

O THE SCALE

RESOURCE

NEWS, REVIEWS, INFORMATION TO USE

*We're putting the "modeling" back
in Model Railroading! ®*

Volume 13 No. 3

January/February 2026



**The Mountain Electric: Off-Line Business is Good Business
Turn Back The Dial to 2003 and The Indy O Scale Show
Canadian Forest Product Converted Steam Part 2
Making Crew Figures Using Free AI Tools
Building a TH&E Stock Motor
and so much more....**

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Welcome to the online *O Scale Resource Magazine*. Our magazine is presented in an easy to use format. The blue bar above the magazine has commands for previewing all the pages, advancing the pages forward or back, searching to go to a specific page, enlarging pages, printing pages, enlarging the view to full screen, and downloading a copy to your computer.

Front Cover Photo

The Forthrnback Mining Company Rail Road by Al Ankerburg. Al's 30" Narrow Gauge Display from the 2003 Indy O Scale Show. More pictures from that show in this issue. Gary Stuebben photo with enhancements by Dan Dawdy.

BILL OF LADING

- 2 Bill Of Lading**
- 5 From the Publisher's Desk**
- 10 News You Can Use - New Items of Interest**
- 20 Turn Back The Dial to 2003 and The Indy O Scale Show**
Pictures By Gary Stuebben
- 26 Making Crew Figures Using Free AI Tools**
By Santiago Pineda
- 34 Traction Action: Building a THI&E Stock Motor**
By Martin Brechbiel
- 43 Lighting Your Passenger Cars in a Prototypical Way!**
By Nick Bulgarino
- 55 Off-Line Business is Good Business**
By George Paxon
- 65 Canadian Forest Product Converted Steam Locomotive to Internal Combustion (part 2)**
By William W. Davis
- 75 New Tracks Modeling**
By Contributing Editor Jim Kellow MMR
- 99 New Tracks 01/22/25 My Build**
- 103 New Tracks 01/26/25 My Build**
- 107 What's on Your Workbench?**
By Brian Scace
- 110 Show Schedule**
- 111 Classified Ads**
- 111 Advertiser Index**



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ATSF EMD E8 A-B-A Set, Key, L/N+, FP Warbonnet, LEDs, All Powered, No. 80, Samhonga	\$2995
ATSF EMD F7 A-B Set, Phase II, Key, L/N+, FP Warbonnet, DCC/Sound, No. 311, Samhonga	\$1850
B&O EMD F7 A-B Phase I, Key, L/N+, FP, Ser #78, DCC/Sound, Road 949, 949X	\$1925
C&O FM H-10-44, OMI, L/N, CP, Blue Scheme, Cab Detail, Can Motor, Flywheels, No. 304	\$795
BB&Q 44 Ton Diesel Switcher, Phase IIa, W&R, L/N, CP, Weathered, No. 9107, Samhonga	\$595
DL&W FM H-16-44 Road Switcher, Car Works, New, UP, Can Motor, C-Liner Trucks, Korea	\$795
DM&IR EMD SD9, SS 3rd, New, FP, 1st Run, DC, Can Motor, Lights, No. 102	\$795
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PRR GG-1, CB, L/N, CP, Tuscan 5 Stripe, Wolfner Drive, Can Motors, LEDs, Road No. 4912	\$825
PRR MP54 Powered Coach, SS 3rd, New, FP, Interior, Road No. 639	\$595
PRR P5a Box Cab Electric, OMI No. 0209, New, UP, Can Motor, Ajin, Korea	\$850
PRR P5a Box Cab Electric, SS 3rd, Mint, FP, Can Motor, Road No. 4746	\$795

From the Publisher's Desk

Hello and welcome back to the Publisher's Desk, a/k/a rant, diatribe, harangue, tirade, and jeremiad page. I think I covered everything.

Another holiday season is just about over. We hope yours was a good one and everybody stayed safe. After last year's travels, Amy and I are staying close to home for the first few months. Of course we will be at the March Meet, March 19-22, as you should also be! For you all down South, don't forget about O Scale South 2026. The 11th Annual Atlanta O Scale 2 Rail Meet on 9am- 2pm on Saturday, February 21, 2026.

Also coming is the new O Scale West 2026. New location on a New date March 6-7, 2026 (Friday - Saturday) at the Portugese IFES Society Hall in Mountain View, CA.

We need to support these shows or they will disappear. I still contend that the best deals are at these shows.

The following is from John Wubbel, owner of The All Nation Line. It's thought provoking and thinking outside the box, in addition to being very interesting.

Why We Built the Pop-off Pop-on System

For years, I've watched two passionate model railroading communities operate in parallel: O Scale 2-rail and L-Gauge (LEGO trains). Both build intricate layouts. Both run detailed operating sessions. Both run on two rails. Yet they rarely cross paths.

The Missed Opportunity

The more I researched, the more obvious it became: these communities have far more in common than most modelers realize.

Consider the Similarities:

- Track gauge: L-Gauge and O Scale 2-rail are nearly identical. [See the technical comparison here.](#)
- Operations focus: Both communities run realistic operating sessions with car routing, switching, and train makeup.
- Detail appreciation: Whether it's custom weathering on an O Scale boxcar or intricate brick-built structures on a LEGO layout, both groups value craftsmanship.
- Modular layouts: Both have developed portable, connectable layout systems for clubs and shows.

So why don't we see LEGO train builders at O Scale conventions? Why don't O Scale modelers visit Brickworld?

The barrier isn't technical—it's psychological.

LEGO train enthusiasts think: "Switching to O Scale means abandoning my layout."

O Scale modelers assume: "LEGO is just toys."

Both assumptions are wrong.

Our Solution: Pop-off Pop-on

What if we could bridge these communities by removing the perceived barrier to entry?

That's why we developed the Pop-off Pop-on interchangeable truck system.

Here's how it works:

1. Pop-off your L-Gauge trucks from a freight car
2. Pop-on O Scale 2-rail trucks with Kadee couplers
3. Run the same car on either layout—in under 30 seconds

No tools. No permanent modifications. No commitment required.

Why This Matters

For L-Gauge Modelers

Experience O Scale without abandoning your layout.

Curious about O Scale but don't want to start from scratch? Now you don't have to. Build one of our affordable freight car kits, swap the trucks, and run it on your LEGO layout. When you visit an O Scale club or friend's layout, swap the trucks again and run the same car on their railroad.

You get to:

- Experience the detail and weight of O Scale freight cars
- Try Kadee couplers and realistic operations
- Attend O Scale operating sessions
- Explore a different side of the hobby—without giving up LEGO

For O Scale Modelers

Welcome new operators into the community.

Every O Scale club faces the same challenge: attracting new members. Here's a pool of enthusiastic builders who already understand layout construction, car routing, and operating sessions. They just haven't discovered 2-rail O Scale yet.

The Pop-off Pop-on system gives you:

- A conversation starter at mixed-scale shows
- A way to invite LEGO enthusiasts to your operating sessions
- New operators who bring fresh perspectives and techniques
- A bridge between communities that strengthens the hobby overall

For the Hobby

Fresh perspectives. New techniques. More people running trains together.

Model railroading grows when we build bridges, not walls. The innovations happening in the L-Gauge community—sound systems, lighting, modular standards—can inform Scale. The weathering techniques, prototype research, and operating practices from Scale can inspire LEGO builders.

Everyone benefits when we stop seeing scales as competing tribes and start seeing them as complementary approaches to the same passion.

The Ecosystem Is Already Forming

We're not alone in recognizing this opportunity:

- Monty's Trains is installing modern control systems like Blunami in LEGO engines, bringing DCC-level sophistication to L-Gauge. Watch his Brickworld 2025 layout tour to see what's possible.
- Brick Model Railroader in York, Pennsylvania, now offers Kadee-compatible couplers specifically designed for L-Gauge—the same industry-standard couplers used across Scale.
- Large modular groups are operating in regions like Central Florida, building sophisticated LEGO train layouts with realistic operations and scenery.
- Brickworld 2026 (June, Schaumburg, Illinois) will attract thousands of LEGO train enthusiasts. It's the perfect venue for O Scale modelers to introduce 2-rail to a new audience.

The infrastructure for dual-gauge railroading already exists. All that's missing is awareness—and an invitation.

Not a Product. An Invitation.

We're not just selling interchangeable trucks. We're offering something bigger: **a low-risk way to explore a different scale without abandoning what you've already built.**

For L-Gauge modelers, that means experiencing O Scale detail and realism while keeping your LEGO creativity.

For O Scale modelers, that means welcoming enthusiastic new operators who already understand the fundamentals of model railroading.

For everyone, it means more people running trains, sharing techniques, and building friendships across communities that have been artificially separated for too long.

Model Railroading Is Better When Shared

That's why we built the Pop-off Pop-on system. Not to convince anyone to "switch" scales, but to show that you don't have to choose. You can enjoy both.

The trucks swap in 30 seconds. The invitation is permanent.

Get Started

Ready to explore dual-gauge railroading? **[Shop Freight Truck Interchange Starter Kits](#)** - Each kit includes an O Scale freight car, both truck sets (L-Gauge and O Scale 2-rail), Kadee couplers, and complete instructions.

Questions? Email us at jwubbel@allnationline.com or send a letter to the editor.

Connect with us:

- YouTube: <https://www.youtube.com/@allnationline>

Join the Conversation

Have you run trains across multiple scales? Are you an L-Gauge modeler curious about O Scale, or an O Scale modeler who's visited a LEGO train show? We'd love to hear your story.

Leave a comment below or tag us on social media with #PopOffPopOn and #DualGaugeRailroading.

Let's build bridges—one freight car at a time. All Nation Line manufactures affordable O Scale 2-rail kits with a mission: make scale modeling accessible, not exclusive. Learn more at AllNationLine.com.

So what are your thoughts? Drop [John an email](#) and let him know. I think it's a great idea and crossover.

Speaking of the March Meet, I need to get back to work on my own layout so there will new things to see for the open house. Looking forward to seeing all our friends and hipfully making new ones!

Happy Reading & Happy Modeling,

Amy & Dan Dawdy



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The O Scale version of John Armstrong's Nighthawks has been out of stock for a year.
 A short rerun is expected in January. One kit of John Armstrong's Cementipede left.
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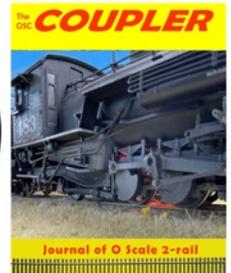
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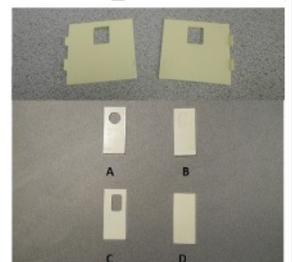
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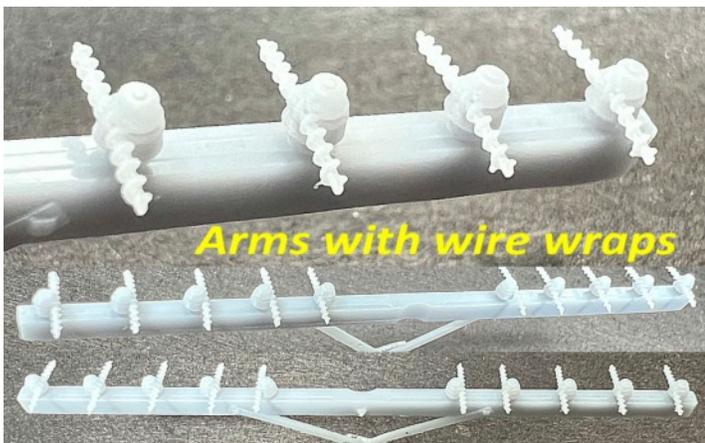
Modelrailroad Resource 3D division is in the process of producing Daniel Raible's utility poles.

We worked with Daniel on all three versions, N, HO and O.

It was decided that printing a complete pole with arms was not going to cut it in O scale, therefore, we are releasing two arm options, one standard and one with wire wraps. The pole will be an option, but I suggest you go with a wooden dowel so you get the height you need, and then ordering the arm options you want. The standard printed poles are 35 scale feet. The standard arms will come weeded with only minor sanding needed and then priming / painting.

The arm with the “wire wraps” will come with supports as these are delicate and must be handled with care. They are somewhat flexible and although they look fantastic, you may loose some on the layout. Each arm also comes with a rear arm bolt.

You can see these here:
<https://modelrailroadresource.com/WP/product-category/communications-poles/>



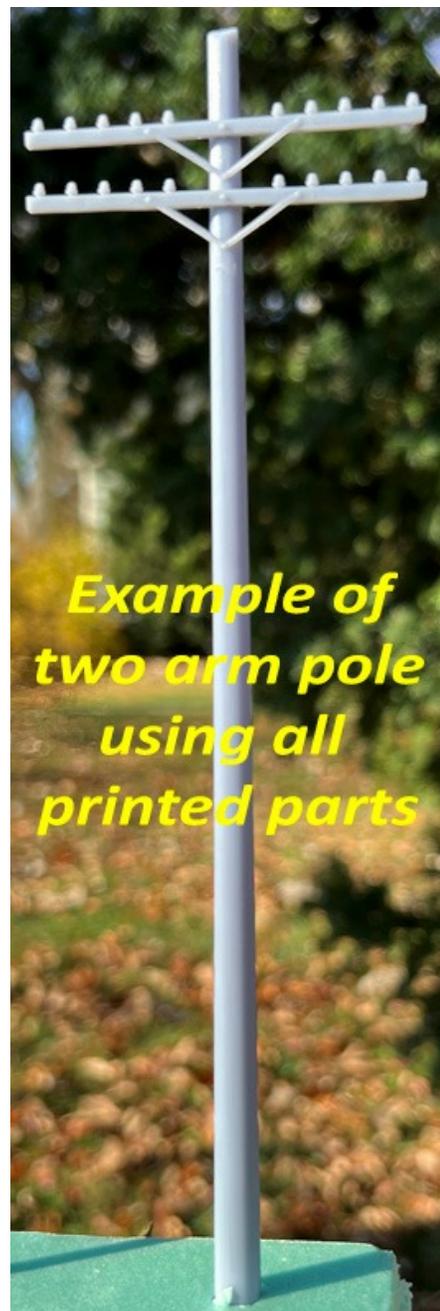
Arms with wire wraps



Standard arm



Rear arm bolt



Example of two arm pole using all printed parts

New from Bill Wade and B.T.S. Cabin Creek's Fire Station No. 1

Fire is a problem for all towns, and Cabin Creek decided to spend the money and build a big fire station to replace the old volunteer fire house that burned down. Some speculate it was an inside job since the fire chief was smiling as flames took the old building, but no proof was found. The town decided it would no longer be a volunteer operation, so the second floor has the space for on-duty firemen to eat and sleep.



This kit consists of laser-cut basswood and plywood and is engineered for easy construction. It features interior floors and positionable doors and windows. The footprint is a scale 35' x 58' and height is 44' over the finial. #17235 \$169.95

VGN Tool House

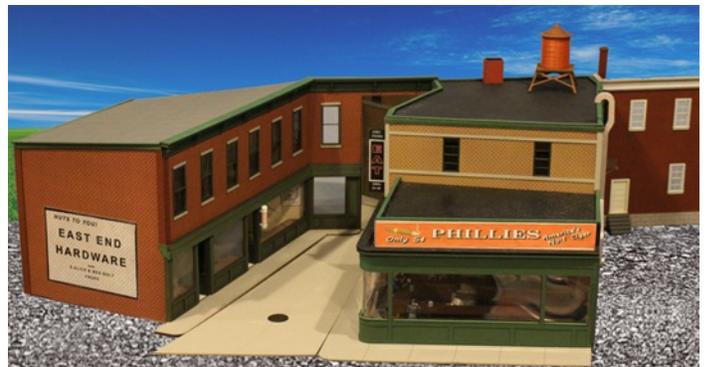
The Virginian Railway designed this simple tool house back in 1917. A basic structure designed to store important tools was seen all over the line.

The kit consists of laser-cut wood and cardstock components. Individual battens enhance the beauty of this building. Footprint is approximately a scale 10' x 12'. #17375 \$29.95

See their Website for all their beautiful kits and castings.



David Vaughn from Wit and Wisdom Models says: The O Scale version of John Armstrong's Nighthawks has been out of stock for a year. A short rerun is expected in January.



One kit of John Armstrong's Cementpede left.



Check out/order through:
wit-and-wisdom-models.com.

New from Rod Miller and O Scale West: The results from a thorough survey of past attendees have enabled the O Scale West (OSW) committee to reinvent the meet to bring it more in line with what works best for our attendees.

The meet has **new dates**, a **new daily schedule**, a **new venue**, and **new lowered prices**. The dates are: March 6-7 (Fri-Sat).

The meet schedule is:

Friday: 9AM-1PM set up; 1PM-4PM and 6PM-9PM swap meet, clinics, layout visits, on-site layouts, off site tour, model contest

Saturday: 8AM-9AM set up, 9AM-4PM same as Friday swap, etc.

Venue: Portuguese IFES Society Hall, 432 Stierlin Rd., Mountain View, CA 94043-4622

Costs: Family registration for both days is \$35 (was \$50), Saturday only \$25 (was \$50), vendor fees are \$50 plus \$50 per table

For lodging the nearby Hampton Inn has a special rate of \$170 **expiring Jan 19**, a link to the hotel is on the OSW website www.oscalewest.com. There are many other hotels/motels in the area.



Norm Buckhart from Protocraft says: Greetings everyone - this is just to let you know that Protocraft will be closed for our annual winter sojourn to France. Email only during this period.

Closed beginning December 15 - reopen March 1, 2026

Thanks for all your business over the past 32 years - gad - 32 years!

We still have a number of new old stock of the 1937 AAR boxcars and at 1998 prices; and some of the 52' gondolas - our finest model - I'll post these when we reopen. Plus all decals are in stock. Have a happy holiday and see you at the O Scale March Meet in Lombard.

Lou Houlemarde from Central Locomotive Works says: The SD39 project is progressing once again after being delayed due to having to make new Flexicoil truck patterns. The existing sideframe axle spacing needed correction and the only fix was to make a new 3D printed pattern. At the same time, a new sprung bolster is incorporated which will mimic the function of the prototype. A few SD39's are still available, if interested contact Lou at 760 221-5558 or email clwusa@verizon.net.

With that issue fixed CLW will proceed with the SD38AC and SD40A models hopefully at a quicker pace.

Several new detail patterns are being made for the SD40-2F (CP "Red Barns") and the HT-C truck will be upgraded as well.

Many inquiries have been made regarding the status of the AAR-B truck. The truck has been revised for easier assembly, and new bolster and much improved 3D resin printed brake gear. Castings for revised parts should be complete by mid-May.



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Browse around and you will find kits and parts in HO, HO_{N3}, S, O and On₃. During the past 24 years we have acquired the companies listed above and offer many of their kits and parts. We're glad that you decided to take a look as we proudly carry on the Craftsman Tradition.

This is the status used next to your name by the Crew Management system on Union Pacific when an employee is going to retire. It means "Retirement Pending". Now it applies to me, again.

After having owned and operated LaBelle Woodworking since 2001, I have been in the model business longer than the original or subsequent owners, I have decided to call it a day. I will be closing the doors and turning out the lights on LaBelle after 25 years on June 1, 2026. I have posted this as a courtesy to you, my loyal and well received customers, so that there will be no future surprises.

If anyone is interested in getting into the Model Railroad business I am not adverse to selling LaBelle to someone who is interested in purchasing it. I will be entertaining serious offers for LaBelle and the all of the equipment used to make our kits. I would love to sell the business so that the names and products that we produce, such as LaBelle, Silver Streak, Mainline Models, Ye Olde Huff and Puff, OnTrack and Valley Car Shops don't disappear from the modeling scene.

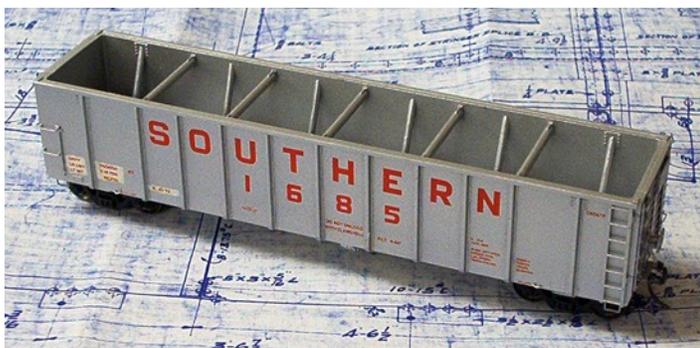
Please contact me at info@labellemodels.com for further information.



Jim King of [Smoky Mountain Model Works, Inc.](#) is looking for input on two possible new models.

Something old, something "new"-ish. Would either of these cars interest the O scale population?

The Silverside gon was my most popular HO model ... ever. 750 were built by Pullman in 1960 and they ran for 45 years between mines and power plants, wearing multiple Southern paint schemes and at least one NS scheme.



The B&O M15k is an offshoot from my M53 kits in HO and S. The model photo is the latter built by noted modeler Paul Washburn. The recessed sides make this car unique.



B&O M15K model built by Paul Washburn

Contact Jim here and let him know your thoughts.



LAKE STATES RAILWAY HISTORICAL ASSOCIATION

Here are the latest uploads from Lake States.

More progress has been made on the Larry Kostka Collection. We've added 775 images to a few existing galleries and several new galleries. Some images have been shifted to different galleries as we continued building the on-line archive of Larry's slide photography. The only railroad left to complete as of this update is the CB&Q. We anticipate finishing that within the next month. In the meantime, you can view the Larry Kostka Collection nearly completed at the following link:

<https://www.lakestatesarchive.org/Lawrence-Kostka-Collection>

The last two new galleries for the William Monypeny Collection have been completed as follows:

Southern Railway (107 images):

<https://www.lakestatesarchive.org/William-Monypeny-Collection/Southern>

Traction (109 images):

<https://www.lakestatesarchive.org/William-Monypeny-Collection/Traction>

We're happy to report the unveiling of the first of the Charles Bohi Collection, which will center on his documentation of depots and other structures of railroads in the Midwest and Eastern U.S. Charles was born and raised in Iowa and South Dakota. His first exposure to railroads was the CGW at Riceville and later the Milwaukee Road at Redfield, SD where the friendly Milwaukee Road station staff let him spend time trackside. There he remembered seeing his first diesel locomotives.

By the late 1950s, Charles received a camera as a gift. After taking the customary family photos, he snapped a photo of the Rock Island depot at Livermore, Iowa, opening the door to a new facet of the railfan hobby. "At the time, in the state of Iowa, there was a proposal to close and tear down a lot of depots," he says. But the depot was "the center of every community" and an important piece of American culture.

His father, a Methodist minister, even delivered some sermons at depots through the years. After college, Bohi worked as a high school history teacher from 1963 to 1998, transferring to Vermont in 1970. Summer breaks from teaching provided ample time to practice railroad photography, including one year in the 1970s with a 49-day summer trip across Canada. Charles still resides in White River Jct., Vermont with his wife Lynn and has authored numerous magazines articles and a few books on depots and branchline railroading.

We'll continue to work on Charles' depot/structures negatives over the next several months. For now, you can check out depots/structures, organized alphabetically by railroad up to "M," plus a few other odds and ends at the following link (1,549 images):

<https://www.lakestatesarchive.org/Charles-W-Bohi-Collection>

We'll be back after the first of the new year with more uploads from multiple collections and perhaps a new one. Until then, Happy Holidays!



Kadee announces new Shelf Couplers.

An AAR Shelf Coupler is a crucial railroad coupling with top and/or bottom shelves, mandated for hazardous material cars to prevent vertical



#1746 O Scale "SBE" Bottom Shelf Long Centerset Metal Couplers with Plastic Gearboxes.



#1745 O Scale "SBE" Bottom Shelf Medium Centerset Metal Couplers with Plastic Gearboxes

disengagement during derailments, stopping them from falling and puncturing tanks, ensuring greater safety and vertical stability compared to older types.

Two pair per package for \$14.99.



More from [Modelrailroad Resource 3D](#) division.

Barrels of Fun Package includes: 6 closed, 4 on pallets, 2 with bullet holes, 2 open top, 2 smashed.



And, 85 Gallon Steel Salvage Drums. 85-gallon drums are versatile, used commercially as overpack/salvage drums for leaking hazardous waste, for bulk storage (liquids, food, chemicals), and in DIY projects like smokers/grills,

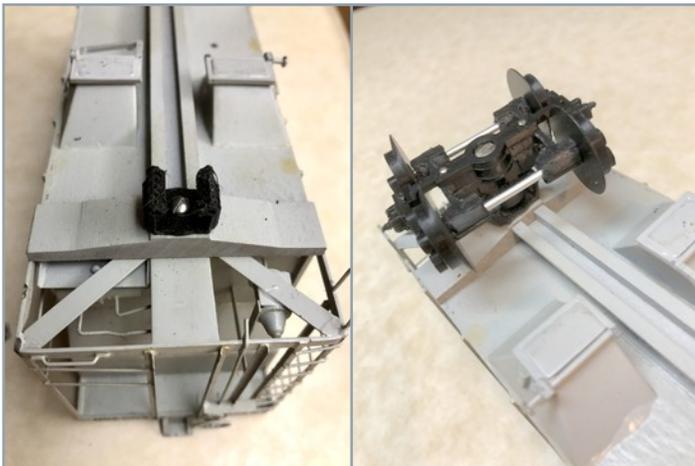
composters, rain barrels, aquaponics, or even furniture, offering more capacity than standard 55-gallon drums for bigger jobs. Damaged 55 barrels can fit inside for containment. 12 drums open top.

Check out our Website under Miscellaneous items.



New from All Nation Lines.

We have a wonderful community of L-Gauge and O Scale model railroaders. Our track gauges are so close, and our love of creativity in the hobby is enough to form comradery between the groups. Freight car interchange is a great way to bring us together and thus, the "Pop-on - Pop-off trucks"(c) are born to enable running on either L-Gauge or O Scale tracks. There are no tools required to change out the trucks and the switch can be done in less than 30 seconds.



These kits are easy to assemble and let you run your L-Gauge freight car on a friend's O Scale layout or club pike without giving up your own L-Gauge railroad. Picking up an O Scale car at a train show and popping on the All Nation Line L-Gauge trucks ready to run on your own layout offers a low-cost way to expand your roster.

So it goes both ways... O Scale modelers can adapt the All Nation Line L-Gauge Trucks to their Freight car and run on our friends L-Gauge railroad. No matter the scale, modelers share a deep passion for refining detail—whether striving for fine-scale prototype realism or embracing the imaginative

freedom of LEGO-inspired trains. This blend of precision and playfulness highlights the enduring creativity at the heart of the hobby.

Check out the New Pop-on - Pop-off trucks at AllNationLine.com here.

Check out the instructional videos on YouTube:



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All Nation Engine Drive Train Power Plant KIT PN#686ANK

<https://allnationline.com/WP/?product=all-nation-engine-drive-train-power-plant-pn686ank>

The All Nation Power Plant is a kit and consequently the modeler should have some mechanical engineering aptitude before tackling this project. You will need to be able to think through the assembly processes such as drilling and tapping for the screws, clean up of any 3D printing threads or build plate support structure, and or polishing the openings for the bearings in the event there is slight shrinkage following the print process. All 3D Printed parts are ABS.

It never fails, when we go to the O Scale model train shows, we come home with new projects, ideas and knowledge gained from other model builders. For this project, I refer kindly and call this the Canter Mechanism, because Mr. Canter loaned us his Atlas Switcher engine that was a highly upgraded power and drive train transmission system. Consequently, the impetus was to document the design and make it available via 3D Printing techniques either as a kit or assembled versions. The reference model, as seen in the video below, is machined in brass as the proof of concept but 3D printing the main structural components would prove to be more affordable while still using precision bearings throughout.



See the video: An Out Of Body Engine Experience
<https://www.youtube.com/watch?v=RE91btIWJzs>

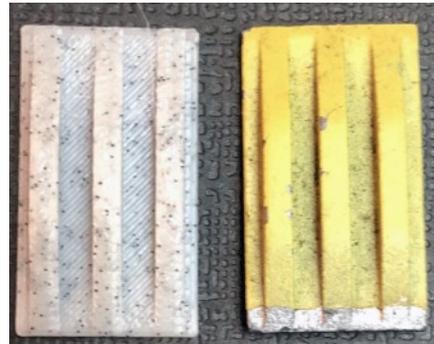
Recently, several modelers requested a few specific items and we were happy to help design and 3D print these items. They are now available for any modeler.



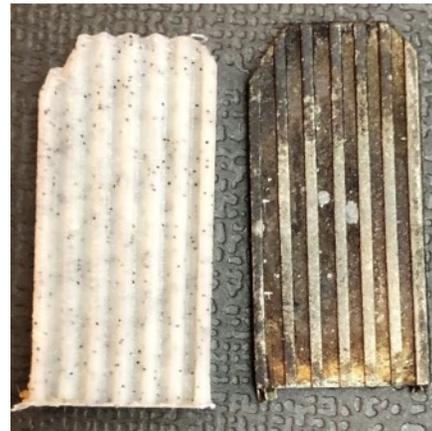
Hitch Flat Car (12 sets – 3 pieces Kit /bag) PN#691AN

<https://allnationline.com/WP/?product=hitch-flat-car-12-sets-3-pieces-kit-bag-pn691an>

Trailer Bridge Flat Car (20/bag) PN#689AN
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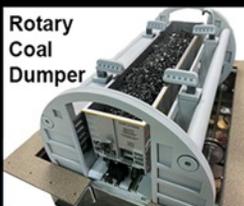


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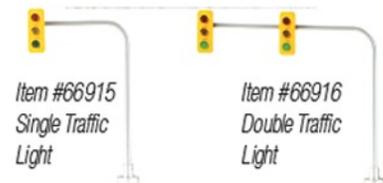
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Item #66910 Wilson's Gas N Go Service Station Kit



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Turn Back The Dial to 2003 and The Indy O Scale Show

Pictures By Gary Stuebben

Gary Stuebben was reorganizing his computer archives, and came across a group of photos from Friday September 19, 2003 Indianapolis Show. Over 22 years ago, some you will know, some have passed and some of us are still hanging around!



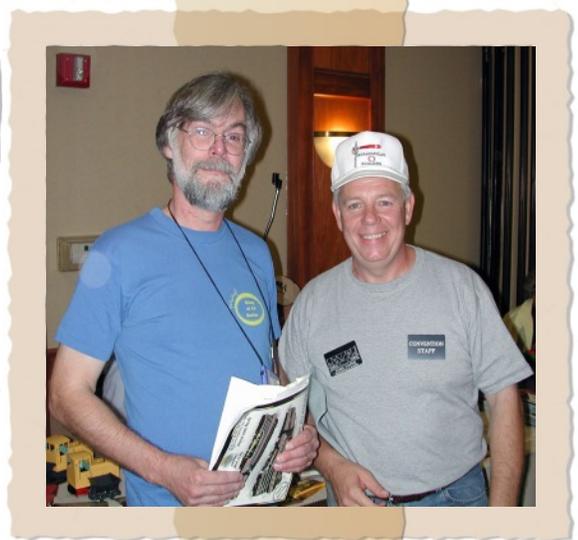
Al Ankerburg



Bill Ford & Tom Dressler



Dave Richter & Jim Sackworth



Ron Rendfeld & Jim Canter



Greg Heier & Scott Mann



Ted Schnepf



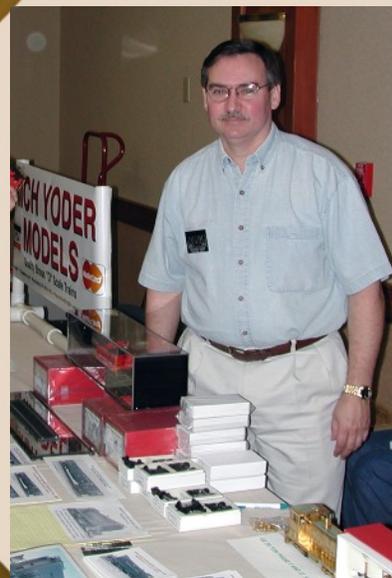
Jim Williams



Ed Duddy



Pat Mucci & Mike Calvert



Rich Yoder



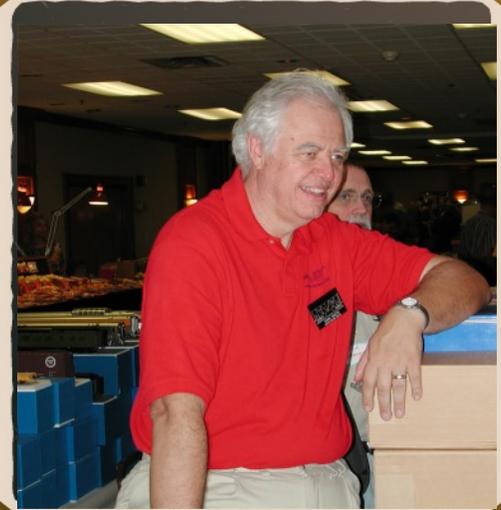
John Keil & Norm Pullen



Mike Calvert



David Davita



John Smith



Keith Wiseman

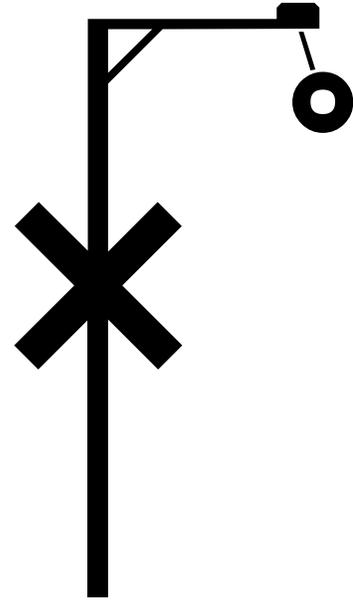


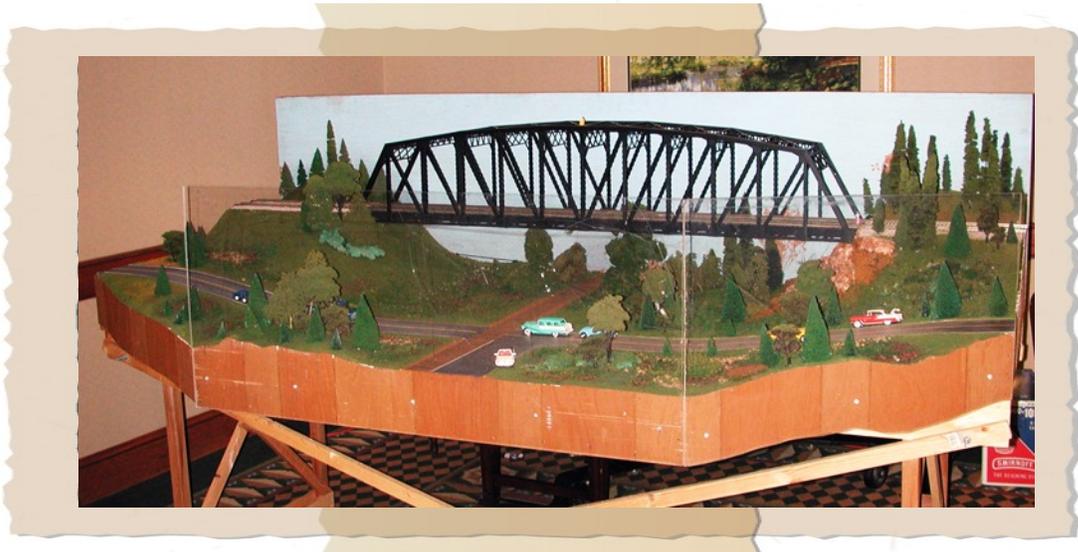
Jaine & Joe Giannovario



Greg Heier & Tom Nixon

And some general shots. Some things never change...





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References gladly furnished.

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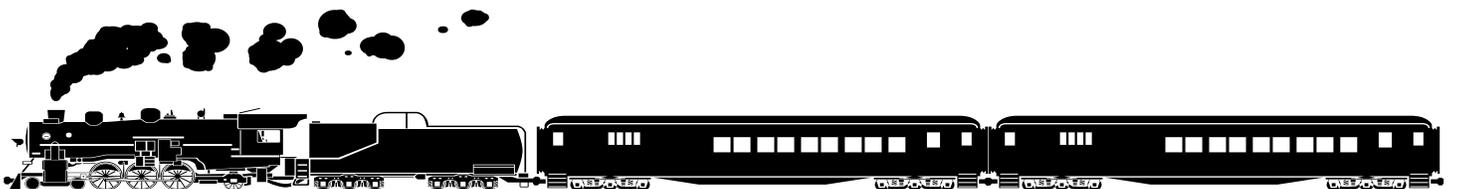
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Making Crew Figures Using Free AI Tools

A step-by-step guide to generating photo-realistic figures without paying for software subscriptions

By: [Santiago Pineda](#)

Questions, comments? [Contact Santiago Pineda here](#)



A collection of AI generated, O scale crew cab figures ready for printing.

Sooner than later, I would hope, drawing parametric designs for 3D printing will not be necessary. Advances in AI already allow model railroaders to create figures using entirely free tools. For instance, today you can generate photo-realistic images of locomotive engineers and firemen, convert them into 3D models, clean them, scale them, and print them — all without spending dozens of hours creating complex 3D renderings or even a single dollar on software subscriptions. This article will walk you through the exact workflow I used to create O scale crew figures using ChatGPT’s AI image generation, Meshy’s AI free 3D model generation, and Meshmixer (3D mesh editing program). Again, everything described below was done 100% free.

First, something of a disclaimer. The reason I pursued this project was simply due to the apparent lack of O scale, high-quality cab crew figures in the market. I personally never create a part that is offered by a manufacturer. Support is critical nowadays and that’s something I want to emphasize. But, in this case there were simply no options available in the market. In our scale, for decades, Arttista’s have remained the most detailed cab crew figures you can buy. And, for many years I’ve used their crew figures despite their larger than scale appearance and somewhat rough, inconsistent surfaces. To make things less appealing, manufacturers such as Atlas and 3rd Rail, while offering cab figures in their locomotives, have not matched Arttista’s quality. In fact, their cab figures leave much to be desired. Modelu, does offer high quality 3D printed figures, but their catalog for seated engineers is unfortunately limited.

Second, note that the following process was not something I discovered. I simply replicated and tweaked the process from a fellow modeler who shared his method on a military modeler’s group on social media.



Arttista’s crew figures remain a premium product in O scale despite their limited availability and shortcomings.



Left: standard 3rd Rail cab figure.

Right: Atlas O standard cab figure.



1) Plan your figure

Before anything, make sure you know exactly what kind of figure you intend to create. Here are a few key aspects to consider:

- The figure's time-frame (early steam, transition era, modern freight)
- The character's pose (standing, seated, leaning)
- Clothing (engineer's overalls, hat, bandana, gloves)
- Body type and age

This basic information will guide the image generation step.

2) Generate a photo-realistic character image using ChatGPT

Using ChatGPT craft a precise prompt and then generate the photo-realistic, full-body portrait using its free image generator. Let's consider the following two examples:

A. The prompt I used to create a modern freight train engineer: "A realistic, high-resolution frontal full-body image of a modern locomotive engineer based on the previous reference. The man is middle-aged, Caucasian, and slightly rugged, wearing a light-colored long-sleeve shirt, blue jeans, and a green reflective safety vest. He is seated naturally as if operating train controls, but no seat or equipment is visible—only the man himself. One of his hands rests on his knees, and his entire figure is shown, including his legs and brown work boots. The camera angle is directly frontal, with the man facing to the side as if looking through the window, and wearing a neutral, slightly friendly expression. The background is clean white, with soft studio lighting and realistic textures in the clothing, skin, and accessories."

B. The prompt I used to create a steam era train worker: "A high-resolution, photo-realistic image of an older, slightly overweight, Caucasian railroad engineer with a rugged, weathered appearance, wearing classic denim overalls, a red paisley bandana, brown work gloves, work boots, and a blue striped engineer's hat. He is standing with his legs spread and hands on his back, but his head is turned sharply to the right, as if speaking to someone behind him. The background is clean white, and his entire body, including legs and boots, should be visible."

Keep in mind that more often than not, you'll have to ask AI to change something on the image. This can range from the entire pose, to the erasing of an element that you didn't ask for. But once you've gotten an image you're happy with, you'll be able to move towards the next step.



AI generated, photo-realistic images of crew figures.

3) Convert the image into a 3D model using Meshy AI

The next stage uses Meshy AI's free image-to-3D service, specifically the meshy-4 option, which offers detailed reconstruction without any subscription fees while offering a decent quality output. Meshy AI produces full, textured 3D models at no cost, based solely on the single input image. To do this, go to their Workspace page. Then upload your AI created image on their Image to 3D option. Make sure that you are creating the model under the Meshy 4 mode. Then, click on Generate. The program will automatically create 4 different models with slight variations for you to choose. Select the one that you prefer and click on Confirm Generation. Finally, download the model using the .stl type file. Since this file is not to scale, we'll use Meshmixer to scale it to 1/48 in the final step.



3D figures created with Meshy AI model generator.



4) Clean up the mesh using Meshmixer

Meshmixer is a free 3D modeling and repair program developed by Autodesk, designed specifically for editing, fixing, and preparing 3D models—especially for 3D printing. It’s widely used because it’s lightweight, easy to learn, and packed with practical tools. Because it’s free and extremely efficient for cleanup work, it has become a standard tool for hobbyists, modelers, and anyone working with 3D scans or AI-generated meshes.

Meshmixer can be used to:

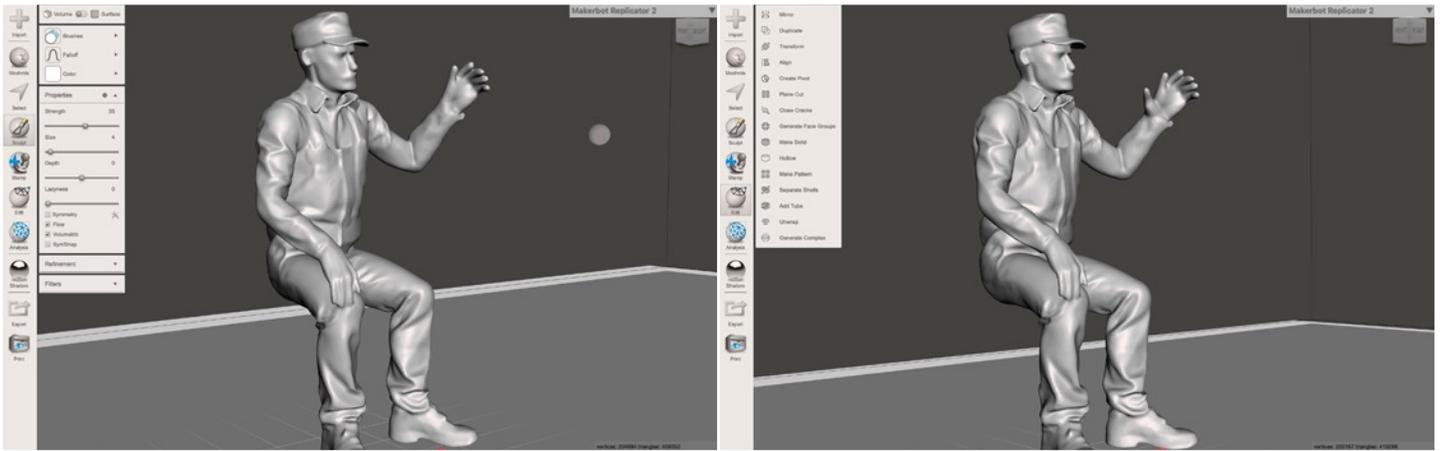
- Scale model size
- Automatically repair holes
- Make the model solid for printing
- Reduce overly dense geometry
- Adjust or refine the pose if needed

For my purposes, Meshmixer was indispensable for scaling and repairing the models. A lot of times, being a free-to-use option, the Meshy 4 generated models didn’t offer the best results. Many models had detached parts that needed to be re-connected. For instance, seat armrests were rendered in “midair”. And, glitches in the software produced errors such as six fingers on hands. The good news was that Meshmixer was a very intuitive and lightweight program which was extremely easy to use.

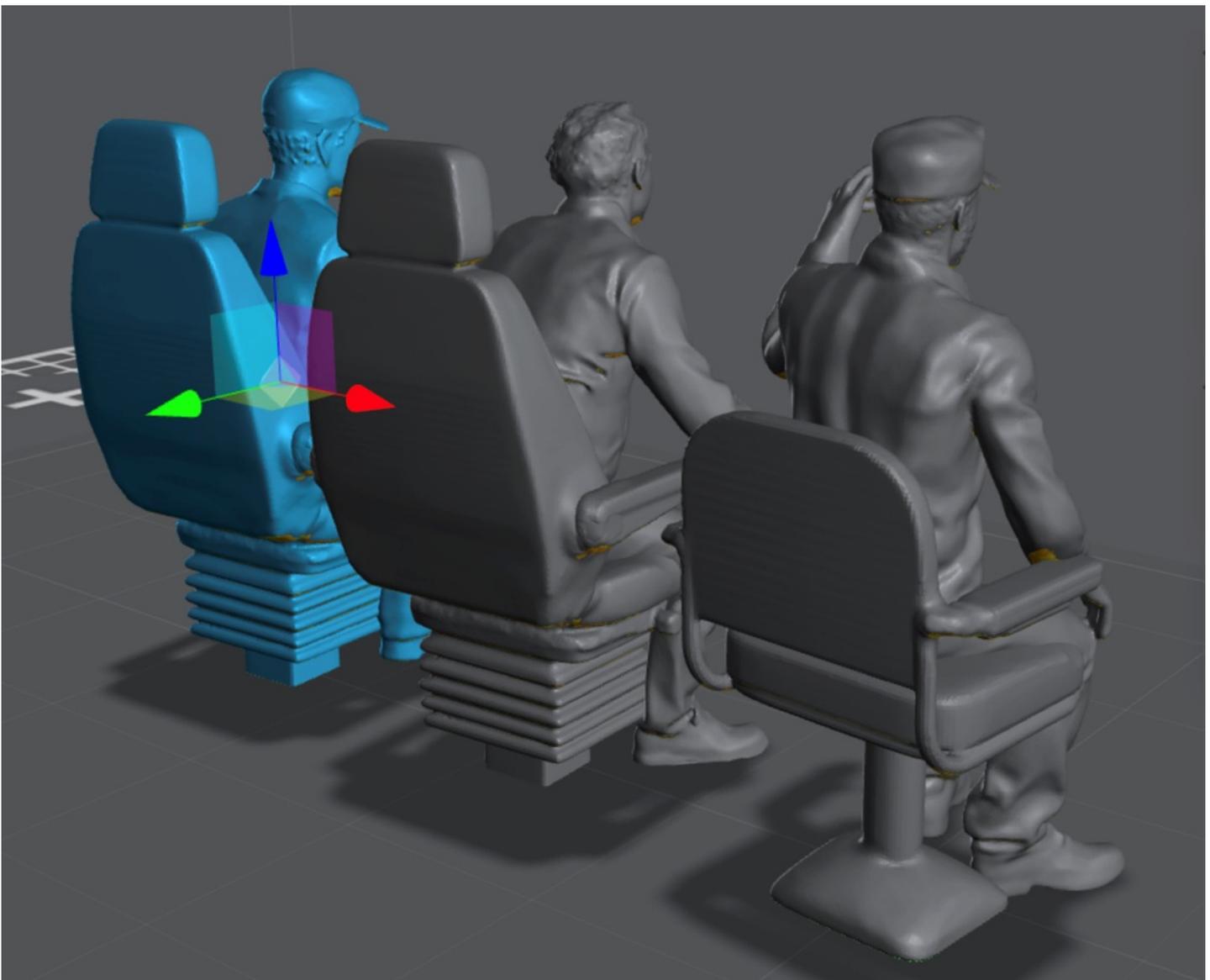


*The 3D model of a modern locomotive cab seat was generated with detached armrests.
Thus it had to be corrected using Meshmixer.*

Meshmixer also allowed me to combine multiple files easily. Thus, I was able to model the engineers in different poses on the same seat model. I simply swapped them before exporting full files. This ensured consistency in the size of the seats. After scaling and tweaking, the files were exported for slicing. Finally, they were 3D printed in resin.



A six-finger hand was also corrected using Meshmixer.



Modern and early diesel era figures on the slicer. Note difference on the cab seats.



The first results for transition era cab figures.

5) Summary

To recap, everything was done without paying for any subscriptions and by following the steps below:

- ChatGPT for AI image generation of photorealistic figures
- Meshi AI (Meshy 4) for full 3D mesh generation
- Meshmixer for cleanup and scaling.

In the end, the lack of better cab figures in our scale pushed me to pursue this method. And, the method itself was not without its pains. The back and forth with AI to achieve the intended results was considerable. And, the tweaking and repairing of the figures afterwards was also time consuming. Of course this had to do with the fact that everything was done without using subscription plans. ChatGPT and Meshy AI are both capable of better outputs that would result in more natural and better detailed models if one is willing to pay. But, so far the quality was worth the effort for a secondary task such as this. In a follow-up article I'll finish the figures by painting them to see how they fare against the market alternatives.



Top: Seated cab figures.



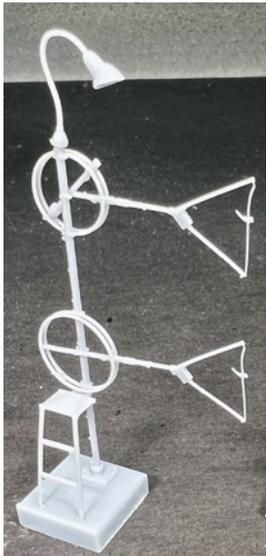
Top Left: a close-up of the figures reveals the level of detail. Note how for all the figures the feet rest naturally at floor level.



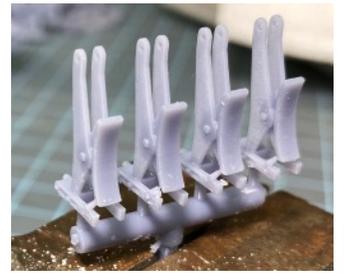
Bottom Left: note the difference the seats for modern and transition era engineers.

Below: A pair of modern era engineers.





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Building a THI&E Stock Motor

Terre Haute, Indianapolis and Eastern Traction Company

By Martin Brechbiel

Questions, comments? [Contact Martin Brechbiel here](#)

Several years ago I made mention of thinking about building a stock motor in the column that I was then writing elsewhere. I actually received several messages encouraging that pursuit. And, I spent what must have been considerable effort assembling a vast array of parts, supplies, and enough accoutrements to build several trolleys putting it all overflowing into an oversize shoebox. And, then I put it all on the metal rack in my shop that holds traction projects where it rested long enough to be obscured by dust and sawdust, and then a family of dust bunnies. And then came to pass the purge of all things unneeded and kits never to be built of '24. And, after that dust cloud settled the departure ceased, I found that shoebox still on the rack behind the radial saw.

After spending a few hours sorting out everything, I managed to whittle the pile of parts down to what I thought at least at that time just might be all that that I would need to finally move this project forward (along with enough nerve, gumption, and will). A side benefit was that I think I had enough parts in the “not going to use” pile to build a few other trolleys. There were several “So that’s where I put those...” moments along the way. So let’s get started.

First off, a bit of historical background. Stock motors were real, and while maybe not common, they make for a unique piece of equipment under the wire. And THI&E had at least two of these cars that were built in 1906 (Nos. 51 & 52), acquired by the line in 1912 (THI&E Nos. 137 & 138), and then scrapped in 1933. There are centerfold plans in the July 1970 issue of Traction & Models. While not in high detail and only a side and end drawing provided, that is more than adequate for building something representative of one of these cars. One does start with the presumption of mirror symmetry between the sides and that both ends are the same. The sides are also not symmetric front to back as well.

The first pile of parts that I pulled together included a pair of ICC ends. There were three different pairs of ends in the shoebox, but this pair appeared to me to be the closest to the prototype ends. They are not perfect in that resemblance, but not being a fan of building up ends completely from scratch or having the skills and equipment for 3D printing, they were going to be the ends used in this build. Another deciding factor here was that the curvature of these ends matched and fit into the ICC roof section that I had put into that box.

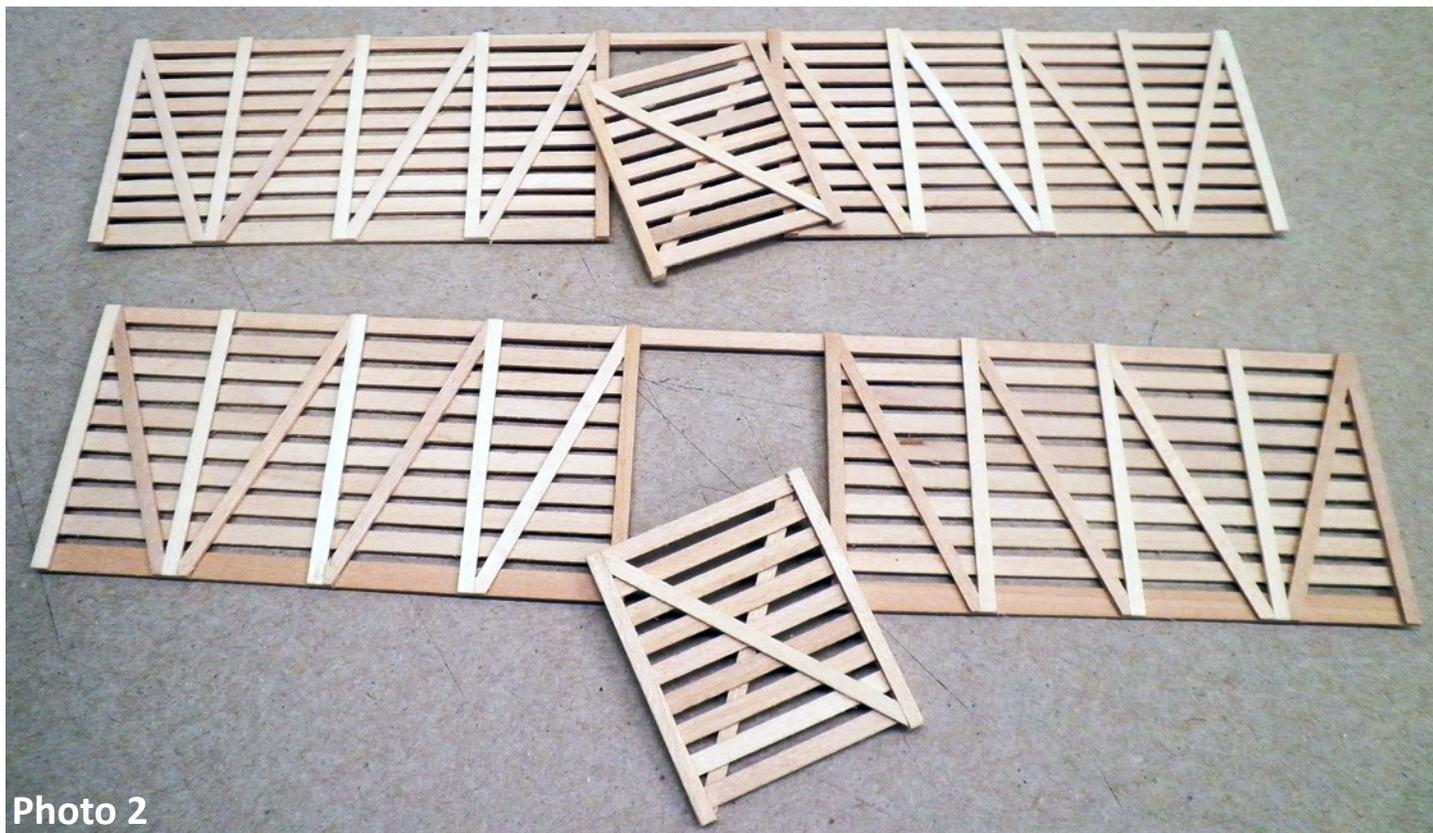


Photo 1

I’ll come back to that roof later. It was a big shoebox. I had some 5-panel doors (Tichy No. 2021) and some doors with windows (Grandt Line No. 3601) and some windows and door frames that I never used (**Photo 1**).

The stock car sides were initially something I thought to scratch together board by board. But I apparently had a

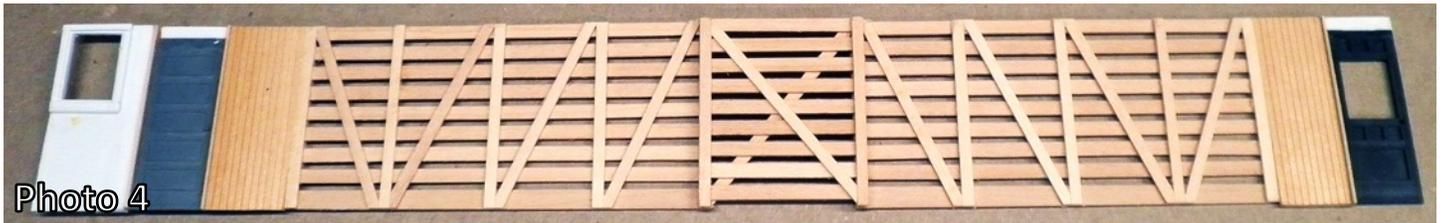
thought to exploit an alternate option. In the same shoebox was a Midwest Train Hobby kit for a stock trailer. I could pull the sides from this kit so I could save myself from spending a lot of time and energy. One stock trailer kit sacrificed later (I saved the parts for “something to be built later”) and I was off building the sides of the stock trailer (**Photo 2**).



Building up each side was done in parallel and on a glass work surface to ensure a flat back to this build. The stock sides were first cut down a bit to get to the correct height. Then at the one end some 1/16” thick scribed siding was glued in place and set off with an HO 2” x 8”. A Tichy No. 2021 door was glued (Goo & CA) to the wood end after some styrene was added to the top of the door (MEK). Another length of HO 2” x 8” was glued in to set that section off. The next section of the side with the window was built up on 0.020” sheet styrene. The window was framed up using 0.020” x 0.080”, 0.020” x 0.060”, and some 0.035” quarter round styrene. Once framed up the window was cut open. That assembly was glued into place to the wood. Adding that door containing section completed this end of the sides (**Photo 3**).



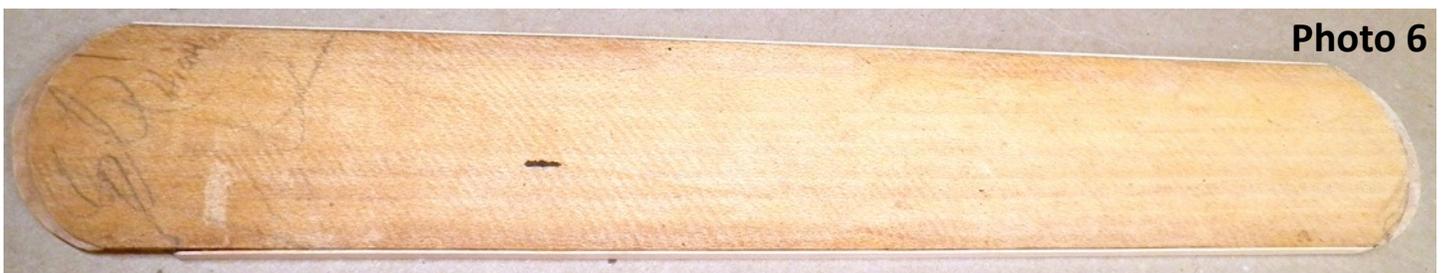
At the other end of the stock sides was added another panel of 1/16" thick scribed siding which was glued into place and set off with an HO 2" x 8". A Grandt Line No. 3601 door was glued (Goo & CA) to the wood end after some styrene was again added to the top of this door (MEK). With those two sections added to that end, the sides were assembled (**Photo 4**). Now it was time to start assembling the car body.



Attaching the sides to the ICC ends was done using MEK since this was styrene to styrene. Some shims behind the door frames were needed to get a good joint. This was also done working upside down on glass to form an even top of the car body. Blocks were used to hold all of the parts in place as each side and end was added. This resulted in the four sections being assembled and then ready for a floor to be fitted into place (**Photo 5**).

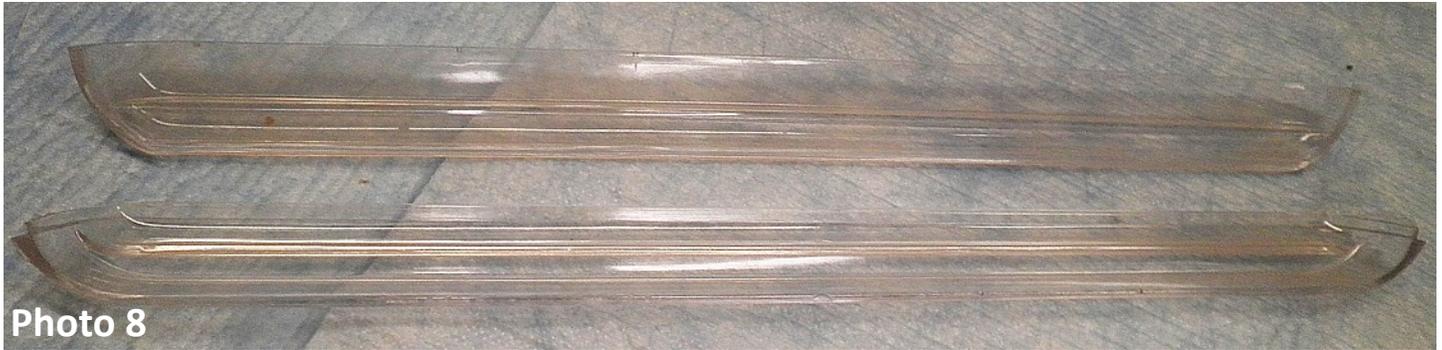


First, I had to make a blank floor section. I started with some 3/16" x 2" basswood rough cut to length. This was too narrow and required the addition of 1" x 8" to each side of the blank (**Photo 6**). After carefully cutting this to the proper length, the rounded ends were mortised out to fit up into the ICC end castings making this a tight fit all around (**Photo 7**). With the floor fitted and secure in place, it was time to address the roof.

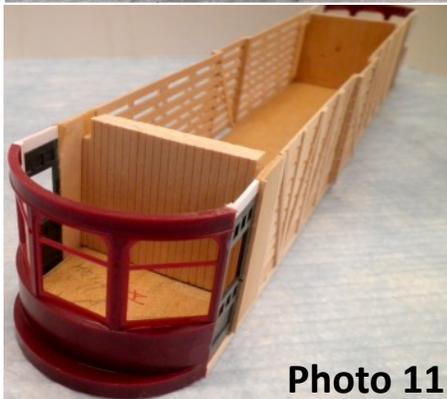


The ICC roof came in two side by side sections that had to be joined together (**Photo 8**). Again, styrene here so MEK was liberally applied, and the two sides were clamped together using the handy cast in alignment pins and holes to get this square and tight. Of course, this was the really easy part of the deal. The roof was a few inches too long, but then I knew that from the start.

How to shorten it without disaster was a bit of a head scratcher. Since the ends were already shaped and fit right into the ICC ends those parts just had to be kept intact.



After considerable hemming and hawing about, I managed to work up enough nerve to run the roof through the bandsaw into two parts; one longer and one much shorter. Well, the first cut is the easiest. After fitting the longer section into the place in the car body, I was able to measure in place what I needed to keep of the other cut off part, and mark it. After measuring three times and with a deep breath, I cut the shorter bit to keep and rejoin free of the part to end up in the trash. With trepidation, I tried fitting the smaller section into the remaining roof space and it fit, really, really well. Without removing the roof from the car body, I taped over the joint and liberally splashed MEK into the joint. The next day I very cautiously extract the rejoined roof out of the car body, flipped it over, and dropped a bit of 0.060" styrene into the flat interior space along with more MEK (**Photo 9**). The next day I managed to confirm that the reassembled roof still fit smoothly into the car body (**Photo 10**). Some filler and sanding were going to be needed later, but I had a roof! And, I suspect I'll never be able to repeat this feat without shims, sanding, and divine intervention!



Thinking to add some interior cab end details, I added partition walls between that area and the stock containing area. I used some of the scrap leftover floor with some 0.090" spaced scribed siding glued to it. The sides were shimmed as needed with 1" stock. These partition walls needed to be notched at the top on both sides to accept the ICC roof fitting down into the car body. (**Photo 11 and 12**)

Photo 12



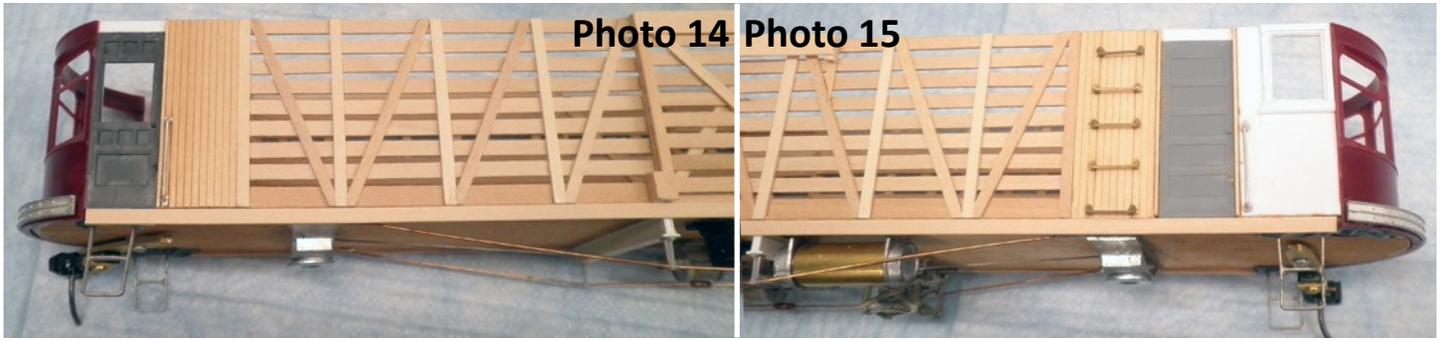
Moving to the installing all of the underbody bits was the next stage to address (Photo 13). Car body bolsters (large, Current Line) were added to the floor. I had plans to use a drive truck and trailer that would be fully under the body and not project up into the car body. The two needle beams were each fabricated from two pieces of 3/16" Evergreen Styrene channel sandwiching a section of 0.020" x 0.188" styrene strip using MEK. Queen posts (Grandt Line No. 70, 10") were mounted into the needle beams and secured with CA. Four truss rod sections were made from 0.025" phosphorbronze wire (Tichy). A bit of brass was soldered to one of the ends of each of the four to add mounting plates for attaching that one end adjacent to the car bolster. A little bending about the sections and all four parts were put into place resting on the queen posts. Turnbuckles (Tichy) were slid into place connect the truss rods together and all was secured in place with CA. I managed to extract a few more bits for under car including a brake cylinder with levers. The clevis castings were drilled out and 0.020" phosphorbronze wire was added in to make brake connections tagged down to the body bolsters. A compressor and cage set of castings (Q-Car or Wagner) was mounted to the underbody along with a resistor bank that had been salvaged from parts unknown. The air tank was made from some Walthers end castings and brass tubing. (Photo 13)



Photo 13

Radial couplers were assembled from Kadee couplers and brass parts from Brass Specialist. Two rung stirrup steps were out of my parts bin. These were through drilled and pinned to the underside. The grabs adjacent to the doors were in another packet out of the parts bin. I wish that they had had some identifier on them as I'd like to acquire more of them. These were applied with Goo and CA. Grab irons (PSC No. 5623) up

the side to the roof were mounted into drilled out holes and secured with CA. Anti-climbers (Q-Car CS334) were added to each end as well (**Photos 14, 15**).



Roof walk supports were added to the roof using 0.080" square styrene (**Photo 16**). The roof was then painted Flat Gray using three coats with some extra fine sanding (**Photo 17**). I had thought to add canvas to the roof but decided to leave it just in paint. Yes, a bit of the seam between the two halves is still visible in the photo, but once the roof walk is in place that will be covered from sight.



Painting the exterior of the car body was done outside in the hot sun in the driveway using rattle cans. Flat Black was applied to the underside and then Burnt Sienna was used for the rest of the car. The hot sun baked



these dry in minutes! After cooling down inside, the cab interior areas were painted CP Gray (Floquil) (**Photo 18**).

Final details that were added included a pair of Controller sets (Wagner) painted and mounted to some scrap styrene for ease of placement into each cab area. But before those were inserted, all of the windows and door windows were glazed using transparency film secured into place with Goo. This was a little tricky doing wrapping that film around the inside of the curved ends and getting it flat. Patience and lot of careful small snips and slices produced two pieces that I was able to snap into place with a little strategically placed dabs of Goo.

Headlights (painted black) were added to each end. Bell castings painted Brass were mounted to both ends along with retrievers (painted black) (PSC No. 5319). The grabs were all painted black and the underbody paint touched up.

Just before the roof was put back in place, a small collection of printed cows was added into the stock area of the car body. Then the roof was reseated into place. This turned out to be quite tight and required some persuasion to fit down fully into the body. So much so that I deigned to use any adhesives deeming that friction was more than adequate (**Photos 19-21**).

Photo 19



Photo 20



Photo 21



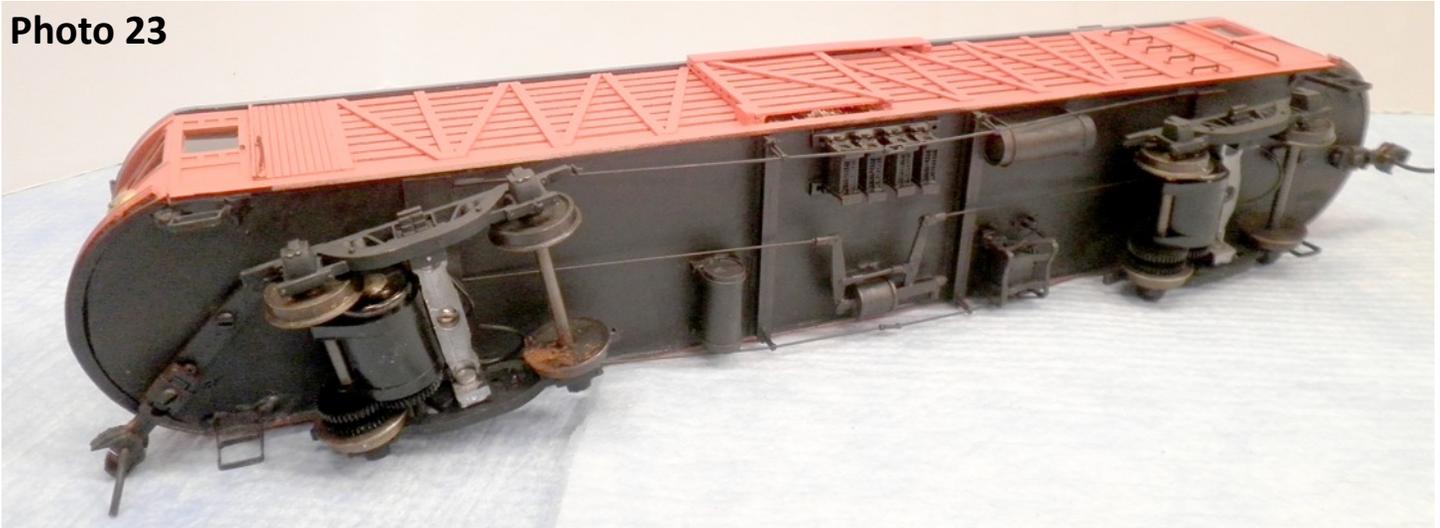
Photo 22



Details added to the roof included some more grab irons aligned with those along the car side. Roof walk boards painted Roof Brown were glued down to the supports. Roof bushings and pole hooks (Q-Car CS26) were glued down to the roof walk. Roof mats (Keil-line 48-500) were shaped to the end of the roof contours and painted Roof Brown. Once painted, the mats were glued into place at each end. The trolley poles were mounted through the roof bushings and into the roof itself (Photo 22).

The final detail to add was making this trolley function and move. During my semi-purge of kits and other debris from my shop at this time, I also took time to reacquaint myself with the contents of my trolley drive supplies shelf way up high over the bench. Amongst a lot of miscellaneous “stuff” that has since departed, I found a box of Magic Carpet drives (wish I could find more!) and a box of trucks and sideframes from a host of sources. I hit the pause button and presided over the assembly of a handful of drives that have since been put into use, but then also a pair of single motor trucks that found a home under this stock motor to bring it to completion (**Photo 23**).

Photo 23



Now that this is ready to roll on the track, I’ve called it done....for now. It’s not lettered and I’m not sure whether I’ll put the THI&E emblem on it and add one of the prototype numbers. And, I’m sure that I’ve managed to get things wrong or at least not accurate, but it was a fun and challenging build that checks off a long overdue box on my list of projects on my shop. Now it’s time to pull out one of the remaining boxes and see where I’m going next.

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Lighting Your Passenger Cars in a Prototypical Way!

Passenger Car Lighting with Battery Power Locomotives

By [Nick Bulgarino](#)

Questions, comments? [Contact Nick Bulgarino here](#)

Battery Power (also known as “Power Onboard” or “Deadrail”) is gaining popularity in model railroading. Advances in both decoder technology as well as smaller, lighter, more powerful batteries that allow for long run times have made this a reality. Battery power has an unusually high growth rate in O Scale compared to other scales due in part to our larger scale size, which makes putting a battery and decoder in even the smallest 0-4-0T achievable. I was convinced early on to adopt battery power over traditional DC/DCC because of battery power’s advantage: you don’t need the rails and wheels to deliver electricity to the locomotive’s electronics. This means there is no need to maintain pickups, cleaning the rails and wheels, or spending time trying to isolate bad/shorting wiring under the layout. Because the power source is onboard the locomotive, the consistent electrical connection makes your engines operate flawlessly. However, with no electricity running through the rails, lighting effects in rolling stock that use track power, in particular passenger cars, won’t work. They need to be powered separately. Therefore, one of the most common questions I get as a modeler who uses battery power is “how do you light the passenger cars?”

I will be using my model of the B&O Cincinnati to discuss how lighting with a battery powered locomotive can work. The engine is a Weaver B&O P7d 5303 from Nick Powell. The passenger cars are the Golden Gate Depot Cincinnati set, from Terry Terrance’s collection. I will give a description of how I designed the system, the electronics involved, and describe the installation of the system on the train set. This article will only cover lighting effects on passenger equipment with battery powered engines.

When moving a power source onboard a model, the all important question is: Where does the battery go? In locomotives, steam engines get the easy answer: put it in the tender. Tank engines and diesels can be trickier since space is more limited. There are battery options on the market now that allow any locomotive (in O Scale and larger) to get this conversion. Passenger cars are a different story because the space inside the model is reserved for interior detail. What does a battery system installed on passenger cars look like?

One option would be to give each car its own battery. The GGD cars have a plate that the underframe detail is molded onto. When you unscrew the plate, there is a hollow space underneath that has enough room for the car’s wiring plus some flat cell battery packs. This approach would work for these cars, but I will use this system for my other passenger cars as well. I looked at my Walthers, American Lightweight, and All Nation cars to see if flat cell batteries were practical. There were no false bottoms or easy way to get into the cars to install a battery, so no individual batteries in cars. Charging multiple cars at a time would have also been a challenge.

I want to take a moment to discuss charging batteries. I know there are some modelers who like to charge their batteries through the rails. While this does work, I do not advise this for two reasons. First, the main advantage of battery power is the elimination of the rails as the source of electricity for the models. This means no more stress about making sure the power pickups and wheels are clean and working. Introducing this back into the picture does not make sense to me, especially when discussing charging since there is now a variable that can disrupt the charging process; a plug easily solves this problem. Second, if you want to bring your equipment to a layout that uses track power (be it DC or DCC) then you’ll have a direct connection from your battery’s electronics to the layout’s electronics. Any contact between the two systems will result in damage to your electronics or the layout’s. Physical switches that enable charging are not a sufficient fail safe to me because hobby grade switches do fail under the right circumstances (ask me how I know) and the human element is at play (if you forget to turn the switch from “charge” to “run” there will be a connection). It is best to keep your battery electronics separate from the rails.

The next option I thought of was one battery for the whole consist. An express boxcar or baggage car to store a battery for the passenger cars. However, not all passenger trains have baggage/express cars, so there would be no place to hide a large enough battery. Couple that with the fact some baggage cars have luggage modeled and a lit interior, and I scrapped that idea too. The only other common element of a passenger train is the locomotive, meaning I'd use the locomotive's battery to power the lighting. This idea wasn't too far-fetched; you'd only need to run two wires down the length of the train, acting like a local bus wire, and each car's pickup wires would pull from there instead of the rails. Then came the matter of connecting the cars together, and it was at this point that I remembered an early project where I needed to do something similar.

One of my first projects was to install battery power on a model of Reading T1 2101 in its Chessie Steam Special scheme. For this article, the important aspect of this project was the need to illuminate the backup light on the auxiliary tender independently of the locomotive tender's backup light. I could not use the "BL" lighting output of the decoder for the auxiliary tender light (that was for the tender's backup light), so I wired it to an FX output (FX3 in this case). This meant running wires for Function Common and the FX3 from the decoder in the locomotive's tender to the auxiliary tender. If you look to the prototype for inspiration, you'd be surprised to find a new modeling opportunity. I looked at photographs of 2101 with the auxiliary tender and noticed two water lines just inside the frame running from the auxiliary tender to the locomotive tender.

I connected the auxiliary tender to the locomotive with two wires. See **Figure 1A and 1B**.

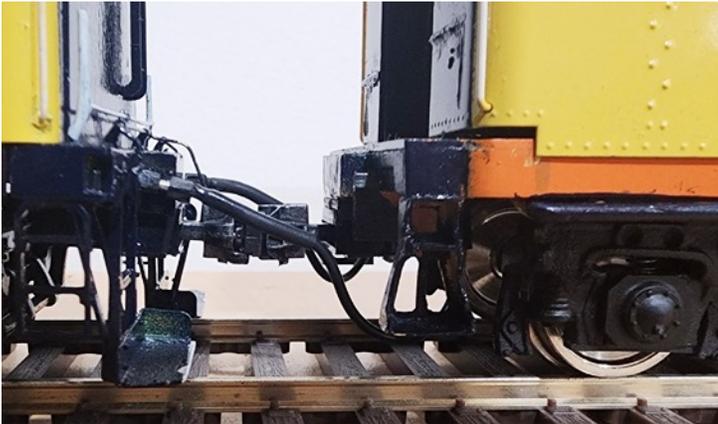


Figure 1A

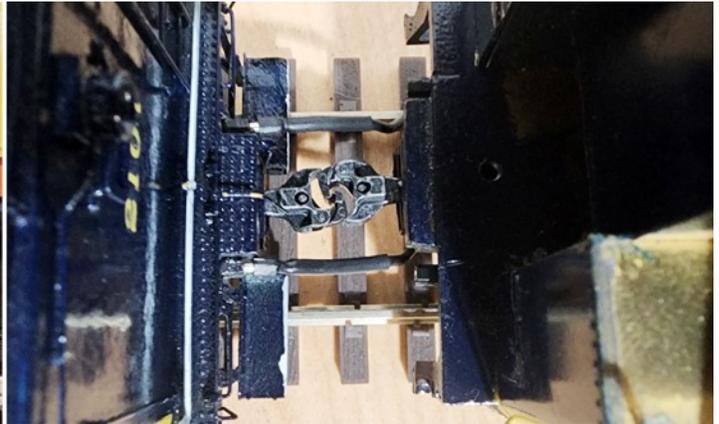


Figure 1B



Figure 2

The wires were made using 2.54mm connector pins. The female pins were attached to the locomotive, and the male pins were attached to the auxiliary tender. The male pins are soldered into the wiring already in the tender, meaning they are not removable. However, I added two female connectors to the auxiliary tender to allow male pins to plug into the car when not in use, see **Figure 2**. The 2101 project gave me the idea to adapt this approach for passenger cars.

For the Cincinnatian, let's turn to the prototype with this approach in mind. **Figure 3** shows the end of the P7d's tender from the book Baltimore And Ohio's Cincinnatian. On passenger equipment of this era, there are three pipes that run the length of the train: a steam line for climate control, the train line (brake line), and the main reservoir connection (or signal line). Look at the coupler. To the right, you see the train line (top prominent) and signal line (bottom and somewhat hidden), and to the left you see the steam line. That's three connections that run the length of the train, and you only need two to run power. From the same book, **Figure 4** shows the rounded end of the observation car. You can see the same three connections, albeit slightly hidden under the skirting.



Figure 3



Figure 4

The final piece of the puzzle was figuring out how to actually position the connectors and wires between the locomotive and cars. Again, let's return to **Figure 3** for inspiration. The steam and signal lines appear to be low and out of the way of the swing of the coupler's shaft. The train line looks to be in-line with it. Adapting this to the model was difficult since the model coupler's swing is wider than the prototype. **Figure 5** (next page) shows how I sketched out the piping positioning. On my engines and freight cars, I use Kadee 743's with an aftermarket stiffer spring. The coupler's motion is closer to the draft gear box than a 740/745 since the spring is located between the coupler head and the center of the draft gear box. The only slack with this approach is between the coupler knuckles. I find that this reduces the chance of damaging coupler pockets from excessive slack. **Figure 6** (next page) shows the underside view of the tender. The steam line was placed in-line with the coupler's shaft on the fireman's side. The train line is placed in-line with the steam line on the engineer's side, and the signal line is placed below it. These are attached to the draft gear box with UV glue. The air hose detail parts and wires are clear of the coupler's motion when in use. The steam line detail part is still in the way of the coupler's motion if used on a tight curve. Reasonably, I do not see an operating circumstance where the coupler would touch the detail part. For the final version, the steam line will be lowered to match the height of the signal line per the prototype. Now we need to figure out if the decoder can handle the electrical load of these cars.

This engine is equipped with the BLU-4408. The TSU-4400 and BLU-4408 have a function output of 400mA at track voltage (or of your battery in this case) minus 1.5V. The TSU-2200 and BLU-2200 have decoder outputs of 100mA at 12 volts. The Function Common (V+ on 4400's, blue wire on 2200's) is the positive connection for lighting outputs; the FX output is negative.

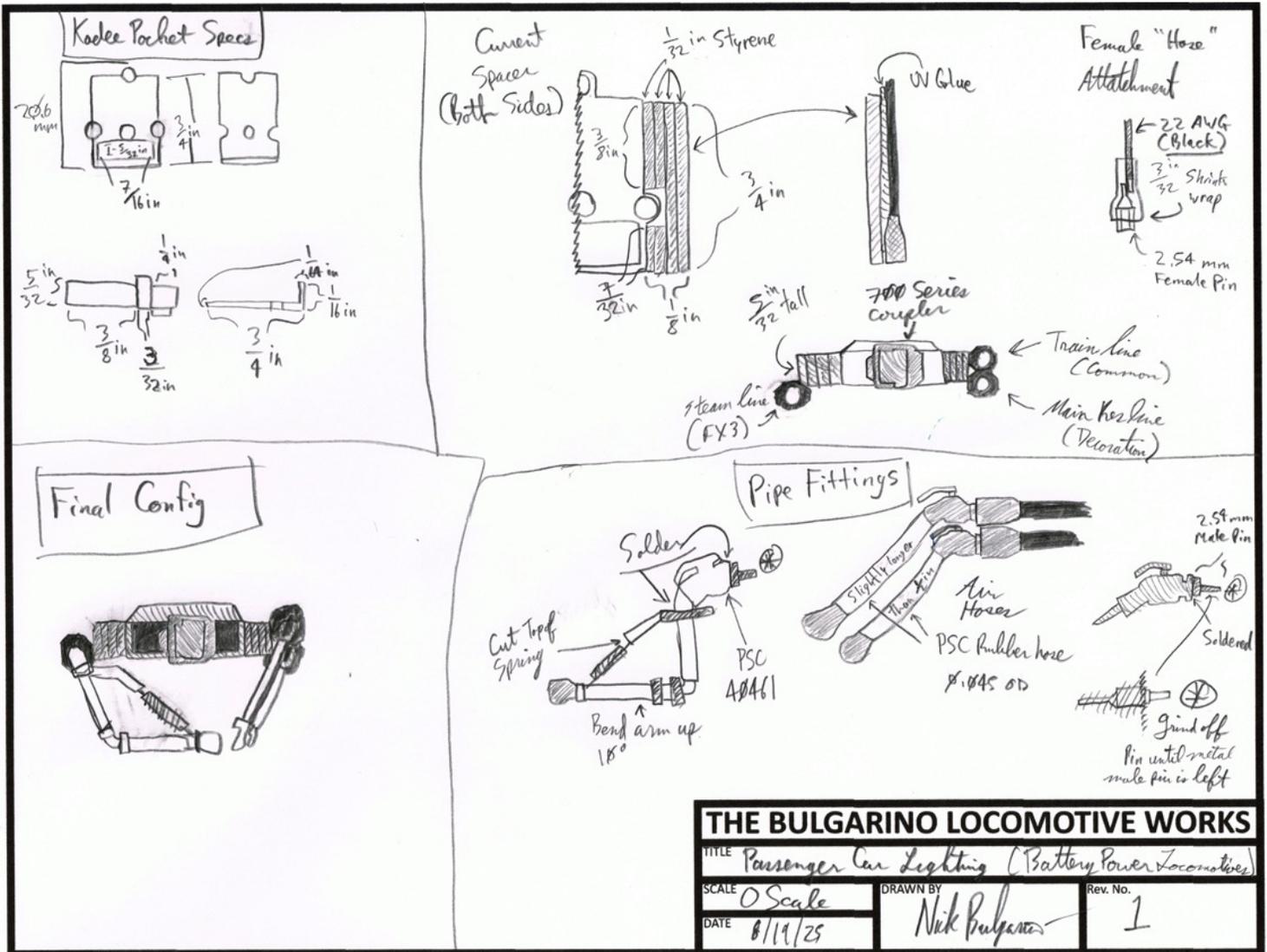
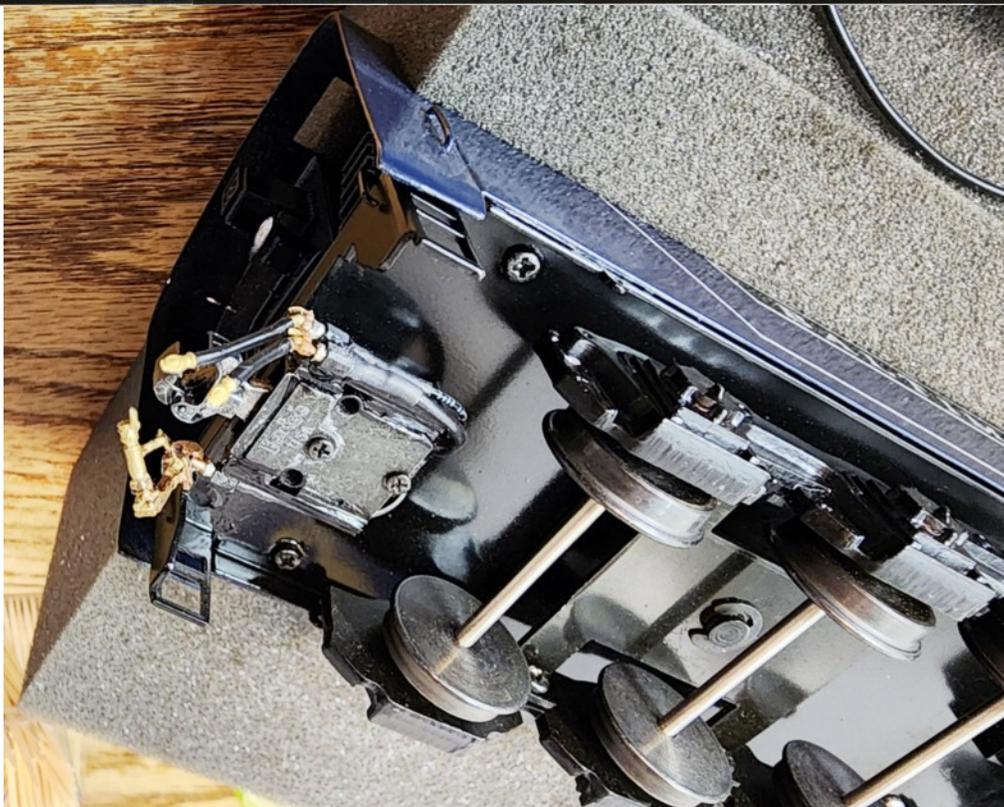


Figure 5 above

Figure 6 left



This is important if what you're wiring is polarity dependent, such as LED's or devices like external voltage regulators.

When setting up the wiring for the lighting system, I put the Function Common wire through the train line and the FX wire through the steam line. The signal line is not electrically functional, but I included it on the finished train to model the cars more accurately.

The Golden Gate Depot cars in this trainset are equipped with LED lighting boards. These boards are wired in a way that is indifferent to polarity. However, polarity dictates if the red marker lights are lit on the observation car. To do this on your own, make sure you test your cars by putting them on track power and switching polarity. I found on my observation car that wiring red to the Function Common and black to FX3 was the configuration needed to light the red marker lights, and reversing that shut only those lights off.

I measured the power draw of the cars wired in parallel by placing the cars on the rails and hooking up a multimeter in series between the power pack and the rails. I measured the cars individually and as a whole train. The amp draws varied slightly between cars, but they averaged 1.96mA individually. The 5-car train pulled only 6.96mA. The 400mAh output is more than enough to handle the LED lighting strips in the GGD passenger cars. I also have passenger cars with incandescent bulbs. They pull (on average) 2.16mA individually (the highest individual car pulled 2.91mA); an 8-car train was pulling 11.2mA. This is also well within the decoder's specs. This means that a locomotive with a 4400 or 4408 connected to a train of only these incandescent bulbs, in theory, can pull 132 cars before reaching the decoder's max (nearly 200 cars if you used only LED's). I also tested mixing LED and incandescent lighting, which the decoder handled with no problem. I will note that after consulting with an electrical engineer friend, directly connecting the cars with the pin connectors described later may decrease amp draw due to lower resistance of power delivery.

This approach will work with track powered decoders as well since the power for the lights is delivered through the function output of the decoder. This may be desirable to avoid flickering lights in passenger cars while on track power (assuming a large enough keep-alive) or to control lighting effects.

On the prototype, the physical connections between cars are glad hand hoses and pipes. For the model, the connectors needed to be small enough to fit between the cars, but large enough to stay connected through turns and withstand some reasonable force. I used 2.54mm round connectors and 26 AWG strand core wire for this purpose. Rectangle connectors are available, but the benefit of the round connector is the ability for the male pin to rotate in the female connector in cases where the wire is torqued. I tested rectangle connectors, which I found would put strain on the solder joint and break when torqued. **Figure 7** (next page) shows the drawings of the system components. Passenger cars and locomotives have female connectors; the hoses are male. This makes connecting easier and damage to the system during transit less likely. 3D printed spacers surround the Kadee coupler box, which the female 2.54mm connectors are UV glued to. The spacers are also UV glued to the sides of the draft gear box. This allows the male connectors to clear the coupler's side-to-side motion by 1/8th of an inch.

I modified PSC castings of angle cocks, glad hands, and steam lines to fit into the female connectors for when locomotives and cars are not in use, seen in **Figure 6**. This is strictly for modeling purposes. Connecting detail parts made of brass to a live electrical circuit is normally not a good idea. However, in this design, there is no opportunity to ground out the decoder with the detail parts since the brass steam line casting is not large enough to touch the train line plug, and the gladhands are insulated by the rubber tubing on the train line detail part. The steam line and air lines are different lengths of wire. Those who know the prototype will note the two air lines and steam line cross over each other. I model this as well. Having the lines cross over each other in an "X" shape is preferable due to the slack action on the wire being minimized on curves. In **Figure 8 and Figure 9** (next page), you can see the test train on a 54" radius curve (the tightest these cars can handle).

There are only a few differences between a battery powered engine and a traditional DCC installation. The most important difference is that the Left Rail/Right Rail inputs go to the battery infrastructure instead of the rails. I will skip discussion of the decoder install shown in **Figure 10** (next page); the important information to know is that five wires were run to the tender from the decoder: Left Rail and Right Rail (which go to the battery), Function Common, Backup Light, and FX3. The battery in the tender is a Tenergy Li-Ion 5200mAh 10.8V 5.7A battery (p/n 31016). The 4400-series decoder FX output operates at the provided voltage minus 1.5 volts, meaning the 4408 output would provide 9.3 volts. The Golden Gate Depot passenger cars look better at 16 volts, and the other passenger cars in my collection have incandescent bulbs rated for that voltage. I used a "step up module" to raise the voltage from 9.3v to 16v, which increases the brightness of the lights.

Pictures are hard to show this in, so I do not have a figure depicting the difference in brightness, but you can try this at home by applying 9.3v and 16v to the track to see the brightness difference.

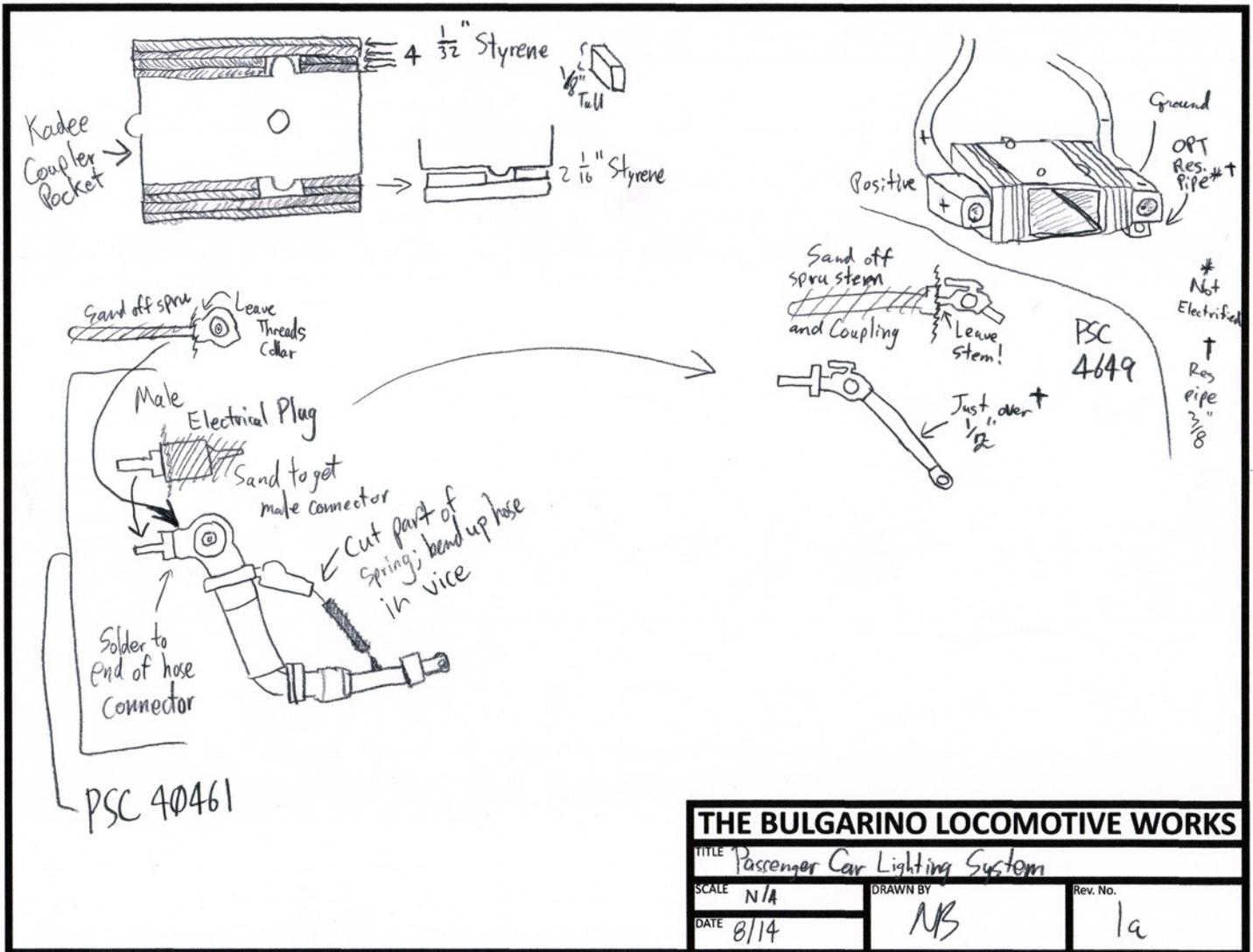


Figure 7 above
Figure 8 below





*Figure 9 above
Figure 10 below*



Figure 11 (next page) shows the step up module being tested in the tender's wiring. The Function Common is wired to the IN+ solder pad, with the FX3 input is wired to the IN- solder pad. It is important to use a multimeter to confirm the output of the module, as depicted here. **Figure 12** (next page) shows the step up module installed in the tender. The OUT+ is connected to the train line, and the OUT- is connected to the steam line.

I needed to run two wires across the bottom of the car, using the wire originally connected to the pickups as the access to the LED boards. The Golden Gate Depot cars have a plate with undercarriage detail I could unscrew, see **Figure 13** (next page), which made the red and black wires easily accessible. I rearranged the wiring, removing the on/off switch for the lighting. This gave me one red and one black wire from the interior.

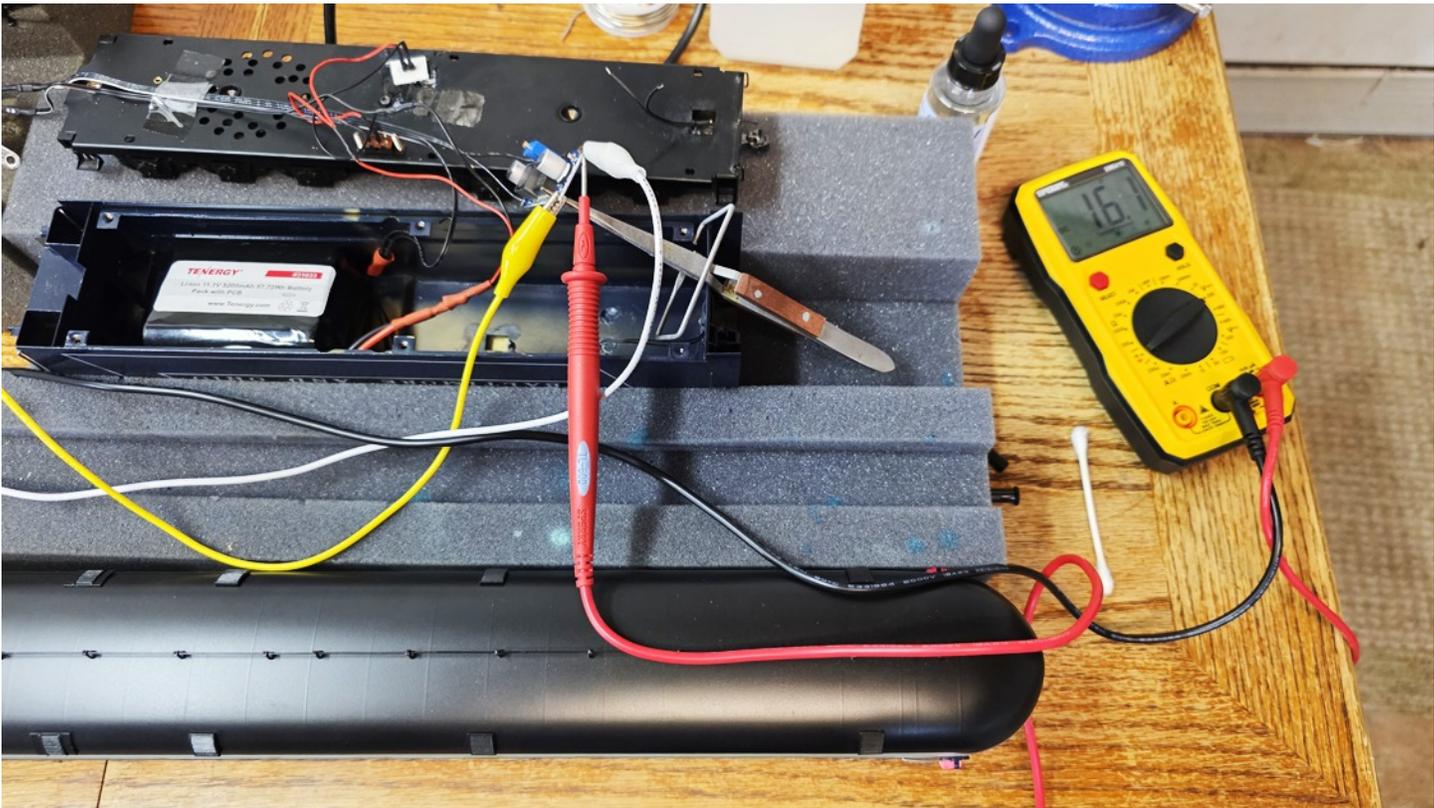
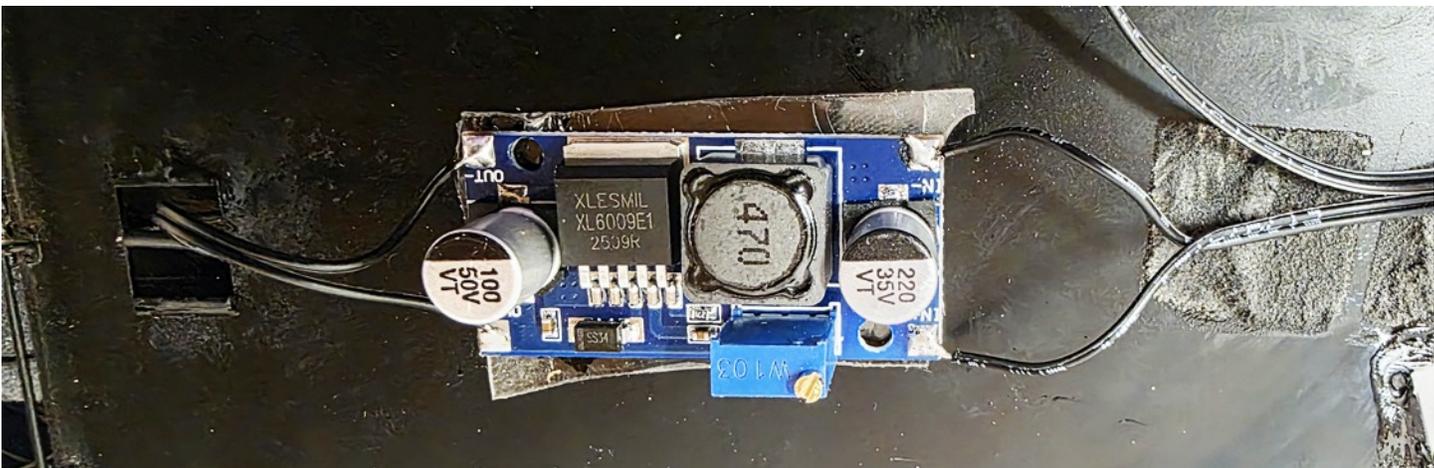


Figure 11 above
Figure 12 middle
Figure 13 bottom



The red wire was split into the steam line wire and ran across the car; the same was done with the black wire and the train line. In the middle of the car, the lines cross each other, held in place by the undercarriage detail plate. Figure 14A and 14B show the ends of the passenger car post installation.

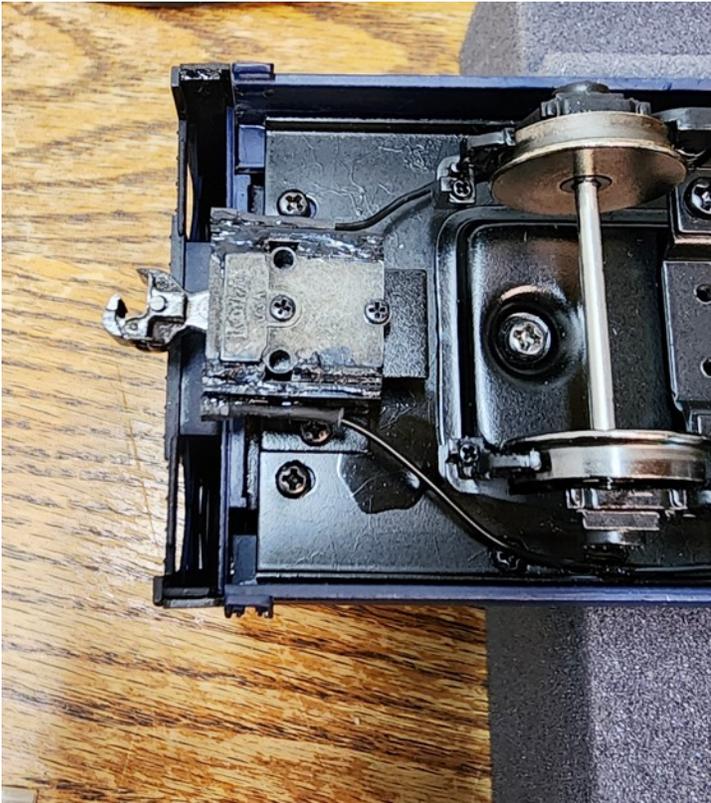


Figure 14A

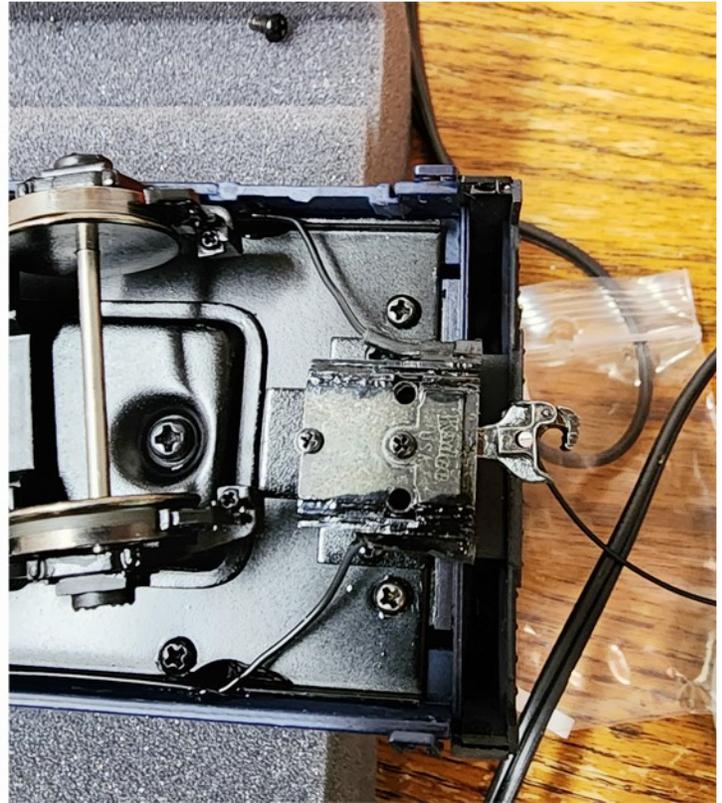


Figure 14B



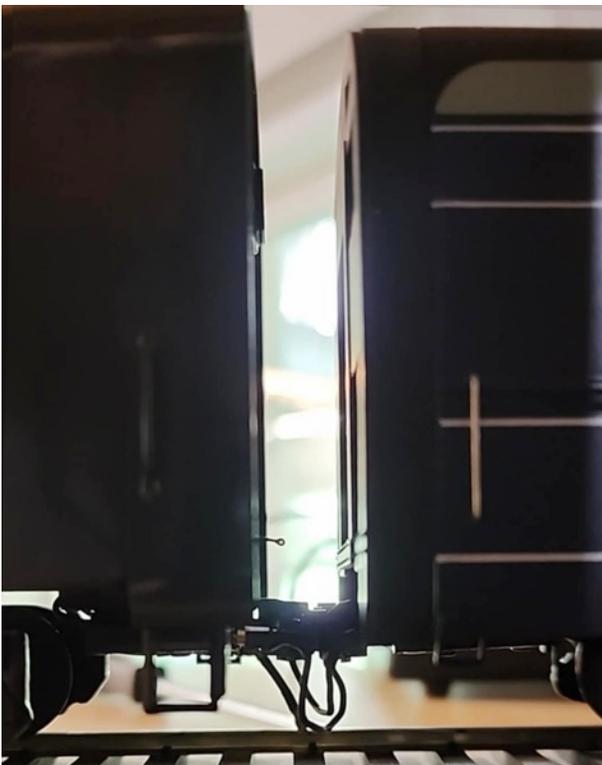
A small amount of UV glue was applied to the wire to keep it clear of the motion of the trucks and hold it in place under the skirting. The only car that required a separate approach was the observation car. **Figure 2** shows the steam line in a receded position and there is a notch cut in the skirting for the train line. **Figure 15** shows the tail end of the observation car with the notch drilled into the skirting for the female connector of the train and signal lines respectively. The detail parts are removable since these lines are still live and part of the system.

What's great about this system is the modeling opportunities beyond traditional undercarriage detail. **Figure 16** (next page) shows the end of the baggage-café car with the details applied. Again, these details are removable in the event you need to hook up the car to another passenger car. The brass detail parts are connected to the electrical system, but if they touch, they won't cause a short. This is because the train and signal lines are insulated with the rubber hose (and I did test that to be sure).

Figure 15



Figure 16 above, Figure 17 below



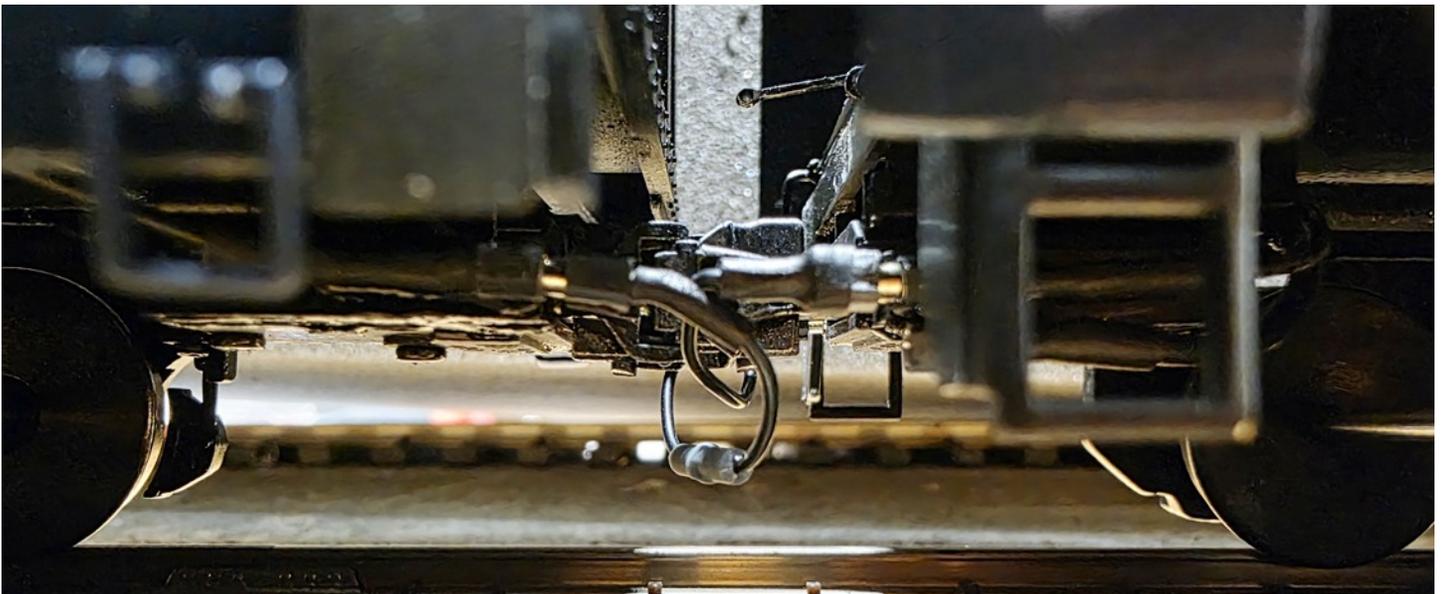
The modeling effect had been achieved. **Figure 17** shows the engine and baggage-café car connected on the test train.

The only thing left to do was design detail parts to use over the wire to simulate glad hands and steam lines. The concept was simple: make sleeves to fit over 26-gauge wire that mimic connected gladhands and steam piping. I worked with Dylan Lambert of Lambert Locomotive works to design piping based off of research material I had on passenger car steam and air lines. **Figure 18** (next page) shows the sleeve for the steam pipe fitting over the 26 gauge wire. **Figure 19** (next page) shows the steam pipe between the cars. When applied to the model, the effect is quite stunning!

The goal of this project was to create something unique, functional, and create a new approach to modeling the prototype. Now that the initial idea has been worked on, there were many lessons learned! The first lesson learned is problems solved on paper won't need to be solved by your wallet.



*Figure 18 above
Figure 19 below*



Lots of wasted solder, wire, and a decoder, could have been avoided if I had done some more thinking on paper. The second lesson is some problems can't be solved on paper. One of the trickier aspects of this project was fine-tuning the lengths of wire for the air hoses and steam lines. You can calculate the length because Kadee draft gear is a set standard distance apart, but there are some finer aspects to the art that no engineering note can capture. No battle plan survives contact with the enemy. The final lesson is that you don't need to do a project like this on your own. I am still learning a lot about electronics, as well as the prototype. I had to consult books on the prototype, ask Dylan Lambert to help with detail parts, consult an electrical engineer friend, and work with George at Soundtraxx to help me figure out the wiring on the step up module.



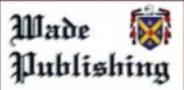
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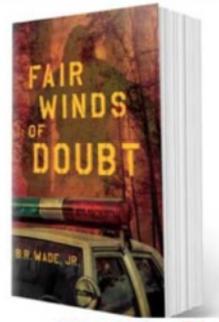
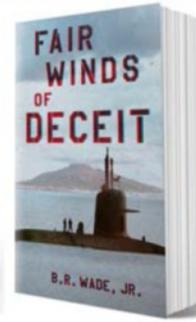
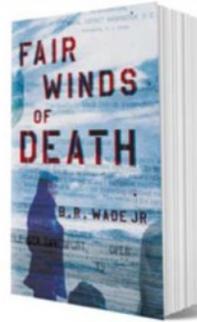
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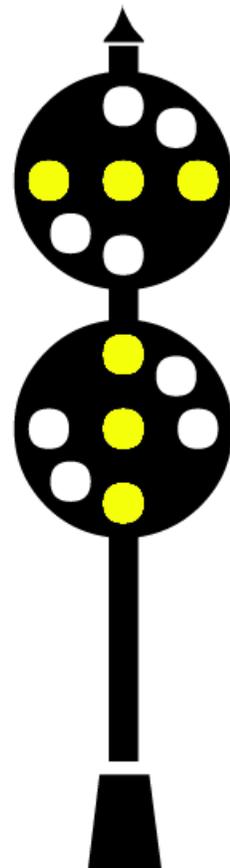
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Off-Line Business is Good Business

By [George Paxon](#)

Questions, comments? Contact [George Paxon here](#)

The Mountain Electric certainly needs revenue, and in the 1930s revenue is hard to come by. But in our model world real estate is also a limited commodity, so layout space needs to be used efficiently. One way to get the most out of our available real estate, while still supplying lots of revenue for the railway, is to model some of our industries off-line.

Some industries by their nature can chew up more real estate than others. Modelling a steel mill is a major undertaking and requires serious space – particularly in O scale. Our mate Neville Rossiter has done quite a nice job of this over in Perth, Australia. Neville's mill is impressive. But it is bloody big.

Another good example of an industry that many of us model, and that needs lots of space, is a sawmill which in the real world often includes follow-on value adding wood processing facilities.

A sawmill big enough to justify rail service usually has a large area for log storage, often a log pond of many acres. Sometimes it is a dry log storage area. But any such storage area is usually big to ensure a sufficient supply of logs to keep the sawmill going no matter what the weather or supply chain delays. In area subject to big snowfalls, such sawmills stockpiled considerable logs to keep the mill busy during the winter when delivery of additional logs could be an issue.

The sawmill itself was usually a seriously large structure. You had the one or two saw decks where logs were pulled into the building and initially cut on circular or band saws. This was usually followed by a re-saw operations where large slabs cut from the log in the first step were further reduced into board size. Usually, an edger removed the rough edges from such boards. A cut-off saw docked the boards to required lengths. All the sawn boards then passed through conveyors that moved them out of the main sawmill building and to drying stacks. Such stacks often covered many acres of land as natural drying took quite a while. Some such stack were 20 or 30 feet high and arranged along many railroad tracks.

Sawmills often had drying kilns as well where some boards were taken to dry in steam heat much quicker.

Planing mills put the dressed finish on rough boards after the drying process.

Dried and planed boards were sorted and packed into rail cars for shipment. A large loading area where rail cars were parked next to conveyors that moved the boards from the planing mill was required.

Scrap wood was often used to make other products rather than wasted. Box works converted some of the lesser quality wood into shipping boxes for fruit, vegetables and other commodities. Many sawmills had a kindling wood factory where scrap wood was dried, cut and banded into parcels for sale in the cities as kindling. Some hardwood sawmills fed stave mills for making barrels. Some made shingles and lath. Clothespin mills, toothpick mills, match stick mills, along with other similar allied industries often were co-located with a sawmill.

Most sawmills in the early days had a large steam boiler and engine. The boiler burned some of the waste sawdust and edgings to generate the steam needed to power the mill and heat the drying kilns. Almost all sawmills had a large slash burner where sawdust, edgings and other leftovers were burned as waste when there was no other use for the remaining wood products.

There was often rail operations, engine houses, car repair shops, etc., supporting the railroad that brought the logs to the mills and moved the timber around the yard. Later this turned into truck and bulldozer operations and repair.

Some sawmills chipped the waste timber, loaded high side hoppers with the chip and sent this off to paper mills. This required a chipping mill and loading facility as well as tracks for empty and loaded wood chip rail cars. Later day products such as plywood and chipboard were other follow-on operations.

Many mills had accommodation for workers, warehouses, and workshops to maintain the mill, etc..

If a sawmill had a creosote plant associated with it to provide the preservative treatment often accomplished on railroad sleepers, bridge timbers, and other wood products intended for outdoor use; the real estate requirement for this follow-on business was equally demanding.

All in all, accommodating even part of the above would require a big chunk of real estate in the prototype or model world. **Photo 1**, unknown photographer, shows a sawmill at center with log pond, slash burner, lumber storage in foreground, etc. Quite a bit of real estate needed here.

In our model world we often do not have near enough real estate to accommodate even a small portion of such an industry. But, we need such industries never-the-less. The solution is obviously to model such industries off-line.



There is nothing original nor new about off-line modeling. When loads arrive from an interchange, another railroad with which your line connects, these loads come from an off-line industry. Similarly, when we ship a loaded car, or return an empty for that matter, via an interchange, we are delivering a car to an off-line destination. When developing your traffic list for your layout, having many suppliers and customers off-line is another way to implement this concept.

In the off-line modelling concept, we really need not much more than a turnout and a track leading off the layout where the phantom industry is supposedly located. If space permits, several tracks could form an interchange yard with the industry. Rail cars are placed and pulled as needed by the business. Sometimes its loads in and empties out. Sometimes the reverse. And sometimes it is both.

Sawmills receive cars loaded with logs and dispatch empty log cars back to the woods for more logs. And, empty box cars, gons and flats were received, loaded with manufactured wood products, and the loaded cars dispatched to customers.

Sometimes the logs were delivered to the mill by a private rail operation and were not a revenue item for the servicing railroad. In other lumber operations, the private railroad interchanged with the servicing railroad some distance from the mill. Log cars were interchanged at the distant location and moved by the servicing railroad to the mill.

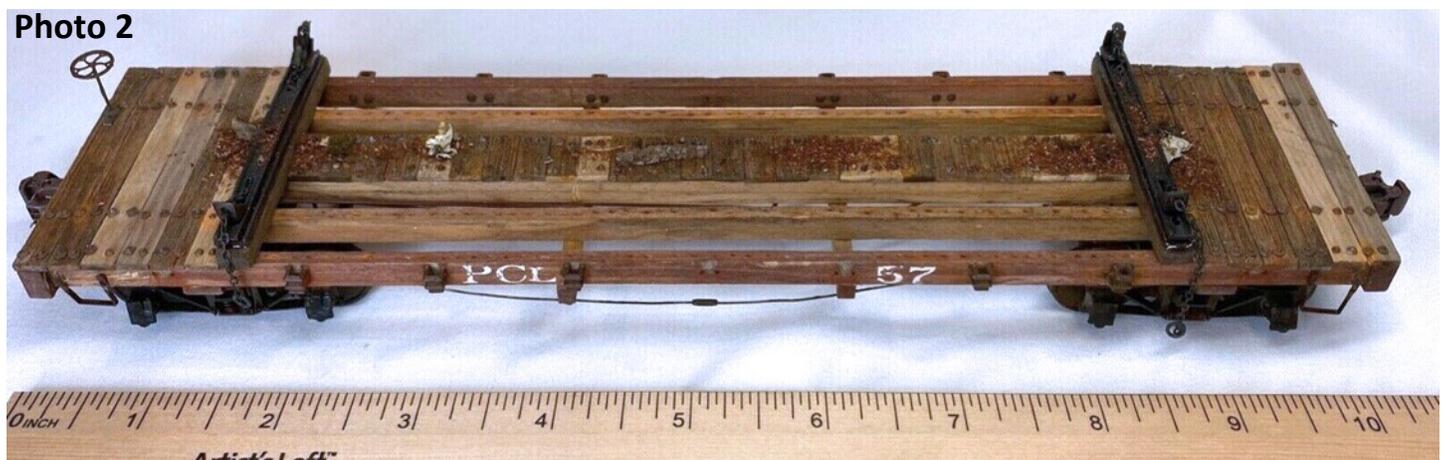
In the off-line modelling concept, a sawmill represented by the turnout and interchange track, with a bit of imagination, a small bit of scenery, maybe an allied structure, maybe just a photo pasted onto the backdrop, and a well fleshed out car card system, could generate an impressive amount of traffic for a model railroad without the need to model any more of such an industry.

My Mountain Electric is real estate poor. The layout is constrained as space is a premium. To accommodate our lumber related industries, and others, we had to resort to modelling them as off-line. We will have a sawmill and a few other such off-line lumber related industries.

At one time there were many sawmills in the Pennsylvania Coke Region I model. This was mostly before the coal and coke boom however. Our sawmill at Old Cokeworks, on the layout, is one of the few remaining in the area. The Coke Region was once heavily timbered and covered in virgin forest with tree of considerable size. Beginning in the 1700s, the area was cut over, the lumber removed, and the barren land abandoned and considered worthless as it was in many places too rocky and hilly for economic farming. Hardwood trees not suitable for lumber were cut and used to make charcoal needed for the early iron smelting businesses that proliferated all through southern Pennsylvania in the early and mid-1800s. Much of the southwest Pennsylvania land was purchased for next to nothing by the coal and coke firms once that boom began in the later half of the 1800s.

The sawmill at Old Cokeworks continues in business today due in part to the ME Ry. Our line extends east to Somerset, Pennsylvania, and there are areas near Somerset, along the high ridges of the Allegheny Mountains, that contain the remaining virgin timber in southwestern Pennsylvania. These areas are still being cut in the 1930s. The ME Ry will provide a conduit for economically moving logs from the Somerset area to the sawmill at Old Cokeworks as soon as I get around to building a few logging flats.

When contemplating the building of something, I usually look around to see what those before me have done. I ran across **Photo 2** of a logging flat. This model was for sale on Ebay and I saved it in my "idea file" as it would be a good plan to work from for my flatcars. This model by an unknown builder has some very nice features. There is no decking between the bunks as it would serve no purpose. The heavy timbers and log bunks



are placed just over the truck centers to support the load at the strongest points of the car. Notice the bark debris on the deck. The level of detail and weathering on this model is very good and I would hope to do as well with my cars. I will change the design of my cars somewhat and add two additional log bunks over the needle beams so that two piles of short logs can be accommodated as this was more the norm in eastern logging in the later years. See **Photo 3**.

The sawmill at Old Cokeworks will be a relatively small one and will only get a few carloads of logs a day by rail to supplement other logs delivered by trucks from some re-growth areas near the mill. With just a few logging flats, the delivery of logs certainly will not provide much traffic for the Mountain Electric. Log delivery could be expanded over time just by building more flats though. Some could be loaded and some

Photo 3



empty to model loads in and empties out. But most of the cut lumber from our offline mill will be moved to market via the Mountain Electric and this will provide additional needed business.

Our sawmill will be no more than a turnout and a track leading through a fence gate just long enough for a few cars. See **Figure 1**. We will doll it up a bit with some piles of cut lumber stacked in the drying yard.

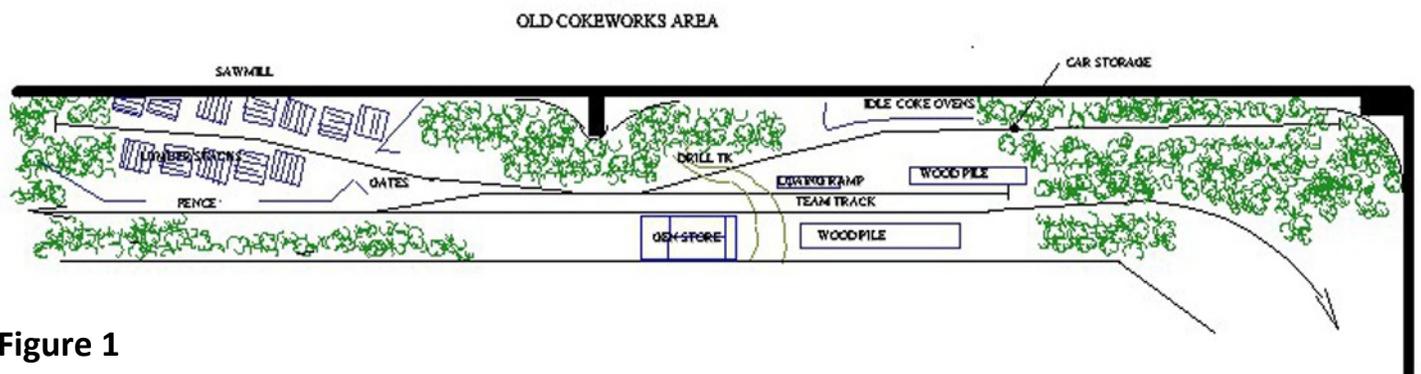


Figure 1

A byproduct from our sawmill industry is sawdust. Some is sent by gondola to an ice house for packing ice in storage. Stock yards can use sawdust for bedding in stock cars, too. Only a few cars a month of sawdust are dispatched for these uses, but it provides the Mountain Electric with a bit of revenue. Otherwise, sawdust is burned as waste at the mill.

There is talk in the timber industry of using sawdust for the manufacture of pressed sheets of timber building materials. Similarly, there is a plan to use wood shavings from the planning process to make another new chip board product as well. The sawmill at Old Cokeworks is monitoring the development of these new technologies eagerly. And the Mountain Electric is also keenly watching to see if a new customer for these by-products could provide some revenue loads from the sawmill. Looks like there may be a chipboard factory in the Mountain Electric's future.

There are other lumber related off-line industries as well.

Mine props and pulpwood will be loaded by several other customers at another siding also located at Old Cokeworks.

These products can be trucked from cutting locations in the surrounding hills and loaded onto railcars at the siding. Pulpwood can be stacked along the track until sufficient to justify ordering empty railcars for loading. Mine props are an important revenue item in the Coke Region. Coal mines are everywhere, and all have a substantial appetite for mine props to support the roof of ever advancing tunnels as the mines chase the seams of valuable coal.



Photo 4

Photo 4 is of mine props in use and what they are intended to avoid. Looks like the pit boss is going over the roof area of the fall looking for any additional loose shale to pull down before it falls unexpectedly and hurts a miner. Sometimes you also see the feet of a miner sticking out from under such a rock fall, but it appears in this case they were lucky. Mine props are intended to avoid roof falls, but it did not seem to help this one much.

Once the virgin pine, hemlock and other valuable softwoods and giant oak, walnut and cherry hardwoods were cut off by clear felling many years ago in the area, second and third growth of small hardwoods has taken the place of the native timbers. These small hardwood trees are ideal for mine props. These trees are now cut and sold to mines.

Pennsylvania was never known for a big pulpwood industry. A few paper mills did exist in the state. But there was a roaring paper business in neighboring West Virginia just to the south of the area the Mountain Electric calls home. West Virginia Pulp and Paper Company is a big firm down there that seems to have an insatiable need for pulpwood. Pine is the most desirable timber for paper pulp and used for newsprint, cardboard cartons and other paper products. But the small hardwood trees in the Coke Region are valuable for making fine writing papers.

Most small trees that make good mine props also make good pulpwood. As the price of mine props and pulpwood fluctuate, based on the ups and downs of the coal industry and the paper industry, local cutting crews in the Old Cokeworks area of the layout manage to make a reasonable profit from working for and between the two industries. Carloads of mine props can be shipped to local, and some more distant mines, and carloads of pulpwood can be dispatched south to West Virginia Pulp and Paper Company when they offer a reasonable

price for paper wood delivered to their mills. It is not big business, but it is business, and any business helps during this Great Depression.

One problem the Mountain Electric had is getting pulpwood racks for the traffic. Not many Pittsburgh area railroads had them on their roster. The Western Maryland was the exception. Moving pulp logs by standard gons was unattractive to the pulp mill as unloading the car was more time consuming and expensive. To keep this traffic, the Mountain Electric has purchased a few used pulp racks. [Not to long ago OSR had an article on a scratch-built Mississippi Central pulpwood rack, see Photo 5.](#) This car will help move our pulp wood to market.

Photo 5



For yet another lumber related industry, we will have an off-line creosote works located near West Newton which is accessed via the Yough River ferry. The ferry will be on the layout, but West Newton is definitely off-line.

Most of the predecessor firms to the Mountain Electric: little town trolley lines, standard and narrow-gauge coal roads, etc., used untreated ties when building their lines late in the 1800s. Most of this trackage now requires new ties to make it marginally safe for moving heavy coal hoppers today. The Mountain Electric is a good customer for treated ties as a result. Once the Yough ferry operation begins, the Mountain Electric will be able to obtain treated ties from the West Newton Creosote Works for a much better price than from firms located in Pittsburgh and further afield. West Penn Railways, Pittsburgh Railways Co. and the Pittsburgh & West Virginia Railway all connect with the Mountain Electric and should find the West Newton supply of treated ties attractive as well. The Mountain Electric can move carloads of treated ties to these other roads via their interchanges.

Treated poles for overhead wire support will be purchased by the Mountain Electric from the West Newton Creosote Works, too. And the local power company, West Penn Power, is extending electric service to remote and previously unserved areas in the region, and they also will purchase creosoted poles which can be delivered to various team track along the line.

The Koppers Company will ship the creosote from its Pittsburgh plant to the West Newton Creosote Works via the Mountain Electric and the ferry as well. **Photo 6 on next page**, shows a Koppers tank car used in this service.

Other larger steam roads with which the Mountain electric interchanges, the B&O, P&LE and Pennsy, all operate their own tie creosoting plants. The West Newton Creosote Works has not so far been able to sell treated ties to these bigger roads unfortunately. So, this means no extra business for the Mountain Electric. The West Newton Creosote Works and the ME Ry's traffic department are hopeful the big roads will need more

Photo 6



treated ties than their own creosote plants can supply, and they will become customers one day, when the depressed economy improves and reducing the deferred track maintenance backlog becomes a priority.

When the Mountain Electric needs to make repairs to its wooden bridges and trestles, it can order treated timber from the West Newton Creosote Works cut to size for these jobs. The Works would be happy to do this custom work for the Mountain Electric. The precut timbers reduce the amount of work at the repair site and saves the railway quite a bit of money. The West Penn Railway can also use treated timber from West Newton for some of their bridge work, and it can travel via the Mountain Electric to the interchange at Scottdale.

Some of the scrap wood not suitable for preserving at the West Newton Creosote Works can be cut, split and sold for firewood. The Mountain Electric can bring the firewood across the river in gons by the ferry and deliver it, see **Photo 7**, to several fuel yard customers along its line.

Photo 7



Another recently acquired customer for West Newton treated timber is the National Parks Service. Some of the area land, after coal is extracted, has been sold to the National Parks Service. This land is being rehabilitated for recreational use. This usually requires much treated timber for road bridges, retaining walls, camping grounds, hiking trails etc. The National Parks Service can receive carloads of treated timber from West Newton via the ferry and delivered to the team tracks at several towns along the Mountain Electric.

And, not all off-line industries need a track leading to a phantom location. There is a furniture factory located in Jacobs Creek, but not located along the tracks nor served by a siding. The factory will receive its supply of premium dried hardwood by box cars at the Mountain Electric's team track in Jacobs Creek. The factory also can load boxcars with finished furniture at the team track.

We have an off-line window and door manufacturer, Wonderful Windows Co., that is also served via a team track.

There can be off-line industries other than lumber related ones, too.

Similar to the creosote traffic is road oil made from coal tar. This is moved from the byproduct coking work of J&L Steel Company at Aliquippa, Pennsylvania, an off-line industry, to the State Highway Department and delivered at team track along the Mountain Electric in dedicated tank cars. See **Photo 8**.



We have several more coal mines planned along the Mountain Electric. **Photos 9** and **10** show two as they were on the previous narrow-gauge layout. They will be easy to relocate to the new layout. These are fully modeled and have large tipples where the coal is sized, cleaned and loaded into gons and hoppers. One new mine along the river, yet to be built, will load most of its coal in barges, but it does load some on the railroad as well. Since coal and coke are really **THE** business in the Coke Region, I felt more mining operations were needed if the layout was to do a good job of reflecting the Coke Region during the 1930s. But I had nowhere to put them except maybe on the ceiling of the layout room. As a result, three more mines were included and modeled as off-line industries.

Photo 9



The biggest coal and coke producer in the Coke Region by far was the H.C. Frick Coal and Coke Company. It had mines every few miles and probably owned 70 percent of the one-time 40,000 coke ovens in the region. Pittsburgh Coal Company was another large concern that operated along the Monongahela River. In our model world, the Pittsburgh Coal Company has invaded the area considered by Frick to be his domain. Several mines have been developed on coal lands owned by Pittsburgh Coal in the Coke Region. One mine is located at Elm Park and another is near West Newton. At one time Pittsburgh Coal owned the mine at Jacobs Creek as well. Pittsburgh Coal was mining metallurgical coal for making coke and planned to close the Jacobs Creek Mine as coking coal was exhausted there. But the Jacobs Creek mine has been sold to independent operators who now mine the remaining coal in the mine for use for local heating. They are doing a nice business as the Jacobs Creek Coal Company.

The mine at Jacobs Creek and Elm Park are just sidings that dead end in tunnels. The track at Jacobs Creek holds 3 hoppers or gons and Elm Park 4 such cars. The tunnels at these mines are low, have no overhead wires, and cannot accommodate high cars.

Another, the West Newton mine, will be serviced via the Yough River ferry so cars to and from the mine are only placed and pulled to/from the ferry in the town of Yough Ferry.



Photo 10

In operations, the empties delivered to Jacobs Creek and Elm Park Mines are changed to loads in between operating sessions. Car cards are switched so the loads reflect the car numbers ready for pulling from the mine sidings. Empties placed on the Yough ferry for delivery to the mine can be removed and placed in hidden storage to simulate movement to the mine. Loads can then be moved from hidden storage to the ferry,

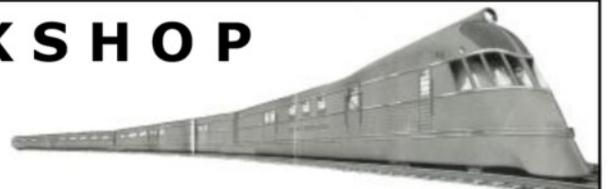
using my 0-5-0 switcher, which means they have been loaded and returned from the mine by the ferry and are ready for shipment to market. Car cards will be shuffled to get the car numbers ready for pulling the cars from the ferry.

In the real world, just north of the town of Monongahela on the west side of the river, West Penn Power had a large power plant, Mitchel Station. Coal from an adjacent mine fueled the plant as well as coal delivered by barge. This plant produced large amounts of waste cinders that had many local uses. Cinders went to the state, county and local governments for use on icy roads in the winter. Some was used as railroad ballast by poor lines that found it difficult to afford crushed rock. At one time it was used to manufacture light weight cinder blocks – cement building blocks that used cinders in the concrete mix. On the Mountain Electric, cinders from the West Penn plant come via the Pittsburgh Railways Co (PRCo) interchange and are used by the Mountain Electric as ballast on secondary track as well as fill material. It is also delivered to the state and county at team tracks along the line for use on icy roads. And we are looking into a cinder block factory that would be another customer for cinders as well as for sand and cement. With the West Penn power plant well off-line, this was another traffic generator that did not need any precious real estate to model effectively. Not even a disappearing siding is required here as, in our model world, the industry is served via the already existing PRCo interchange track.

Working off-line industries into your scheme of operations can seriously expand your traffic with no increased demand on your limited real estate. Give it some thought.

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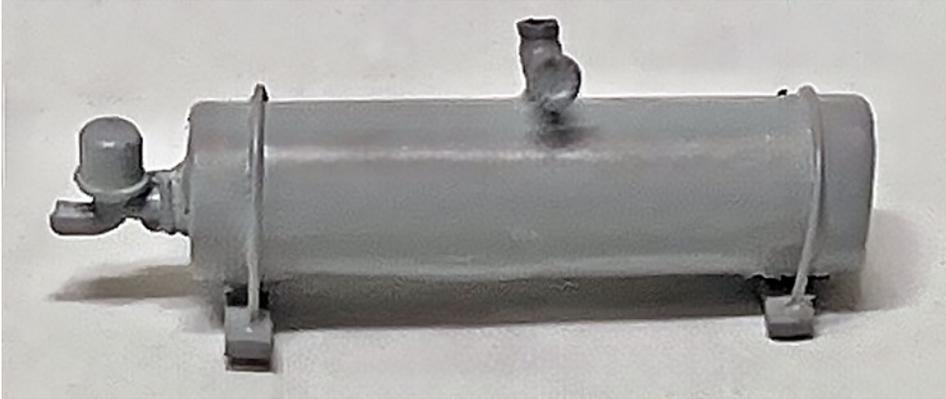
Canadian Forest Product Converted Steam Locomotive to Internal Combustion (part 2)

By William W. Davis

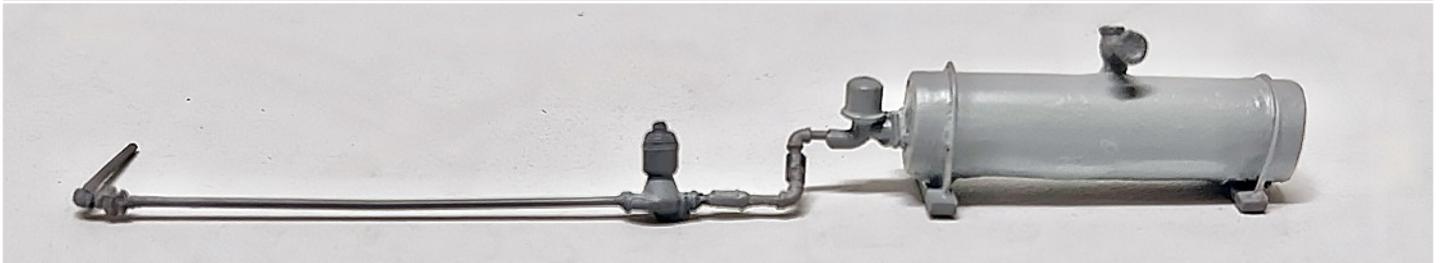
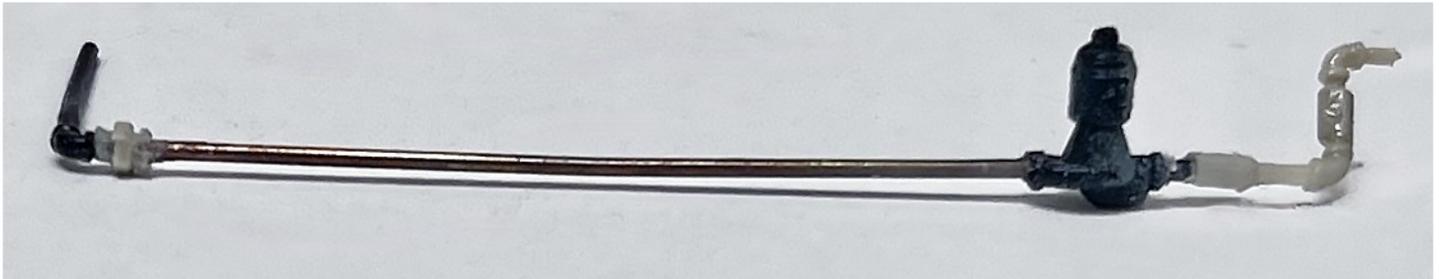
Questions, comments? Contact [William W. Davis here](#)

In part 1, I discussed the history of this engine and I assembled the frame and the basic drive. In this part, I will detail the frame and build the body and finish the model.

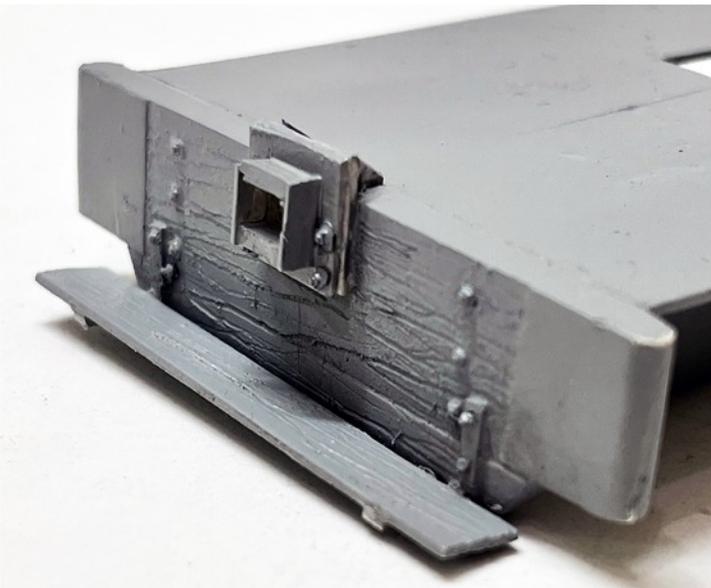
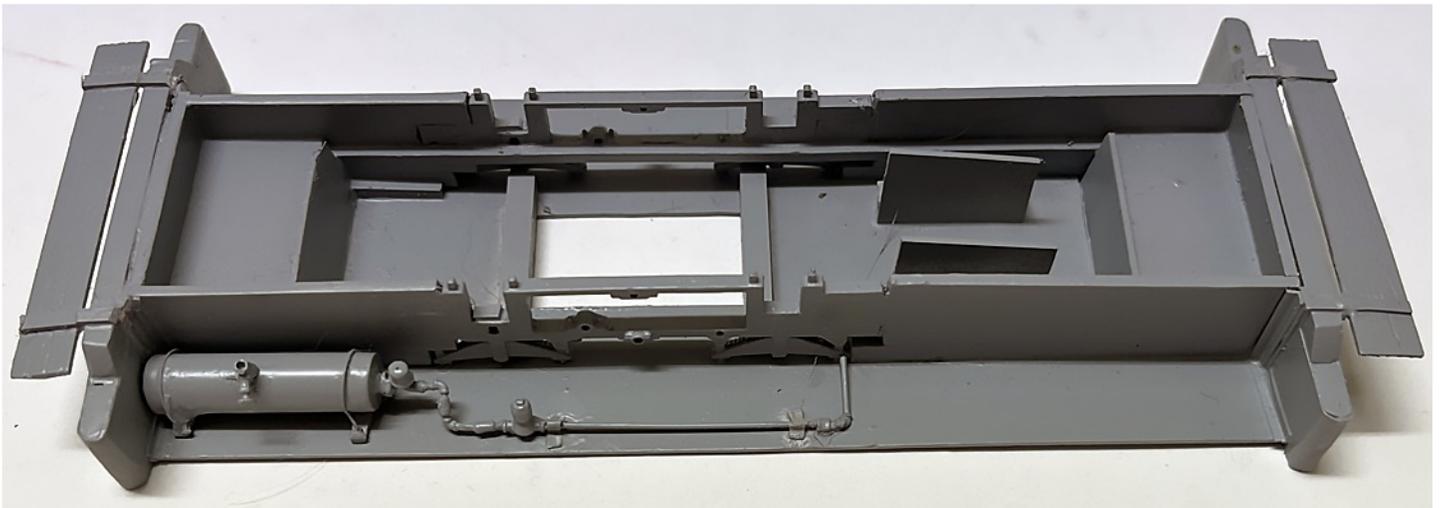
Air Tank



On the engineer side there is an air tank. I asked my friend Dan Downing if he had a tank. He said yes and sent it to me. Unfortunately, it was too large to use as the air tank. So since I wasn't able to find a commercial tank that I liked I decided to scratch build one. In my collection of bits and pieces was a piece of 1/4 diameter styrene tube.



I cut it 4 scale feet long and glued a piece of .010 styrene sheet on the end and turned it so it matched the tube piece. I added a couple strips for mount blocks to mount it to the frame and some Tichy .010 bronze wire straps to hold it to the strips. Now there were dirt collectors and regulators on the plumbing of the tank. I was able to use the parts from the Grandt Line air piping set and dirt collecting set for these parts. For a tank drain I found a nice small globe valve which I mounted on the tank facing down. I then made the piping from the tank to the cab area using more of the Grandt Line air piping parts and Tichy .025 wire. It was then that I realized I had made the piping for the tank to be on the wrong side of the engine, so I carefully reversed the direction of the pieces on the piping and mounted the tank on the correct side. I glued the piping in place and cut a couple pieces of .005 styrene to represent holding straps for the piping.



Coupler Pockets

The coupler pockets on this engine actually are not even with the top of the end beams. So I scratch built the coupler pockets by first cutting a piece of .005 styrene the size of the coupler pocket as backing. Then using Evergreen 1/8" styrene angle, I cut two pieces for the top and bottom and two pieces for the sides. Once glued together, I cut the top and bottom angle piece off back to the side angles. I added NBW's to represent mounting bolts. I also added a piece of .030 styrene sheet to the back to give it some more structure and a couple small triangle pieces behind the part that was above the end beams. With that they were finished. I mounted the coupler pockets to the end beams.

However, to complete the coupler system, I needed to add coupler lift bars. I bent the coupler lift bars using Tichy .020 bronze wire. I then cut mounting brackets from Evergreen .020 x .125 strip and installed them. The couplers I am using on this model are the working San Juan couplers. I left the coupler lift bars loose so I could later connect the coupler pins to lift bars.



Steps

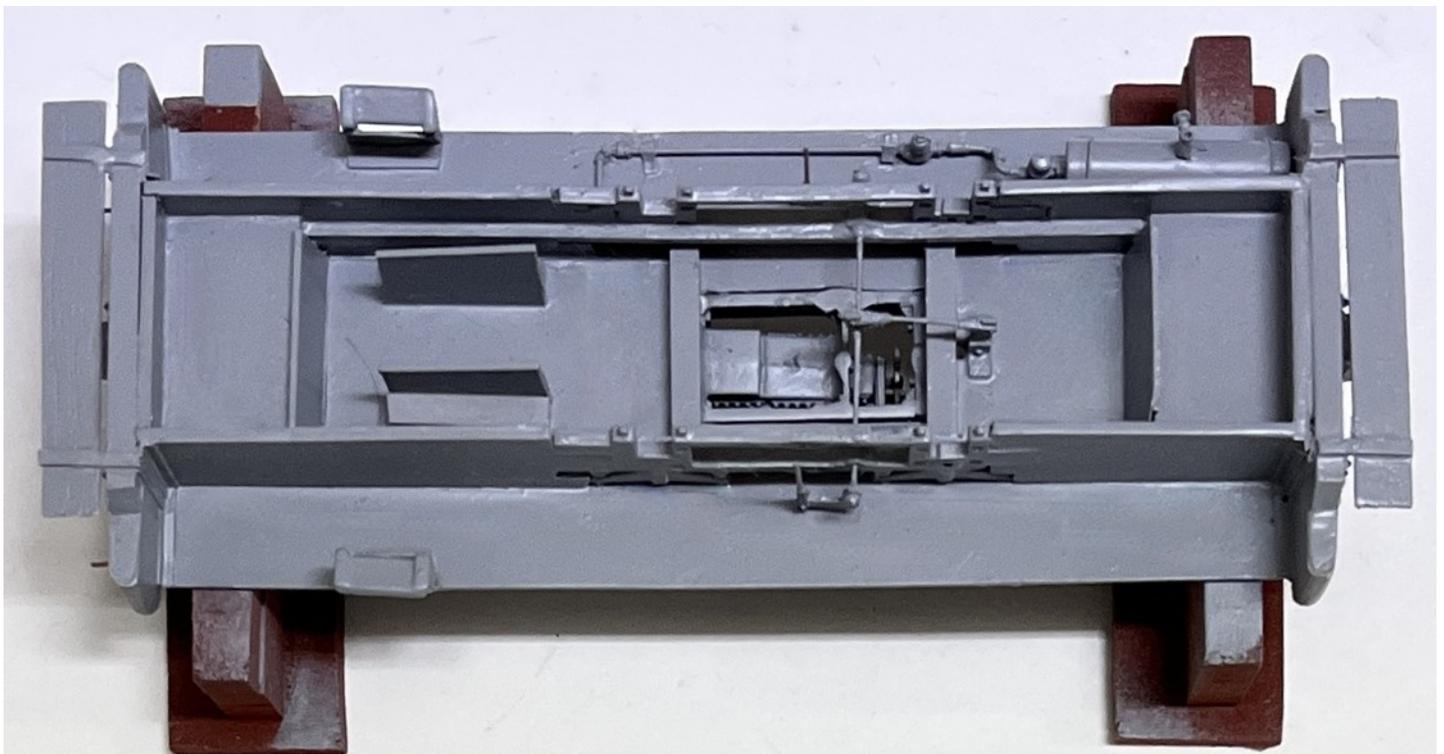
My original intention was to scratch build the steps. That was before I found a pair of brass castings for steps designed for a West Side Limber Company caboose in my bits and pieces. These were nice looking castings, and even though they aren't exactly the same as the prototype steps, they worked out really well and saved me scratch building a set of steps. I cut a couple pieces of Evergreen 1/8" angle the width of the steps and glued them to the frame as supports for mounting the step castings. However, I felt they were a bit flimsy so I added a couple triangle pieces behind to make them more stable.

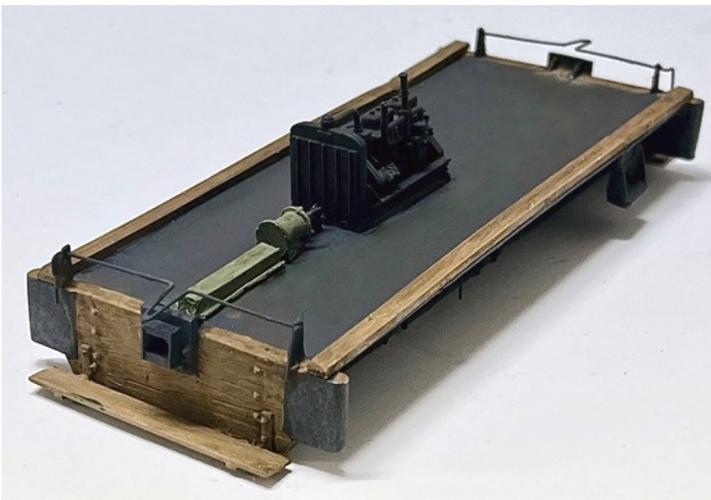
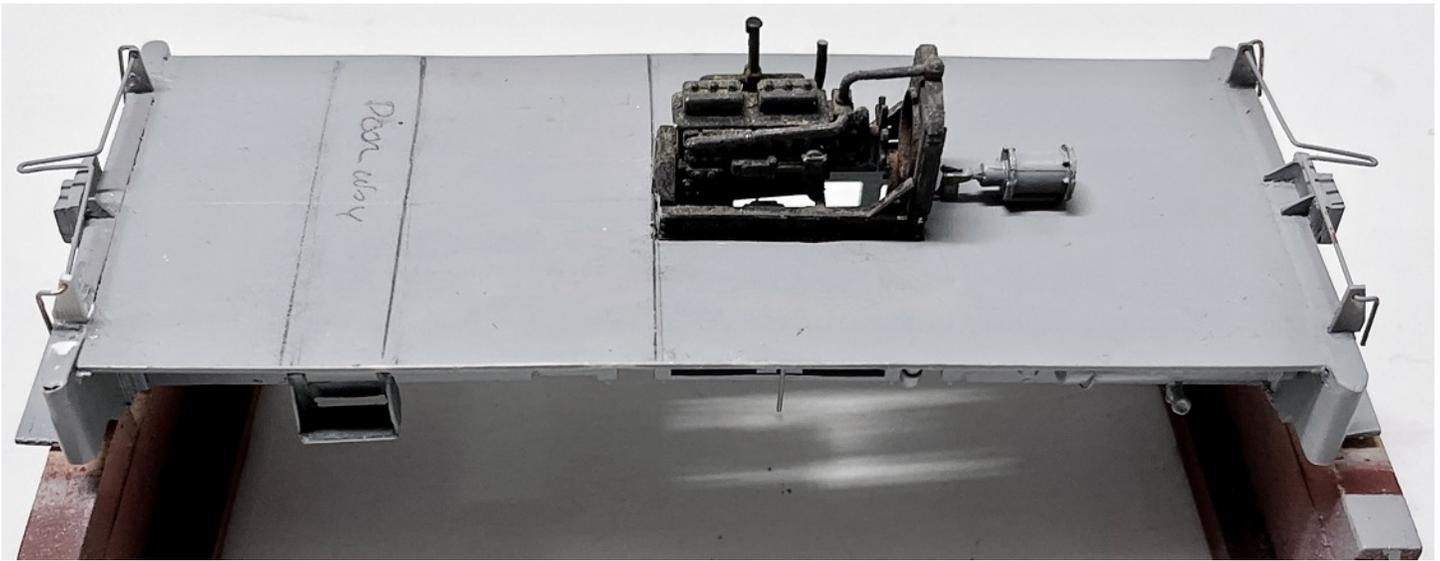
Brakes and Motor

There is a brake cylinder in front of the motor. My assumption is that it is for the brake. With that thought in mind, I decided to build the brake linkage even though it won't be seen except when the model is turned over. I wanted to be sure that the design I had in mind would work. For the brake shoes and hanger I used the brakes from the Grandt Line 18 ton Porter kit. I figured they would work best since I used the frame and drivers from that kit. I cut a slot in the frame in front of the brake cylinder and mounted the lever so it went through the slot. Now, in order to have the brake work, this lever had to pivot. I added 1/8" angle below the deck to represent the pivot point. Using some mounts on the frame, I added a crossbar and lever that connected to the brake cylinder lever. Finally, I made a pair of L shaped levers and mounted them on each end of the crossbar as linkage to the brake shoes. When the cylinder is activated, it pushes the lever toward the motor which means because of the pivot under the frame that part of the lever goes the opposite direction. That pulls the crossbar back which pushes the L shaped lever down pushing the brake shoes out toward the wheel applying the brakes. You will notice the motor casting in the picture. This is an HO Life-Like™ motor casting that was cast in bronze by my friend Mason Cutchin. This added weight near the center of the model over the drivers which will give it better traction.

Painting the Frame

I decided at this time to paint the frame since the rest of the model, the cab, sander tanks, motor cover are yellow and green. All through this build I have been spraying the model with Tamiya Fine Gray primer so it would be all primed ready for painting. I wanted the frame a weathered black color. I found that Apple Barrel #21490E Pavement is very close to the old Floquil Weathered Black so I used it. For the wood parts, I used

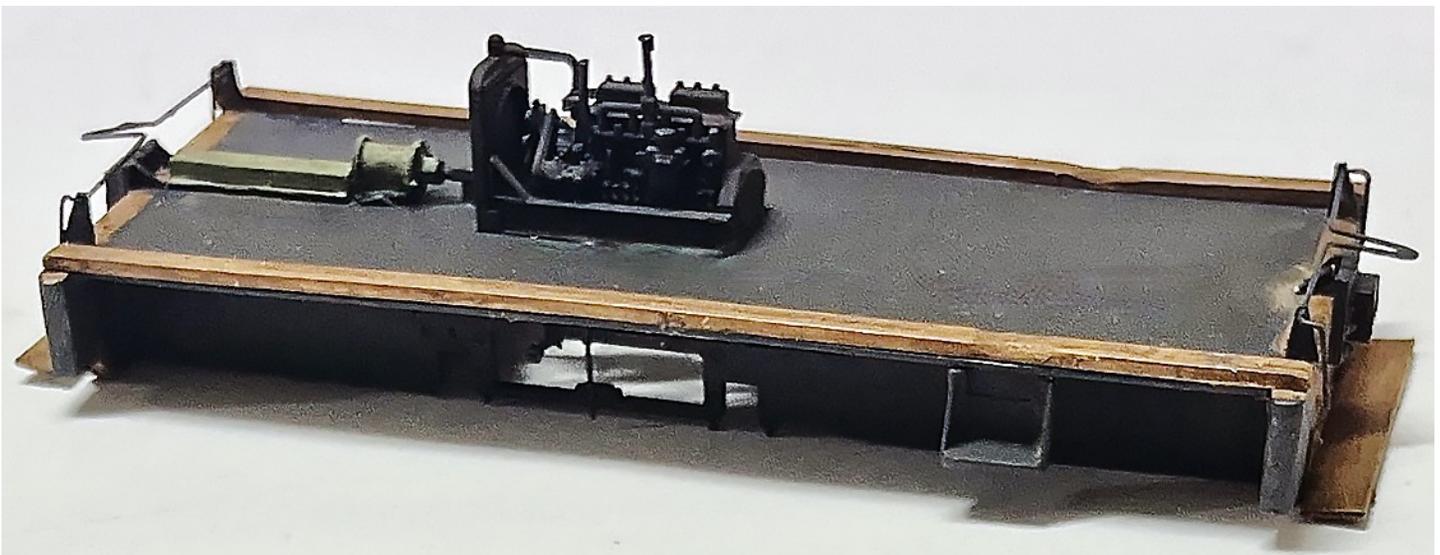


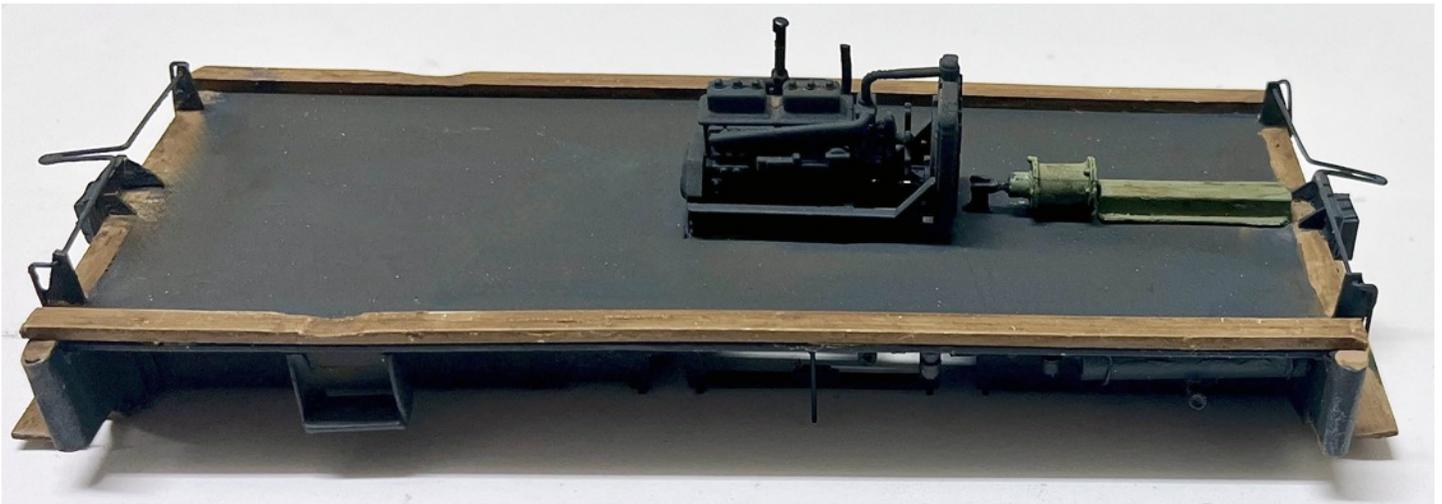


Tamiya yellow brown and a wash of oil based burnt umber. On the end beam metal plates I used some of the pavement color with a wash of Apple Barrel Gunmetal to give it a more metallic look. There are two wood strips the length of the engine on each side of the deck. I glued a couple of Evergreen .040 x .060 strips that made them 2" x 6" to represent these strips. I noticed in the color picture that by the door of the cab these wooden strips were worn, so I filed this damage into the strips and carved some wood grain. I then painted these strips the same way I painted the part of the end beams that represented wood pieces.

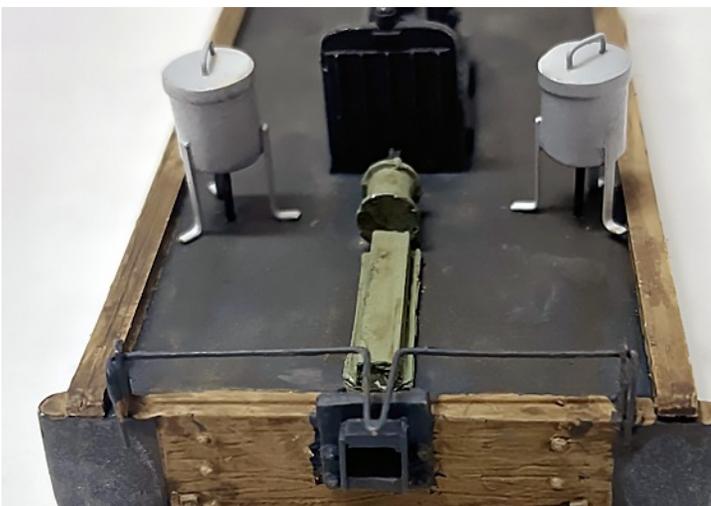
Sanding Tank and The Green Thing?

I have no idea what the square green thing is or what it is there for between the brake cylinder and the end beam. However, it is there, so I built it. Using a couple pieces of Evergreen Styrene 1/8" angle I assembled the square box shape a scale 3'2" long. I added a very small strip .020 square to each side of the box and capped the





end. I noticed in the color picture that this was painted a pale(ish) green. The brake cylinder was also that same green. I mixed Tamiya Olive Green and Sky to get that green color.

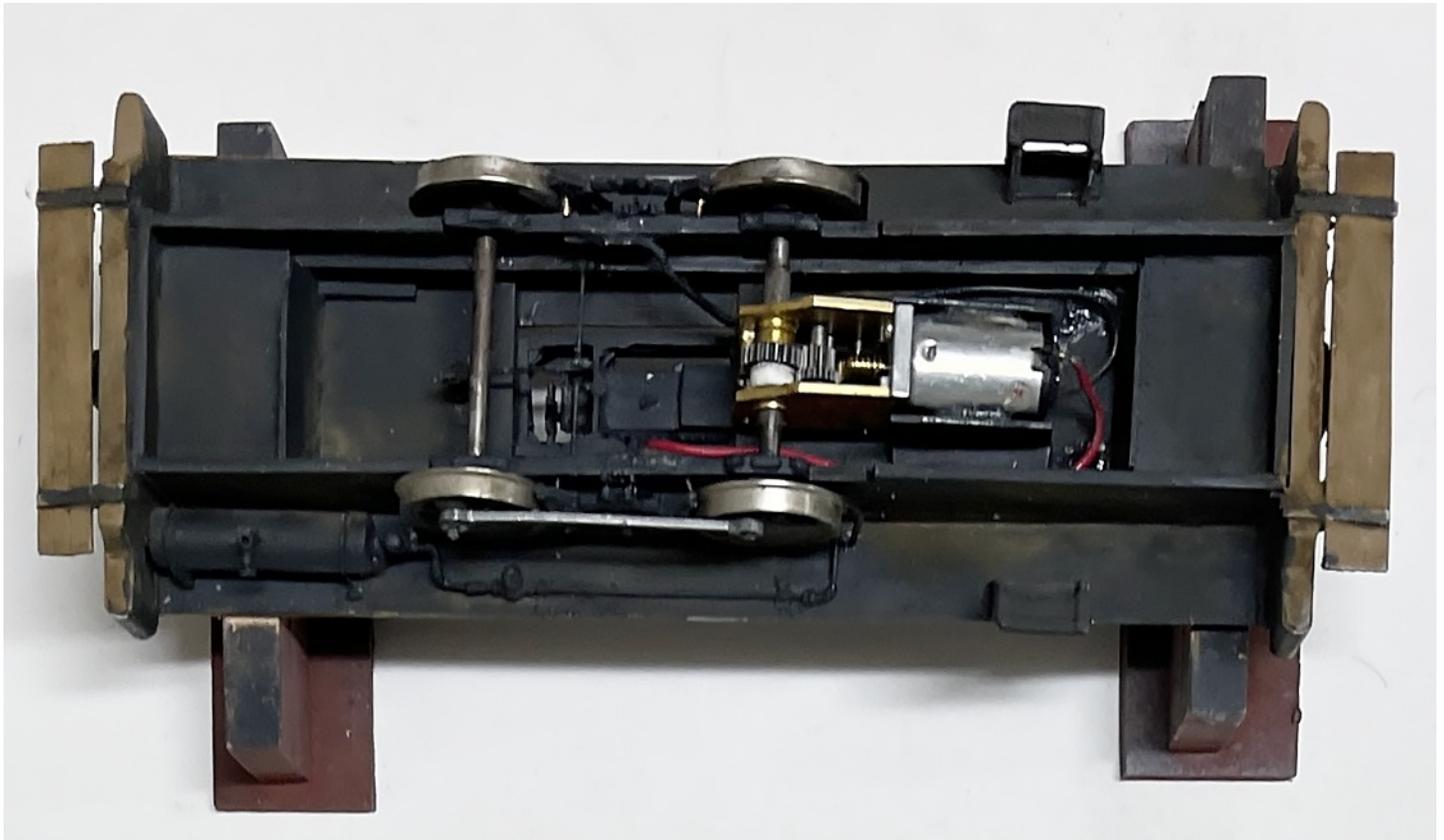


There are two round sand tanks. Using some plastic tubing I cut two pieces a scale 15" long and capped them top and bottom with a pieces Evergreen .030 sheet this made the sand tanks 18" tall. I then added a .005 strip around the top to represent the cap edge and added a handle using Tichy .015 bronze wire. For the legs, I used Detail Associates .015 x .042 brass strips.

Making it Go

Before I could install the sand tanks, I had to mount the wheels and make pickups. For the pickups, I soldered a piece of .015 bronze wire from Tichy to each of the motor leads and glued them to the side frames so the wires touch the wheel flanges. These

pickups are hidden by the brake shoes which go between the wheels. To mount the side rods I used Grandt Line NBWs from my parts bin. Unfortunately, I don't remember the part number.



The Cab

I started assembling the cab by cutting the front and rear walls out of styrene .020 sheets. I cut four pieces a scale 7' square. I cut the curve for the roof by clamping all four sections together and filed the curve on one side of these pieces. I then re-clamped the pieces together but reversed two of them, and filed the curves to match the curve that I had already filed. This made the curves the same. In the back wall was a window. I had to guess on the size. I cut the outer wall window opening and then cut the inner wall window opening slightly smaller to represent the window frame. For the rest of the cab parts, the front wall and side walls, I built these walls using styrene .020 sheet and strip material. That was easier than cutting and framing all the opening. Then I mounted





.020 x .020 for the window framing on the front wall with a mullion post dividing the window into two windows. I made that post out of .040 x .040 styrene strip. Now the side windows were also paired, but the rear window of the pair on the prototype opened so I put a dividing post like on the front wall window. I used .020 x .030 for the front side window framing and .015 x .080 to frame the back slide window. I used Grandt Line #154 rivets for the hand rail mounts and Tichy .015 bronze wire for the hand rails. I cut a piece of .020 sheet 7' wide times 8'9" long as the sub roof. I then cut a second piece slightly narrower and glued it inside the cab under this sub roof to give it extra strength. I added strips to support the actual roof which was cut from .015 sheet. Over the engineer side there was an awning. I cut 2 triangle pieces out of .020 sheet and covered them with .010 sheet to represent this awning. All the cab parts are made using Evergreen Styrene sheet and strip.

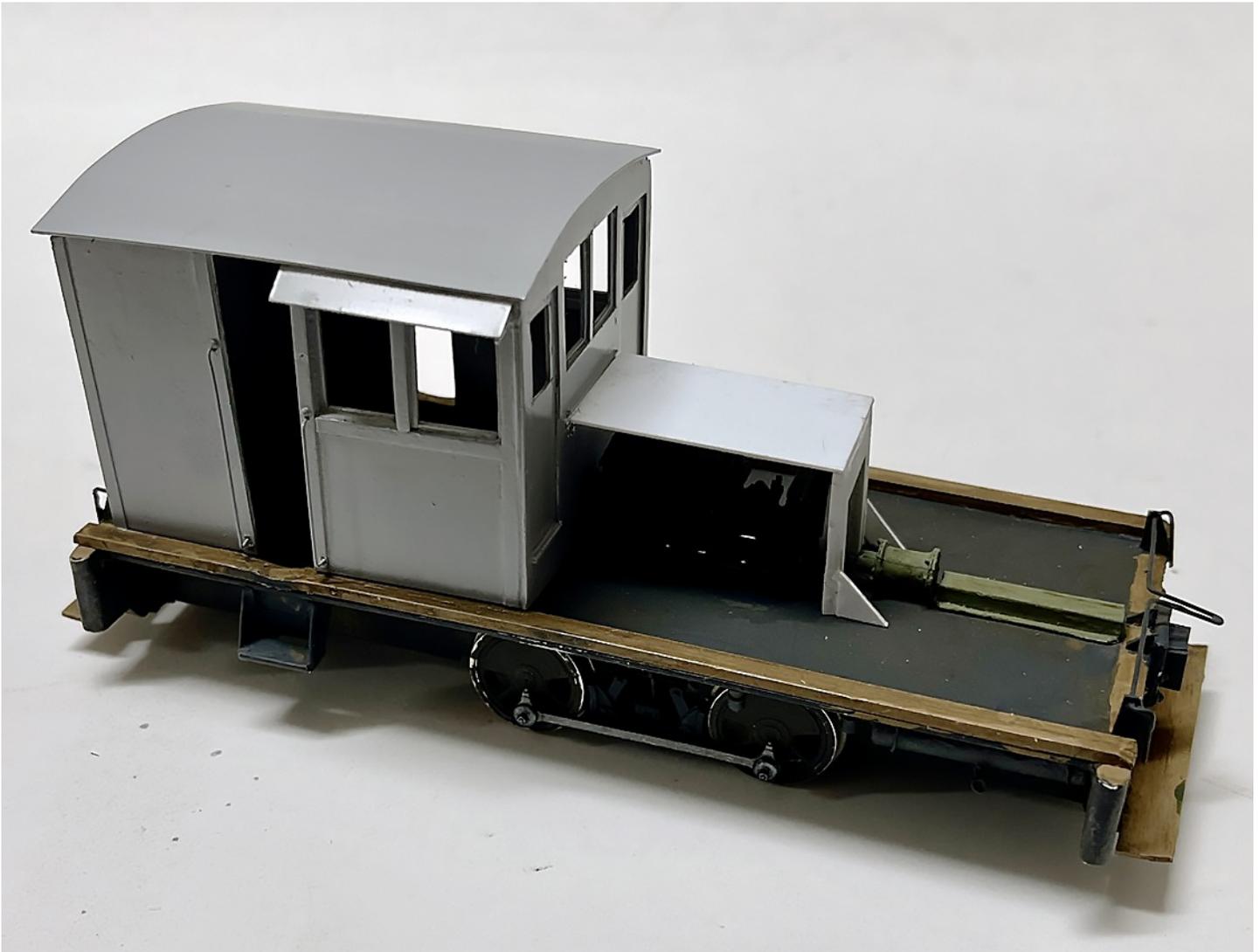
The Hood

There was a hood over the motor. It had no sides, and there was only an upside down U shaped piece to support the front. This allowed unrestricted air flow to the radiator. Like the cab, I assembled this with various styrene strips and a piece of .020 sheet for the hood piece. There were triangle pieces supporting the front of the hood. I made these out of a piece of .020 sheet.

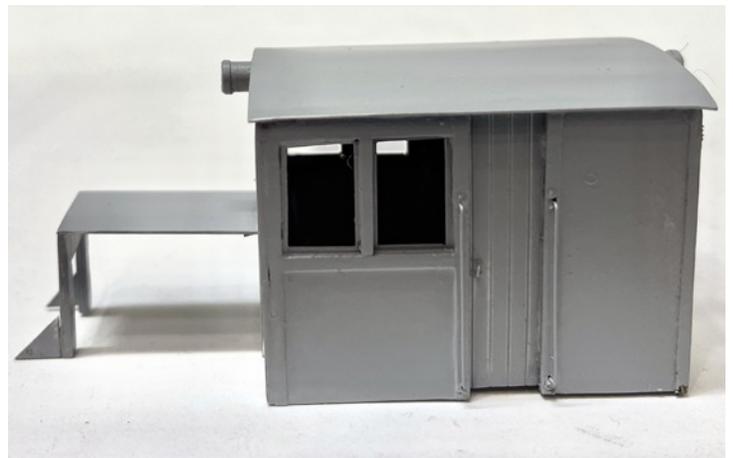
Final Assembly

I didn't have a pair of headlight castings that would work in my parts bin, so I scratch built a pair of reasonable looking lights using some styrene tubing, strips and sheet. I felt these would be acceptable. I mounted them on the front and rear of the cab and added the conduit that was on the cab front.





I also really didn't know how the prototype was powered, other than the fact that it had motor. Since I had no idea what was in the cab, I decided to put the doors on in the closed position. On the prototype, these doors were made from wooden strips, so I cut some .020 styrene x .100 scribed sheet to represent the doors. I added a handle of Tichy .015 and mounted the door closed.



With these parts done, it was time to paint the cab and sanders. On the prototype these were yellow. A few years ago I mixed a yellow color for painting some of my critters using craft paints. This color was similar to Caterpillar yellow. I sprayed the cab and sanders with it. I mixed the green color, using the same formula I used for the brake cylinder and the green thing, and painted the windows and doors. I glazed the windows with .010 clear styrene sheet. The roof looked gray in the pictures so I painted it using Apple Barrel Country Gray.

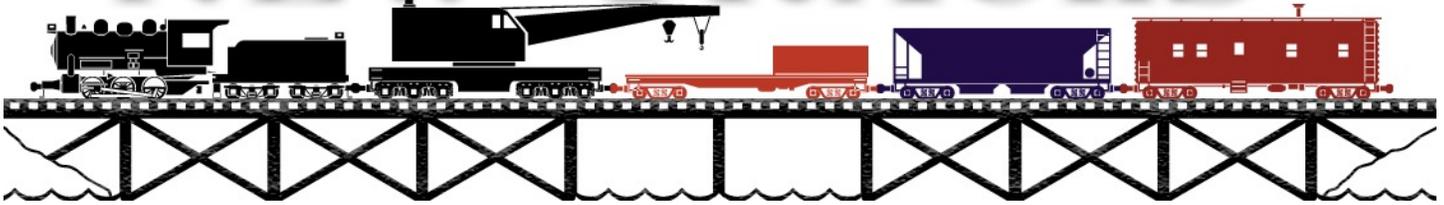
This project never would have happened if Dan Downing didn't send me the picture of this engine. I also want to thank Terry Van Winkle for the sizing info, Mason Cutchin for the motor casting and Gil Flores for the Porter frame. This was a fun model to build of a unique engine.

Until next time Happy Modeling!





NEW TRACKS



Mentor Definition: A Trusted Counselor or Guide

By Contributing Editor Jim Kellow MMR

I hope everyone had a great 2025. Merry Christmas and have a wonderful and prosperous New Year in 2026.

New Tracks has a new Director

I am pleased [Phil Edholm NTM](#) agreed to take over from Tom Farrell NTM, the responsibilities of the New Tracks Director for all our activities. I know under Phil's leadership, and your support, 2026 is going to be highly successful and push my original dream for New Tracks to a much higher level.

NEWS about our New Tracks Modeler Magazine

As I was writing this on Dec 1, 2025 Phil Edholm NTM and I received an email from Tom Farrell NTM, resigning as the editor of our New Tracks Modeler magazine effective immediately. Unless Phil Edholm NTM can find someone, on such short notice from Tom, who wants to volunteer as the magazine editor the December 2025 issue is the last issue to be published, at least at this time. If you are interested in being the editor please contact Phil Edholm NTM at Phil.Edholm@newtracksmodeling.com.

By the way, when you read this news, you will know if our New Tracks Modeler magazine published a January 2026 issue. See if you get one?

Great Scale Model Train Show October 25-26, 2025

Three New Tracks Mentors, Greg Cassidy, Steve Sherrill, and Bob Davidson, attended the Great Scale Model Train Show in Timonium, Maryland on October 25-26, 2025. Greg and Steve were there to man our

table. They did an excellent job representing New Tracks and reported it was an excellent train show. Bob Davidson, our New Tracks Mentoring Inc. Scholarship Treasurer, dropped by to say hello and see how things were going. I know other New Tracks members were at the show, but I do not have their photos. Thanks to everyone who attended the show. Thank you Steve Geare for providing New Tracks a great space, and running a fantastic show. Steve is a major supporter of all of our New Tracks activities. The New Tracks banner is available for all shows and events around the Country.



Steve Sherrill on left, Bob Davidson in the middle and Greg Cassidy on right.

A New Tracks Volunteer is awarded his MMR #805

Pat Rivard MMR, NTM officially received his MMR Plaque at his recent NMRA Division meet in



Sarnia Canada on November 1, 2025. Pat qualified for his MMR by completing the following NMRA Achievement Awards: Master builder cars, Master builder structures, Master builder scenery, Model railroad engineer civil, Model railroad engineer electrical, Association volunteer, and Model railroad author. Congratulation Pat Rivard MMR, NTM. Well deserved.

Did you know that presentations on New Tracks weekly Zoom shows or articles in our New Tracks Modeler magazine count toward obtaining several NMRA Achievement Program awards? I have appointed Pat Rivard MMR, NTM, as the Chairman for our New Tracks NMRA AP program. You can reach him with your questions or comments at: Patrick.Rivard@newtracksmodeling.com.

The National AP Chairman, Ray Persing MMR, NTM, was on our show on September 22, 2025, to announce the award and congratulate Pat on achieving his MMR. Ray also discussed the NMRA Achievement Program and its educational value to model railroaders. We are looking forward to Ray returning on future shows to continue his discussion of the NMRA

Achievement Program. I have asked Pat to host these NMRA achievement program segments on our zoom shows. Thank you, Ray, and Pat for your help.

How 3D Printing is Changing Model Train Production

I keep hearing 3D printing is going to change how we build and manufacture model trains. But, being an old time model builder, I did not understand exactly how that was going to happen. So I asked ChatGPT to help me understand 3D printing's impact on our hobby's future manufacturing. Here is what I found out.

“3D printing is revolutionizing production workflows for model trains by enabling rapid prototyping, on-demand customization, and cost-effective small-batch manufacturing.

This technology allows both manufacturers and individual hobbyists to produce complex and precise parts without expensive tooling or traditional mold-making.

Workflow Efficiency and Prototyping

With 3D printing, manufacturers can design, iterate, and test new models much faster than with traditional methods.

Prototyping cycles are shortened from weeks to days, reducing time-to-market for new rolling stock, accessories, and scenic elements[trains]. For home modelers, printing replacement parts or unique details is more accessible, creating new opportunities for creativity and repairs.

On-Demand and Custom Manufacturing

Manufacturers and hobbyists can create custom locomotives, rolling stock, and structures tailored to specific prototype needs or personal preferences without expensive mass production. Digital files can be shared and printed globally, supporting a vibrant online marketplace for model train designs. This flexibility allows for limited-run or unique models that were previously impractical to produce.

Parts, Detail, and Scalability

3D printing excels at producing highly detailed, small components—such as intricate freight car fittings, locomotive shells, or unique scenic accessories.

Complex geometries that are difficult or impossible with injection molding are now routinely achieved, enhancing realism and prototype accuracy. Scale-specific parts can be produced as needed, making O, S, and even niche scales more accessible.

Cost Savings and Accessibility

Because start-up and tooling costs are minimized, smaller manufacturers and individuals can experiment and enter the market more easily. The technology empowers hobbyists to become “micro-manufacturers,” further democratizing the model train industry and fostering innovation.

In summary, 3D printing is fundamentally changing workflows in model train production by enhancing speed, customization, detail, and accessibility for both large manufacturers and individual modelers. 3D printing will transform production workflows for model trains by making design, prototyping, and manufacturing dramatically faster and more flexible.

This technology enables both manufacturers and hobbyists to quickly create customized, highly detailed parts, reducing reliance on costly, time-intensive molds and traditional tooling.

Rapid Prototyping and Iteration

Designers can produce and test prototypes within days, allowing them to refine locomotives, rolling stock, and accessories more efficiently. Mistakes and modifications are inexpensive to address, speeding up R&D and leading to more innovative products.

On-Demand Customization

Manufacturers and hobbyists can offer bespoke models and parts, printing single units or short runs tailored to specific projects or collector demands. Digital files can be shared globally, letting hobbyists print rare or unique pieces at home or via third-party services.

Increased Detail and Complexity

3D printing enables detailed parts and complex geometries previously unattainable with injection molding, such as intricate fittings, custom figures, and realistic scenic elements. This leads to more accurate, prototype-specific modeling for all scales.

Lower Costs and Greater Accessibility

Because setup and tooling costs are negligible, small manufacturers, cottage industries, and individual modelers can participate as micro-producers. This decentralizes innovation, making the hobby more diverse and accessible.

Ultimately, 3D printing empowers faster design cycles, affordable customization, and high-detail modeling for both manufacturers and enthusiasts, reshaping the production landscape for model trains.”

JK: What an opportunity for individual modelers to learn and use CAD programs to design parts or complete models and become manufacturers. They may pay for their own hobby expenses, or grow their small company into a large company! If you are now, or want to be a future manufacturer, please take advantage of our free ¼ page advertisement program in our “New Tracks Modeler” monthly digital magazine, and/or be a guest presenter on our weekly live Zoom show which is simultaneously broadcast on our YouTube channel.

Also, if needed, contact a New Tracks Mentor (NTM) for mentoring assistance. Helping new manufacturers is a prime goal for New Tracks. Visit our New Tracks website at www.newtracksmodeling.com for details.

Business Plan for O Scale 3D Printing Company Startup

If you have never written a business plan for a new company here is an example of what is required. Thank you ChatGPT for helping me develop this information.

“Here is a ChatGpT practical business plan outline for a small U.S.-based cottage industry focused on 3D printing O scale kits, parts, and/or models. It is numbers-based so you can see where the break-even point is for your company.

1. Business Concept

Niche focus: Rare or under-served O scale prototypes, detail parts (trucks, vents, signage, doors, figures), small rolling stock kits, and structures.

Value proposition: High customization, U.S.-based fast turnaround, quality resin finish, and models big manufacturers won't produce.

Target customers:

- o O scale hobbyists who build kits and layouts.
- o Clubs and historical societies seeking custom prototypes.
- o Small dealers needing short-run detail parts.

2. Startup Equipment & Costs

Essential hardware/software

Resin 3D printer (mid-range): \$500–\$1,000 (Elegoo Saturn 4, Anycubic Mono X, or similar).

Wash & cure station: \$150–\$250.

Spare/resin tanks & maintenance: \$100.

Filament printer (optional, for large structures): \$400–\$600.

CAD software: Fusion 360 (free hobbyist license) or Blender; or ~\$500/yr for full license if commercial.

Ventilation/filtration setup: \$200–\$400.

Misc tools & finishing supplies: \$200.

Initial material stock

Resin: ~\$50–\$60 per liter (makes ~25–35 small freight car kits or hundreds of detail parts).

Filament (PLA/ABS): \$25–\$30 per kg (for structures).

Packaging & shipping supplies: \$150 initial bulk.

Estimated startup investment: \$1,800–\$2,500 (barebones) or \$3,000–\$4,500 (if including both resin + filament printers and better ventilation).

3. Production Costs & Pricing

Example cost per unit (assuming resin printing):

Small detail part (like brake wheels, vents, signage)

- o Resin: \$0.10–\$0.25 each.
- o Overhead/packaging: \$0.25–\$0.50.
- o Sell for \$3–\$5 (set of parts) →margin ~70–80%.

O scale freight car kit (body shell, trucks, detail spruces)

- o Resin: ~\$5–\$7.
- o Overhead/packaging: \$2–\$3.
- o Sell for \$25–\$40 (unpainted kit) →margin ~60–70%.

Medium structure (station, warehouse shell, etc.)

- o Filament: \$5–\$10.
- o Overhead/packaging: \$5.
- o Sell for \$40–\$70 (kit or printed shell) →margin ~60%.

Note: Margins improve with batch runs and efficient part nesting.

4. Marketplaces & Sales Channels

Etsy: Good for hobby items; 6.5% fee + payment processing.

eBay: Huge reach; ~13% total fees.

Treatstock/ Craftcloud: Outsource printing but lower margins.

Direct online shop (Shopify, Squarespace, or WooCommerce): Higher control, ~2.9% processing fees.

Clubs & train shows: Table sales; build relationships and reputation.

Social media (Facebook O Scale groups, New Tracks Modeling, O Scale Central): Marketing + direct sales.

5. Break-Even Analysis

Fixed startup costs: ~\$3,000 (equipment + supplies).

Example revenue scenarios:

Sell 100 freight car kits at \$30 each = \$3,000 gross revenue →break-even.

Or sell 1,000 sets of detail parts at \$5 each = \$5,000 gross revenue →break-even with profit margin.

Or 50 structures at \$60 each = \$3,000 gross revenue.

Typical monthly sales target for sustainability (after break-even):

\$500–\$1,000 revenue/month = side income hobby business.

\$2,500–\$5,000 revenue/month = sustainable small business (requires multiple printers, consistent demand, and finishing services).

6. Growth Strategy

Expand catalog: release 1–2 new models/parts per month.

Offer STL file sales (low overhead, passive income).

Partner with clubs/historical societies for custom runs.

Bundle finishing services (painted/assembled versions at premium prices).

Leverage community exposure (YouTube build videos, New Tracks Modeling shows, online clinics).

7. Risks & Challenges

Inconsistent quality →requires learning curve and QC.

Customer expectation of RTR vs. kit form.

IP/copyright issues (don't copy manufacturer's models).

Market saturation in common items →niche focus is key.

Resin handling & ventilation safety compliance.

Bottom line: With ~\$3,000 startup and steady sales of 75–100 kits or 500–1,000 parts, a cottage O scale 3D printing business can reach break-even within 6–12 months. Profitability scales upward with catalog depth, finishing services, and online presence”

JK: Well, now it's up to you to decide if being a model railroad manufacturer is in your future. Another option for you to consider is to contact the “Association of Professional Model Makers” and see if one of their companies can help you get started in a business by using services one of their members can provide. I have represented this group as their Ambassador to the Model Railroad community and learned a lot from their members. Their Facebook is: <https://www.facebook.com/ModelMakersOrg/>. Good luck.

How do my articles rate in this outstanding magazine?

In my last article I showed you how Perplexity AI rated the “*O Scale Resource*” magazine. It was rated a fantastic 9 on a scale of 1 to 10. After seeing how great the magazine rated, I decided to see how my New Tracks articles rated in the magazine. The answer I got is shown below. Do you agree with the AI evaluation?

Question: Rate on a scale of 1 to 10 the New Tracks articles in “*O Scale Resource*” magazine.

“The New Tracks articles featured in *O Scale Resource* magazine receive a strong positive reception, earning a rating of 8 out of 10. These articles, typically authored by Jim Kellow, are valued for their clear, practical modeling guidance and mentorship style that aligns well with *O Scale Resource*’s focus on craftsmanship and community learning.

Strengths of New Tracks Articles in *O Scale Resource*

- The articles provide accessible how-to advice, often covering building layouts, structures, and operations using approachable language and detailed explanation.
- They complement the broader content of *O Scale Resource* magazine by nurturing new modelers and offering fresh perspectives on classic modeling techniques.
- New Tracks articles fit with the magazine’s mission to emphasize modeling skills and community engagement over commercial content.

Areas for Improvement

- While well-liked, some readers note that the articles could occasionally benefit from deeper technical detail suited for advanced modelers.
- The format is often mentorship-focused, which may not cover all the latest modeling innovations but instead prioritizes foundational skills.

Overall

New Tracks series in *O Scale Resource* magazine is seen as a solid, constructive contribution that supports both beginners and intermediate modelers, helping maintain a friendly and educational tone within the publication.

Jim Kellow is celebrated not only for his written works but also for his active engagement with the community through live shows and mentoring, which make his New Tracks pieces essential for modelers aiming to improve their skills and connect with like-minded enthusiasts.”

JK: I am pleased about how my series rated. I did however note the improvement comments and will work on those areas. Meanwhile any other suggestions anyone has are greatly appreciated. Hope you enjoy future article and thanks for reading my New Tracks mental rambling.

Reader’s comments about future *O Scale Train Shows* based on my article in the November/December issue. I did not receive any comments from anyone. I am frankly very surprised and disappointed as I believe *Train Shows* are a large part of our *O Scale* future. Possible conclusion as to why no one commented.

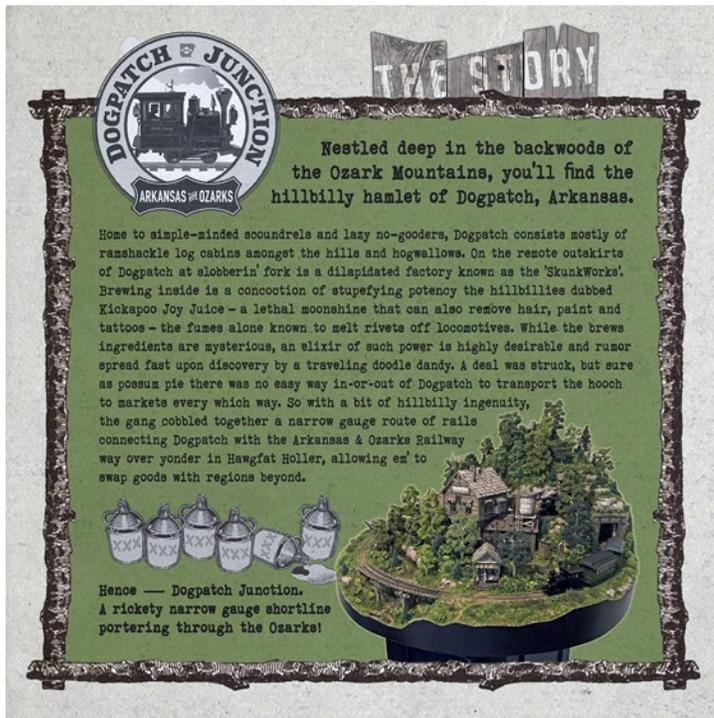
1. No one read the article?
2. No one cares about future *O Scale Train Shows*?
3. No one has any constructive ideas to offer?

4. No one wants to comment publicly? If this is the reason send me a private email and I will keep your name private. My email is jimkellow@newtracksmodeling.com.

Whatever the reason, I look forward to hearing from you so our future O Scale Train Shows and events meet your needs and expectations, and will prosper. Thanks.

How any Modeler can become a Storyteller

Currently about 25% of modelers use storytelling to enhance their modeling experience. In the not to distant future that percentage is projected by AI to increase to 75% of modelers. Maybe it's time we look at what storytelling is all about. So I asked Gemini AI for an opinion.



Last issue I discussed storytelling for our model railroad scenes. This time I want to start a discussion with each of you about how you can become a storyteller and use it to improve your modeling and the creativity and enjoyment of being a model railroader. You will also give your visitors an outstanding memory and unique understanding of what you wanted to achieve with your modeling.

How about this as an example? Paul Killcrece sent me his photo of the story for his Micro Dogpatch Junction layout. The more I look around, the more great modeler storytellers I find. What do you think? I look forward to more stories from Paul. Thanks, Paul, for this photo.

Here are some more detailed photos Paul sent me of his Micro layout. Very special modeling.





These details act like “actors” and “credits,” helping to convey the story and drawing viewers into the miniature world you’ve created. You can write and print stories about each scene to share with guests, enhancing the experience and providing context. Lighting and sound effects can further immerse viewers and enhance the atmosphere, highlighting key story elements.

Key steps to create a story:

1. Choose a theme or story for each scene (e.g., a bustling train station, a quiet countryside, or a mining operation).
2. Plan the layout and scenery to support the narrative (sketch your ideas and build mock-ups).



3. Add characters and detailed props that depict actions or events happening in the scene (people waiting, working, or interacting).

4. Use lighting and sound to enhance mood and realism.

5. Optionally, write out the back story or vignette for each scene and share it with viewers to provide deeper engagement.

This approach transforms your model railroad from a static display into a dynamic narrative experience, capturing viewers' imaginations and making each scene memorable.

Story Writing templates to help write and organize stories for each model railroad scene:

Use this format to create a clear, engaging story for any scene:

1. **Scene Title:** Give your scene a catchy or descriptive name.
2. **Setting:** Describe the time of day, location, and weather or season.
3. **Characters:** List key figures or groups in the scene and their roles.
4. **Action:** Describe what is happening in the scene — the main events or interactions.
5. **Background Story:** Provide context or history for the scene, explaining why it looks the way it does or what just happened / is about to happen.
6. **Mood/Atmosphere:** Capture the feeling or tone of the scene (e.g., bustling, peaceful, tense).
7. **Visual Details:** Highlight specific details in the scene that help tell the story.

Example Story for a Scene

Scene Title: Morning at the Mountain Crossing

Setting: Early morning at a mountain pass in autumn, with golden leaves scattered around.

Characters: A freight engineer readying the train, a hiker waiting on the platform, and a park ranger checking maps.

Action: The freight train prepares to leave the station carrying supplies for the mountain lodge; the hiker chats with the ranger about trail conditions.

Background Story: The mountain crossing is critical for delivering essential goods to remote lodges and is famous for its scenic views popular with tourists.

Mood/Atmosphere: Calm anticipation with the quiet sounds of nature and distant train whistles.

Visual Details: Logs stacked beside the tracks, a sign advertising a nearby hiking trail, and a squirrel perched.

Tips for Organizing Stories for Presentation

1. Print or write these stories on small cards or booklets placed alongside each scene.
2. Create a wall display or digital slide show narrating each scene in sequence.
3. Use audio recordings or QR codes to allow visitors to listen to the stories as they view each scene.
4. Label each scene with its title and a brief teaser to intrigue viewers.

These formats and ideas turn each scene into a mini-drama or vignette, making your model railroad more immersive and memorable for everyone who experiences it.”

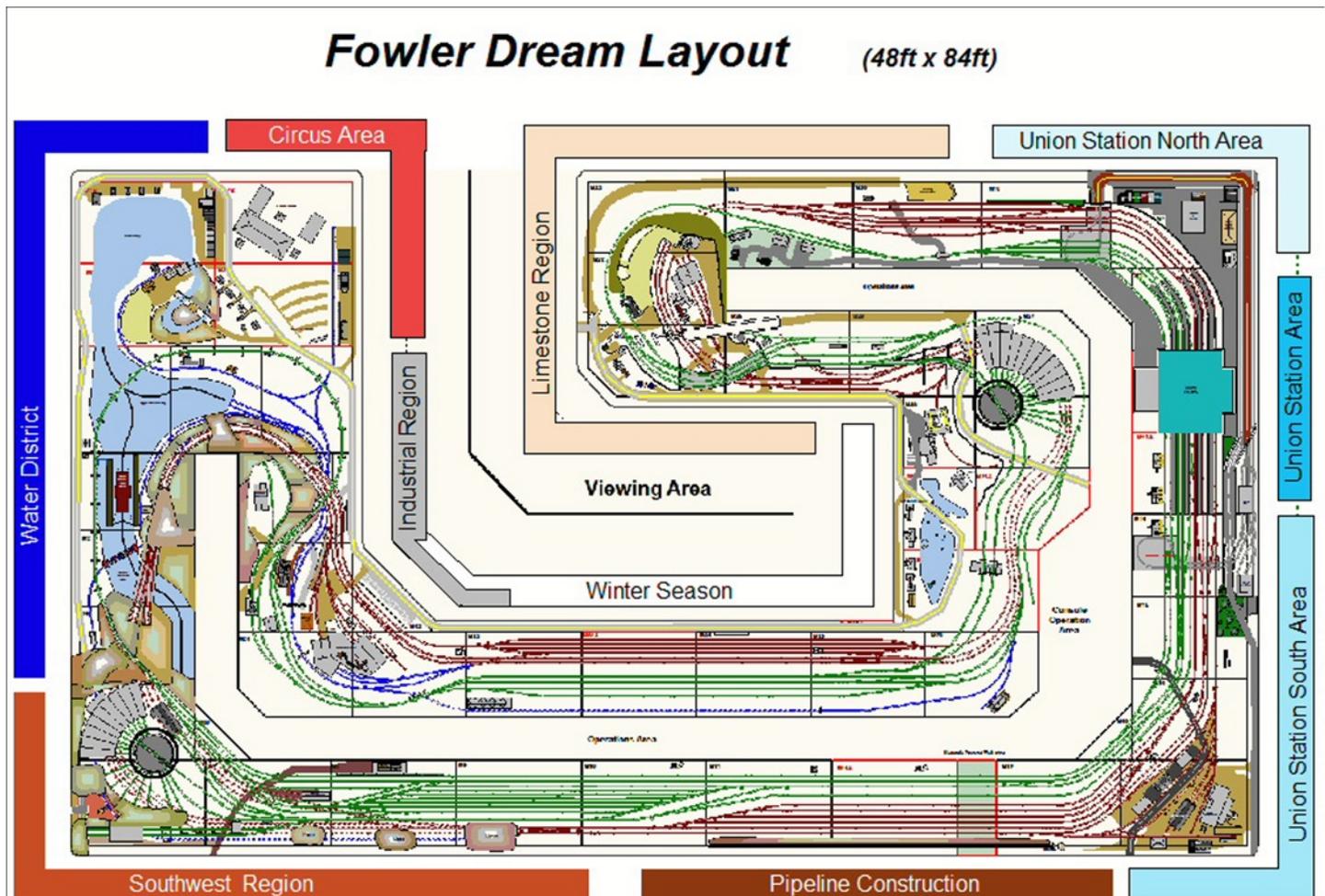
JK: My idea for you to consider: Complete the story outline for one of your scenes and ask Gemini AI to take your story outline and write you a story for one of your scenes and see what you think of the AI story. Make any changes and please send me a copy of your result. I will also use AI with one of my story outlines and publish my, and your efforts, without using your name if you prefer, in the next issue of this magazine. Therefore we can all learn from each other (it is called mentoring) how to improve our storytelling. By the way almost all of the above information was written by Gemini AI.

Tom Fowler's First Model Railroad (aka: The Fowler Dream Layout)

Photos, captions, and comments by Craig M Hurst

I wrote this article many years ago and completely forgot about it until I had a chance to read it recently. I have looked everywhere and can not find the photos I took or the tape recording I made when I originally visited Tom. In fact, If Craig Hurst, President, Gulf Coast and Central Florida Railroad Museum Inc. at “Bushnell Station” in Bushnell FL, had not emailed me a copy of the article on April 22, 2025, I would not be able to even write this now. He found a copy of it in Tom Fowler’s papers and wanted to know where I published it. When Craig and I first talked I could not even remember writing the article, let alone publishing it somewhere. Craig sent me this copy of my article and my visit to Tom’s home came flooding back in my memory.

While Craig could not find any photos to go with the article, he did provide a PowerPoint presentation he had made using current photos he had recently taken of portions of the layout. Craig and I agreed that the article was worth publishing, and therefore, we have taken my text and his PowerPoint’s more current photos to present an overview of the history and what Tom Fowler’s life layout will look like when Craig’s Museum has raised the needed construction funding to build a separate building on their property to house the layout (estimated at about 6,000 sq Ft) and assembled all the modules into the finished layout. It will be an outstanding addition to the existing Museum’s exhibits. I look forward to being able to see the layout in operation.

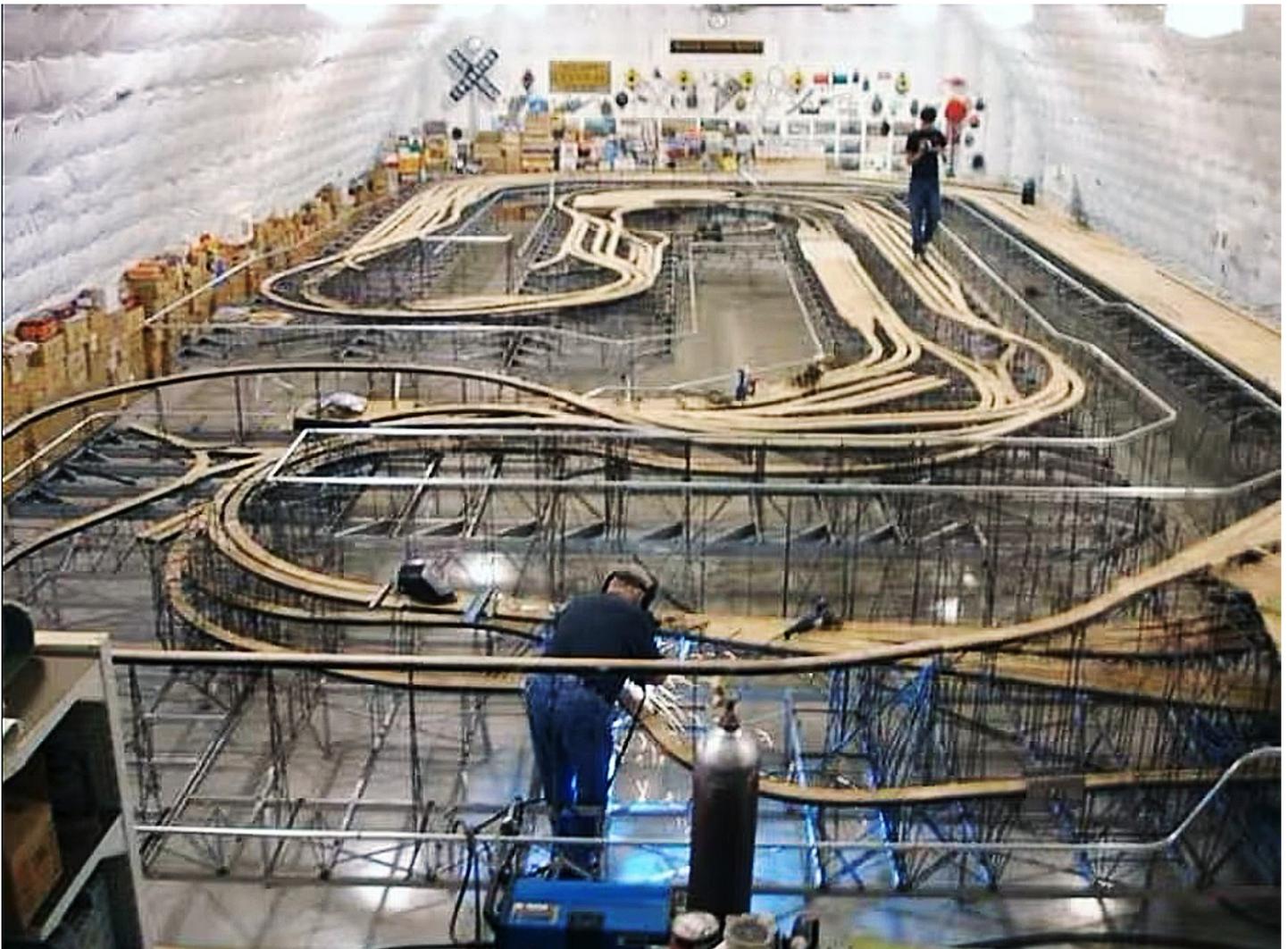


Please visit the Museum's website at: www.bushnellstation.com or better yet if you are in Florida visit the Museum and see it's current operation. To donate to the Museum's Construction fund you can send funds to the Museum's 501(c)(3) at their website.

As Craig and I complete this article, it is our hope that Tom and his wife Sharyn will enjoy seeing the completed exhibit when it premieres at The Gulf Coast and Central Florida Railroad Museum in Bushnell, Florida. We both hope we are doing justice to Tom and all the other volunteers who have gotten the layout's modules to their present state of completion. It is truly a magnificent modeling effort and certainly deserves to be maintained and exhibited by the Museum for future generations to enjoy

Here is my original final draft, including where I had planned to put the original photos I took, which I can not find. The photos shown are provided by Craig and are placed where we believe appropriate for the text.

Tom Fowler laughs when he says he is in the process of building his first model railroad. When completed, it will require a clear span space of 150 feet by 80 feet just to set it up for display. Storage and work space will require additional space, Can you imagine one guy having the vision for this size layout and then putting out the financing to make it happen? And don't forget, this is the first model train layout he has ever built.



*(Craig's comments on above photo: The work was done by Tom Fowler Sr. with volunteers, Jerry Silver, Bob Garrelts, Tom Breslin, David Demerssemen, Ed Fleig, Tom Fowler Jr. and occasional visitors. Work continues five days a week not including Wednesdays and Sundays from about 10:00 AM to about 4:30 or 5:00 PM.)
There are 55 individual modules.*

I had the honor of meeting Tom, thanks to a chance encounter at the Florida O Scale Meet this October with Bob Garrelts, who is one of the people helping Tom build the layout. Bob had photos of a brass, scratch built lift bridge he built for the layout and showed me some photos of the layout. I could not believe my eyes. I have lived in several regions of this country and through writing for *48 Ft/O Scale News* and being elected and appointed to positions in three NMRA regions. I have seen a lot of layouts. Nothing prepared me for Tom's layout! When I visited Tom, I took my tape recorder with me and recorded our conversation. I took photos and hope that between the photos, a track plan, and Tom's comments, I can convey his layout's many features, and his overall concept.

- The exhibit is so big that all the modules would not fit in their building
- The frames are all steel and welded
- Modules are designed so they can stand on their end after completed
- Each module has an electrical connection to connect to the next module

Tom grew up living along the railroad tracks. He told me his family was very poor, and, like a lot of us, he got started when his mother, aunt, and other family members pooled their Christmas funds one year to get him an electric train. Tom says he was fortunate to not only live on the railroad tracks, but to have been taken under the wings of some of the railroad employees. They had him ride with them on their section cars, sit in the lap of engineers doing switching in several yards, and sometimes even shared their food with him. It got to the point that Tom spent most of his summers and as much as possible of his free time the rest of the year with his railroad friends. Tom admits that these railroad employees and his experiences with them put railroading in his blood, and it is still there today.

As it got around Tom's community that he liked model trains, people started giving him trains that they no longer wanted. His wife, kids, and friends were always giving him train stuff, and so his inventory grew. See photo 9 (**not available**). for only a part of his current boxed inventory waiting to be used on his railroad. Tom says that he knew that someday he would use the models he just did not know when that would be.

One day his wife, Sharyn, told Tom that they needed to go through all his model railroad equipment and inventory it. Once they started through the collection they realized that he had much, much more than they ever imagined, and Tom started to think about what he was going to do with all the MODEL RAILROAD STUFF!

Tom is a man of faith, and told me that during his soul searching he believes that God told him to build a very big model railroad that a lot of people could view and enjoy. To Tom that meant VERY big and A LOT of people enjoying it. Tom and his crew have over 14,000 hours of work in the railroad to date and still no track has been laid, but the roadbed clearly shows where the track will be. Tom is funding the project out of his own pocket and you only have to spend a short time with him to truly feel how serious he is about completing this project and having as many people as possible view and enjoy it. (JK: As it stands today, Tom and his volunteers have spent 22 years building the railroad layout.)

This is the main reason he is building it in modules is that can be taken apart and moved across the country. The second reason to build it in modules is the space where it is being built. Tom's Train house is only 114 ft by 50 ft and he will have to move it at least once to a larger commercial space to completely set it up. If in that move, all does not go as he hopes, then future moves may not occur. Therefore it is important for him to find the perfect space for the first move and set up and for the first set up to go well. (The Gulf Coast and Central Florida Railroad Museum Inc. at "Bushnell Station" in Bushnell, FL is that perfect place.)

There are 55 modules in the layout, Tom explained something about welding steel that I did know about. He said that the funny thing about steel is that when you weld it and think it is just where you want it, that many times it just does not do what you thought it was going to do. So what you see in his modules is the result of building each module maybe 3 or 4 times before you get it just right. Tom also showed me his solution for

making sure all the modules can be reestablished to the same level position after being relocated. He uses a laser. He has made removable targets that fit on the four corners of each module that are all set on the same level plane with the laser (the targets average about 3 feet above each module). When re-establishing the layout at a new site he can place his laser on the highest target and then raise all the other modules to that same level. Obviously he is not leaving anything to chance.

What you see as you enter his layout building is a modular layout built out of steel. See Photo 2. (**Not available**) I am not talking about only the layout base support, but also the spine for the roadbed, all the scenery supports, and even a lift section that is air operated that raises so that an adult can enter into the operating area without bending over. The spines used for the plywood track supports are built from steel banding that the railroads use to hold loads on their freight cars. He is trying to make it as fireproof and structurally sound as is possible, enabling the modules to be taken apart and put together again without any operational problems. To again give you an idea of the size of his project it will take four, 18 wheel trucks, to just move the layout modules from one point to another.

Tom freely says that God has blessed him with volunteers to help him with the project. So far (JK: as of 10 or so years ago when I wrote this article) the people who have helped him are: Jerry Silver (welding, designing, drawings, jiggling, plasma cutting, drilling, grinding and documentation), Daryll Gosney (riveting, sanding, forming, drilling, bending, cutting, bondo mixing and painting), Bob Garrelts (model design, wiring, building and painting), Tom Fowler Jr. (Photography, cutting, grinding, bending, bondo mixing, and painting), Ian Fowler (grinding, cutting, bending and welding), Scott Tucker (drilling, cutting, riveting, forming and model building), Lenard Dankenbring (cutting and assisting), Harlan Walther (cutting, bending, sawing, drilling and sanding), Dick Elskamp (cutting, bending, sawing, drilling and sanding), Sanford Drayer (drilling and painting), and by far the most important help provided by his wife, Sharyn Fowler (3000 plus lunches, untold pots of coffee and a very gracious environment).

Tom wants people to view the layout from a distance of 39" so they can not touch the layout. The viewer will stand behind a fence barrier. Tom plans to have lights on the fence posts to provide partial lighting for the layout. The sides of the layout, from the edge to the floor, will be draped by black fire retardant cloth. This will allow the operators access to the hidden tracks for maintenance. Tom has planned the layout so that a viewer will only be able to see what is directly in front of him. Murals, or other background scenery will hide the rest of the layout. So as the viewer moves around the layout he is in effect moving from one complete self contained scene to another, keeping in mind that all the scenes flow together to form the total viewing experience.

Before starting our tour, please look over the layout track plan shown below. (**Not available**) The photo numbers shown are where I shot the pictures of the layout. Please note that there are three railroads shown on the track plan. A Water Route in blue grey, a Central Route in red, and a Mountain Route in Green. The Mountain route has trackage rights over both the Central and Mountain Routes. To get the full impact of what Tom is doing you may want to refer back to these photos and the layout map as you read the following text.

To start our tour, you see tunnels that lead into a yard of 9 tracks hidden under the table (space for storage of nine separate trains). See Photo 3(**not available**). He has places set aside for section cars, engine service facilities, and two leads into the turntable. See Photos 4 and 5.(**not available**)

He also is including an ash pit with smoke, signaling that the locomotive has emptied its ash from the firebox. When the smoke dissipates, the ashes will still be glowing for awhile. Stock yards are next as well as facilities for refrigerated cars which come to pick up the meat, and ladder yard tracks that lead into a passenger station area. At this point you will come to the operating access hydraulic lift section that allows operators to enter into the operating area without bending over. See Photo 6, Photo 7 shows (**Photos not available**) Tom operating the hydraulic life.

Next you come to the passenger station area. See Photo 8.(**not available**)



Craig's Photo of Street view of Union Station.

Craig's comments: "A corridor runs underneath the tracks and contains several store fronts. Lighted signs hang from the ceiling showing the quarter inch scale people where such things as the escalators to the track platforms are based. Of special note is the animated barber pole. The smoke shop also sports a "Cigar Store Indian". The floors of the corridor and the main lobby have all been finished to look like polished marble. The rear of the station also contains a freight area."



Craig's photo of Greyhound Bus Station near Union Station.



Craig's photo of Taxis waiting in front of Union Station.

The station will be built over nine separate tracks. The station's lower level, or street level, will have the ticket counters, etc. Lower yet will be a glass window, that when a viewer moves close to it, a motion detector is activated that causes a subway train come into view and stop in the window under the station. The subway will stop, then continue on as another subway train arrives from the opposite direction. When the motion



Above: Craig's downtown photo.



Right: Craig's photo of new asphalt being installed.

detector is activated again the process will repeat, Tom told me that this area is the only part of the layout that has all of the rail tracks on the same level.

On the street that runs by the Union Station there will be a double track trolley line, trolley barn, and trolley station. Tom is not sure if he can manage overhead wire on a Modular traveling. If overhead is not feasible then a below ground third rail system will be modeled.



Above: Craig's photo of electric plant.



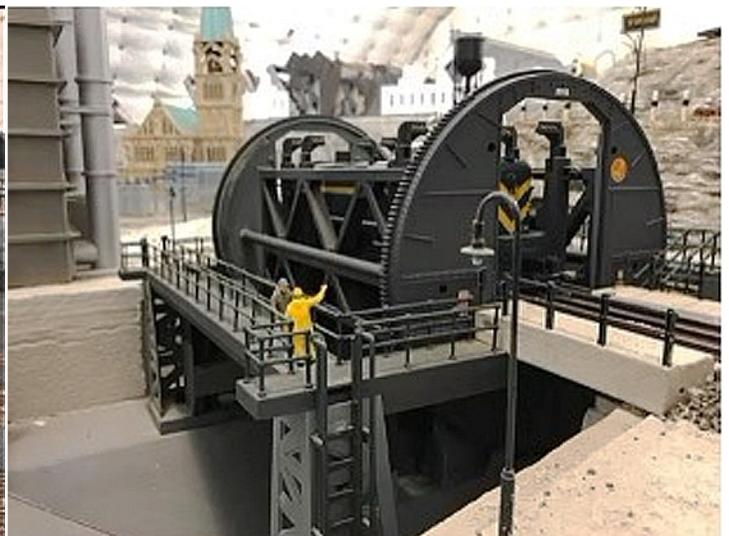
Right: Craig's photo of Roundhouse area with room for three Big Boys.

Next to the station area will be a park, with a carousel, swings, etc. Taxis and greyhound buses will be around the station. Then you will see a building under construction with construction equipment and large cranes building the foundation of the area's first tall buildings. There will be some smaller sky scrapers on the layout at this point, but larger ones will be shown in the back drop. Then there will be a McDonald's restaurant, a service station, and a road under construction with all the required highway building equipment, followed by a swamp with a drag line in operation.

This will be followed by some row houses with more of an urban view, a factory with a rail spur, and an operating crane with a pile driver to prepare a solid foundation for the bridge abutments which will be displayed in all stages of completion. Some large cranes will be setting the bridge girders on one span. Next is a limestone quarry in operation, with a drilling rig to place explosives, a shovel loading rock, a rock crusher, a cement plant



Craig's photo of Steel plant.



Craig's photo of rotary dump.

and kiln to dry the limestone and turn it into Portland cement, which will be next to a grain elevator operation. An unusual spur will go into the limestone cave which is used for cold storage for vegetables, fruits, and such. The viewer will be able to see the loading operation inside the cave See Photo 10 (**photo not available**), My wife, Nancy, is talking to Toms wife, Sharyn, on the far side of the photo,



Craig's Photo of Cement Company.

The railroad continues to the coal rotary dump by the large power plant. See Photo 1. (**Not available**). Intermittently the coal that has been dumped into the pit will be returned to the coal mine. The coal will be pulled up by a shop vac and screened before it goes to the loading facility at the mine. It can then be reused to fill more cars to repeat the process. A second engine yard with turntable and 12 stall roundhouse is viewed next. There will be a mountain behind the roundhouse.

One module will have no track but will feature workmen cutting ice from a frozen lake for refrigeration, ice skaters, etc. A road with a grader will be clearing snow from the road. Then comes a refinery area with 2 sidings, 2 passing tracks, a small yard and 3 mainline tracks plus four additional hidden storage tracks. The adjacent steel producing area will have a smelter, a rolling mill, and related buildings.

Now we are at the water area with a trestle of 1,140 scale feet over the valley and water below. See Photo 12. He has talked with Gargraves about making custom track with extra length ties for every fourth tie where he can build a walkway and railing on both sides of the trestle track. Next we go by 4 modules, with a loading dock, ice house, drive in theater (with a flat screen TV), and a farm field where a circus is being set up.

Then we arrive at the river where a steam powered side wheeler rail car ferry boat is planned. The river will have a ripple surface created by randomly injecting water beneath its surface. See Photo 13. (**not available**) The bottom of the river bed will be painted black, with various shades of grey as you come upon the river bank. The car float will have a screw that pulls the side-wheeler in tight against the dock so it can be loaded and unloaded with rail cars from the adjacent yard. The side wheeler will also get its batteries recharged while it is at the dock. Then at the push of a button, the side wheeler will depart, toward an operational Lock and Dam and actually be lowered sixteen scale feet by the water in the lock and then proceed toward an operating railroad lift bridge. The side wheeler will then disappear out of view to later return to the dock to exchange cars again. The water for the scene flows from the area called Hidden River over a damn, and sluice, over a water wheel, and



Craig's photo of lift bridge.

through the scene to a hidden holding tank, and then back to the river. The water is also pumped into and out of the lock as needed for its operation

Power sources for the railroad operation will be commercial transformers as all Tom will need is fixed voltage for his walk around throttles. He also plans to have much of his railroad computerized. At this time he thinks he will use MTH's operating system but he has not been able to confirm with MTH that their system will be sufficient to meet his needs. A meeting has been scheduled with Mike Woff, owner of MTH, to investigate using MTH's control system.

So what is next? At this point, after 14,000 hours of work by Tom and his volunteers, Tom feels he has the basic railroad plan in place and knows what scenes need to be completed, the location of track to be laid, and models that need to be built. What Tom is looking for now is model railroad modelers who would like to take one of the models or scenes and make it come to life. The cost of the materials will be paid for by Tom. The only cost to the modeler will be his time and a trip to Tom's home to see the exact location of where the model will go and its relationship to the rest of the railroad. In exchange, the modeler gets to participate in building one of the greatest 3 rail O gauge railroads in the world and even have an opportunity to operate it or run his personal equipment over the railroad. What an fantastic opportunity! I have already told Tom I want to work on the Trolley part.

I hope this gives you an idea of the magnitude of Tom's first model railroad. All I can say is I want to be one of the first to see it in actual operation. I feel honored to have met Tom, his wife, and some of his crew, and to see his dream layout at this early stage. Oh, and yes, can you imagine what his second model railroad will look like! Unfortunately I don't think he will build it. Thank you Craig for providing a copy of my original article and your photos.



Robert Little

Robert shows how a determined modeler handles limited space problems and still find ways to enjoy model building in our hobby. I was very impressed with Robert's modeling when I first saw some of it on Facebook, and his determination to find space to be a railroad modeler. Thank you Robert for sharing your journey.

Some background information about me and model and toy trains. I have been fond of trains since childhood, even receiving a concussion trying to climb up on a tall toolbox to watch a freight passing behind our house at age 4.

I know that early on my family had some O-27 equipment, I believe my brothers, but I would not get my first set until I was 7 – a Tyco Burlington freight set. Sadly, it didn't last long for a variety of reasons, all beyond my control.

What followed for a few years were a variety of Durham, Cragstan, and other no-name toy trains sets. While they were fun, they really weren't much.

In late 1973, at age 10, I decided to get into model railroading a bit more seriously. My initial start was with some Atlas N gauge cars, but this didn't last long, and I went to HO.

For the next three years I was gifted with a number of sets, and built up quite a collection. I wanted to try my hand at the old wooden craftsman kits at my local hobby shop, where once there were still stacks of StromBecker kits. By the time I felt I was ready, they were gone, but I was gifted with a Central Valley boxcar... which I built poorly.

Rather than giving up, I started scratchbuilding, all fairly simple basswood, balsa, and pine, riding on Tyco trucks, as they were very cheap (interesting note here - the trucks that Tyco sold at this time had separate bolster pins. Rather than drilling out the bolsters on my cars, I simply glued the inverted pins into place and snapped the trucks on that way).

In late 1975, I was given a Lionel Wabash Cannonball set, and discovered I really liked it. It felt rugged, solid. Again, fate intervened and I ended up having to let go of all my train equipment as we moved into a much smaller house. I didn't give up, though.

I kept scratchbuilding the occasional car, in O scale. My high school got a copy of E.P. Alexander's "Civil War Railroads & Models". Though I was no particular fan of the Civil War, the rolling stock from the mid-19th century fascinated me, and what followed were a couple of freight cars, while I stewed over ways to make the locomotives.

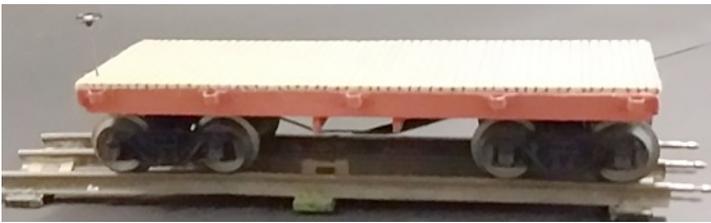
During this time, I would also occasionally help friends out by servicing their locomotives.

I was gifted with a Marx 666 in 1981, though I was still short on space.

Starting in 1983, at the encouragement of my first wife, I ventured back into HO scale. I continued scratchbuilding and track planning. No layout ever happened.

In 2021, I decided to get back into O-27, but this was very short lived - the space I thought I had was soon taken up as a game room. Which brings me back to HO.

But again, I have very little space, so at the risk of upsetting many serious modelers, I am opting for tight radius, small equipment, and eccentric rolling stock.



My advice for the person who wants to try scratchbuilding is seek out some of the older craftsman kits. StromBeckKer might be extremely simple, but in that simplicity is potential to learn and improve. Don't be afraid to make mistakes - keep sandpaper and hobby knives on hand to scrape off, sand, and try again. Sometimes, the priciest isn't the best, and the

cheapest not the worst. Just experiment and have fun! This is a hobby, after all!

Back in 2022, when I had a fairly sizeable O-27 collection, I decided to do some experimental scratch building. This was the result – a short flat car. Material is a hard board deck, Reddi-Board core, thin balsa sides. Pole pockets are made from aluminum can stock that was formed using a simple jig. Rivet heads are sequin pin heads, truss rods are thin florist wire, whilst the brake wheel staff is heavier florist wire. The brake wheel itself is a clothing snap. The model is riding on Lionel archbar trucks. No couplers were ever added.



My latest builds started with the StromBeckKer kits. This is the model that started it all, a StromBeckKer refrigerator car. This was built straight from the kit and was awaiting trucks and couplers.

My second build was a copy of the StromBeckKer kit using pretty much the same technique. However, I used yardstick material for the floor and ceiling,



and slightly thicker yardstick material for the ends. Some widening out of the floor and ceiling were needed. This was done with cardboard strips. The roof was also made from cardboard with a beam running the length of the car helping to hold it up.



This is the finished second refrigerator. Roof ribs were done with flat toothpicks, whilst the roofwalk was made with a strip of balsa. I should mention I use fishing weights for weight, which are glued down with E6000 silicone adhesive.

Here is the completed copy alongside the original StromBeckKer model.

I used these techniques to build a copy of the StromBeckKer NYC Pacemaker 40' boxcar. The printed sides were purchased from Bill Laidlaw. The roof ribs were simply drawn on this time.

When it came time to finish the cars, I used craft sticks to make bolsters. The undersides of these models are relatively spartan, keeping them as simple as possible. The undersides would be painted black.

Here are the mostly completed cars. They are riding on Marx/Model Power trucks, with copies of Marx knuckle couplers for now. The brake wheels are again clothing snaps sitting on short lengths of thick florist wire. The brake chain gear was drawn on with a fine tip felt pen.



Thanks, Robert, for sharing your modeling experiences with us. Robert can be reached at Robert.Little@newtracksmodeling.com.

Also check out his Website at <https://robertsworldinogauge.blogspot.com/>

New Tracks Modeling Mentoring Scholarships

Henry (Hank) Primus NTM, has been named Chairman New Tracks Scholarship Committee.

Hank Primas has taken over as Chairman of our Scholarship Committee from Bob Davidson. Thank you Bob for your outstanding leadership in getting our scholarship started and your guidance during its formative years. Bob is not leaving, he will become our Treasurer replacing Tom Farrell. Hank is taking over to take us to the next level. Thank you Bob and Hank.

Many of us have been involved with model railroading for what seems like our entire lives. The memories of our first layout, the excitement of operations, the pride that came along with finishing a craftsman kit... these are the things that drew us to, and kept us involved, in model railroading.

But we're facing a real challenge today. Fewer young people are getting involved in model building and railroading. There are many reasons – cost, time constraints, social, educational, and family obligations. It is imperative that we do all that can to encourage young people to become involved in model railroading. That's where the New Tracks Modeling Mentoring Scholarship comes in to play.

Our program provides academic scholarships to young model railroaders who are High School graduates entering, or are currently in, a STEAM (Science, Technology, Engineering, Arts, Math) undergraduate college, university, or technical-school program.

New Tracks is a group of railroad modelers who are passionate about ensuring that our craft continues to the next generation. We see our scholarship as a bridge between today's modelers and the next generation. These are the young men and women who will be responsible for continuing our craft, and who will be developing the new technologies that will heighten the modeling experience for all of us. Before our hobby "ages out" we are committed to taking whatever steps we can to ensure that railroad modeling remains a vibrant, rewarding pastime for years to come. Please visit our website: newtracksmodeling.com/scholarship for details about donating to, or making an application for, our 2026 Scholarship program.

Clubs and organizations can help us get the word out about the scholarship by distributing flyers or displaying one of our banners at train shows, conferences, meetings or at your local school or college. Contact Henry Primas for more information on helping out in this way. His email is: Henry.Primas@newtracksmodeling.com Thanks to everyone in the model railroad community for all your help.

More New Tracks Newspaper articles

My monthly column in my local Chronicle newspaper is having readers approach me with ideas I have never previously thought about. I am doing everything I can think of to promote railroad modeling, mentoring and our Scholarship Program. Here is a link to my Oct 17, 2025, and November 21, 2025, articles in the *Citrus County Chronicle* newspaper.

October 17, 2025 article: Mentoring is an Important Mission for Modeling. Here is the link to the article: https://share.icloud.com/photos/04eEmA_1MDZ-K0NdBW6H4saLw

Article continued on this page: <https://share.icloud.com/photos/0d6p1ZyQ-yIgzICL7-Y5OVXdg>

November 21, 2025 article: Childhood games spark creativity and imagination that carries into model railroading. Here is the link to the article: <https://share.icloud.com/photos/0d1S1LdEZqcGG6yCPm1yhdIMw>

Article continued on this page: <https://share.icloud.com/photos/0c9-OmKAHu78a9Zb9VMcnTUog>

New Tracks Mentor Recognition Program

My next effort is getting the New Tracks Mentor (NTM) recognition award program widely accepted. I am pleased to have Kurt Thompson MMR, NTM become the Chairman for this program. While Kurt will be responsible for developing and promoting this award project, he can sure use some help. We want to make this a widely accepted and helpful program for all modelers in our model railroad community. If you are interested in helping Kurt, please email him at: kurt.thompson@newtracksmodeling.com.

As I mentioned above, I am thinking about developing a Patch for the "NewTracks Mentor (NTM) award. Please let me know if you have any design ideas. I have already received one, but want to get others. My email is: jimkellow@newtracksmodeling.com

Your ideas

Please write to me about your ideas for any of our New Tracks projects. I love getting your comments, suggestions, modeling ideas or just having a modeling conversation. My email is: jimkellow@newtracksmodeling.com.

Give your local newspaper a call and see if they are interested in articles about our hobby. You may be pleasantly surprised. We need more people writing articles for their local newspapers. Good luck.

Well, it's time for me to do some modeling.

Time for me to return to my workbench and start working on something that I fell in love with and just must model. Happens all the time.

Thank you again for all your interest and for reading this far. Until next time with more New Tracks, I wish you happy successful modeling in 2026 with whatever you are building! Please don't forget to become a New Tracks Mentor.

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JT's MEGA-STEAM Smoke Fluid

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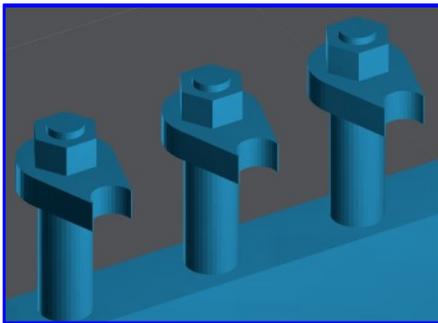
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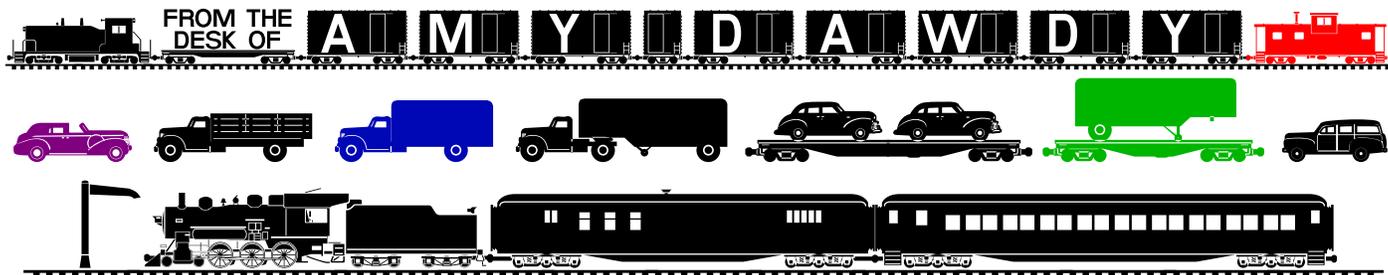


Grab Iron Ends (Nut/Bolt) and for modern cars, Grab Iron Ends (Rivet). These small parts will really dress up an older Athern/Reynolds/AllNation car as well as some new cast cars and, of course, your own custom built equipment. The stem is .020 and designed for .015 wire. There are 17 parts per sprue and four sprues package. Also our new double Nut/Bolt grab iron end used on many cabooses.

Model Railroad Resource 3D Division - Resin Parts
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NEW TRACKS MODELING

Where Mentors Help Modelers Build



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NEW TRACKS MODELING



THE O SCALE RESOURCE

*NEWS, REVIEWS, INFORMATION TO USE
We're putting the "modeling" back
in Model Railroading! 📺*

MY BUILD offers modelers a platform to share projects, get advice, celebrate their achievements, and help others learn tips that can improve their modeling abilities. Monthly Modeling Challenges are designed to inspire your imagination and creativity, but all types of models are always welcome during these special events.

The MY BUILD is a friendly, non-judgmental space where modelers of all ages and experience levels can connect, teach, and grow. Even if you can not participate, please Join and follow our Facebook Group, New Tracks Modeling, to meet and connect with other modelers, and discuss the MY BUILD show content and ideas for the future.

To participate in one of our MY BUILD show segments, please send one or more photos of your modeling projects with captions to, Chris Coarse at railrunner130@hotmail.com. He will compile them into a slide show for the show. Participants are encouraged to talk about their work, share techniques, ask questions, or give feedback. You will find it's a fun and educational experience! We welcome your feedback and suggestions for MY BUILD.

"My Build" Featuring Models From Our Viewers (10-22-25)

[You can see a video of the entire MY BUILD segment here.](#)

Each of the participants has an email address included, and welcomes your contact.

Greg Cassidy gcassidy2@verizon.net - Spooky Town structures, etc. between 1:24 – 1:60th scales. The themes this year are graveyard, ghost town and haunted house lane. It features 19 haunted houses. This is the 10th year Greg has been setting this up. Most items are ceramic or resin.

[Click here to see Greg's video.](#)

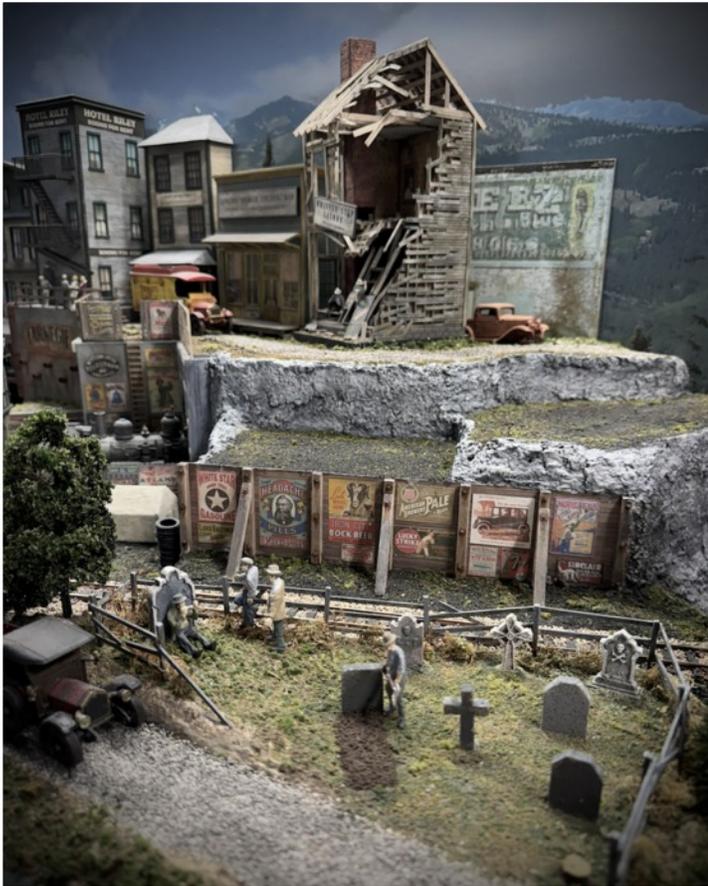


Phil Edholm – pedholm@pkeconsulting.com - On30 One of Phil's first projects when he returned to model railroading. Module is 6 feet by 2 feet. Sierra City module by Banta. McKenzie Brothers trees.



We could not print all the images for these builds so be sure to check out the video here!

Tom Farrell – tfarrell60@comcast.net - On30 – The graveyard on Tom’s Rustic Buff and Old Gothic RR layout. Artista figures. Some gravestones 3D prints purchased on the Internet. Some are Styrofoam.

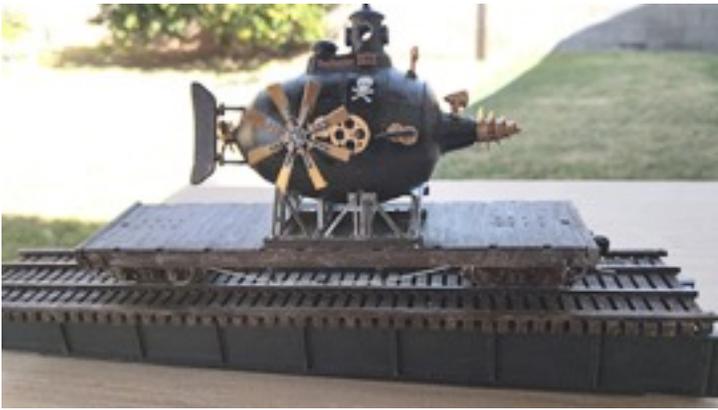


Bill Stimson – wstimson@q.com – N scale Interaction Hobbies Professor Fate's Submersible on an HOn3 flatcar.

Interaction Hobbies Professor Fate's Rocket Sled.

A pumpkin Monster that my son 3D printed for me to paint.

The kits I purchased at the N scale convention and Novi: 2 Bar Mills Overnights, Mudd Creek Models O'Brien Inn, JL Innovative Confectionery, and Monster Model Works 3 story Storefront Building.



"My Build" Featuring Models From Our Viewers (11-26-25)

[You can see a video of the entire MY BUILD segment here.](#)

Each of the participants has an email address included, and welcomes your contact.

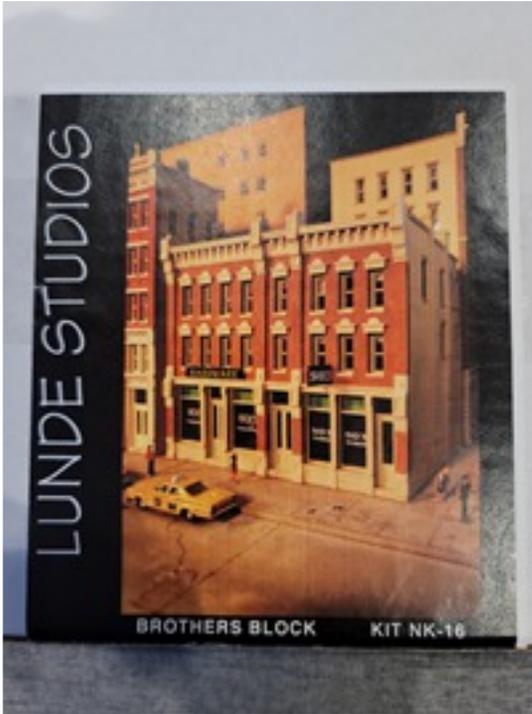
David Landels - keddes@icloud.com - HO scale - Module build of the fictional Northern Wapusk Railway. However, there is a Wapusk National Park in northern Manitoba not far from Churchill which they claim is the Polar Bear capital of the World. I was born in a town south of there called The Pas, so I've always had a connection with the area. Wapusk in Cree means White Bear so I put it all together and came up with the name.

It took me about a year to scratch build all the equipment and buildings. My wife and I were traveling in Scotland for 6 weeks so I wasn't able to paint or glue anything together because of the aviation rules with liquids, plus I didn't have the room to pack everything into my suitcase to bring back home.



We could not print all the images for these builds so be sure to check out the video here!

DS Yates - dsyates215@gmail.com – N scale - The first 2 are a prototype I want to mention, then the box Lunde Studios kit <https://lundestudios.com/shop/ols/categories/n-scale-kits>, then the steps I took.



Greg Cassidy – g Cassidy2@verizon.net – HO scale - Last month I went to the Philly Express. This was the NMRA Mideast Region's annual convention outside of Philadelphia. One of the clinics I signed up for was given by an old friend of New Tracks Modeling, Jack Dziadul. It was a hands-on clinic about building one of his kits, a section house. This was a kit that I had built an O scale version of a couple of years ago when Jack was doing a build along on New Tracks.

But because of a snafu at registration, I hadn't gotten the e-mail requesting that attendees bring their own tools and supplies. So, like a dummy, and unlike all the others I show up with nothing. Fortunately, Jack was prepared for that, and I was able to borrow an X-Acto knife and some stain from him. And I was sitting next to a friend of mine and was able to use his glue. But to say I was working with the bare minimum is an understatement. This is what I was able to make and bring home from the convention. And I think given that all I had to work with was a hobby knife, some glue and some stain, it was a good start.

But once I was back on my workbench, I felt a lot more comfortable and was able to finish building the structure. This is how it came out. It's a fun little kit and opens itself up to being modified for many different things.



Craig Veitch - Modelling a simple prototype structure to hide a trackside switch motor - I scratchbuilt a quarry scene atop the helix linking the two levels of my layout. The quarry is served by a line that diverges from the line leading to the branch terminus. The quarry line sits immediately above the helix, as does the switch that serves it. A switch motor could not be mounted under the roadbed because it would interfere with trains on the helix – block them in fact. Accessing the motor also would be difficult. The solution was to mount a Peco trackside motor beside the switch. These machines are not prototypical, so I wanted to hide it from view, but also be able to access it if necessary. My solution was to build a short timber platform (called a halt in New South Wales), that had a removable deck over the machine. Inspiration for the structure came from a prototype example on a long-closed line.



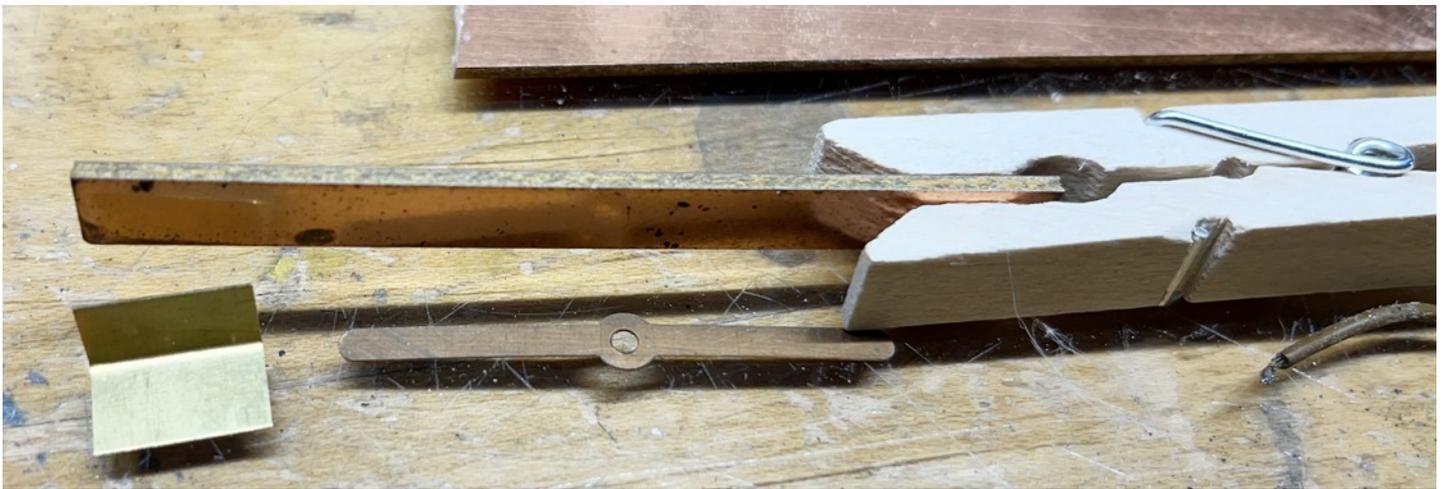
WHAT'S ON YOUR WORKBENCH?

This series shows our readers what other modelers are working on. All that's needed is a simple snapshot of what your workbench looks like and the project on it. Send us a picture or two along with a short description of what you are working on so we can share it here. If it's a project under construction, send it in. Repair job, send it in. Completed project, send it in. Send your pictures and descriptions to: daniel@modelrailroadresource.com

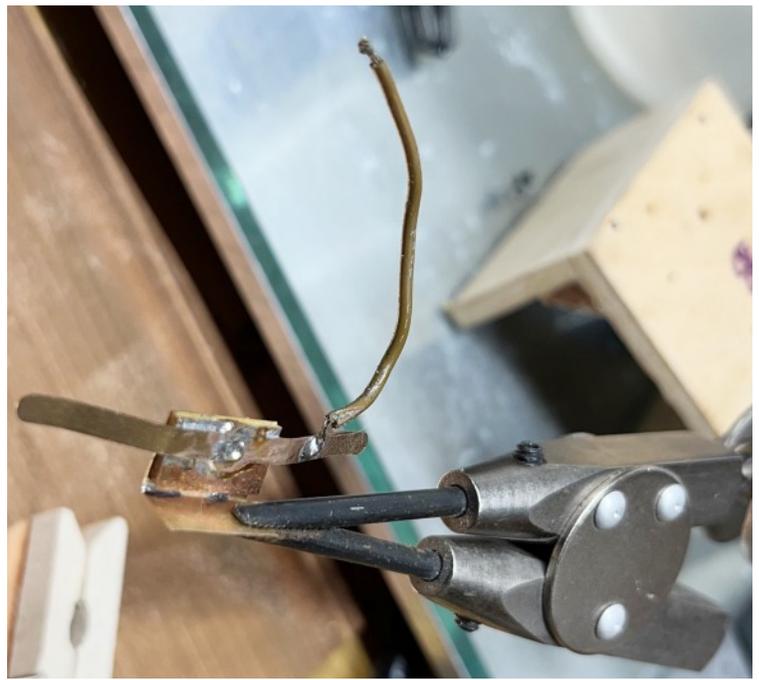
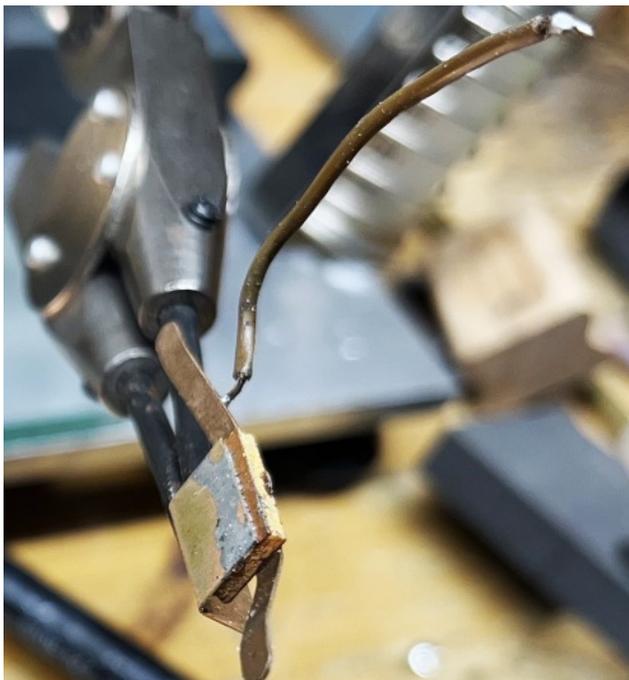
By Brian Scace

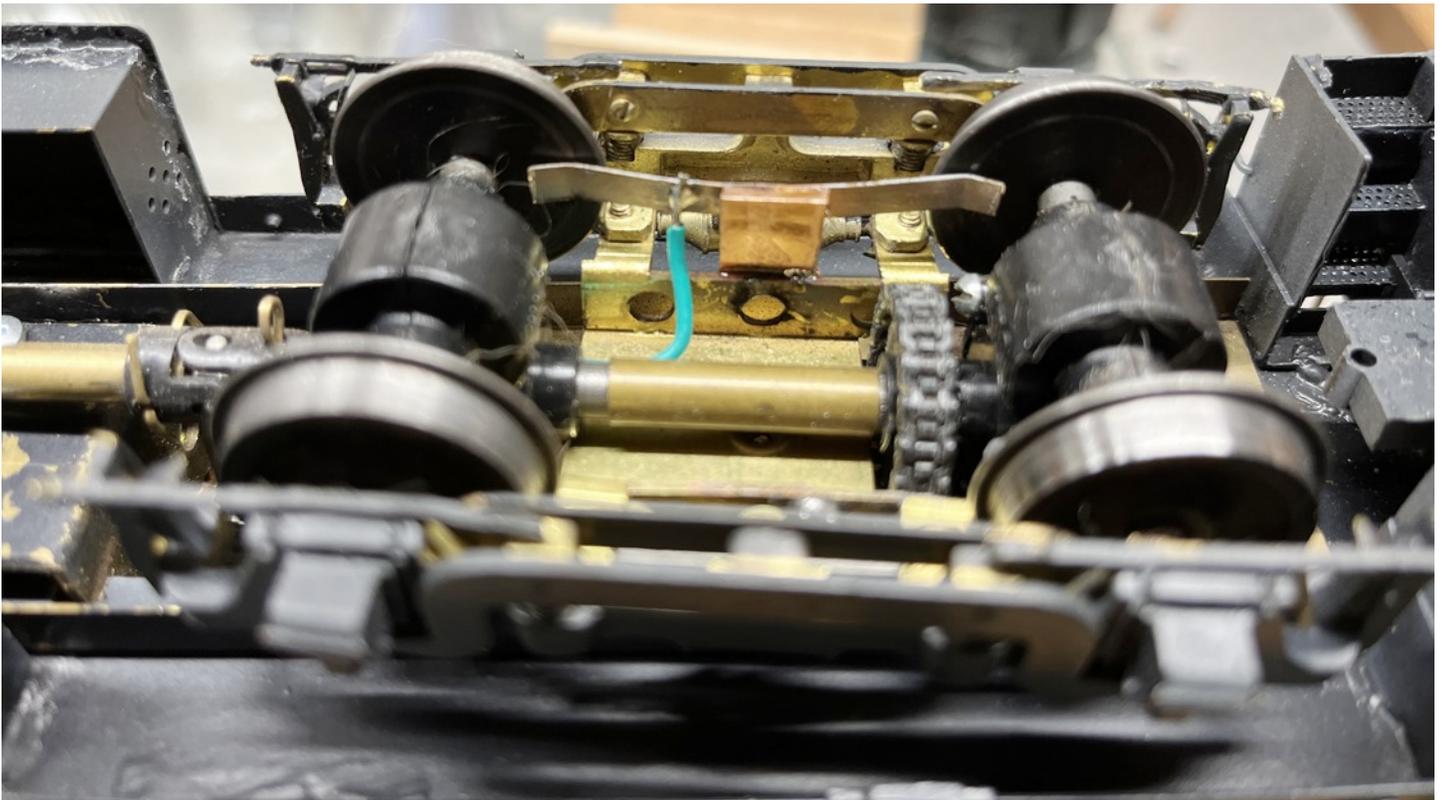
Easy solid simple pickups for the insulated side of diesels, tender trucks, etc. can be soldered up using double-sided PC (printed circuit) board.

Cut a stand-off sized chunk, make sure the edges are clean so the two sides are insulated from each other, and solder one side to the truck as the structure. If you don't have a vertical surface to solder to, cut a piece of brass angle and solder it to a convenient horizontal surface (like the bolster) and make one.



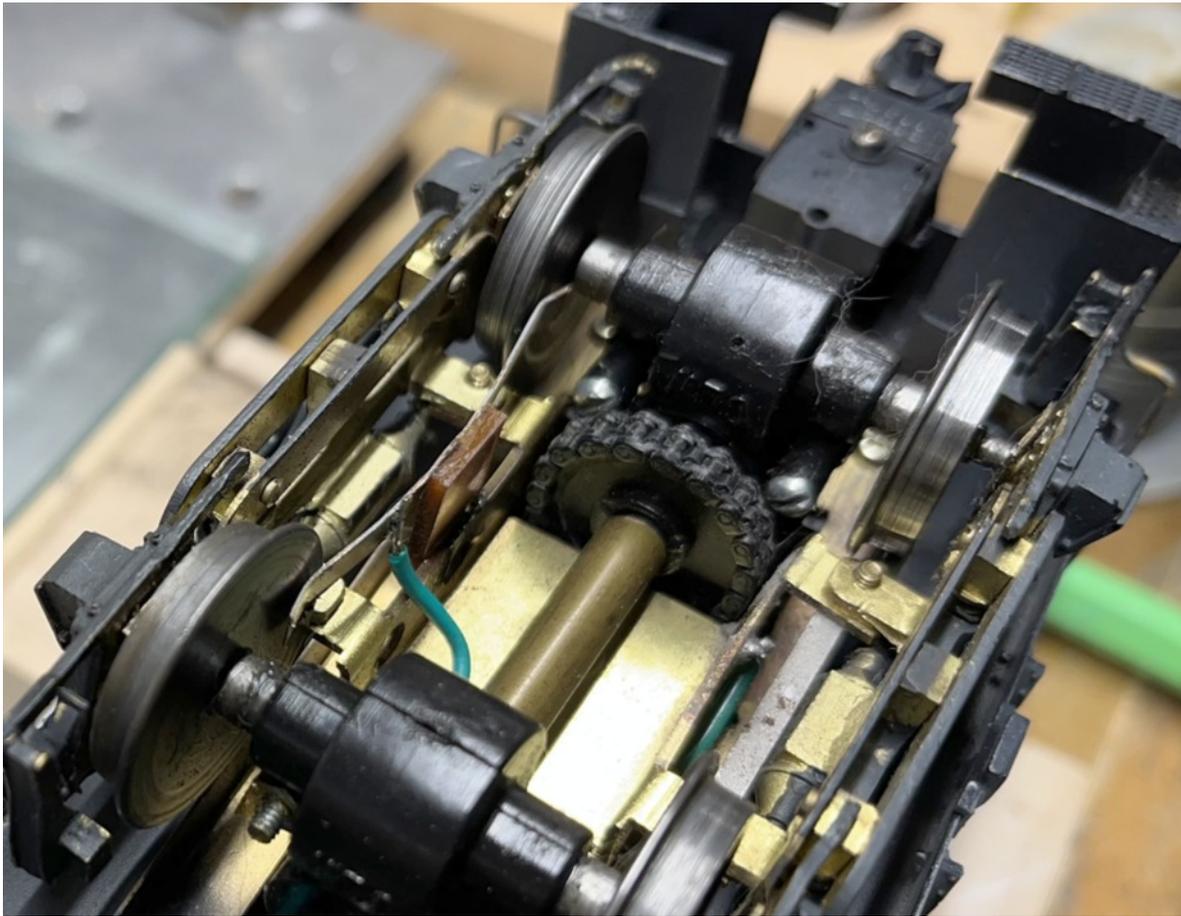
Make a pickup from thin brass or phosphor bronze strip or wire and solder it to the other surface of the board. The board itself serves to insulate the pickup from the truck/frame. Solder a lead to the pickup and you're done.





These three pictures show an installation on a loco, one that did not need the piece of angle shown in the first three.





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O SCALE SHOWS & MEETS

Have an upcoming O Scale event? We would like to help publicize it. Send us the information up to one year in advance, and we'll place it here along with a direct link to your Website and/or Email.

O Scale South 2026

11th Annual Atlanta O Scale 2 Rail Meet 9am- 2pm on Saturday, February 21, 2026

Layout tours information at the meet

\$6 admission (children under 12 free) \$30 per table (includes admission)

<http://www.oscalesouthshow.com>

On3, On30, On2, Proto:48, and 3-Rail Scalers Welcome!

Sponsored by the Railroad Model Club of Atlanta

Contact dan@railroadmodelclubofatlanta.com or 770-337-5139 to reserve tables and info

O Scale West 2026

New location on a New date

March 6-7, 2026 (Friday - Saturday)

OSW 2026 will be held March 6-7, 2026 (Friday - Saturday) at the Portugese IFES Society Hall in Mountain View, CA.

Admission for both days is \$35, admission for Saturday only is \$25, vendor registration is \$50 and 6 foot tables are \$50 each.

Friday, March 6 activities will start with vendor and visiting layout move in and set up starting in the morning. In the afternoon the swap meet, clinics, possibly outside tours, and layout visits will be open for general admission folks.

Saturday, March 7 activities open to all will be the swap meet, clinics, contests, and layout visits.

This half day Friday, all day Saturday format, is new for us so please bear with us as we figure out how to make it work best for everybody. We are still recruiting clinics and layouts to visit.

Check out the web site for full information and on-line registration: <https://oscalewest.com/>

O Scale March Meet

March 20-23, 2025

O Scale March Meet

March 19-22, 2026

Westin Lombard Yorktown Center

Lombard, IL

The March O Scale Meet is a 3 day gathering of vendors, customers, clinics, and fun held annually in March in the Chicagoland area. This is the Chicago O Scale train show you've heard of.

Website: <http://marchmeet.net/>

Email: ChicagoMeet@yahoo.com

Strasburg 2 Rail Train Show

April 11, 2026

Strasburg Train Show: Two-rail swap meet at the Strasburg Fire Co, 203 W. Franklin St, Strasburg, Pennsylvania. 9 am-1 pm. Admission \$7, wives/children/military w. ID free, tables \$35 for first table, additional \$30 per. Great food, modular layout, clinics. Contact Richard Yoder EST evenings 484-256-4068 [Click here for info.](#)

Harrisburg Narrow O Summer Meet

June 12-13, 2026

Friday June 12, 11am to 6pm

Saturday June 13, 9am to 3pm

Sponsored by: [Narrow Gauge Modeling Company](#)

New Hope Church

584 Colonial Club Drive, Harrisburg, Pa. 17112

[See the Facebook page for more information.](#)

Strasburg 2 Rail Train Show

August 8, 2026

Strasburg Train Show: Two-rail swap meet at the Strasburg Fire Co, 203 W. Franklin St, Strasburg, Pennsylvania. 9 am-1 pm. Admission \$7, wives/children/military w. ID free, tables \$35 for first table, additional \$30 per. Great food, modular layout, clinics. Contact Richard Yoder EST evenings 484-256-4068 [Click here for info.](#)

Indianapolis O Scale Show 2026

September 15-19, 2026

LaQuinta Inn Indianapolis South

5120 Victory Dr,

Indianapolis, IN 46203

Fri. Sept. 18, 3:00 – 7:00 PM

Sat Sept. 19, 9 :00AM – 3:00PM

Website: indyoscaleshow.com

Email: indyoscaleshow@gmail.com

Strasburg 2 Rail Train Show

October 10, 2026

Strasburg Train Show: Two-rail swap meet at the Strasburg Fire Co, 203 W. Franklin St, Strasburg, Pennsylvania. 9 am-1 pm. Admission \$7, wives/children/military w. ID free, tables \$35 for first table, additional \$30 per. Great food, modular layout, clinics. Contact Richard Yoder EST evenings 484-256-4068 [Click here for info.](#)

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Advertiser Index

All Aboard Trains	Pg. 9
All Nation Lines	Pg. 18
Allegheny Scale Models	Pg. 4
Along the Railroad by Howard Serig	Pg. 54
American Scale Models	Pg. 25
Atlas O	Pg. 19
B.T.S.	Pg. 25
B.T.S / Wade Publishing	Pg. 54
Berkshire Car Shop	Pg. 54
Berkshire Valley Models	Pg. 8
Delta Models	Pg. 9
Des Plaines Hobbies	Pg. 18
Excele Lubricants	Pg. 42
JT's Mega-Steam	Pg. 97
Korber Models	Pg. 8

March Meet (Chicago O scale show)	Pg. 3
Millhouse River	Pg. 19
Model Railroad Resource 3D	Pg. 98
Model Railroad Resource 3D	Pg. 112
MRR Custom Resin Printing	Pg. 33
New Tracks Modeling	Pg. 98
O Scale Central	Pg. 9
O Scale Turnouts	Pg. 18
Phoenix Precision Models/Tru-Color	Pg. 8
RailFonts.com	Pg. 98
Right-O-Way	Pg. 18
Stevenson Preservation Lines	Pg. 9
Streamlined Backshop	Pg. 64
The Public Delivery Track	Pg. 8
Trainbid.com	Pg. 9
Train Control Systems (TCS)	Pg. 17
Trainz	Pg. 25
Wit & Wisdom Models	Pg. 9

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