

NEWS, REVIEWS, INFORMATION TO USE

Volume 6 No. 1 September/October 2018

Our 6th Year Anniversary Issue

SCALE

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The Model Railroad Resource LLC **407 East Chippewa Street** Dwight, Illinois 60420 815-584-1577

September/October 2018 Volume 6 No. 1

Owner / Publisher **Amy Dawdy**

Managing Editor **Daniel Dawdy**

Advertising Manager Jeb Kriigel

Welcome to the online O Scale Resource magazine. The magazine is presented in an easy to use format. The blue bar above the magazine has commands for previewing all the pages, 106 What's on Your Workbench Today? advancing the pages forward or back, searching to go to a specific page, enlarging pages, printing 108 Workbench Extra pages, enlarging the view to full screen, and downloading a copy to your computer.

Front Cover Photo

Santiago Pineda's beautiful rework of Sunset's СВ&О О-5А/В

Rear Cover Photo

Some beautiful scenery from Darcie & Jeff Lang's Layout

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The Model Railroad Resource, LLC publishes The O Scale Resource and *The S Scale Resource*. Be sure to look at both of our magazines. There are many articles in our magazines that are not scale specific and will be of interest to you. Click the magazine title in this announcement to see the magazine.

From the Publisher's Desk

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This issue celebrates our six year anniversary in the online publication business. It's been a lot of fun, and we've met some great people along the way from all over the world. Thanks to our advertisers for their support and you, our readers, for making *The O Scale Resource* magazine a great success. Keep sending us your feedback – we love hearing from you.

Summer is almost over, along will all my cancer treatments (YAY!!!), and I'm writing this while manning our table at the National O Scale Show just outside of D.C. in Rockville, Maryland. Be sure to check out some show highlights in this issue. You can only pull off coverage that close to publication time with an online magazine! We had a great time, saw some of the sights in the Nation's capital, rode the Metro, visited with old and new friends and, of course, spent some money at the show.

Speaking of shows, don't forget to register for the Indianapolis O Scale and S Scale Midwest Show. Vendor tables are sold out, but please call to be placed on a stand by list. In this issue, we revisit Darcie & Jeff Lang's layout that has undergone some major changes since is was last featured in the September/October 2015 issue of *The O Scale Resource*. If you're coming to Indy, their layout will be open again for tours, as will others. Maps and addresses will be available at registration. This year, the show will have presenters in the trading hall demonstrating figure painting, soldering, kit building and layout planning, in addition to also featuring modular layouts.

Stout Auctions has contacted us and has scheduled their normal Friday auction to Thursday before the Indy show. They will have a large number of O scale lots which should take up over half of their docket, and invite attendees and dealers to join them. The auction should be done in plenty of time for you to make the hour and fifteen minute drive to the hotel and have time to settle in for the show. There will be more information coming in early September so be sure to check out their website stoutauctions.com.

In addition to the National coverage, this issue brings you some great articles. Glenn continues his building in brass series, and makes the check valves for the Nickel Plate switchers that were featured in the last issue of *The O Scale Resource*. Once again, we are proud to feature international authors in this issue. Santiago Pineda from Bogota, Columbia tells us about his changes and modifications to an O-5 engine to reflect Burlington's premiere passenger locomotive; while in another article, Australian George Paxon talks about customising your industries and products to make your layout more cohesive and realistic. Lastly, be sure to enter the current contest featured in the "New Tracks" article. Enjoy this issue, and let us know how you liked it!

Happy Reading & Happy Modeling,

Amy Dawdy

NEWS YOU CAN USE

Soundtraxx announces a New 50 X 90mm Oval Speaker. They are now shipping a new oval speaker that measures $50 \times 90 \times 37.5 \text{ mm}(D)$.



This speaker is suitable for use with our Tsusnami2, TSU-4400 4-amp Digital Sound Decoder in models with higher stall currents such as some S, O, and Scale large locomotives. This large speaker will provide robust low frequency bass sounds. Dimensions: 50 x 90 x 37.5 mm(D) Frequency Response: 230Hx – 20kHz Peak Power: 5 Watts Impedance: 8 Ohms



Woodland Scenics has a new offering in their New Built-&-Ready® Building line. The Rustic Water Tower.

Clean water is a natural resource that is vital to everyday life. Make sure town residents always have access with the Rustic Water Tower. Building details include a center scaffold for tower inspection, an elevated water tank, metal cross cables and trusses for stability. Authentic weathering and graffiti add character to this aging structure. Additional features include a ladder for replacing the aircraft warning light at the top of the tower and an unattached pump house for custom placement.



This Built-&-Ready Landmark Structure comes with pre-installed LED lighting made for use with the Just Plug Lighting System. Check their Website for more details.



Doug Junda and Bob Stears sent us a press release which should make many happy. We are happy to announce the acquisition and merger of Grandt Line Products, The San Juan Car Co., San Juan Decals, American Limited Models and The Leadville Shops. This new conglomeration of companies is called The San Juan Model Co.

At the request of the Grandt family the "Grandt Line" name has been retired. The extensive Grandt Line catalog of detail parts and kits has been merged with the extensive product line offered by The San Juan Car Co.

This new combined catalog of well over 1000 detail parts, as well as the combined HOn3 and On3/On30/O Scale kits of both companies, will be available directly from The San Juan Model Co. web site as well as from our current distributors.

The extensive line of high quality screen printed water slide deals produced in house by San Juan Decals will be augmented by the dozens of decal sets offered by The Leadville Shops. This growing catalog of decals will also available directly from the San Juan Model Co. web site. In addition, San Juan Decals will continue to offer custom design and screen printing of the highest quality water slide decals.

American Limited Models will continue to offer high quality imported HO scale RTR models as well as other new RTR models of interest to members of the narrow gauge modeling community.

New from Model Tech Studios LLC

This Classic soda fountain is meticulously detailed in O Scale. Unpainted, it is a beautiful piece and comes assembled ready to paint in your scheme. This is a challenging piece for us to produce, but we've made it really simple for you to finish up as there is NO assembly it is decked out with detail.



Footprint in scale approximately 3 1/2" L x 1 1/2" W and comes Assembled and UNPAINTED......just add your own paint scheme to fit your scene. (Figures not included.)

Variety Pack of Newspaper and Magazine Vending Machines. Perfect to GANG them together on a sidewalk or in a train station or use them individually in scenes. O Scale Details to make your scenes come alive.





BIGFOOT the Legend Lives, Finished Beast is a fun character to add to your layout. He is very "Beastly" and comes all painted and ready to add to your scenes.

See their Website for more.

Atlas O announces new new paint schemes for their Atlas Master® O 25,500 Gallon Tank Cars. Atlas' model of the Trinity 25,500 gal, insulated, general-purpose design. This was introduced in 1986 and production continues today. There are at least 13,000 presently in service. Typical commodities include vegetable oil, tallow, styrene, benzene, asphalt, biodiesel, acrylates, and numerous other chemicals.



AGP REFINED OIL, CARGILL, HARVEST STATES (CHSX) and CTCX (CIT GROUP) are just a few on the new versions.

Also the Atlas Master® O USRA 55 Ton Coal Hopper has new versions. During World War I, the US railroads experienced a critical equipment shortage due to increased traffic needs. This 55 Ton Hopper Car was one of the body types designed by the United States Railroad Administration (USRA) to relieve this shortage. Built in 1918, 25,000 of these

cars were primarily assigned to the great coal-hauling roads of the East and Midwest. The car design was very successful and later became one of the standard cars of the American Railway Association.



See their Website for more details.

Woodland is proud to present a brand new system for landscaping a layout: the Field SystemTM.

The Field System combines everything you need to create realistic meadows, fields and pastures. The Field System includes Static Grass, which is a material that stands upright like individual blades of grass when applied with the Static King[™]. This material is perfect for adding dimension and texture to a layout while modeling fields and other tall grasses. Static Grass is available in four lengths and four colors that blend together to replicate all phases of growth.



Model other tall grasses or weeds with Field Grass, and use Briar Patch to create brambles and thickets. Accent highlights and shadows on the layout with Plant Hues, and add Flowers for extra color and interest.

The Field System also includes three new adhesives. These adhesives are specially designed for adhering the landscaping materials in the Field System. Use The Field System products with easy-tofollow techniques for a simple way to mimic nature with incredible realism.



Great Lakes Models has some new O Scale items. Storm Sewer Grates & Inlets. This Storm Sewer Grate is an exact replica of the one in the intersection of W. Duluth Ave and S. Massachusetts Ave in Milwaukee, Wisconsin on 05-21-10. This same style has been used since the turn of the 20th century through present day; throughout the Midwest and East Coast, from big cities to small towns.

See their Website for more information.



Paul Vaughn from PVC wrote in to say that Precision Vintage Classics is pleased to announce that our webmaster has performed magic! Our website <u>pvc-sn3.com</u> is restored to full functionality including the shopping cart.



Nick from ITLA Scale Models Inc has a new building coming out. The Olympia Tool & Die Co. O5156 - Laser Etched & Cut Wood Construction, Signature Series – Limited Edition Craftsman Kit. Only 100 will be produced.

See their Website for full details.

This is designed as a "Configurable" Kit which can build into ONE of over a DOZEN different wall combinations!

You can rearrange our wall sections to create your own custom structure and fit the space you need to fill. We've included roof material for the basic 11" x 5.5" L-shaped wall configurations, including a 33" long Flat or a 28" long Shallow Relief model.



Model built by David V. Ross



Robust tab & slot modular design enables a quick and stable build. Our wood materials are easily painted with solvent or water based paints, no wall bracing is required.

The model features weathered & worn masonry surfaces on every wall using our unique laser etching process.

An abundance of ground level castings, and surface applied details such as electrical conduits, meters, separate window/door headers & sills, steps, handrails, vents, pilasters, cornice trim & capping are included. Multiple roof top details include vents, stacks, access stairwell and billboard.

This kit also includes three brass Operating LED Goose Neck Lamps with resistors to easily connect to your 9 to 23 VDC power supply. You can even battery operate them.

See their Website for full details.



Kevin Macomber from Narrow Gauge Modeling Co. Has new laser cut truck beds to upgrade donor vehicles. These have been really popular because it allows you to take a common low cost van style truck and convert it to a flat bed. The sides can be configured or removed.





They also have many delivery trucks in different styles as well as many other detail parts. See their Website for more details.





Rick and Mary Hamlet of Rusty Rail have some new products this month. A John Deere 1 1/2 HP hit-n-miss gasoline engine. These engines were used in shops and on farms to complete daily work. You can set it up as working engine, or it makes a great piece of junk in the corner of your shop or farm. Requires

simple assembly, you just add a piece of rod and glue on the pulleys. This little guy will be an eye catcher.

Also they we have nice set of metal milks cans. there are enough castings to make a nice diorama on a freight dock or at the dairy. Milk was sent to market in these cans everyday. You get two castings: a bunch of milk cans and also five separate milk cans to add to the set, plus you get two stacks of grain sacks. Figure is not included just for showing size. All resin castings and come unpainted.



See their Website for more information.

Right On Track Models, builders of scale laser cut wood model kits in HO, O scale and now S, launches a new model structure kit in O scale this month. This kit represents a typical structure that would handle produce from farm to market via truck to rail. These kits features precision cut basswood, highly detailed styrene windows and doors as well as cast resin parts. Complemented with easy to follow step by step color instructions. O scale release August 15th, 2018. O scale 18" by 11" footprint.

See their Website for more information.





Dennis Zander from Z-DZ-1052 Stuff for Trains has some new \$78.00 products.



Z-Stuff for Trains has expanded its line of O-gauge smartSignals. The DZ-1052v, \$78.00, is a modern style, hooded 3-color signal. As with all our other patented signals, sensor and control is built-in. All you do is connect two wires to power for a fully functional signal. Input and output wires are included for added functionality. The DZ-1065v, \$72.00, is a 3-color searchlight signal now available in silver. It also has complimentary 2-head, DZ-1065-2v \$86.00, and 3head, DZ-1065-3v \$90.00, versions for increased prototypical modelling.

The DZ-1065v and the top signal head on the DZ-1065-2v and DZ-1065-3v are controlled by the built-in sensor or input wire. The second signal head on the DZ-1065-2v and DZ-1065-3v are controlled by a second input wire. The third signal head on the DZ-1065-3v is constant RED.

For all of our "v", variable, version signals, delay time between aspects can be easily set by the user in one second intervals from 1 to 60 secs. See their Website for all the details.



More news from SoundTraxx: The new Tsunami2, Steam-2 Digital Sound Decoders feature 90 whistle selections and are be available in four board formats. The Steam-2 decoders will replace the current Tsunami2 Steam decoders. Tsunami2, Steam-2 decoders have 28 new whistles (over and above the whistles on the current Tsunami2 Steam decoders) and it includes all of the features that Tsunami2 Digital Sound Decoders have to offer including: over 50 sound effects including 12 bells, a new total of 90 whistles, 10 air pumps, 8 dynamos, 10 exhaust chuffs, snifter valve, injectors, Johnson Bar, power reverse, firebox blower, side rod clank, brake squeal, and more.



Also SoundTraxx is announcing a new EMD decoder in the Tsunami2 line of Digital Sound Decoders. The EMD-2, which adds an additional 8 EMD prime movers to the Tsunami2 sound library, provides high quality onboard locomotive sound, precision motor control and brilliant lighting effects. See their Website for all the details.



Richard Rands from Berkshire Valley Models has a new truck available. The log truck kit is made of detailed white metal and laser cut wood. Ford Co. did not produce log trucks at the time. However, many a truck was modified for hauling logs.



The logs are not included. Those pictured in the photos are from the Butterfly bush.

See their Website for all the details.

St. Charles Model Works has a new scrap load. Steel Pups are the latest addition to the line of loads and scrap piles at St. Charles Model Works. A pup scrap load made expressly for Series 6462 Lionel Postwar Gondolas is now available. An accompanying pup scrap pile is sold separately.





Both items, along with many other scrap and coal loads, can be found at www.scmodelworks.com.

Precision Vintage Classics is developing a new Locomotive Kit. GE Export locomotives. The U6B and soon a U8B

The initial U-series, as announced in 1956, included two small end-cab variants, namely the U4B and U6B. They shared a common, 33'6" frame. The U4B had the 8-cylinder Cat D375 engine, whereas the U6B had the 12-cylinder Cat D397 engine. The U6B can be seen as the 52 ton model. The U4B was never built, but later there was a U5B and a U6B. not to be confused with the V12 U6B. The first V12 U6B models, for United Fruit Costa Rica, were not built until 1959. And later came the U8B and U10B. Let us not forget the U11B, three different engines, and passenger versions too with short hoods. Plenty of variety for your narrow gauge line.



These kits are planned to consist of a resin and 3D printed parts plus motor & power trucks. Couplers and hand rails included. Details and pricing to be determined. We are planning to first offer these in On3 followed by Sn3 and Sn42. If you want one of these excellent kits, please send us a message to reserve one just for you! We will ask for confirmation and a deposit when we have a release date.





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2018 SCALE O National Convention

Photos by Daniel Dawdy unless noted

We just returned from our mini vacation to Washington, D.C. and the O Scale National. I can't say enough about the hotel, location and the people behind this convention. We had a great time meeting many new people as we don't get out East that often. In addition to a good show, there were beautiful layouts open and clinics galore. A big thank you to all involved for a tremendous O Scale National!



So let's look at some of the convention here, as well as a video we put together for more scenes from the show.



Amy was hiding behind our sign while talking to readers of our magazine. No matter what show we attend, the promoters seem to place us next to O Scale Trains. It's great that we all get along.



Above: Items from Portland Locomotive Works Below: Bill McConnell from O Scale Turnouts showing his new products

Both photos by Jeb Kriigel





MTH's Andy Edleman above and Atlas' Bill Serratelli below



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Above: Joe Foehrkolb of Baldwin Forge & Machine. Below: Pat Mucci from P&D Hobbies working with a customer.



The O Scale Resource September/October 2018



Above: Scenes from David Vaughn's layout.



A scene from Chris Smith's layout.



Above: Tony Koester's was displaying his new P48 modules based on his hometown in Indiana and built for a Model Railroader Magazine article. Below is the locomotive Tony used that was reworked for him by Jay Criswell.



The O Scale Resource September/October 2018



Above: Another beautiful scene from Chris Smith's layout. (Amy Dawdy Photo) Below: Bob Spaulding from Altoona Model Works talks with a customer.





Above: Norm Buckhart from Protocraft seems happy while Warner Clark makes out a check. Below: There were a lot of nice older locomotives available.





Ted Schnepf from Rails Unlimited made the trip East.



Norm's O Scale was there with a lot of items and some great prices.



Another look at Tony Koester's new P48 modules.



MTH's Andy Edleman and Atlas' Bill Serratelli get together for a talk on O Scale.



Above: CRM Products was in attendance with their new East Streets and beautiful weathering decals. Below: Lots of scenery products and a whole line of foam cutters.



Below are some shots from the model contest. Unfortunately, their placement in book cases was not conducive to great photography, but we did get some nice shots. The winners were announced after we needed to leave, but will be posted on the National's Website soon.





Right behind the convention hotel was the Metro's Red Line to downtown DC, and next to that are the CSX tracks also used by Amtrak and MARC trains.



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Mentor Definition: A Trusted Counselor or Guide By Contrubiting Editor Jim Kellow MMR

Manufacturers and Mentors who want to help Model Builders Improve their Skills and Confidence

This month, you have a chance to win a HRM Laser Models kit of Knowlton WI Depot.

ENTER THE HIDDEN RIVER MODELS CONTEST HERE

But before we get to that, let's look at some people in the hobby willing to help you.



Individuals who could become your mentor and help your modeling

Bob Kjelland

Lone wolf? Live far from another O Scaler? You need a mentor. They are closer than you think. You can connect in print, on line, and in person.

Just a few months ago, I began a running conversation with a hobbyist who wanted to "try" O scale. He lasted two months and then returned to HO. Swapping out split gears in a used Weaver RS3 suggested less ready-to-run or plug-and-play, and more tinkering. We gained one. We lost one. How many more hobbyists are out there who might find the wonderful world of O scale if only someone could provide guidance? I've got a few tips woven into these words on how to discover and reach out to mentors waiting and wanting to help.

I have mentors. I am a mentor. I have found O scale is special not only for its

detail and mass, but also for the community that surrounds it. For the record, I became an O scaler when I was 22 years old, in a small town in North Dakota, before the Internet, social media, email and newsgroups connected the world. The nearest hobby shop was in the next state over: it did not carry O scale. It wasn't easy then to be a young O scaler. Frankly, it's a lot easier now.

Today, I know two O scalers who are in their 20s. I am learning as much from them as they (hopefully) might learn from me. They are exceptional modelers who are tapping into a network of like-minded hobbyists (think mentors).

My belief is few people start out in O scale. They usually began in N or HO for a variety of reasons. They choose O scale at some point in their lives. Maybe in their 30s, sometimes in their 50s. We know O scale is the

"King of Scales" that really launched the hobby and industry of model railroading back in the 1930s. Yet few contemporary modelers are aware of O scale as a viable way of life, let alone a community of great people. O scale is seldom stocked in hobby shops, seldom the focus of magazine articles, seldom set up and running at train shows, and layouts are seldom open for tours.



A couple of my Midwest March Meet award winners. I did field research on the combination deck/trestle bridge and build it from stripwood and plastic. It has a total of 1,779 parts, many of which are nut-bolt-washer castings. The miniquad was made from four Atlas ore cars. I shortened the end platforms, replaced all the plastic grab irons with brass, added extensions, drawbars, and the second through brake line. The Champ decals required a bit of splicing to get them correct.

The need for mentors is obvious: O scale is not as simple as "scaling up" from HO or despite the intuitive expectation that it should be. We do not have the wealth of rolling stock, locomotives, track, or other ingredients we all need to build a layout available at the nearest hobby shop. The good news is, this has been changing in recent years in terms of an ever-expanding catalogue of great goods from Atlas, Woodland Scenics, MTH, Lionel (the latter two requiring some conversion work that really pays off). And the future looks incredibly welcoming.



My first caboose, kitbashed from two Atlas bobbers. Also needs windows. It has been in service for 30 years.

Like many of us, I had a love of trains from an early age. And, like many of us, I started with a Marx three-rail set as a Christmas present. Over the course of subsequent Christmases, I wound up with an S scale train set, an HO train set, and then N scale. My Dad also liked trains: I suspect he used my enthusiasm to justify his interest. He was my first mentor by being the adult who could build train tables and pass along lessons at the same time. We ultimately shared countless hours as adults going to train shows and railfanning. He chose HO and liked running trains on bare plywood.

I decided N scale was what I had room for, yet I wanted realistic



My West Side 2-8-2 running on the Colorado O Scale Modelers portable layout.

detail... as in constructing a board-by-board 36-foot flatcar with individual grab irons. Realism and reality were not compatible. I had not the skills nor tools to turn my own wheels. Couplers were painfully large. One could run trains in orbits but switching was not practical. My flatcar was a teaser of what I wanted but could not attain.

As I grew up in a small town far from any clubs or other modelers, I was forced to figure things out through reading and testing my abilities. The former was enjoyable, the latter was frustrating. This was the early 1970s, after all, and N scale suffered from poor running locomotives and oversized or absent detail, especially when it came to track and wheels.

This disappointment may have been why the hobby was put on hold in favor of starting a family and career. In 1982, I drove 90 minutes to attend a small train show with a dozen tables. I was looking for N scale I could afford. What stopped me in my tracks was a display track featuring a single O scale Atlas F9 and a few freight cars.



My basket case Pacific, still in need of a pilot.

That 1970s-era Atlas covered wagon had been detailed and sported Northern Pacific freight colors. I was intrigued. It looked as if an actual EMD 567 inside the car body might burble to life and send diesel exhaust out the stacks. The guy behind the table was Bill Flint. He didn't scowl and hide as if I was too young to understand

O scale. He enthusiastically started a conversation. He shined as an advocate for O scale. I never thought to get his contact information. My mistake.

A year later, I went to the same show hoping to see Bill again. My goal was to get an F9 and detail and paint it to match his. Bill was my first (and continues to be) mentor in 1:48. Of course, a locomotive needs a stretch of track, a couple of cars, and a caboose. Bill supplied me with kits and more. He also provided me with advice and encouragement and insights. And he invited me to attend an O scale show in St. Paul, Minnesota, some 300 miles away. That outing was the experience that tipped the scales, so to speak. The Twin Cities O Scale club had a portable layout on which a maroon Soo Line RS1 with sound was rumbling down the track. The heft, the detail, the slack running in made me think N scale was not giving me the sense of real railroading.

Bill had a sectional layout he took to the local train show. A running O scale train commands attention. Always. And he always talked to people who paused and marveled at the realism of the models. I would not be in O scale today if not for Bill and for the wealth of knowledge he shares and his steady supply of modeling hacks that keep my interest piqued.



My first locomotive, a Weaver RS3 painted and decaled for the Midland Continental which was an actual railroad that had two RS1s in similar colors. Needs windows, but it has been pulling trains for 30 years.

Bill and I and Dave Schultz, who lived in central Minnesota and was also my age and embracing O scale, had many adventures carpooling to a couple of Twin Cities train shows each year. We watched the Twin Cities O Scale club start its Bandana Square layout from the floor up. I was impressed with brass steam locomotives running on the layout that featured working valve gear and piping that surely carried steam and had working throttles in fully-detailed cabs. I could not afford a brass locomotive. I could, however, afford an Ambroid wood kit and enjoyed putting it together.

Twin Cities O scaler, Paul Gruertman, answered many of my questions about O scale and seeing his home layout helped me understand how O scale fit and how it felt. I still have his hand-written letter he sent to me answering my rather naïve questions. The camaraderie for Bill, Dave, and me is amazing. Bill got both of us started, Dave provided inspiration to keep going.

Several things happened in the early 1980s that made O scale so much more appealing. Weaver came out with nearly ready-to-run cars and locomotives, just like HO and N scales. Although the cost comparison to HO and N was noticeable, a Weaver RS3 was attainable for me. Subsequently, Intermountain, Red Caboose, and others brought out new, detailed rolling stock. The 1990s brought additional great products with Atlas returning to O scale offering a wide range of highly-detailed models and Micro Scale manufacturing accurately scaled flex track.

In the early 90s, Bill and I drove 11 hours overnight to the National O Scale Convention in Chicago. It was an eye opener. Only O scale and all in one room. One big room. I was one of the youngest in attendance. Bill and I learned about the annual O Scale March Meet held in Chicago. Bill, Dave, and I agreed to carpool to the next March Meet. Then to another. Then to almost every meet from 1996 on.

Here is my first bit of wisdom: if only once, get to a serious O scale regional or national event. Think of O Scale West in May, the Chicago Midwest Meet in March, O Scale Indianapolis in September. This Resource Magazine you are reading will have the details. By attending, you will learn a lot from other O scalers that are selling and buying. Take time to look for treasures on (and especially below) the tables. High-end brass? It's there. Graceline comprestic car sides from the 1940s? There. American Standard and ICC car kits? There. Original Lobough steam locomotive kits and modern brass detail replacement parts to update them? There.



My modular layout from the 1990s, the one that I took to train shows, the National O Scale Convention in Denver (1994), and the Great American Train Show in St. Paul. Scenery, buildings, and a double track mainline. Running O scale trains demand attention and command respect.

Modern converted MTH diesels, out-of-production decals, modular building kits, well-detailed and designed frogs and points? All there. Most everything once offered in O scale is still floating around, often at affordable prices. Aluminum GG1 kits, Kemtron 2-6-0 kits, incredible 50-year-old Max Gray 2-8-4s, well-built Walthers heavyweight passenger cars? All there. Plus, you'll learn about the latest, newest products ranging from sound systems and working signals to new ready-to-roll passenger cars in plastic, just like HO and N scale.

At the March Meet, I've been able to visit with Lou Cross and Jay Criswell of Right O' Way. Lou sold me my first points and frogs and he sold me on the notion I could assemble my own turnouts. Jay is equally in sharing track tips. Jay will answer questions on pretty much anything O scale. Ted Schnepf of Rails Unlimited is always at the Chicago show and cheerfully shares his knowledge and experience (and his layout as a tour attraction). You will be able to talk to modelers and manufacturers, all of whom want you to enjoy your hobby. The camaraderie is amazing. The sense of community is incredible.

Attending one of these events is an education. Many O scale items were made in limited runs and not advertised. They show up randomly, so look beyond the big blue boxes. Plus, you may be like me and are still constrained by an HO or N scale budget. Much of my rolling stock, locomotives, buildings, and track came from shows at which someone was changing scales (going to G, perhaps?), changing eras, changing interests, or retiring to a simpler life. I cannot drop \$400 for an Atlas SD35. But I found one for \$100 in Chicago, and I found an Atlas RS1 for \$175 in Northern Pacific livery at a show in the Twin Cities. I bought a "basket case" Weaver USRA 4-6-2 for \$125 in the last minutes of the Chicago show and had it running in a month. More than once I've run into someone who wants to sell quickly and leave. They are not there for the fun, they just want to sell out and go home.

The best deals seem to be in the first hour or the last hour. I'm not cheap, just budget conscious. I do buy new items. I do buy at hobby shops. I seldom look at eBay, but it is an option for people who, say, live a few hundred miles from a train show or hobby shop.

While my circumstances in North Dakota did not allow for a home layout, I did build a double-track modular layout that was 12 by 22 feet with scenery and buildings and a backdrop. It allowed me to test my benchwork, wiring, and scenery skills, and to run trains. I took that layout to a dozen annual train shows in Fargo, North Dakota, to the O Scale National Convention in Denver, and the Great American Train Show in St. Paul. These outings put me in touch with industry leaders including Frank Angstead of InterMountain Railway, Bob Weaver of Weaver/Quality Craft. Jim Weaver of Weaver, all of whom were ready to visit. Mentors? Of course. This is a hobby. The people who are in the business of model railroading understand and appreciate the value of building relationships.

A move to Colorado and a new home with a decent basement has opened a lot of doors figuratively and literally. O scalers in Colorado are a friendly bunch. Some have home layouts. Others are expanding an exceptional portable show layout that serves as the best O scale outreach possible. Jeff MacDonald, Ed Miller, Erik Lindgren, John Johnson, Leighton Moreland, and Rick Trinkle are my O scale colleagues. Questions and answers flow back and forth. Did I mention that David Stewart and his Appalachian & Ohio are a three-minute drive down the road from where I live? Dave will stop everything to delve into his layout philosophy, much to the angst of his dispatcher. Having O scalers with operating layouts within a 60-mile radius? This is much better than my days as a lone wolf in North Dakota.

I've been blessed to have traveled the U.S. extensively during the past 20 years. And I've made the most of these trips. During my work trips to Washington, D.C., I made time to visit John Armstrong more than once in Silver Spring, Maryland. His layout plans and narratives in Model Railroader going back to the 1950s had driven my desire to have a realistic layout. John's Canandaigua Southern was fundamentally what I wanted in arrangement, although with a Midwestern theme. John walked me back and forth along the Canandaigua Southern while sharing his insights on O scale, layout design, and, well, life.

Among his advice? Design your layout then go back and get rid of half the turnouts. Turnouts, he said, could take up to an hour of maintenance every year. Keep in mind most O scale turnouts are built, not dropped in place as in HO and N scale. He also said to get trains running now and worry about scenery later. Indeed, his railroad was in regular operation for more than 50 years, longer than some actual railroad companies managed in the real world. John had a dry sense of humor. He was an excellent writer. My advice is study his body of work on layout planning regardless of the topic. John's role as a mentor, even if only in print, is priceless.

Listen to him. His layout plans in the 1950s-60s *Model Railroader* magazines often focused on mid-sized O scale layouts.

Copies of the 1904s-era "Frank Ellison on Model Railroads" can still be found. Fine one. Read it. Ed Bonner's articles in the print O scale magazine are like having him at my workbench explaining how to tackle a Kaisner car. This *O Scale Resource* publication is likewise packed with articles written by mentors you haven't met yet. They are there for you.

In my travels, I also arranged to visit one-on-one with Bob Boelter in Madison and talk about his Great Western. More recently, I stopped by Berkeley Springs, West Virginia to see how Jay Beckham is building a large O scale layout. Tyrone Johnson and the Rockford O Scalers have been welcoming hosts. The advice here? Find someone with a home layout or a show layout and learn from them.

Finally, use social media. I've never met Jennifer Elizabeth WhiteWolf, Lindsey, Fowler, Rod Miller (well, I just met him at the Chicago March Meet), or Jeff Lemke, yet through Facebook connections they are among the people I reach out to when I run into a "how or "why" question.

On that note, some of my mentors are from the past and they shared their best advice in print. As you see, I have been lucky to have had so many O scalers (and many non-O scalers) as mentors at different times in my life and meeting different needs. There is one who honestly is the most important. Her name is Maria. When I met her, she had little interest in model railroads and didn't know O scale from Z. I married her and she, in turn, has embraced my interests. She has joked that my hobby is going to train shows and storing cars in boxes in the basement. There is a certain significant amount of evidence for this. Get your trains running, she says. I will. I have my orders. Even though I started as a lone wolf, I can honestly say the true understanding (enabling?) of a spouse makes my hobby investment generate compound yields.

My layout construction is moving forward. It will use what I consider a few unique track plan innovations and it will have numerous elements honoring the mentors I treasure. Currently, I have been in O scale for four decades and still have at least two to go. Yes, for the last three years I have heard O scale is dying. I have heard no young people are showing an interest. I have heard we lack new products. In my point of view, we are in another Golden Age of O scale. Oh, one of those twenty-something O scalers is James Schultz. The son of Dave Schultz. James started out in HO. He moved up to O scale to model the Milwaukee Road in Avery, Idaho in Proto:48. He and his dad compete in the March Meet contest to see who can built the best passenger cars. They both are award winners. That said, If I want to know how to run my layout using a smartphone, I'm more likely to check in with James (sorry Dave). James doesn't know it, but he's my mentor.

Check out my railroad's Facebook page: Midland Continental Railroad to learn more...

If you think I can help your modeling please email me at Bob.Kjelland@oscaleresource.com.



George Podas

I'm a person that enjoys building locomotives which are not readily available. My grandfather worked for the railroad, and when I was young, he took me to work with him. This is where I got my love for trains. I've dabbled in HO and 2 rail O scale for many years, but consider myself an O scaler. Why O scale? Just look at my engines. I also like to build resin car kits. I've been in the hobby seems like all my life and still have my Marklin trains from my childhood. I've done custom painting, reworking mechanisms or drives, and building kits for friends. I'm self taught, have a small machine shop, and most all tools to do just about any work involved in this hobby. My dad was a machinist, so I picked up a few from him, even though I don't consider myself one.





Above and left: Scratchbuilt B&O T3b O scale 2 rail by George Podas.





Above and left: Westside O scale P7e with scratchbuilt tender by George Podas.

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Above and left: Scratchbuilt B&O E-27 O scale 2 rail by George Podas.

My wife says the good thing is I can usually fix everything, the bad thing is I can usually fix everything. I don't know if I would be a good teacher, I've never done that before, it's new to me, but perhaps I could help. I make plenty of mistakes when I build my locos, often times remaking parts that didn't look quite right, but I eventually do get it where I think it's correct and then I'm happy with the outcome. If you believe I can help you, please contact me at George.Podas@oscaleresource.com.


Bob Ross it! The whole layout will include painted back drops. Bob Ross was the inspiration behind these and thanks to his intuitive videos has helped me greatly!



All turnouts on my P48 layout are hand laid, and with emphasis on detail. My layout is in many stages of construction, but with a little imagination this scene comes to life!

James Schultz

From the time I could walk, I was a modeler. Between my parents; My Mom helping me draw trains, to my Father, who inspired me to be the O scaler I am now. Modeling has been instilled in me from the beginning.

My interest with the Milwaukee Road started early. Whether it was the mountainous terrain, beautiful scenery, or those impressive electrics hauling heavy freights over the Milwaukee's western extension that sparked me to model this railroad, I may never know. It may have been a combination of it all that to this day I want to recreate to the best of my ability and hopefully pass down to my son to enjoy. My first layout as an HO modeler began life in 2002 in the basement of my parent's home. My Father, David Schultz, an avid P48 O scaler, graciously made room for my 15'x6' layout that took shape over the span of 6 years. Here I was taught to scratch build, kit bash, lay track and scenery, and think outside the box to model what I wanted. The lessons I learned then helped set the stage for what I do today.

By 2008, I had taken a job with the IC&E railroad out of Mason City, IA. The HO layout was taken up and most of my models put into storage. During the 2009 Chicago O scale meet, I purchased my first kit. A Walthers Milwaukee Road Skytop lounge. My intention was to build it for "display" purposes, as I was an HO modeler! Later that summer, and to the surprise of my whole family, I became a P48 O scaler. The details of these models astounded me, and the Icy tentacles of O scale had me firmly in it's grasp.



Speaking of scratch building. Many of the cars the Milwaukee shop built, including this F6 tender converted to a steam generator car, are not available in O scale. I have scratch built this car in it's entirety. It will look good with my passenger trains.

After taking a job with CN rail in 2010 and moving back to my home town of Duluth, MN, I began truly investing into O scale. Knowing that the availability of models pertaining to the Milwaukee was less than that of its smaller counterparts, I turned back to scratch building and kit bashing. I kept my mind open and wanted to learn as much as I could from those around me. If there was something I could improve upon, I did it. If someone could teach me a better way or method of building, I wanted to learn it. One great way of improving your skills as a modeler is by entering contests. One in particular, one I also enter frequently, is at the Chicago O Scale Meet. This brings you together with like-minded individuals who you can discuss techniques with and can help improve your skills, as it has for me. And besides, who doesn't like looking at all the fine models!



When it comes to details, my passenger cars are at the top of that list. This Walthers kit Milwaukee Road Skytop lounge has a full interior and complete under body detail work. Many modifications were made to bring the full potential out of these kits.

I currently live in Superior, WI with my wife and 3 year old son. I started building my P48 layout in 2016 modeling Avery, ID on the Milwaukee's Rocky Mountain division. You can view the progress via my Facebook page: The Milwaukee Road in Avery, Ohio

Within the next few years, I hope to bring some unique perspectives such as painting and scratch building to the O scale community, and so others can take what I have learned and improve their own skills as a modeler to bring great models and layouts to this community. I am always open for discussion via Email: James.Schultz@oscaleresource.com

Or by meeting at shows such as the annual March Meet in Chicago.

I would like to thank Jim Kellow for giving me this opportunity. Though I am newer to this than most, I've been in it my whole life. I will assist in whatever way I can. I look forward to speaking and meeting with some of you." I you feel I can be of help in your modeling please contact me at James.Schultz@oscaleresource.com



Kevin with his son and future modeler, Gunnarr.

Kevin J. Tully

I started modeling when I was 4. My brother, Lonnie, got me a '57 Chevy Snap-Tite kit for my birthday. He and my brother, Gary, had model trains on a 4x8 in our den. I can remember going with them to a hobby shop that was upstairs in a building in the nearby city of Hornell as a little boy, and looking at all the trains. And of course, Big N and K-Mart had model cars. We all built all sorts of models, like an kids do. But trains were always there. Back then, 3-in-1 kits were popular, so you'd save all your parts up, and eventually build something out of them. I had no idea that was called "Kit Bashing" then. We didn't have a ton of money then, so kit bashing was a way to build something when you had the itch, but no money for a new model. How did I learn to model? Gary and Lonnie both taught me stuff as I remember. But, as I was a good deal younger than they were, they started to leave home for the Service not long after starting to teach me.

So from there, it was reading directions, and the occasional



magazine Mom would buy me to learn of other ways to model. What scale? I model HO. I have always modeled HO for trains. We had some O when I was a kid, but it was quite old, and not mine to play with. By the time my brothers had left home, I had some of my own equipment for the 4x8 layout. We had a local train club when I was in high school; I joined, and that was HO.

I had more stuff by then, so I just always stayed in HO. I like it as a scale, as it seems to be easy for me to model in. I suppose I could do other scales, but I model

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primarily steel mills and heavy industry, so size is always a concern. I'm a member of Prairie Scale Model Railroaders in Lombard IL, and we have a sizable layout. They've graciously given me ample room to model both a by-product Coke Works and a huge integrated steel mill. What areas am I willing to help other modelers with?

Scratch building and research. Scratch building has seemingly gone by the wayside with all the RTR stuff. Even buildings now. But scratch building is so much

more rewarding. Especially as the buildings you make become virtually limitless in scope and type. And the skills learned scratch building bleed off into the rest of your life once learned. It's all a mindset. Start modeling "outside the [model] box" if you will.

If you believe I can help your modeling please contact me at Kevin.Tully@oscaleresource.com

Calvin Witt

Who am I as a modeler? I am a freelance On30/On18 model railroader who specializes in scratch built and kitbashed models utilizing primarily CNC machining and 3D printing.

History in the hobby. I started out in HO trains as a kid and was in the hobby for a few years due to time constraints in my life. Years later, I learned about On30, picked up a few trains and got back into the hobby.

How I learned to build. Watching a lot of videos from the library, reading magazines and skills learned in college, and from doing unrelated projects with my dad.



Also a lot of trial and error has been involved in the process as well.

How I learned my 3D skills. When I was younger, I was an avid drawer and took multiple classes in college relating to CAD (computer aided drafting), and at the time I did not think to use those skills to model railroading. Later on when 3D printing became accessible, I found my CAD skills could be useful for the hobby and prompted me to purchase a 3D printer.

Did I have a mentor or just trial and error? While I had help for class related projects when learning CAD, most of what I know is from trial and error and bits of information picked up in videos and other resources.

What scale and why. Being I had HO equipment and I liked the size of On30 trains, I figured it was worth picking up and giving On30 a try. I have recently gotten into On18 due to liking the small size of the equipment and how it can complement On30 trains.

What areas will I help by mentoring? Teaching others the basics of 3D modeling for model trains and offer tips for 3D printing of detail items through YouTube tutorial videos. Potentially in the future, I may look into offering a clinic at model train shows, but that is iffy as I am not the best at public speaking.

If you believe I can help your modeling, please contact me at Calvin.Witt@oscaleresource.com



I recently was told of a small firm I had never heard of before. But since the recommendation to include the firm in my "New Tracks" Mentor series came from John Mann, MMR, who I am spotlighting as a mentor in this article, I knew I had to contact the owner to see if he was interested in being a part of my mentoring project. Scott Peterson, the owner of Hidden **River Manufacturing** Company, immediately told me he wanted to participate. Scott agreed with the need for more modelers to build, and

that having a mentor was a great idea to help modelers get started and develop their model building skills. So first I want to introduce you to Scott and then to his company, and the contest he is providing to readers of this magazine. I know you will be as impressed as I am with Scott and his Company. Good luck to everyone and have fun going down some "**New Tracks**".

D. Scott Peterson – Modeler and Manufacturer

I was born in Wausau, Wisconsin where the Milwaukee Road and the Chicago & North Western had a junction, and each had a nice large brick depot in town. Wausau Insurance used the Milwaukee Road depot in its advertising and made Wausau famous in doing so. You may remember its ads on the television show *60 Minutes* back in the 1980's.

Anyway, as a child I was train crazy. We lived near a few businesses that the Milwaukee switched in and out of, and in 1954 they still used a steam switch engine. As a 4 year old boy, I was fascinated by it and also deathly afraid of it. I would drag my mom outside and hide behind her and peek out at it to watch the switching as steam and black smoke belched out.

When I was 5, my dad bought my mom a new clothes dryer and with it you got an American Flyer S scale train set. I was in heaven. Later, he bought me a big Lionel O scale train set, and later I switched to HO, basically my scale ever since.

The Wisconsin Valley Model Railroad Club started in 1960 in the basement of the local Historical Society and it is still there. The model railroad was behind glass windows and I would stand and look at it for hours dreaming of becoming a member. Members at that time needed to be 18 years of age so on my 18th birthday I drove down to the club and joined. 50 years later I am still a member. My expertise at the club is structure building. Many of the structures on the layout I built.

I have been a member of the NMRA, Milwaukee Road, Chicago & North Western, Northern Pacific and the Soo Line Historical associations, and have entered and won may contests for my models. Someone once asked if I had an unfair advantage in a scratch-building contest, using my laser. I feel it is just a fancy cutting tool, but the skill and artwork in creating a pleasant scene is where the talent lies.

Uncle Sam tapped me on the shoulder during Vietnam and I was drafted in the Army. My dad was in the Navy and that sounded like a better deal, 3 hot meals a day, clean sheets and a bunk at night, and riding rather than walking, so I enlisted in the Naval Air division of the US Navy. I deployed on the Aircraft Carrier Kitty Hawk, but my A6 squadron was stationed in Whidbey Island Washington. In the Bachelor Living Quarters

there I built a shelf model railroad with a PFM sound system and brass locomotives in HOn3 narrow gauge. I stayed in the Navy for 4.5 years and then the Navy shipped me and my railroad home to Wausau. What a deal. I always kept in touch with the railroad club and they kept my membership active while I served my country building a model railroad. Ha Ha!

I got out of the service and took a job as a mechanical designer. When Computer Aided Design came along, my company bought an expensive 2 seat CAD system in 1984. I knew this was the future so I told my boss he would never be sorry if he sent me to be trained on the new CAD system. I learned it and excelled at it. I later became the manager of the CAD department, and my boss worked for me (maybe he was sorry, he never said). Anyway, CAD became second nature to me and I wondered how I could marry my two loves, CAD and model trains together. Laser kits later became the answer.

In 2013, I was thinking about retiring and my wife asked me what I was going to do with my time. I told her that I was studying laser cutting equipment and wanted to buy a laser when I retired. She asked the price and I told her the one I wanted was top end and gave her the price. Rather than shoot my dreams down, she floored me by saying, why don't you buy it now? I did and never looked back. I am so happy with my purchase, researching railroad structures to find original plans, redrawing them in CAD and then sending the CAD drawings to the laser and cutting out miniature structures of depots and other buildings.

I retired in 2014 after forty years at that company. For something else to do in retirement, it became a mission to locate every railroad depot still standing in the state of Wisconsin and photograph it completely all the way around it. As my wife likes to bum with me, I took her along. With her, wandering around old depots causes less suspicion and I never had a problem taking my photos. I will stress if the depot became a home, but still looked like a depot, we would ask permission to photograph it; and also if the depot was totally changed and didn't look like a depot anymore, we would just drive by. I also live by the motto: "Take nothing but photos, leave nothing but footprints.". This mission took 3 years, but still, every once in a while, I hear of a depot we missed and off we go.

I collect copies of original northern Wisconsin railroad depot plans. When I find a set of plans, I ask to borrow them, I get them digitally scanned at a local large format copy service, and return the plans to the owner. If I am given the plans, I have them scanned and then donate the original plans to the pertinent Historical Society. I own a large scale plotter so at any time I can plot a set of plans to work from to create my kits.

I frequented a local hobby shop (now closed) and was asked to give some clinics on building model buildings for model railroads. I gave a number of classes and they were popular. The manager of the hobby shop asked if we couldn't do a small kit for the attendees to build. The first kit of the soon to be "HRM Laser Models" was born. We did the class and it was well received. The hobby shop wanted to sell the kit in their store so I produced more. I created Hidden River Manufacturing and I now have designed and sell over 100 laser kits of accurately scaled structures from original plans.

I do not advertise, but rely on word of mouth and the Internet for my sales. I enjoy being a small "one man" business operation and love developing new kits of northern Wisconsin railroad structures. I also volunteer my time at the County Historical Center and am known as the train guy there.

I do build custom kits for people, but I have two criteria that I follow. First, they must have the plans for the structure. Second, it must be something that I myself am interested in building.

People sending me one or two pictures of a depot and expecting me to come up with all the missing data, draw up accurate plans and build them a model kit, just doesn't work. Also the cost of a kit is in the CAD design, and the development of a model that fits together well, not in the small pieces of basswood in the kit. So therefore I can't give my time away. I need family time also.

I have a wife, three grown children and four grandchildren. We have a F scale garden railroad in our backyard which is a big hit with old and young alike. (F scale (1:20.3) is a more "to scale" form of Garden scale

modeling. G scale being a generic term.) I have won best of show with my Garden scale structures at national contests, but I do not sell kits in that scale. Our backyard railroad has been on a number of community tours, I do the trains and my wife works with the dwarf trees and landscaping.

I enjoy my life, family and my three main hobbies, Model Railroading, Photography, and Computer Aided Design.

Obviously Scott is a committed model railroader. You can read it in the way he talks about his history in the hobby. Now I want you to hear about his Company.

HRM Laser Models A subsidiary of Hidden River Manufacturing LLC

The company Started in 2003 making garden scale resin kits and O scale kits. I no longer work in resin, too messy. I purchased my first laser in 2012, and traded in the smaller laser for a larger and more powerful laser in 2013. The business is run out of my basement. I retired from an engineering profession in 2014. Along with my business, I volunteer at the local county historical society two half days a week. This has been a great resource in helping find photo and drawings of the things I want to model. In the last five years, I have created more than 100 laser cut kits that I sell. That's a lot of kits.

The Laser

My laser is a 50 watt CO2 laser with a 12" x 24" bed with 2" of rise/fall in the bed. The laser fires a beam of coherent light from the back of the unit which is slightly unfocused. This beam is reflected off of two gold plated mirrors in the XY arm which directs the beam through a lens with a 2" focal point. At that focal point, full power is obtained. The beam is slightly unfocused until it goes through the lens so as to not destroy the mirrors or the lens.

An exhaust fan is required to draw the smoke and combustion materials out the back of the unit. If the smoke stayed in the unit, it would cut down the laser power much as headlights in the fog. It would also collect on the mirrors as resin, dirtying them. I vent the exhaust out a basement window.

This is not an unpleasant smell. If I were to go into any kind of production with the laser, I would move it to a more suitable location such as a heated out building where I could vent the laser more directly.

The laser is controlled by colored lines to make various cuts. White - makes a surface raster image much as a wood burning set. Blue - fires a beam at quarter power to cut part way through the wood. Red - fires a full power beam to cut fully through the wood.

AutoCAD creates a printer file from the drawing. In that file, you tell the laser the type of material you are cutting, softwood, hardwood, plywood, paper, cardboard, plastic, etc. and also the thickness of the material. The laser driver uses this information in setting the power and the speed of the cut. You can also cut a quick draft mode file, regular cut or a highly accurate cut, depending on the material. The laser bed drops away in the Z direction, depending on the material thickness, to keep the 2" focal point.

The power that the laser is using creates different brightness in the cutting spot. Very hard materials creates a light so bright it is painful to watch. Cutting softer woods and paper is dimmer and watching the laser work can be hypnotic.

The beam cut is 0.010" wide. This is normally not a problem unless tight fits are required and then you need to account for the gap just as you do with a saw kerf when cutting wood with a table saw.

Other Equipment

I have a woodworking shop with a paint booth, table saw, band saw, jig saw, sanding disc, drill press, etc. I have a kit packaging area and shipping area. I have a large wood storage area for the wood I use in creating the

Even with the large fan, a fair amount of residue deposits referred to as creosote does collect on the bed of the laser. The blower is fairly loud so I built a more sound proof enclosure for it and stuck it outside the basement window with an on/off switch inside. I also added a gate valve on the vent pipe to keep bugs and cold air out.

The laser operates as a MS Windows printer. You can actually print an Excel file in a block of wood. I use AutoCAD as my design platform. I have been using AutoCAD in my profession since 1986.

I draw all the CAD files for the laser to cut in basswood and aircraft plywood. Wood is my favorite medium for model building and the least offensive in the basement. There is a faint odor of a wood fire, as in a fireplace, near the laser after a burn.

Equipment and process that Scott uses in his company



The Laser



Laser ventilation exhaust pipe The O Scale Resource September/October 2018



Exhaust fan sound deadening box



Laser open to accept material to be cut



Laser X-Y Arm



Red mirror holder on X-Y Arm



Basswood and locator beam mark



AutoCAD drawing file



Part set to the printer driver



Printer driver material selection and thickness screen The O Scale Resource September/October 2018



Laser and design desk



Design desk



Each kit has a parts box for keeping extra parts



Supply of basswood in various sizes



Plotter for printing large format photos and prints



Depot plans being plotted



Kit being designed



Kit first build testing the fit-up The O Scale Resource September/October 2018



Windows and doors



Second build with painted for pictures



Completed model



Me and some of my models

kits. I have one of each of my kits on display in the basement, but I need more shelf space as my kit numbers increase. I keep an inventory of two of each kit for fast turnaround when an order comes in. I take checks and PayPal but no credit cards.

Kits

My initial product line was depots of central and northern Wisconsin. I added other railroad structures such as coaling towers and water tanks, freight houses etc. I also do special requests for structures, but I will only do them if I have an interest in the structure and I am provided plans (original preferred) to build from.

Wooden structures are better suited to laser work. I can do brick depots, but they are more expensive to produce as each brick is cut with the laser in basswood. It also takes an incredible amount of time to cut out a brick structure so brick kit production is slower and costlier.

Creating kits is a hobby for me. HRM Laser Models is a business unlike most others. While I enjoy others building my kits, the business is not about making money, but creating enjoyment for me and others. I like to remain low-key. I do not advertise, but I do have a website that modelers stumble across from time to time. If I sell 3-4 kits a week, I am happy. More than that is just plain work. I would rather be hunting for old depot plans and then creating a new model, than cranking out one kit after another, all day long. I actually have a helper, knowledgeable with computers, who has been trained to cut out all the kits I offer, and package them. Because I only have the one laser, I use this person sparingly. I would rather be playing with the laser than producing inventory.

I do offer the service of building my kits for a customer, for a price. Many people do not have the skill set or the tools to build a laser model. I do like building the kits. It allows me to go back to earlier kits, build them again, and update the kit if I am using new methods of kit construction as I have matured my methods and my company. I can build the kits fairly rapidly as I have all the tools, materials and the skill set to build them. My e-mail is on my order form. I hide it there to keep my website from getting spammed.

For his contest, Scott suggested we use the Knowlton WI Depot kit HRM-28. A photo of the actual depot and a model built from this kit is shown on next page. More information can be found on Hidden River Models Website. Scott believes this kit will be a great building experience for a modeler. Hidden River Models will provide the kit and a mentor to help the modeler build the best possible model. I wish the best of luck to all of you being able to go down these "**New Tracks**".

The method of contact between the mentor and the modeler building the kit will be decided by the modeler and the mentor. The kit and the mentor will be provided by Hidden River Models. The winner's model and comments about what he learned from the experience will be featured in a future mentoring article in this magazine and on the "**New Tracks**" Facebook page. Only one email can be sent for each modeler.



All emails received by September 28, 2018 will be included in the drawing for this contest by the independent observer. The winner will be announced in the next article in this series as well as on the "New Tracks" mentoring Facebook page.

Hidden River Models will contact the winner directly to arrange for mentoring and delivery of the kit. Good luck to all of you. Have fun going down these "**New Tracks**". And thanks again to Scott and Hidden River Models for their help in this mentoring project. The best way for you to show your appreciation to Scott and Hidden River Models is to enter their contest.



Well that's it for this issue. All of these modelers will appreciate your comments or questions. Also any questions you may have about model railroading may also be able to be answered at the "New Tracks" facebook page. Don't forget to visit and become a friend of the site.

Finally please let me have your comments about this article and suggestions for future articles at jimkellow@oscaleresourece.com. Thanks for reading this far. Now it is time for me to go back to my work bench. Good luck with your modeling projects.

My First Two Steam Locomotive Kits

Making The Check Valves



This is the style of check valve I needed to make.

By Glenn Guerra

Recently, I built my first two steam locomotive kits. In the July/August issue of *The O Scale Resource*, I started a series of articles about this project. I wanted to make the two kits represent Nickel Plate class B-11 switchers, and specifically, numbers 62 and 64. The kits I started with were for a New York Central class B-11 which is the same basic engine. What I found was, as they say, the devil is in the details. The more I looked at the photos, the more I started to see differences in the appliances used on the two railroads. One of these differences was the boiler check valves. The New York Central engines used a Nathan check valve laid out horizontally, whereas the Nickel Plate engines had a Nathan check valve laid out more as a tee. I thought this should be easy to fix since "everything" for a steam engine has been made already. All I needed to do was get the right casting. That turned out to be a problem. I could not find a check valve like this, so I decided to see if I could build it.

The first step in building the check valve was to see if I could get some information. I went through a few Locomotive Cyclopedias, and found some information that would help. What I found was the general layout of the these two Nathan variations. This was a help because I started to understand some of the thinking behind the designs. There is a check valve on each side of the engine. That would mean there should be a left and right for these check valves. If you are a manufacturer, you want to have your parts fit as many of your products as possible. This also means you do not want to make a specific left and right for your check valve. Before I get too far along on this train of thought, let me back up and explain what the check valve does and its parts.



Here is a photo of one of the check valves. This was something I had never done and was happy I tried. I learned a lot, and it gave me confidence to try other things. I started with six and ended up with four. Don't give up if you make some scrap. Education is not free.

The most obvious function of the check valve is to let water into the boiler to make steam, but not let the water out. In the two illustrations from the Locomotive Cyclopedia, I point these parts out. The other part of this assembly is the shut off valve. While the boiler has steam pressure in it, you can not remove any parts that would allow steam out. If your check valve was leaking and needed to be reseated, or there was some crud that prevented it from seating, you would need to remove it. That would mean shutting the engine down and letting the boiler cool to relieve the pressure. That takes the engine out of service for a few days just to cool down. If you are out on the road and your check valve starts acting up, the escaping water from the boiler will back up into the injectors. This is all solved by having a shut off valve as the last thing before going into the boiler. Once the shut off valve is closed, the check valve can be opened or removed for repair. Now back to the manufacturing and general layout of these check valves.



Fig. 670-Combination Boiler Check and Stop Valve. Nathan Manufacturing Company.

This is the illustration from the Locomotive Cyclopedia of the horizontal version of a Nathan check valve. You can see how closing the shut off valve would allow you to remove the check valve while the boiler was under pressure.



Nathan Manufacturing Company.

This is the illustration of the type of check valve I needed to make. The body is machined the same on the top and bottom. To mount the assembly on the other side of the engine, just take out the cartridge that is the check valve and insert it in the other end.

Here is what I think of the two designs. The horizontal design is easy to modify for left or right. The check valve can be removed as a unit by taking the bolts out of the flange couplings. It can be rotated 180 degrees and reinstalled so it will still be up on the other side of the engine. The shut off valve can be mounted on either side of the engine as it is since there is no up or down associated with it. The down side of this arrangement is one extra flange coupling and all couplings are maintenance items for leaks. The tee arrangement I thought was interesting as it had the shut off valve and check valve in the same casting body. The casting where the check valve is has been machined the same on the top and bottom. To mount the assembly on the other side of the engine requires removing the top plug and the bottom check valve unit and installing them differently for the left or right side. I thought this was rather clever, but enough of this and back to the model.

I do a lot of 3D cad work and the first thought was to make a drawing for a rapid prototype pattern. The pattern would be used to make a rubber mold to shoot wax into. Then the wax would be shipped off to the foundry to be cast into brass parts. When I started thinking about all of this, three things came to mind. The first was this will take almost three months for all this fooling around before I get my parts. Think about this. It will take about two weeks before you get your rapid prototype parts. Then it will take a few days to make the mold. After the mold is done, you need to shoot some wax. Then it needs to be packed and sent to the foundry. It will take a week to get to them unless you want to spend a lot of money on overnight freight. It may take the foundry three weeks to get your wax cast, and another week to get it back to you. The second thing that came to mind was the expense. The rapid prototypes would be at least \$100 for good quality ones. The rubber for the molds is \$200 for a gallon which means around \$5-\$10 per mold. The wax pot is \$350, which I already have. Throw in some postage and then the casting. All of a sudden, I am looking at around \$30 for each of the four check valves I will need. This is a good way to get into business selling parts as the cost of the patterns and mold will be spread over a lot of parts, but not so good for just four parts. The third thing that came to mind was something Louis Bartag once said to me when I asked him why he was making a part he could buy. His answer was, I can make it before the other one gets here in the mail. So, I looked at the part I needed and the casting of the horizontal check valve that is available. It occurred to me that the pattern for the cast part was probably made in the 1960's by one of the great pattern makers like, Oscar Neubert, Bruce Bechtold, Henry Waller, Bernie Gallagher, or Herman Mitchell to mention a few. They all did this with no cad drawings or computer driven machines. Why couldn't I build this part?

I will stop rambling on now, and get to how I did these parts. When you look at a project, and I would say any project, try to break it down to smaller sizes. I did this with the check valves. To illustrate this point, I made a 3D drawing of the part to show you for this article. With the 3D drawing, I was able to create an exploded view. The whole part looks complicated, but the individual parts don't. For what it's worth, I did this all on scratch paper to make the parts. The 3D model was done for this magazine article. All you need is paper and pencil to make some sketches. That is my first recommendation. Break the project down to smaller components and get something down on paper.

Once I had an idea of how to break the part down into smaller components, I had to think about how I would fasten them all together. Holding each part while I soldered them together was not going to work. I designed my parts so they all interlocked. The next thought was the type of solder to use. Regular soft solder would not work, and the whole part would fall apart when I went to solder it to the boiler. When all the components were made, I assembled them and put some hard silver solder paste on them. After heating with a torch, they are all together and would need to be heated to around 1200 degrees Fahrenheit to come apart.



Here is a 3D drawing of what I needed to make. It looks intimidating until you break it down into it's components. The components are all simple turnings and wire. I labeled the parts for reference with other photos.



This is how I turned the shut off valve body, part A. I wanted to drill a #74 hole in the end, and round the corners a bit. The #74 hole will be to locate the valve stem when soldering the whole thing together. I drilled a #74 hole through the valve stem and inserted some .020" wire. The wire served as the valve stem, and it located the parts for soldering. To round over the edge, I used a file while the lathe was running.



Refer to the exploded view, and you will notice part A, the shut off valve body, has a hole in the side. This hole is to locate part F, the boiler inlet. This would also be the sprue if I was making a pattern. Drilling a hole in the side of a rod is always difficult, and especially so with small parts like this. I was told about this trick. Drill a hole the size of your part in some brass. Then drill the size of hole you want on the other face of the brass. The trick here is to make sure both holes are on the same plane. Then insert your part to the correct depth, and drill your hole as shown.



This is the result of drilling the hole in the shut off valve body. I put it back in the lathe and cut it off. The photo is not very good but you get the idea. Also notice the surface finish on my part is not very good. I am working on how to sharpen my lathe tools. I have more to learn.

I made the check valve body, Part B, the same way.



In this photo, I am starting to machine the flange, part E in the exploded view. The next operation would be to drill six holes to insert the nut bolt washer detail. By using the hex stock, it would be easier to locate the holes.



This is why I used the hex stock. The vise is bolted to the table of the drill press. To drill each hole, I just rotate the hex stock in the jaws of the vise. The "V" groove in the vise is 45 degree angle, and the hex is 60 degree angle, so you need to be a little careful, but this is a cheap and simple way of indexing this part. It will be close enough for what we are doing. After I had the hole drilled, I went back to the lathe and cut off a flange. Then, back here to drill more holes. Don't try to drill the holes too deep. You will break a lot of drills. Normally, you cut brass dry, but I used some light oil here and it improved the drilling.



The shut off valve packing, part J in the exploded view, was not too bad. I made the collet out of some larger hex stock. I could have used the brass hex stock from the flange, but I didn't. This is a good illustration showing how to make a small collet to hold parts that are too small for the lathe chuck. Drill and tap a screw, 2-56 in this case, and then put the hex stock in your lathe. Drill out the hole for your stock. Look close at the exploded view and you will see the valve packing has two hex patterns. The larger one is part of the body and tightens the body of the packing to the body of the valve. The smaller on is the packing nut that compresses the packing around the valve stem. Notice also that the body of the valve packing has a curved shape to it. To make the nuts, I would start with two round shapes and file the flats to make a hex shape. To do the curved shape, I ground the nose of my cut off tool to the shape and made it all in one cut. For reference the cut off tool is .040" wide.



This is how I made the round shapes into a hex. I clamped the collet in a vise and used a #2 cut file. Hold the file level and make two light passes. Then rotate the collet in the vice to the next flat. File the same as before. Do this all around and you will have a hex that is very close.

These are some ideas on how I made these parts. I did not take as many photos as I should have, and Dan encouraged me to take more as I went on. To make the flange coupling, part D in the exploded view, I started with some brass square stock. To make the small space between the flanges, I ground a tool similar to a cut off tool that was .020" wide. I tried two ways of drilling some #78 holes in them for the bolts that hold them together. The first way was to drill the holes before cutting the gap between the flanges. The idea here was that as the drill went through one flange it may catch part of the gap cut and break the drill. This was a problem because the deep hole, around .062", was binding the drill and breaking the bits. I was using a high speed drill press which you would normally use for small drills. When I went to a slower speed, it seemed to help. Take your time and use some oil. After breaking a few drill bits, I decided to try cutting the flange gap first. This turned out to not be as big a problem as I thought. Make sure you cut the flange gap deep enough to clear the drill when it goes through the first flange. To index the part, I used the vise with a "V" groove in it just like I did the hex stock for the flange. I had to make a small collet to hold this small square stock in my lathe. I used the same idea as the collet for the valve stem packing. Drill the hole in the collet to match the distance across the corners of your square stock.

When I made all the parts, I assembled them all at one time and put some silver solder paste on them. I heated it all with a torch and it became all one piece. I recently have been using some 1100 degree silver solder paste and really like it. I was really happy the way it worked on these small parts. The best part was they will not come apart when you solder them with regular solder to something else. Rather than get into a lot of detail on the solder, I will do a separate article in the future on just the silver soldering.

That's all for now – rather short, but still some good ideas I picked up. As I said before in this article, this was the first time I ever attempted making a small pattern like this. It's not perfect, but I am happy. I made some mistakes and learned a lot. From this, I was not afraid to try other things. One of those was the air tanks. I will do those for another article.



By Tom Dempsey

Recently, a discussion arose about how a fellow with a three rail collection might be able to test the two rail waters, and I asserted that he could just convert an older Weaver over to two rail easily and inexpensively enough to find out if it was a direction he'd want to go. So let's go step by step and make it happen.



First things first, a guaranteed in need of repair/upgrade Weaver three rail locomotive was acquired from Ebay.



Once it had arrived, the first step was to commence disassembly and diagnosis. The locomotive was put on a oval of three rail track, and the assessment run showed that it indeed had a definite hitch in it's gitty-up. However, everyhing else seemed to be in order, despite some rather interesting additional wiring on the control board where apparently something had been removed.



Above: The factory control board is firmly attached to the forward chassis weight with some sort of foam tape, so go gently with the prying and scraping in case another three railer might be able to use it as the board will be discarded during this conversion.

Below: I always try to keep things in some sort of order when disassembling so as to keep track of any unexpected surprises. You'll want to keep things in order as you go especially if this is your first time out.





Left: This era of Weaver has a well known propensity for split drive gears. Here's what one looks like. It seems like if the gear isn't split yet, it will be once you are operating. Therefore, replacement of all the gears is probably your best bet during any repair or upgrade. Replacement gears, which don't suffer from the same material defect are readily available from P&D Hobbies, Des Plaines Hobbies or from Stock Drive Products/Sterling Instrument (the manufacturer). The chain can be pulled apart by prying an ear up – think bicycle chain without the steel pin.

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Above: Here's what things should look like once you've got everything apart.

Below: I found the lower chain drive gear required being pressed off. You should probably be able to pull/pry it off with minimal problems. Remember, this is not going to be reused, so the shaft being undamaged is the important issue here.





There is a shim between the lower chain drive gear and the gear case. You will reuse shims, and it's important that you note the location and thickness (there are two sizes) of shims as you disassemble and reassemble the gear cases.



Above: The factory chassis is a little light and flimsy for typical two wheel running, especially at clubs or modular shows.

Below: I acquired a brass plate locally at a specialty metals vendor to fabricate a replacement plate with. I cut this chassis plate with the usual bandsaw and drill methods; however, next time I'm going to try having the plate cut by water jet. Most industrial metal suppliers provide this service and sell over the counter, (i.e. you don't need a business license in order to have them provide you with this service).



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Right: Many times the original gear cases, (you can reuse all but two of if you wish – two of them are specialty cases for mounting the third rail pickups) will require drilling out gear case rivets. Just carefully drill off, or file off if you don't have access to a drill, the rivet head on one side or the other and then push the rivet out with a pin punch or equivalent.



Above: The back side of the factory truck side frame has a mounting pin which presses into the truck bolster. You will be able to get it apart by reaching down through the frame and pushing gently to release the pin. Be careful, if you snap the pin, an adequate repair may not be possible; however, they do seem to be fairly tough.

Right: Not so tough the truck bolster in other areas.







Above: The original mounting method is a screw from inside the locomotive. I prefer a pivot pin coming up from the truck and decided to use a swaged fit by just threading a 2/56 bolt through the bolster instead of using a tap.



Above right and below: Perhaps a tap would have been advisable. I fabricated repair panels from plastic channel to reinforce the bolster as a repair for this, then reassembled with 2 rail wheelsets from P&D. Remember to place all shims back in the same place when doing this. (I asked, and P&D very kindly sent me an illustrated parts breakdown of the gear case assemblies. This is a great shop to work with!) Also, clean out all the old grease and relube. I used Labelle No 106 which is generally considered a good univeral grease for this sort of application. While rebuilding the trucks, I also installed a FineScale 360 Adjustable Tower Drive Kit which I highly recommend as it will provide you with an additional 3:1 speed reduction and torque increase over the factory drive, as well as, providing you with the new chain and drive gears you will need for this job. Three rail locomotives seem to run too fast for two rail operation and this modification will fix it.







Above: At this point, I mocked up the build so far to check for fit. This is something I do frequently during builds, as it is a good way to make sure you minimize those "Oh Shoot!" moments later on.

Left: As you can see, the FineScale 360 parts will need a little additional clearance.

Below: With the drive tower's clearance needs resolved, I started checking initial chassis height to decide where to place shims, if needed.







Left: The chassis plate itself was within a workable range, but the initial pilot height was a little too low. I added shimming around the upper part of the plate with brass square stock to raise the shell slightly.

Above Right: The draft gear mounting pad was fabricated from brass bar stock acquired locally in a thickness which should just drop the coupler box to the correct ride height once everything is in place.

Left: I prefer to insure that the coupler boxes are centered and the pull, i.e. the alignment of the centerline of the coupler boxes, is inline with the centerline of the trucks.

Below: I found that I needed a little extra clearance at the rear coupler mounting pad to account for truck swing. I also ended up having to take a little off the end of the coupler box itself for the same reason.





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I like to have as straight a drive line as possible, so I purchased adequately thick and wide brass barstock locally and fabricated a solid mounting plate for the motor. This also gave me some much need additional weight in just the right place.



Above & Below: Draft gear mounts and body shims were soldered in place. Then, the chassis and drive were assembled to test basic operation on DC. This is a really important step so don't skip it, as anything you do from here on out like DCC, sound, etc. won't work well if it's not on a good set of underpinnings. I was pretty happy with everything so I decided to install Blue Rail Logic DCC control. This is a bluetooth control system which allows you to run on any track irregardless of the control system being used. About this time THE MOTOR FAILED! Yep, that's right, something went off inside and it locked up in the locomotive and vibrated in one direction on the test bench. You'll notice in the final picture that a different motor (provided by Jay Criswell at Right-O-Way, another great vendor to work with) was installed.





At this point, I painted all that raw brass with Krylon Flat Black Primer. Then I locked the truck pivot pins into the chassis using two nuts tightened against each other, maintaining clearance on the truck pivot shaft by placing a double thickness of card stock under the lower nut, it ought to be enough.



The original lamp worked great, however, I discovered that the DCC board would not drive the lamp, so I searched around in my parts box and ended up soldering a yellow 3 MM LED to the lamp wiring. It's not exactly my first choice of shade for a diesel headlight, but it'll work for now.



Finally, it's starting to look like something we can run in front of others, I will want to clean up the wire routing a bit before the shell goes on though.





For some reason, these locomotives seem to always be missing their horns. I acquired a set from an Ebay vendor I have dealt with before, and painted them TruColor Artificial Aluminum. Somehow, I can run a locomotive with no cab interior, but no horns is a bridge too far!



The lamp kept falling out of the lens, so I ended up gluing the LED into the lens with canopy cement, which you can acquire at any good RC Hobby shop. It dries clear, and holds well while remaining slightly flexible and removable with minor elbow grease.



It looks like I'm ready for final assembly.



A final operational test on DCC indicates the locomotive is ready for a run on a two rail layout.

As originally envisioned, this build would have demonstrated a low cost way to test the 2 rail waters. However, be aware that a "guaranteed in need of repair/upgrade" locomotive may have hidden pitfalls awaiting. The motor failure was an unanticipated problem that could easily add close to a hundred dollars to the budget. I also ran up against other hurtles with my home built test equipment, which at times led me down a few primrose paths. Another unexpected issue was that the Blue Rail Logic DCC board was unable/unwilling to drive an incandescent lamp, so an LED was substituted from the scrap box; however, if you don't have LED's in your scrapbox, or don't have a scrapbox at all, this could hold you up waiting on the mail.

I chose the Blue Rail Logic board, which is currently out of production and out of stock at the manufacturer awaiting an upgrade version to be released sometime this summer. My choice was due to the fact that I had one on the shelf, and since it is a bluetooth driven device, the locomotive will run on any layout irregardless of control system as long there is twelve volts between the rails. This allows the model to be portable to clubs you are trying out (or trying out for depending on how picky the membership might be) or a visit to another layout. You will need an iOS or Android device capable of low energy blue tooth to download the control software which is a free app available on the Apple store.

There are a number of issues I chose not to deal with as I felt they ran beyond the parameters of this build. The body shell is still a little high; there is no sound; an interior could be built (Scale City Designs stocks a kit designed for this model); the single LED in the headlight should actually be two LEDs side by side; Union Pacific never had any FA-2's, and I haven't run across any pictures of a MoPac FA-2 in this paint scheme, so if the prototype police come calling, that might come up; and finally no super detailing was done. These are all things for another day, but the basic conversion was a success.





WE REVISIT DARCIE &

Three years ago this month Glenn Guerra and I went down to see Darcie and Jeff Lang in Indiana for a look at their layout. It appeared in the September/October 2015 issue of The O Scale Resource.

A week before leaving for the O Scale National, I went back to see what Jeff was up to since my last visit. Many things are the same as I remember, but there have also been some changes. Since working on my own layout, I tend to look at others with "new" eyes. I am always looking for things I may be able to adapt for use in my own modeling, and Darcie and Jeff Lang's layout did not disappoint.

The layout will be open again this year for the Indianapolis O Scale and S Scale Midwest Show.

Check the Indianapolis O Scale and S Scale Midwest Show Website as we continue to make updates. A map and address be available at registration.






Above: In our last visit three years ago, there was a wide open space where the grand kids were working. Below: Now there is a new section under construction. The buildings shown are extras picked up along the way that are currently just being stored here for now.





Hundreds of dried sedum plants are waiting their turn to become beautiful trees like the ones below. Jeff uses mostly colored sawdust for the trees.





Many bridges make up this layout. Above, a Pennsylvania passenger train passes above a freight. The Canandaigua Southern X-29 Boxcar is one of the O Scale National special cars. The Atlantic Coast Line Railroad Type 0-17 "Watermelon" ventilated boxcar was built by the late Dr. Clint Wainscott.



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A lot of action as seen above with three trains moving in and out of the scene.



A pair of Pennsylvania Class N1 2-10-2 locomotives head up a coal drag.





Pennsylvania 2-6-0 switches the yards.



Work continues on new switches for the yards. This area is being reworked since our last visit.



I really like this large building. It's built with all DPM modules, and while I was at O Scale West, I picked up two bags of parts. This is what I meant by seeing things again with "new" eyes. And yes, Jeff also has many diesels.



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Great street scene with old and new buildings are going through a makeover.

Pennsylvania 2-8-0 working a freight.





There is something about this old building above. I am always drawn to it every time I come over.

Waiting for the train to pass.



Burlington Route

Taking a CB&Q Northern Back to Her Heyday

By: Santiago Pineda



Built in West Burlington between 1938 and 1940, the last series of Northerns were regarded as the acme of its type. Along their slightly more prestigious sisters, the S-4 Hudsons, O-5s commanded the respect of the Burlington Route system.

We've all missed the boat on certain engines. For me, Sunset's O-5A/B was one of them. Back in 2003, when they were released, I simply wasn't modeling trains. But recently, I saw one being offered, and I pulled out all the stops to get it. This article will go through some changes and upgrades performed to this model. Namely, modifications that better reflect the appearance and configuration displayed during the late 30's and 40's. In this extraordinary time frame, they pulled Burlington's premier passenger trains such as the Aristocrat and the Exposition Flyer with undeniable success. Sadly, such version was never offered.

Sunset's release clearly favored the 1950's onward oil-burning O-5B arrangement. Broadly, this means two things: oil tenders and added MARS light. To complete the look, a 50's modeler needed only to unscrew the ash pans and add an automatic train control box. Luckily, the fact that Sunset didn't add the ATC made the regression feasible.

The first modifications were made to the smoke box front. I first stripped the paint and unsoldered the MARS light housing. Then, solder-covered the remaining hole as well as the holes for the class light LED wires. I also noticed that the headlight came without a parabolic reflector from the factory. So, I made one by drilling and fitting an aluminum tube in place. This provided a chance to replace the oversized 6v bulb with a Miniatronics 1.5v one. Regardless of the light bulb, consider using the dynamo effect found in most modern decoders; it's a nice effect that enhances operation.

With the smokebox front ready for paint, there was the problem of matching the graphite paint on both the smokebox and firebox. Since matching colors and finishes can be very difficult, especially if you are dealing with metallic paints, I decided to change the graphite shade altogether. Also, I felt the graphite that Sunset used was a bit too dark. To brighten it, I used Revel's aluminum mixed with flat black and a drop of white; then clear coated the areas using Micro Scale Satin Finish.



Above: The smoke box front before and during modifications. All original lenses were reused.



Above: The smoke box front ready for re-installation. Notice that the underside of the headlight cap was painted silver.



Above: The new headlight and class light conduits before paint.

To paint the black piping and components, I thinned Tru-Color Paint Brushable Engine Black and applied several coats using a brush. The finish matches the black on the boiler perfectly. After all that work, there was still something bothering me: the bell was too tall in size! So, I sanded it down to scale and polished it to a mirror-like finish. The final touch was painting the bell's mouth and clapper, opaque red.



Above: Notice the graphite shade difference on the firebox.

The work done on the tender was considerable. Sunset made the oil tender compartment removable for charcoal burning (O-5A) configuration. However, the tender to cab vestibule is attached to this piece, so if removed, it leaves a giant gap between the tender and cab. This was solved by unsoldering the vestibule diaphragm and chaffing plate, and re-installing it on the tender. Once unsoldered, it can easily be dropped back in place. Additional detailing includes: trucks to tender floor chains, back-up light electrical conduit and tender to engine connections. The back-up light was also replaced with a Miniatronics 1.5v bulb.





Above: Back-up light conduit after installation and before paint. These brass wire brackets were recycled from the Western Pacific Harriman baggage project.



Above: Lengthened steam line soldered and later covered with shrinking tube to prevent shorts.





Left: Finished tender with a heavily weathered Kadee coupler.



Turning my attention to the cab, I painted and installed crew figures, put in new window glazing and removed the sliding window frames. Photographic documentation suggests crews preferred wide-open windows during operation.

Left: Side shot of the cab, notice the added airlines peeking under the steps.

Below: A pair of sliding window cab frames after removal.

My favorite prototype feature is the solid steel-cast pilot; it gives the engine a striking presence. Oddly enough, the pilot came with two chains attached to the air lines; this detail was not present in the real engines. Those chains took away from the original look of the pilot, so I removed them. This removal left a noticeable hole that had to be filled and sanded.



As a consequence, the pilot and hot-water pump shield had to be re-painted. A satin-coated Testor's gloss black matched the engine's paint job favorably.



Above Left: A freshly baked pilot sits ready for its satin coat. The box on top is actually a shield for the hotwater pump. Above Right: The finished pilot re-installed. Below: A quick visual improvement was achieved by replacing these overly thick handrails. The difference with the .20 metal wire is apparent.



Due to the electrical conductivity needed, it's not uncommon to find conspicuous drawbars on steam engines. Since DCC decoder installations may not require such boiler to tender connectivity, I replaced the original drawbar with a more hidden one. To do this, I drilled, painted and installed a pc tie that sits higher because it doesn't require a spring load.



Above: Before the drawbar upgrade.



Above: After the drawbar upgrade.



Above: The new drawbar installed and ready for paint.



Above: Both new and original drawbars.

Sunset does an exceptional job with their steam engines, and this one is no exception. For a fifteen year old release, it shows almost no aging. In my opinion, however, a 1940's appearance is more desirable because it depicts the moment in which O-5s rode the rails as indisputable queens. At any rate, the more I work on brass trains, the more I appreciate them. Our brass models are delicate and precious, but they are also more robust and workable than we tend to think. One of their most compelling characteristics is their versatility with regards to upgrades and modifications. I'm convinced that attempting these changes on a plastic or die-cast model would pose more difficulties. If you are on the fence about a brass model because it would require modifications, I hope this article motivates you to take the chance and make it your own.













Follow this link to watch the engine in operation: https://youtu.be/_mnnTJqTer4

CUSTOMISE YOUR INDUSTRIES, PRODUCTS, CARS, AND OPERATIONS

By George Paxon

I am short a layout at the moment due to a recent house move. Layout reconstruction awaits the building of a new barn to house the layout. The new barn is tied up in bureaucratic red tape necessary as a result of the building control laws down here where I live. But, we'll get there eventually.

In the meantime, I can plot and plan. But, I have been doing more armchair modelling of late than I care to. I have been doing some minor building of cars as well. Unfortunately, I can't do a whole lot of modelling as most of my tools are packed in boxes somewhere under the new house along with the sections of the layout. Finding anything in there would be much harder than finding Amelia Earhart or hen's teeth.

One thing I have been doing to help keep my mind busy is going over the logic used in building the layout and doing the necessary research to work out what industries we still need, what additional products our trains could carry, what cars are yet required, and how we can better customise operations to make it all fit together tighter and be more realistic.

Some of us in the hobby seem to be happy for their layouts to be just a place for their locos and cars to exercise. These modellers are sometimes expert builders, and the layout is just a necessary tool to allow the builder to see his handiwork perform. What many of these fellows love to do is build. Some only build locomotives. A great one I remember was Mel Thornburg. He had no layout that I recall: he just enjoyed building locomotives from scratch using the most basic of hand tools. And, he was very good at it. I think many of his models are in various museums still. Others in this category are not builders, but buyers of fine models and use the layout, again, as a place to exercise their purchases.

For others, the layout is the main focus, not the locos and cars that are mostly built or procured to suit the needs of the layout.

Many in the former category have locomotives and cars from various railroads that have been accumulated often without much more reason than the owner likes these pieces of equipment. Many in the latter category though, carefully select locomotives and cars which support a well thought out operating scenario as to locale, period, etc.

Prototype modellers fall into this latter category. Some focus on a single railroad, a particular town, branch, district, division etc., or possibly a junction between selected railroads. One excellent modeller has even established a specific date for his layout and religiously limits his modelling of locos, cars, buildings, and scenery to what actually existed on that day. Others in this later group are the operators among us, and their main interest in our hobby is duplicating prototype practice. Freight forwarding systems, signalling, CTC systems, layout communication systems, timetables, etc., are often developed by the operators to add realism to their layouts.

I think it is important to point out that our hobby is big enough for all these different kinds of modellers. I am a period O gauger working in traction and mostly a scratch builder. But I still enjoy looking at, and appreciate, a well-detailed HO model of a commercial modern diesel. All of us in the hobby need to remember that just because another individual approaches the hobby from a perspective other than our own, he, or she, is not wrong – they are just different. And the hobby is better off for them being in it no matter what modelling choices they might make.

Personally, I prefer to think of a layout as a real living thing rather than an inanimate object. I find it rewarding to go to great lengths to add as much life to the layout as can be done. Some simple things I have done to add life, and a sense of realism, to the layout include developing a history, making a map of my railroad to include its connections with other lines, and having a newspaper for my principle town. I take pleasure in creating a little world, with the layout becoming a place to go to escape the trappings and stress of modern life. I am not a really even a prototype modeller as I don't model an actual road. My Mountain Electric never existed, except in my own mind that is. But, I am taking reasonable care to ensure all the various elements fit together and are plausible. Well, at least they are explainable. They may not have been real, but they could have been. A rather famous early modeller was a gentleman by the name of Frank Ellison. He viewed the layout as a stage with the train as the actors. The scenery was the set which supported the actors. Not a bad way to view it, and I always keep some of Frank's early writings in the back of my mind as I go about planning and working on my own layout.

Customise Your Industries

A step I recommend that is best done early in the planning stage is to customise your industries.

Most of us have a specific place or area in mind when we set out to build a layout. Some narrow gaugers favor the Rocky Mountains, while others target the East Broad Top area in south central Pennsylvania or the California, Oregon or Washington coastal rain forest. Others select a busy large passenger terminal.

If your interest is logging, your industry decisions seem easy. But even our logging modeller friends sometimes want more than just a stump to sawmill operation. A bit of reading, googling, and thinking can help develop other industries for even the most obvious and simple of layout concepts.

Take logging for example. There were allied industries that can be modelled to add more variety to a logging layout. In some parts of the country, raw material to make shake shingles, called shingle bolts, was also brought out of the woods. This could supply a shingle mill.

In the coal mining areas, loggers had a good business cutting smaller trees for use as mine props.

In northern Pennsylvania, West Virginia, Tennessee and North Carolina, loggers harvested bark and shipped it to plants for tanning leather.

In Pennsylvania, wood smaller than that good for lumber was used to produce alcohol and other chemicals.

Hardwood was turned into barrel staves in the eastern mountains.

Pulp wood was a common commodity in New York, early Pennsylvania, West Virginia, Maine and the southern US logging areas. You may not have space to model a paper mill, but pulp wood can be harvested, loaded, and moved to a siding where it can be transferred to standard gauge cars, or to an interchanging railroad, which will in turn take the commodity to the paper mill located off the layout.

The stumps of previously cut pine trees were harvested in Mississippi, loaded in gons and shipped offline for the production of turpentine.

In Maine, forest products were used by match factories.

Almost everywhere scrap wood from saw milling was used to make shipping boxes and some dried, packaged and sold in cities as kindling.

A logging layout could easily include a match or box factory, stave or kindling mill. On the Elk River Coal and Lumber Company / Buffalo Creek & Gauley Railroad in West Virginia, the Company owned a dairy and milk was moved from the dairy to the mining and logging camps. The milk could just as easily have gone to the B&O interchange for transport to offline customers as well. It might have gone all the way to Baltimore!

In southwestern Pennsylvania, the locale I model, the primary industry was steel production. In O scale, modelling a steel mill would require considerable real estate. To properly depict a classic steel mill one would need facilities to bring in, store and handle large quantities of iron ore, limestone and coal and/or coke. These products were usually heaped into great piles between tracks to await their time to feed the blast furnaces. Iron ore was difficult to deliver to mills in the winter due to ice on the great lakes. Coal and/or coke was stockpiled by many mills because the volatile labor relations in the coal mining industry often interrupted production and supply. These factors resulted in large stockpiles to avoid running out. Once you had the furnace in blast, you needed to keep it going constantly. It was not a process you stopped and started often. Steel mills usually had many miles of in-house track and often their own rail operations to move raw materials, goods in process and finished products between various furnaces, rolling mills, and storage facilities. All this adds up to one big facility even if modelled mostly with building flats.

If you model the modern era, it might be possible to model a remelt steel mill in more modest space. The large classic steel complex with blast furnaces and huge rail yards is giving way to mini-mills where scrap steel arrives by truck or rail car and is converted to finished product in a small electric furnace. Sometimes the liquid steel is cast directly into billets which are then immediately rolled into reinforcing rods for concrete or small angles or channels used in modern steel fabrication. These are usually clean, green industries that could fit a modest sized layout.

But with a bit of thinking, we can limit the focus of almost any industry to something manageable. For me, as an example, by moving a few miles south of Pittsburgh and just east of the Monongahela River into the area known as the coke region, the steel industry actually narrows to the production of coke. This coke fed the hungry Pittsburgh blast furnaces for many, many years. The coke region was quite a contrast to urban-industrial Pittsburgh and was very rural in nature. It was mostly wild hilly country dotted with small villages, often coal or coke company owned, that housed the miners and coke facility workers. Dairy, meat, and market garden farming used more land than did the primary industry here.

Pittsburgh was a large industrial city with a great demand for food and had large rail served produce and livestock markets. A very large Pittsburgh industry was the H.J. Heinz food business. It is plausible that coke region farm products would move from this area to the Heinz factories. Packing sheds to consolidate and ship such farm products would be needed. Farm supplies coming into the area would justify farmer's co-op stores, and farm implement dealers that could be located on a siding for rail delivery. A feed mill would blend grains for cattle and chicken feed, would receive grains from rail as well as truck delivery, and could ship excess feed via rail to customers outside the region.

Team tracks would be needed for offline deliveries of hay, fertilizer, etc., and could ship products as well. With outbound produce, an ice house could be used to pre-ice reefers. The ice house on the ME Ry was the subject of a previous *O Scale Resource* article. (September/October 2017 issue)

With all the steel products made in my area of interest, it is no surprise that some steel fabricators have located along my ME Ry. American Steel is one such firm. They receive car loads of structural, sheet, and coil steel by flats and gons. And they produce all sorts of fabricated steel products that are shipped as finished products in box cars.

Another firm is an old wood wagon builder by the name of Standard Wagons. This firm has re-tooled and begun to make steel wagons for farm use. It also has landed a very large contract from the US Army and is producing the small wagons or trailers pulled by Jeeps. Boxcar loads of these wagons are shipped weekly to the US Army Arsenal at Rock Island, Illinois. Inbound loads to Standard Wagons include structural and sheet steel, steel fabrications, wheels, tires, springs, axles, packing lumber, coal for fuel and occasionally a box car of machinery.

And since the transport cost for coke is a substantial portion of the total delivered cost, foundries and forges have been attracted to the area to take advantage of the local product and cheap transport cost due to the short haul. Connellsville, the major town in the region, actually once had a locomotive works. One town on the ME Ry has a spring and axle plant, and the forge there runs day and night. There is also a large specialty iron and steel foundry along the line. The foundry receives car loads of scrap steel, pig iron billets, coke, coal, and foundry sand; and they ship castings to customers all over the US. They have opened a new division that repairs and modernises heavy machinery so now it is receiving and shipping such machines.

Much land in the coke region was cleared for farming in the early days of settlement. Most of the native timber in the area had been cut shortly after colonial times, and second and third re-growth of hardwoods makes for a ready supply of mine prop needed in the many coal mines locally. Mine props are cut and shipped by rail to other mining areas as well. This is another easy to model industry.

Coal mines and coke works are obvious industries in the region, of course. Coal mines can provide more rail traffic than just outbound loads of coal. Inbound freight can include gons or flats with mine props and ties for the extensive underground rail tracks, Sand and oil were commonly received and used in the coal cleaning process, rock dust was received in bags via boxcars, and mining machinery might come by flat, gon or boxcar from time to time.

With a bit of such pondering, you can develop a very plausible assortment of industries that are customised for your layout and its locale. They have a purpose that well fits your scheme of things, and they clearly belong. The western gold mine we see on many layouts would not be a good candidate for a coke region based layout. But it certainly would work if your modelling area is the Rocky Mountains.

Customise Your Products

Once you have arrived at a viable mix of industries, you can determine the products you need to haul both to and from those industries. We have already addressed some obvious products that directly relate to the customised industries. But, make sure you give thought to the by-products of major industries even when you cannot incorporate the industry itself.

One of the major by-products from the production of steel was slag. Slag is basically the limestone flux used to remove impurities from the iron ore in converting it into iron. Initially it was once a nuisance material and it was thrown away. It was hauled as short a distance as possible and dumped for disposal. Eventually enterprising firms found it could be had for next to nothing and resold for a nice profit. The dumps were mined, the slag crushed, sized and used for railroad ballast, road gravel, etc. My ME Ry will move some processed slag and make some revenue from it.

Another local waste product is ash from the burning of coal. Many traction lines were associated with electrical companies. Early traction lines were often required to build their own power plants to generate the electricity they needed as there was none otherwise available. Often traction lines fell upon hard time trying to move people, but made a fortune selling electricity. Quite a few actually turned into electricity suppliers exclusively. The ash was another initially useless by-product of generating the electricity. And many traction lines used the ash for ballast and fills as did quite a few steam railroads. And remember that steam locomotives were a major producer of waste ash in most parts of the country at one time as well. In many cases, ash was not hauled as a revenue producing product but for company use. By using the ash, they were able to forgo the purchase of rock or other ballast material and thereby saved money. When I was growing up, the waste ash was also stockpiled by towns, counties, and even the state and used in the winter on icy roads. I am not sure if the

government bodies bought the ash or just collected it from the power companies and railroads who were glad to be rid of it. On my ME Ry, we use a lot of ash as ballast along the line and we will get a bit of revenue hauling it to places where the government bodies need it.

As coke production moved from the smoky bee hive style ovens to the more modern by-product facilities, chemicals became a very important part of coke manufacturing. All the gases and oils driven out of the coal in roasting it were on-sold and used to make kerosene, benzene, and thousands of chemical products. Where I came from, U S Steel had a very large coke works at the Clairton steel mill. For miles up-river from Clairton were chemical plants. I assume they were located there to make products from the coke work by-products. Such chemical plants came a bit late for my 1930s era, but could work for yours.

A similar by-product from making coke from coal was tar which was hauled by tank car and used among other things for road building. Some tar was shipped from one steel mill to another via the rail lines and used to fuel the old open hearth furnaces.

My modelling era is the 1930s, and road building and paving was a major activity in those times. Gravel, cement, sand and steel were moved by railroads to the closest point where they could be off loaded for road construction and paving. These are obvious products for my layout even though the new roads often put rail lines like the Mountain Electric out of business.

With a bit of thought, you will discover more such by-products; all of which can all provide relevant traffic on your layout.

With coke and coal the major output of the area, it is important to note that there are different kinds of coal to be shipped. Coal can be divided into steam coal and metallurgical coal. Steam coal is for the production of heat such as power plants and steam locomotives. Metallurgical coal is used for the production of coke. And coal can be sold by grade or size. There are different markets for different grades of coal. Names such as slack, pea, nut, lump, and block are used for some of these grades. These grades result when coal is sized while being processed for market. And some coal is shipped as run-of-mine. This is coal that is not sized or cleaned, but loaded into railroad cars and sent to a customer basically as it came out of the mine. Railroads were big users of run-of-mine coal before the introduction of stokers in locomotives because it was the cheapest. Much domestic coal for home heating when a stoker was not used, was also run-of-mine. Not all mines produced all types and grades of coal. Your product list can reflect these differences if you are seriously into coal mining. Certain types and grades then can go from specific mines to specific customers who require a certain type and grade.

Customise Your Car Fleet

Next, you can determine the appropriate car types to support such industries and products. If a certain car type strikes your fancy and is not needed by one or more of your industries, you can go back to customising industries and look for another industry that can use such a car type, and/or look for another product you can move. This is really an iterative process that justifies considerable time and thought as we want to get it right for our layout. Don't do it in a hurry or you may limit your potential opportunities and your operating fun.

John Armstrong made a point about having a car fleet that reflects your railroad's location and connections. Northeastern roads had lots of hoppers for coal, and gons for scrap steel. Far western roads generally had few hoppers and many a lot of stock cars. Southeastern roads had pulp wood racks. Roads operating through Texas and Oklahoma had lots of tank cars for the oil traffic. Roads in the upper Midwest had a high proportion of ore cars to move iron ore from Minnesota and Great Lakes ports to steel mills. Another point John made was that the number of cars was a rational mix with home road cars usually the majority, then cars of adjacent interchanging roads the next in numbers, and then less cars for more remote roads. I think his ideas are valid and worth keeping in mind.

There are exceptions of course. If you model a shortline, there may be very few home road cars since small roads usually didn't own many cars. As a result, the majority of cars on a shortline layout could be from the roads with which the shortline connected. Take a look at photos of the Maryland and Pennsylvania for example. This fantastic little shortline had very few cars in revenue service. But, many cars in its trains were from the Pennsy and B&O with which it connected at either end of its run.

And just about every road seems to have some Pennsy cars on it since the Pennsy owned so many and their fleet was actually a large percent of the total US rail car pool. It would be rare to find a Pennsy hopper in Southern California, but a Pennsy boxcar there would certainly not be out of place.

The mix of cars in the modern era has changed somewhat, so you need to consider what is logically appropriate for your layout.

I think John's analysis and advice are quite valid and worth considering if you want your layout to be realistic.

Based on the map of my line, we interchange with the P&LE(NYC) at Belle Vernon, with the P&WV just out of Belle Vernon and with the B&O at the other end of the line at Somerset. See Figure 1 which is the line's page from the <u>Official Guide</u> and includes a map of the ME Ry. We interchange with the Pennsy via the P&LE. We also interchange with the Pittsburgh Railways at Charleroi and with the West Penn Railways at Scotdale. There was no car load freight on either of these prototype Pittsburgh area traction lines, but on the ME Ry we do forward and receive some car load freight in traction box trailers from other traction properties through the Pittsburgh Railway interchange. Such car load freight comes from the Harmony Route, the Penn-Ohio, Cincinnati & Lake Erie, and Northwest Electric . We also ship to and from some industries in Pittsburgh located along the Pittsburgh Railways. Using John's guidance we will have a few cars from these various roads.

Both Pittsburgh Railways and West Penn had a good LCL business at one time, and the ME Ry is part of the Consolidated Electric Freight operations with these roads. As a result, box motors from these two connecting traction roads team up with ME Ry box motors to move the LCL between points on all three roads.

Many of you may know that the track gauge of Pittsburgh Railways was 5'2-1/2" and interchange with standard gauge roads was not possible. On our layout, everything is built to 5' gauge so we don't worry about this minor gauge problem.

I have built models of traction cars for some roads that could not, even with the wildest stretch of the imagination, have been routed to the Pittsburgh area. Such lines include Illinois Traction, Indiana Public Service and even the far away Central California Traction Company. Well, these are not interchange cars at all. According to history and local newspaper accounts, these cars have been purchased by the ME Ry from these lines, and due to the heavy traffic on the ME Ry and chronic car shortage, have been put to work immediately before going through the shops for repainting and re-lettering. Well, that is my explanation!

Occasionally the ME Ry shops do get around to repainting such purchased second-hand equipment. Photo 1 (Next Page) shows an ex-Illinois Traction System trailer painted and used for the produce traffic on the ME Ry. Please forgive the fact that the car is still sitting on the temporary trucks I use during painting. I have recently acquired an additional set of the correct Wolfe pattern trucks for this car, so, as soon as I can locate them, I will get them painted and installed which will even better pin-point the Illinois Traction System origin of this car.

Some cars did not stray far from home while others roamed the entire rail system from Canada, all through the 48 states and even into Mexico.



Hoppers were mostly found on the owning road. Quite a few did make it to connecting roads. But, as mentioned earlier, it would be most unusual to find a hopper from an east coast road on the west coast. On our layout, we have hoppers from the Pennsy, P&WV, B&O, B&LE, and Montour. We probably should have some from the P&LE, but have yet to get around to them. In the good old days before oil and gas and then electricity became common for home and business heating, anthracite coal was popular as it was much cleaner burning than the more common bituminous coal. Anthracite coal came from a small region in north eastern Pennsylvania served by the Reading, Lehigh Valley, and some other "anthracite" roads. Hoppers from these roads probably roamed a bit further than hoppers in general and would probably have served markets is major eastern cities such as New York and maybe Chicago. Looks like we could justify adding an anthracite road hopper to our car fleet.

Gons were somewhat more nomadic because as well as hauling mineral products, which would generally keep them close to home, they could be used to ship structural steel, pipe, machinery, and other general freight products that would move across the rail system.

The common box car could be found just about anywhere on the three country rail system, probably in proportions as indicated by John Armstrong.

With coal and coke production the primary industry in the area I model, hoppers and gons should certainly in the majority. Owning roads for these cars were primarily the roads with tracks in the area that included Pennsy, P&LE-NYC, and B&O. A few other connecting or nearby roads would have had their cars confiscated and used which was quite common. That explains why we have cars stenciled for the Montour, P&WV, B&LE, WM, and maybe a few others. There could have been some private cars such as Westmoreland Coal. Some of the local steel firms such as Carnegie Steel and Jones & Laughlin may have sent cars into the region for loading as car shortages were chronic in the entire Pittsburgh area in the late 1800s and lasting well into the 1900s. Photo 2 (Next Page) is an early American Car & Foundry builder's photo of a hopper built for the Carnegie Steel Co. I need to model this car as it is quite unusual which interests me. Notice that car has "I"



beams for side stakes which is very different from any traditional hopper construction I have ever seen. Must have been fun for the car assemblers and car maintainers to get their rivet guns on the heads of the hidden rivets! And, given this car was for built for service to and from a Carnegie blast furnace just south of Pittsburgh, it certainly fits the storyline of the layout.

In an article for *The O Scale Resource* not too long ago (March/April 2018 issue) on building an early steel drop bottom gon, I explained that the ME Ry was a subsidiary of Pittsburgh Coal Co. As a result, it would be natural to have such Pittsburgh Coal Company cars on the ME Ry.



Earlier I talked about H.J Heinz being an important local industry with the potential to source produce from the coke region. It would be logical for private Heinz cars to supplement the small ME Ry fleet in moving produce to their factories. Photo 3 is such a Heinz car used in that traffic.

For moving tar that was needed for sealing the local roads, a tank car was procured for the layout as shown at Photo 4. J &L was a large Pittsburgh steel producer. The more famous prototype J&L tar cars were very early jumbo tankers of about 20,000 gallons. But due to the sharp curves on the ME Ry, we tend to stick to shorter steam road cars on the layout so the couplers in standard coupler boxes will work.

We have a local industry by the name of Mountain Petroleum Services. It is a crude oil loading business. We have a small fleet of leased Union Tank Line tank cars that move the crude oil from the on-line loading facility to refineries located off-line. Again, due to chronic car shortages on the ME Ry, the refineries often need to supplement the car fleet by sending Gulf and Mobil tank cars to insure they get sufficient crude oil for their refineries. I hope to tell you more about the crude oil business on the ME Ry in a future article.



Coal mining and coke works labor were both hard and made men terribly thirsty. A big local beer in the area was Iron City, made in Pittsburgh. To help satisfy the thirst of such workers, the ME Ry has a dedicated reefer (See photo 5) that operates between the brewery, via Pittsburgh Railways, and delivers the brew to the towns along the line.

As a result of the consideration given to the industries served and the products carried, we have built, and will continue to add to, a car fleet that suite our needs and fits with the storyline of our layout.

The conclusion of our current review is that some additional cars need to be added to our meager fleet. It looks like we could use some more gons to move gravel, sand, and cinders. A specially equipped gon could also be used to transfer steel coils from a steam road interchange to the American Steel industry. We can also use a gon equipped to haul coke containers to provide service to a foundry that is located off-line via a container



unloading facility. A few flats are needed for hay and to move mine props to various coal mines and line poles to the railway for overhead construction. I am currently trying to work out a scheme where I can interchange

loads on gons and flats so that I can have all these loads plus empty cars for the return trip. But that is another story for another time.

For the collection and return of milk cans along the line, we need a trailer or box motor painted to advertise this service in hopes of enticing more farmers to use this premium service.

Customise Your Operations

Tuning your operations to accommodate the particular needs of your railroad's customers is another method for making your layout appear more realistic and giving it added life. As examples, here are a few ideas from the Mountain Electric.

An early morning run will collect the full cans of milk from loading platforms along the line and take them directly to the local dairy. A similar reverse run later in the day will return the empty milk cans to each platform. Farmers will be relieved of the task of hauling their milk all the way to the dairy over the primitive mud and gravel roads that prevail in the region. This will be of particularly great benefit in the winter when roads are often clogged with ice and snow. In many cases, the platforms are located at the farmer's gate so he does not need to take the milk far to start it on its journey to market. The times for the milk collection runs can be changed between summer and winter to allow the farmer to take advantage of the early sunrise and get more work done during the daylight hours. This will also help to get the raw milk off the loading platforms as early as possible before the sun has an opportunity to heat up the cans.

Fruit and vegetables are perishable products that need to be moved from the packing sheds to the produce markets in the larger cities as expeditiously as possible. By providing a priority service to Pittsburgh over the connection with Pittsburgh Railways, the ME Ry helps the local farmers get a premium price for their products at the big city markets. This superior service also keep this business from going to the competing Pennsy. "Clean cars " are reserved for such food service. The ME Ry paints and letters such cars to emphasize this special service. Photo 4 shows one of the cars used for this special produce traffic.

A freight motor will pull an LCL trailer on a schedule much like a passenger train. This will ensure the merchants in the region that rely on the LCL service for goods delivery know when they can expect their orders to arrive. This provides a level of service far superior to that of Railway Express Agency on competing steam roads. As a result, the ME Ry will win most of the area's LCL business. The LCL trailer to be used for this service was the subject of a previous *o Scale Resource* article. (November/December 2017 issue)

We will make freight deliveries at night to several customers located on a main track and without a siding so that they have more time to unload freight without interfering with passenger schedules. This service should be successful in keeping much of this business from going to competing trucking companies.

Passenger service schedules will be tuned to provide cars at the gates of major industries at shift change times to ensure workers can get to and from their jobs as efficiently as possible. This will reduce the need or urge of many to purchase one of the new-fangled automobiles. Once a traction customer owns his own automobile, he would tend to drive it to work; and he would no longer be a traction line customer not just to and from work, but on weekends and for shopping trips, etc.

By customizing your operations to your customer's needs, you can add quite a bit of life and realism to your layout. Your layout can be seen as solving real world problems and addressing substantial transport issues.

With a bit of thought, you can develop industries that support the theme of your layouts and then move on to custom products and a tailored car fleet to move those products to and from your industries. And don't forget to tune you operations to better serve your customers as it will help keep your line in business!

SCENE AROUND THE LAYOUT

Randall P. Choy sent some great pictures of a few builds he is working on.

The roundhouse uses the modified plastic walls from the kit (Atlas, see photo on next page) which have been placed back to back, so there is brick detail on both sides. I used clear plastic instead of the frosted provided in the kit, to better see inside, which will be at least partially detailed. The posts and joists are Douglass Fir cut down from ordinary 1x4 lumber on my table saw. The gussets are plastic, and will have rivet detail. I plan to string LEDs inside to light the whole thing up. The plan is definitely freelanced, but hopefully will look plausible. It will have two rows of clerestory windows, which is going to be a bear to construct. The structure is quite large, with eight tracks and the longest enough for articulated locos.



We are proud to feature reader's work. Depending on your response we would like to make this regular feature. So get those cameras and cell phones out and start shooting! High quality JPG or TIF files are only. Email to daniel@modelrailroadresource.com with a description of your pictures.



I have "studied" the inside of several roundhouses, and plan to add catwalks, a small second story office, chimneys and smoke collectors. The pits are cut into the cork sheet that the roundhouse is set into, and isn't quite as deep as the prototype, but I figure painting it black should add visual depth. It will come apart in several sections, as it is clearly too big to be moved in one piece, and it is inevitable that I will need access sometimes.

This Atlas model was the starting point for a super kit bash!

I had fun building the power house adjacent to the round house, and used a full

size washing machine valve for the generator and old Polaroid film cases for the electrical panels with wire nut "transformers". Since only the outline shows looking into the windows, they do their job well as "stand-ins", and they are free, and save recycling. (That is my story, and I'm sticking to it!)







WHAT'S ON YOUR WORKBENCH TODAY?

This series shows our readers what other modelers are working on, and we need your help to make it successful. 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

Paul Vassallo writes: I built this copy of a real house from Winesburg, OH about two years ago. The third picture shows where I placed it on my O scale layout this January. My layout depicts northern Indiana in the Forties.

The house is Evergreen styrene construction with Grandt Line windows. No wood in the construction. My wife liked the compact design so much, she hinted at me building another one, but this time full size!





WORKBENCH EXTRA

This series shows our readers what other modelers are working on, and we need your help to make it successful. 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

Michael Luczak writes in: I have been working on a "Big 6" Western Maryland shay I picked up in Chicago this year. Here are some pictures and some details:

- 75 hours of work
- \$178 spent on supplies to paint and DCC and components
- Tsunami2 installed (headlight, backup light and cab light)
- Entire model taken apart down to the gears in the gearbox(s).
- Westside models KTM (late Japanese build)




Pictures of partially painted components: Scalecoat black, metallic smoke box grey, oxide red and Burlington Northern green were chosen for the colors. Scalecoat satin finish was applied after decals were laid down.









S scale decals were used for the lettering of the tender as the O scale versions available were just too big for the small tender sides. Microscale O scale decals were used for the remaining lettering. Evans Designs LEDs were used for the lights.



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By Daniel Dawdy

Many people take photos of engines and even cars, but most stop at that. I, on the other hand, just love to shoot things that I may want to model in the future. I love to model details and have people say, "Must have made that up... never seen a real railroad do that.". That's when I whip out the picture to show them that indeed the real railroad did.

Caution: This tactic does not make many friends :-)



Here is a cute home built derrick begging to be modeled. I found this little guy sitting outside the old roundhouse in Ludington, MI CXS yards on August 16, 1990.

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. Click here to send us your information.

Indianapolis O / S Scale Midwest Show

September 20-22, 2018

Wyndham Indianapolis West

Kick off your modeling season with at the Indianapolis O / S Scale Midwest Show. It's September, summer is over, and for many modeling begins again. This well established Midwest show is held in a great central location, is easy to get to, and draws hundreds of attendees, not only locally, but from all over the country.

Website: indyoscaleshow.com Email: info@indyoscaleshow.com



Southern New England 2018 O Scale Train Show & Open House

October 6, 2018 United Methodist Church, 161 Chestnut Street, Gardner, MA 01440 Train Show & Open House Email: sneshowchairman@snemrr.org Website: www.snemrr.org



Eastern PA 2 Rail O Scale Train Show and Swap Meet Strasburg, PA

O Scale Train Show and Swap Meet October 13th, 2018 Strasburg, PA Fire Company, 203 W Franklin St. Strasburg, PA 17579

Click here for map



Grand River Valley Railroad Club Fall Train Show October 13th, 2018

HSB, Inc 5625 Burlingame Ave. SW

Wyoming, MI 49509 1-4PM

Train Show with operating layouts Thomas play area, Lionel O scale, American Flier S scale, G scale, HO and N scales Website: grvrrc.org

Email: kwskopp@outlook.com



RPM Chicagoland - 24th Annual "Naperville" Conference October 18-20, 2018

Sheraton Hotel and Conference Center, Lisle, IL Railroad Prototype Modelers Meet, 40+ seminars from leading presenters, vendors, layouts, meals, and more. Email: mike@rpmconference.com http://www.rpmconference.com

Southwest O Scale Meet

October 19-20, 2018

Fort Worth Academy gym, 7301 Dutch Branch Road, Fort Worth, TX 76132

Sales and trading tables. Friday clinic: spraying acrylics by a master painter. Saturday clinic: TexRail - Texas' newest railroad (see what it takes to build a 12 inch scale "layout"). The DFW O-Scalers will be bringing TWO layouts to the show. Home layout visits. Website: oscalesw.com

Email: swoscalemeet@gmail.com



Cherry Valley Model Railroad Club: All scale swap meet and open house

October 27, 2018 9am to 3pm Grace Church, 7 East Maple Ave Merchantville, NJ Website: www.snemrr.org/



The Cleveland 2 Rail O Scale Meet NEW LOCATION November 3rd, 2018 UAW Hall 5615 Chevrolet Blvd. Parma, OH 44130 We will again be putting on a nice dinner at the old NYC west side railroad station which is called the Station Restaurant. It is located in Berea Ohio Email: j3a5436@gmail.com Sam Shumaker 440-248-3055

Email: J3a5436@gmail.com Sam Shumaker 440-248-3055 Website: www.cleveshows.com



Rockford O Scalers Fall 2018 Open House

Rockford O Scalers Fall Open House is Saturday November 3 from 12:00 noon to 6:00 pm in Rockford, IL. Contact Frank McCabe at 815-979-4161 (email: fsm1019@aol.com) or John Handlogten at 815-394-3451 (email: j.handlogten@comcast.net) for more information and directions.



The 2018 Mass Transit & Trolley Modelers' Meet November 3, 2018

The Parsippany PAL Center, 33 Baldwin Rd, Parsippany, NJ 07054

Trolley & Mass Transit Model Displays & Sales. Email: transitmeet@yahoo.com

Website: http://nycmodeltransit.org/2018details.htm

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O Scale South 2019

January 19, 2019 Atlanta, GA USA Cross of Life Lutheran Church, 1000 Hembree Rd, Roswell, GA Type of Event: Swap Meet, Modular Layout and Layout Tours. \$5 Admission, \$25 per 8-ft Table (Includes Admission), Spouses and Children Free. Info www.oscalesouth.com, Contact Dan Mason 770-337-5139 daniel@southernoscalers.com Email: dmansfield302@comcast.net Website: www.southernoscalers.com



Chicago March Meet

March, 15, 16 and 17th, 2019 Westin Lombard Yorktown Center Lombard, IL The Chicago 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: info@marchmeet.net



O Scale National in conjunction with O Scale West - S West and Narrow Gauge West May 23-25, 2019 Hyatt Regency Santa Clara (San Francisco area) Website: www.oscalewest.com

The SOURCE NEWS, REVIEWS, INFORMATION TO USE Here is how to contact us: ALE Phone: 815-584-1577 FAX: 800-783-0127 Email: amy@oscaleresource.com daniel@oscaleresource.com Mail: The Model Railroad Resource LLC 407 East Chippewa St. Dwight, IL 60420 www.oscaleresource.com www.sscaleresource.com www.indyoscaleshow.com www.sscalemidwest.com

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To submit a wanted to buy or sell non business classified ad please click the link below. https://ribbonrail.com/railroadresource/Classified/ 725 Characters \$10.00 less contact information. Please read all instructions on the classified page form.

WANTED: Vintage O Scale Older the Better! Outside 3rd rail, Acme, Alexander, Birch, Egolf, Exacta, Icken, Pomona, Mutiplex Track, Model Structures Buildings, Walthers Streamlined steamer, Baldwin Niagara, early diesels, Bascule or Lift bridge, World's Fair pieces, Museum and Santa Fe RR pieces, Scale Model Railway, old controllers, etc.

Also looking for: Voltamp, Carlisle & Finch, Knapp and Howard.

Carey Williams Email: wasp3245@aol.com

Phone:773-332-6121



FOR SALE: Key SP GS-1 4-8-4 #4409 F/P DCC incl sound Mint TRO \$4750; Key (Last run) ATSF E6-A Mars light F/P Mint TRO \$2000; GPM SP 2-8-0 #2811 70 C3 tender, snowplow, both clamshell & straight stacks F/P TRO Mint \$2150; OMI (0600.1) Canadian National C44-9W #2500 F/P TRO Mint \$1800; Weaver CPR Hudson #2816 TRO Mint \$1200 & CPR Royal Hudson TRO Mint \$1200; Red Caboose GP-9: Canadian Pacific F/P Mint \$300; Beaver Creek Great Northern 25' Caboose Mint/New \$500; Salenas' Tavern (Saco River Structures, Bar Mills, Maine \$125 Shotgun House by Thomas York \$90; Berkshire Valley Service Station Kit #801 \$75; Palace Hotel Downtown Deco \$75 **Reasonable offers considered.**

Bruce Antell Email: bruce.antell@gmail.com Phone: 650-773-7240



For Sale: Northern Pacific O-Scale 2 Rail Sunset Models 3rd Rail Four 80' coaches As New – Original Box – Not run. Yours for \$400.00 US

Northern Pacific O-Scale 2 Rail

Sunset Models 3rd Rail Super Deal! A-B-A set of F7s All 3 are powered and are equipped with Quantum Stereo Sound. As New – Original Box – Not run. I will include a Quantum Programmer and software! Yours for \$1500.00 US





Northern Pacific O-Scale 2 Rail Sunset Models 3rd Rail Sleeper McAfee. As New – Original Box – Not run. Yours for \$125.00 US

For information contact Bart Hollis - bart@northernpacificrailway.us

READER CLASSIFIEDS

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FOR SALE: CP D-10 class, 4-6-0 early version, #805, 2-rail, Sunset 3rd rail. TRO in original box with all packing, papers, etc. \$999.95 Edward F. Burnett Email: ctwrwy@comcast.net

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