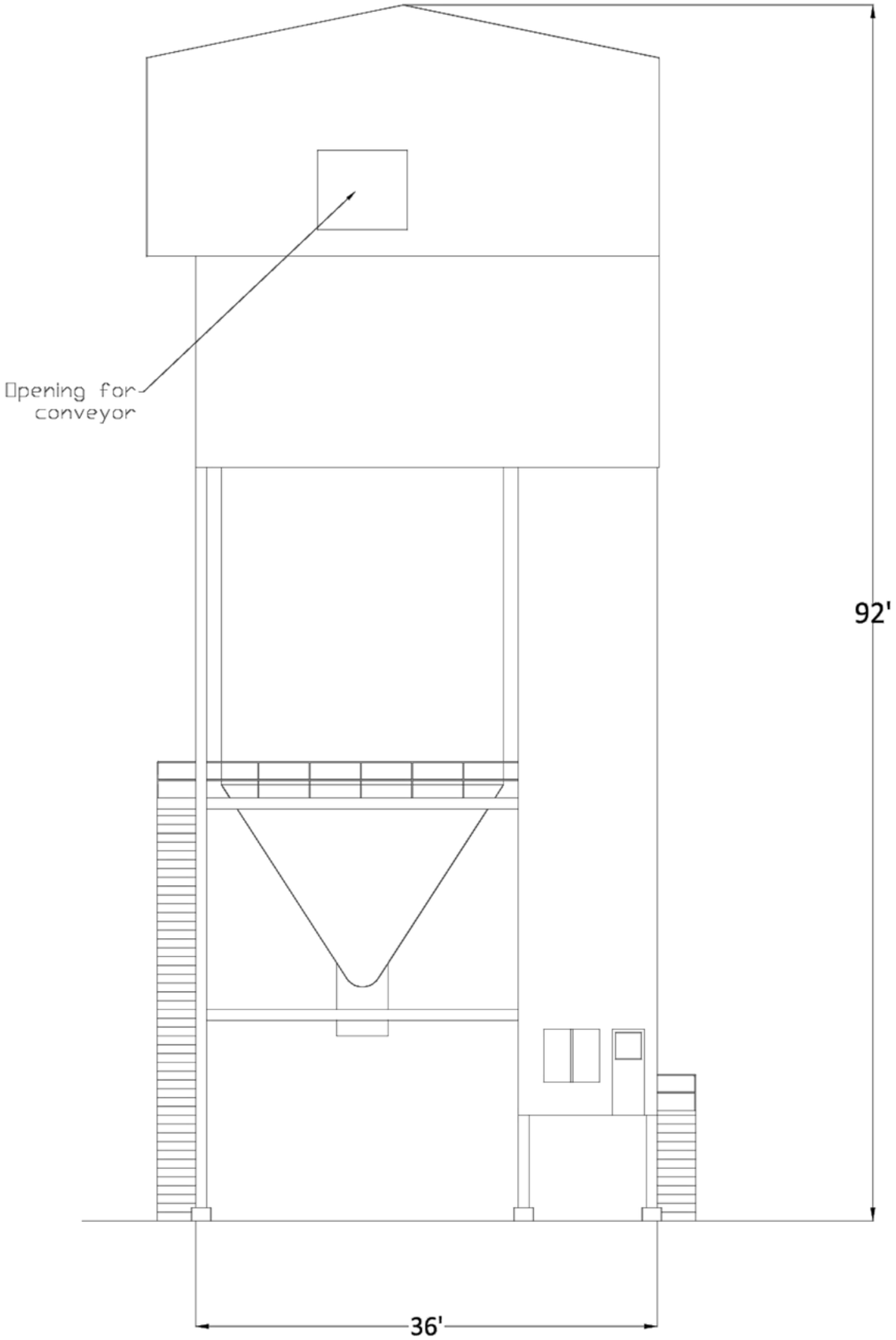
The primary dimension that determined the final size of the this fast loader's footprint was the storage bin diameter. I wanted a scale 24' diameter bin. A 3" diameter piece of PVC pipe was the closest size I had on hand, which with the thickness of the pipe wall worked out to an overall diameter of scale 26'.

11. Fast loader bin. It's made with a 3" PVC pipe. The lower cone is made from .020" sheet styrene.

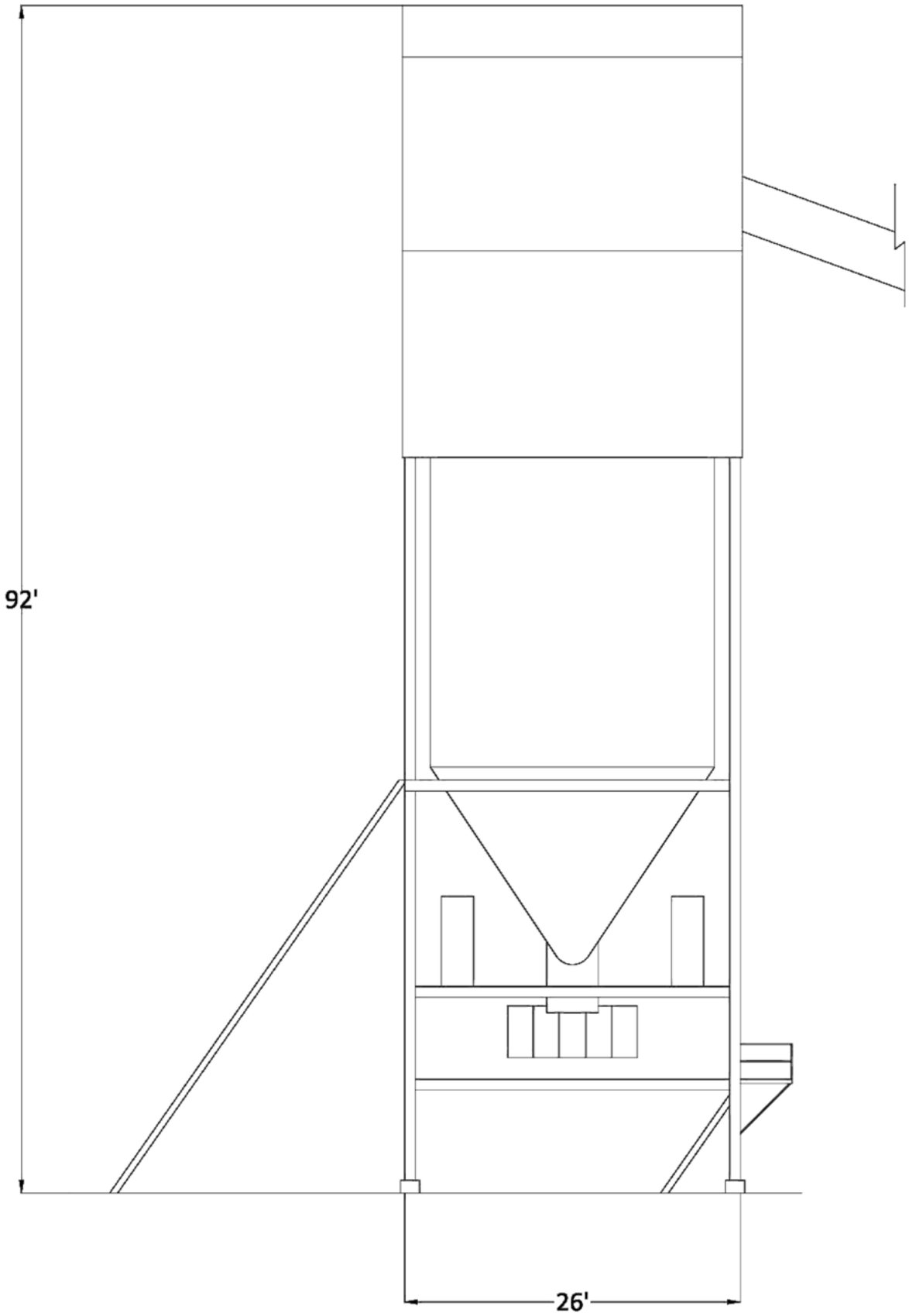
12. The loader bin, cone, and loader framework.

That was OK! The second consideration was the overall height. I could build this structure upwards to over 120’ and still have a prototypical conveyor angle. I settled on a 92’ height. This height just looked right with the size of the building. I added 10’ for the control room and equipment space to one side. The overall dimensions are 26’ wide by 36’ deep and 92’ tall. The 36’ dimension sits perpendicular to the rails.

I built the storage bin first. I cut the PVC pipe to a 40’ length, then formed the lower cone from Evergreen .015” styrene sheet. I added Squadron Green putty, then sanded it smooth to hide the seam. The load chute was built from Evergreen .030” styrene sheet, then filed and sanded to fit over the lower cone. I constructed the 6’ lower section of the load chute to be moved out of the way for railcar clearance.



Fast loader
Drawing not to scale.
Handrails and cross bracing omitted for clarity



Fast loader
Drawing not to scale.
Handrails and cross bracing
omitted for clarity

Evergreen #154 .060” x .80” styrene strips were glued to the PVC pipe for bin bracing.

The structure frame is built from Evergreen #285 H-column, and #274 and #275 I-beam, making sure all the sides were square. The storage bin mounting section was built as an octagon. This allowed an eight-point connection per the prototype. Pikestuff metal siding was used for the building sides, I was careful to get the panels lined up. Scale Scenics aluminum micro-screen was used for the lower deck flooring. Stairs are from Plastruct. Handrails were made from Detail Associates .019” dia. brass wire. I made a jig for making hand rails and stair rails.

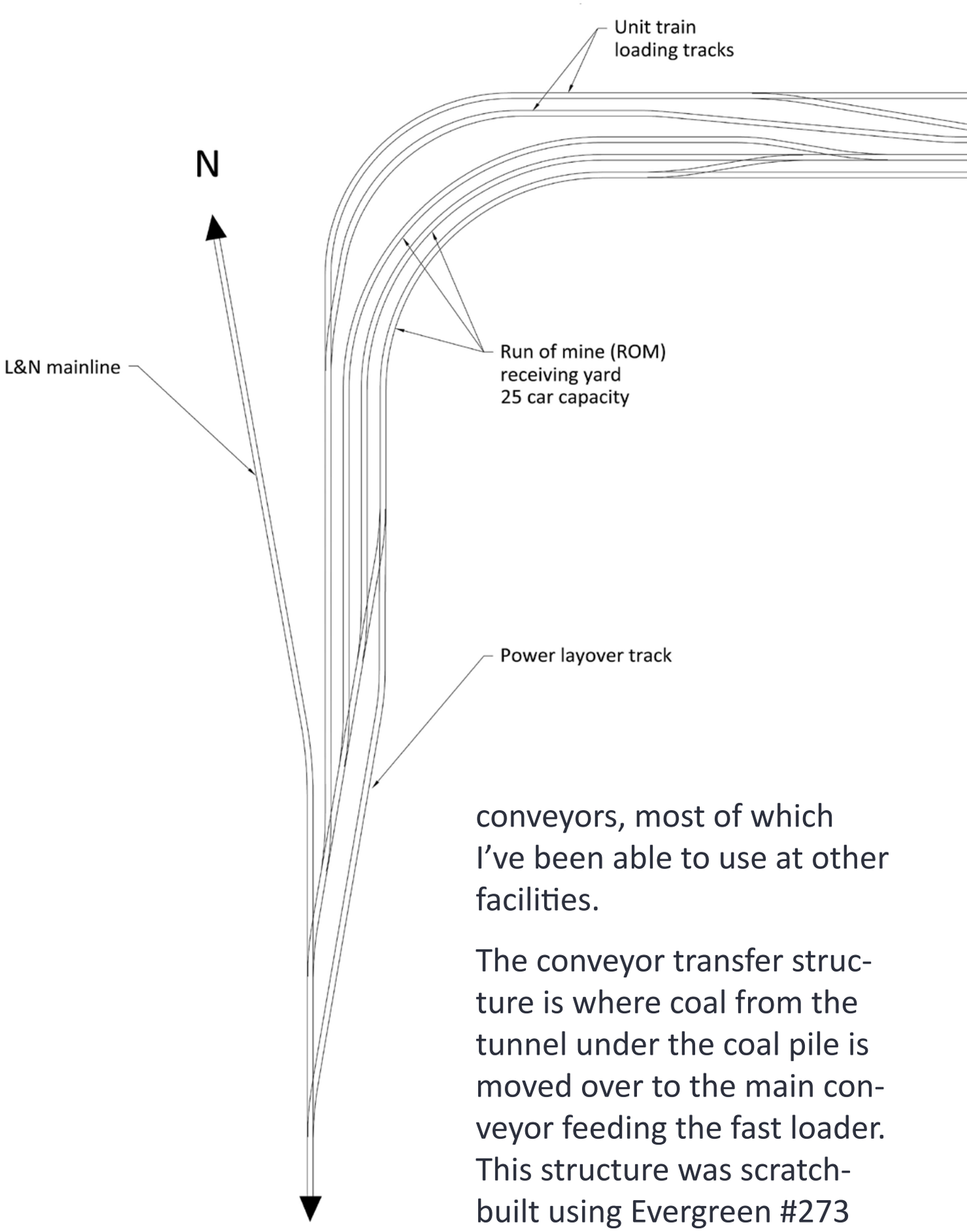
As I mentioned earlier, the main buildings were reused from the previous layout. The direction of coal movement through the facility was reversed. This meant almost all the coal feed points were at the wrong end of the buildings. Two

13. Loader frame with Pikestuff metal siding glued to the inside area.

14. View of the rear of the loader, showing the control room.

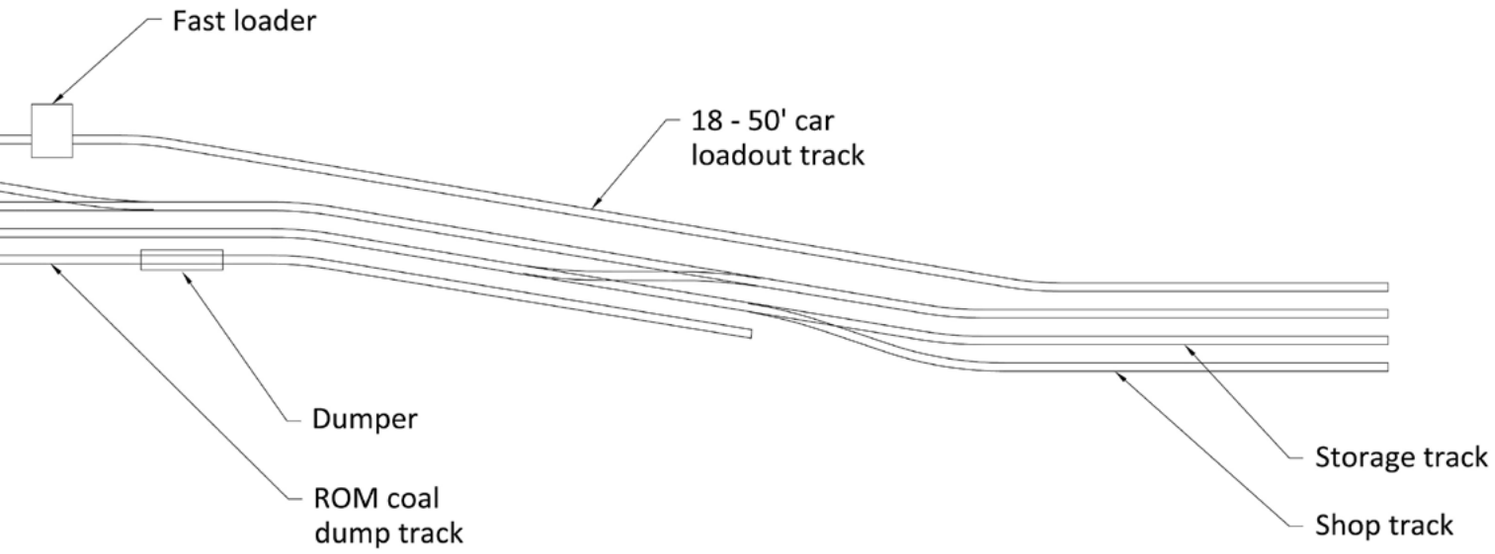
15. The bin in place.

important changes were made to the main preparation building. First, I changed the orientation of the preparation building 90°. This move allowed moving the primary coal feed from what was originally the left end of the building to the tower area. The second change was moving the processed coal conveyor to exit the side of the building rather than the end. The main crusher building was rotated 180° from its former orientation. I was able to reuse some of the scratchbuilt conveyors at this site. As a side, note the original facility had over 8’ of



conveyors, most of which I've been able to use at other facilities.

The conveyor transfer structure is where coal from the tunnel under the coal pile is moved over to the main conveyor feeding the fast loader. This structure was scratch-built using Evergreen #273 H-columns, and #273 and #274 I-beam. Evergreen .020" x .060" styrene strips make



John Roberts Preparation Plant

Track arangment not to scale

up the cross bracing. The footprint is 18 scale feet wide by 32 scale feet deep by 44 scale feet high. The transfer machine is a Kibri screener unit from their gravel kit. Pikestuff siding and building ends are used for the upper sides. Plastruct ladders and cages are used to get between decks.

The coal pile stacker is made from 1½" dia. PVC pipe. Holes were cut into the pipe to represent coal exit points. All new conveyors are the Walthers 933-3170 and 933-3149 kits. These kits are a very good example of heavy-duty conveyors used in most industries.

In the January MRH, I'll describe about how I built the unique traveling Schlesser loader. See TrainMasters TV for more. ☑

16. Fitting of the lower and upper sections of metal siding.

17. The finished fast loader from the left front.

18. Coal stacker, fast loader, transfer building, concrete storage silo, conveyors, and main preparation building.

19. Main preparation building with the new conveyor in place on John's HO layout.

20. The old mine complex layout on the L&N Thornhill Division.

21. L&N SD40s 1273 and 1262 ready to begin loading a unit train.

Reader Feedback
(click here)

John Wilkes has been active in modeling since the mid 1960s. He and his father built their first layout on the proverbial 4'x8' sheet of plywood. John joined the NMRA in 1980, earning his Master Model Railroader certificate in 1993. He belongs the Ridge Model Railroad Club in Winter Haven, FL

John is an acomplished author having several articles published in *Railroad Model Craftsman*, *Model Railroader*, and others over the years. He and his wife Joyce have been married for 34 years and have 4 children and 6 grandchildren. He recently retired from GTE/ Verizon after 41+ years.

Bill of Materials

Evergreen Scale Models:

C-Channel	#262, #263, #264
I-Beam	#271, #272, #273, #274, #275
H-Column	#281, #282, #283, #284, #285
Styrene Rod	#210 .030”, #211 .040” #217 Rod & Tube Assortment
Styrene Strip	#123 .020" x .060"
	#124 .020" x .080"
	#142 .040" x .040"
	#143 .040" x .060"
	#144 .040" x .080"
	#154 .060" x .080"
	#165 .080" x .100"
Pikestuff	Prefab Warehouse Kits
	Engine House Kit
	Plastruct Stairs
Detail Associates	.019" Brass Wire
Scale Scenics	Aluminum micro mesh
Walthers	# 933-3170 Conveyor kits
	# 933-3149 Conveyor kits
PVC pipe	3” diameter
	1-1/2” diameter

Adding sound
to an N scale diesel

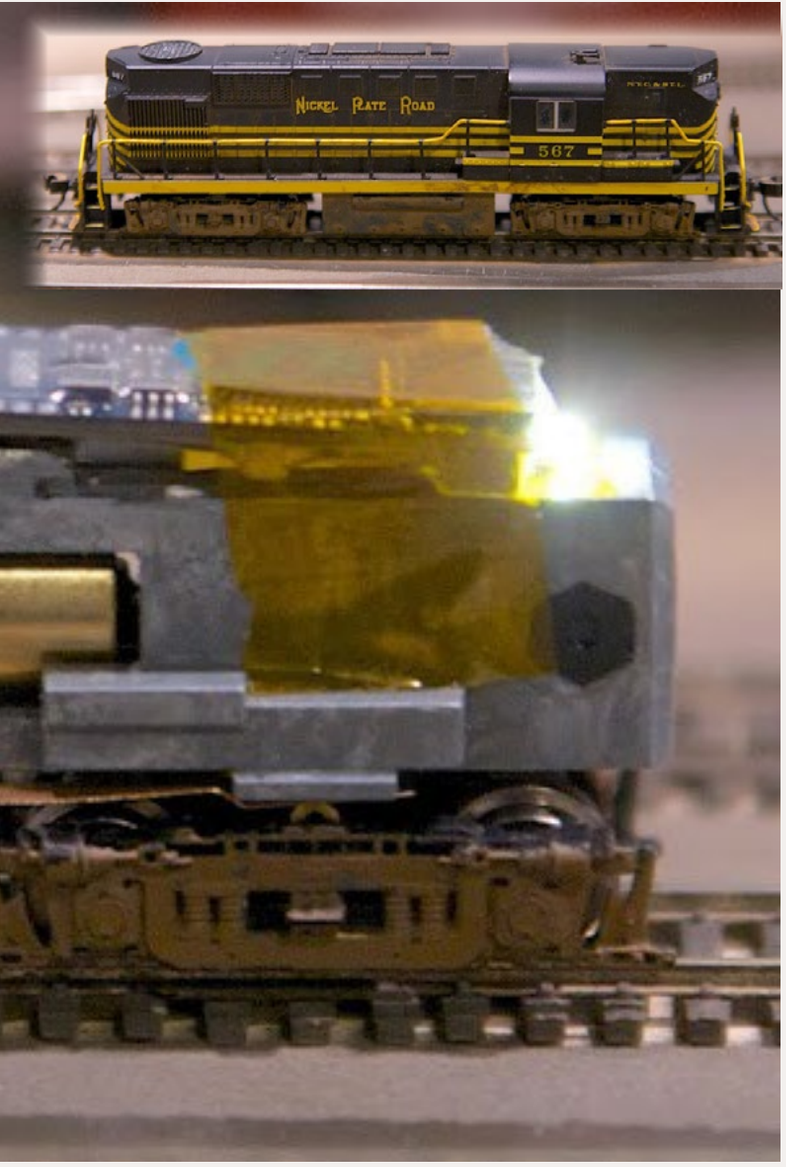
Moving sound to a smaller scale...

– John D. Colombo
Photos by the author

When digital sound decoders appeared on the market several years ago, I was skeptical. Given the size of N-scale models, I thought that sound installations could never reproduce the sonic impact of a Berkshire steam loco starting a train, or the deep vibration of an EMD 567C V-16 prime mover in a GP9. But then I decided to try it, first in the tender of a Walthers/LifeLike N-scale Berkshire.

What I realized is that while my intuition about the "size" of the sound produced was

Reader Feedback
(click here)



correct, the sound appropriately matched the size of the model. No, it did not provide the impact of the real thing, but I wasn't standing next to a 250-ton fire-breather, either. I was standing next to a 6" long model. To have the full impact of a real Berkshire from two yards away would have been out of place. More importantly, hearing the sounds of the chuffs, bell and whistle added a new dimension of realism to operations. The chuffs made me acutely aware of the speed at which I was running my locomotives – no more 100-mph switching moves! The bell and whistle provided interest at grade crossings, entering yards, starting and stopping movements, and so forth.

While the size of N scale steam engine tenders made sound installations relatively easy, N scale diesels were another story. There just wasn't enough room to accommodate even the smallest speakers I had seen for sale by on-line DCC specialists, and the sound decoders also were just too big to fit in an N scale diesel. But about two years ago, I started wondering whether the technology existed to do sound installations in N-scale diesels.

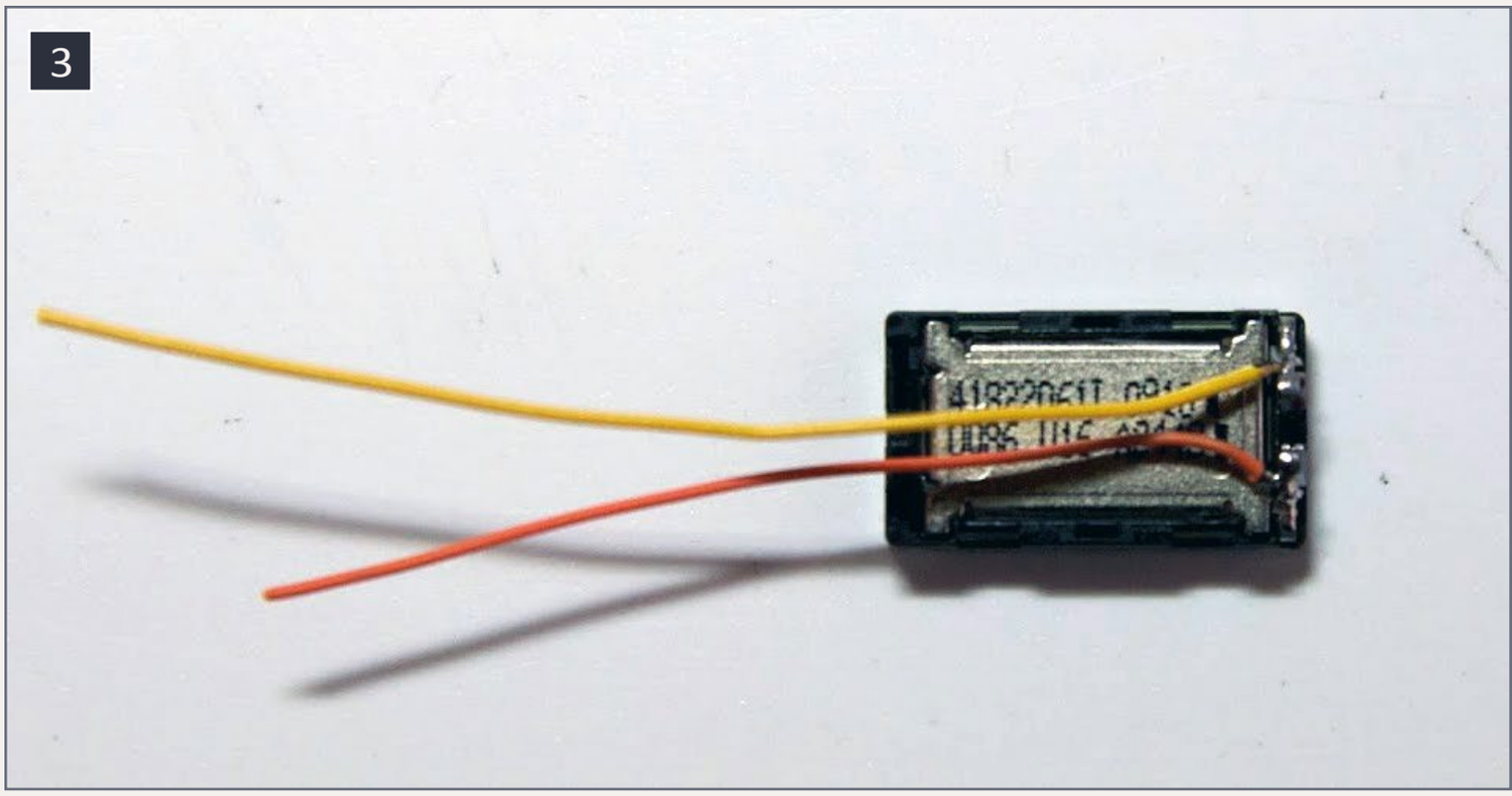
Because most N-scale diesel shells are only about 10-11 mm wide inside, I would have to find a VERY small speaker with

exceptional performance for its size. Then, there was the question of the decoder itself – again, I was limited to 10-11 mm in width, and probably no more than 25 mm in length to fit a decoder in a typical N scale diesel. Moreover, I am very picky about motor control from my DCC decoders; whatever sound decoder I would use needed to have motor control equal to the best non-sound decoders. Finally, the sound itself needed to be top quality, or the whole effort just wasn't going to be worth it.

In doing some research on the subject, I came across two speakers intended as OEM equipment for the cell phone and tablet markets that seemed to make a sound installation in an N scale diesel possible. The first was from a company called Knowles. Their "Fox" speaker was 9 mm wide by 16 mm long – narrow and short enough to fit inside an N scale diesel shell. The second was from Star Micronics, which made an 8 mm x 12 mm speaker that had similar performance specifications to the Fox. The Fox speaker has since been discontinued and replaced by the "Wildcat".

2. The basic materials: the speaker and two strips of styrene cut from a sheet to 5.5 mm wide.

For the decoder, I happened upon ESU LokSound's website and discovered their Select Micro line of decoders.



3. I solder scraps of wire to the speaker pads. Use 30-gauge or smaller wire.

They are 10.6 mm wide by 25 mm long by 3.8 mm high. The sound samples for various U.S. prototype prime movers sounded promising, as well. So I decided to try to do a sound installation in a typical first-generation hood diesel in N scale: an Atlas RS11, using the Fox speaker and the ESU LokSound Select Micro.

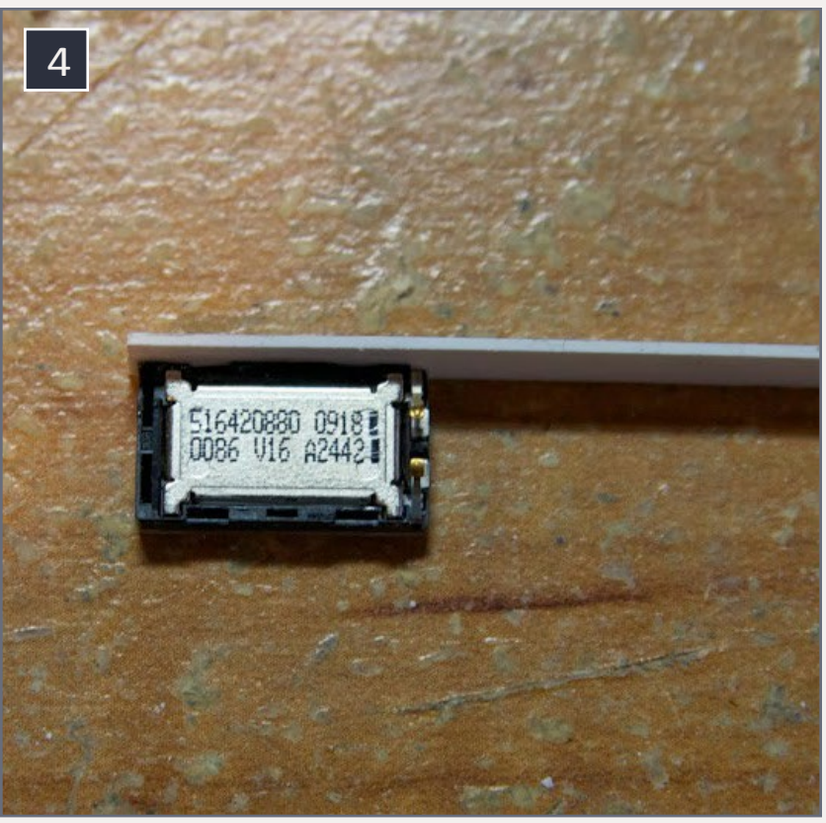
Prepping the speaker

My previous experiences with sound installations in N-scale steam tenders had taught me that in order to achieve the best sound from the tiny speakers we are limited to using, the speaker should be set in a sealed-box enclosure. While I know there are installers who disagree, I have never found another way to get sound even close to what I achieve with a sealed-box enclosure. So my first step was to build an enclosure around the Fox speaker. Given its 9 mm width and the typical

10 mm of interior space in the shell, I chose .020” styrene for my enclosure. It adds about ½ mm of width to each side, or 1 mm overall.

The first step for my installation involved soldering wires to the speaker and building the speaker enclosure. The speaker wires were 30-gauge wires cut off from prior decoder installs. I have a box of these wire pieces that I save for just this kind of use, but you can order 30-gauge flexible wire from several sources.

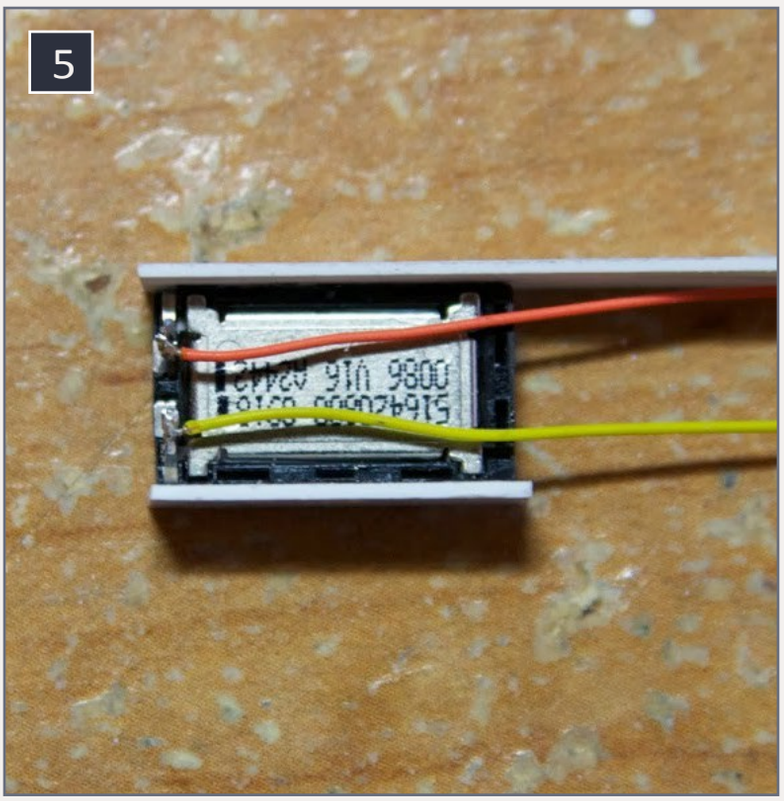
My measurements indicated that I had about 6 mm between the frame and the top of the shell, so I cut a strip of .020’ styrene 5.5 mm wide. The bottom of the enclosure would add 1/2 mm, bringing the total to 6 mm. To make the enclosure, I constructed a box around the speaker, using CA cement to glue the styrene sides to the side of the speaker, and regular liquid plastic cement to attach the bottom of the enclosure.



4. Glue styrene to the long side of the speaker, and trim to the correct length.

The first step in the process is to “rough up” the sides of the speaker with 200 -grit sandpaper to provide better adhesion for the CA cement. I also lightly sand the styrene strip.

Now it’s time to build the box. I put a thin bead of gel CA across one of the long sides of the speaker, towards the top edge, and then press the styrene strip onto the edge. I usually put the speaker face-down on my work table, then press the strip along



5. When you're done with the two long sides, things should look something like this.

the edge to make sure the top of the strip is flush with the top of the speaker. You'll have a few seconds to adjust before the CA sets. You want the strip to overlap the short edge of the speaker just a bit, so that you can later cut that off flush for the short edges of the box.

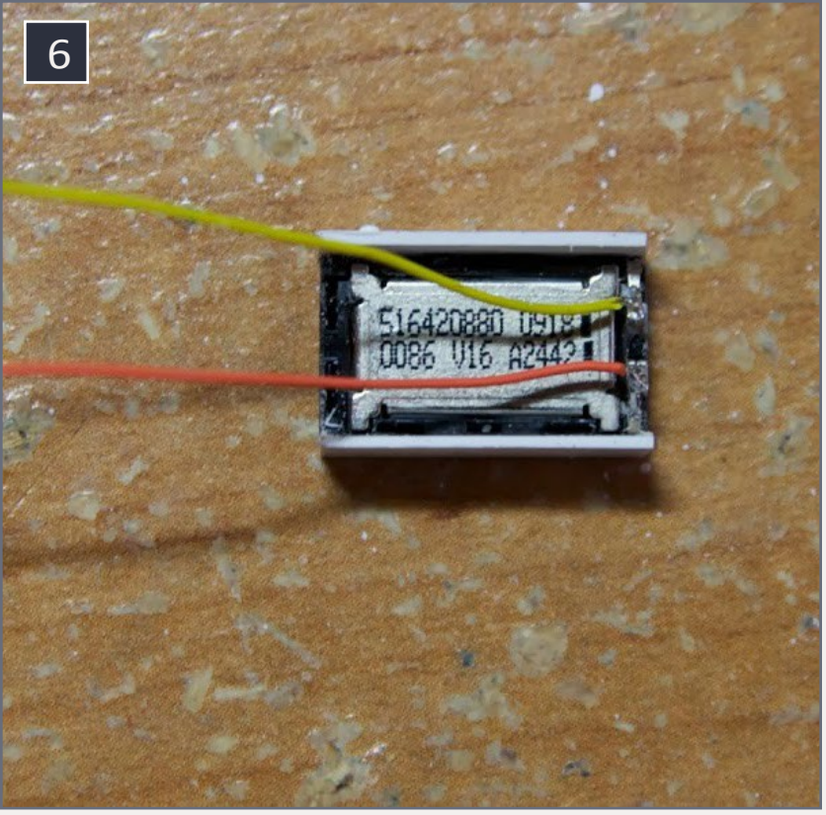
Let the CA set up for a few minutes, then trim the strip flush with the short edge of the speaker, and repeat on the other side.

Now do the short ends: you want the short ends to overlap the styrene sides of the long ends in order to create an air-tight seal. Put a bead of gel CA along the side of the speaker and the edges of the long side styrene strips, then press a strip of styrene to complete one side. Make sure to overlap the long sides a bit to make sure everything is sealed up tight.

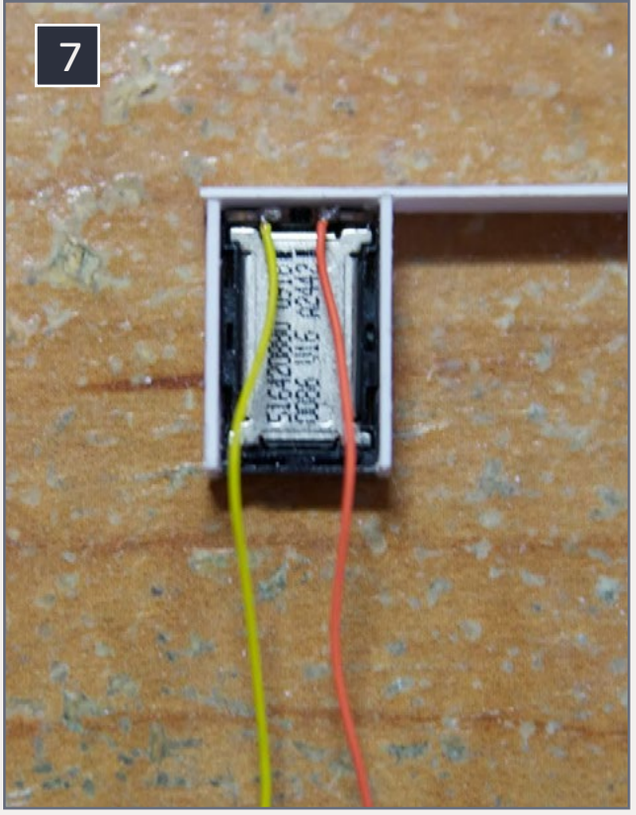
Let the CA dry, trim the ends of the strip flush with the long sides, and repeat for the other side. You now have a box around your speaker. Drill as small a hole as you can get the wires through the short side of the box.

Feed the wires through, and put a dab of gel CA around the inside of the hole to seal it. When you are done, here's what you have [9].

Let everything dry for 10 minutes. Now attach the bottom. If you are using styrene, this is pretty simple: put the speaker on



6. Both long sides trimmed to length.

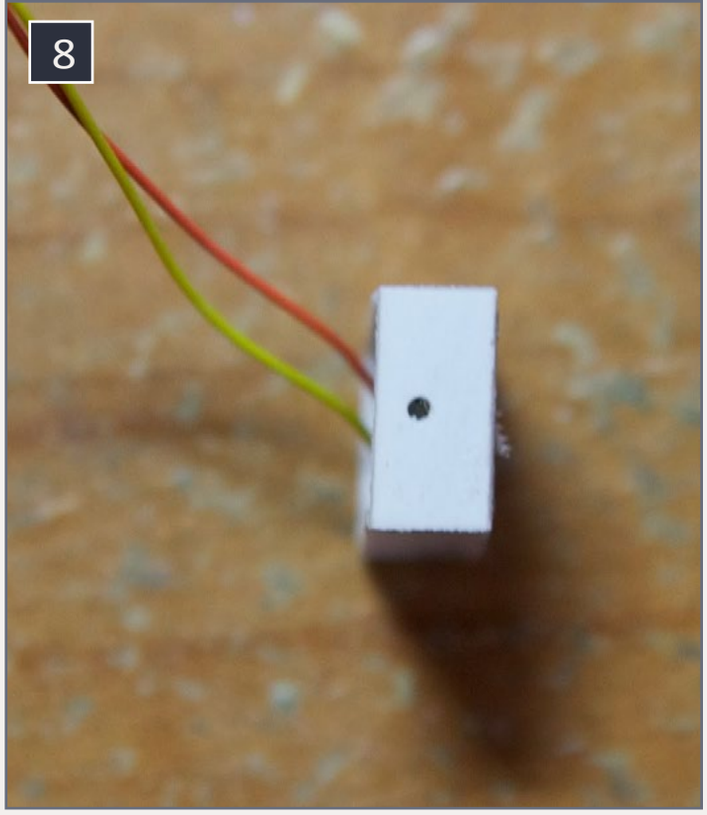


7. The first short side of the box is attached, ready to be trimmed to length.

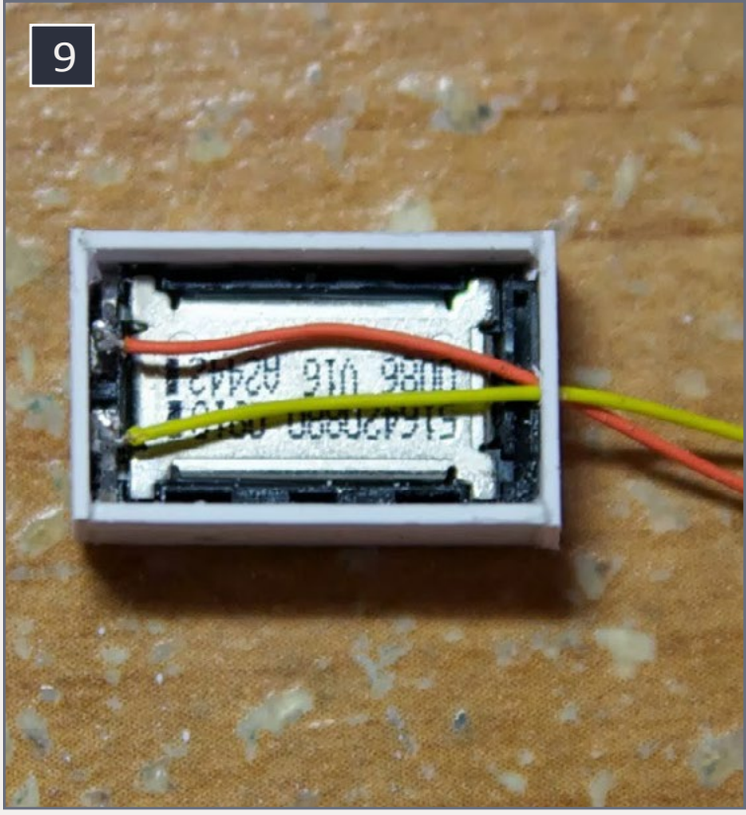
the styrene sheet, use a brush to brush liquid styrene cement around all the edges, and let dry. When dry, cut away the rest of the bottom sheet, and you have a nice, air-tight speaker enclosure.

Install the decoder and speaker

Because of the limited space available in N-scale diesels, creating enough room for the decoder and speaker usually requires some frame modification and some sanding of the inside of the shell. Putting a sound decoder and speaker in an N-scale RS-11 is about as complex an installation as one is likely to face. The general process of locating the speaker, locating the decoder, and wiring the decoder to the speaker will apply to any sound installation.



8. A small hole is drilled in the last side, to feed the wires through.

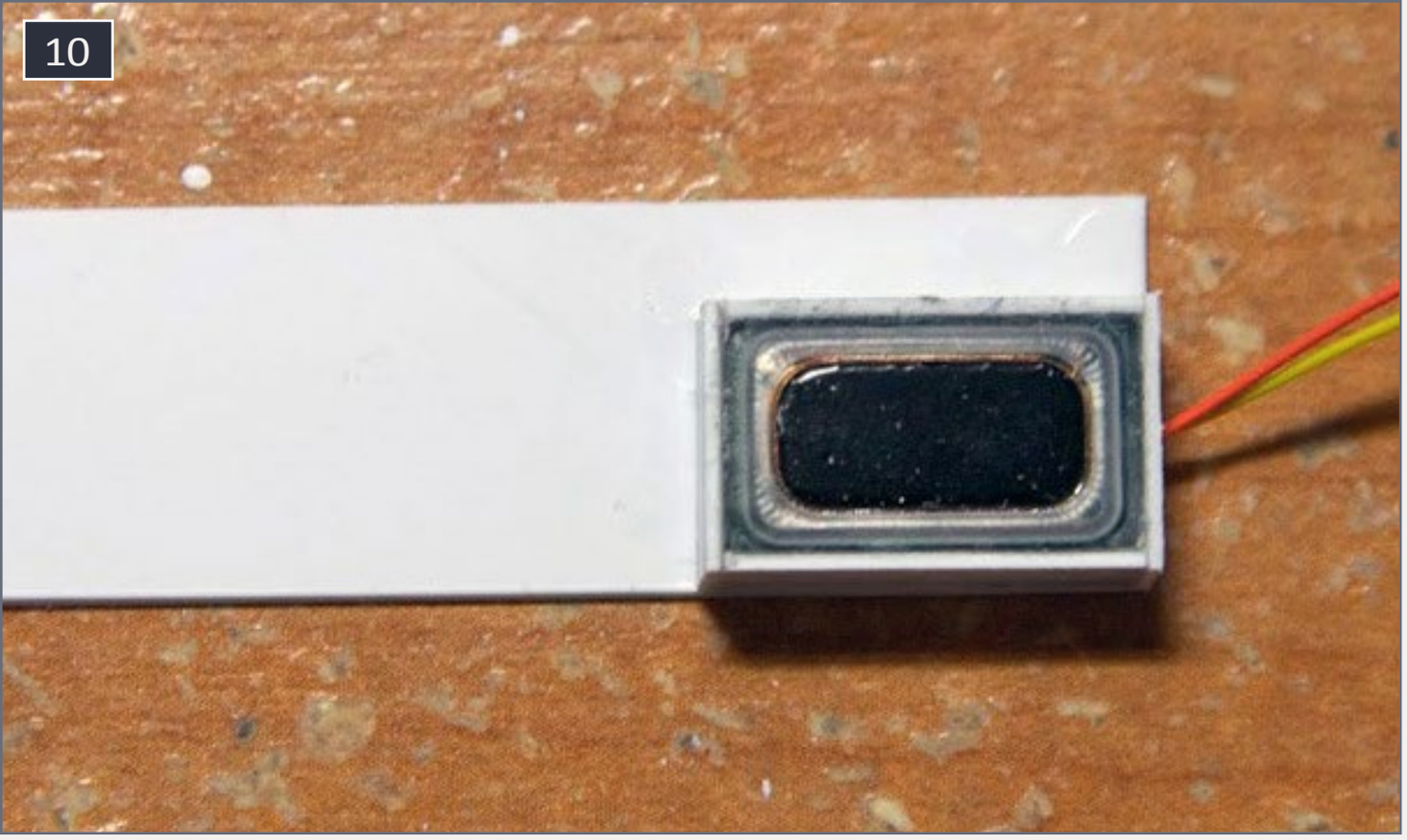


9. The sides of the speaker box are finished. The wires feed through the hole.

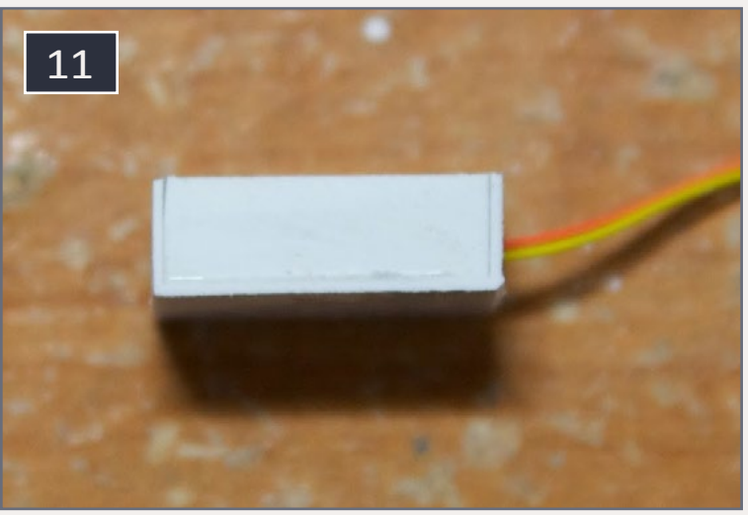
Shell preparation

The shell of the RS-11 needs holes to allow sound egress; a bit of thinning inside at the front to create additional space for the decoder, and some trimming of the plastic number board/headlight inserts to create additional linear space for the decoder and speaker. First, I trim back the rear part of the number board inserts.

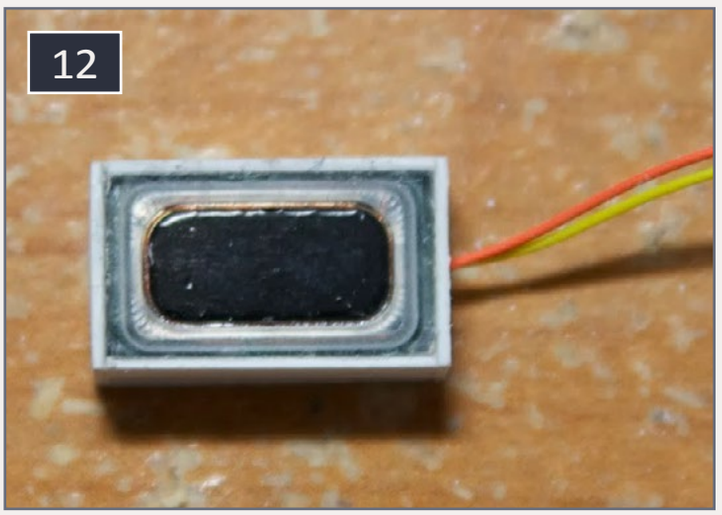
Next, I thin out the front of the shell just a bit using a 1/4” 250-grit sanding drum on a Dremel. The stock shell has about 10.3 mm of space inside, and the LokSound decoder is 10.6 mm wide; so I thin the shell by about .3 mm. I use digital calipers to measure, but you can use the decoder to test the fit.



10. Place the speaker on a styrene sheet to make the bottom of the box.

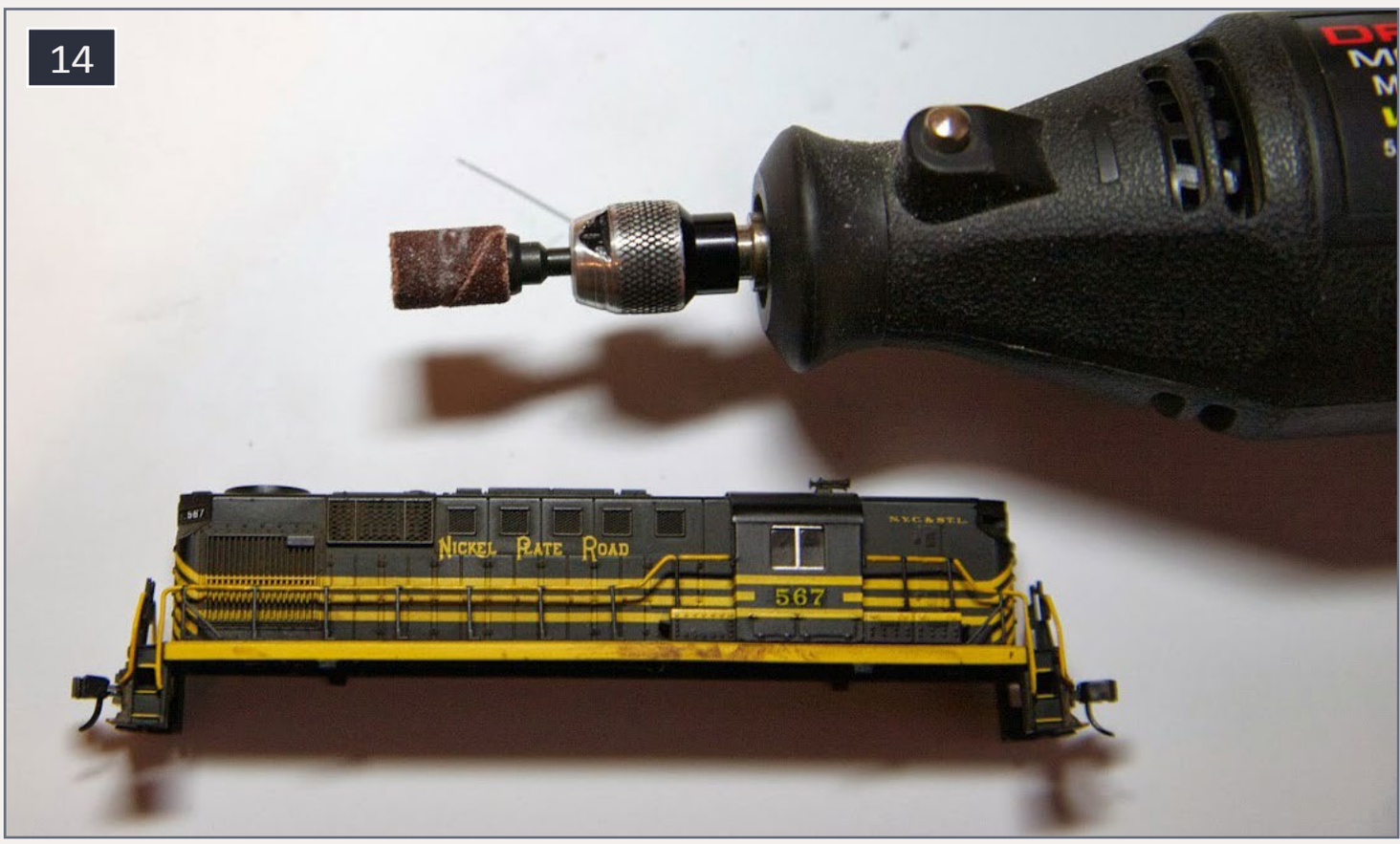


11. Here's the final product from the side.



12. The finished speaker box.

13. The unmodified number board/headlight insert on the left, the modified number board/headlight insert with the tabs removed on the right.



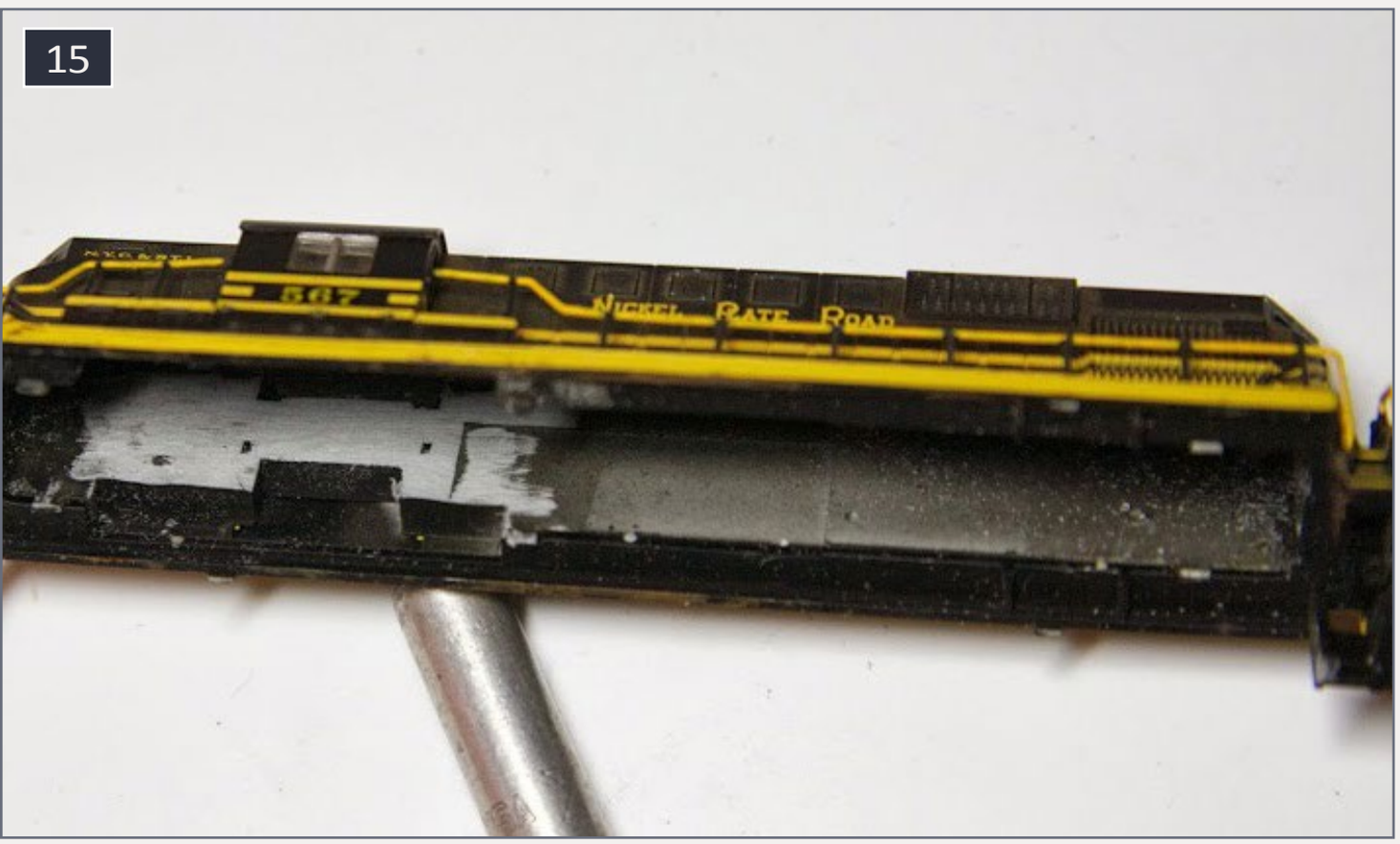
14. A drum sander is used to widen the inside of the shell.

Next, I use a #80 drill bit to drill holes for sound egress in the fan grille at the rear of the shell. I drilled holes between every other slat in the grille. The holes are so small that you don't notice them after they are drilled, particularly after I dry-brush the fan with some grimy black paint, but they let out a lot of air [17].

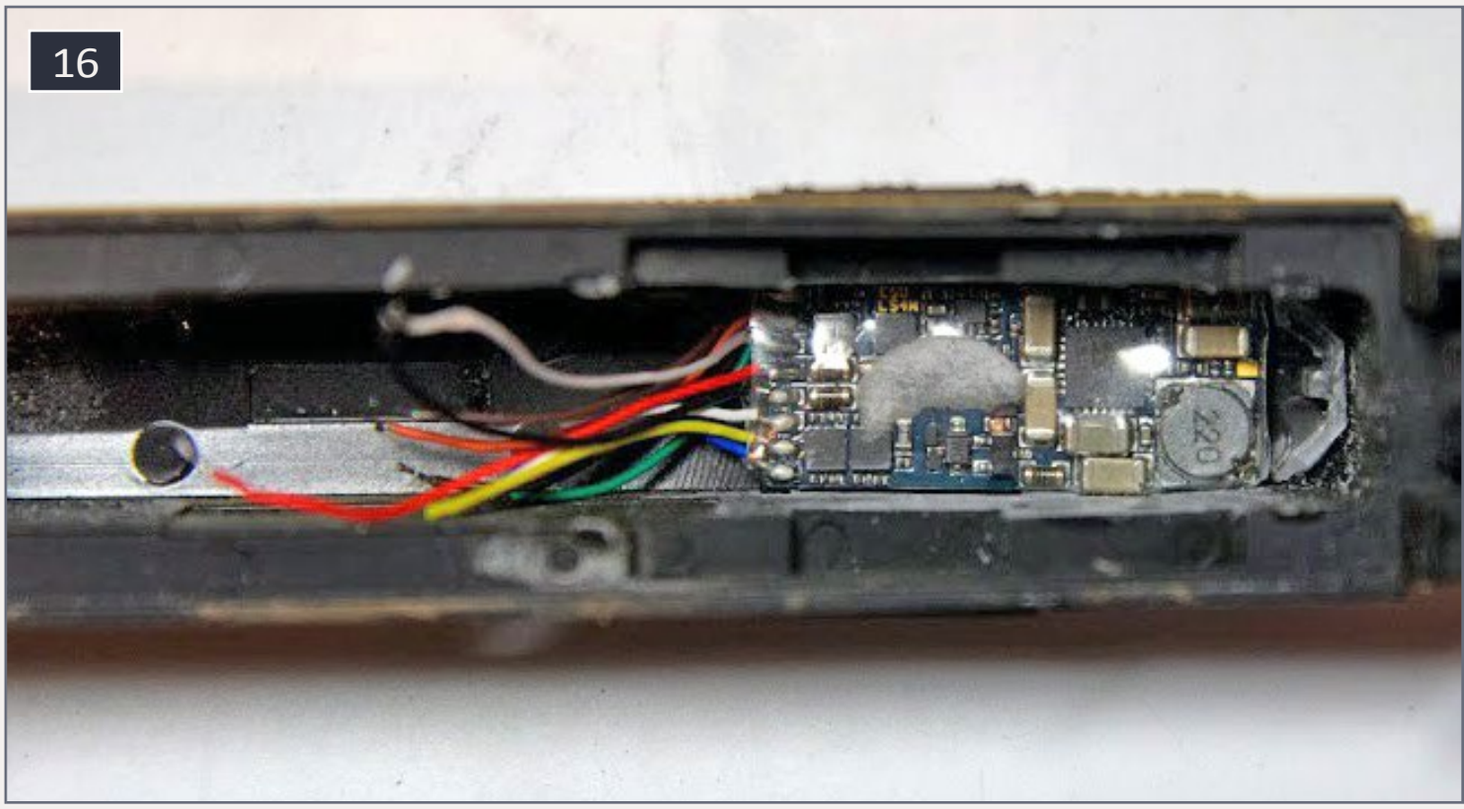
Frame preparation

In order to To accommodate the speaker and the decoder, you will have to mill the frame a bit. Photo [18] shows the areas, in black, that need to be milled off each side of the frame.

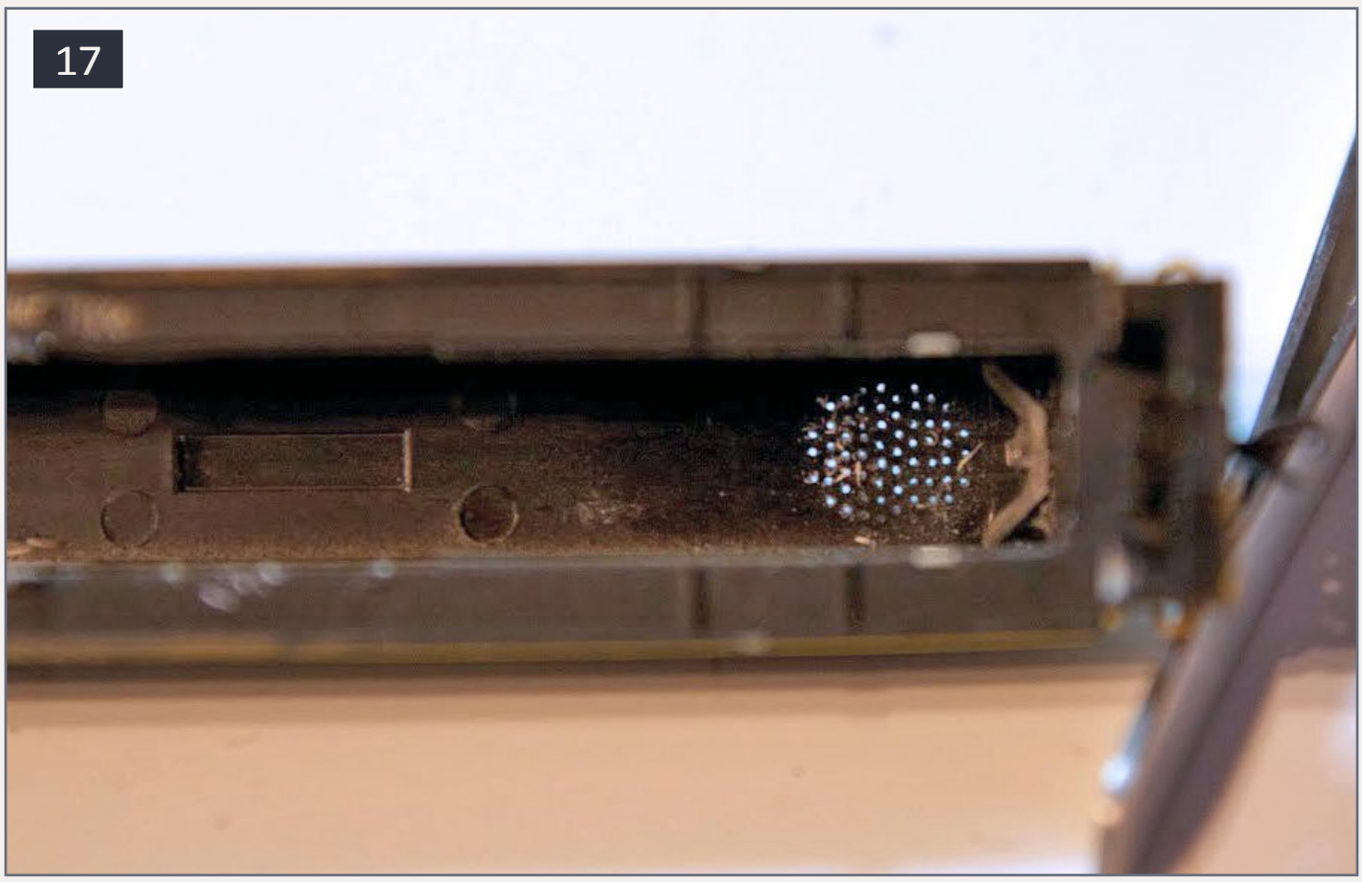
Be VERY careful when cutting/milling around the motor mount hole at the top of the frame and around the cutout for the



15. The light gray area is where excess material was removed.



16. Test-fit of the decoder.



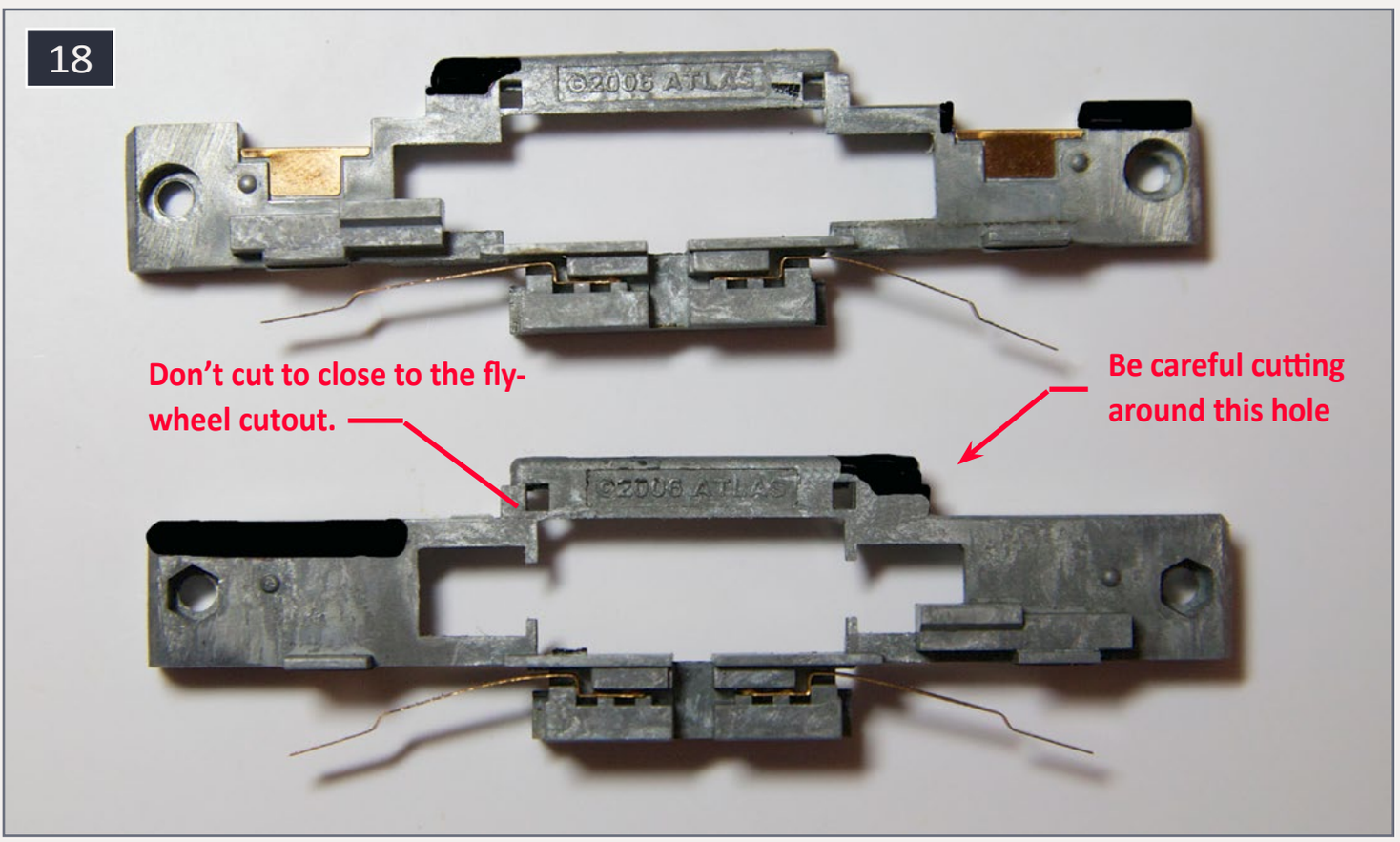
17. The holes, from the inside of the shell, to let the sound out.

flywheel. Too much cutting here and you'll cut through the frame (ask me how I know this).

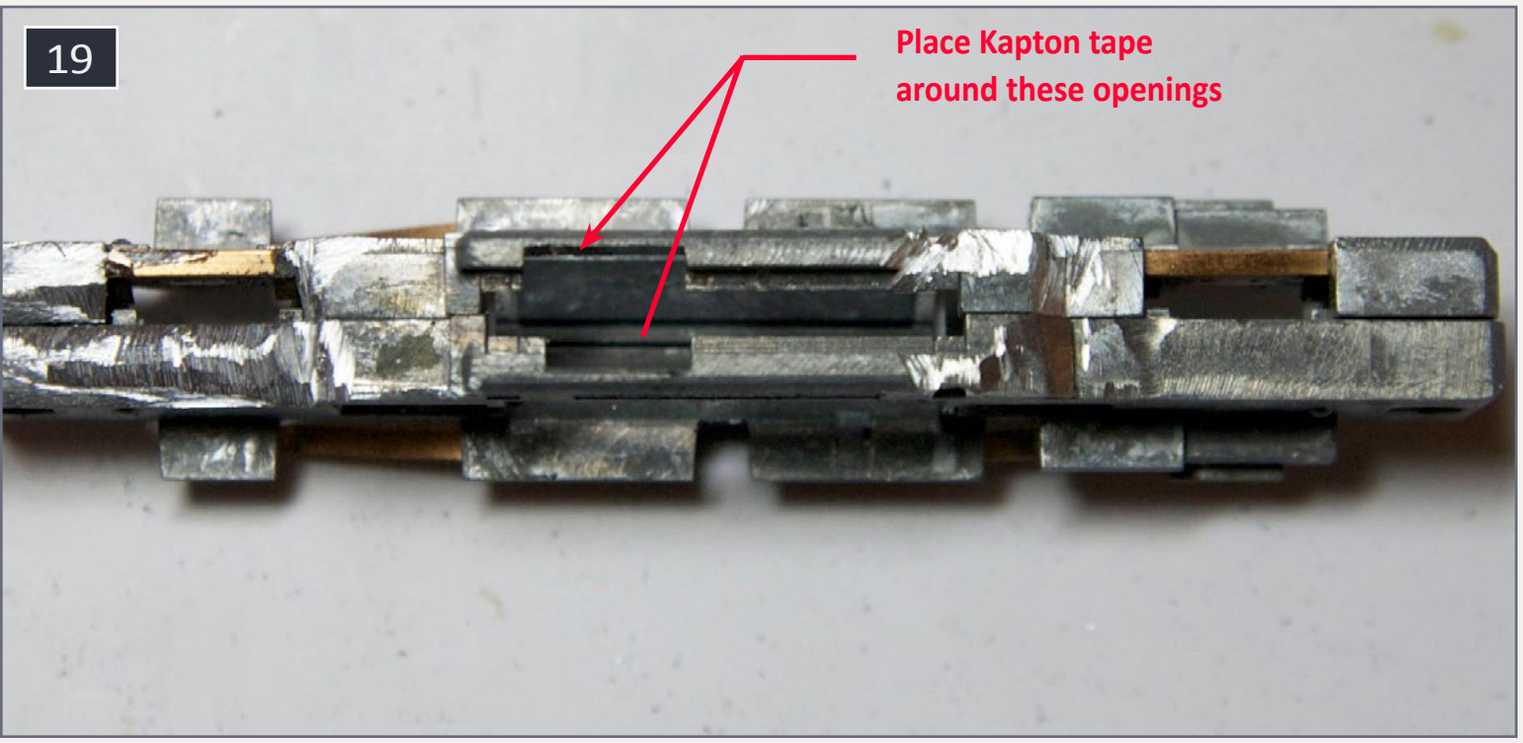
After you are done, insulate the area of the frame where the motor contact strips come up to contact the circuit board. I use Kapton tape for this. We won't be using the circuit board, so you want to make sure these strips can't accidentally contact the frame and cause a short.

Photos [20-22] show the cut frame. The speaker will go on the rear of the frame, and the frame is reassembled with the motor inside and the Kapton tape insulating the areas around the motor contact strips.

The last prep step is to cut a small piece of old circuit board to solder the decoder power pickup wires.



18. The black areas show where the frame needs to be milled.



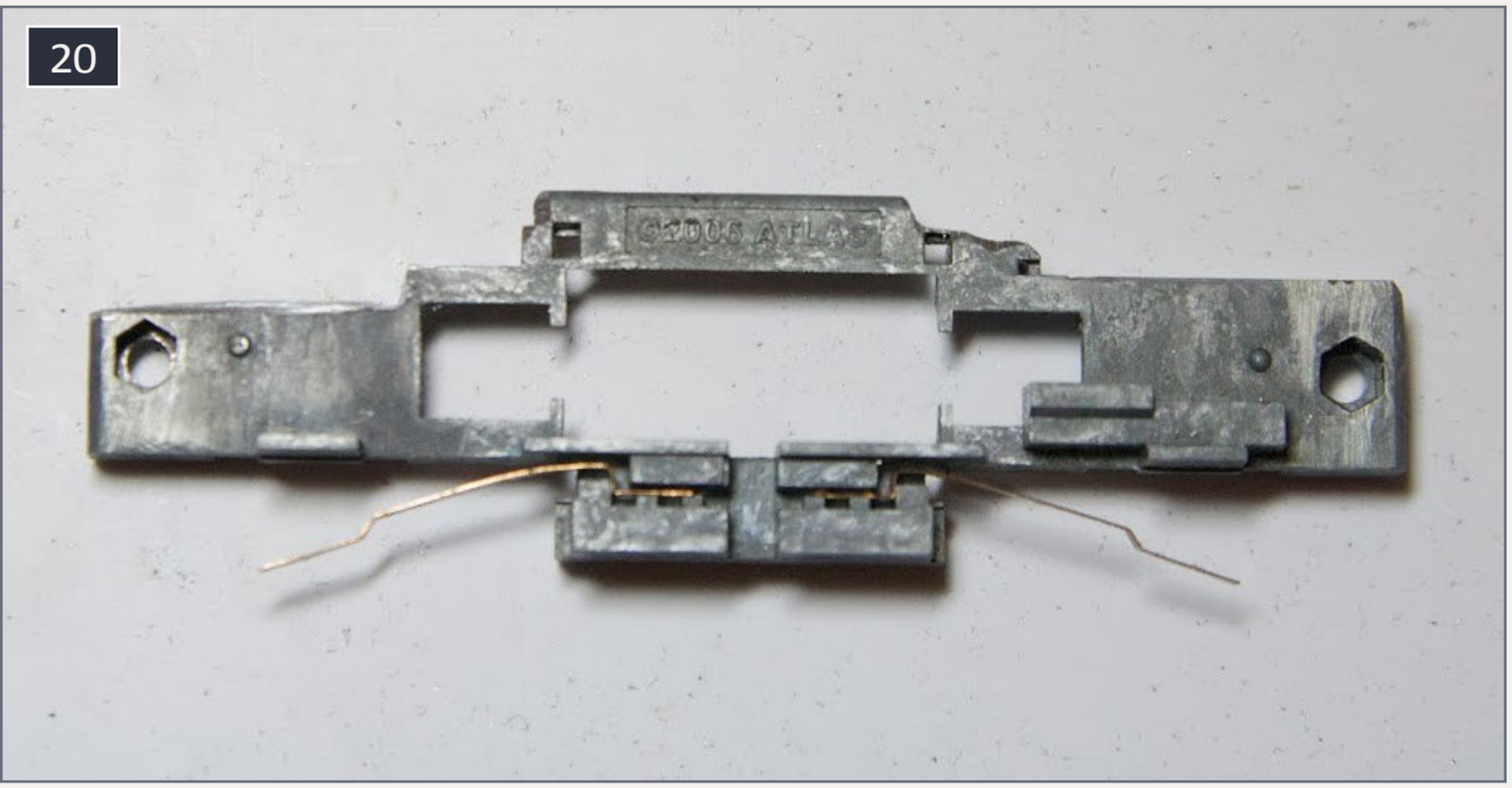
19. The milled frame showing the locations of the Kapton tape.

That's it for the prep steps. Now it is time to install the decoder, headlight LED, and speaker.

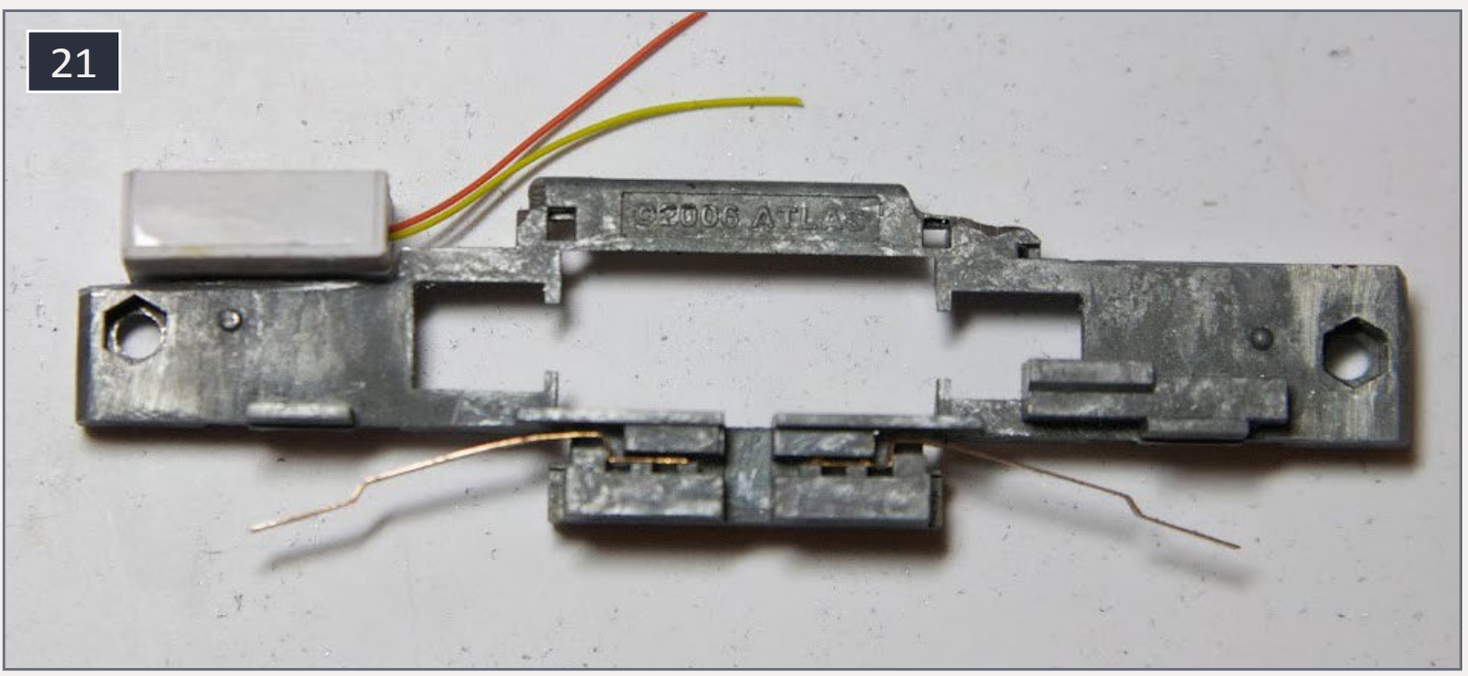
Final assembly and wiring

Cut the LokSound wires to the right length. The exact length will depend a bit on the exact placement of the decoder on the frame, but the orange wire is about 20 mm; the gray about 22 mm; the red and black about 32 mm. Then I strip the ends of the wires and tin them with solder.

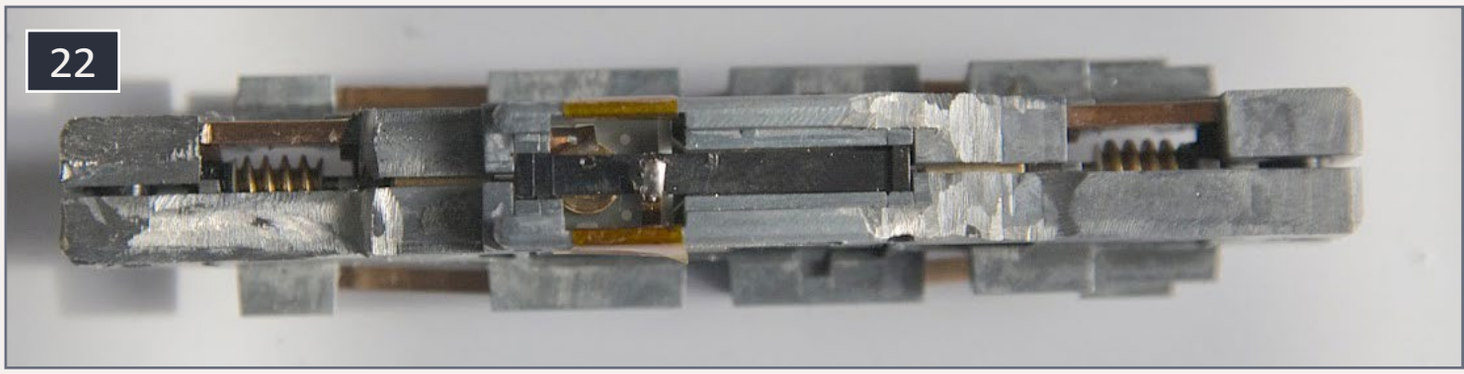
Before installing the decoder, I install the surface-mount LED for the front headlight. I use a sunny white SMT LED from Richmond Controls that comes with 6" fine magnet wire attached. You want just enough wire to loop at the end of the "channel" in the top part of the frame and hook to the white and blue wires.



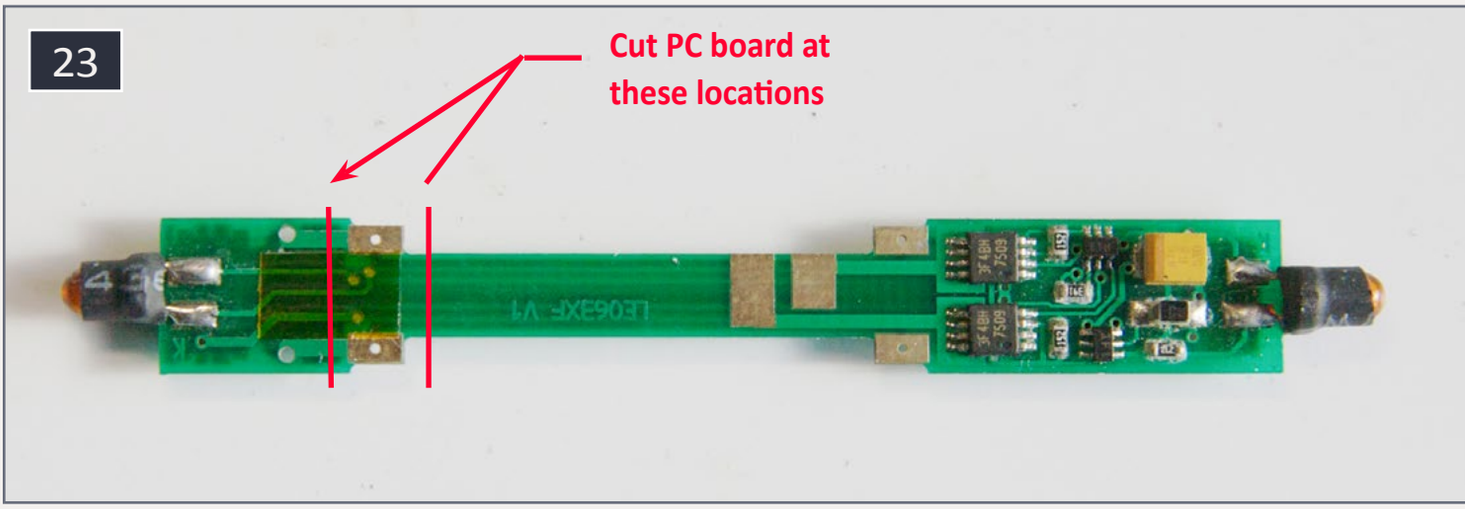
20. A side view of the milled frame. The front of the frame is to the right.



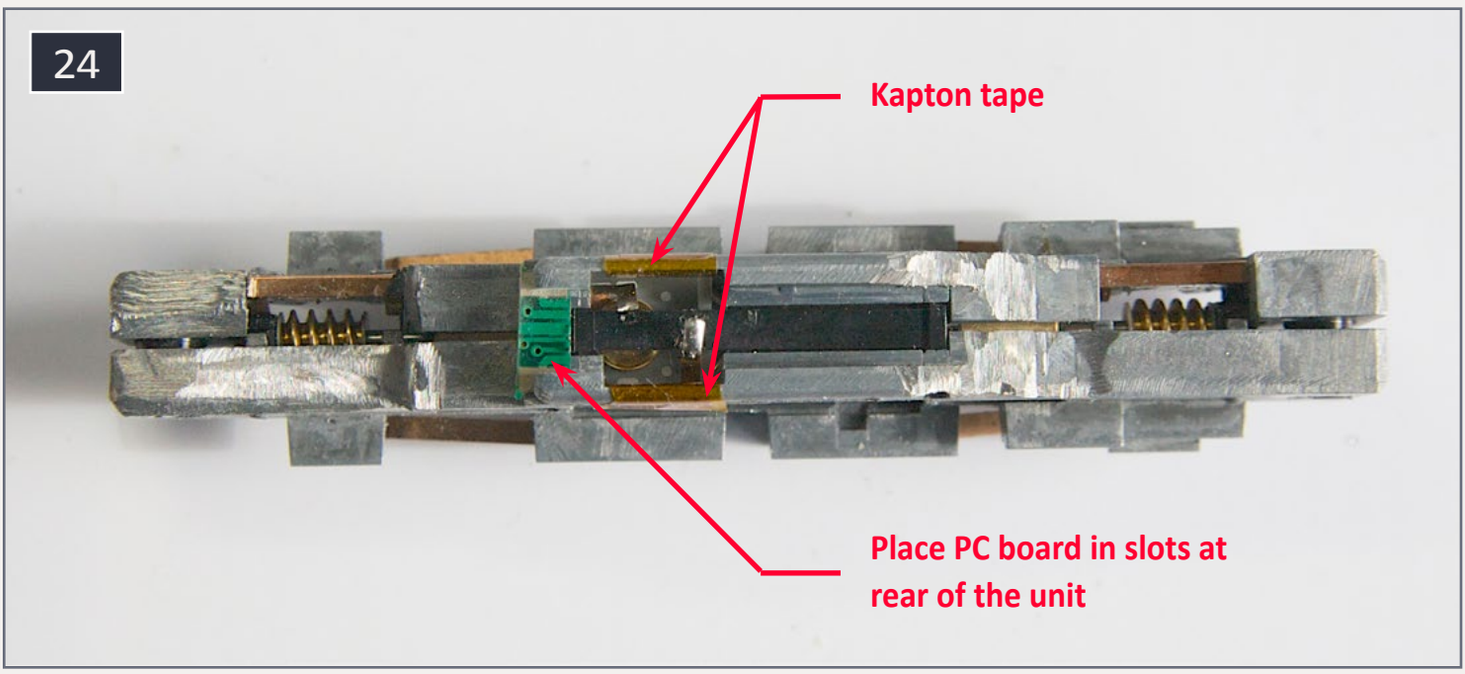
21. Another view of the frame, with the speaker box positioned at the rear of the frame.



22. A top view of the milled frame after reassembly.



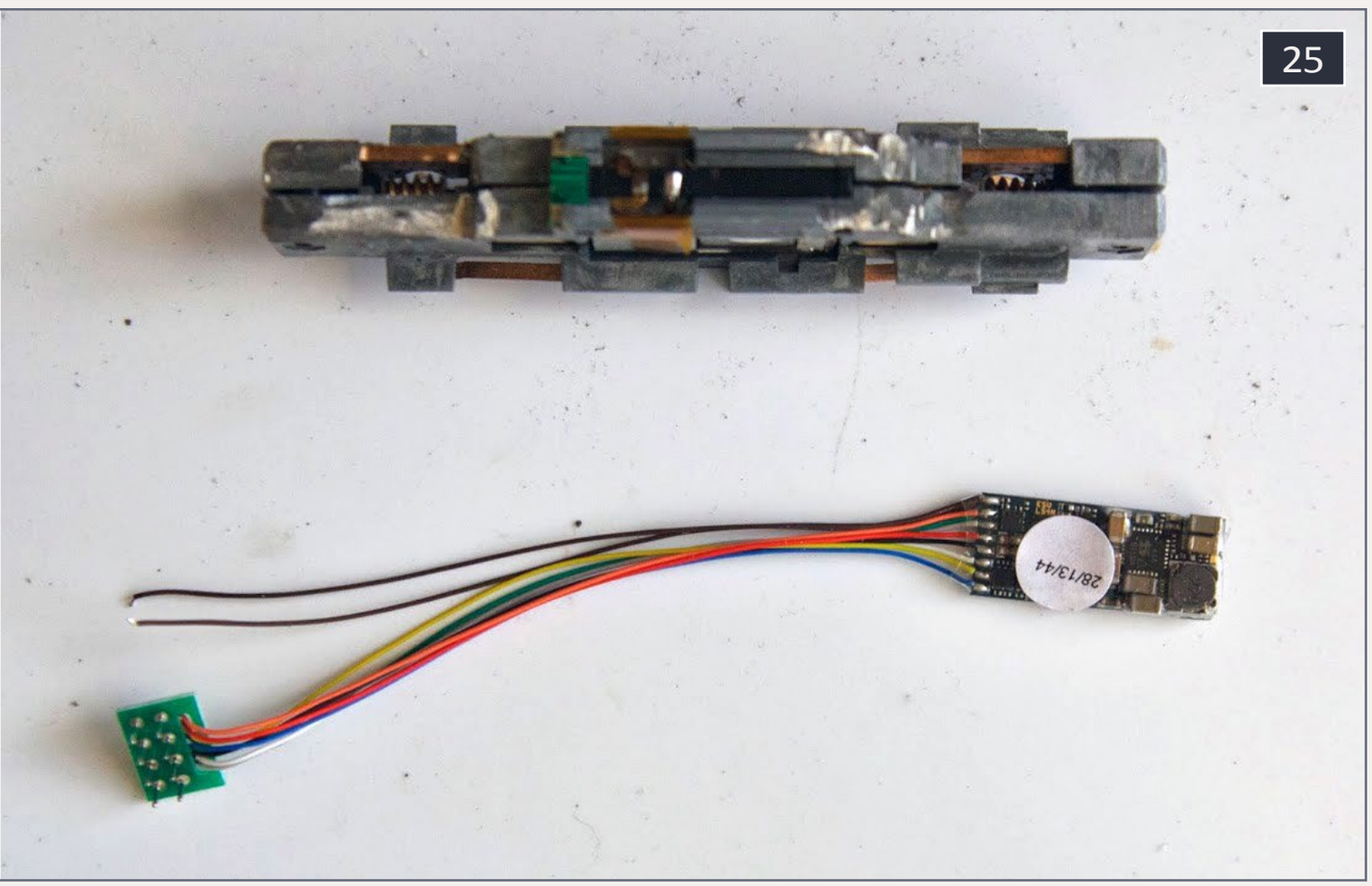
23. The old Atlas decoder board.



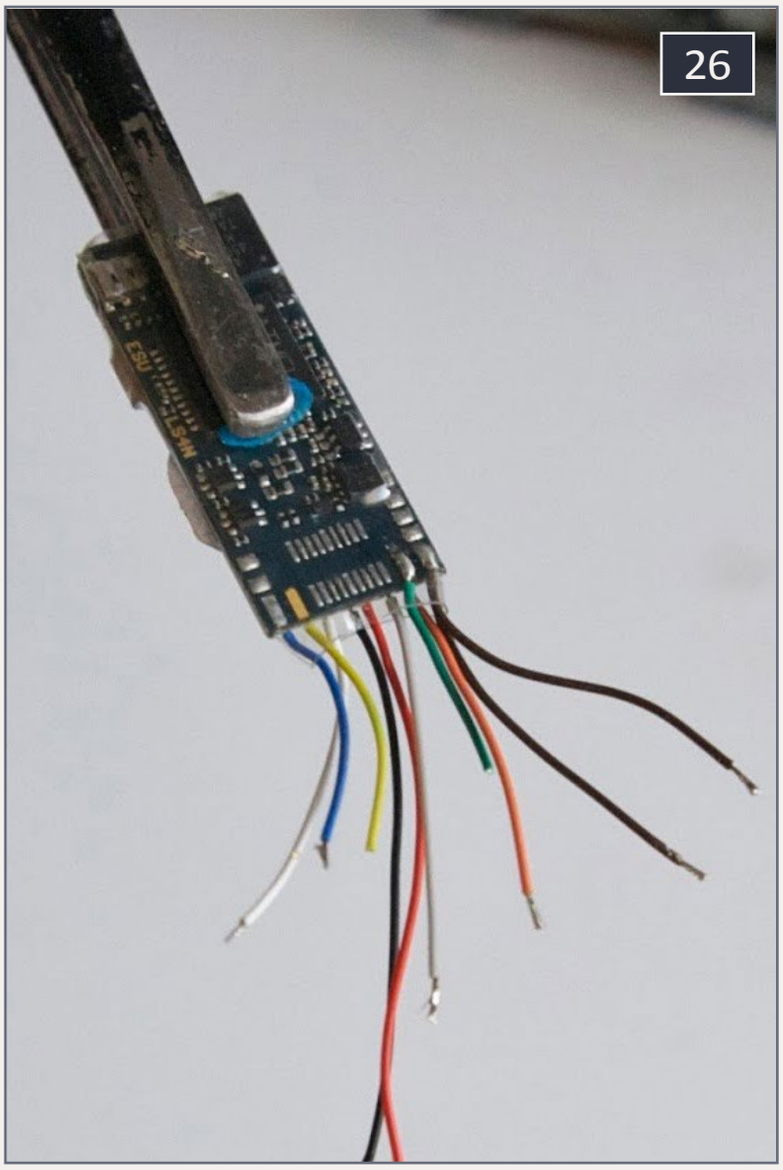
24. A salvaged portion of the decoder board installed in the frame.

After cutting the wires, you'll need to figure out which one is the cathode (+, to blue wire) and anode (-, to white wire). I do this by unwinding about 1/2" of the wire, remove the insulation by running the wires through a blob of hot solder (which also tins them), and then use a 9-volt battery and a 1K resistor to test which wire is which. I hook the resistor to the negative post of the battery, hold one of the LED wires on to the end of the resistor, and touch the other wire to the positive battery terminal. If the LED lights, you know which wire is which. If it doesn't, reverse the wires, and now it should light. If it doesn't light at all, you might have a defective LED, though I've yet to have a bad one from Richmond Controls.

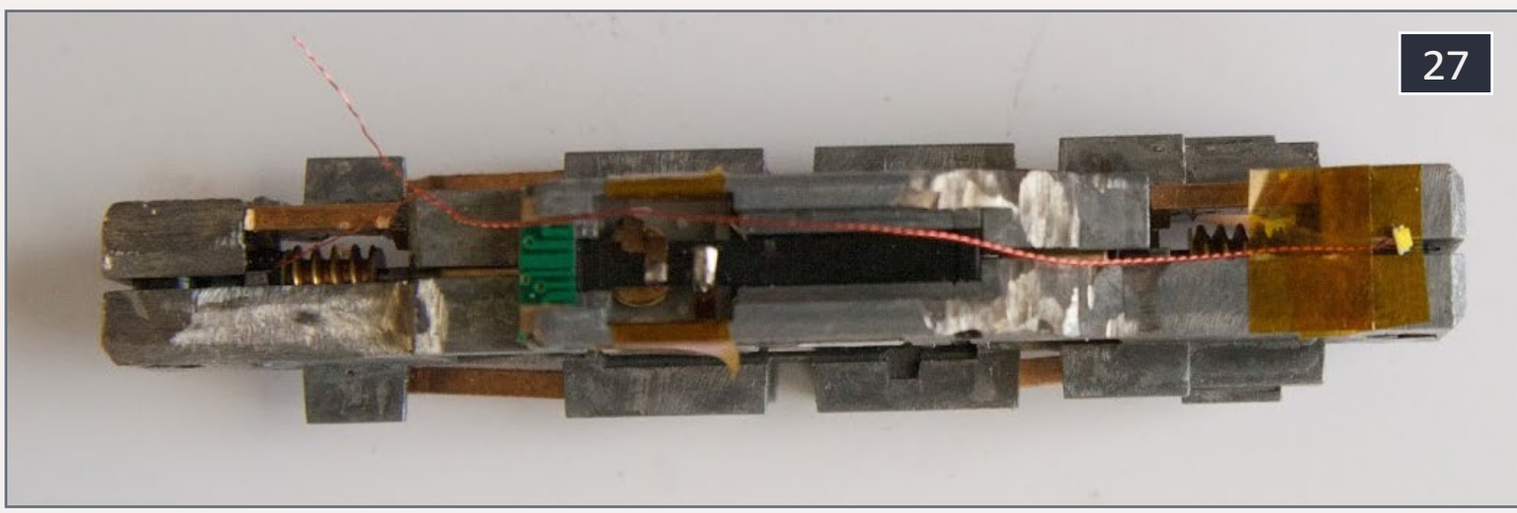
I don't use a rear light because I run my diesels in consists of three, meaning that I always have one engine facing each



25. The RS-11 frame and LokSound decoder.



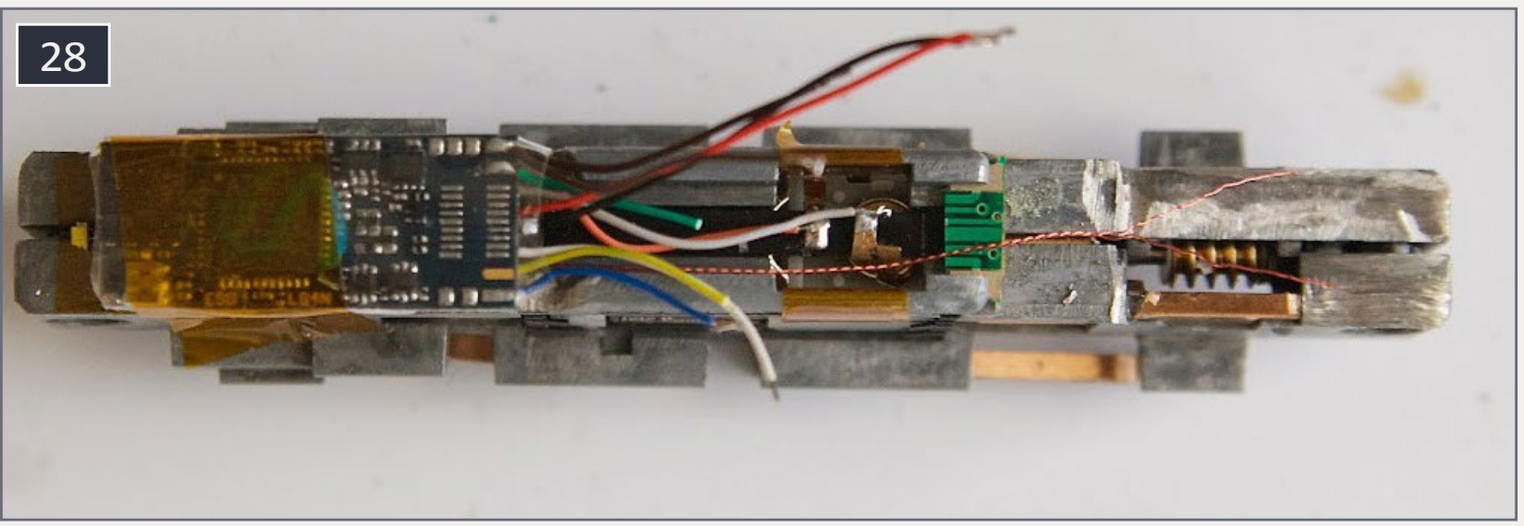
26. Cut the wires to length, stripping and tinning them before installing the decoder.



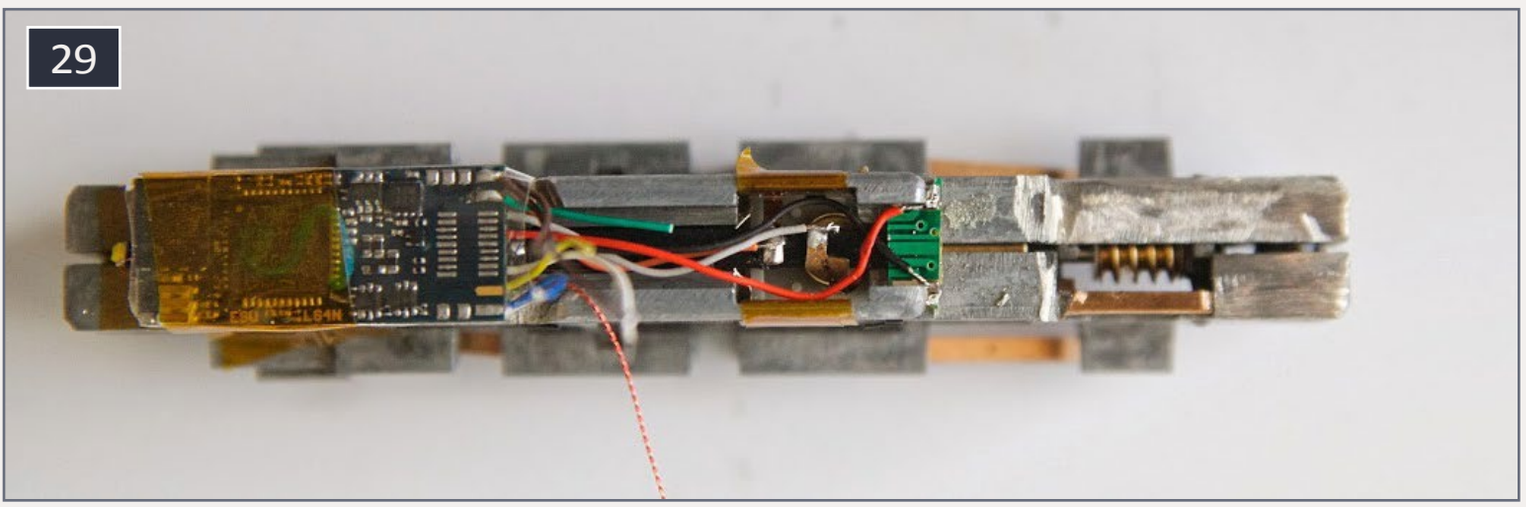
27. The LED is installed.

way, and only use the front headlights. But you can use the same technique for the front headlight and install a rear one if you want.

Now it's time to install the decoder. First, solder the motor wires. The gray wire goes to the top motor brush; the orange to the bottom. You can identify which is which because the contact strip for the bottom brush wraps around the side of the motor.



28. The decoder is taped to the frame.



29. The red and black wires are soldered to the small piece of circuit board.

Though the photo [28] shows the decoder taped to the front of the frame, I solder these two wires BEFORE I tape the decoder to the frame. Then I use Kapton tape to hold the decoder in place

Next, I solder the red and black power pickup wires to the small piece of circuit board. I then solder a 1K 1/8 watt resistor to the blue wire, and solder the LED wires to the white and blue wires respectively. I use heat shrink tubing to insulate the wire joints: 1 mm heat-shrink tubing on the white wire, and 1/16" tubing over the resistor, insulating both ends of the blue-resistor-LED wire connection. Here is the final result [30]. Zoom in to see the blue wire and the "bulge" of black heat-shrink tubing.

At this point, I put the trucks back on the frame, and test the installation on my layout. I want to make sure there is no short, that the motor runs, and that the headlight works. It did. Then I install the speaker. I use gel CA cement to glue the speaker to one side of the frame to keep it in place. Then I solder the speaker wires to the brown decoder speaker supply wires, and insulate the joints with 1 mm heat shrink tubing.

The last step is to put a small piece of Kapton tape over the wires to keep everything in place. Then I test the completed installation on the layout. When I'm sure everything works, I put the shell back on. Now it's time to program the decoder with the 4-digit address, the correct horn, adjust sound volume, and so on.

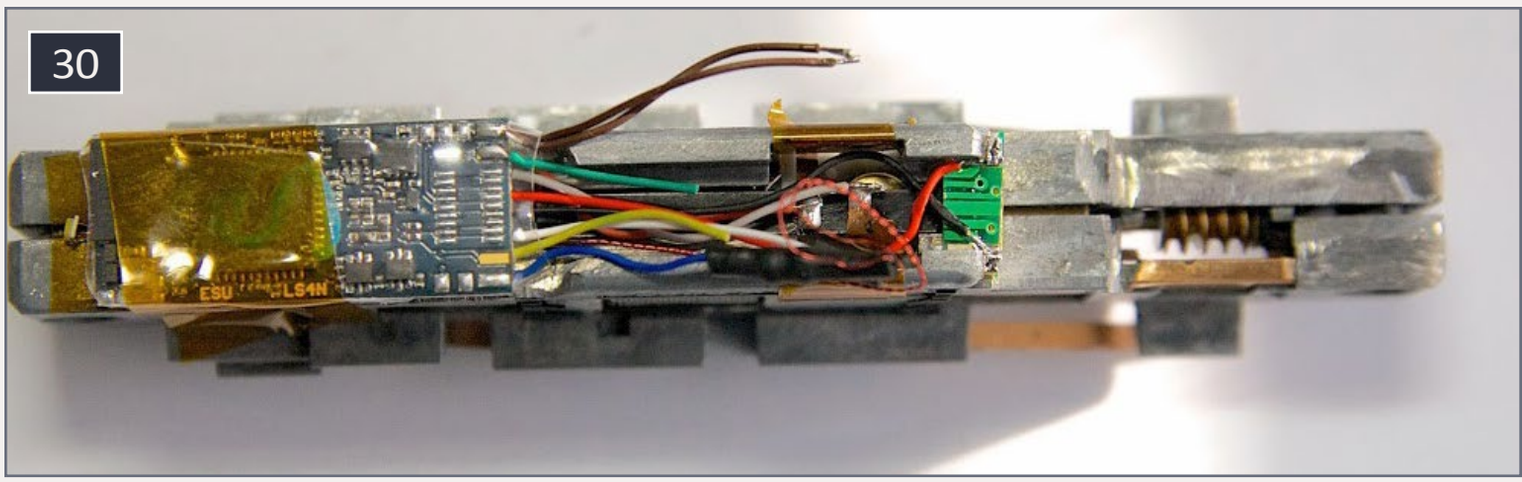
I made a short video of the completed RS-11 in action. **youtu.be/PvTZPzdpOwo**

I have used essentially the same techniques to install sound in Atlas RS-3, GP7, SD9, GP30 and VO-1000 locomotives, and a Fox Valley Models GEVO. If you are interested in hearing some

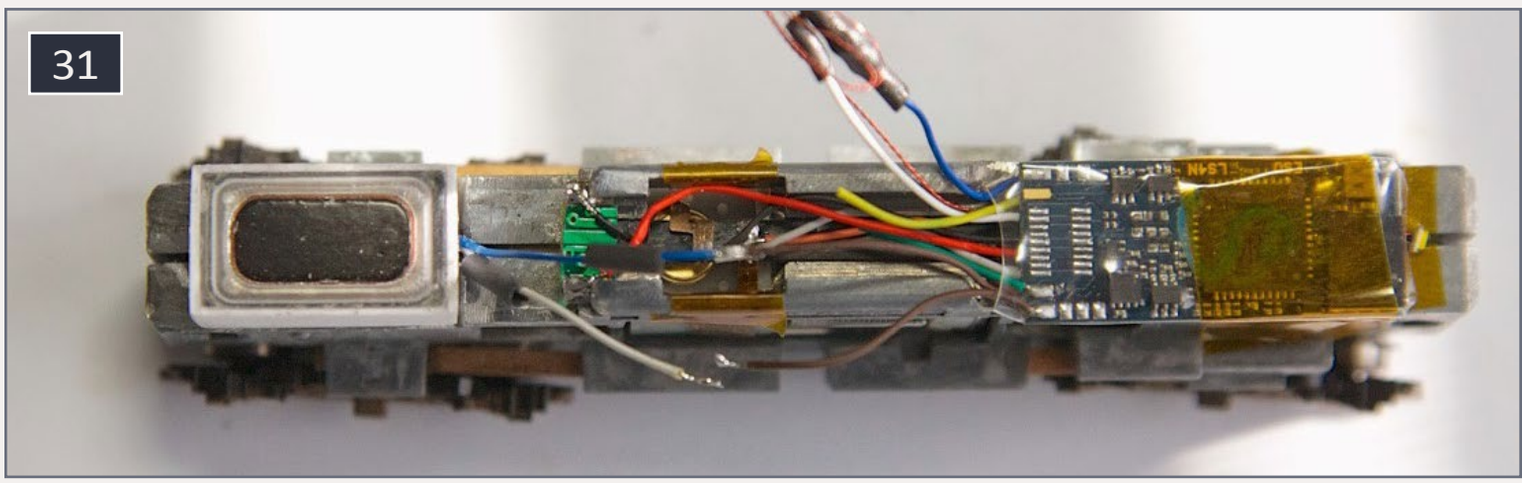
of these, here are links to the YouTube videos I have taken of each of these installations.

Atlas GP7: youtu.be/mE9y38mulDQ
Atlas GP30: youtu.be/H2k-zbwhPK8
Atlas RS3: youtu.be/4QVsPpiCLOU
FVM GEVO: youtu.be/NFzlQ_sdPzI
Atlas VO1000: youtu.be/7Cx5TFRtW5A ☑

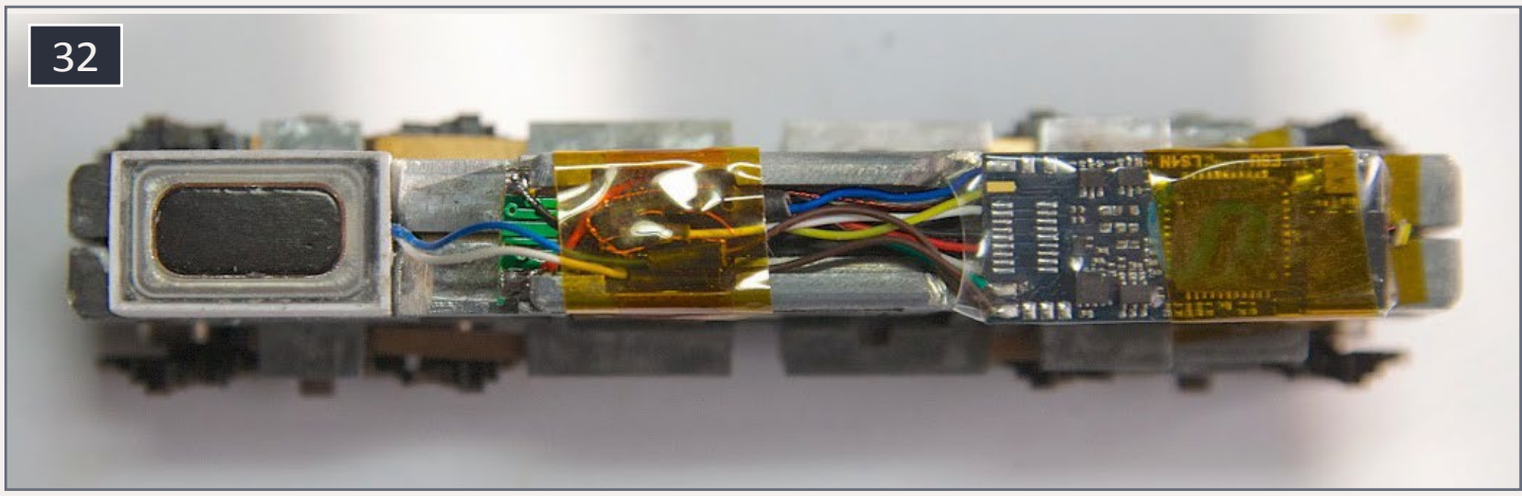
Reader Feedback (click here)



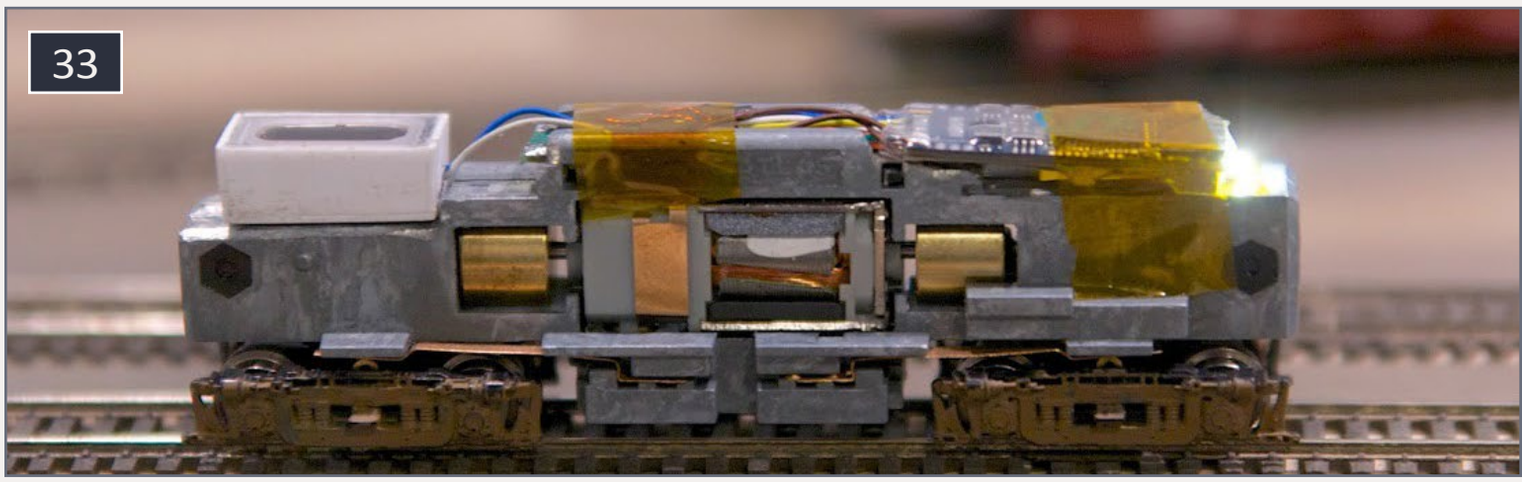
30. The finished decoder installation.



31. The speaker has been added.



32. The last wires are soldered together and held in place with Kapton tape.



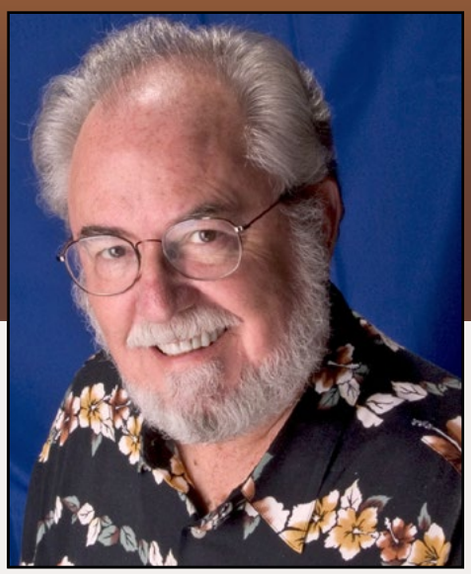
33. Testing the finished installation on the layout.

34. The RS-11 with the body on. The only difference is, now there is sound.

John Colombo has been modeling the Nickel Plate Road in N scale since 1990, and is a member of the Midwest Central Railroad Club in Champaign, IL.

He is a professor of law at the University of Illinois, and currently the Interim Dean of the University of Illinois College of Law.

He lives in Savoy, IL, with his wife Tina, his son Tim (a senior at the University of Illinois) and two cats, Meg and Molly (who you can occasionally hear meowing in the background of his YouTube videos). You can view his under-construction N-scale NKP layout (with one of his sound-equipped Berkshires) at youtu.be/CtrO8NB8bRE.



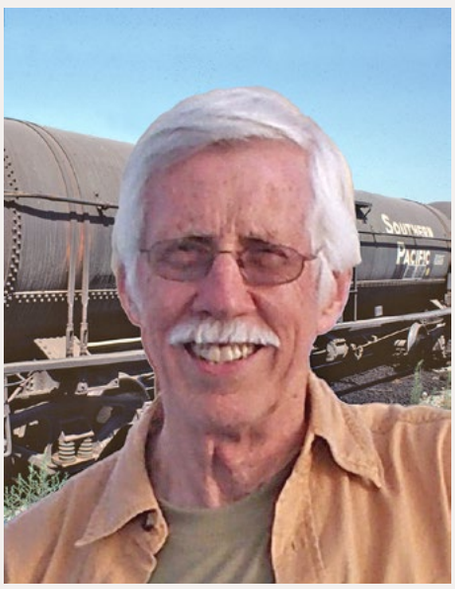
The Old Yardmaster

Reader Feedback (click here)

December 2014:
The latest model railroad products, news & events

by Richard Bale and Jeff Shultz

Tony Thompson receives prestigious Dunscomb Award



The Southern Pacific Historical & Technical Society (SPH&TS) has presented its Guy L. Dunscomb Award to Tony Thompson. The award is for "outstanding achievement towards the preservation of the history of the Southern Pacific Railroad and its subsidiaries." The presentation was made at the Society's annual convention held recently in San Luis Obispo, CA.

Tony has authored a five-volume series of books covering all of the freight cars of the Southern Pacific, as well as co-authoring the groundbreaking history, "Pacific Fruit Express," the book many consider a cornerstone of the concept of prototype railroad modeling.

He has authored numerous authoritative SP freight car and other modeling articles and writes a popular blog on modeling. He is extremely active in the SPH&TS, which he has served as a board member and past president. In accepting the award, Tony credited his long-time friend and fellow model railroader, the late Richard Hendrickson, as a major influence in getting him involved in the recording of railroad history. MRH extends its congratulations to Tony Thompson, who is a frequent contributor to this magazine…

Stephen Priest named RMC editor

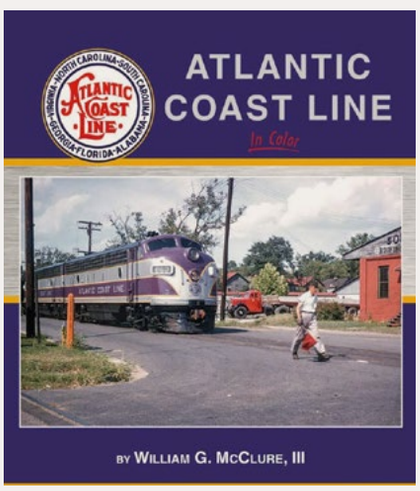
White River Publications has reorganized its editorial staff to cover its own publications, including those recently acquired from Carstens Publications. Stephen Priest has been appointed editor of *Railroad Model Craftsman.* He was formerly the editor of the National Model Railroad Association's *NMRA Magazine.* Cinthia Priest has been appointed editor of *NMRA Magazine.* She was formerly editor of *Railroads Illustrated,* which has been merged into Carstens' *Railfan & Railroad.* Steve Barry will continue as editor of Railfan & Railroad. The books portion of Carstens Publications, including the popular "On30 Narrow Gauge Annual" and the "HOn3 Narrow Gauge Annual," will continue under the direction of Chris Lane. The appointments were announced by Kevin EuDaly, CEO of White River Publications…

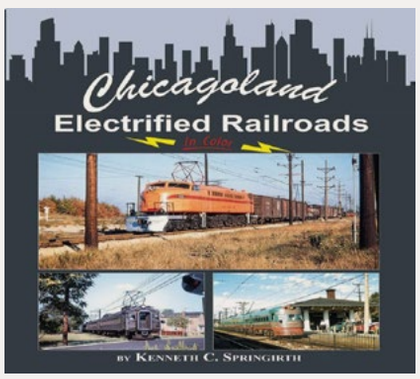
NEW PRODUCTS FOR ALL SCALES

Doctor Ben (debenllc.com), aka Richard Bendever, is selling an updated edition of "Hot Glue Casting Techniques." The 16-page booklet describes how to economically cast detail parts using a hot glue gun. Visit the website for additional details, including ordering information.

KatoUSA (katousa.com) expects to begin shipping its Analog Sound Box (ASB) next month. The ASB is a simple sound system for use on non-DCC layouts. Jointly developed by Kato and SoundTraxx, the self-contained system uses separate plug-in cartridges with individual sound and programming features.

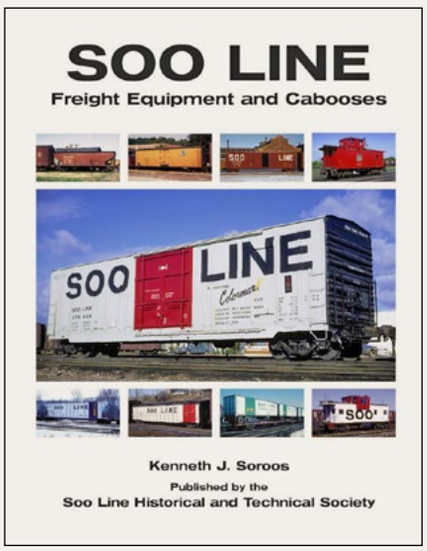
The ASB is said to be a "smart" device in that it reads the back-EMF from a locomotive motor and reacts appropriately. For example, steam locomotive chuffs will speed up and slow down according to the speed of the locomotive itself; not the position of the throttle. The basic unit comes with a sound cartridge programmed for first-generation EMD diesels. Additional sound cartridges are expected to be announced early next year. Final pricing is pending.





New all-color books available now from **Morning Sun Books** (morning-sunbooks.com) include "Atlantic Coast Line," in which author William G. McClure III covers the operations of the purple and silver road up to the 1967 merger with Seaboard

Air Line. Also new is “Chicagoland Electrified Railroads” presenting a colorful view of mid-20th century operations of the North Shore, South Shore, Aurora & Elgin, Illinois Central, and Chicago street lines.



The Soo Line Historical and Technical Society (store.sooline.org/catalog/index.php) has published “Soo Line Freight Equipment and Cabooses.” The 152-page hardbound 8.5” x 11” book provides a comprehensive overview of Soo equipment from the early 1900s to the 2000s. More than 550 color and B&W photographs are presented, including many builders’ photos from American Car and Foundry, Pullman Car & Manufacturing Co., and Pullman-Standard. The book includes notes on numbering, painting and lettering. To order visit the website.

“The Streetcars of Florida’s First Coast” is a new book by award-winning author and historian Robert W. Mann. Mann chronicles the story behind Florida’s bygone streetcar epoch and the dramatic history of city builders, financiers, organized labor, civil rights, fire, fever, nabobs, and railroad men. With almost 60 miles of track, the Jacksonville Traction Company was the largest streetcar system in Florida. The new book (ISBN-13: 9781626197077) is available through Barnes & Noble.

O SCALE PRODUCT NEWS

Atlas O (atlaso.com) is taking reservations from dealers for third quarter 2015 delivery of P-S 4750 triple-bay covered hopper

cars. Pullman-Standard built the prototypes between the late 1970s and early '80s. Road names on Atlas's O scale version will be Chicago & North Western, Rock Island, Union Pacific, and Illinois Central-Canadian National as shown here. Models equipped with trucks for 3-rail operation will have an MSRP of $58.95. Two-rail versions will list at $61.95.

Bachmann Trains (bachmanntrains.com) is selling an On30 14-ton Stearns-Heisler geared steam locomotive that is factory-equipped with a speaker and DCC for speed, direction, and lighting. The locomotive features diecast construction, all-gear drive with enclosed gearbox, heavy-duty universal joints, constant soft white LED lighting, contoured wheel spokes, and blackened railings. Road names include Colorado Mining Co., Greenbrier & Big Run, and Midwest Quarry. Locomotives painted black but unlettered are available with white pinstripes and running boards, or with red window sashes, white running board stripes, and white tires. The Stearns-Heisler model has an MSRP of $439.00.

An optional Plug-and-Play sound module can be plugged into the on-board decoder to create 16-bit SoundTraxx Tsunami sound specific to the prototype. The Stearns-Heisler sound module (item 44953) has an MSRP of $129.00.

Doctor Ben (debenllc.com) is selling an O scale kit for the Hardeeville/Argent Lumber Co. Water Tank. The kit was originally offered by Thomas A Yorke Enterprises in 1977. The prototype tank was built for the Argent Lumber Co. of Hardeeville, SC. It was in regular use until the short line serving the lumber mill closed in 1956. Components in this craftsman-type kit include wood, nut-bolt-washer sets, tank pipe and spout assemblies, plumbing parts, and a copy of the original Thomas A Yorke steel tank. The kit is $93.89. Visit the website for details on this and other O scale structure kits.

San Juan Decals (sanjuandecals.com) has entered the car kit field with the introduction of On3 D&RGW 6200 and 6300 series flat cars. The kits represent a collaborative effort of several familiar and respected sources, including a one-piece resin frame cast by Wiseman Model Services from a pattern created by Brian Bass. The 3D bolster and draft gear hardware were developed by Mike McKenzie. The underbody hardware is from Grandt Line and the one-piece laser-cut wood deck is the work of Cumberland Model Engineering. The trucks are from San Juan Car Company, and the lettering system was developed by San Juan Decals. The project is based on historical information provided by William Reed. Visit the website for additional details, including pricing and availability.

HO SCALE PRODUCT NEWS

Newly announced items from **Accurail** (accurail.com) include a kit for a Union Pacific 50’ AAR boxcar with Dreadnaught ends and double Youngstown doors. The car is designated for transporting automobiles.

Additional new HO kits from Accurail include a New York Central stock car. Spotting features include Murphy corrugated steel ends, a horizontal brake wheel mounted atop a vertical brake shaft, and a wood running board.

Accurail has a three-car set of kits for privately owned PS 4750 cu.ft. grain hopper cars. The three-car set has an MSRP of $55.98.

This Lehigh Valley 40’ wood reefer is available as a kit from Accurail at a list price of $17.98.

The WADX 40’ insulated steel boxcar on the next page displays logos for Wabash, Missouri Pacific, and American Refrigerator Transit. Features include Dreadnaught ends and Equipco plug doors.

Accurail is also selling a kit for this Delaware & Hudson 50-ton twin-bay hopper car with offset sides. Unless noted otherwise, Accurail HO scale kits have an MSRP of $16.98 each. Appropriate trucks and Accumate knuckle couplers are included.

Athearn (athearn.com) is selling an alternate PTC roof package to update SD70ACe locomotives. The item (ATHG68899) includes various Sinclair type antennas.

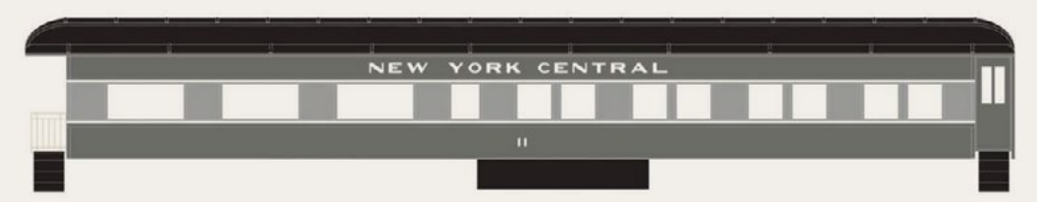
Athearn's production schedule for 2015 includes a July release date for a new run of General Electric ES44AC diesel locomotives. General details such as a nose door on the left side, flush-mounted top radiator grilles, and grab irons on the side of the long hood reflect GE's 2005-2006 production of the prototype. The Genesis series HO scale model will be available decorated for BNSF, CP Rail, and Union Pacific. Road-specific details include variations in trucks, air filters, cab windows, snow plow size, and the position of number boards and headlights.

Next July will also see the release of AC4400

diesel locomotives decorated for Chicago & North Western, BNSF, CSX, CEFX (CIT Equipment Finance Corp), and General Electric (demonstrator scheme). The HO scale Ready-to-Roll model will have an MSRP of $119.98.

A group of seven heavy-weight passenger cars is scheduled for release next July. They will be decorated for Great Northern, Chesapeake & Ohio, and New York Central.

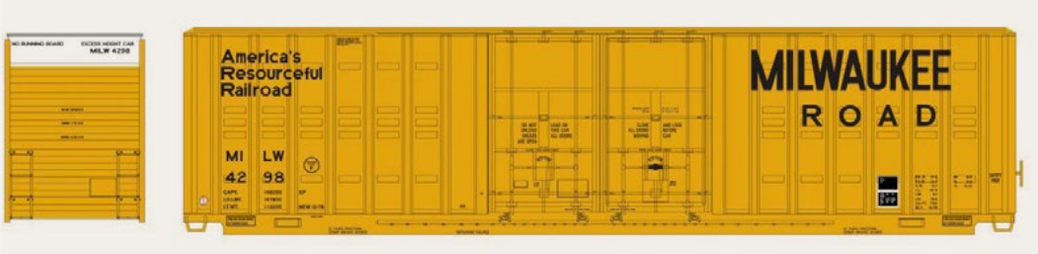
Car types include baggage, RPO, diner (GN top), sleeper (C&O above), clerestory coach, round-roof coach, and an open-end observation (NYC below).



Upgrades from the original model introduced in the 1960s include six-wheel trucks with machined metal wheels, and truck-mounted McHenry knuckle couplers. In order to operate around 18” radius curves, the HO scale Ready-to-Roll models are shorter than the prototypes they represent. Each car will have an MSRP of $29.98. An interior lighting kit is available separately.

A 40’ steel boxcar with Youngstown doors and Dreadnaught ends is also set for release in July. In addition to the Baltimore

& Ohio Sentinel scheme seen here, the HO scale Ready-to-Roll model will be available decorated for New York, Susquehanna & Western ("Ship with Susie" scheme), Maine Central, Pennsylvania Railroad (Merchandise Service scheme with white band), TRBX-Timken roller Freight; and Western Pacific. Details include separately applied wire grab irons, an etched metal coupler platform, and either simulated wood (plastic) or etched metal running boards per prototype practice. The model rides on 70-ton Bettendorf-type trucks with 33" machined metal wheels.



A more modern boxcar, in the form of a 60' Berwick high-cube car, is also coming from Athearn in July. The HO scale model replicates a prototype with waffle sides and Equipco plug doors with separately applied closure rods. Additional features include metal grab irons, etched metal end platforms, and 100-ton roller bearing trucks with 36" machined wheels. Road names will be Norfolk Southern, Norfolk & Western, Southern Railway, Missouri Pacific, Union Pacific (ex-MP), and Milwaukee Road. The MSRP will be $38.98.

Athearn also has an HO scale bay-window caboose scheduled for release this summer. It will have separately applied grab irons and railings, full window glazing, and caboose-style roller bearing trucks. Road names will be Florida East Coast, Delaware & Hudson (two schemes), Louisville & Nashville, Missouri Pacific, Southern Railway (two schemes), and SSW-Cotton Belt. The MSRP will be $26.98.

Road names for Athearn's rotary snow-plow, due this summer, will be Union Pacific, Alaska Railroad, Burlington Northern, Milwaukee Road, Chicago Burlington & Quincy, New York Central, Canadian National, and Santa Fe as shown here. A 12-volt DC motor on board operates the rotary blades.

Additional upgrades from the original model, introduced in 1962, include a dedicated B-unit tender, window glazing, and machined metal wheels. The MSRP will be $84.98.

The final item on Athearn's July release schedule are six sets of 28' trailers with dollys and adjustable landing gear. In addition to the PIE set shown here, carrier names will be Yellow Freight, Preston, Consolidated Freight, Overnite, and Roadway. Each set has an MSRP of $36.98.

Atlas Model Railroad Company (atlasrr.com) plans to release the next run of its Master series HO scale extended-vision caboose during the second quarter of 2015. The ready-to-run model is based on a

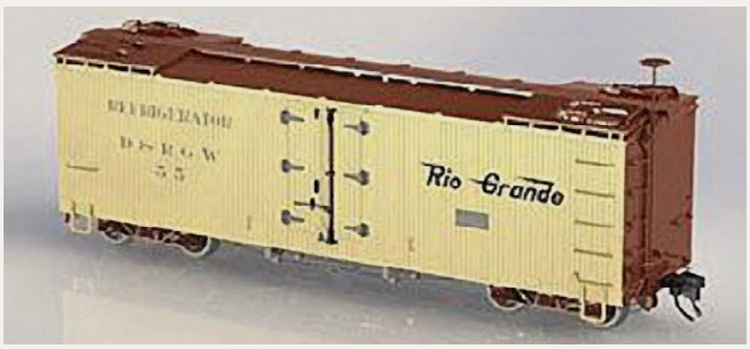
prototype built in the 1960s. Road names will be Atlanta & St. Andrews Bay, BNSF, British Columbia, Chessie System (two schemes), Chicago & Illinois Midland, CSX (two schemes), Family Lines (SCL), and New England Central. The model will have an MSRP of $39.95. An undecorated model will list at $24.95.

Also coming from Atlas in the second quarter of 2015 is a run of their GP38-2 with new road numbers and new paint schemes. Several road-specific details are also promised. New road names on the Atlas Trainman series locomotive will be Algoma Central, CSX, Indiana Railroad, Family Lines (three variations), and Soo Line. The Santa Fe version, seen here, will be rerun with new road numbers. Atlas Silver series GP38-2s will have an MSRP of $139.95. They will be DCC-ready and will have an NMRA compatible 8-pin plug. Gold series locomotives will be equipped with QSI Quantum Sound. They will list at $239.95.

Atlas reports that the next production run of its Master series 40' post-war AAR boxcar will be released during the second quarter of next year. Two road numbers will be produced for Bangor & Aroostook, Delaware & Lackawanna, Clinchfield, and Pittsburgh & West Virginia. All of the above will be fitted with 8' Youngstown doors. A car decorated for Southern Railway will have Superior doors. Atlas notes that other details such as roof type, ladders, and ends will vary per prototype practice. The HO scale ready-to-run models will have an MSRP of $29.95. An undecorated version will list at $24.95.

Atlas showed a mockup of an HO scale FMC 5347 boxcar with double offset doors at Trainfest in Milwaukee last month. The car was identified as an Atlas Master Line series model, but no information was available on possible road names or expected release dates. Our guess is that it won't appear any time soon, but that it will be worth waiting for.

Bachmann (bachmann-trains.com) is selling its HO scale sound equipped Alco S2 switcher with DCC and SoundTraxx with 16-bit sounds of a diesel prime mover, three air horns, and a bell. Additional features of the newly tooled model include diecast chassis, flywheel all-wheel drive, directional headlights with soft white LED lighting, Blunt trucks, and E-Z Mate Mark II knuckle couplers. Road names are Santa Fe, Baltimore & Ohio, Pennsylvania, and Union Pacific with a "Dependable Transportation" slogan. The ready-to-run model has an MSRP of $215.00.



Work continues at **Blackstone Models** (blackstonemodels.com) on developing an HOn3 D&RGW refrigerator car. ACF built the 30' prototype in 1908. Blackstone is recreating the car to reflect a 1926 rebuild that included the application of a metal Murphy roof. Production notes indicate the ready-to-run model will be available in eight road numbers and three heralds: Flying Grande,

Moffat Tunnel, and Royal Gorge Route. Delivery is planned for late 2015.

BLMA Models (blmamodels.com) is booking reservations for the second release of a 200' truss bridge. The HO scale model is a faithful replica of a single-track bridge on the Union Pacific mainline between Los Angeles and Las Vegas. The fully assembled model is handcrafted in brass. Details include dimensionally accurate truss members, fine rivet detail, etched metal walkways, and etched metal handrails. The model is available in black or silver. See our N scale report for a view of the silver prototype. Visit the website for pricing and ordering information.

Bowser Manufacturing (bowser-trains.com) has taken steps to correct a height issue in future runs of its HO scale Alco C636 locomotive. Tooling has been completed for a new gearbox along with new gears and a lower bolster. A corrected fuel tank is also being produced and all of the replacement parts should be available around the first of December, if not earlier. The lowered deck will require a different coupler and these are being shipped to Bowser from Kadee. These adjustments will bring the deck height of the C636 very close to other Alco Century series locomotives. Consumers who purchased a Bowser C636 and want to obtain the free corrected parts should direct a request for replacement parts to

bowser@bowser-trains.com. Both black and gray (demo unit) packages are available, with item 691-702 being the black C636 truck gearbox, fuel tank and coupler and Item 691-703 the gray one.

Future projects from Bowser include Alco RS-3 locomotives. Lee English is seeking information on chopnose RS-3s, rebuilt RS-3s, and anything on Phase 2 and Phase 3 versions of the Alco diesel.

Bowser is selling HO scale ready-to-run PCC street cars in six decorating schemes. They include Philadelphia Septa Phase II (above), Toronto, Pittsburgh (Mod Desire scheme), San Francisco Muni F-Line (green and cream scheme), San Francisco F-Line Pacific Electric, and Los Angeles MTA (below).

The injection-molded plastic body replicates a post-war version of the PCC car with “standee” windows. The models are powered by a can motor equipped with a flywheel driving authentic 6’ 6” wheelbase trucks. Additional features include window glazing, operating headlight, and operating roof trolley poles. F-Line cars have dummy poles. Standard analog DC models have a 21-pin plug for DCC. DCC sound versions have a LokSound Select Dual-Mode decoder which allows the model to be operated on layouts wired for DC or DCC. The MSRP is $159.95 for DC models and $259.95 for DCC sound-equipped models.

Broadway Limited (broadway-limited.com) is selling HO scale models of Pennsylvania Railroad class H32 five-bay covered hoppers at an MSRP of $159.99 each. A total of 11 PRR and Penn Central decorating schemes are available as well as a painted but unlettered version.

BLI expects to release HO versions of Baldwin Sharknose diesels next month. Models equipped with BLI's Paragon2 Sound/DC/DCC system will be available for Pennsylvania Railroad (Brunswick green with five gold stripes), Baltimore & Ohio (blue, gray and gold), New York Central (cigar band scheme), and Delaware & Hudson (blue warbonnet). Additional information is available at the website.

The newest item from **ExactRail** (exactrail.com) is an HO scale model of a Magor 4948 cu.ft. "Big John" covered hopper. Southern Railway proposed the development of large, quadruple bay, lightweight 100-ton covered hopper cars in the late 1950s, at a time when most railroads shipped grain in 50-ton boxcars. ExactRail's model of the Big John covered hopper was engineered in close association with the Southern Railway Historical Society.

The light gray cars will be released in 10 lettering schemes: Three cars in 1962 as-delivered orange lettering for Southern, Southern

sub-lettered for CNO&TP, and Southern sub-lettered for NO&NE. In the mid-1960s, the three schemes listed above received the Big John stencil. In 1973 Southern repainted many of the cars and lettered them in dark sylvan green with the same subsidiaries and Big John slogan. The tenth car in the initial release is decorated as delivered in 1963 to Seaboard Air Line.

ExactRail's Platinum series model comes with Kadee #58 couplers, narrow-style draft box, wire uncoupling levers, and individual grab irons, brake rods and lever hangers. The cars ride on 100-ton ASF Ride Control trucks fitted with machined metal wheelsets. Visit the website to order.

Imperial Hobby (ihphobby.tripod.com) is selling HO scale Philadelphia Red Arrow interurban cars as a body kit as well as a powered ready-to-finish kit. The double-ended prototype cars were built by St. Louis Car Company in 1949. Red Arrow Lines operated the cars on all the trolley routes out of Upper Darby including the West Chester line and the Ardmore line. The cars were retired in 1982.

The main component of the model is a one-piece cast resin body that is available separately for $49.95. The car is also available powered and fully assembled but undecorated, at $215.95. The photo shows a slightly modified resin body from a previous production run.

InterMountain Railway (intermountain-railway.com) is preparing a ready-to-run HO scale model of a General Electric ES44AC diesel locomotive for release in May or June of next year. Road names will include a re-release of Union Pacific with new numbers, Florida East Coast, SYTX-Savatran, and Citirail, as seen here. A choice of an ESU sound decoder or ESU non-sound decoder will be offered. A DC plug option will be available on request. For additional information contact your IMR dealer or visit the website.

Another production run of USRA composite drop-bottom gondolas will be available early next summer. The sides and floor of the HO scale ready-to-run model are laser-cut wood. Six numbers will be available for Chicago, Burlington & Quincy; Nashville, Chattanooga & St. Louis; Chesapeake & Ohio; Louisville & Nashville; FW&D – Burlington Route; New York Central; Wheeling & Lake Erie; Boston & Maine; Frisco - St. Louis & San Francisco; and KCS as seen here. The MSRP will be $32.95. An undecorated kit with plastic wheels and no couplers will list at $19.95.

Also due this summer is a 42’ fish belly flat car. Road names will be Canada Southern, Chesapeake & Ohio, Canadian Pacific, New York Central, Union Pacific, Great Northern, Chicago North Western, Baltimore & Ohio, Southern Pacific, and Pennsylvania Railroad.

Kadee (kadee.com) is planning a February release date for an HO scale version of the N&W boxcar shown above.

Pullman-Standard built the prototype in 1953 with 10-panel welded sides, narrow bolster tabs, PS “washboard” ends, and 8’ Youngstown doors. The ready-to-run model will reflect a 1969 repaint in boxcar red.

An HO model of this D&H covered hopper is also scheduled for release from Kadee in February.

Monster Model Works (monstermodelworks.com) is offering Union Brewery, an HO scale kit based on the Union Brewery in historic Virginia City, Nevada. The American bond pattern of exterior brick walls, brick corners, brick wall caps, and brick overlays inside the roof area, are all 3D engraved basswood. The windows, doors, shutters, and tarpaper roof are laser-cut peel and stick material. The kit includes all of the signs shown. By using different signage the business and era can be customized to suit a variety of scenes. The completed structure is 4.06” wide, 5.6” long and 5.06” high. Visit the website for pricing, and ordering instructions.

Rapido Trains (rapidotrains.com) has announced plans to produce the upgraded 1100 series CN version of the popular GMD-1 diesel locomotive. In the early 1980s, when CN began closing down many of the branch lines for which the GMD-1 had been specifically designed, officials decided to rebuild the reliable locomotives for general service. Visible changes included new 2000-gallon fuel tanks, upgraded steps and sanding equipment, and four-axle Flexicoil trucks salvaged from retired GP9s. The rebuild yielded 46 1100-series units, with some continuing in service as late as 2006. Rapido's HO scale 1100-series GMD-1 model will have road number-specific paint and lettering including safety striping; operating number boards, headlights, and class lights; diecast chassis (it weighs more than a pound); and full cab interior oriented the correct way (short hood forward for number 1179). Ready-to-run locomotives will be available for standard DC operation as well as for DC/DCC/Sound with authentic GMD-1 sounds recorded from #1118 on the Alberta Prairie Railway. The MSRP will be $225.00 (DC) and $325.00 (DCC/Sound). The order deadline is March 17, 2015 and delivery is expected in summer/fall 2015.

In other news, Rapido and the **New Haven Railroad Historical and Technical Association** (nhrhta.org) will jointly produce New Haven's 8600 series postwar Pullman Standard coaches in HO scale. The NHRH&TA will financially back the project and Rapido will build the models. The cars are similar to the previously released Rapido Osgood-Bradley New Haven coaches, but differ in having single-pane windows and stainless steel

sides. In their post-1955 iteration, the New Haven cars were decorated with red-orange window bands that contrasted attractively with the stainless steel body. Delivery and price information are pending.

Pacific Western Rail System (pwrs.ca) is taking reservations for a limited run of HO scale GMD-1 locomotives decorated for SRY-Southern Railway of British Columbia. SRY acquired the rebuilt diesels from Canadian National. The HO scale ready-to-run models are being produced for PWRS by Rapido Trains. See notes on the rebuilds in the Rapido report.

Decorating schemes will include both the large white Rail Link logo (top) and the “meatball” version (above). Only 100 models will be produced; 20 each of five road numbers. DCC-ready models will have an MSRP of $235.00. Units with LokSound and DCC will list at $335.00. Delivery is scheduled for September 2015.

Red Caboose (red-caboose.com) has a variety of undecorated kits for HO scale

General Service gondolas. They include a choice of composite sides (above) or steel sides with either Southern Pacific or Union Pacific-style steel ends. Kits are also available for cars with board or plywood extended sides. Prices for the undecorated kits range from $19.95 to $25.95 each. Visit the website for complete information.

InterMountain Railway markets Red Caboose ready-to-run products. RTR versions of these gondolas decorated with various road names are available from InterMountain with list prices beginning at $33.95. For additional information visit **intermountain-railway.com**.

Tangent Scale Models (**tangentscalemodels.com**) has released an HO scale ready-to-run model of a General American 8,000 gallon acid tank car. Acid service tank cars were used to transport strong chemical compounds including hydrochloric (muriatic), hydrofluoric, phosphoric, and sulfuric acids. Acid tank cars were rubber-lined, and were equipped with one percent expansion domes on the top. They did not have bottom tank outlets.

Tangent's latest car replicates the welded body and welded underframe of the prototype. The model features see-through walkways and dome platform, separately applied handrail and tank strap detail, AB brake components and train air line, road-specific poling pockets, Kadee couplers, and machined 33" wheelsets in ASF cast steel trucks with spring plank and separate brake beams.

This initial offering includes cars decorated for GATX (1952 black lease scheme), GATX (1971 white lease with large black stripe in the middle of the car), GATX Stauffer Chemical Company (gray and black scheme, above), and GATX DOW Chemical Company (black scheme with yellow graphics, below).

Also available are black, unlettered cars in both 1949-51 and 1951-60 configurations ready for decaling. The models have a list price of $44.95. An unpainted kit is also available at $37.95. Note that Tangent allows mixing for multiple car discounts on quantity purchases in increments of 6, 12, 36 and 48. Visit the website for ordering details.

The next release coming from **True Line Trains** (tru-elinetrains.ca) will be HO scale ready-to-run models of Fairbanks-Morse 4-axle C-Liners. The models of the 1950s-era freight diesels have been upgraded with new details, correct grilles, and authentic paint schemes. Road names on this limited production run will be New York Central, Milwaukee Road, Canadian Pacific, Canadian National, and Pennsylvania Railroad. The models will be available for standard DC operation and with ESU LokSound DCC. Check the website for additional information including pricing.

Production of the 5-axle passenger version of the C-Liner will be scheduled pending completion of tooling for a new

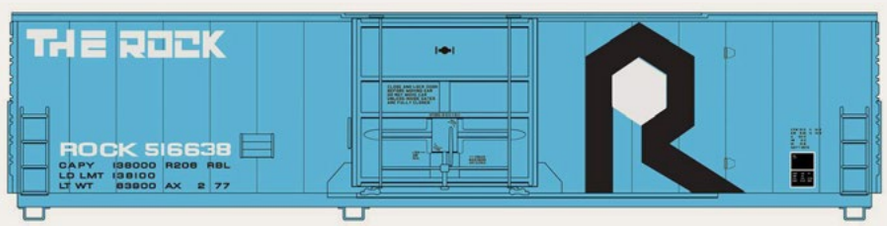
3-axle rear truck. Depending on advance reservations, there is a possibility that additional 4-axle freight units will be run at the same time. It all depends on the volume of advance reservations.

Walthers (walthers.com) is selling a Russell snow plow with positionable side wings at an MSRP of $69.98. The ready-to-run Proto series model is available decorated for Burlington Northern, Conrail, Canadian Pacific, Chicago & North Western, Pan Am Railways and, as seen here, Milwaukee Road.

Also available now is a Walthers Mainline series 40’ single-sheathed out-side-braced wood boxcar with Dreadnaught ends and National wood doors. Road names are Santa Fe, Rock Island, Denver & Rio Grande Western, Southern Pacific, Great Northern, and Wabash. The ready-to-run HO scale model has an MSRP of $24.98.

Walthers is selling a Trainline series steel caboose with an extended view cupola at an MSRP of $19.98. Road names are Denver & Rio Grande Western, Southern Pacific, Montana Rail Link, and Wisconsin Southern.

This ready-to-run model has molded-on detail. It is suitable for train set operation.



New items scheduled for release later this month include this Mainline series 50’ insulated boxcar. In addition to The Rock scheme shown here, the HO scale ready-to-run model will be available decorated for Baltimore & Ohio, CSX, and Chicago & North Western.

Walthers has scheduled a late December release for a Cornerstone kit that assembles into an HO scale Kalmar container crane. The model features positionable lifting equipment and a spreader bar for handling containers. The MSRP will be $24.98.

Also due for release late this month is a WalthersProto series Type 21 ACF 10,000 tank car. In addition to the American Gas scheme shown here, the well-detailed model will be available decorated for CSOX-Cities Service, GATX-General American, SVX-Mobile Oil (red tank), and UTLX-Union tank Car Co. The ready-to-run model will have an MSRP of $39.98.

Walthers January schedule includes the release of Proto series EMD GP30 diesel. The ready-to-run HO scale locomotive will feature road specific details for Southern Railway, Norfolk & Western, Union Pacific, and CSX. A DC version will have an MSRP of $199.98. A DCC model with SoundTraxx Tsunami sound will list at $299.98.

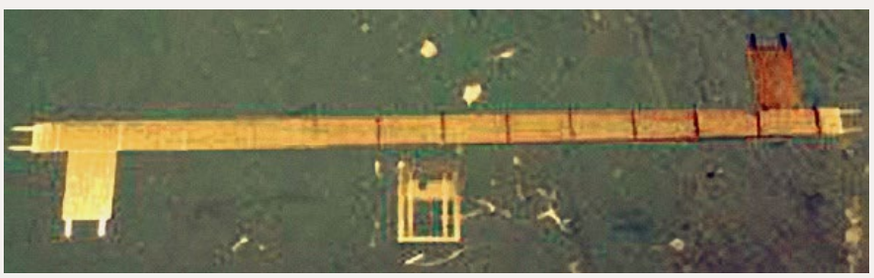
January will also see the release of a Walthers Mainline series SW1 locomotive. Road names for the economy-priced DC model will be Chessie System, Burlington Northern, Norfolk Southern, and Burlington.

Four versions of a 25’ Chesapeake & Ohio wood caboose are scheduled for release in late January. The WalthersProto model is based on the C&O 90700 series caboose. Built in the 1920s, the prototypes continued in service through the 1960s. The MSRP will be $39.98.

A kit for Metro Power & Light will be available from Walthers in January. The structure is typical of medium to small coal-fueled electric generating power plants. The assembled Cornerstone kit has a footprint of 14” x 10”. The stack is 13” tall. The MSRP will be $64.98.

Westerfield (westerfield-models.com) is selling HO scale resin kits for several versions of Santa Fe class Sk stock cars. Three versions of the prototype are available including the original cars built in 1910 that remained in service until 1935, and a 1935 rebuilt version that operated until 1965. Also, as shown above, a kit is offered for a modern version of the Sk stock car built in 1942/43 and actively used until 1965.

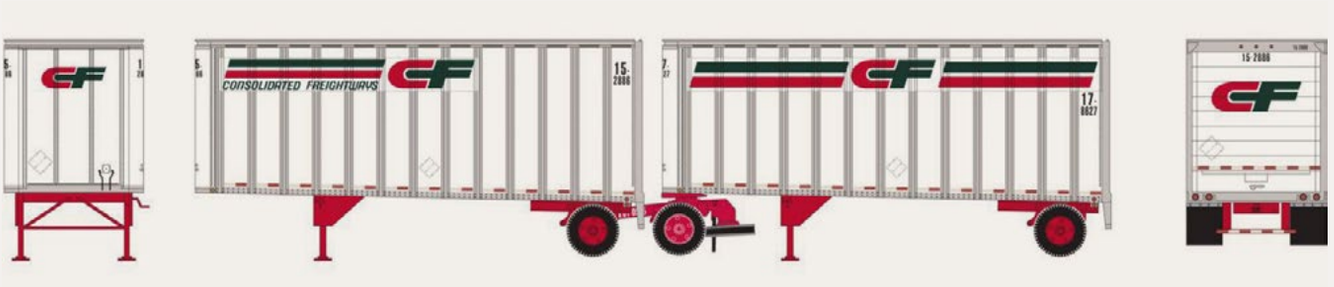
Also available are resin kits for AT&SF class Sk-M and Sk-O double-deck cars as illustrated in the Additional new resin kits available now include Rock Island single-deck stock cars with both wood roofs and cars rebuilt with Murphy XLA roofs (above). Visit the website for complete information on these prototypically accurate kits.



Yarmouth Model Works (yarmouth-modelworks.com) continues to expand its selection of photo-etched HO scale detail parts for prototype modelers.

Among the newest additions are US Gypsum (above) and Apex Tri-Lock 40' metal running boards, laterals, end braces and brake steps. The running boards have locations for attaching them to the roof near the carlines. Additional styles are under development. Also new are six types of stirrup steps. Visit the website for details.

N SCALE PRODUCT NEWS



Athearn (athearn.com) is scheduled to release six sets of 28' trailers with dollys and adjustable landing gear in July. In addition to the Consolidated Freight set shown here, the N scale models will be available decorated for Yellow Freight, PIE, Preston, Overnite, and Roadway. Each set will have an MSRP of $33.98.

Atlas Model Railroad Company (atlasrr.com) has scheduled another production run of its N scale Alco RS-3 and RSD-4/5 locomotives for release in the third quarter of 2015. Alco built the prototype road switchers between 1950 and 1956, with the more numerous RS-3 being equipped with four-wheel trucks. The RSD-4/5 had the same 1600 hp prime mover but used a larger

generator and six-wheel trucks for increased tractive effort. The Atlas RS-3 will be available decorated for Gulf Mobile & Ohio, Lamoille Valley, Long Island Railroad, Susquehanna, Louisville & Nashville, Rutland, and Canadian National. The six-wheel RSD-4/5 will be decorated for Southern Pacific. The MSRP will be $119.95. Both locomotives will also be available undecorated.

Atlas will release its Master series extended-vision cupola caboose during the second quarter of 2015. The ready-to-run N scale model is based on a prototype built in the 1960s. Road names will be Atlanta & St. Andrews Bay, BNSF, British Columbia, Chessie System (two schemes), Chicago & Illinois Midland, Family Lines (SCL), and New England Central. CSX cabooses will be available in the scheme shown here as well as in a second scheme as illustrated in the HO section of this report. The ready-to-run N scale model will have an MSRP of $28.95. An undecorated model will list at $15.95.

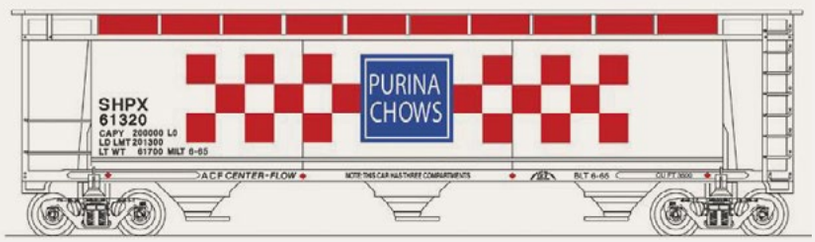
Also scheduled for release during the second quarter of 2015 is a classic 40’ PS-1 boxcar with 6’ Youngstown doors. In addition to the C&NW scheme shown here, the Atlas N scale model will be available decorated for Akron, Canton & Youngstown; Canadian Pacific; Delaware & Hudson; Lehigh New England; Louisville & Nashville; Santa Fe (Chief scheme); and Santa Fe (Grand Canyon scheme). The

ready-to-run model will have an MSRP of $27.95. An undecorated version will list at $21.95.

Bachmann Trains (bachmanntrains.com) has an N scale version of a Baldwin 4-6-0 steam locomotive. The ready-to-run ten-wheeler is available decorated for Nickel Plate, Southern Railway, Chesapeake & Ohio, and Baltimore & Ohio. The model comes with DCC for speed, direction, and lighting. Additional features include a can motor, diecast boiler and chassis, Walschaerts valve gear, blackened metal wheels, and traction tires. The model has an MSRP of $209.00.

BLMA Models (blmamodels.com) is booking reservations for the second release of a 200' truss bridge. The N scale model is a faithful replica of a single track bridge on the Union Pacific mainline between Los Angeles and Las Vegas. The fully assembled model is handcrafted in brass. Details include dimensionally accurate truss members, full rivet detail, etched metal walkways, and etched metal handrails. The model is available in silver (prototype shown here) and black (see our HO scale report for a picture of the black version). Visit the website for pricing and ordering information.

Bowser (bowser-trains.com) is taking reservations for N scale cylindrical hoppers, scheduled for release next summer. Decorating schemes include ACFX-Boraxo, ASRX-Domino Sugar, and ACFX-Old Dutch Cleanser (above).



SHPX cars are decorated for Purina Chows (above), Farm & Ranch Feed Supply, Hercules, Southern States, Sterling Salt, Petrothene, and Wayne Feeds. Bowser's ready-to-run Executive series model will have body-mounted knuckle couplers and roller bearing trucks with Fox Valley metal wheelsets. The MSRP is $19.95.

Fox Valley Models (foxvalleymodels.com) is booking reservations for an SD70ACe locomotive with delivery expected in mid-2015. The N scale model follows a prototype with an isolated cab and low headlights. Features include separate MU lines, uncoupling levers, and ditch lights. Also optional metal grab irons, windshield wipers, and sun shades. Three numbers each will be available for Arkansas & Missouri, BNSF, Montana Rail Link, and Union Pacific. The list price will be $130.00 each.

InterMountain Railway (intermountain-railway.com) has released additional details on its recently

announced “Value Line” of freight cars. The initial N scale model will be a 14-panel Coalporter car produced from upgraded tooling previously used by LBF and E&C models. A release date of May/June 2015 has been scheduled for the Coalporters. Although still not firm, the MSRP is expected to be about $19.95 each. In addition to the Northern Indiana Public Service car shown here, announced road names include Burlington Northern, Canadian National, Oklahoma Gas & Electric, Union Pacific, American Electric Power, Kansas City Power & Light, Central Illinois Power, and Somerset Railroad.

Another production run of USRA composite drop-bottom gondolas is scheduled for release in May and June. The sides and floor of the N scale ready-to-run model are laser-cut wood. Six numbers will be available for Chicago, Burlington & Quincy; Nashville, Chattanooga & St. Louis; Chesapeake & Ohio; Louisville & Nashville; FW&D – Burlington Route; New York Central; Wheeling & Lake Erie; Boston & Maine; Frisco - St. Louis & San Francisco; and KCS as seen here in an HO version. The MSRP will be $24.95. An undecorated kit with plastic wheels and no couplers will list at $11.50.

KatoUSA (katousa.com) has released another production run of both Canadian National and Canadian Pacific versions of

its N scale General Electric ES44AC “GEVO” locomotives. General Electric developed the Evolution Series (ES) locomotives to comply with the EPA’s Tier 2 emissions standards. ES locomotives are equipped with AC traction motors and are powered by a newly-designed 12-cylinder engine (GEVO-12) that produces the same power as the 16-cylinder AC4400CW, but with fewer emissions and greater fuel economy. A major spotting feature is the oversized dual-fan heat exchanger at the rear of the contemporary locomotive.

Kato has updated from previous releases with additional warning labels. Other features include directional headlights, ditch lights, and illuminated number boards. Two numbers are available for each road. The models come ready for standard DC analog operation. DCC-equipped versions are available by special order. Visit the website for more information.

New N scale releases from **Micro-Trains Line** (micro-trains.com) include a Pennsylvania heavyweight diner patterned after a car PRR built in its Altoona Shops in 1926. The ready-to-run model has an MSRP of $29.95.

The same dining car is available decorated for the Atchison, Topeka & Santa Fe Railroad at a list price of $27.95.

M-T has released 33’ panel-side twin-bay hopper cars decorated for Canadian National. The ready-to-run model follows a prototype, built in 1936 with flat sides, that later was fitted with offset panel sides to increase its capacity. The N scale model has an MSRP of $27.15.

A 40’ PS-1 boxcar decorated for Grand Trunk Western is available from Micro-Trains at a list price of $19.95. The N scale model has seven-panel Pullman-Standard doors and PS “washboard” ends.

Micro-Trains is selling this N scale C&O stock car at an MSRP of $19.20. The ready-to-run model has Murphy corrugated steel ends and comes with Bettendorf-type trucks.

Sixty-foot PRR auto boxcars with double plug-doors are available at $26.90 each. The N scale models are based on a 1964 prototype built by American Car & Foundry.

MinuteMan Scale Models (minutemanscalemodels.com) is selling a variety of N scale laser-cut peel-and-stick roofing material. Types of roofing currently available include wood shakes, light gray slate, light gray diamond pattern, light gray fish scale pattern, and black rolled roofing material. Each pack contains two 6” x 6” sheets of roofing. The company sells similar material in other scales. Complete information is available at the above website.

Rapido (rapidotrains.com) will add N scale versions of a 37’ GARX wood meat reefer currently available only in its HO line of products. In addition to the Oscar Mayer car shown here, decorating schemes proposed for the 1:160 models will include American Stores, Armour, Dubuque, Dugdale, Morris Rufkin & Son, Hormel-Union Refrigerator Transit, Hygrade, Kingan, Tobin, and Wilson. Both red and orange versions of a Swift car will be offered along with

an undecorated model. The ready-to-run models will have factory installed Micro-Trains couplers. Delivery is planned for fall 2015. Additional information including an interesting history of the prototype is available at the website. Whether or not all of the above schemes will be included in the final production schedule is dependent on advance reservations.

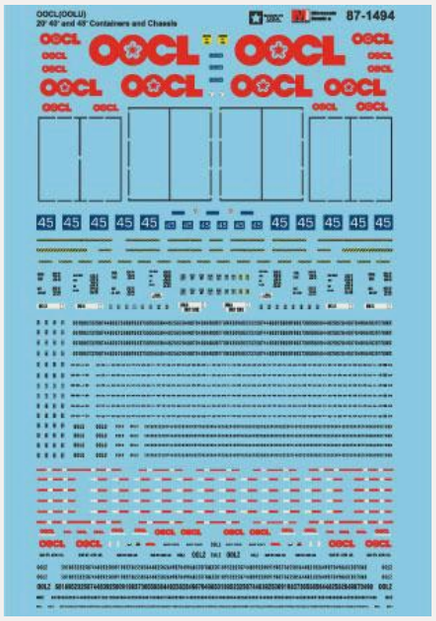
Trains by Randy Brown (trains-byrandybrown.com) has several new cast resin structure kits including this Sierra Madre Fruit Packers shown above. The company also produces similar kits for Z through O scale. Visit the website for complete details including ordering information.

Z SCALE PRODUCT NEWS

Micro-Trains Line (micro-trains.com) has several new Z scale models including this Great Northern twin-bay covered hopper car. The ready-to-run model has an MSRP of $24.15.

Also new from Micro-Trains is an ACF 39' single-dome tank car decorated for COSX Mid Continent Petroleum Corporation of Tulsa, Oklahoma. The Z scale model has an MSRP of $23.95.

NEW DECALS, SIGNS AND FINISHING PRODUCTS



New water decals from **Microscale Industries** (microscale.com) include Orient Overseas Container Line (above left). The set provides material to decorate a variety of containers and chassis for OOCL, the first Asian shipping line to transport container cargo across the Pacific.

Also new is Farmers Grain (FarMarCo) TLDX, EUGX, PTLX, WCDX (upper right) suitable for a range of cars including PS 4427, PS 4750, and ACF 4650 covered hoppers. Other recent releases include Spokane Portland & Seattle passenger cars, and Richmond Pacific Railroad cabooses and GP-15-1 and SW1200 diesel locomotives.

Mount Vernon Shops (mountvernonshops.com) has introduced a new HO scale decal set for a US Army Transportation Corps heavy-duty flatcar. Set #HO-USAF provides sufficient material to decorate two cars. Visit the website for pricing and ordering information.

Dan Kohlberg (home.mindspring.com/~paducah) has HO scale decals for GA-21 GATX 8000 gallon acid tank cars built during 1949-1952. The new decal was used to decorate the Tangent model shown here. The lettering set includes tiny 1” lessee stencils for Dow Chemical, Olin, Dupont, Stauffer, and Diamond Chemicals. There is sufficient material to decorate three cars. Visit the website for pricing and ordering instructions.

DISCLAIMER ..

The opinions expressed in this column are those of the writer and do not necessarily reflect the opinion of Model Railroad Hobbyist or its sponsors. Every effort is made to provide our readers with accurate and responsible news and information, however, neither Model Railroad Hobbyist or the writer of this column can be held responsible for any inaccuracies or typographical errors that may inadvertently appear in this column.

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Briefly noted at press time...

. . . **Albrae Models** plans to import a Southern Pacific maintenance-of-way water car. The HO scale handcrafted brass model will replicate the prototype Rob Sarberenyi and Clyde King photographed and measured in Guadalupe, CA earlier this year.

. . . **Rapido Trains** is taking reservations for a Phase 1 Amtrak F40PH diesel locomotive for release in late 2015. Rapido's president, Jason Shron, stressed that from the rails up, the model will replicate the familiar American prototype and will not simply be a reworked version of a Canadian locomotive. Two obvious examples are the nose, which will be the correct length, and the fuel tanks, which will be the right shape. Any decision regarding additional phases of the F40PH will depend on the sales success of the initial Phase 1 version. Shron noted that to produce Phase 2s and 3s with the same high level of authenticity will require considerable additional tooling including new shell slides and three or four new underbody and roof detail molds.

. . . **Bowser** is expected to announce that it is developing HO scale models of the M630 and M636 diesels the Montreal Locomotive Works built for Canadian Pacific, Canadian National, and BC Rail. The locomotives are the Canadian versions of the Alco Century 630 and Century 636.

. . . **Westerfield Models** has released HO scale resin kits for several variations of Northern Alberta Railway's stock cars. The prototypes were converted from ex-Canadian Pacific Fowler boxcars.

The January edition of MRH will have complete details on all of these items. ■

Selected Events

December 2014

ARKANSAS, CONWAY, December 6, Christmas Open House, featuring operating layouts, sponsored by Central Arkansas Model Railroad Club, at McGee Center, 3800 College Avenue. Info at **artrains.org/index.php5?title=Main_Page**.

COLORADO, COLORADO SPRINGS, December 6-7, TECO-Train Expo Colorado, sponsored by Pike's Peak Division of NMRA Rocky Mountain Region, at Freedom Financial Services Expo Center, 3600 N. Nevada Avenue. Info at **tecoshow.org**.

FLORIDA, LARGO, December 13-14, Train Show and Open House, sponsored by Suncoast Model Railroad Club. Club open house featuring operating HO and N scale layouts at 12355 62nd Street N, Unit A. Train Show and swap meet at MINNREG Hall, 6340 126th Ave. N. Info for both events at **suncoastmrrc.com**.

FLORIDA, PALM BAY, December 21, HO Scale Module Display, at Franklin T. Degroodt Memorial Library, 6475 Minton Road. Sponsored by Palm Bay Model Railroad Club.

NEW JERSEY, NORTH HALEDON, December 6-7, 13-14, and January 3-4, 57th Annual Model Railroad Show sponsored by Garden State Model Railway Club at 575 High Mountain Road. Includes timetable operation with Intermodal, coal trains, mixed freight, and passenger trains with both steam and diesel locomotives, plus Thomas and Santa Claus Express for children. Info at **GSMRRClub.org**.

NEW JERSEY, UNION, December 5-7, and December 12-14, Annual Light & Sound Show and Open House sponsored by The Model Railroad Club, Inc., at 295 Jefferson Avenue (behind Home Depot). Info at **tmrci.org**.

NEW YORK, ALBANY, December 7, Great Train Extravaganza in the Empire State Convention Center at Empire State Plaza, in downtown Albany. With operating layouts in most popular scales, train rides on the Roaming Railroad for kids and grandkids, and more than 300 tables of model trains and accessory items including books, videos, and railroad memorabilia for sale. Jointly sponsored by the NMRA NER Hudson-Berkshire Division and the Upstate Train Associates. Info at **gtealbany.com**.

January 2015

FLORIDA, COCOA BEACH, January 8-10, 2015, Prototype Rails RPM meet with over 80 clinics presented by a blue ribbon group of experts. Schedule includes Friends of the Freight Car lunch on Saturday. Event hosted by Mike Brock, at Cocoa Beach Hilton Hotel, 1550 North Atlantic Avenue. Info at **prototyperails.com**.

OHIO, VERMILION, January 18, Winter Model Train Show at German's Villa, 3330 Liberty Avenue, sponsored by Norwalk & Western Railroad. Info at **norwalkandwesternrr.com**.

WASHINGTON, SEATTLE, January 17-19, 41st Annual Train Show, sponsored by NMRA 4th Division PNR, at Pacific Science Center, 200 Second Avenue North. Info at **4dpnr.org/PCSshow.htm**.

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Tim Warris' Bronx Terminal
Tom Patterson's Chesapeake, Wheeling & Erie
Backshop Clinic: What's in your toolbox?
Backshop Clinic: Soldering a brass kit
NMRA 2013 National Train Show Report
MLW's pinnacle modern diesel locomotive, CPR 4744
Lex Parker's On3 D&RGW layout 1
Lex Parker's On3 D&RGW layout 2
Mike Daugherty, Whistlemaker *HOT!*
MyLayout: Gail and Greg Whayman
Backshop Clinic: Painting detail parts
Cass Scenic Railway
Jim Rollwage's Union Pacific layout
Oak Ridge Horn Honk 1
Oak Ridge Horn Honk 2
Barry Birkett's G scale garden RR 1
Barry Birkett's G scale garden RR 2
Barry Birkett's G scale garden RR 3
Backshop Clinic: Painting backdrops 1
Backshop Clinic: Painting backdrops 2
Backshop Clinic: Painting backdrops 3
Backshop Clinic: Painting backdrops 4
The Amherst Railroad Hobby Show 1
The Amherst Railroad Hobby Show 2
The Amherst Railroad Hobby Show 3
Bob Bartizek's O scale Pennsy
MyLayout: Watertown club
Backshop clinic: Bluebox kits
Backshop clinic: Easy "fleet" weathering
Backshop clinic: Extreme car weathering 1
Backshop clinic: Extreme car weathering 2
Backshop clinic: Extreme car weathering 3
Backshop clinic: Extreme car weathering 4
What ever happened to the NEB&W? *HOT!*
Legend in high speed passenger rail
The Allagash Story - Mike Confalone in-depth interview
Sundance Central Fn3 modular layout *HOT!*
Visiting the Ottawa Train Expo
Bill Doll's Forest Park Southern
Bill Doll's Forest Park Southern bonus scenes
Backshop clinic: Extreme loco weathering 1
Backshop clinic: Extreme loco weathering 1
DCC Decoded: TCS Solution for electrical gremlins
O-scale structures by the book
Michel Boucher's Delaware & Hudson
Basic Tsunami Decoder Programming
Steel industry modeling
New York Alcos story
First op session on Barry's Backyard
Vendor Profile: North American Railcar
Jerry Fassnacht's Pennsy/Reading
Streamliners at Spencer 1
Streamliners at Spencer 2 *HOT!*
Streamliners at Spencer 3
DCC Decoded: All about TCS WOWSound for steam
Back to the basement - room prep and backdrops *HOT!*
Lionel sneaks into the 2014 Train Show setup
Layouts at the 2014 National Train Show
Lionel visits the 2014 NMRA Celebration Room
Back to the basement - track planning
Backshop Clinic: Structure graphics
John Miller's Kanawha and Lake Erie
New Free-Mo Roadshow series - concepts
MyLayout: Dick Joyce's Ingleside & Oakdale
DCC Decoded: 44-tonner sound
Back to the basement: benchwork
Quebec & New England RR operations
Backshop clinic: Switchman's class
Roadshow 2: benchwork
Back to the basement: Subroadbed
NTS 2014: SoundTraxx SoundCar demo
Backshop Clinic: Structure scratchbuilding

Future 2015 (by location)

AUSTRALIA, CANBERRA, March 28-29, 2015, 27th Annual Canberra Model Railway Expo, hosted by Canberra Model Railway Club, at University of Canberra High School, 104 Baldwin Drive. Info at **canberra-model-railway-club.webs.com**.

CALIFORNIA, NEWARK, May 13-17, 2015, NMRA Pacific Coast Region Convention, at Newark-Fremont Double Tree by Hilton Hotel, 39900 Balentine Drive. Info at **pcrnmra.org/conv2015**.

CALIFORNIA, SANTA CLARA, February 5-7, 2015, O Scale West and S West 9 Convention, Hyatt Regency Hotel, 5101 Great America Parkway. Hotel reservations at 800-233-1234. Details including vendor information at **oscalewest.com**.

ILLINOIS, NAPERVILLE, October 15-17, 2015, 22st Annual Naperville RPM Conference, hosted by Joe D'elia, at Sheraton Lisle-Chicago Hotel, 3000 Warrenville Road, Lisle. Info at **railroadprototypemodelers.org/naper_meet.htm**.

KANSAS, WICHITA, February 7, Train Show and Swap Meet with 100 plus dealer tables plus model contests, clinics and switching contest at the Cessna Activity Center, 2744 George Washington Blvd. Info from Phil at 316 259 5190 or email **aylward1@cox.net**.

MARYLAND, TIMONIUM, April 11-12, 2015, Brass Expo in conjunction with the Great Scale Model Train Show, presented by Howard Zane, at Maryland State Fairgrounds, 2200 York Road. Info at Brass Expo Train Show Home Page.

MASSACHUSETS, TAUNTON, April 12, Spring TRAINing - Annual Model Train Show, at Holiday Inn Taunton-Foxboro Hotel, 700 Myles Standish Blvd. Hosted by HUB Division of NMRA. Info at **hubdiv.org**.

OREGON, PORTLAND, August 23-30, 2015, NMRA National Convention, at Double Tree by Hilton Hotel Portland. Info at **nmra2015.org**.

OREGON, PORTLAND, August 28-30, 2015, National Train Show, at Portland Expo Center. Info at **nmra2015.org/trainshow**.

PENNSYLVANIA, PHILADEPHIA, May 15-17, 2015, Biennial Meet of the East Penn Traction Club, at Pennsylvania Convention Center. Info at **eastpenn.org/2015_meet_announcement.htm**.

PENNSYLVANIA, SCRANTON, March 26-27, 2015, The Fine Scale Model Railroad Expo, a specialty event dedicated to the art of craftsman kit structures and scenery building, with clinics, demonstrations, and displays. At Hilton Scranton Hotel & Conference Center, 100 Adams Avenue. Info at **modelrailroad-expo.com**.

TEXAS, HOUSTON, September 2-5, 2015, 35th National Narrow Gauge Convention. Info at **nngc-2015.com**.

WASHINGTON, BELLEVUE, April 16-18, 2015, 30th Annual Sn3 Symposium, at Bellevue Sheraton Hotel, 100 112th Ave NE. Info at **sn3symposium-2015.com**.

WEST VIRGINIA, CHARLESTON, February 21-22, 10th Model Train Show sponsored by Kanawha Valley railroad Association, at the Clubhouse in Coonskin Park. Info at **kvrailroad.org**.

Future 2016 and beyond (by location)

COLORADO, DENVER, 2017, National Narrow Gauge Convention.

INDIANA, INDIANAPOLIS, July 3-10, 2016, NMRA National Convention and National Train Show. Info at nmra2016.org.

MAINE, AUGUSTA, Sept. 7-10, 2016, 36th National Narrow Gauge Convention. Info at nngc2016.org. ■

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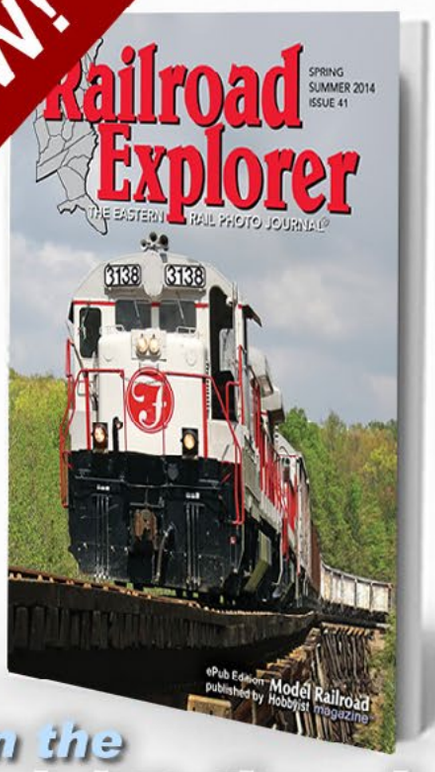

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Promote the Hobby? Bah! Humbug!

Reverse Running: Stepping outside the box with a contrary view

by Joe Brugger

Ran into a good friend the other day, a long-time modeler who has been involved in several clubs, takes part in two historical societies, and does a little custom painting.

"***Max,***" said I, "***how's that club coming?***"

"Great. We topped out the membership, the mainline is in, the branch is almost done, and the guys are getting wound up about the NMRA convention."

"***Time to promote the hobby?***"

"Not really," Max said. "The organizers and the OPSIG got in touch and said they wanted to visit. We said OK."

"***You don't promote the hobby?***"

"That's not what we do. We don't see the need," he explained. "We're building a layout to operate and people find us – the guys who are into car cards and a line-up and a certain era and so on. We're not a big secret or anything. There are two other big clubs around that like to do running sessions and open houses every year."

"***How are you going to attract new modelers into the hobby?***"

"That's not what we do. They used to call us the anti-club. Look, anybody can get an op session invite, but if they come down, we're going to put them in some kind of a job. They're going to run a train or help out in a yard. We don't see model railroading as a spectator sport."

"***But you don't let people join . . .*** "

"Had to. We operate two days a month. People got unhappy because they were standing around. There's a sign-up sheet and there are almost always more than 20 names on it. We can run the railroad with 14. Some guys want to run more often but they haven't set anything up.

"And the county has pretty clear limits on how many people can be in the place at one time. So we took a vote a couple years ago, set the membership limit at 30, and we filled up just a month or so ago."

"***All that operations stuff sounds kind of intense.***"

"We have a lot of fun. This is a hobby. Some of these guys have physically strenuous jobs. Some of them are running companies. They come here to unwind. It's not always one big happy family – there are lots of discussions on how to do stuff, like some guys want to jump right in and some of them want to plan forever – but we all get along. People go on trips together."

"***What about somebody who wants to join?***"

"Well, people move away, or quit coming down. People don't drop out very often, but it happens."

"***Dues must be pretty high, if you don't do shows.***"

"We have a swap meet every year. One guy does a great job of managing it, and the rest of the club pitches in to run the kitchen

and for set-up and tear-down. It works really well and always draws a crowd and lots of good vendors."

"***So you have modular trains running and tree-making demonstrations and stuff?***"

"Nope. We don't do that. If we had more floor space, we would sell more sales tables. Look, people can find trees and scenery and weathering on the Web. Any time we spent on how-to clinics would take time away from planning and building the layout. It's a big job.

"The NMRA organizes meets around here a couple times a year. Some of our people get involved in those. People read the magazines, they have videos, they have friends . . . "

"***But you're not nurturing the next generation of model railroaders . . .*** "

"Well, we're not hand-holding them. We're not running model railroader day care. We're not in the entertainment business.

"But we have people driving a hundred miles for the op sessions. They bring people with them. It's not a day out for the bambinos, maybe, but everybody who visits says they get some new ideas." ☑

Derailments

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- John Wilkes' Schlesser coal loader
- Kanawha and Lake Erie layout
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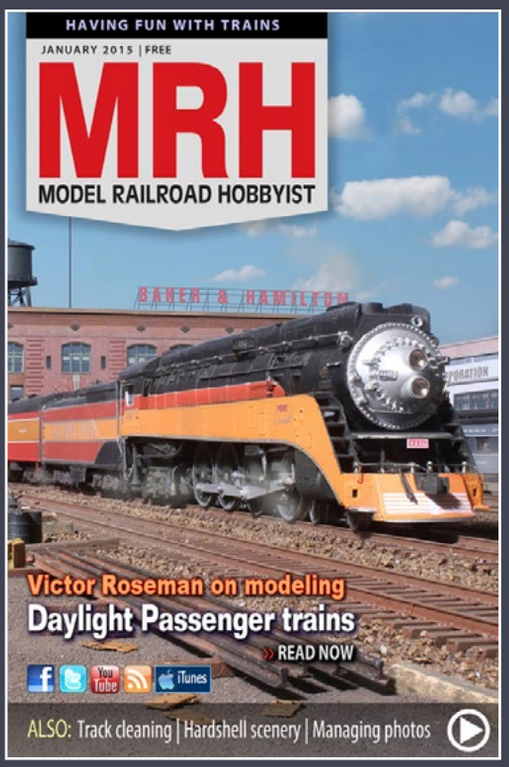

More Derailments humor and bizarre facts ...

C. I. Herrera