The S Resource

S Scale

NEWS, REVIEWS, INFORMATION TO USE

October/November 2021
Volume 8 No. 1

New Tracks - Where Mentors Help Modelers Build

Building a New Haven EP-3 Electric Locomotive

Building a C&O AMC 50-Ton Offset Hopper

ConditionAire Covered Hoppers

St Louis RPM Meet

Coloring Brickwork

Shows, Meets and So Much More

Our 8th Year Anniversary Issue

O&S Scale Midwest Show

NEW DATES FOR THE 2021 SHOW

October 8-10, 2021

WYNDHAM INDIANAPOLIS WEST 2544 EXECUTIVE DR. INDIANAPOLIS, IN

DEALER SETUP

Friday 4pm - 9pm

Saturday 7:30am - 9am

SHOW TIMES

Saturday 9am - 5pm

Sunday 9am - 2pm

All rooms and tables are sold out

On-Line registration will stop on October 1st

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Mail registration form to: 407 East Chippewa St
Dwight, IL 60420

Or register and pay online at:

Early Registration $20.00 **$**_____

Registration at the door $25.00 **$**_____

○ **Scale vendor** ○ **S Scale vendor** ○ **No preference**

Number of add'l registrants ____@ $20 each **$**_____
$25 at the door

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THE S RESOURCE
NEWS, REVIEWS, INFORMATION TO USE
SCALE

BILL OF LADING

Published Bi Monthly

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

October/November 2021
Volume 8 No. 1

Owner / Publisher
Amy Dawdy

Managing Editor
Daniel Dawdy

Advertising Manager
Jeb Kriigel

Welcome to the online S 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, advancing the pages forward or back, searching to go to a specific page, enlarging pages, printing pages, enlarging the view to full screen, and downloading a copy to your computer.

Front Cover Photo

New Haven Railroad EP-3 No. 352 approaches State Line Tunnel on Dick Karnes' New York, Westchester & Boston Railroad. The New Haven has trackage rights on a portion of the NYW&B.

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

Days are shorter and nights are longer and that means, for many of us, it's time to get back to modeling.

As I write this, the O&S Scale Midwest Show at Indy is less than 10 days away. Check out our vendor list here: https://oscalemidwest.com/vendors/ to see who is coming in for this show. S scale displays at the show include Charles Malinowski's MR2GO!, the Southeastern Michigan S Gaugers and Warren Judge's Sn2 Elk Creek Lumber & Mining Railroad. We are looking for a good turnout from the S scale community.

All tables have been sold out, and after adding additional rooms, the hotel is now sold out as well. It's shaping up to be a great event this year. It's time to get out and see people again.

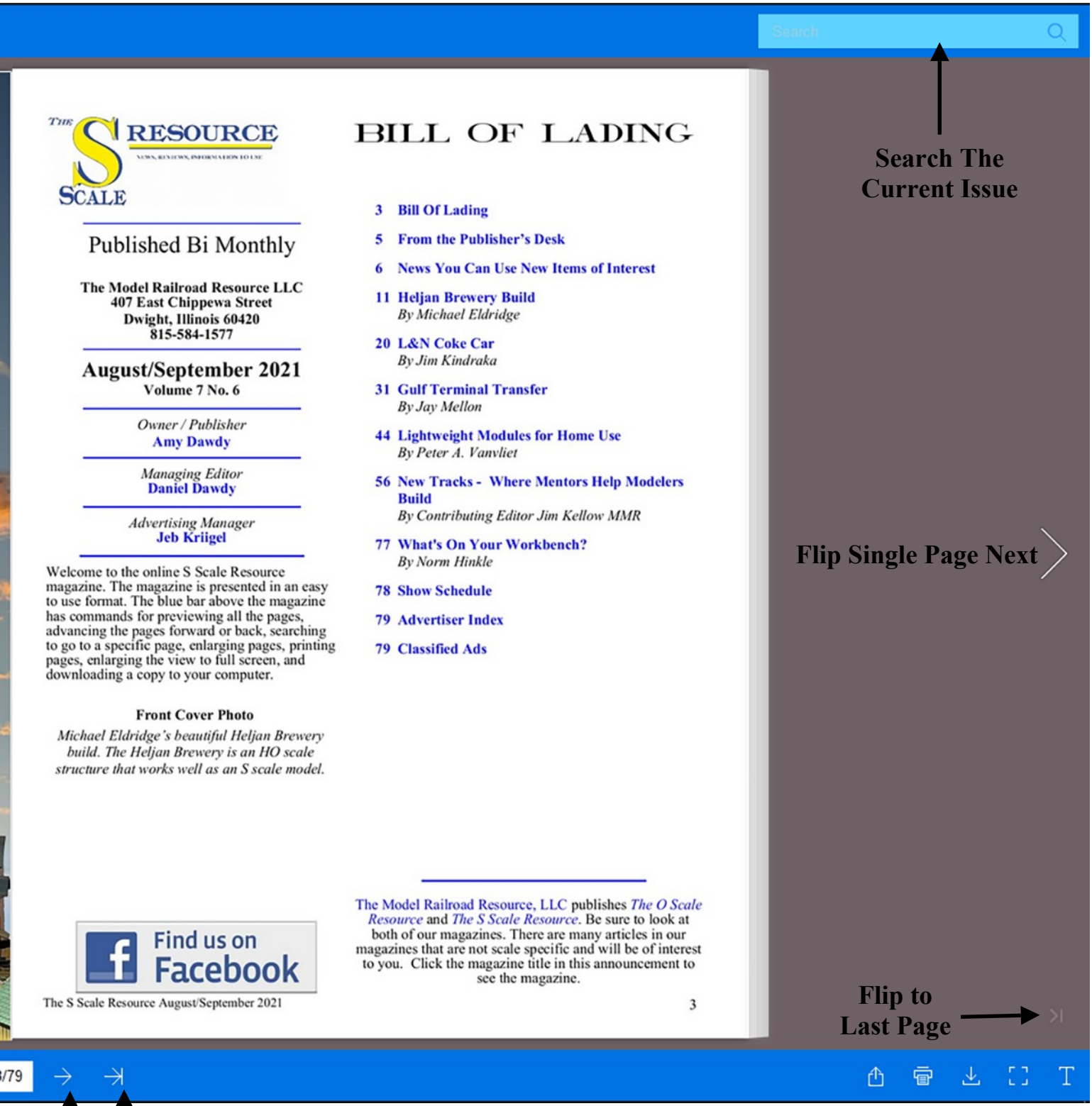
This begins out eighth year of publication. No, I did not see that coming. It's been a struggle to continually bring you new articles and modelers, but it's getting better. Please, if you have a layout in scale S, or are working on projects, please let us know and we'll talk. As always, we need more scale content, tips, tricks, layouts, things you want to showcase. We see great modeling on the S scale Facebook pages, and we can take that and expand much more than you can do there. So think about what you have that others may like to see.

We have a great issue this time around with Building a New Haven EP-3 Electric Locomotive by Dick Karnes and also building a C&O AMC 50-Ton Offset Hopper by Jim Kindraka. There are some really nice pictures of S scale from the St. Louis RPM Meet sent to us by John Mann. ConditionAire Covered Hoppers by Tom Lennon and painting brickwork by Ken Zieska are both included in this issue as well. New Tracks this month features three drawings, including a $75.00 gift certificate from Leadville Designs, along with great modelers.

Happy Reading & Happy Modeling,

Dan Dawdy

Quick Tutorial on using our On-Line Magazines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Front Cover Photo
Michael Eldridge's beautiful Heljan Brewery build. The Heljan Brewery is an HO scale structure that works well as an S scale model.
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NEWS YOU CAN USE

Jim Kellow recently wrote in “New Tracks” about a great new Scholarship Program for model railroaders and expressed a hope that other hobby companies would join Walthers in this effort. What a great way to encourage young people to get involved with model railroading and pursue a STEM education in College and then, just maybe, become community members of the Association of Professional Model Builders. Good luck to you both and thanks Walthers for your hobby leadership.

Congratulations to Our First Walthers Model Railroad Scholarship Winners!

It's our distinct pleasure to introduce you to the winners of Walthers Model Railroad Scholarship, John Gerdes and Aiden Mollohan! Both have been active modelers since childhood, and are adapting what they've learned in the train room to the classroom.

John Gerdes
Mira Costa College

Trains have been part of John's life since age seven when his older brother bought his first set, and over the years, became an increasingly active member of the famed La Mesa Model Railroad Club. Planning and coordinating modern-era sessions for younger operators have honed his leadership and communication skills, while working on equipment has provided a gateway for learning about electronics, mechanics and art. John is enrolled at Miro Costa College, where he's now studying finance.

Aiden Mollohan
University of Pennsylvania

As a member of the Elizabethtown (Pennsylvania) Train Guys, Aiden has been involved in a wide range of activities, from building benchwork to serving as the club's Webmaster! Exposed to so many facets of operating and maintaining a model railroad helped him develop organization and leadership skills, and fueled a growing interest in how and why things work. Currently enrolled at the University of Pennsylvania, Aiden is working towards his Bachelor of Science degree in mechanical engineering and applied mechanics.

Walthers scholarship program recognizes the important contributions of model railroading to science, technology, engineering, arts and math - STEAM for short - and awards $2500 each to two lucky applicants. If you or someone you know is an active modeler, will be graduating high school in 2022 and pursuing higher education in any of these areas of study, we'd invite you to apply for next year's award - watch for details!

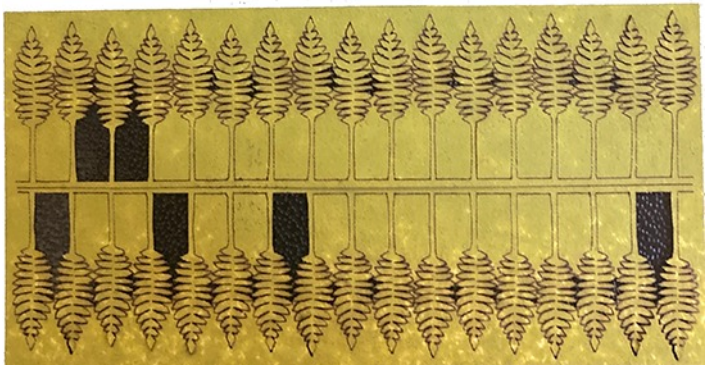
Dave Allen of Concept Models has decided to sell the S scale side of his company. I want to sell my S Scale product line. He has set up a special website segment for this purpose. http://www.con-sys.com/A_S_Scale/Index.html.

The first section gives an idea of the development status of each item. There are some interesting items that no body has attempted to produce before. I'm facing a move to smaller quarters and if I can't sell it, I have to scrap it. I hate the idea of this product line going to the landfill. He is asking asking $1500.00 for the S Scale line alone. If a buyer wants the HO scale line as well, the total would be $15,000.00.

You may contact Dave here:
dallen7@con-sys.com

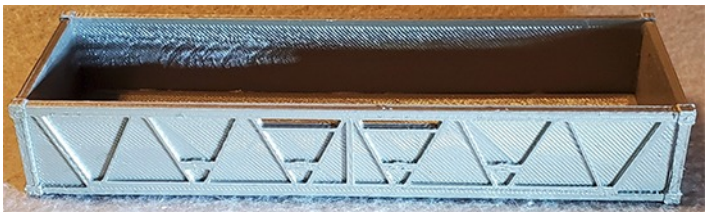
Mark Andrews of Mark's Model Works has Laser cut paper ferns.

Add to the under growth of your forest or details for some over grown banks. These ferns are simple to use. Remove from the paper cut, curl the fronds, then poke them into the scenery. Two packets available, 48 small ferns or 40 rows, enough to cover over a yard long.

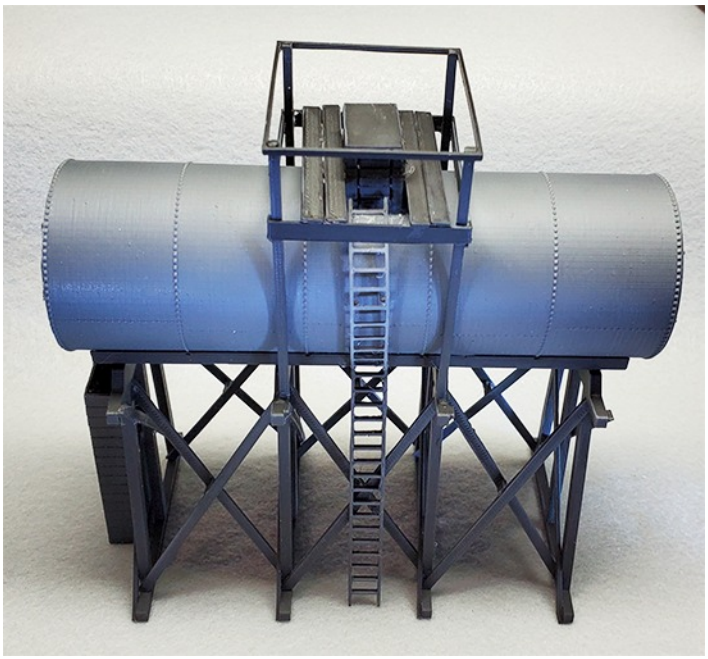


See his Website for more details.

Precision Vintage Classics announces several new kits. The WP&Y Open Top Container in S & O.



And a 3D printed kit of the SP Oil Tank at Laws California, developed for us by Chip Van Gilder. Available in S, O, & H0.



See their Website for more details.

CanAm Convention Car for Christmas. The Buffalo NASG Convention organizers are making next summer's 2022 convention car available for Christmas shoppers.

The 70-ton three-bay American Models hopper, labeled for the Toronto Hamilton and Buffalo Railway, will be available in three versions…

prototype number 1221 in both scale and hi-rail: and a hi-rail version with the 2022 date as the car number.

The price per car will be 68 dollars US, which includes shipping to either the US or Canada. Visit the NASG convention website to learn more of the history of this class of freight car as well as its extensive cross-border travels.

#1221 at Aberdeen Yard (photo © by Gerry Schaefer)

Look for ordering information on the NASG website (http://www.nasg.org/Convention/2022) or contact Ron Kemp directly at rgkemp316@gmail.com. And be sure to check the website often for additional convention information as it unfolds.

Ken Zieska sent us some products from Scotty's Model Shop that he is using and thought others may like to see.

Working Derails. Derails are installed on sidings by the prototype to keep cars from rolling off side tracks or industry tracks and onto the mainline. In operation, the train will pull up to the detail, a crewman will open the derail to give the train access to the siding or industry track. When the work is completed, the crewman will replace the derail and the crew will continue on their way. Like the prototype, the model detail has two parts. One part is the base which is mounted to the ties. The second part is the derail piece which is hinged to the base. When in position to protect the mainline, the plate rests on top of the rail where it will cause the wheel to lift the flange and direct it outside the rail. This simple derail will stop the car from rolling. I operate the derail with an uncoupling pick. The derails are 9.50 per pair and are fully assembled.

And a neat track cleaning tool. This 3D printed tool consists of two 3D printed plastic pieces and micro fiber cloth. Detailed instruction on use of this device are on Scotty's models website; however, it is just this simple. Take one pre-cut to size microfiber cloth (included), place it across the solid plastic base and push the base into the handle until you hear a click.

Now the fiber cloth is extended below the handle by about 1/32 inch. Grasp the handle in either hand and run on your trackwork. These cleaning tools are made in three sizes, one specifically for S Scale. I used the cleaner dry then I put a bit of NO-OX-ID on the rails and ran the cleaner back over them. The results were two even steaks of grime and wonderfully clean rails. The tool comes with a supply of pads, when you need more, the cloth is readily available. Price is 26.50 plus shipping.

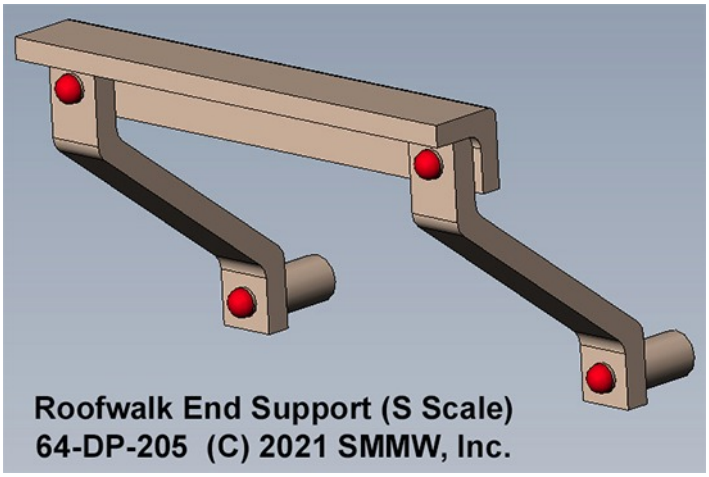
Tru-Color Paint continues to bring new colors to their fantastic line up. Here's the new product information for the 3-D Printed & cast resin paints and aerosols for September-October, 2021

September, 2021
3-D Printed & Cast Resin
9025- Union Pacific- Harbour Mist Grey
9026- Union Pacific- Armour Yellow
Aerosols
4030- Olive Drab #3: 1942-1944, All Theaters
4031- FS-36270: Modern Haze Gray

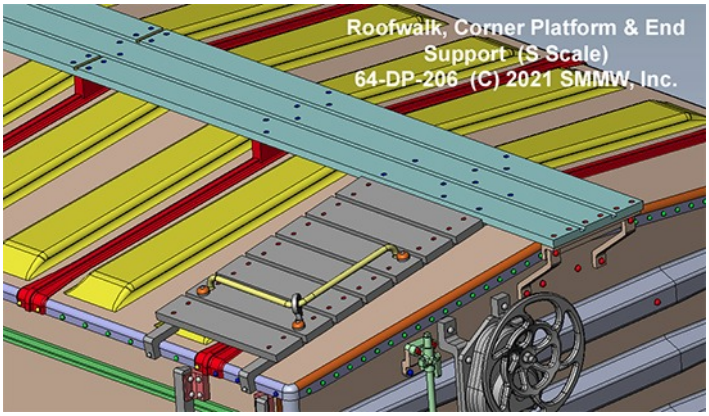
October, 2021
3-D Printed & Cast Resin
9067- Burlington Northern- Cascade Green
9378- BNSF- Intermodal Brown
9394- Progress Rail- Yellow
Aerosols
4032- Interior Green
4033- Matte Rust

As always Tru-Color Paint is always open to new ideas for paints. If there are colors that our readers need but aren't made, have them shoot them an email at tru.colorpaint1@yahoo.com. If they can find enough information on the color, they could put it in the next year's production schedule. See their full line up at their Website!

Smoky Mountain Model Works has a few new items of interest. Roofwalk end support (3D SLA printed, 8 pcs.)



"Wood" running board (40 ft car) in grey-tinted urethane, 3D SLA end supports and corner platforms,



includes Tichy eyebolt and 8" of .015" wire to create corner grab irons (2 car's worth)

See their Website for more items.

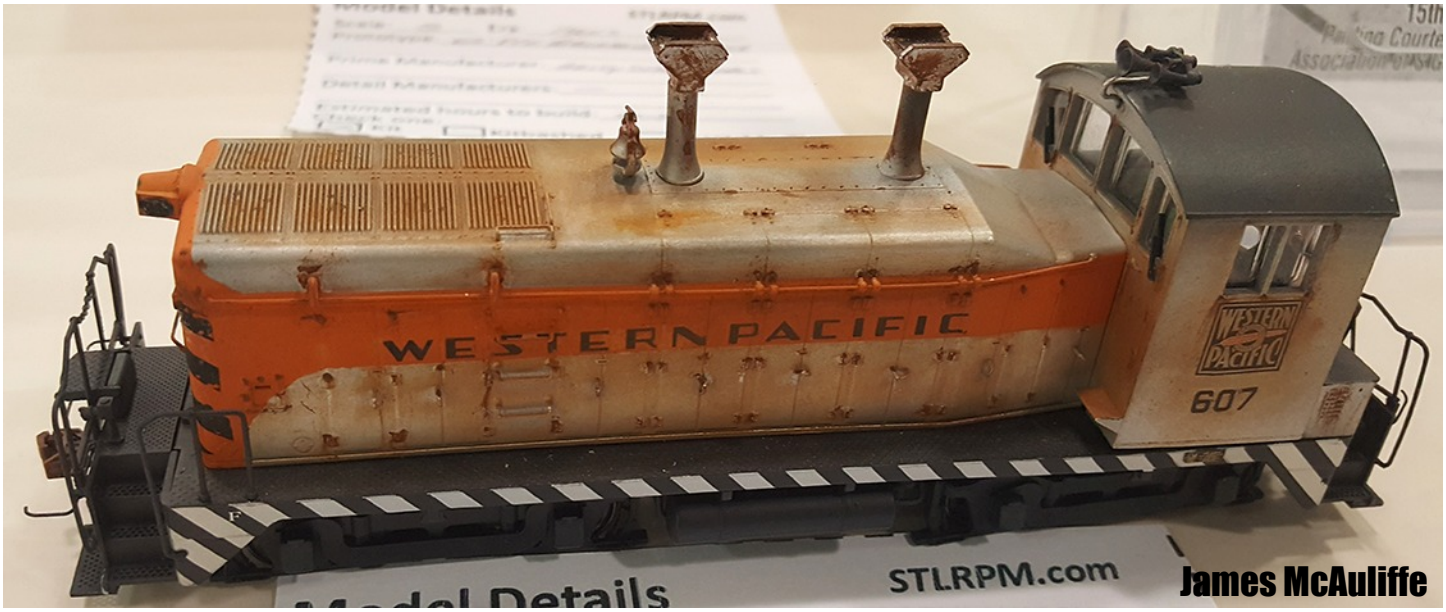
Have a new product to share? Send us your product information and and a picture. We'll get in the next issue. Please remember we are a scale S resource.

S Scale at the St. Louis RPM Meet

Photos and Information By John Mann

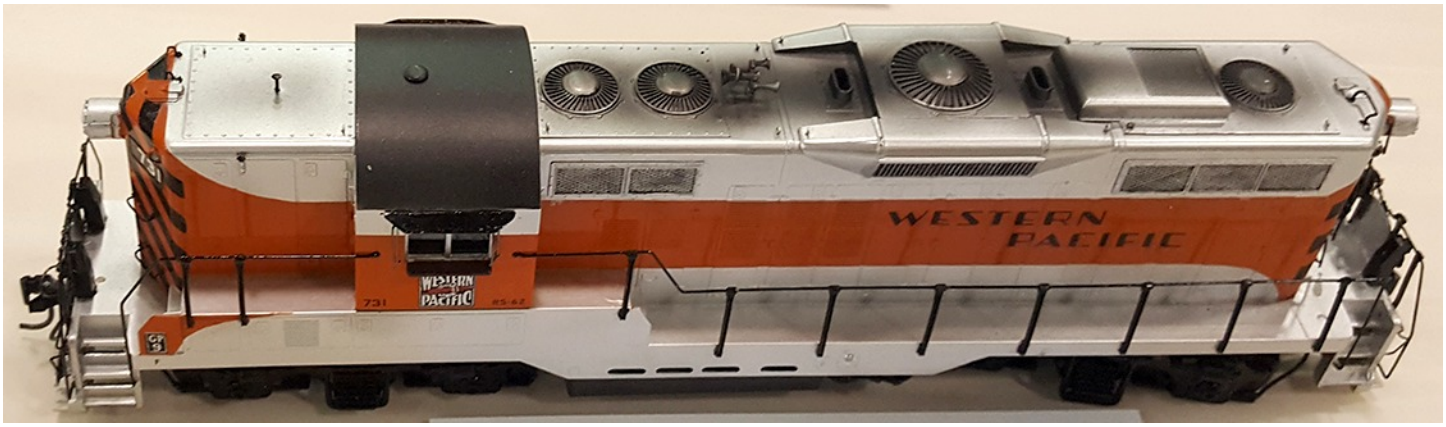
John Mann sent us some pictures from the St. Louis RPM Meet this past July 30 - 31, 2021.

Below: John Mann - scratchbuilt CB&Q Stone Av. Station

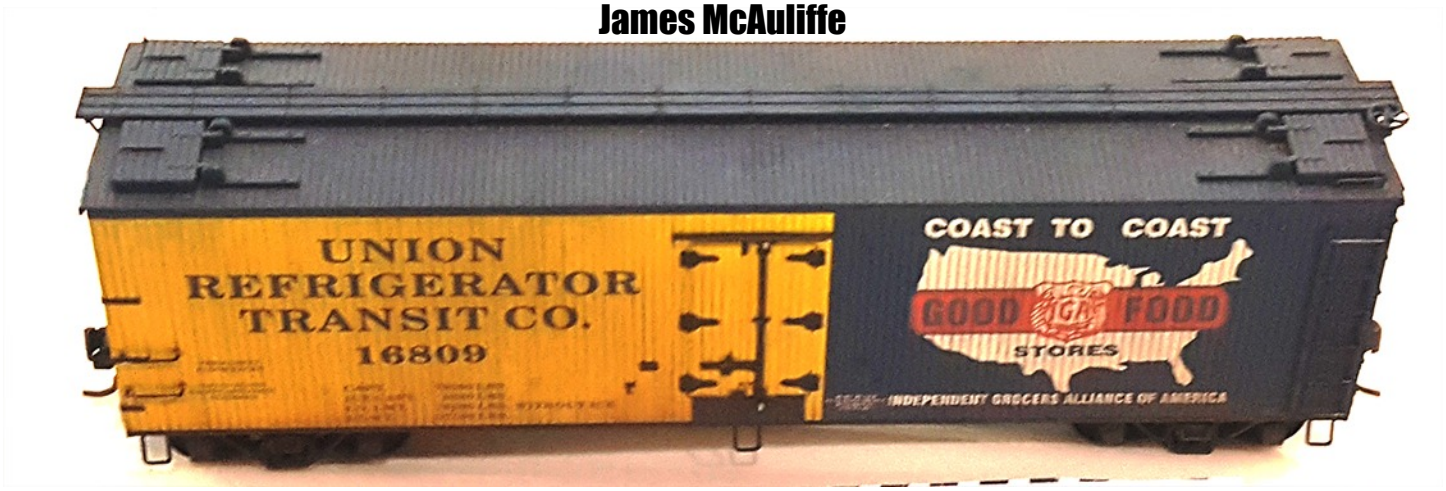


Top: John Mann - "Green Worm" combined C&NW/CB&Q unit coal train scratchbuilt.

Center and bottom James McAuliffe



James McAuliffe



James McAuliffe

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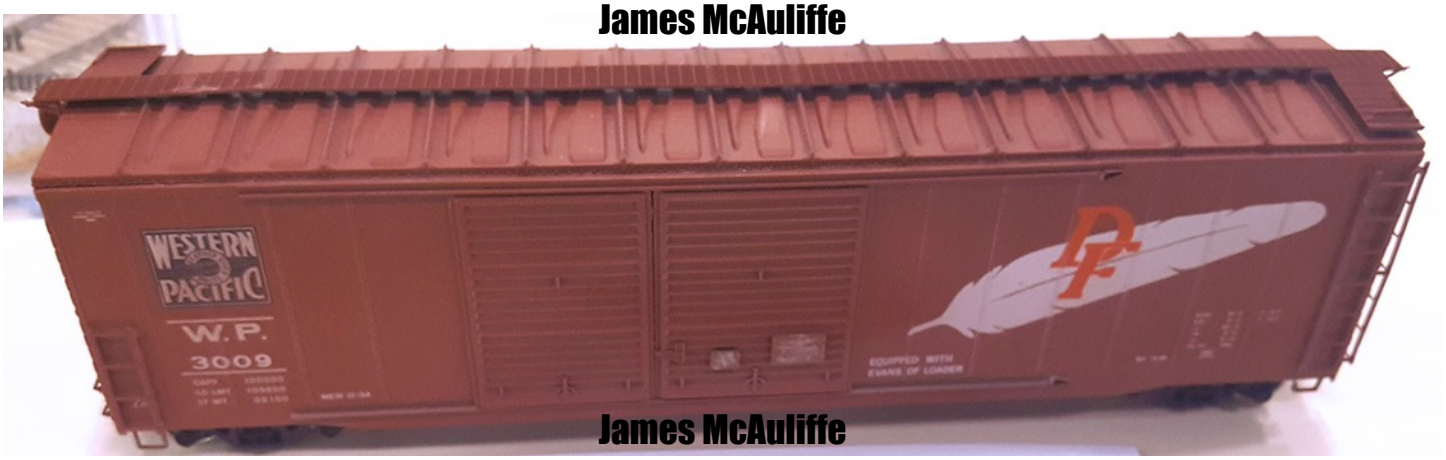


James McAuliffe

Sandy Sandberg

Tony Dixon

Tommy Lennon

Tommy Lennon

Tommy Lennon

Tommy Lennon

Tommy Lennon

Sandy Sandberg

Building a New Haven EP-3 Electric Locomotive

(a Tribute to Doug Miller)

By Dick Karnes

Prototype

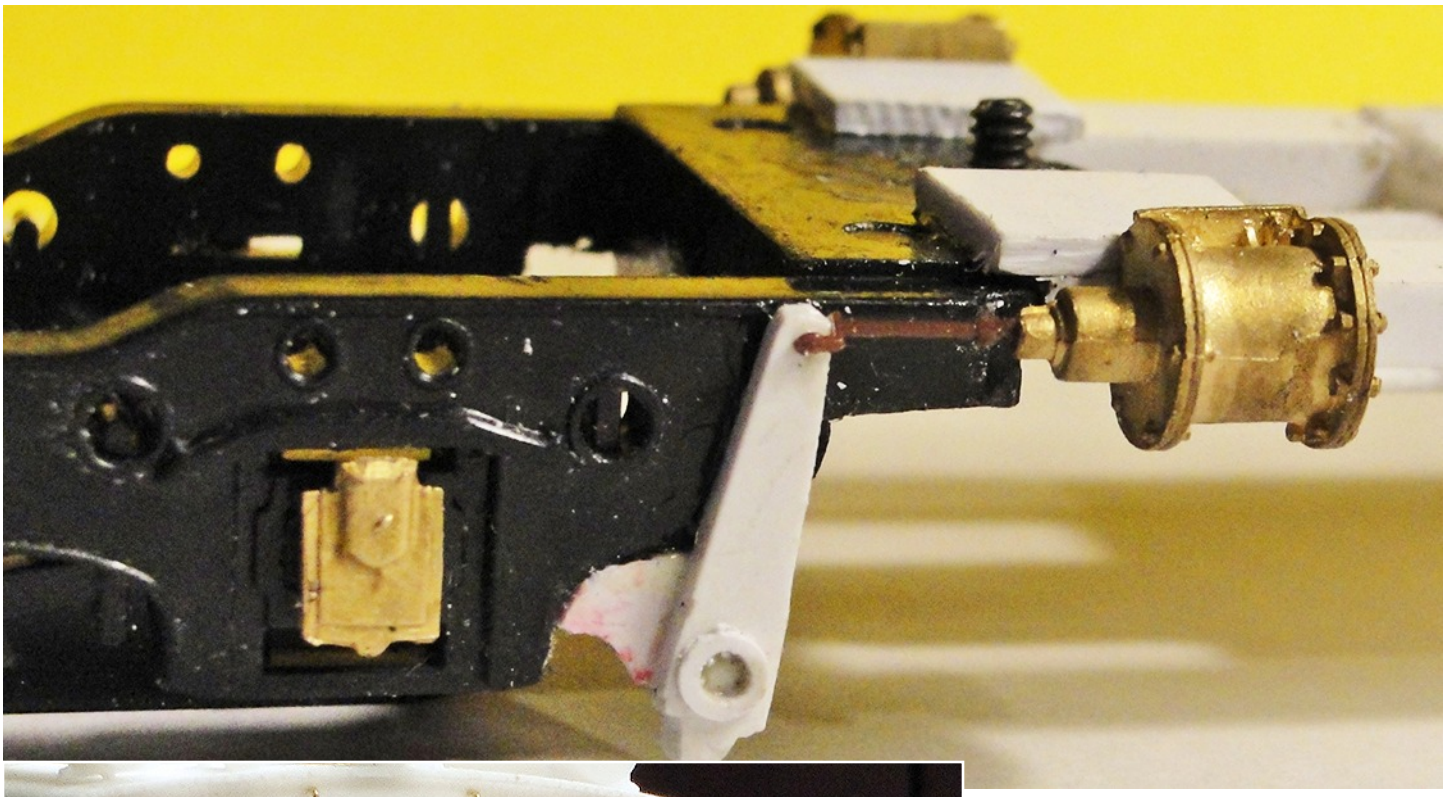
I have always been a fan of the New Haven's passenger electric locomotives, particularly the EP-3 (Electric Passenger locomotive, version 3). The EP-3 was conceived as an improved version of the NYC's Cleveland Union Terminal P-1a 2-C+C-2 heavy electric, but with a different drive system. In turn, the Pennsy was so enamored of the EP-3 that it based its streamlined GG1 on the EP-3, including its drive system. The primary visual difference between the EP-3 and the GG1, besides the obviously different carbody, is the journal covers – plain on the EP-3 versus roller-bearing on the GG1. Late in the EP-3s' service lives, the plain bearings were replaced with roller bearings, but the journal lids were never replaced.

The EP-3 was configured to run off both the New Haven's 11,000-volt AC catenary and the NYC's 660-volt DC outside third rail leading into Manhattan's Grand Central Terminal. The locomotive's transformer converted the high-voltage current to 660-volts for the quill-drive traction motors, which ran equally well on AC and DC. There was also a small rooftop pantograph controlled by the engineer that was raised to contact overhead third rail segments through complex terminal throat trackage that had no space for conventional third rail.

The Model

This project, after a couple of false starts, got under way with primary participants Doug Miller, Steve Kutash, and yours truly. Dick supplied the General Electric erection drawings, and Steve provided a friend's O scale brass import in order to deduce the rivet patterns, lacking on the GE drawings. Doug used these to create a three-dimensional digital model for 3D printing.

This early stage of test fitting verified that everything was properly placed. Plain brass journals, not yet completely installed, are copies of SSL&S parts.



Doug's designed the end platforms to pivot with respect to the drive-wheel frame, just like the American Models GG1. I chose instead to make the end platforms as rigid frame extensions. While this required extra work on the pony truck bolsters, it allowed me to construct a complete brake cylinder/piston/lever assembly.

All railings are in place, including MU receptacle handles and coupler lift bars. A front apron and outer pilot steps made of styrene were added to Doug's pilot molding, which is integral to the platform. A San Juan Car Co. On3 "Evolution" coupler graces the front.

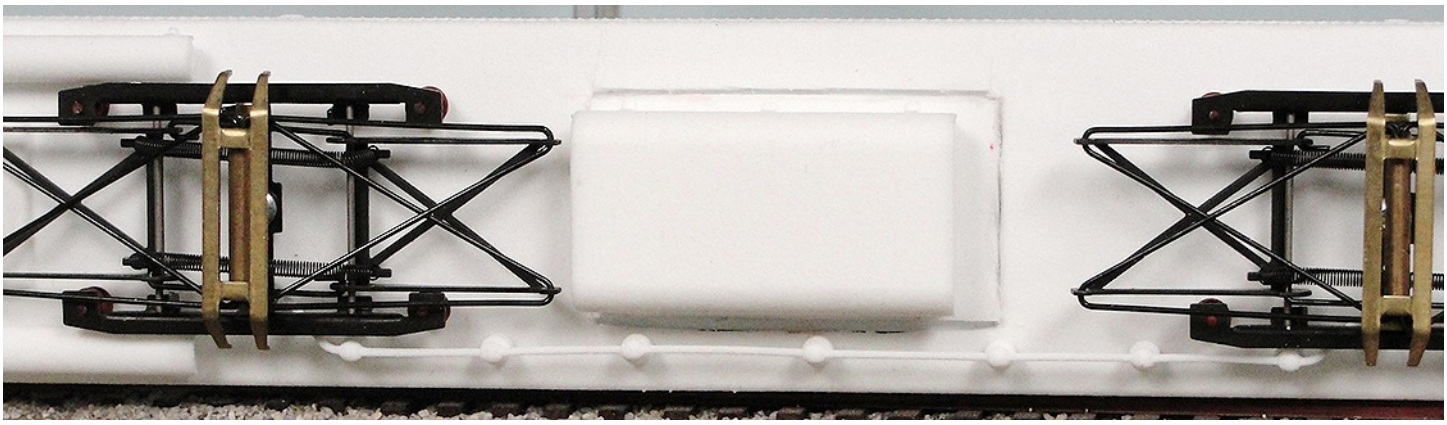
Three sets of beta-test low-resolution components were produced by Shapeways from Doug's 3-D modeling code. Once validated/corrected, a professional 3-D printer on order by Doug was meant to produce the production hi-res components. The components were meant to be mated with an American Models PRR GG1 chassis and pantographs.

But Doug suffered a sudden untimely death in the autumn of 2020 before the production printer arrived, and so the project went into a sort of limbo. Steve got permission from Doug's widow to obtain access to Doug's code in

order to carry the project to a satisfactory conclusion. As I write this, Steve and Art Ferguson are digging through Doug's materials to resurrect the proper files.

This view shows the completed third-rail shoe assembly on the pilot truck. The metal portion of the assembly is simply the bottom of a dummy switch stand! Dummy coil springs have been added to the ends of the PRR truck sideframes in order to match the appearance of the EP-3 truck.

Meanwhile, not really sure if/when the project would revive, I decided to build the EP-3 using the lo-res components I had in hand. The New Haven Railroad Historical & Technical Association devoted the entirety of one issue of its member magazine, the Shoreliner (Vol. 14, Issue 2), to the development and workings of the EP-3. This resource was invaluable in deducing the proper detailing of my EP-3 – in particular, figuring out the configuration of all the air piping on the unit's roof.



Doug' beta-test carbody has the rooftop tank exactly centered fore and aft. But it should be 16 scale inches aft of center in order to provide space for the small overhead-third-rail pantograph between the tank and the forward full-size pantograph. I cut the box out so as to include an extra quarter inch so I could just turn it around without messing further with the roof. Plastic filler was used to hide the scars after this photo was taken.

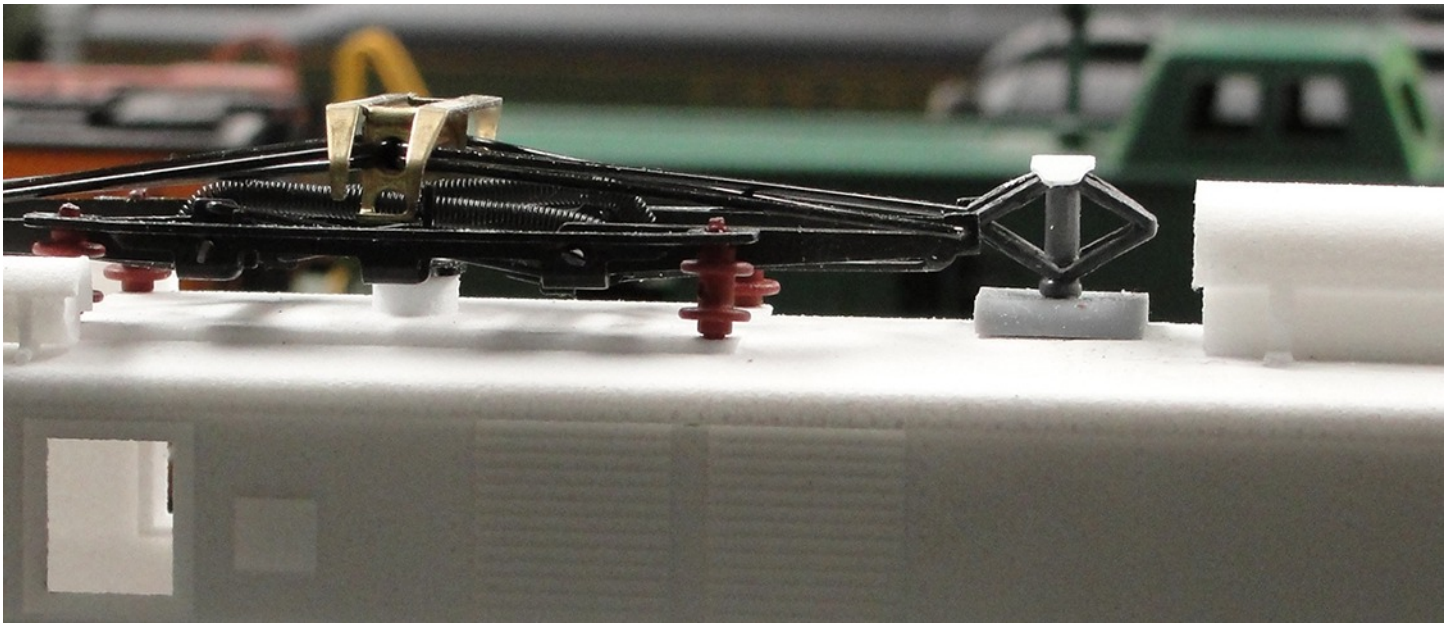
I constructed the loco in such a way as to easily remove the detailing and apply it to better-quality production components. Oddly enough, it turns out that the most difficult aspect of completing the locomotive

was applying decals to the rough surface of the carbody. I know there are products out there that modelers use to smooth out some lo-res 3D printed parts, but using such products would have certainly obliterated the rivets and other important smaller details.

Work on the roof is nearly complete; only the end ladder grabs are not yet installed. Air pipe routing was deduced from the erection drawings and photos in the New Haven Railroad Technical Society magazine. Bells, the three pantographs, and narrow styrene walkways at the roof edges have been added.

I used an HO decal set, not particularly concerned about the accuracy of the smaller striping details because, after all, I'm still hoping for better-quality components that deserve more accurate finishing attention.

Besides the obvious but mundane tasks of applying railings, paint, and window "glass," the GG1's lead/trailing trucks required the most modification. Besides applying the plain journal lids (an easy task), I had to slot the bolster mounting screw hole so the trucks could slide sideways with respect to the rigid mainframes. I also had to remove the molded-in brake cylinders to make room for the third-rail shoe assemblies, one on each side of each truck. The New Haven's locos had the brake shoes inside the truck frame, invisible from the outside, so I didn't have to worry about putting them somewhere else.



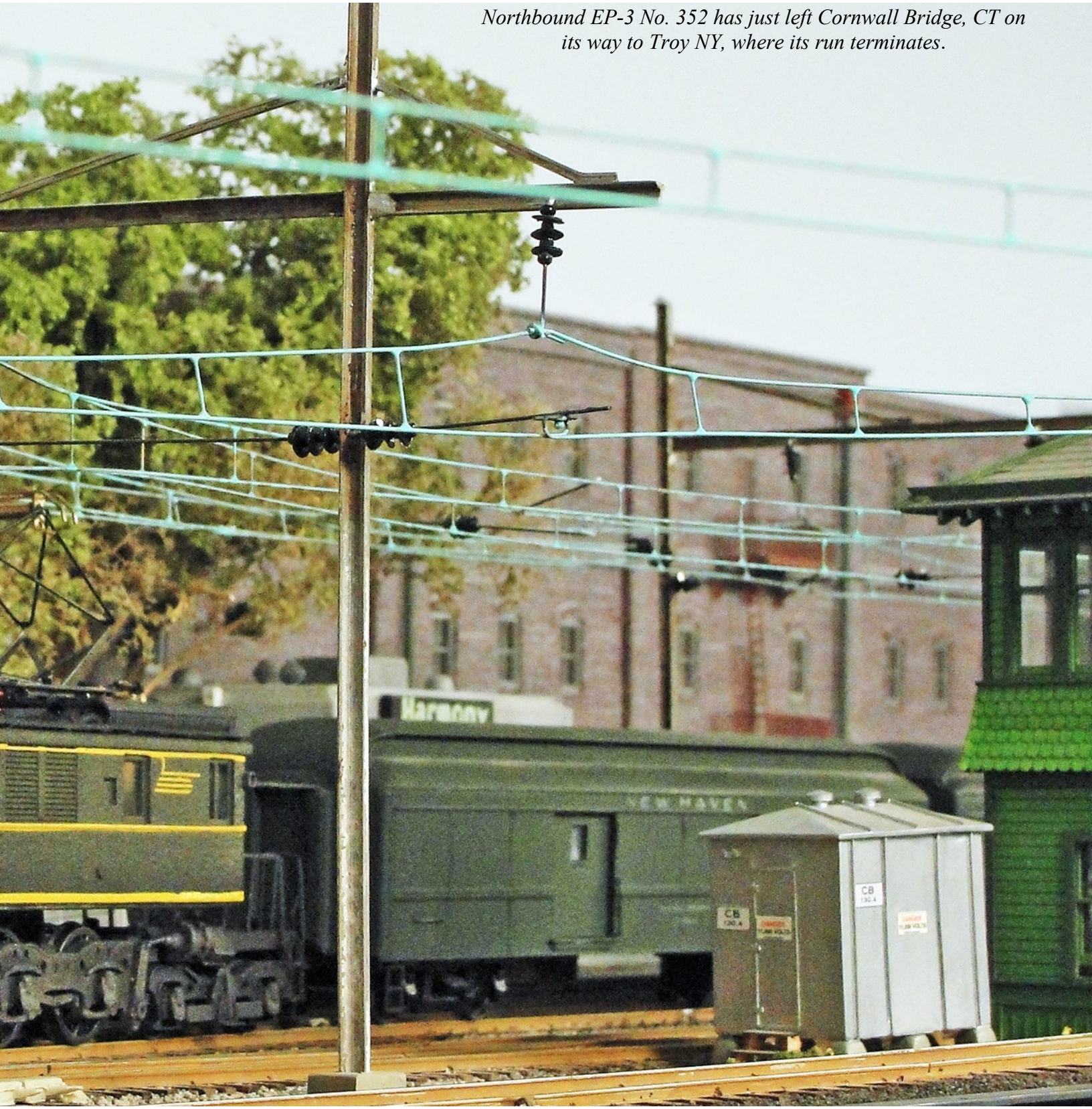
The small 600-volt DC pantograph was raised by the engineer holding a button down in order to contact the overhead third rail in Grand Central Terminal's complex throat trackage. Releasing the button lowered the pantograph.

Always on the lookout for an easy way out, I hit upon using the bottom 20 percent of a Rio Grande Models dummy switch stand for each shoe assembly. A few styrene shapes completed these assemblies.

I made two other significant changes. Doug positioned the roof tank in the exact fore-and-aft center of the carbody. I cut it out with some extra roof on one end and rotated it 180 degrees, so as to move the tank aft by 16 scale inches, glued it in place, and filled the cut grooves with body putty. This created the proper amount of

space in front of the tank to make and install the small 600-volt DC pantograph that sits just behind the large 11,000-volt AC pantograph.

This project would not have been possible without Doug Miller's expertise. He willingly took it on just – apparently – because it looked like it would be a lot of fun. I think that's the best way to leave this planet – while having fun.



Northbound EP-3 No. 352 has just left Cornwall Bridge, CT on its way to Troy NY, where its run terminates.

C&O AMC 50-Ton Offset Hopper

By Jim Kindraka

Photos by the author unless otherwise noted.

C&O 130800 is one of 1200 cars, series 130800 – 131999, built to the AMC HM design by Pullman Standard. All 1200 cars were delivered with arched/radial Dreadnaught steel ends in September 1936. Pullman Standard Photograph, National Archives of Canada Collection, image e011066933. Courtesy Edwin D. Hawkins, Publisher, Railway Prototype Cyclopedia.

Several years ago, when I was a partner in River Raisin Models, Dan Navarre and I imported brass models of the Chesapeake & Ohio 'Allegheny' 2-6-6-6 steam locomotive. While doing research on that project, I became familiar with the work of the Van Sweringen Advisory Mechanical Committee (AMC), and the twin-bay offset coal hoppers that Committee designed. Without taking a deep dive into history, the AMC was formed by the Van Sweringen brothers around 1929 as part of the engineering structure of their Cleveland-based railroad empire. The AMC's role was to standardize equipment design and oversee its production for the Van Sweringen owned railroads, notably the C&O, Erie and Nickel Plate Road. The committee's mission was quite broad and included coordinating steam locomotive, passenger and freight car design and construction.

The Chesapeake & Ohio railroad's 50-Ton, Class HM Offset Hopper was a direct result of the AMC's work. The C&O used four different builders to construct over 11,400 of these hoppers between 1935 and 1940. The last of the cars were not fully retired and off the roster until 1986. Following the C&O's introduction of the AMC designed offset hopper, approximately 4000 additional cars were built to the design for the Erie and the NKP. Other railroads that adopted the design included: AT&SF, C&I, CRR, M&StL, Montour, NP, P&WV and W&LE. A private owner, Ohio State University, had General American Transportation (GATC) build two cars to the AMC design to haul coal to the university's campus power plant!

The more I looked at that hopper, especially the version with radial Dreadnaught ends, the more I was drawn to the car and wanted to convert a few into S Scale. However, the more I studied them, the more I realized there was absolutely nothing commercially available in S Scale to make it a simple project! As much as

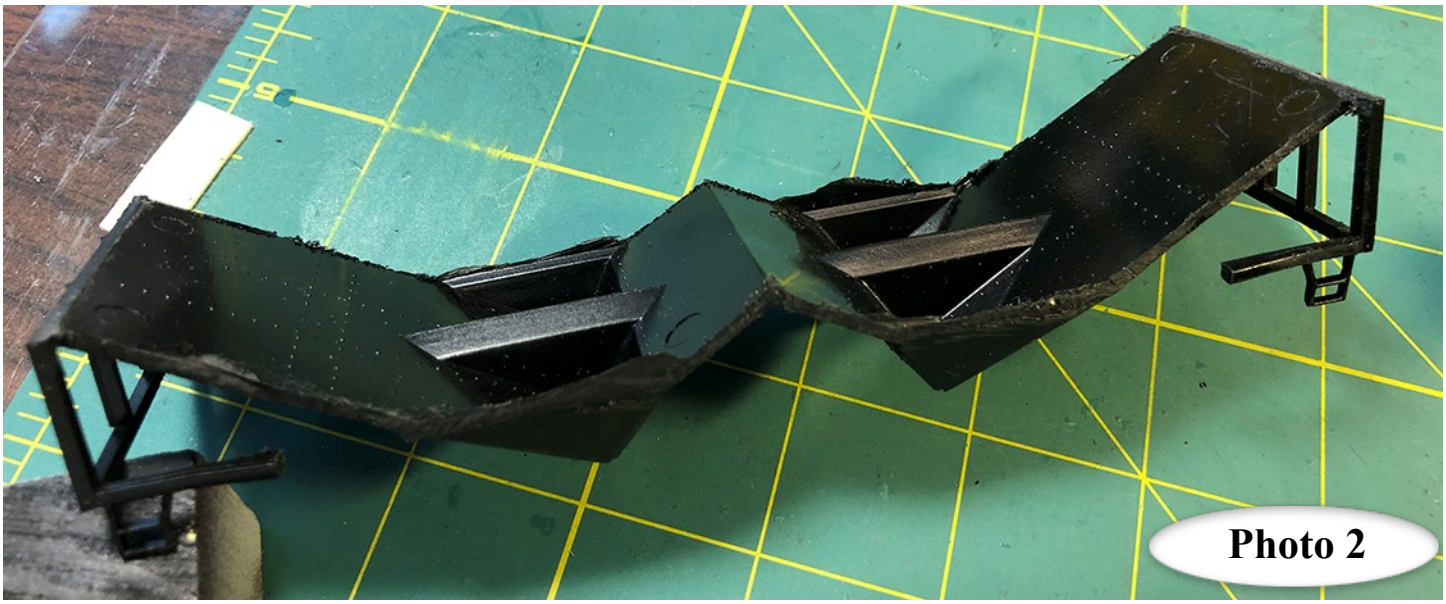
I wish it were not so, S Scale plastic offset hoppers seem heavily influenced by American Flyer and some crazy desire to make all offset hoppers look like the common AF hopper of the 1950's. Virtually all the offset hoppers previously produced in S Scale have 7 side posts. That is a problem since all the AMC hoppers, and just about every other prototype offset hopper, including all the AAR Standard 50-ton offset hoppers, have 9 side posts!

To fully do the job, the sides and the ends have to go! This is where 3D parts really come to the rescue. Luckily, Ed Hawkins and Pat Wider published the AMC drawings in Volume 25 of their outstanding *Railway Prototype Cyclopedia* series. With those blueprints in hand, my good friend, Scott MacKenzie, was able to draw the sides and radial Dreadnaught ends in SolidWorks. Before anyone gets the idea this is easy, there were probably a dozen iterations of the side drawing before we were satisfied. The rivets on the car push the limits of current 3D printing technology, even using stereolithography (SLA). Each time I would make a test print, the commercial printer would call to say they would not be responsible if our "tiny" rivet details did not print. Scott worked to perfect that, and the final side patterns contained all the necessary rivets – and they are the correct size and quite sharp! Of course, by the time we were done, those side patterns cost $100 a piece to print!

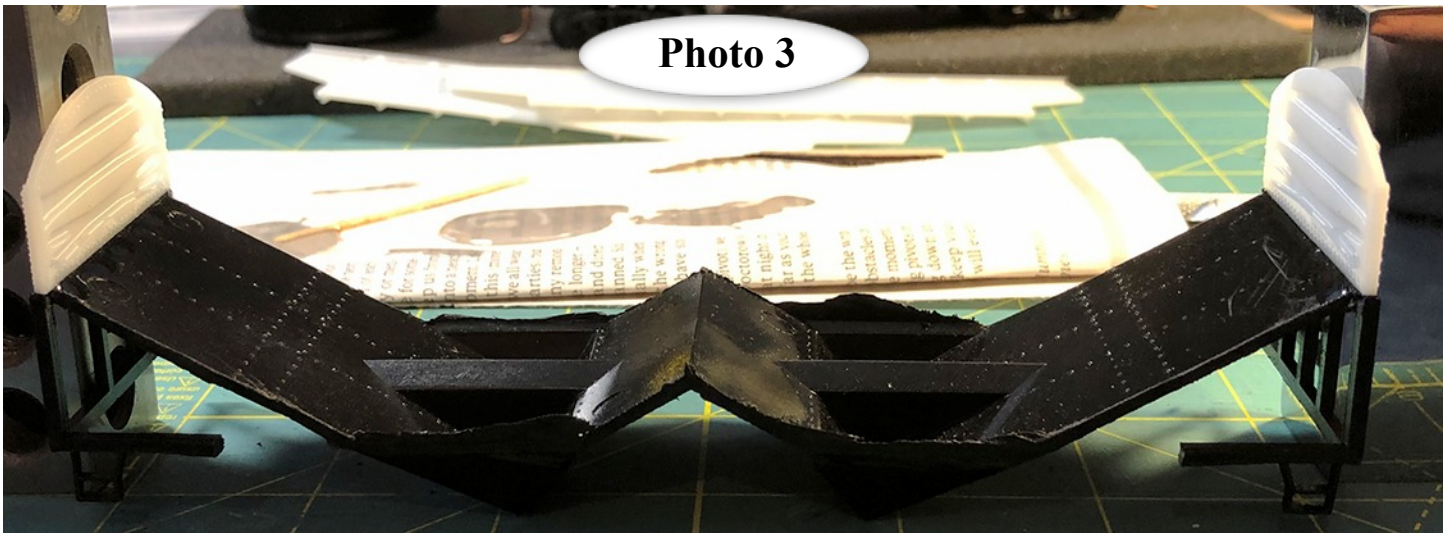
The project starts with a standard American Models offset hopper as shown in Photo 1. Those models have the correct overall length and wheelbase for the C&O Class HM hoppers, so are a great basis for the project. The messiest part of the project was removing the sides and ends from the AM offset hopper. Photo 1 also shows some of the knives and cutting tools I used. You can also carefully mount a sawing disc in a drill press and use it for cutting, but I prefer doing it by hand. It takes a bit longer, but I find I have more control and am less prone to errant cuts – on the model and my skin! After one set of stitches a few years ago, I have also started using Cut Resistant gloves on the hand holding the model for cutting. There are many styles and grades

Photo 1

available. Hobby knives and saws can be incredibly sharp! I'd recommend spending 20 bucks and saving a several hundred-dollar trip to the Urgent Care Clinic for stitches!



The cuts to remove the sides may end up being a little jagged. (Photo 2) It was not necessary to make them perfect and smooth. The intention all along was to model the hoppers with a coal load, so any small nicks or gouges along the lower side sill or hoppers interior would be covered and not show. That is not the case for replacing the ends. For the end, you need a smooth, square surface both for attachment and for the finished model's looks. Photo 3 shows the cut base with the new 3D printed radial ends attached. Since the ends and base are different materials, I used 5-Minute Epoxy for the attachments and weighted blocks to hold them in a vertical position while the Epoxy cured.



Once the ends were in place and cured, at least 24 hours, the sides were test fit. (Photo 4) The fit lengthwise required no filing or adjustments because the AM offset hopper is the correct length and wheelbase. Since the 3D printed sides also have the interior detail, small notches were required in the base, so the lower part of the side ribs would align with the notch and allow the side to be vertical on the car body. (Photo 5 & 6) The sides were checked visually several times to be sure they were square and vertical when attached. Once I was comfortable with the fit, I used 5-minute epoxy to attach the sides at the ends and a few key points. I let the epoxy cure for a few hours and then followed up using a multi-purpose putty adhesive and filler to reinforce the sides along the lower sill area where the cutting might have left gaps.

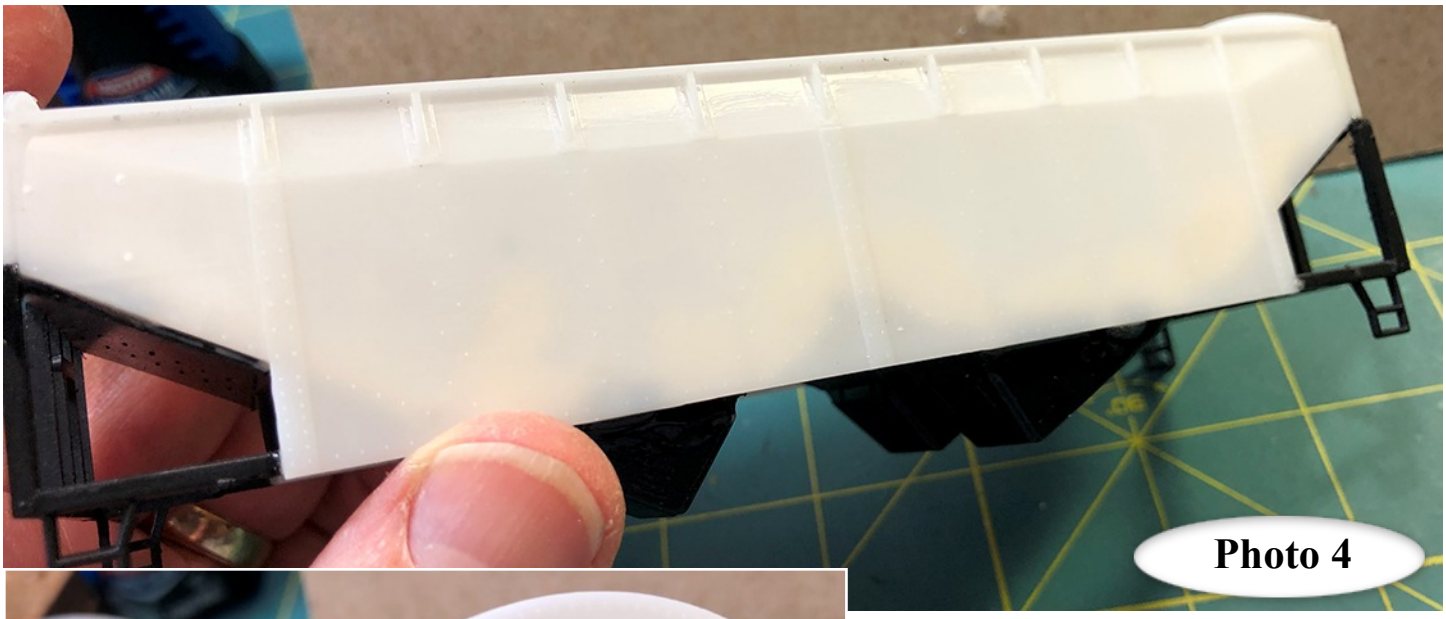


Photo 4

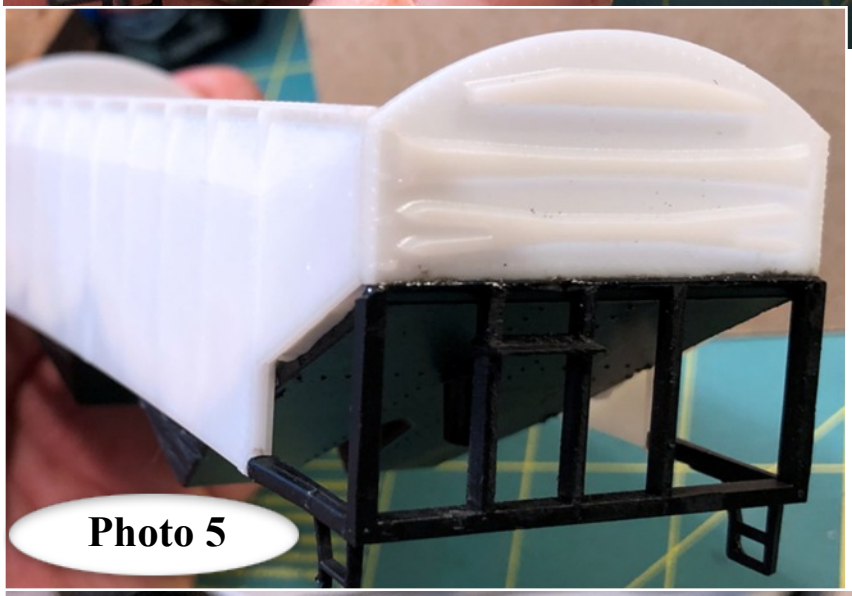


Photo 5

I left the model alone for a couple of days and then began finishing it with the brake, hand grab irons and other details. I fudged a bit and added a piece of 0.060" x 0.060" styrene on one side of the corner post. This added some strength to the corner and provided a slightly larger surface to attach grab irons (Photo 7).

Photo 6

Photo 7

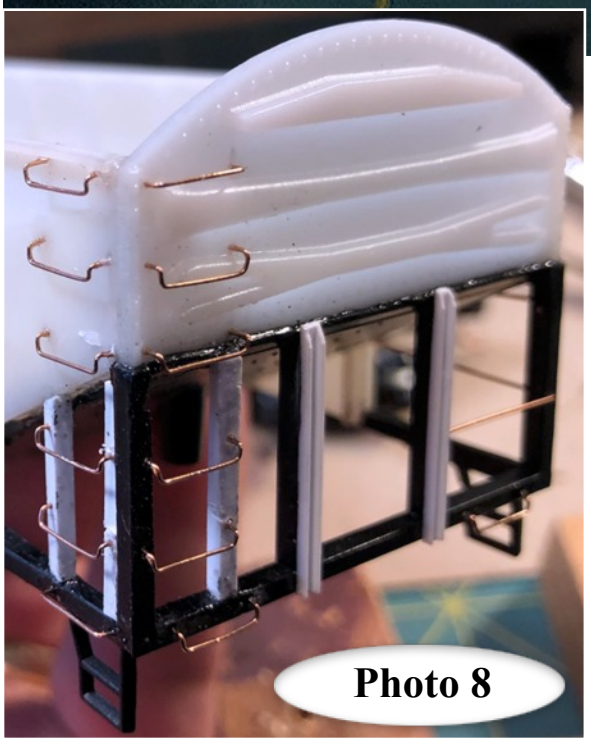


Photo 8

All the pre-1950 AMC hoppers used grab irons, or if you prefer “hand grabs”, rather than ladders. Grab irons around a 90° corner should be at the same level. (Photo 8) This is a safety feature for railroad brakemen, so they will always know where an adjacent hand grab is, even on dark, wet, foggy nights. Installing the hand grabs can be a bit of a challenge, drilling on a small plastic corner post. To help, I cut the ends of the Tichy grab irons to about half their original length (Photo 9). The other advantage was that I did not end up with a lot of wire to cut and file on the back side of the installation.

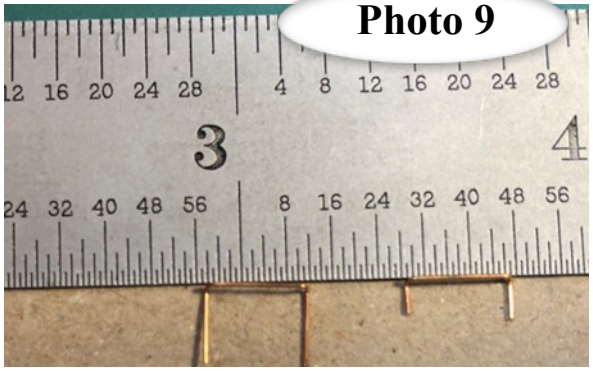
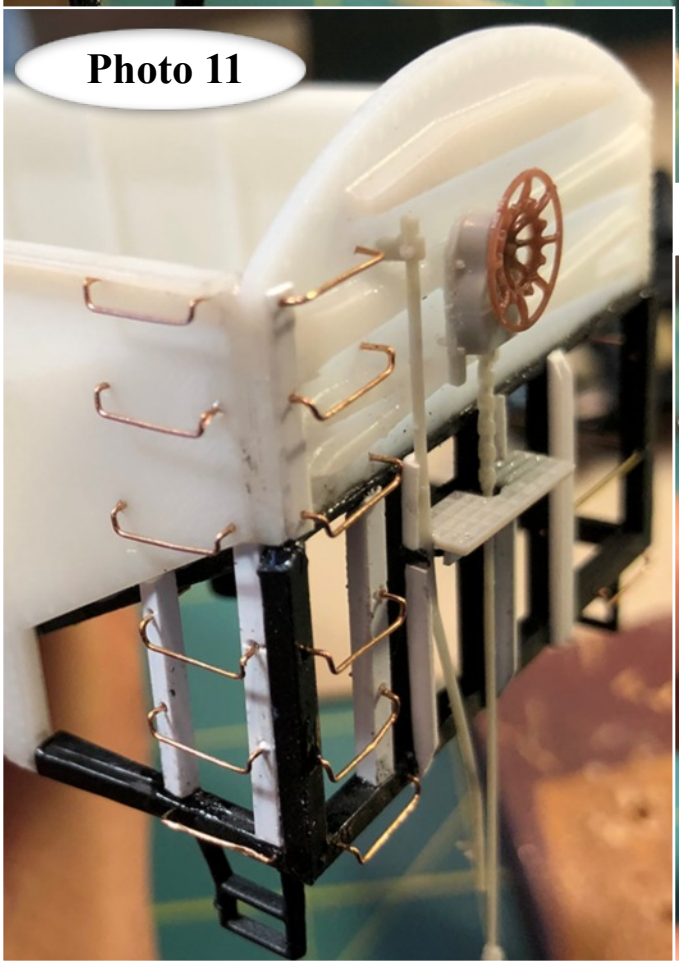
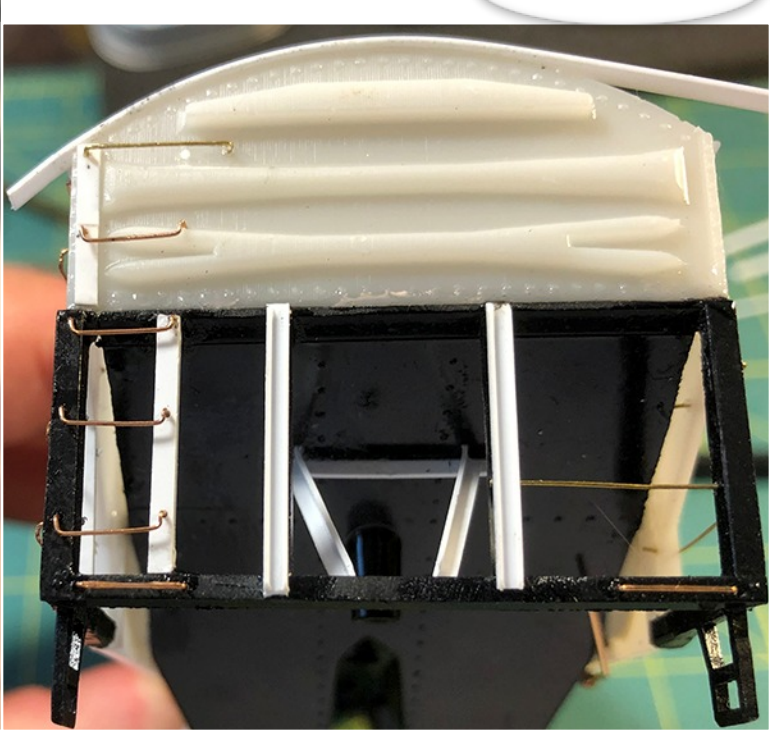


Photo 9

The C&O cars were unique in their use of 'C' channel steel for support posts on the hopper ends. I carved off the angle material from the AM hopper and overlayed the posts with pieces of Evergreen 0.080" styrene "C" channel. (Photo 10) The brake parts and retainer valve came from odds and ends of other kit projects in a scrap parts box. (Photo 11) Another finishing step was for the radial dreadnaught ends. The prototype ends have a radially curved steel piece across the top to add stiffness and cover the interior and exterior steel panels. I simulated that by adding a strip of styrene across the top of the ends, cutting it even and filing to taper into the top sill of the side sheets. (Photo 12)

Three 1/8" square pieces of styrene were added as cross braces inside the hopper for stiffness. (Photo 13) It's more of a personal safety measure, to guard against heavy hands squeezing the model too tightly at a show! The prototype had only a pair of gussets in the middle of the car to provide the sides with additional stiffness. Ed Hawkins was kind enough to loan me a GATC construction view (Photo 14) that shows the interior of a 119000-series offset hopper during construction and the placement of the two interior gussets.





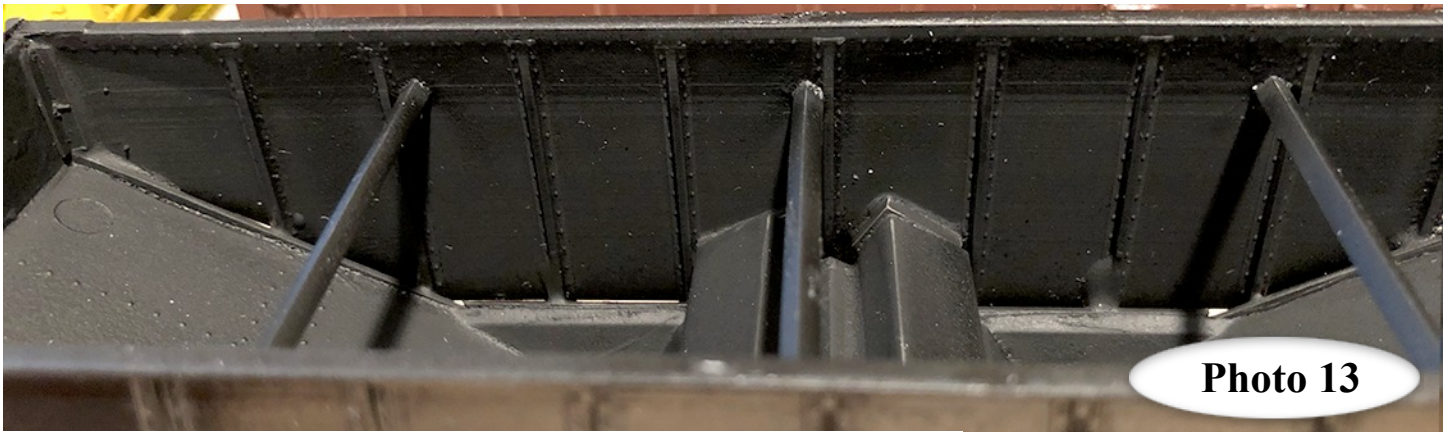


Photo 13

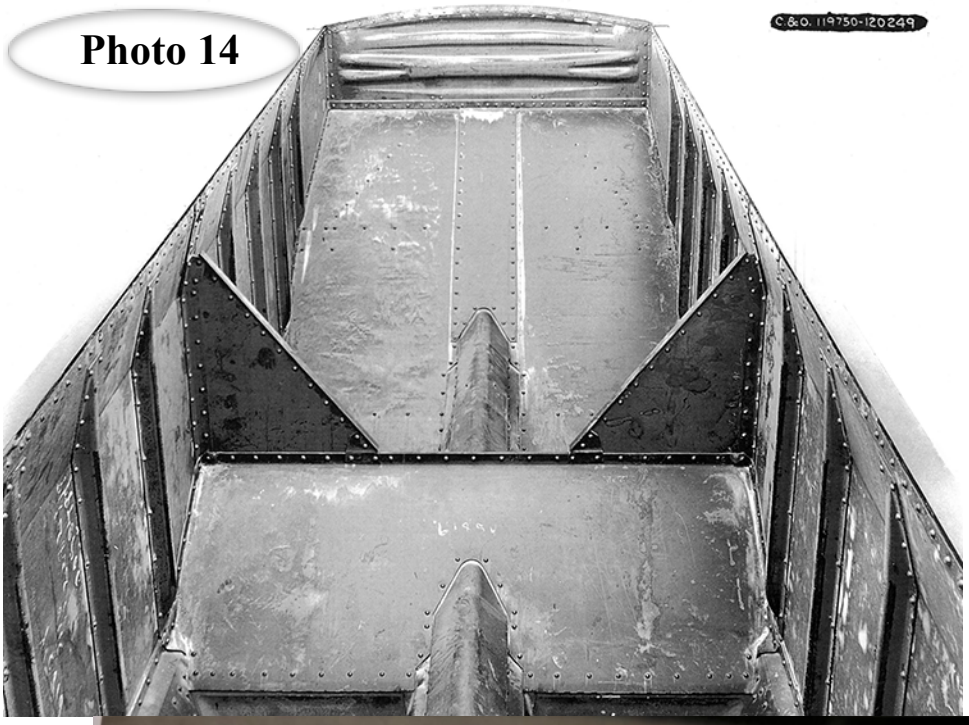


Photo 14

Old box foam was added inside the hopper to support what will eventually be the coal load. (Photo 15)

The model was finally ready for painting and decal work. I lettered this hopper as the car would have appeared when originally built. This was the lettering scheme used from the 1930's through the Second World War and beyond. (Photo 16) As the cars were shopped after 1951, a new paint scheme employing the "**C&O For Progress**" logo began to appear.

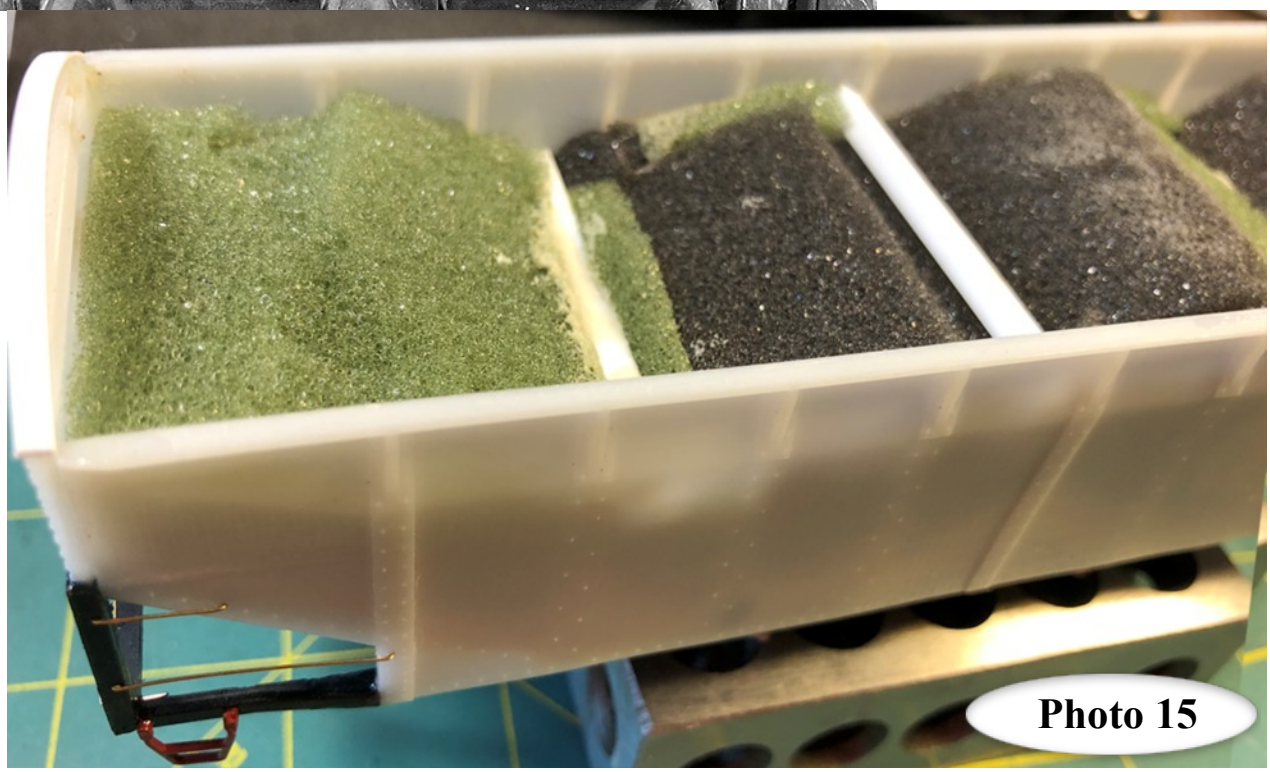


Photo 15

Photo 16

Initially, that logo had a wavy horizontal line signifying steam locomotive smoke but in May of 1955, it was changed to a solid line to recognize the reality of diesel dominance.

Some final thoughts… Scott Mackenzie did an excellent job and I really enjoyed using the 3D parts to convert and build these hoppers to the AMC design (Photo 17), but I must admit the project was challenging. The first part, replacing the ends on an American Models hopper is fairly straight forward and not difficult. The 3D patterns for Dreadnaught ends were sent to Steve Wolcott at Pre-Size Model Specialties and Steve has done resin castings that are currently for sale on the Pre-Size web site. However, replacing the sides is a much more involved project. So far, I have not asked Steve to do anything with the patterns for the sides. While replacing the sides is about the only way to make a correct AMC or AAR Standard 50-ton offset hopper in S Scale, I'm not sure S Scale modelers will take it on in sufficient numbers to make producing resin molds profitable. I only replaced the sides on two C&O models, each with radial Dreadnaught ends, and one NKP hopper with radial notched ends. If there is interest in the AMC or AAR 50-ton sides, let me know through the Editor of *The S Scale Resource*. Perhaps I have underestimated S Scale modelers…

Photo 17

Coloring Brickwork

By Ken Zieska and the PPSSW
Photos by Ken Zieska

I've been busy building structure kits for the Minnesota Heartland. Lots of brick building kits from folks like Monster Models, Pine Canyon and others. And I've given a few clinics and Make and Takes at various meets on building them. Some folks have asked me about the colors and techniques I use on Brick walls, either resin or laser etched. Almost every such building I've built starts with the same two steps:

1) Mist the walls lightly with Krylon #51318 Grey Primer in a rattlecan.

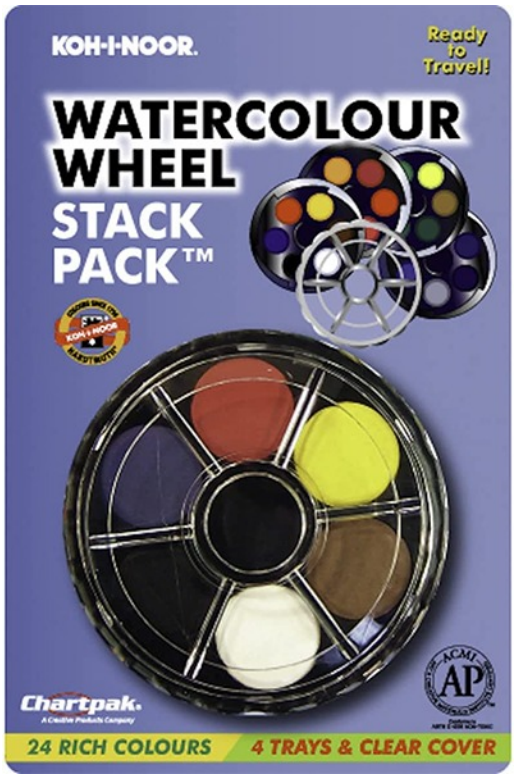
2) Allow to dry and then dry brush these colors on using a 1/4" cat's tongue brush. I get these craft paints at Michael's or Hobby Lobby. They used to be dirt cheap, but recently they've become much more proud of their paints. Watch for a sale or a coupon and save a bit. I like to start with the darkest tint and work towards the lightest. Keep a damp sponge or Q-Tips handy to deal with mistakes.

I like to use this Kodak Photo-Flo to thin the craft paints for dry brushing. The craft paints flow much easier and are much more user friendly.

Tom says he gets pretty much the same result using a couple of drops of liquid hand washing soap, mixed in a couple cups of tap water. Whatever floats your boat Tom.

Let dry again. Then I like to splash on some opaque red and brown water colors, thinned again with the Photo-Flo.

The items above right that look like hockey pucks are actually dry tempura paints. I got them at an art supply company named Blick Art Materials. (Dick Blick listing here and Amazon listing here.)They have a few retail stores here in the Twin Cities, and I'm guessing you have someone similar near you. If not, try the Internet. These things are great, they will never dry out and they're flatter than my cousin Lucy. Mix them with the Photo-Flo and watch them slip into your mortar lines. This 24 color set cost me about 6 bucks, and will most certainly outlast me….



Updated image of product.

OK, so after Cousin Lucy's flats dried, I decided I wanted a bit more "grit" on the walls. Sinopia pigments diluted with Elmer's School Glue (not the Carpenter's Glue!), alcohol (rubbing, not Irish!),

and a couple drops of the Photo-Flo worked for me. The Sinopia color numbers are on the bottle labels in the photo.

So here's a picture of the finished 1st floor…

Having fun? Thanks, Ken

ConditionAire Covered Hoppers

by Tom Lennon - PPSSW

I heard that the Santa Fe Railroad (my personal favorite) had bought into an idea from ACF to build a batch of Center Flow covered hoppers, equipped with heating and air conditioning systems. These cars were designed to transport various fruits and vegetables, mostly oranges and potatoes, fairly long distances, in a temperature and humidity controlled environment. (You ask, "Did they never hear of Reefers or Insulated Box Cars?".) I haven't been able to find any background information on why ACF was offering this design, but perhaps heating and cooling of a sealed car was unique to these cars?

The design challenge here was how to keep the inside temperature stable thru various ambient conditions; sometimes requiring a bit of heating, sometimes cooling, but always needing air circulation to help control moisture. Part of the answer was provided by Detroit Diesel and Carrier. The other part was to spray expanded insulating foam onto the exterior of the car.

After painting orange (they chose to not use SFRD Reefer Orange) and lettering, the prototype Santa Fe cars looked the picture on the right.

I found an N scale 4-bay model decorated in the ACF demo scheme, car ACFX 47622, that was produced apparently by Bachmann. It's a nice looking scheme. In addition to that car, and the orange Santa Fe cars, I found at least 3 lettering variations of NP cars, a couple of pictures of NP cars in a post-merger BN white repaint, and a photo of an HO model car in a post-merger BN green scheme.

I didn't have any unbuilt kits for the Pacific Rail Shop's car, but at some point, a few years back, the PPSSW acquired a carton full of loose Pacific Rail Shops ACF covered hopper shells and parts that could be built into a very close copy to the Conditionaires, so I decided to make a couple of representative models. I chose to do one of the NP versions and one Santa Fe car.

My first compromise was regarding the added equipment provided by Detroit Diesel and Carrier, and perhaps others. I couldn't find prototype plans or information on how or what exactly they built. And while looking thru a couple dozen prototype photographs, I saw several different types of equipment and ducting visible on the ends. I spotted at least 4 different box shapes, usually with some type of grill on one side. I spotted a duct on the A end of the cars, that sometimes passed up onto the roof walk, and sometimes terminated just below the walk. I can see what appears to be an exhaust pipe with a muffler on the end of just the NP cars. Also there are variations to the outlets. But they aren't like either version supplied by PRS. In short, no two prototype cars looked exactly the same.

So here's what I did. I modified the outlets by squaring off the hatch covers, and adding the long tube shaped bits, as shown in the photos. It made the hatches look more like a drop door mounted on a hinge. As long as it doesn't look like either PRS version I'm happy. For the fuel tanks, I used a short length of 7/8" round ABS which I cut to fit between the side rails with a bit of clearance.

I capped the ends with styrene circles and wrapped thin strips of tape to represent mounting straps. I used epoxy to mount them to the underside, between two bays. Then I drilled an 1/8" hole through one side and into the upper part of the tank. I enlarged the hole in the car side to 1/4". I then took a short bit of plastic sprue to make a filler tube. I chucked the length into my screw gun, and sanded it round until it tightly fit the 1/8" hole in the tank. Then I heated the end of the sprue over a candle flame until it softened, and I pushed the soft plastic against the workbench and it formed a flat fuel cap.

I modified the sides of both models to represent a slightly different design. I did this by sanding off the single horizontal rib along the upper side. Because of the textured paint I applied later, I didn't need to be too careful here. Then I laid out strips 0.010"x 0.040 (3 strips flat) and 0.010"x 0.020" (2 strips on edge) of Evergreen styrene on a strip of wax paper. I used Testors liquid cement to weld these strips into a representation of the stiffener seen in the prototype photos. I cut them to length and cemented them in place along the upper sides. It looks like a corrugated strip, just beneath the running boards.

Then I used some 1/8" thick plastic stock to form the duct work. For the NP version, I first milled off a flat area on the roof, removing a bit of the molded on roof walk. A rectangular piece of the 1/8" material was glued there, and a short bit of PRS boxcar roof walk was glued on top of that. The Santa Fe car duct simply ends just under its roof walk. I cut and fit the remaining duct pieces by trial and error. Eventually, I had a good enough stack of plastic that the "orange peel" finish would hide any gaps.

To try and simulate the expanded foam surface, I mixed Durham's Rock Putty (a dry powder filler for woodworkers) with craft paint from Michael's. I don't have a formula, I just mixed powder and paint until I had a consistency that would "stipple" on the sides and ends. I have a bag full of disposable brushes, that I think are called flux brushes. They're a stamped tin body with stiff black nylon bristles. I dabbed them in the mix and then smeared them (a technical term there, "smeared") on the sides, and then stabbed the bristles into the paint until it looked like the photos. I didn't like the look of the prototype cars, and was worried that I'd never get the decals to snuggle down. So I kept my surface thinner. I over sprayed the cars with a gloss paint from rattle cans.

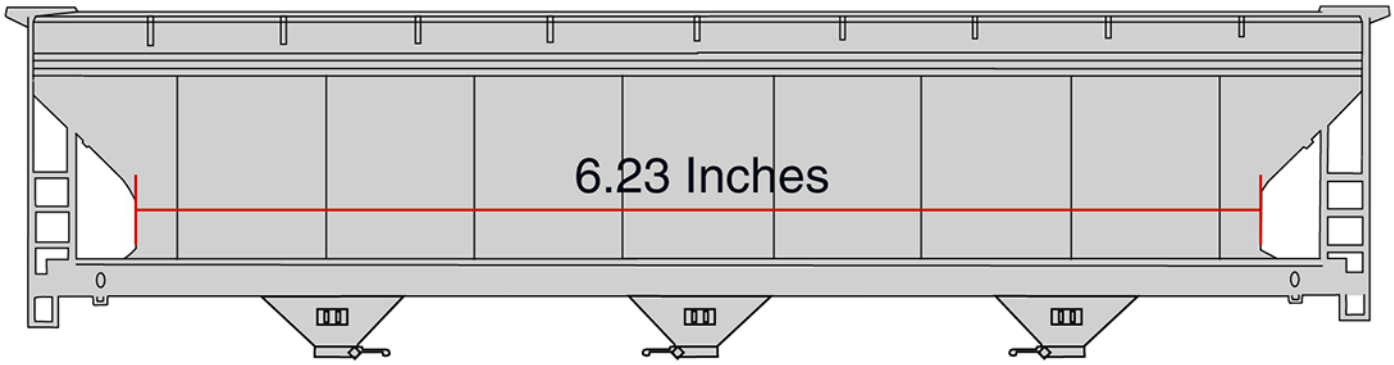
The end platform details were simply found bits from my stash of castings and such. The B end of the NP car has a white metal engine and motor hooked together to serve as a genset. The exhaust pipe is a length of 0.030" florist wire bent to shape, and a couple of bits of brass tubing form the muffler. The other end has a motor hooked to the base of the duct to power the circulating fan, and has a box simulating a cooling system. The SF car has a white metal casting for a control cabinet on the B end, and a pair of enclosures I made from scrap wood to simulate an enclosed genset and chiller. Oh, and the same treatment for its exhaust pipe. I added cut levers and air hoses to both cars.

This project was a lot of fun, both from the searching for info to actually building it. As usual for me, I didn't let a lack of information stop me from building a close representation of a rather unique series of cars, nor dampen the fun factor.

Regarding the Decals

As most of you know, decals in S Scale can be an exercise in resourcefulness. There are a lot of very good decals available (check out Des Plaines Hobbies for a good assortment, as well as Great Decals on-line), or you can scrounge thru preprinted decals in other scales to find items that are close enough, or can be scanned and reprinted yourself. You can also "scratch-print" your own using word or paint type programs. Finding the exact font you need can be a problem, and then there's the issue of printing white artwork. (I hear that owners of HP Laser printers now can buy white-ink cartridges for them.)

I made some progress with the Santa Fe car. I found HO Microscale road name and data sets that would have worked OK. Well, barely OK at that. And I was prepared to use MS Word to create all of the large amount of specialty lettering and warnings found on the prototype. As for the NP car, I didn't find as much. I was getting disappointed when a friend mentioned that at least the NP version of the Conditionaire car had been produced in HO based on the Accurail kit. Another friend, a member of the NP Historical Society, put me onto Digital Fox located in Elburn, Illinois (Digital Fox Services) - Custom Decorated HO Scale Accurail Rolling Stock.



Eric, the owner, was most helpful in supplying resized PDF artwork for both cars. But I'd like to offer up one more lesson here. When Eric asked what enlargement factor I wanted him to re-scale the PDF to, my impulse was to say use 136%, right? 87/64=136. Had I done that the "NORTHERN PACIFIC" text would have been too long to fit the available length of the PRS car side. We agreed to measure the side lengths, but only from the inner vertical edges. His HO kits measured 6.23" and the PRS cars measure 7.87". That works out to 126% enlargement. As you can see in the photos, the decals fit beautifully. I used an HP Laser printer and paper from MicroMark.


SOO LINE
SOO 74139
NORTHERN PACIFI
CENTER FLOW CONDITIONAIRE
NP 419905


HEARTLAND
GRAIN
SOO LINE
SOO LINE
SOO LINE
Santa Fe
Santa Fe
ATSF

New Tracks

Mentor Definition: A Trusted Counselor or Guide

By Contributing Editor Jim Kellow MMR

Modeling with Mentoring from Talented Model Builders and even from Modelers in other Hobbies

"New Tracks" Marketing Program gets some professional advice.

I am extremely pleased to announce that Karen Formicohas volunteered to provide some marketing advice to help guide our efforts to grow viewership on our Zoom shows. Karen is a true professional, and as the Marketing VP of Walthers, is very well versed in the Model Railroad hobby. Thank you Karen for your help.

Door Prizes on our "New Tracks" Zoom shows.

We are going to have Door Prizes on some of our shows. In order to win one of our Door Prizes, you have to be a subscriber to our website, NewTracksModeling.com at the time you are watching the show on Zoom or YouTube. You are encouraged to subscribe as soon as possible to our website because it will take a few days for you to be confirmed as a subscriber. Therefore, to win one of our Door Prizes the viewer must have a valid confirmed email as a subscriber to the NewTracksmodeling.com website and send an email that matches their subscriber email at the time their name is announced as a winner. This procedure verifies you are a subscribed viewer of the show.

Another reason to subscribe to our website NewTracksmodeling.com is to get the latest information about what we are planning on our shows and get the Zoom and YouTube log in links. Again, make sure to confirm your subscription by replying to the email you will receive when you subscribe. Our thanks to Dan Dawdy's company Ribbon Rail Productions for designing and developing our new website. A really great job.

Please also send the Zoom and YouTube log in links to your friends so they can join in the mentoring and fun of our shows. Thanks in advance for your help and support.

Want to have some fun! Volunteer to participate or help produce our "New Tracks" Zoom Shows and articles.

It can be a lot of fun, so consider offering your help in making and producing our Zoom shows and articles. Any amount of time and help you are interested in providing will be greatly appreciated.

Our Zoom show is a live participation show, not just a sit and watch show. We need your help and would welcome any help you can provide. Contact me at JimKellow@sscaleresource.com and let's discuss.

Our "Build Along" modeling experiences give you a personal mentor

Hunterline

Starting on our show September 1st, Rick and Maureen Hunter began building a Hunterline 81 Timber Trestle (Frame or Pile Design) in 30 minute segments ending on our Oct 6 show. The Trestle is offered in N, HO, S and O scales at a great price to viewers of our show. Don't forget to mention "New Tracks" when you order to get the special pricing, and also get Al Collins' Ultimation discount.

I know a lot of modelers have always wanted to build a trestle. Well, here is your chance to build one while watching a true professional, Maureen Hunter, build the model and offer her advice and help for your modeling of the exact same model. Don't miss this great opportunity, but if you do, you can see the recorded videos of this build on our YouTube channel New Tracks Modeling.

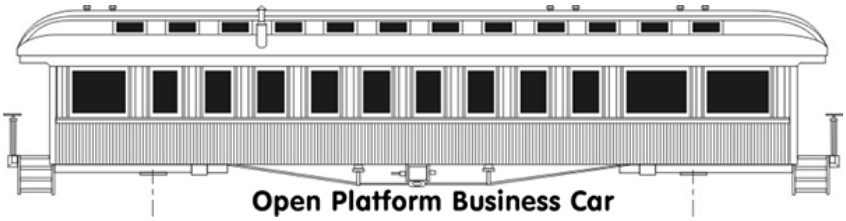
Leadville Designs

Starting September 22, Martin Brechbiel, MMR began building a Leadville Designs, Maintenance of Way O scale kit. There is a 10% discount offered by Leadville Designs on the kit if you mention "New Tracks" when you order between August 15 and September 30, 2021. Leadville Designs was a company that as soon as I read their Website, I knew I wanted to see their models. I think you will agree. Combined with getting modeling mentoring from Martin, it doesn't get any better!

Rail Scale Models

Starting Oct 6, Bill Davis is building a Rail Scale Models, Tobacco Barn Kit on our show. This is Bill's second "Build Along" project.

Stephen Milley, owner of Rail Scale Models, has given a 20% discount for the kit for modelers who want to build Along" with Bill Davis. The discount code is now set up for the Tobacco Barn in all four scales (N, HO, S, O) for 20% off MSRP. The buyer must use the coupon code **NewTracks (one word)** at the check-out screen. This code will be in effect from June 1 thru Oct 30, 2021.



LaBelle Woodworking

Starting October 13, Jim Murphy will be building a LaBelle HO "Business Car" kit. Order either the HO or O Scale Business Car saying it is for "New Tracks" and get a 25% discount. Jim is a very talented model builder and the LaBelle Woodworking Business car is a very special model. Also, Jamie Bothwell has done some fantastic videos on underbody Passenger car detailing that are on our YouTube channel New Tracks Modeling.

Motrak Models

Starting October 20th on "New Tracks" a Motrak Models kit will be built in 4 different scales by 4 different, very talented and experienced modelers, Phil Edholm, Clark Kooning MMR, Bob Farquhar, and Greg Cassidy. The Build Along will continue once a week on our show until it is completed. Thanks go to Jeff Adam who owns Motrak Models for making this event possible. More details on the kit, and the great discount Jeff is going to give, will be available on our website NewTracksmodeling.com. If you want to see how a model is built in your scale compared to how it is built in other scales, these shows will be for you, plus you will see the various modeling techniques used in the various scales. Thanks go to Phil Edholm for suggesting this unique concept. I think this is a great opportunity to compare model building in different scales. I hope you will want to participate.

All Nation

Starting November 6th, David Schultz will build a All Nation Waffle side Boxcar. Please welcome back All Nation to the market. It is a great name from the past in model railroading.

John Wubbel, All Nation owner told me: "I have 2 versions of this kit if I have not mentioned that to you already. I will send David the high end kit which sells for $159.95 plus $12.00 Shipping and handling. This kit is more comprehensive with multiple roof profiles and inside interior walls with detail. This is not a trivial kit to put together, yet should challenge the entry level model builder with plenty of challenges and opportunities to innovate, and think through problems with the differing assembly approaches.

On the basic kit for $109.95 plus $12.00 shipping I can give a 5% discount to your show participants. Make sure to mention "New Tracks" when ordering. However, I would strongly suggest putting in a reservation for a kit(s) as early in advance as possible so I can order enough filament material and start to manufacture the product. I may not be able to take reservations on the high end kit because I cannot tie up the printer farm for extended periods of time since I have to make products for other customers. I will do my best to accommodate everyone who orders.

To order it, would be best that I get their contact information so I can simply invoice them on the basic kit and give the 5% discount if I know they are doing the build along with you. Payment can be made by check, money order, or PayPal using the friends and family transaction."

ITLA Scale Models

Starting on November 10, Nick Massey owner of ITLA and Bryan Schilling, a very talented model builder, will do a Build Along of a HO scale kit which was designed for the 2018 Fine Scale Model Railroad Expo as a Make-n-Take Clinic kit.

Nick told me it is an easy and quick build, this kit represents many of our ITLA design features and 3D engraved weathered masonry. Easily painted with rattle can spray paints and water based acrylics. It Measures 3"L x 3"W x 4"H and can also be built as a background "Flat" 12"L x 0.5"W x 4"H with the side wall returns included. Multiple kits can be chained together! This kit matches our HO Olympia Tool & Die Co. kit perfectly. Multiple Roof Top & Wall details included...chimney, snorkel vent, HVAC ducting, Loading Dock Door, Bumpers, Access Ladder, etc. Separate window headers & sills allow for mask-free painting. Knockouts include model bricked up doors and windows. Color instructions and sign sheet included *(signs will differ slightly from those pictured)*.

Nick is offering a 25% discount on this model bringing the price to $29.99 plus shipping of 6.99. A Discount code "newtracks" (one word) will be in effect from Oct 1st to Nov. 10th in order to get the discount.

Banta Models

Starting December 1, Banta Models' Bill Banta is teaming up with Clark Kooning, MMR for a "Build Along". More details can be found on our New Tracks Modeling website.

I hope you want to participate in all the "Build Alongs". The modelers and manufacturers, who are making these events possible, are doing them to try to help you improve your skills and have more enjoyment and confidence in your modeling.

This program is providing modelers, their own personal mentor on our shows. So if you have been sitting on the sidelines for awhile, give model building a try. I believe you will have some fun. It is really great to hear the enthusiasm, experiences and excitement from first time or previous armchair builders that have participated.

Please show your support for these events by your active participation. Thank you.

I am looking for more modelers and manufacturers to be involved in future "Build Alongs" in 2022. I have two scheduled so far. If you are interested, please let me know. Remember a model builder can select the dates, manufacturer and specific kit you want to build. A Manufacturer can provide the model builder or I will find someone to build their kit. Contact me at: JimKellow@sscaleresource.com.

Special Request to S Scale Modelers and Manufacturers

I hope some S Scalers are interested in being a part of the "Build Along" program. The only way I can have more S Scale projects is for S Scalers to want to do them. This is a great way to showcase the advantages of S scale. Please contact me at: JimKellow@sscaleresource.com.

We have started several New Modeling Segments on our Zoom shows:

"Watch Me Build"

These segments which are meant for modelers to share their scratchbuilt, kitbashed, or kit building efforts and discuss their modeling skills and techniques so others can benefit. These segments can be for one or more shows depending on the details included for the model building presentation.

You may never have shown your modeling before in public for a variety of reasons. I assure you, I think you will enjoy and benefit from participating in these segments. This is a new segment, and it will evolve over time, so please contact me with your interest and help me develop the segment. Contact me by email at JimKellow@sscaleresource.com or contact me by telephone listed on the New Tracks website.

October 6th, Kris Blackmarr is starting his soapbox modeling series. This is great modeling from a talented modeler. Join us and see how he builds his models and why he calls them soapbox models.

"I Have A Question"

These segments are where viewers can ask modeling questions and get answers from other modelers on the show. It is a forum where viewers can help each other solve specific modeling problems or offer advice on modeling techniques. We have a form on our website you can use to ask your questions. This allows us to schedule the appropriate time for this segment on each show.

So far we have had various modelers offer to do segments to answer viewer questions and/or directly contact the viewer to provide the specific information needed. Don't hesitate to ask questions, after all that is how we learn new things.

"Remembering Old Kits"

Modelers will be building kits from our distant past that are either no longer manufactured or hardly available. Kits whose names we may have forgotten, but when we hear their name again, bring back great memories from our youth and remind all of us what modeling used to be like.

The first two segments had Martin Breckbiel, MMR building a Van's Car Shop and a Train Craft kit. As with our “Build Along”segments, these will also be recorded and available on our "New Tracks Modeling" YouTube channel. I hope you tune in to our Zoom shows and check them out. If you have an old kit and want to participate, let me know at: JimKellow@sscaleresource.com.

"Let's Go To The Hobby Shop"

Meet local hobby shop owners who may become your new best friend. I must admit it has been a very long time since I have been to a hobby shop. So after floating the idea of asking hobby shops to appear on our show and getting positive comments from viewers, I decided to start this new segment.

Anita Walter from California was our first hobby shop owner on our June 9, 2021 show. I hope you were able to meet this lady who brought back so many great memories of past hobby shop visits for me. Actually, she planted this idea in my mind. If you missed the show, you can see a video on our New Tracks Modeling YouTube Channel.

Next we featured Mainline Hobbies on July 28th, Nick's Trains on August 7th and JB Trains on September 29th. All of these hobby shops were recommended by viewers, and after talking with the owners, I certainly understand why I wish I lived closer to one of them so I could visit.

I recently talked with the National Retail Hobby Shop Association and wrote an article for their publication called "A Modelers View" where I suggested they open their Association to modelers. It talks about the importance of model builders and mentoring to the hobby shop industry and the issues that we both, modelers

and hobby shops, have in common. It is scheduled to be published in the Association's October Magazine, *Hobby Merchandiser*. I hope it will be well received and look forward to having some of their members on future shows.

If viewers have a hobby shop to recommend for our show, please let me know. There are not many hobby shops left around the country and I believe they need to be recognized and supported. So please tell me about your hobby shop at JimKellow@sscaleresource.com and I will ask them to be on our show.

"Show us Your Modeling"

We have a monthly special "My Build" segment on our show where modelers can show their modeling. The next ones are scheduled for October 27, November 24, and December 22. To participate, all you have to do is send in a photo(s) with captions and your name to Chris Coarse at Chris.Coarse@newtracksmodeling.com to get included in a My Build segment.

Changes to our current "New Tracks" Zoom show schedule.

As of September 1, 2021, we changed the schedule for our Zoom shows from twice a week to once a week. Our show is now only on Wednesday at 7pm Eastern Time.

This change was based on several factors, including marketing advice, and the need for more volunteers to help get our programs produced. If viewer interest and demand for our shows increases, and we attract more volunteers to help produce the shows, we can reconsider restarting the twice a week shows.

Wednesday was chosen based on comments I received from viewers. I was told that Wednesday was the preferred day of the week in order to keep viewers' weekends free for family activities.

Another change is to no longer post separate videos on YouTube for each show's individual segments. The decision was required due to the lack of volunteers to edit and get the segments posted on YouTube. However, we will continue to live stream our zoom shows on our YouTube channel, and therefore have a video on YouTube of our total show for later viewing. Also, we will continue to post our agenda including each show's planned segments on our website so you will be able to see all the segments planned for each show and gauge the approximate time during the show the segments you particularly want to see will be available. This will enable you to go to that video segment of the total show to find a specific segment to view. Keep in mind these are only estimated times and schedules. Since the show is live actual show times and schedules may deviate.

Thanks for your understanding of the need for these changes and your continued support. Our shows started in May, 2020 and we appreciate all of your participation and interest in making them successful. As always, if you have any comments or suggestions please let me know. JimKellow@sscaleresource.com

Now please meet a very special modeler who recently gave me some mentoring.

Pete Vassler

When I was putting this article together, I was told about a company in Oregon that I needed to visit. So I went to the Canyon Creek Scenics website. www.canyoncreekscenics.com and immediately called and talked to Pete Vassler. To give you an idea of the beauty and artistic creativity of several of Pete's conifer trees, take a look at these. As far as I am concerned, these are all foreground trees, but Pete told me that one is a "background" tree. Can you tell which one? Pete is a great guy and a truly creative modeler. Thanks Pete for my conifer education. Please meet Pete and his wife Barbara.

Pete & Barbara Vassler

I started life as Peter Vassler, but over time people have referred to me as 'Canyon Creek Pete' It has a nice ring, so am happy with it. My serious model railroading life began when I saw an N-scale train running around

a Christmas window display in a shopping mall tobacco shop, and told my wife about how neat it looked. Lo and behold, in 1983 as a joke that Christmas, she gave me an N-scale starter set and informed me that the hobby shop had many more things that could be added to 'trick it out' Little did we know what this tricking-out would lead to.

Duane Cramer, the manager of this great little hobby shop, was very helpful in those early days, answering the myriad questions I had, and sent me home with the 50th anniversary edition of *Modelers Railroader* magazine. In this issue, I was introduced to the third of fourteen installments of Malcolm Furlow's building of his San Juan Central HO-scale layout. His amazing scenery and model building captured my interest totally. In short, I was hooked! So, Duane and Malcolm were my earliest of several mentors in this greatest of hobbies.

About 13 years later, we moved and my eyesight changed, so I needed to change scales. I considered both HO and O scales for a considerable amount of time, then settled permanently on HO scale. Later, I also settled on standard gauge logging, Washington state, rainy November, 1956. As my modeling progressed, I needed some nice conifer trees and couldn't find any I liked. Guys were making their own out of weeds, scouring pads and things—even bumpy chenille, if you can imagine what a tree looked like made with that stuff—yuck!

So, I set to making my own and achieved some success at it. Twenty-five years later with my wife, Barbara, we are still at it making conifer trees and forest floor items and offering them to the world via our website, canyoncreekscenics.com.

Additional information can be found at our website: canyoncreekscenics.com where we worked to provide all the information a customer needs including ways to contact us. In addition, all of our products are photographed with product numbers and prices, as well as our company history and future plans, it's all there on our Home Page: https://canyoncreekscenics.com/.

You might mention in your article that if they order and like our products, they write and tell you.

During our conversation, I asked Pete if he would offer a contest drawing and he immediately agreed. The prize will be a Canyon Creek Scenics 12-inch Conifer Tree that can be used in either S or O scale. Here is a photo of the tree. I look forward to seeing the winners use of the prize in his modeling and sharing it in a future article.

To enter the Canyon Creek Scenics drawing, each modeler must complete the form here. The winner agrees to share his completed model with us in a future.

Being a long time member of the NMRA, I understand that mentoring is a big part of what we do, so I'd happy to give those who ask some pointers on how to place trees on their layouts for the best effects, but like I

mentioned earlier, I don't offer classes in modeling scenery, etc., as there are plenty of articles and books on the subject. I can't improve on what others have already done in this area. We do have a Tips Page: https://canyoncreekscenics.com/forest- modeling-tips/ that can provide some help to beginners. You might want to direct them in that direction.

Pete can be reached at CanyonCreekScenics@gmail.com. Thanks Pete for your help and interest.

Now I am honored to be able to have you meet some other very talented model builders who you may want to be your mentor. If so, this is your lucky day. You have the opportunity to get to know them, see some of their modeling, and then contact them, if you want, to discuss your modeling and model building goals. You get to make some new friends and maybe gain a mentor for your modeling, resulting in a win-win situation for all.

Leadville Designs is a company I am featuring on my "New Tracks" zoom shows starting on September 22 with Martin Breckbiel MMR building one of their O Scale Maintenance of Way kits. Please meet the owner of the company. I think you will see why I am so impressed with his models. Yes, he makes S Scale models. It is an honor to introduce him to you. Please meet:

Leadville Designs owned by Bill Meredith

For as long as I can remember, I have loved trains. My dad was a railfan and I think his love of trains rubbed off on me. Each evening I looked forward to working on his English three rail layout in our Ottawa Canada basement. In short order, I was given a Triang HO oval and that evolved into a Tyco based layout. At the same time, I received a Christmas subscription to *RMC* which started arriving in April 1975.

The February, 1976 issue of *RMC* contained a layout feature of Leon Stewart's HOn3 Cumbres & Toltec layout. For the first time, I was able to compare scenes from a layout to actual locations in photos from one of my dad's books. I was captured by the scenes of Chama, Lobato, Cumbres. The mountains, bridges, tunnels…At 12 years of age, I was hooked on narrow gauge and never looked back.

In 1989, I was exposed to the Sn3 PBL Chama layout as well as an off road trip to the Alpine Tunnel station on the DSP&P. I was hooked into S and the DSP&P. Modeling the DSP&P in S meant building everything from scratch. On one level, that drew me closer to the scale and interest. It was mine to run with.

In 1993, I designed the Berlyn Loco Works kit for a C&S Type 2 Sn3 stock car. I used the Brunk drawings as the starting point. I redrew the car in AutoSketch and drew out each part. The drawings were sent to the late and talented Joel Berling who was an extraordinarily gifted tool & die maker. (Joel was extremely popular with many model train manufacturers and a great guy to work with.) The kit was produced and still in production by Precision Vintage Classics.

Around this time, I acquired a large collection of Berlyn Sn3 Mason overrun parts. The box was loaded with boilers, drivers, tenders, domes, stacks etc etc. After some purring and thinking, it became obvious that most of these parts would not be of any use as far as a 2-8-6 is concerned. At this point, I realized that a large assortment of parts would have to be redesigned and etched outside of this effort. I did some searching and found an etcher and went to work in AutoSketch coming up with parts. From this experience, I learned the ins and outs of photo etched metals.

The cost of having the needed parts etched pushed me into making copies available to others. From this "South Park Finescale"was born. The line expanded to On3 versions of the 2-8-6 and an Sn3 version of the

DSP&P Cooke 2-8-0. I spent the next two years developing these kits while also developing extensive instruction sets. The kits included extensive sets of brass etchings, castings, motors drives etc. A lot was learned. Some lessons were what NOT to do ever again.

For the next three years, I ran South Park Finescale through its paces. I attended shows, advertised, and did my best. Even with the support of some wonderful folks such as Dave Grandt, Bill Banta, and John Agnew I still lost my shirt, but I learned so much. As they say about making $100K in the the model train business, one starts with a million.

In 2002, the entire high tech industry crashed and like so many, I was laid off. For the next year, I assembled kits and did custom building to keep food on the table. Building trains became an almost full time job as I was still pounding the pavement looking for a real job.

After a year of building trains, I was back in high tech. At this time, I joined up with Dr. Robert Stears and we started “The Cimarron Works”. TCW focused on producing resin rolling stock kits of narrow gauge prototypes in S and O. Bob and I split building the masters and the actual casting was farmed out. Over the years, Derrell Poole and Doug Junda joined the team. We were quite proud of the kits that we produced during those years. Even so, the market was reticent to adopt resin to the point of being self sufficient. After about five years, TCW was shut down.

A couple of years after TCW, “The Leadville Shops” was born with Bob, Doug and myself. TLS brought out several early Colorado NG freight car kits that used laser cut wood and etched brass, injected plastic and resin components. The laser cut components were provided by Mt Blue. The etched brass components were designed by myself and Doug cast the resin parts.

We took the business model to a level that we were ok with. There were areas that I believed we could have evolved, but we were not in agreement on what approach to take. At this point, Bob and Doug, who live in Colorado & Wyoming opted to rescue Grandt Line and San Juan Car Company. Given that I live in eastern Canada, getting involved in this new endeavor was not a possibility.

At this time, I was laid off from my high tech job. After some serious head scratching and soul searching, I decided to make the move to full time trains. I wanted to take the concepts initiated with TLS to the next level. Understanding that financially surviving this move would require additional revenue streams, I also hung out my custom building shingle. Leadville Designs was created and is now my full time job.

To better control supply chain management, some key initiatives would have to be incorporated. I would have to buy a laser to cut in house and I would have to learn 3D printing. I bought two Chinese lasers off eBay and Amazon and learned on them. Long story short, they did not have the capabilities I needed and were sold. A new 65W laser was purchased from Boss Laser. When it comes to 3D printing, there are two hurdles to overcome. The first being the 3D parametric CAD application and the second being acquiring a good printer and printing reliably. The CAD package I use is Alibre. It took me over a year of tinkering and watching YouTube videos to get where I could design effectively. I started outsourcing 3D printing to a local print shop who has a 3D Systems 3500S. While fascinating, the quality of the prints with the wax substrates eventually fell from favor. I now use a PLA printer and print in house on an “as needed” basis. With having the laser and printer in house, I was able to achieve a just in time delivery model and avoided expensive inventory carrying costs.

In addition to the laser work and 3D component production, I also develop and print kit lettering. I started drawing up lettering artwork 20 years ago for the resin kits. The process involves embedding photos of the prototype cars into a PC graphics package and then carefully tracing all the images. It can be a slow and tedious process, but after a while it gets in your skin and you start appreciating the very subtle idiosyncrasies of each road’s artwork. Over the years, I think I have drawn up somewhere around 100 sets.

How a kit is chosen for production is based on the estimated market size. After some 45 years of narrow gauge interests, my library of drawings and references is quite complete. After the decision is made, a detailed set of 2D drawings are completed. The drawing is broken down into components; wood, OEM injected plastic, 3D printed, wire, and etched metal. The wood component drawings are broken down further into the thickness and type and laid out for laser cutting. The 3D components of the 2D drawings are used to assist in the 3D design in Alibre. As everything is CAD based, ensuring excellent fits of the various components during assembly is virtually guaranteed. It also facilitates any drawings needed for the instructions.

For every kit produced, at least five draft runs of laser components are cut and tested. It's critical that each part fit perfectly the first time during construction. If the parts don't fit, the builder will quickly become frustrated and either question his efforts or skills, or question the quality of the product. Alternately, a kit that's "all together" provides a much more pleasurable building experience and builder satisfaction.

A primary focus is continuous improvement in design and execution. How can this product be more accurate and easier to build? It's not enough to just make another kit of a boxcar. With each new kit, new concepts are investigated to push the envelope of what can be reliably manufactured and with finer detail. Hardware is getting more detailed, more etched parts are being included, laser cut wood components are more accurately reflecting prototype construction. The end goal being a more accurate and easily constructed model with a greater building experience.

Kits are typically comprised of laser cut woods, etched metal, injected plastic details and 3D printed ABS parts. Sometimes brass castings are needed for things such as trucks. For these, patterns are either hand built, or designed and printed and then lost wax cast in brass. I try to minimize the need for brass parts because of the cost. Lettering is also prepared. Most is printed in house, but some outsourced. Finally, instructions are developed and rechecked. Having spent some years as a technical writer in high tech those skills came in handy.

In addition to the kit business, I also custom build for clients. Projects run the range of N to F scales, and consume nearly half my time. The projects are typically quite complex and lengthy, for example P48 scratchbuilt steam locos, and custom drives. Some are simple repairs or locomotive painting and finishing. The custom work balances out the kit business and adds variety. I was fortunate to cross paths with some world class custom builders in Kelley Morris and Larry Edwards. I relished the few times I connected with them to purr over their work, discuss new methods, swap ideas, and thus raise my own bar.

This summer, a brand new product line "Finescale Trains"was introduced catering to transition era standard gauge fans. This new line combines etched metals with the best detail castings to create the finest, never before produced, kits. The narrow gauge line will continue to produce several kits a year that may include golden era standard gauge kits and somewhere down the road, the odd structure may hit the shelves.

In my discussions with Bill I suggested he offer a contest drawing for readers if this article. He immediately agreed, and in order for readers to get exactly what they want to build, he will provide a $75.00 gift certificate to the person drawn in the contest drawing and offer advice to the modeler so he can build the best possible model. The modeler, in return, will share his completed model with us in a future "New Tracks" article. Thanks Bill for this very generous prize.

To enter the Leadville Designs drawing, each modeler must complete the form here. The winner agrees to share his/her completed model with us in the future.

I look forward to seeing the winner's model from the Leadville kit and sharing it with all of you. Good luck to everyone who enters the drawing.

It's been my pleasure to share my experiences and business philosophy with you. If anyone has any questions or suggestions, I can be reached at LeadvilleDesigns@oscaleresource.com and the website is www.leadviledesigns.com.

Here is another modeler I know you will find interesting and will want to meet. He was the "Featured Modeler" on my August 25th Zoom show and showed in detail how he builds his trees and the various materials he uses. You can see a video of his presentation on our YouTube New Tracks Modeling channel.

Roger Rasmussen owner of Coastmans Scenic Products.

I spend about 75% of my modeling time working on my business, Coastmans Scenic Products. The other 25%, I spend working on my HO layout and 3D prints either for my layout or for future products for Coastmans. Here and there I am commissioned to do model projects, usually funded by a grant (Travel Oregon, for instance). I've done two projects for a local group, Cape Blanco Heritage Society. They manage the Cape Blanco Lighthouse and also an area here known as Port Orford Heads. I've done fairly large models for both places, one in S scale, the other in 1/624 scale.

History in the hobby: I have always loved the scratchbuilding associated with railroad modeling. When I was quite young, maybe 12 or 13 years, I remember I followed the "O Model Railroad That Grows" book from Kalmbach. I began to scratchbuild as I could not afford kits for my then 4x8 foot layout. Right away, I found scratchbuilding very exciting because ordinary items were totally different inside the realm of modelmaking. In high school I forgot about this, distracted with everything. Later in my 20's, I rediscovered this passion and started making models of real buildings. I did the Libby's cannery in Kent, WA and I believe it's in a museum there now. That was a huge wooden structure and soon after I modeled it, it was torn down. So I began modeling real buildings of historic value, and it seems they were falling as I modeled them.

But in my early 30's while washing dishes I was looking at a worn out green scrubber pad and thought, "this makes good Douglas Fir foliage", and I stuck it on a chopstick. I always thought there were few good looking fir trees in between bottle brush trees and Pete Vassler's Canyon Creek Scenics trees (which by the way are awesome to this day and totally outperform my trees!) If you haven' heard of Pete's trees check them out on his website www.canyoncreekscenics.com. I saw Pete's trees at an event in Kent, WA in the 90's and I was indeed impressed. But I was sort of thinking about fir tree kits at the time, instead of making trees individually. I dabbled with the idea and even tried making a few kits, but it wasn't until I met a guy that helped me build a few machines that I got started with Coastmans in 2010. Originally, I was just thinking about making the kits and maybe some trees that I could sell at swap meets to fund my own layout. Right about that time, the Internet really started to take off, and it became possible to construct a website without knowing HTML. So I was able to start doing sales online.

I don't know how many trees I've made, or kits I've put together, but Coastmans provides me with about half my income at this point. I'm an RN with my own gig "on the side". I've had a few "large tree"projects too, where the trees are over 25 inches. There's no question at this point I have made and sold thousands of trees.

How I learned to build: I'm self taught. I really enjoy how in this hobby, I would say one is expected to pursue other avenues and disciplines in order to acquire the knowledge and skills to meet the goal, that goal being to make the very best model possible of the prototype idea that "grabs you" the most. I don't know of any other discipline like this one, that is a conglomeration of every other hobby. I've learned woodcarving, photography, photogrammetry, video, sales, Internet marketing, reading historical documents, 3D design &

printing, computers like crazy, drafting, painting, airbrushing, and way more. But I'm not an expert in any field. You get just enough exposure to move you along toward the goal, but I think it comes down to learning to problem solve and you build this mental toolbox that just keeps growing. At this point, I have to write notes for myself (I have a notebook now) where I record how to do something because a year later there is no way I'm going to remember how. There is too much going on!!!

Did you have a mentor or just trial and error? Trial and error, and reading from the magazines, certainly was how I approached everything early on. I didn't feel I had a way to connect with other modelers, or was too shy to try. However, nowadays, if there is something I need to learn, I'll using the Internet to connect (YouTube everything), or hitting up some of my woodcarving buddies to learn about the tools I need to make a certain trunk, or get the right color, or whatever it is. I have friends across several disciplines, from woodcarvers, 3D drafters, and surfboard shapers, so it seems somebody has had to solve a problem before me, you can count on it. I can't stress enough, if you really want to break through in this hobby and come up with something new, you are stepping outside the hobby and bringing foreign ideas into it, I think.

What scale and why that scale: I tend to see everything through HO goggles, that's my default lens. But certainly I've done models in other scales. HO was what I had as a kid, so there's the fond memories and that's what I gravitate toward. S scale piques my interest.

N scale would work perfectly in my home, but I really wanted the radio control battery operated system I've got now (Stanton S-CAB). For a one-modeler approach (I don't know about at a club), the battery-op really saved me (from the DCC world), which for some I understand is very interesting, but I didn't want to put in the time for it. I did however put a ton of time into my GP9 and so far it's the only running loco I have. It's the POTB Cow scheme, but I digress!

What areas will you help other modelers by mentoring: I think I have my expertise in the making of fir trees, but really only by the methods that I have pursued. There are other ways of making them out there and I haven' really tried all the methods or materials. I've probably tried a bunch of ways at one time or another, but because of Coastmans, I tend to make them a certain way. I think I'd learn a bunch from having somebody show me how to make a tree!

About my company: CSP is a one-person operation, and occasionally in the year I get busy so I hire a buddy or two to help out. But mostly it's just me. I make the trees here at home, and I have a shop building I rent so that I can make all the saw dusty stuff like trunks and logs, the dye coloring of things, and the green branches over there. So for me, I spend time at both places. Someday I hope to have all that consolidated under one roof.

One thing for Coastmans that worked out really well, just a lucky break really, is that where I live is home of the Port Orford Cedar tree. This is the perfect material for making model fir tree trunks. This is a "white cedar" material; it' actually a species of cypress. It is soft enough to take on the scribed "bark detail", but tough enough to hold up to the rigors of tree making. Because it is white, not red, it takes dyes and tannins. That was just a windfall (pun!), I had no intention of coming here for the material, I came for the windsurfing!

Coastmans does best if I'm attending to both the model railroad audience and also dipping into some other categories. I've done some artistic projects in the past couple years with the trees, such as an Internet commercial for X- Box video console machine and some rather fancy large Sequoia trees. Also I've made myself available for model projects more on the architectural side of things, like for the museum projects, but those are rare opportunities these days. In the future, I'd like to pursue 3D printed models, as I find the computer work interesting. Again, it's the problem solving that keeps me going. However, I still like cranking out the tree trunks too! I just wouldn't want to have to do it all the time. I don't advertise right now. It seems that amongst this work and my RN business, I'm busy enough.

I really wanted to fill that niche in between the awesome Canyon trees and the bottle brushers, and with a kit so a modeler could make a bunch of trees at cost. I hope that's still the case (I think it is). One 7 inch CSP tree kit makes five good lookin' trees at under $30.

Products and services provided: Fir Trees – all Handmade USA. Fir tree kits, made in USA (but partially of foreign derived ingredients like coconut coir), all parts of the trees kits available separately, and a bunch of other scenery details like Hollow Logs, Bird's Nests, Stumps, StumpStuff, Forest Floor, Logs, and I have the KMP Kits for the historical logging equipment. I'm dabbling in some 3D printing ideas, but I don't have a true product offering yet. HO scale chainsaws? How about auto parts for a wrecking yard scene? I tend to work backwards: If I make it for my own layout, take a photo of it, and I like it, I tend to think more about it as a potential product idea. I have a ton of stuff lying around like this, it just takes time and action to bring it forth into the product realm!! I did a whole 3D printed grain cooperative recently. Took me a year. It would be a great product as a kit, but bringing that about is...another year!

Contact and website, www.coastmans.com (for the trees) www.coastalmodelworks.com (for the architectural stuff and artsy) https://www.etsy.com/shop/Natureshaper (or just Google "tsy Natureshaper" site for artistic stuff) https://www.ebay.com/str/coastmansscenicproducts (this is my eBay store) and Roger's email: coastmans@gmail.com phone: 1-360-820-3553

Coastmans Scenic Products prize.

My future plans include keeping on with the trees and tree kits

Add new items to the line (I have a Ponderosa method fully developed and haven't even made them to sell yet). Explore 3D printing technology & options, possibly some metal castings based on that.

Pursuing more the artistic side of things with the trees, like on dioramas that can hang on walls. We'll see where that goes.

In talking with Roger, I suggested he offer a contest drawing for his trees. He immediately agreed. I think all of us would like to win some of Roger's trees.

ENTER HERE TO WIN OUR COASTMANS SCENIC PRODUCTS DRAWING

To enter the Coastmans Scenic Products drawing, each modeler must complete the form here. The winner agrees to share his completed model with us in the future.

I look forward to seeing how these trees are used by the winner and sharing his information in a future article.

I think if I had to pick one photo of all my models this one is it. Because, in this photo (on the next page), you are looking at a model of the Cape Blanco Lighthouse, with the REAL Cape Blanco Lighthouse right behind it, only available from one location in the world, at one specific angle, and I think the model is a good replica.

Thanks Roger for your help and interest. You can contact Roger at coastmans@gmail.com.

Next ,Please meet a modeler from New Zealand. I belong to a Facebook group that includes Australian and New Zealand modelers. Neil Ward posted an interesting item that I thought was very creative and I contacted him. I found out Neil is both an S and O Scale very talented modeler and, therefore, I want to introduce you to him to give us some "New Tracks" to travel. I have found out from Neil we have a lot to learn about New Zealand modeling and modelers. Neil was a great teacher for me and hopefully will be for you.

Neil Ward:

I was born in Hamilton New Zealand in 1964. I have spent my whole life living in Hamilton. I have traveled to different parts of the world i.e. Australia 7 times, USA 4 times, England. France, Spain, Italy, Greece and Croatia. I'm always happy to get back to Hamilton New Zealand,and this is a small account of my model railway journey, I hope you enjoy.

My first exposure to railways was when my now late father used to take me to the Frankton Junction locomotive depot in the late 60s. At the time, the New Zealand Government railways were in the final stages of phasing out steam and the full transition to diesel.

My father was a driver/ locomotive engineer based in Frankton and used to take the opportunity to go down to the depot and take photographs of the locomotives stabled in Frankton on a Sunday morning. So I got to tag along and climb all over the locos, both steam and diesel. Much to my mother's disgrace, as I would come home covered on soot and grease. So I had a very early introduction to the railway hobby. I guess my main inspiration came from my father and secondly another local modeler working in NZR 1/64, Colin McHarg.

As a child, I had Triang train sets mainly British OO scale, and with Dad's help, we built a layout in the car shed that worked on a pulley system and a ratchet that lifted the whole layout 8ft x 4ft (2400 x 1200mm) up into the rafters of the car shed to allow the car to be parked back inside after playing trains. I later built a second layout in my early teens along the same lines, I quickly become bored with it as I really wanted to make models of New Zealand prototypes. I also enjoyed success playing rugby New Zealand's national game and got to play to a provincial level at under 13. School, and the need to gain an education, and then work took over my life. In late 1981, I commenced an apprenticeship as a Coachbuilder and this is where I started to dream of what could be possible. I excelled in my trade, and in 1984 was awarded the top apprentice in New Zealand for coach building. This gave me a very good understanding of creating compound curves and assembly techniques in the industry that I would later use in my model building. In 1990, I had started to pursue my dream of building New Zealand prototype models. I dabbled in some kit bashing+ of Lima 4 wheel wagons to represent a fairly common wagon used being an Lc.

At the same time, I purchased my first NZR model locomotive Kit set a 1/64 scale North Yard A class locomotive. This was a state of the art kit for New Zealand modelers when introduced around 1986. The kit

Frankton Locomotive Depot 1968 Photo KB Ward

Lc wagon Photo from Internet. Lc wagons were introduced to NZR in 1947.

comprised of a die cast chassis and a 1 piece cast white metal boiler and many brass and white metal castings.

I completed an S scale 1/64 Northyard A kit set. The A class prototype was introduced in 1906.

My next kit build was a quite a bit more complex being an etched brass and white metal kit of a J class locomotive by JG Models. The boiler required rolling and the chassis was etched brass requiring assembly sweating together with solder and the fitting of coupled 8 driving wheels with floating axle boxes and baker valve gear. (See photos next page)

About the time I completed the J Kit set in 1993, my previous life playing sports caught up with me due to a broken wrist I suffered when I was 16. It caused me more problems to my right wrist and after two operations to the tendons in my right wrist my career as a coach builder came to an end.

At the time, it didn't feel like a blessing and it forced a rather radical change in my occupation. After two years of recuperation, thanks to a friend's recommendation, I commenced work for a company that designed and manufactured Drench Guns and Automatic syringes for the farming industry. Primarily my job was model building.

Along the way, due to job responsibility, I also had to first of all learn how to use a computer, and it was a pretty daunting task coming from a work shop environment. I then had to take on design aspects as well. This

Completed S scale 1/64 Northyard A kit set. The A class prototype was introduced in 1906.

Completed 1/64 Jg Models J Kit set S scale 1/64.

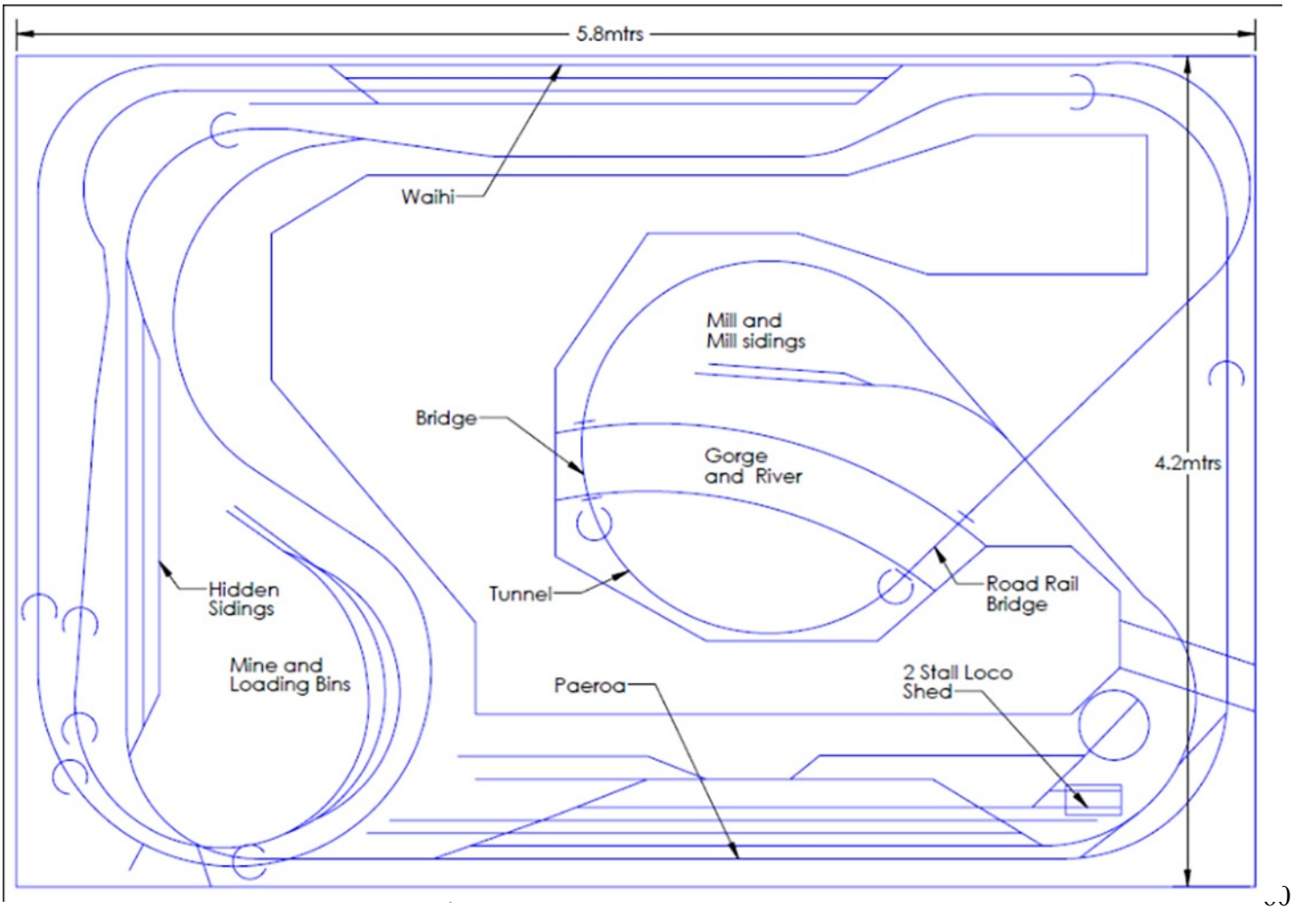
Road rail bridge K909 s scale 1/64.

lead to 1st of all learning AutoCAD and then 3D design software using Solidworks.

At around the same time, I started to build my NZR 1/64 scale layout loosely based on a small section of line between two rural stations, Paeroa and Waihi. The two stations are separated by a rather steep climb up a 1/30 grade through an equally imposing gorge as we would term the geographical feature in New Zealand or canyon in the USA. I started to look for quicker and more innovative ways to build my models. It was towards the middle of 1998 I was first introduced to 3D printing and I saw the possibilities; however, the surface finish and cost wasn't a viable option at that stage. (I will continue this later in the article.)

I progressed with building my 1/64 scale layout and the main feature being the creation of the Karagahake Gorge section which comprised of a double deck road rail bridge (Photo below) a tunnel and a steel through truss bridge.

The one thing I have always found frustrating about the New Zealand hobby is having to build everything from either scratch or from the limited range of Kit sets. So everything in the next three photos are built by me either from a kit set or scratch built. As time went on, I started to work towards making my modeling easier from the point of view of the NZR scene. I was held back in general by the need to be a better than average



Jb1213 exiting the tunnel onto the steel through truss bridge S scale 1/64.

modeler to achieve any sort of quality result, the other option was to pay another more experienced modeler to build you models.

By around 2000, I had built myself a fleet of 20 locomotives over 200 wagons, as well as, close to 400 different items of rolling stock for other modelers. I felt it was time to seriously look at the 3d printed option. My first option was to super detail a small open 4 wheel wagon in 1/34 scale or NZR O scale. I drew up all the parts in Solidworks which was an easy enough task. In this case I went with the option of producing two sides and two ends and assembling the parts to produce a wagon body. I then had the parts required printed in a liquid polymer Stereolithography machine which was pretty much brand new to New Zealand. The resulting prints where used has pattern for use in a Teflon mould for spin casting in pewter. The only issue with this was it still required a skilled modeler to assemble and finish. At that stage the cost was still too high for the market and didn't make any traction as an option. See wooden wagon below.

Further back at the start of my story I mentioned as one of my mentors in the hobby, Colin McHarg. Over the next 4 to 5 years, I designed several one off projects that, in conjunction with Colin, were built in several different wagons using 3D printed one piece bodies and used commercially available chassis to complete the wagons. This was a major step forward for me in that the body was always square and other than peripheral detail like hand rails and in some cases ice hatches requiring fitting. The only drawback was wherever there was curved or angled surfaces, those surfaces required sanding due to laying showing build lines. Some completed examples of wagons are shown in this article. I carried on using this method of producing 1 piece bodies and various fittings to build a number of models. Mostly for myself, plus some pattern work for various other New Zealand manufacturers.

L4 Wooden wagon 1/34 scale NZR O scale.

In 2008, I was approached to design an entire locomotive for a New Zealand manufacturer of a mainline diesel, was and quickly followed up by a 6 wheel shunt locomotive.

Bt wagon S scale 1/64 built on a commercial chassis with 3D printed tank and fittings.

W10 wagon s scale 1/64 built on a commercial chassis the body is printed in one piece.

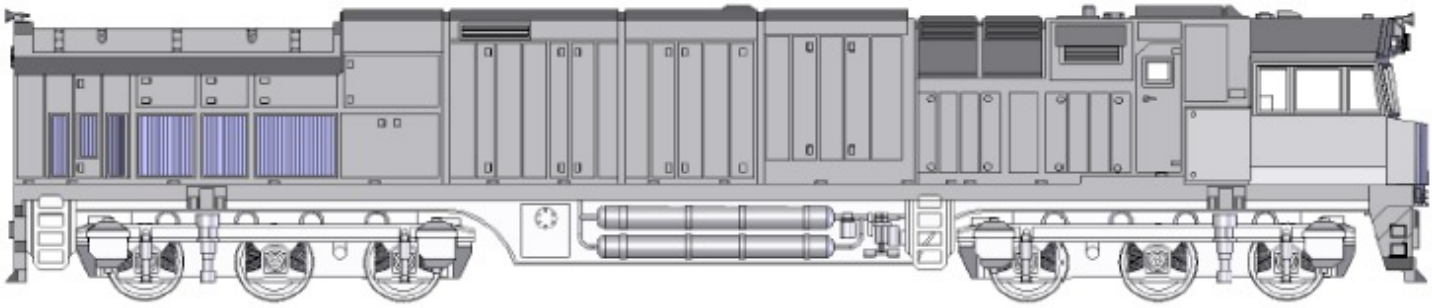
W5 wagon scale 1/64 built on a commercial chassis the body is printed in one piece.

The next fairly major project for me was another commission job to design and build 9 sets of OZ car passenger railcar sets. Each set comprised of 2 x A cars powered units and a B and C car – the C car had toilet/ water closet. The OZ cars comprised of one piece body and floor which were then 3D printed and the 3D prints were used to produce silicone moulds and the body, floor/chassis parts were then vacuum cast in polyurethane. The bogies/ trucks were 3D printed along with a mounting bolster and the 3D prints. These were then used as patterns for Teflon moulds and spin cast in pewter.

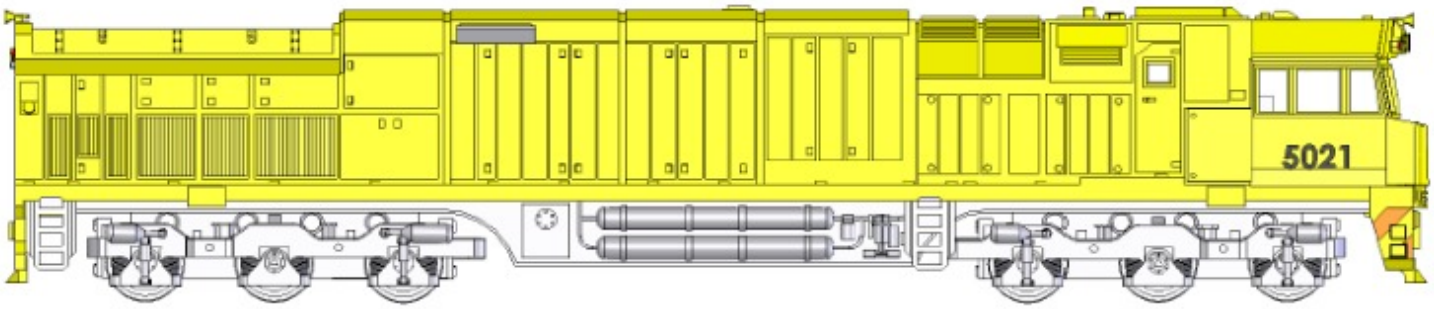
The next evolution for me was following my real dream of NZR O scale or 1/34 or as we refer to them 9mm scale models. I had started to accumulate some kit sets, but wanted more from the scale that was available.

Right: Dsa shunt locomotive S scale 1/64

Left: Dq Locomotive S scale 1/64



C44aci 134Ton Pipe Side



C44aci 180Ton Pipe Side

I spent most of the winter months of 2012 designing and prototyping several models, super detailed in NZR O scale. The 3D data was sent to and printed by Shapeways and there wasn't a great deal of material options due to the size.

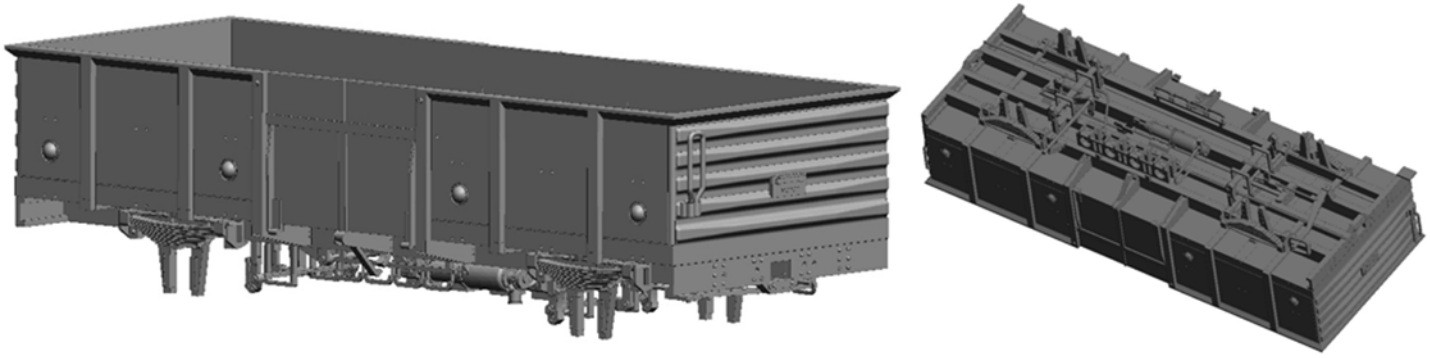
The test prints duly arrived and I set about prepping and assembling ready to print, careful to take note of any areas needing improvement for the next round of printing. Over the next two years, I designed a range of

Ho Scale OZ Car passenger car set.

passenger and freight rolling stock. The models were all one piece bodies with Printed floor/ Chassis. The axle boxes were designed to fit 5mm x 2.5mm x 2mm Roller bearings included in the design Image # 18 is a 4 wheel open wagon printed in sintered nylon.

Left: Wagon 1/34 NZR O Scale. Assembled from a Nine 9mm Scale products Kit set.

Now some of you will have had some experience with printed models from Shapeways and not necessarily been impressed with what arrived. My experience has been mixed; however, I experimented enough to discover the best method for preparing the model for painting. First of all, clean the parts with hot water to remove any powder residue from the sintering process let the parts drip dry and come back in a few days and spray a fist coat of spry putty primer. The wagons with more intricate detail I didn't sand, but in the case of the wagons, and especially the passenger cars, I sanded and resprayed with spray putty primer and sanded back several times for the larger surfaces.



Lc Wagon computer renderings 1/34 NZR O scale (this is a model of the prototype wagon on page XX

Lc Wagon complete 1/34 NZR O scale Shown in two options.

J sheep wagon 1/34 NZR O scale 3D printed as per above specifications, The sheep inside are also printed.

The next stage was somewhere to run the models, and due to the size, it was going to be large. In 2013, Gregor McNeil and I started to have the need to run our growing collection of 1/34 NZR O scale locomotives and rolling stock of NZR model railways on O scale track 32mm. The slightly larger scale means the track with actually works out to 3ft 6in as per the NZR system.

After some discussion, we decided on a conceptual layout based on a small section of track in our home town/city Hamilton NZ.

There was going to be one particular feature on the layout, the bridge spanning the Waikato River, that we had two options to choose from.

3D printed NZR 2nd class 50ft Rotorua passenger car 1/34 NZR O scale. The car is made up of a one piece body. The chassis/floor with all the brake detail and under floor detail is printed in as 2nd part. The bogies are printed with 4 x axle boxes and axle box keepers. The axle boxes are fitted with 2 x 2.5 x 2mm roller bearings. The interior is finished off with 3D printed seats and fitted with people moulded in China.

3d printed NZR URC 1/34 NZR O scale Cement wagon the pods and all the piping is printed in one piece attached to a cradle /carrier to hold rigid, the chassis and all its related pipe work are also printed in one piece. Bogies are printed with 4 x axle boxes and axle box keepers. The axle boxes are fitted with 2 x 2.5 x 2mm roller bearings.

24 F Guards Van 1/34 NZR O scale 3D printed.

Vs wagon 1/34 NZR O scale this designed similar to USA refrigerated reefer. It has saline tanks in the ends as can be seen on the roof of the wagon the ice hatches. This was an interesting challenge as the computer file with all the rivets made the file 120meg and I wasn't able to upload the STL file to Shapeways. The files were sent via flash drive to a local New Zealand printer who had just purchased a sintered nylon machine.

Uc Tank Wagon 1/34 NZR O scale

1. The original Rail and Pedestrian Bridge which crossed the Waikato River at that time crossed the main street of Hamilton Victoria Street. Built in 1884.

2. The second option was the new rail bridge built from 1962 opened in 1964 which required a realignment of the track and a tunnel or covered trench under the main street of Hamilton.

It was settled that we would pick the period pre 1958 which allowed a reasonable range of locomotives steam and diesel as this was also the transition period when diesel was starting to begin on the New Zealand Government Railways as it was known at the time.

Hamilton Railway Bridge pre 1958. From the eastern side looking toward Hamilton City.

Hamilton Railway Bridge post 1964. Similar angle with a modern train on the new bridge the structure behind is the bridge I have modeled which is now a road bridge.

Above Left: 29 Hamilton Modules.
Above Right: 30 Ready for Track laying.
Far Right: 31 PC Board for Track alignment at the module join.

I sat down and worked out to comfortably fit a reasonable amount of the Hamilton and Claudelands railway stations and yard detail onto a modular display layout. The module would need to be 800mm wide. The modules are each 2300mm long. You ask why 2300mm long? This is an agreed standard length module we use for our display layouts at the Hamilton Model Railway Club. This allows us to fit the module length ways across the truck we use to transport the club layouts to the various shows we attend in the Waikato area.

The first stage comprised of 4 x modules made to the above described sizes. Which would include the Hamilton Station mainline, a crossing loop and several other features of the Hamilton Station, the main street level crossing, and a curved section leading up to the bridge. The first batch of Peco flat bottom O scale track was purchased along with 5 right and 5 left hand Peco flat bottom medium radius points. We choose to use Peco track as it was, in my view, going be a major undertaking to hand lay and then maintain reliable running on a portable layout with hand laid and hand-made points, and it wasn't something either of us wanted to entertain. Each join between the module's track has been cut, after the track is soldered to PC board nailed directly into the base boards with 2mm dowels in the in one end of each module for alignment.

The second stage was the purchase of timber to build four more modules to the same dimensions to represent the Claudelands railway station and yard. At this point, there were three more modelers (Trevor James, Selwyn Martin and Warwick Simpson) who joined the group and we purchased 96 meters of track and 10 sets of left and 10 x sets of Peco flat bottom points to further expand the layout. There was some pressure now to have at least a

point to point version operational for the New Zealand Model railway Convention to be held in the Te Rapa race course over Easter 2014. We duly showed up with bare painted boards with two station yards and not much else.

Hamilton Railway yard 1st outing Easter convention April 2014.

In the meantime, I had been designing in solid works a bridge to span the Waikato river section of the layout. This was to be as described earlier in the pre-1958 configuration. I tapped into my now late father's memory of working on the trains as he had been a driver on the old NZR from 1953 until his retirement in 1990 and living in Hamilton from 1944 until his death in 2016. He had a wealth of knowledge and photographs for me to trawl through for any detail I could find.

Designing the bridge, I had several issues to overcome and the height from the rail head to the usual river level was 25mtrs. The length of the bridge is 900ft or 274mtrs in length. Each span would need to be 900mm long. This would have meant the actual bridge would need to span 2 of the 2300mm modules. I thought through the limitation of the module construction and the idea of having to remove the center span for transport and storage wasn't appealing. I decided to go for a compressed option and each span would be 600mm long to allow to the bridge to fit into I module. The next set of problems was how to manufacture the bridge. I explored using laser cut steel for the main sections of each span. Then using brass sections and cast pieces to assemble the bridge. I then opted for full rapid prototype sections of the spans and with other mean of tying the model altogether. I set about designing the bridge and obtained quotes as well as designing a module around the bridge model based on the usual 800mm width and 2300mm length.

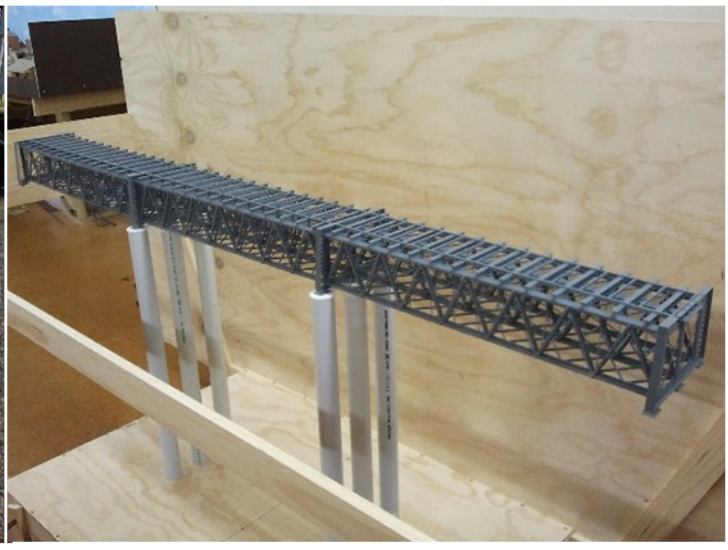
The module was constructed one very cold Saturday morning in May 2014 and then stored in the Hamilton Model Railway Club rooms and over a period of time as the bridge was assembled and fitted. In early 2015, the bridge module and one adjoining river road module were taken home to my garage to continue scenery construction.

The scenery is constructed on a carved polystyrene base the covered with paper towels soaked in a gib stopping plaster mix with sawdust and brown dye.

Hamilton Bridge 3d printed.

Hamilton Bridge ready to fit to module.

Hamilton Bridge and module.



Hamilton Bridge Construction.

The next showing for the layout was to be labour weekend which is a 3 day bank holiday in the middle of October 2015 at the Hamilton Gardens Pavilion. This showing of the layout required 27mts in strait line of space for the layout. This was the first outing of the Hamilton bridge module with scenery on either side of the bridge largely completed.

38 Hamilton Bridge and module.

Hamilton Bridge and embankment frame.

Hamilton Bridge and back drop.

Embankment carved polystyrene.

42 Embankment after plastering.

44 Bridge plastering.

43 1st layer of scenery applied.

Bridge 1st layer of scenery.

Hamilton Bridge and module October 2015. Ka941 on Rotorua Express.

The scenery is teased out carpet underlay that I dyed olive green and smeared copious amounts of PVA glue on the plaster surfaces were I wanted the under foliage and when I had applied the first layer of teased out carpet underlay I used various textures and colours of woodland scenic foam sprinkled over the carpet under lay base the sprayed PVA that I had watered down to around a 60% water 40% PVA glue mix with a table spoon of dishwashing liquid. Trees are produced by various means.

The bulk of the trees in the river bank are heather harvested from the road side close to home, The trees that are more visible are made from heather that has been chewed by cattle and become more tree like in their structure similar to a bonsai tree. The tree like structures were trimmed where necessary and sprayed with Ado's contact adhesive and sprinkled with various types of woodland scenic foam. I have also started spraying the coated trees with a clear spray paint from a can to help hold the tree foliage in place as the constant shaking during transport has shaken the foliage of some of the earlier trees put into place. The flax bushed and cabbage trees more native to New Zealand are printed on a light green paper for the flaxes and a light yellow paper for the cabbage trees. The paper is cut out and rolled to for the leaves, then the leaves are pilled on into various position to form the finished tree heads or flax bushes.

The buildings visible have 3D printed frontages and the main structures are foam card either painted or brick paper applied, the windows in both buildings are 3D printed. The small crossing keepers hut is a one piece 3D print. The yard crane is also 3D printed. Most of these items could become an article on their own.

We quickly found out the limitations of running trains point to point on a large layout. I started dreaming up in my head how to design modules to make the layout a continuous loop.

The next stage was the construction of the end modules. This required 4 modules on each end mitred, the long point or side is 2300mm and the short point or side is 1800mm. This allowed us a radius of around 2600mm to work with, a little tighter than we would have liked, but workable. Timber was purchased and assemble into modules with the aim of having a complete circuit for the Hamilton Model Railway Club Show in

Hamilton Victoria Street October 2015.

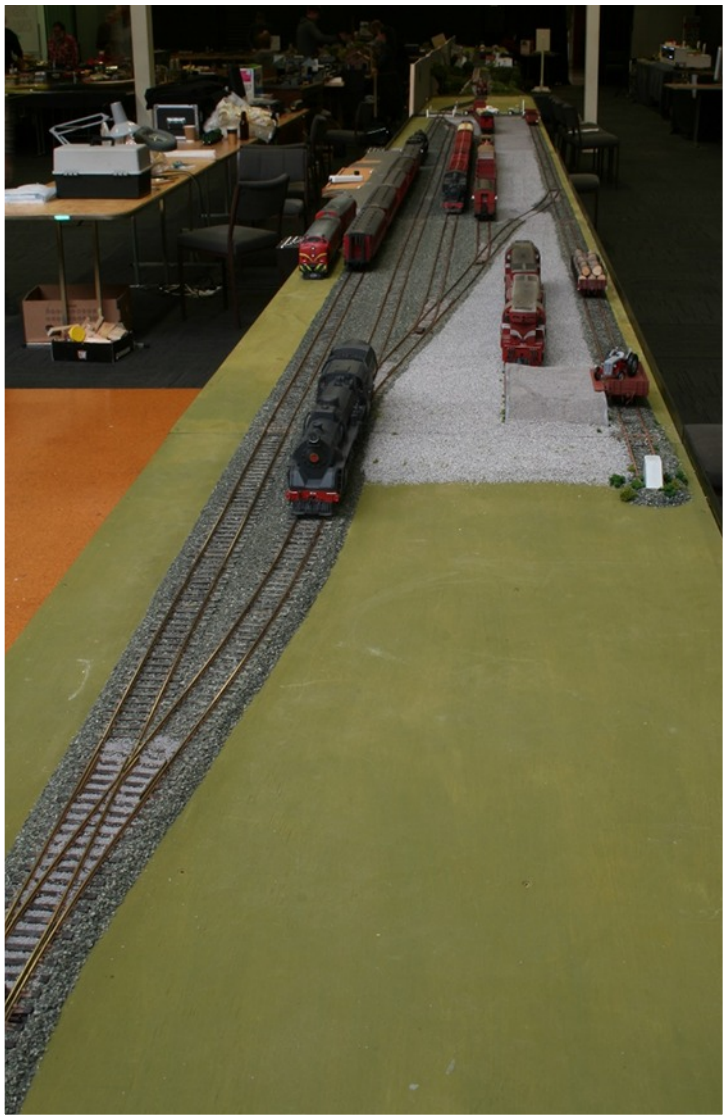
Image # 48 Hamilton River Road embankment module October 2015.

Image # 49 Hamilton Bridge and module October 2015 Da1415 on goods train.

Te Awamutu in May 2016. We managed to achieve this with bare boards other than track no ballast applied, but made it to the show none the less.

The next year didn't see a lot of construction carried out due to other commitments. The next show was to be the Hamilton Model Railway Club show in Morrisville in April 2017.

I believe my greatest achievement in my model railway journey is the design and building of the Hamilton bridge model. I don't think I will surpass this as I only have simple scenery left to complete on the modular layout, and have a few decisions to make as to weather is pursue building an O scale layout at home. I hope I have kept your interest as a reader right till the end and thank you for allowing me to share some of my modeling with you as readers.



Claudelands yard looking towards Hamilton October 2015

If you feel I can help you in your modeling please contact me at neilwardnz@sscaleresource.com

End modules track laying.

Assembled Layout at Morrinsville April 2017. The layout in this image is 22.7mtrs long x 6.1mtrs wide.

End modules 1st outing Te Awamutu May 2016.

Ab733 on Hamilton Bridge note the back drop is a photo looking south down the river from the middle of the actual bridge over the Waikato River some of the modern buildings on the river banks were photo shopped out of the image. The image was printed on a self-adhesive label 2300mm long x 1500mm wide. The locomotive is brass and originally built by the late John Gardener. I re-built, painted and weathered in 2005 when I 1st purchased the loco, the loco is fitted with a loc sound 3.5 decoder.

Hamilton 9mm layout progress:

This is all a work in progress there is lots more detail to be added to each section the main aim is to show the public that each time we take the layout to an exhibition we have made some progress.

A overview of the most recent work on the layout. We have added over the past year since the layout last outing the tunnel section, Loco depot with workers compound and the railway settlement.

The Cluadelands end.

Loco depot loco shed tarted up from Auckland 9mm layout.

The Hamilton end.

Back of the loco shed with workers huts. The huts are 3D printed.

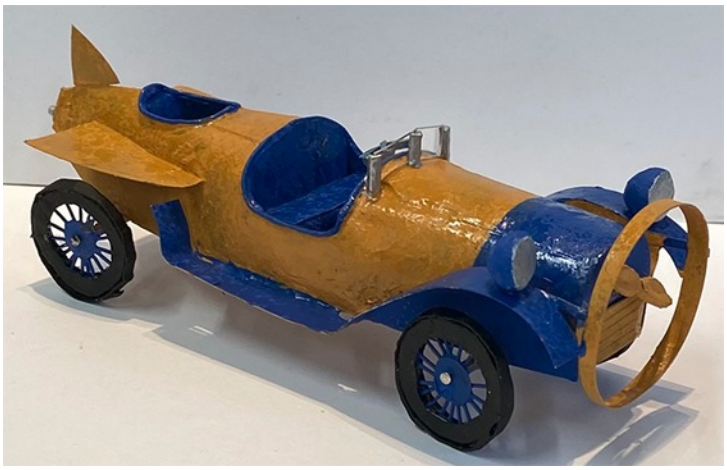
Railways half houses are 3D printed, and each house has a letter box with the owner's name on them.

Overview on the whole layout showing 7 x modules still needing some kind on scenery.

Well that's it for this "New Tracks" article. I hope you enjoyed it and learned a little. Please follow my Facebook page "Jim Kellow MMR" so we can stay in touch between articles. Also please subscribe to my website, NewTracksModeling.com to get log in links to my Zoom events and be eligible for door prizes. As always, please give me your comments, suggestions, and modeling ideas.

Time for me to return to my workbench.

Speaking of my Workbench here are some models I recently built. .



Prototype 1932 French Helicron, wood body with metalwork painted Blue wheelbase 109", prop 51". My model is Scratchbuilt in brass. Wire Wheels are brass and Card. I did not have a model engine so I covered the engine compartment and put in radiator. Otherwise, the model is fairly representative of the prototype. I had a lot of fun figuring out how to build this model. It is something different you will not see on many model railroads. My kind of modeling!

My plantation just had to have a greenhouse. My model is made in card from a photo. I just need to get it located and filled with plants. I know… too much time on my hands! But I'm having fun.

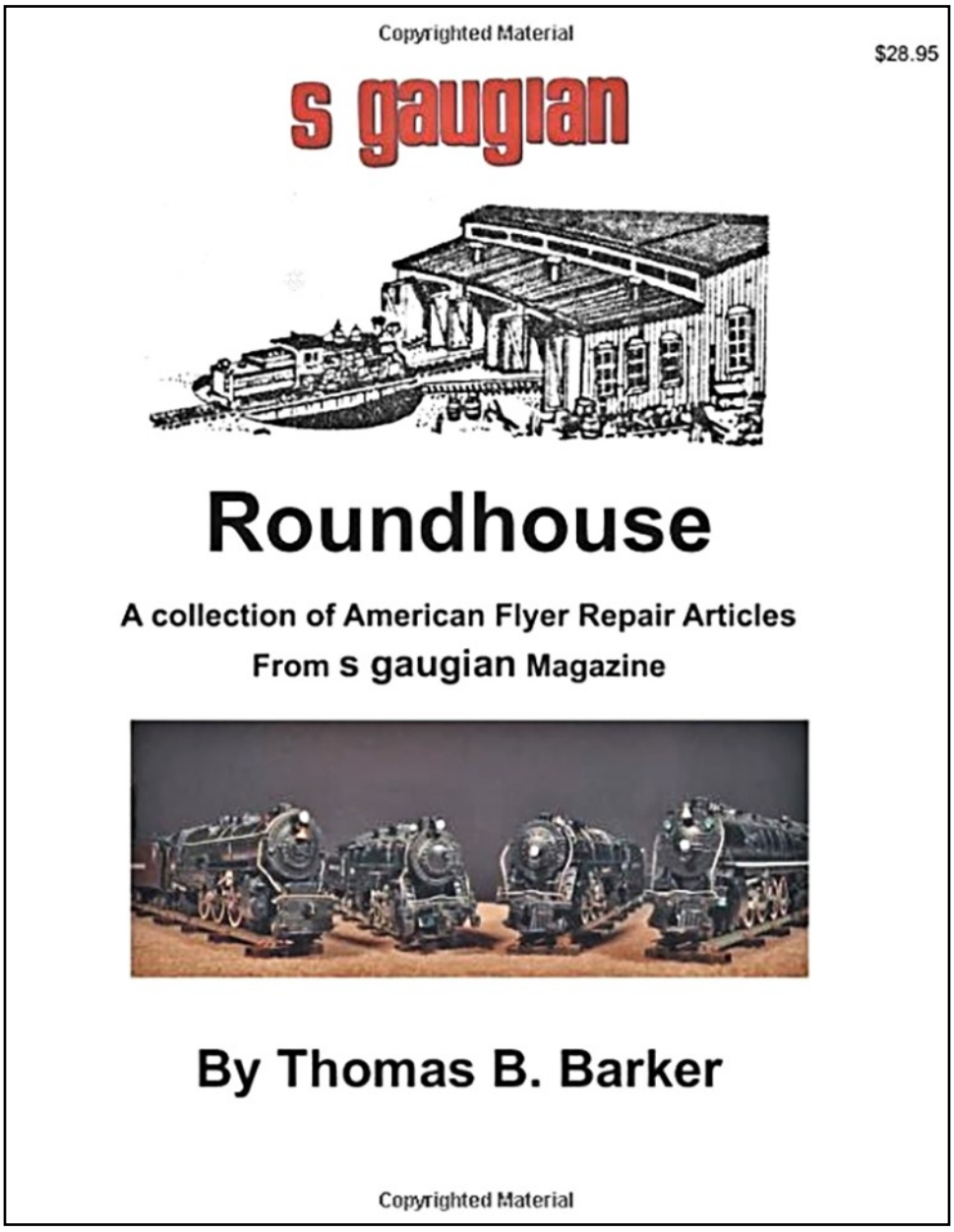
I could not resist scratchbuilding this 1930s truck in brass. The logs and wheels are card. It was a fun build for my traction line.

If you have a photo of something a little, or a lot different or unique, please send it to me. I am always looking for something to build.

Thank you for reading this far. I really appreciate it. As always, best of modeling to you. It really is fun.

Roundhouse: A collection of Articles From S Gaugian Magazine (Repairing and Operating Gilbert American Flyer Trains and Accessories)

By Michael McConnell



Editors note: Although we are a scale magazine, we thought this would have historical significance as many came from the hi-rail world or got their start in model railroading there.

Thomas Barker, known for his published books for repairing American Flyer products, has just released a collection of his "Roundhouse" repair articles that appeared in the S-Gaugian magazine between May, 1973 through January, 1987 - a total of 71 articles.

I had clipped many of the articles to save for later reference, but I didn't get all of them, and the articles had a lot of advertisements. Now, I have all of the articles in one place in a nice bound soft-cover book of 211 pages. It stacks neatly alongside Bob's other repair books on my shelf.

The important things first. The articles are not photocopies, they are newly typeset in a readable font making the text clear and easy to read.

The book includes a table-of-contents that lists the title of each article, giving you a good idea of the topic covered in the article. But since Tom usually covered more than one subject per article, you'll find the index at the back of the book invaluable for finding relevant information for your repairs. For instance, if you want to find tips on repairing the smoke unit on your steam engine, article #3 (Sept, 1973) is titled "Smoke and Choo-Choo", a pretty logical starting point. But if you check in the index for "Smoke", you'll find about 10 other articles that also touch on smoke unit troubleshooting. Add other search topics like "Nichrome Wire" and you'll find even more tips.

Tom's writing style is easy to read - he describes things well and gives clear directions on how to make the repairs. Tom also gives tips on how to make custom repair 'tools' using common items that don't cost an arm

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Roundhouse

A collection of American Flyer Repair Articles From S Gaugian Magazine

ROUNDHOUSE IS BORN

Since my first **s gaugian** column in May 1973, there had been 71 sessions in the Roundhouse. I covered topics from air-chime whistles to yokes. I had received thousands of letters requesting information on repair, operation, and restoration. I've given away nearly a half mile of #40 nichrome wire for restoring smoke units.

The most common question that readers send in still involves the wiring of the engine to the tender and the problem of the sticky reverse units. The fix for this problem is still to lubricate the entire mechanism with contact cleaner and to make sure the brass lever that engages with the gear which is part of the drum is straight and not bent downward.

In thumbing through the many issues of the **s gaugian** to construct this compilation, I have been reminded that there is a lot of wisdom in those columns – from both readers and my experience.

Yet with AF repair, we all are still learning what is necessary to keep these fine trains running for the next century and beyond.

Tom in his Roundhouse1979

Gilbert Plant 1974

ISBN 9798702584300

and a leg, like modifying inexpensive automotive battery cable pullers to pull the engine wheels off their axles.

All of the diagrams are also clear, obviously reprinted from the original images and not photocopied from the magazines. A lot of the diagrams are hand-drawn, done in the day before CAD programs were the rage. That's not saying they are hard to understand, they're just not as sophisticated as today's efforts.

In the articles, you'll also find some helpful tips that are gems - how to make simple castings of things like mailbags using modeling clay and casting plastic. Other tips are a bit more "out there", such as using 45 caliber bullets and wooden dowels to make self-righting milk cans. That obviously was in the days when you could still afford to buy ammunition!

One other comment, Tom was good in supplying sources for tools and materials in his articles, and many of those sources are no longer around today. The book references have all been updated with notes on alternate sources now available, or at least a description of what to look for. Some repair items are considered unsafe or toxic today - and appropriate cautions and alternate suggestions are noted.

American Flyer S-Gauge has been around since 1946, and the technology of the engines themselves haven't changed, so none of the articles are "out-of-date". Some replacement parts may be harder to find, but the techniques are still sound. One caveat, you won't find much help in this book for S-Helper, American Models, or Lionel products - it's strictly meant for old-timers like me wanting to keep original Flyer 'Flying' on the tracks!

You can find the book here: https://amazon.com/dp/B092HCS4FQ

S Scale Shows & Meets

Grand River Valley RR Club
October 9, 2021
10 am - 3 pm. Enjoy 203 vendor tables of trains and model railroad supplies in all scales, RR books, photos and collectibles. Operating Layouts**:** G, O - Lionel, On30, S - American Flyer, HO, N and Z Scale plus huge LEGO Layout and play area for children. Hands on "Thomas the Train" layout and play area for children. Drawing for "Thomas the Train" Lionel electric train set - Food - Door Prizes - Free Parking. Admission: Adults $5, Children 12 and under free**.** Vendor tables $18. Contact Ken Skopp: 616-667-9680, kwskopp@gmail.com or visit our website http://grvrrc.org

O & S Scale Midwest Show
September 17-19 2021
Indianapolis, Indiana

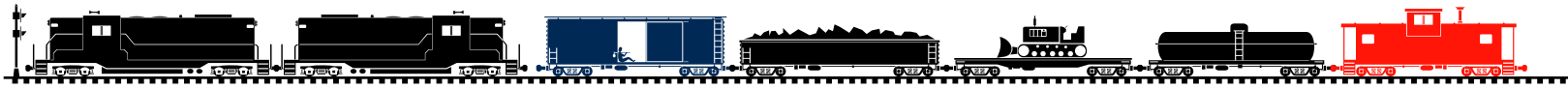
New dates announced for this year:

October 8th through 10th, 2021
This is a dedicated 2 rail O Scale and S Scale show; however, we encourage and welcome the many modelers and collectors from the 3 rail and high rail side of the hobby to attend. There are many aspects of the hobby, including building, scenery and more that applies to any scale. Moreover, this show is a great place to get inspired while meeting old friends and making new ones!
Website: sscalemidwest.com/
Email: info@oscalemidwest.com

S-FEST 2021
An Annual Midwest S-gauge & S-scale Event
November 5th through November 7th, 2021
Four Points by Sheraton
5311 S. Howell
Milwaukee WI
Hosted by Badgerland-S-Gaugers
Website: trainweb.org/bsg/events/sfest.htm

O Scale, S Scale, Narrow Gauge West
May 27-29, 2022
Hyatt Regency, Santa Clara
5101 Great America Parkway
Santa Clara, California
O Scale – S Scale – Narrow Gauge West is the largest 2-rail O scale convention west of the Mississippi, the largest S scale convention west of the Mississippi.
Email: info@oscalewest.com
Website: https://www.oscalewest.com/

2022 NASG Convention
August 2nd through 6th, 2022
2021 NASG Convention
Buffalo, NY.
A true cross-border event, the "Buffalo CanAm" is hosted by both the Western New York S Scale Association and the, primarily Canadian-based, S Scale Workshop.
The 2021 NASG CanAm Convention will be held in Buffalo NY, August 2-6 at the Buffalo Marriott Niagara in nearby Amherst. The city of Buffalo has undergone a stunning revival in recent years with its downtown Art Deco architecture, its lakeside setting, and its extensive rail facilities. Mark it on your calendar as a "must-attend".
Check their Website here!



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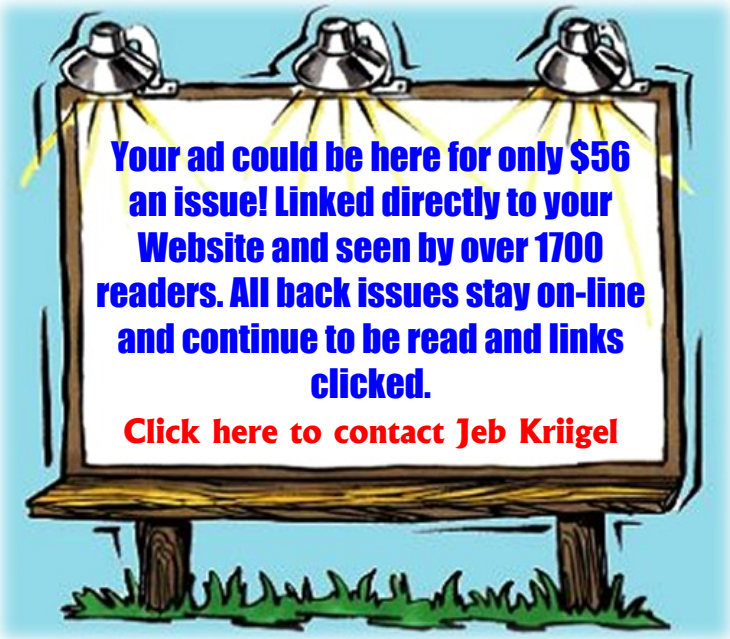

Yes, we now have a Facebook page to help keep you up to date on new products and ideas. And, even in an on-line magazine, we sometimes have more pictures than we can use, so we'll post them on Facebook.

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