The Local

Official publication of the Mid-Eastern Region, NMRA – A tax-exempt organization

SEARCH

We hope your Holidays were great! We wish all of our members the best of everything for the New Year.

The Local has a fresh new look this year! There are lots of great articles in this issue. After a little nudge at the Altoona Convention, we've received much more content. Thank you! This promises to be the best New Year ever for the Mid-Eastern Region and for *The Local*. The Carolina Piedmont Division is already gearing up for a super Convention in September. We are chock full of new modeling ideas and techniques. You're going to love it!

The Chesapeake Bay & Western is Soaring to New Heights in Grafton, VA - (Photo by Greg Warth)

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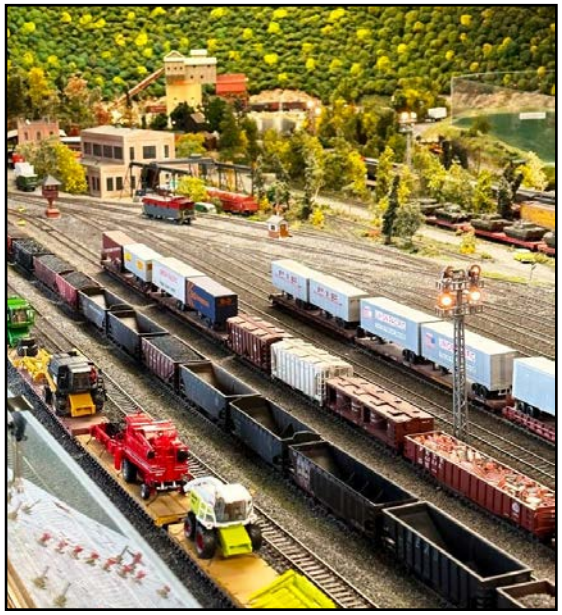

Clinton Central (Photo by Jerry Lauchle, MMR)

Alto S Scale Layout, American Flyer

(Altoona - Photo by Jerry Lauchle, MMR)

President's Column

The Drawing Board

By R. Scott Unger

Over time, railroads have invested considerable effort and capital in planning. In my previous career, I managed the land development department of a consulting engineering firm. One of the coworkers in the department had a poster of Mt. Rushmore on the wall above his desk. The caption on the poster read something like "three surveyors and another guy." I guess from a railroad perspective it is not entirely surprising that Teddy Roosevelt was the only Mt. Rushmore President who was not a land surveyor. Railroads relied heavily on the abilities of skilled surveyors to determine the shortest route with the shallowest grades. Coordinating the two ends of the transcontinental railroad to meet at an exact elevation, latitude and longitude was no small accomplishment. While some parts of the original route joined at Promontory Summit have since been revised, much of that transcontinental alignment is still in service confirming the effectiveness of its original planning.

The meeting at Promontory Summit also required accurate planning in the fourth dimension as the construction schedule had to be managed so that both ends arrived at the designated point at the agreed upon time. In addition to driving advancements in surveying methodology, railroads also spurred advancements in accurate timekeeping. Planning passenger schedules and coordinating timetables required accurate timekeeping. While pocket watches existed for more than 300 years before the first railroad appeared in the United States, railroads were key in the development of stringent standards for both time pieces and time keeping.

The massive capital investments required to build railroads justified the commensurate efforts utilized to plan them. But because of the sheer size of the investments (much of railroad history is marked with frequent bankruptcies) railroads also developed business tactics to increase economic returns on their investments. Railroads made deliberate efforts to attract new customers to the towns located along their established rail infrastructure, a practice that helped to advance the concept of economic development. I transitioned to my current career in economic development almost 16 years ago, and working with startup businesses is one focus of our economic development efforts. A business consultant that we interact with frequently states that "To succeed in business you must have a plan… and the plan is always wrong." His comment is not intended to suggest that planning is futile, but rather an iterative process. Having a plan gives you a meaningful frame of reference not only to work towards but also to adjust from. Even full-size railroads change their track plans occasionally!

Building a model railroad can be a substantial investment in time, space, and capital. Planning is therefore useful in any scale. Like many startup business owners, we can be overly optimistic in planning our model railroads and allocating our time. It can be enjoyable to creatively ponder our future railroad empire. However, planning is not only about determining what could be; it is also important to plan what should not be. Spending some time to identify and mitigate potential problems may not be as much fun but can be a very useful planning process. After developing your initial plan, step back and work to identify the three biggest risks to your plan's success. Developing acceptable alternatives or back up plans to address key risks can help to save time and money, and to avoid frustration. Once you have resolved just these top issues, it is time to start building your next project, continuing to plan and to adjust your plan as you go.

Planning is not only useful for the builders among us. For model railroaders that prefer to buy, sell, or trade various model railroad items, establishing a plan can make the difference between assembling a collection instead of an accumulation. Whatever your model railroading focus might be, do make sure you plan to have fun in 2024!

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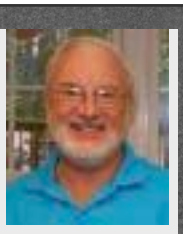
	President: Scott Unger 610-462-0756 president@mer-nmra.com		Vice-President: Gary Brown 757-641-7671 vp@mer-nmra.com		Treasurer: William Wurtzell wwurtzell@msn.com
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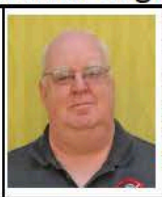
	New Jersey Division 1 John V Gallagher (856) 228-2239 njdiv.super@gmail.com *Division web page:* njdivnmra.org		Potomac Division 2 Ernie Little, MMR (571) 383-7316 super@potomac-nmra.org *Division web page:* potomac-nmra.org/		Philadephia Division 3 Joe Walters, MMR (302) 521-5884 josephfwalters@yahoo.com *Division web page:* www.phillynmra.org
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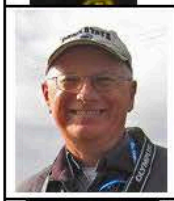
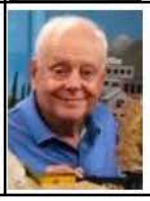
	Susquehanna Division 11 Alan Mende (717) 469-1047 super@susquehannanmra.org *Division web page:* www.susquehannanmra.org		Carolina Southern Division 12 Andrew Stitt (910) 572-2321 superinten-dent@carolinasouthern.org *Division web page:* www.carolinasouthern.org		Carolina Piedmont Division 13 Charlie Rausch, MMR crausch@mer-nmra.com *Division web page:* www.cpd13.org/
	Chesapeake Division 14 Kirk Bateman (410) 442-0446 super@chesdiv-nmra.org *Division web page:* www.chesdiv-nmra.org				

UPCOMING MER CONVENTIONS

2024 – Carolina Piedmont Division—"Piedmont Junction" Sep 26 - 29, 2024, Durham, NC
2025 – New Jersey Division Dates and location TBD

MER Board of Directors Meeting Schedule

Budget Meeting - 7pm January 13, 2024 - Zoom
Board of Directors Meeting - 11am April 13, 2024 -Marriot Hotel - Research Triangle Park, Durham NC
Board of Directors Meeting - 7 pm Sep 26, 2024 - Marriot Hotel - Research Triangle Park, Durham NC
Annual Business Meeting - 10 am Sep 29, 2024 - Marriot Hotel - Research Triangle Park, Durham NC

NMRA Achievement Program Update

Kurt Thompson, MMR
MER AP Manager

January/Feb 2024 AP Report

As of December 5, 2023, the following AP certificates have been awarded since the last report in the November/December 2023 *Local*:

Philly Div. 3

Stephen Richardson	Master Builder - Scenery
Stephen Richardson	Model Railroad Engineer - Electrical
Stephen Richardson	Model Railroad Engineer - Civil
Steve Wysowski	Master Builder - Scenery

Carolina Piedmont Div. 13

Charlie Rausch, MMR	Association Official
Michael Rossi	Model Railroad Engineer - Electrical

Correction: I "moved" Joe Skorch from Carolina Southern Division and Robert Gamble from Carolina Piedmont to the other one's Division. I apologize to both gentlemen for the error.

NOTICE

At the convention in Altoona, someone purchased a book and HO Southern Pacific car from the Company Store and mistakenly left them in the lobby. These items were brought to the Company Store but no one ever came by looking for them. If you, or someone you know, purchased these two items, please contact Howard Oakes at business@mer-nmra.com or 717-424-6165 to claim them.

From the Editor's Desk…

Pre-operative Examination

By Greg Warth, MD

This year will be better. Right? We always say that don't we. This world is a mess. How did we get here? How do we fix it? Is it even fixable? The answer may lie in the fact that we have been here before and we've always been able to muddle through the quagmire to get to something better.

I'm talking about my model railroad world of course. Recently, I invited a friend to come to my house and look at my N scale model railroad. I had just showed it to someone last week and everything was fine. But now, I flipped the switch and…nothing happened. No trains running. No lights coming on. I had been busy that week and hadn't been able to check on it before my guest arrived. While he was waiting, I did a cursory troubleshooting search for the problem, but couldn't find it right away. Through my embarrassment, we ended up talking about what my trains usually do and how I did my scenery.

After he left, I went back to the layout and tried to figure it out. Turns out the main switch I use to power my entire layout on and off, which had been reliable for years since I installed it, was now defective. It was the battery inside the wireless remote switch that had to be replaced!

Oh well. I'm glad it was an easy fix. But I will never live it down with my friend.

The moral of the story is that I should have made sure everything worked properly before he arrived.

I had not done a pre-operative examination. Good thing it was not a patient!

I hope your New Year will start off better than mine did. This issue of *The Local*, I assure you, has been examined carefully and is ready for you to enjoy. We have carloads of awesome articles and photos within these pages. Thanks to the urging from Bob Charles, MMR at the Altoona convention, and thanks to many of you stepping up to the challenge, we now have a newsletter that represents the membership, not just you know who.

Once again, I would like to thank our outstanding editorial and publishing staff for all their hard work not only for this issue but for all they have done over the last year:

Jack Dziadul

Alex Belida, MMR

Martin Brechbiel, MMR

Rick Stoneking, Publisher

And again, thanks to all our authors.

We wish you all a very Happy and Healthy New Year! And may your trains run smoothly throughout the year!

Best wishes,

The Trolley Car Café

By Bob Charles, MMR

Recently I was reviewing the March 2023 issue of *Model Railroader* magazine when I came across an article describing scratchbuilding a diner from a converted trolley car. It set me to thinking about a small empty space I had on the railroad. Would this provide a solution for that space, making the scene a bit more "town-like?"

A while ago a neighbor who knew I was an HO modeler had dropped off a small tub of unused and unwanted "stuff." I remembered that there was a toy-like trolley included in the mish-mash of stuff. Sure enough, it was still there. It turned out to be a somewhat scarred Bachmann red, white and blue Birney car. The trolley poles were bent and useless, but the body was relatively intact.

After due consideration, demolition began. The motor and frame were extracted and mostly discarded, though parts of the motor and drive mechanism were saved for the parts box, probably ending life as scrap gondola loads. The frame likewise. That left just the body of the car in a garish red/white/blue gloss with scratches. That had to go.

Removing the paint was much more effort than expected. Apparently, Bachmann really applied the paint super heavily and maybe even baked it. Soaking in brake fluid for several days, extended scrubbing, soaking again got the bulk of the paint off. I needed to attack the remaining crevices where paint held its last stronghold. Alternately scrubbing with brake fluid and a toothbrush and careful scraping with a pointed tool finally got me down to bare plastic. Reconstruction could now begin. How to proceed???

The folding trolley doors would simply not do for entry to a place of business and had to go. They were carefully cut out, filed smooth, and appropriate Tichy doors procured. They are installed with framing to match the base of the building with a step up to enter (**Photo 1**).

1 - Newly installed door with step. The old folding doors have been removed.

These were applied to both ends of the front of the diner (**Photo 2**), with one in back for access to the rear of the building. The fourth door opening was blanked with styrene simulating "boarding up." The east end of the building houses the kitchen area, thus those end windows had to be blanked out as the kitchen is not modeled (**Photo 3**).

2 - New Tichy doors installed on both ends of the front of the diner .

3 - End windows blanked out to hide the kitchen.

Obviously, it will be a small diner. All but three of the windows on the back wall which would be behind the counter were blanked with .010 styrene. This simulated the "working area" behind the counter (**Photo 4**).

4 - ***Several windows blacked out on the back of the café to hide the working area inside***.

A new floor had to be devised. Some HO scale styrene "tile floor" solved this issue and it was cut to size. A counter area was scaled with provision for stools was laid out and cut from .020 styrene. Since the doors of the car were necessarily lower than the diner floor, that floor with step up was cut separately.

How to fabricate the stools? After some thought, a paper punch was the solution employed. A punch of .010 styrene made a perfect round counter stool with a thin brass rod for the support. Holes the size of the rod were drilled in the floor and the "stools" attached with CA glue (**Photo 5**).

5 - Stools were made with discs of styrene supported on thin brass rods.

What to do with the holes that remain in the roof where the trolley poles were removed? The obvious answer was "fill 'em." Then, a thought hit. What a good place to mount a business sign! The appropriate sign was printed on a laser printer, mounted on both sides with transfer tape, framed with styrene strips and voila, a large sign proclaiming its founding in 1935 (**Photo 6**).

6 - Sign was printed in the proper size on a laser printer, mounted with transfer tape, and framed with styrene strips.

With the two sections constructed and tested for proper fit, it was time to paint. Grey and orange seemed to be appropriate "trolley company" colors so that was the selection for the exterior. Window areas from the chair rail to the roof with the exception of the doors are orange, the rest a light grey with the roof in grimy black completed the livery. The headlights are silver. The interior is white as befits a clean food business. The stools are a red leather with the supports in silver.

The last "window" on the kitchen end has the vent pipe for the grill which came out of the parts box from another project. The smoke and grime from the "chimney" weather the back of the building (**Photo 7**). Figures were added with three seated customers and a server behind the counter.

7 - Vent pipe added to the last window on the back side. Smoke and grime weathering added to the cafe behind the pipe.

The result is a business that fills a space while suggesting much more of a town with activity (**Photo 8**). It remains for me to complete the job with the expected "clutter and junk" behind the diner. It was good to make use of an otherwise useless piece of junk equipment. A classic example of making lemonade from a lemon!

8 - The final scene with the trolley café filling in the small space and adding to the atmosphere of the town.

Elections 2024

THE MER NEEDS YOU!

Now Accepting Nominations for Officers

If you are a member in good standing and want to support your region with good ideas and real involvement, we need you to volunteer to serve as one of the four Officers for the Mid-Eastern Region (MER). The MER Board of Directors generally meets three (3) times per year; once at the MER convention. **The deadline for nomination entry is May 30, 2024.** The term of office is two years, with a limit of two terms for the President or Vice-President, five terms for Treasurer or Secretary. Any qualified MER member in good standing can be nominated, either by him or herself or by another member with the candidate's permission. The process is very simple:

Prepare:
A 200-word (max) statement outlining the nominee's interest and qualifications for the position, AND a photo of the candidate. Send the nominations package – by **May 30, 2024** – to ALL of the following nominations process officials:

Nominations Committee:
Chair: Robert Charles, MMR rcharles@aol.com
Jack Dziadul, jackdziadul@gmail.com
Kenneth Montero, va661midlo@comcast.net

Optional – also by May 30, candidates may supply a 500-word statement suitable for placement on the MER website.

Deadlines and Schedules for 2024 Nominations and Balloting:
Our Bylaws require the publication of deadlines and schedules for nominations and balloting in the first issue of *The Local* of each year. The dates and schedule for nominations, ballot and election results are in the Executive Handbook, Section 5, Policies, Article VI.

May 30, 2024 -- Deadline for receipt of self-nominations sent to the Nominations Committee. Date for Nominations Committee to notify Board of Directors of slate of nominees validated by the Business Manager.

August 1, 2024 -- Deadline for mailing paper ballots to members and for commencing electronic voting.

September 3, 2024 -- Deadline for electronic voting, also last day as shown by postmark for mailing paper ballots.

September 7, 2024 -- Deadline for receipt by Balloting Committee of paper ballots sent by mail.

September 14, 2024 -- Deadline for Ballot Committee to transmit results to President, the Director overseeing this committee, and the Business Manager.

September 21, 2024 -- Deadline for The President to communicate the election results to candidates. The Business Manager also notifies the MER Web Master and the NMRA of the election results.

October 10, 2024 -- Deadline for publishing election results on MER's website.

You can make a difference *by giving something back to the hobby you enjoy. This is your chance. Successful completion of three years in office fulfills the requirements for the Achievement Program "Association Official" certificate. Please respond in one email to all three committee members to ensure receipt of your nomination! That is all there is to it!*

Advertising in The Local

If you have a model railroading business and would like to place an ad in *The Local*, please contact the Editor. The new rates per year are as follows:

Divisions & Clubs	Free
Clinics & Education	Free
Convention Ads	Free
Full Page - Color	$100.00
1/2 Page - Color	$60.00
1/4 Page - Color	$35.00
Business Card	$10.00
Text Only	$7.00

Your ad may appear as text, photo, art, or any combination thereof. Art must be of high quality and camera-ready. Formats must be in txt, doc/docx, pdf, jpeg, bmp or tiff only. The content must be related to model trains or railroads or provide a benefit specifically to model railroaders. If you need help with your ad, please don't hesitate to ask the Editor.

Send in Your Articles

We are always looking for new articles, tips, ideas, photos, and comments from our readers. If you have been awarded an AP (Achievement Program) Certificate or an MMR (Master Model Railroader) award, please consider writing an article about it so others can learn how you did it. We always enjoy looking at new layouts, dioramas, and models that our members have created. If you would like to contribute to *The Local*, please send an email containing your article and photos to *The Local Editor*.

The Local welcomes and encourages articles, photographs, and model railroad related material as contributions to members' education and enjoyment of the hobby. Materials should have a wide appeal. The Editor will exercise all due care of submissions, but contributors should not send paper/photo originals without retaining back-up copies. Editors, by definition, reserve the right and have the responsibility to make corrections, deletions, and changes to accommodate space. If your item is time-sensitive in any way, please advise the Editor. Otherwise, stories and photos that are accepted are published in approximately the order in which they were received.

How to Submit an Article for *The Local* (Please Follow These Steps Carefully!)

1. Please read the article written by Martin Brechbiel, MMR on "How to Prepare a Manuscript for The Local."

2. Compose and submit your text in one of the following formats: TXT, DOC, or DOCX.

3. Consider what photos, illustrations, or other graphics can go with the text. These are essential. But DO NOT include/insert them into your text. DO put notations in the text such as "Insert Photo #1 here."

4. Your photos should be high resolution and very clear. We can-not accept photos that are fuzzy or out of focus. JPG, GIF, TIFF, and PNG formats are acceptable.

5. Please rename your photo files in the order you want them to appear, e.g., Photo-1.jpg, Photo-2.jpg, etc.

6. If you have captions for your photos, etc., create a separate text file for the captions, each of which should be numbered to match a numbered photo or figure.

7. Send your article or photos by email to *The Local* Editor. There may be a limit on the number of megabytes you can send depending on your email program. If necessary, either send the photos three at a time, or compress the photos with a "Zip" program to send more at one time.

Special Notes: Please only send us ***your own creative work*** or that for which you have written permission to use so we can give that source proper credit. We need to avoid any copyright infringement situations.

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Calling All Mid-Eastern Region Merit Award Winners

By Alan Mende, MER Contest Chair

The October 2023 issue of the NMRA Magazine printed a list of contest winners at the national convention in Texas. Unless I missed someone, the contest results for the national contest showed not a single entry from our region.

The Mid-Eastern Region of the NMRA has many outstanding model builders. I have seen their work in our Regional Convention contest rooms. I have seen best of show entries scoring very close to the maximum number of points (125). Why haven't these models been taken to our annual national convention? Yes, Texas was a long way to go, and Long Beach, CA for the 2024 National Convention is even farther away. But MER Merit Award winners deserve National recognition, showing the kind of work we do in the region, and hopefully, inspiring other Region members to do the same.

So here's a plan:

A. If you are going to the National Convention in Long Beach, take your Merit Award winning models and paperwork with you and enter them in the contest. Also, tell your AP (Achievement Program) Coordinators and Superintendents your willingness to take someone else's models and paperwork for the National Contest.

B. If you are not going to the National Convention, talk to your Division and Region AP Coordinators and Superintendents. Find out who might be going to the National Convention and ask them if they'd be willing to take one or more of your models and paperwork and enter them by proxy.

You deserve recognition on a National level.

Building in Brass

By Alan Mende

You do not have to be crazy to want to build in brass, but you do need to know – or learn – some basic skills.

- How to solder
- How to read prints
- Some basic knowledge of what you are trying to reproduce in miniature

If you have never done any scratchbuilding of models, you may want to start with something small (and not made of brass). Get as many photos and plans of what you want to build as possible. If you are ready to take the plunge, go for it. This article is not intended to take you step by step from raw materials to finished product. It is just designed to point you in the right direction.

GETTING STARTED

I have already mentioned that you need to know how to solder. If you want a copy of my clinic on soldering, send me an email (super@susquehannanmra.org). You should have a plan or blueprint of what you want to build. Remember, the NMRA says that certain parts are exempt from the scratchbuilding AP category – motor, wheels, lights, things like that. You can also use some commercially available detail parts as long as your finished model is at least 90% scratchbuilt. So, go ahead, add that Cal-Scale headlight, bell, and auxiliary dome with its pop valves and whistle.

Yes, I scratchbuild steam locomotives in brass, but if you really want to, you can do it, too. Do not expect to finish the project in a couple of weeks. The quickest I ever got one done was a year and a half, and I started with a 4-6-0 chassis and a tender.

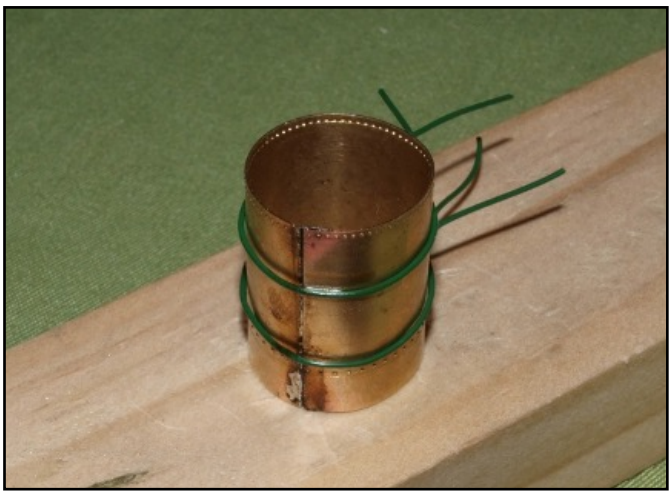
Photo 1: Flat sheet with an offset.

ROLLING A BOILER

I use 0.010” thick brass sheet (**Photo 1**) that I get from K&S Brass. You can get it at a well-stocked hobby shop. I have even gotten it at a hardware store. What is the diameter of your project’s boiler? The diameter times π (or 3.14159) gives you the circumference. Add 1/8” to that for an overlap. Your other dimension is whatever length the boiler or smokebox is. I use an NWSL Riveter to impress rivets (**Photo 1**). You can also use rivet decals.

2 - Roll the sheet around a socket.

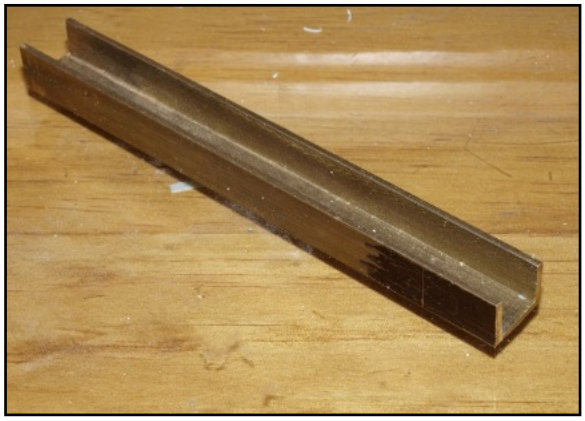
After you have impressed the rivets, now roll your brass sheet around a deep socket (**Photo 2**).



3 - Wire the cylinder closed and solder the joint. I used a mini torch for this.

Once you've tinned the offset with solder, wire the cylinder closed and solder the joint (**Photo 3**). My photo shows a smokebox I built. The rest of the boiler fabrication is done the same way.

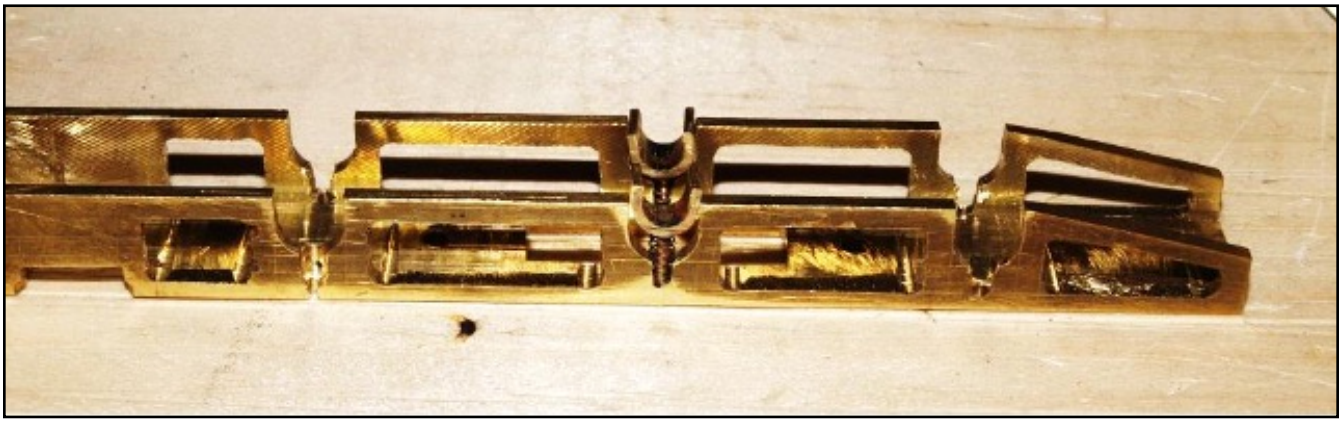
THE LOCOMOTIVE FRAME



4 - Frame Stock

There are two ways to make a frame, but both need precision. I used to be able to get what they called frame stock from a long-defunct company called Milled Shape, Inc. (**Photo 4**). It was a brass channel that was ½" wide by 3/8" high by 1/16" thick. It was just right for HO locomotive frames. If you search the internet, you might be able to find similar brass channel. The alternative is to fabricate both frame rails from 1/16" thick brass bar.

It is vitally important that both sides of the frame be identical. The slots where your drivers go must be exactly parallel to each other. If they're not, you will have binds in your mechanism. Cut away everything that doesn't look like a frame. That's where your plans and photos are necessary (**Photo 5**).



5 - Cut away everything that doesn't look like a frame and make sure your axle slots are perfectly parallel and a uniform width. I used Mantua axle bearings and sprung them, but that might just be overkill.

Test fit the drivers. If there are any binds or sloppiness, file things parallel and add shims as necessary to get everything square and true.

SIDE RODS AND VALVE GEAR

The trick to making rods is to make both at the same time. Solder appropriate strips together. Then mark the hole locations. When you drill them, make sure your drill bit is exactly perpendicular to the brass strip. Now you have two rods that have holes on the exact, same centers. Now cut or file away everything that doesn't look like the side rods (**Photo 6**). Then unsolder them from each other.

6 - Carefully lay out the side rod holes and drill them. Then file anything that doesn't look like a rod. I use a black Sharpie® marker and scribe the rod outlines.

MAIN RODS

I make the main rods in much the same way as I do side rods. I solder two pieces of brass strip together, drill holes, and taper them as necessary. Then I use a Dremel cutter to cut the flutes into the main rods. I have an X/Y machinist's vise that helps to do this smoothly. After I have cut the rod on one side of my soldered sandwich, I go to the other side and repeat the cutting (**Photo 7**). Afterwards, I separate them and clean them up with steel wool, and/or fine sandpaper.

7 - Cutting main rods.

8 - Completed main rods

8 - Finished main rods

These finished main rods look pretty good, don't they (**Photo 8**)?

CABS

What can I say about cabs? You measure your plans and fabricate all the parts. There are generally four main parts: the front wall, the rear wall, and the two sides. If they're identical, make the cab sides like you made the rods.

9 - Cab wall of a Shay

Solder two blanks of 0.010" thick brass sheet together and cut the window openings. Separate the two and impress rivets if that's what you want. After you've made the front and rear cab walls, solder a brass angle where the corners are and then solder the pieces together (**Photo 9**).

DETAILS

There are a lot of details that you can make yourself rather than relying on commercial detail parts (**Photo 10**). On some of my engines I've used Precision Scale air tanks, dome, and stacks, but they're something you can make from scratch. For example, you can turn your domes and stacks.

Photo 10: I used brass angles to hold the front, rear, and side walls together – Solder all connections.

Full disclosure: I don't own a metal lathe. But I made the domes and stack on my CNJ 0-4-0T No. 840 from brass rods that I chucked in my drillpress. I used needle files to turn them to the final shape (**Photo 11**). Don't have a drillpress? An electric drill will work, too. Just make sure you fasten your drill down (maybe in a vise) to keep it from moving.

Photo 11: I turned the domes and stack of this tank engine on my drill press using needle files. The sir tanks under the cab are scratchbuilt from brass tubing.

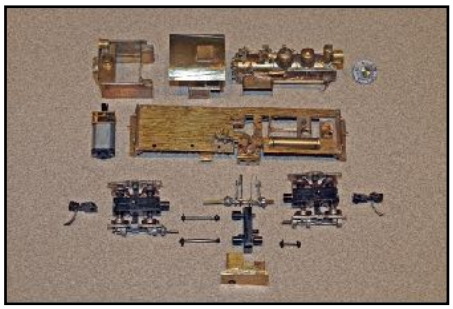


Photo 12: Class A Shay subassemblies

SUBASSEMBLIES

I try to make my engines in subassemblies. I like to see the progression of my project. Frame done, great. Boiler done, great. Making subassemblies eases the final assembly. It also makes it easier to paint the subassemblies than trying to paint the entire model (Photo 12).

MISTAKES

Inevitably, you're going to make mistakes. Don't despair; mistakes are how you learn to be a better modeler. I have a scrap box filled with mistakes and things that did not turn out the way I had planned. Don't be afraid to start over (**Photo 13**). Do not settle for second best. Making parts multiple times is frustrating, but when you're ready to throw your project against the wall in disgust, take a break; let it rest. More often than not, I sleep on it – literally – and when I go back to work, I've got the answer. Sometimes, I am just not in the mood to do any complicated modeling. That is why some of my models have taken several years to complete (**Photo 14**).

Photo 13: Four smokeboxes and three boilers later, I finally had good ones.

Photo 14: If they don't come out right, make them again and put the second-rate parts in your scrap box.

SO WHAT ELSE CAN I TELL YOU

I scratchbuild because I get a great sense of accomplishment in doing so. I also get something I can't buy at a hobby shop. Even though I have my AP motive power certificate, I still like the challenge of starting with raw materials and turning them into something recognizable. Try it. You may like this aspect of our hobby.

Open House Layout Tours at the Altoona Convention

Photos by Jerry Lauchle, MMR

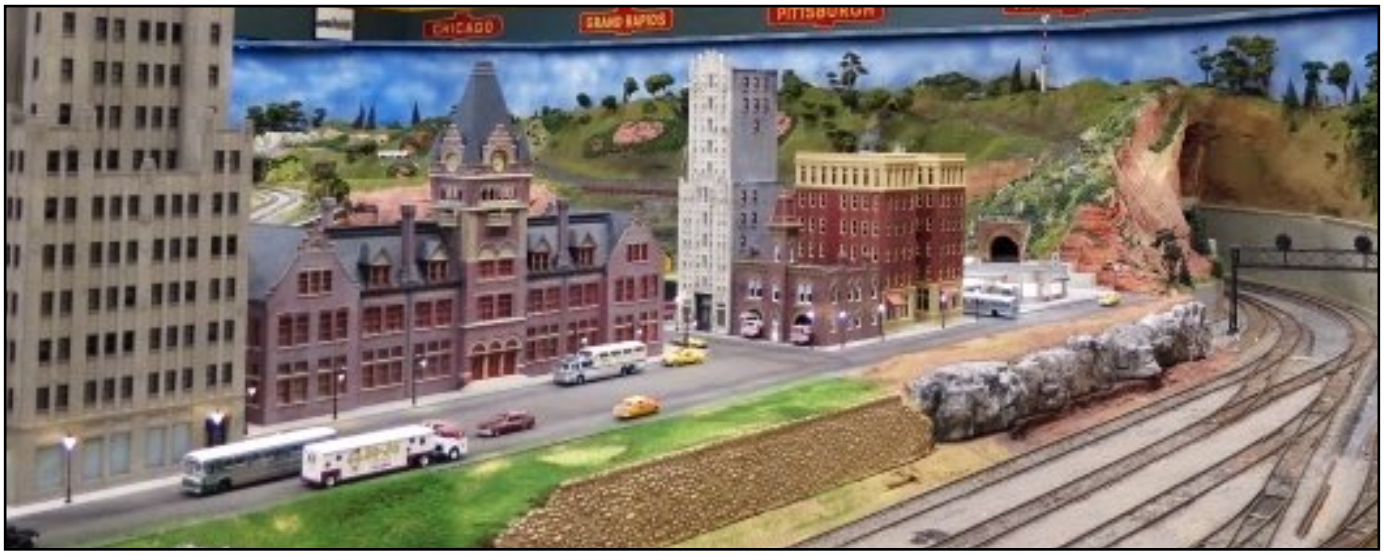
There were so many great photos taken at the Altoona layout tours, it would be a shame not to post a few of them. Here are some of the best ones from Jerry Lauchle, MMR, official MER Photographer:

Alto Model Railroad Museum -Multiple Layouts in Different Scales

O Scale

All computerized

Altoona Association of Model Railroaders



The Yard & the City

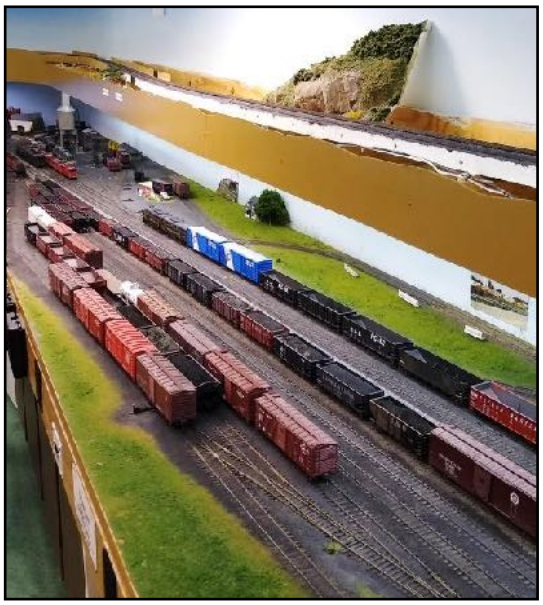
Clinton Central Model Railroad Club

Gravel Pit

Small Yard

David Baker's Layout

Waybills and Car Cards



A YardMaster's Dream

Foxdale Village Retirement Community

Empire City

Frank Coat

Beautiful Arch Bridge

Gary Nastase

Bridges

More Bridges

Industries

Jerry Lauchle, MMR

Coal Drop

Passenger Cars

Renovo

John Bennett

Turntable

Helix

John Kocet

New Haven Line

Bridge

C&O

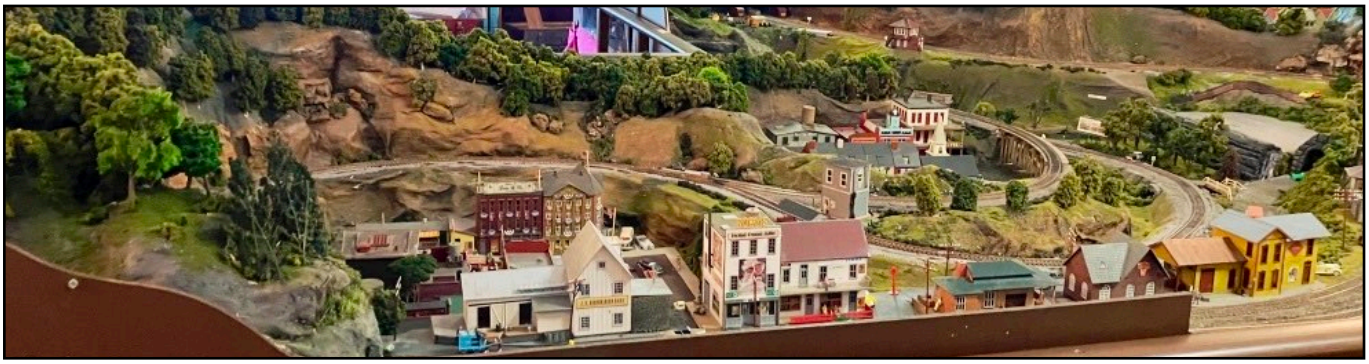
Lee Rainey

Car Repair Facility

Narco Tower

East Broad Top

Postage RR Museum Layout



Cityscape

Inside the Hartley Models MoW car. (Model and Photo by Martin Brechbiel, MMR)

Piedmont Junction 2024: Convention Layout Tours

By Don Roback

The Piedmont Junction convention, scheduled for September 26-29, 2024, in the Triangle region of North Carolina, will feature numerous layouts open for visits. John Sokash and his team have recruited an impressive list of more than 20 local layouts that will be available. Many of these layouts have been featured in the model railroading press and include several sizes and scales. John and his team also have created very helpful guides including facts, photos, and maps to help convention attendees make decisions about which layouts to visit.

The host hotel is the Marriott Raleigh Durham Research Triangle Park at 4700 Guardian Dr. in Durham, NC. Note also that the host hotel will feature an HO scale raffle layout built by a CPD13 team headed by Danial Fisher and a large T-TRAK layout that will be available for operations. Operators will be able to accumulate hours on this layout for their Chief Dispatcher AP certificates.

The descriptions below give brief overviews of the layout themes, some technical details, and directions and distances to the sites from the host hotel. Upon arrival at the convention, a guidebook will be made available to registrants with more specifics.

Here are short descriptions of some of the layouts available to convention visitors:

The Sandy River and Rangeley Lakes by Lou and Cheryl Sassi

The Sandy River and Rangeley Lakes Railroad models the villages of Strong and Kingfield, Maine with a narrow-gauge interchange. (**See Photo 1)**. The layout is based on the prototype as it existed in the early to mid-1930s and includes continuous running and switching options for open houses or operations.

Photo 1: The Sandy River and Rangeley Lakes by Lou and Cheryl Sassi. (Photo by Lou Sassi).

Rio Grande Southern and Eastern Divisions by Charlie Rausch, MMR

The Rio Grande Southern and Eastern Divisions layout is based on the Denver and Rio Grande Western and Rio Grande Southern between 1949 and 1952. (**See Photo 2).** Though freelanced, the layout fits the Colorado setting and features two terminals with yards and four intermediate switching locations. Eastern and western interchanges are created with two staging tracks for off-layout traffic. It fictionally simulates that after abandonment in 1950, the D&RGW took over operation in the mineral-rich San Juan Mountains and upgraded the road for use with heavier power and increased traffic.

Photo 2: Rio Grande Southern and Eastern Divisions by Charlie Rausch MMR. (Photo by John Sokash).

Photo 3: Baltimore & Ohio by Mike Rossi. (Photo by John Sokash).

Baltimore & Ohio by Mike Rossi

Baltimore & Ohio is a freelanced transition era layout set in rural western Maryland and West Virginia. (**See Photo 3)**. Both steam and diesel locomotives can be seen pulling long consists through beautiful settings including several bridges, rural areas populated with craftsman structures and a locomotive facility including a large roundhouse and shops area.

Aberdeen and Rockfish by Rick Hollings

The Aberdeen and Rockfish layout is based on the prototype in the Fayetteville, NC area that was featured in a 1965 Model Railroader article. (**See Photo 4).** Diesels pull the trains on this modern era layout showcasing many switching opportunities. Operations are highlighted by interchanges with both the Seaboard Coast Line and Southern Railroads.

Photo 4: Aberdeen and Rockfish by Rick Hollings. (Photo by John Sokash).

Chicago Union Station by Don Roback

Photo 5: Chicago Union Station by Don Roback. (Photo by John Sokash).

The Chicago Union Station railroad depicts passenger operations at Chicago Union Station in 1951. (**See Photo 5**). The layout features Union Station with two nearby coach yards, the Chicago post office, and a Railway Express Agency facility. There is also a connection for detachable modules which have different themes such as a fiddle yard for passenger operations, a roundhouse and shops area for hosteler operations and an industrial switching area for freight operations. One end of the layout depicts the Chicago loop with an operating elevated train.

Walker Creek Branch by Danial Fisher

The Walker Creek Branch is a freelanced branch of the Norfolk &Western Railway. (**See Photo 6**). The branch is part of the Radford Division which leaves the main line at Wytheville, VA and proceeds north to the adjacent valley. The layout is designed to support prototype operations. Branch line trains are built in the Wytheville yard and proceed to the branch. Industries served include a paper mill and several coal mines.

Photo 6: Walker Creek Branch by Danial Fisher. (Photo by John Sokash).

The Southern Pacific Coast Division by Ken Reising

The Southern Pacific Coast Division depicts mixed freight and mainline switching operations between San Francisco and Milepost 100 at Watsonville Junction in the late transition era. (**See Photo 7**). It is based on the Southern Pacific prototype of Peninsular and Gilroy Subdivisions of the California coastline.

Photo 7: The Southern Pacific Coast Division by Ken Reising. (Photo by John Sokash).

Lehigh Valley by Jim Kalenowski

This N-scale layout depicts freight operations in the Allentown, PA area with off layout locations stretching from Jersey City, NJ to Wilkes Barre, PA from 1955 to 1966. (**See Photo 8**). It also features interchanges with Central Railroad of New Jersey & Lehigh and New England Railroads plus some interaction with the short line Ironton Railroad.

Photo 8: Lehigh Valley by Jim Kalenowski. (Photo by John Sokash).

Boston and Maine Terminal Division by Jack Dziadul

The Boston and Maine Terminal Division is a fictional layout inspired by the B&M's North Station area and nearby industries. (**See Photo 9**).The setting is the urban area near Boston, MA in 1956 during the steam-to-diesel transition era and features both passenger and freight operations. Notable modeled features of the area include North Station, Hotel Manger and a double-tracked mainline crossing a bascule bridge spanning the Charles River.

Photo 9: Boston and Maine Terminal Division by Jack Dziadul. (Photo by John Sokash).

Twin Cities and Lake Superior Railroad by Mike Humble

In the early 1900s the Twin Cities and Lake Superior Railroad Company began construction in Minnesota of a north-south running railroad connecting the Twin Cities of Minneapolis and St. Paul to the Lake Superior port cities of Duluth, Minnesota, and Superior, Wisconsin. Envisioned as a high-speed, state-of-the-art transportation system, the new railroad would run 'straight as an arrow' between the Twin Cities and Lake Superior and was to be known as 'The Arrow Line.' (**See Photo 10**). The railroad was never completed, but the old roadbed ran through Mike's grandparents' farm.

Photo 10: Twin Cities and Lake Superior Railroad by Mike Humble. (Photo by John Sokash).

Southern Railway by Bob Gamble

This freelanced HO-scale layout depicts mainline, local and yard operations in the 1960s in and around northern Georgia. (See Photo 11). The layout is basically a folded dog bone configuration with extensive engine facilities featuring an Arduino-driven turntable and a 10-stall roundhouse with Arduino-driven doors. Also modeled is a beautiful version of the Southern Railway's New River Bridge and extensive lighting features in a city scene.

Photo 11: Southern Railway by Bob Gamble. (Photo by Bob Gamble).

Rhaetian Railway by Walter Hoffmann

Photo 12: Rhaetian Railway by Walter Hoffmann. (Photo by Walter Hoffman).

This HOm scale layout is unique in that it depicts narrow gauge railroading in the Canton of Graubunden, Switzerland. (See Photo 12). Inspired by several trips the modeler and his wife made to the region, the layout depicts the majestic scenery, immense stone viaducts and helical tunnels of the Swiss Alps. Walter developed techniques to use hand carved model stone viaducts and tunnel portals that he will display during the tour. Catenary sections are also modeled as in the prototype.

Berkshire Short Line RRR by Jim Murphy

This HO layout represents the industrial operations of Holyoke, MA which were powered by water via a canal system. (See Photo 13). The railroad operates as a bridge route between the Boston and Maine and the New Haven Railroads. The layout features a double-track mainline covering approximately three prototype miles with emphasis on passenger operations. In addition, there are twenty-two lineside industries for freight switching work. The railroad is fed from a novel eleven-track sliding staging yard that can hold up to 90 cars.

Photo 13: Berkshire Short Line Rail Road by Jim Murphy. (Photo by John Sokash).

Neuse River Valley RR club

This club was established in 1985 in Raleigh as a not-for-profit corporation and owns their building which contains multiple rooms for layouts in N, HO, S, O and G scales. (**See Photo 14**). The layouts depict railroading in the transition era up to the present so you will see both steam and diesel power. The layouts are operated by Digitrax DCC systems. This club building is located approximately 28 miles southeast of the host hotel.

Photo 14: Neuse River Valley RR club. (Photo by John Sokash).

Golden East Railroad Modelers

The Golden East Railroad Modelers' main HO scale layout is based on North Carolina railroading. (**See Photo 15**). It is set in the transition era and features railroading from a harbor to the mountains and to many points in between. Industries include a steel mill, a concrete plant, lumber yards, many small industrial sidings and replicas of the Atlantic Coast Lines and Amtrak Rocky Mountain Stations.

Photo 15: Golden East Railroad Modelers. (Photo by John Sokash).

Norfolk Southern Railroad by Cooper Dwiggins

The Norfolk Southern Railroad models operations in North Carolina in the late 1990s. (**See Photo 16**). The layout is primarily a continuous run railroad with a major intermodal yard, paper mill, lumber yard, and other industries requiring switching. There are also passenger operations and freight trains which can pull as many as 60 cars.

Photo 16: Norfolk Southern Railroad by Cooper Dwiggins. (Photo by John Sokash).

Lehigh Valley Allentown Division by Jamie Jordan

The Lehigh Valley Allentown Division model railroad depicts the 1950 mainline between Easton, PA and the Lehigh River Gorge. (See Photo 17). This line moved anthracite coal from the mines of eastern PA to points East, as well as bridge traffic between Buffalo and Oak Island, NJ. The layout includes a branch line connecting the Gorge to the coal fields near Hazelton, PA. There are both steam and diesels running on the layout which hosts monthly operating sessions.

Photo 17: Lehigh Valley Allentown Division by Jamie Jordan. (Photo by John Sokash).

The Virginian Railway and Norfolk and Western Railroad in Virginia by George Lasley

This site features two independent layouts stacked on top of each other: the upper deck depicts the Virginian Railway including a faithful recreation of the Virginian deck bridge across the New River in Glen Lyn, Virginia. (See Photo 18). The lower deck depicts the Norfolk and Western Railroad in Virginia. The layouts feature steam, diesel and electric motive power including catenary for the Virginian Railway.

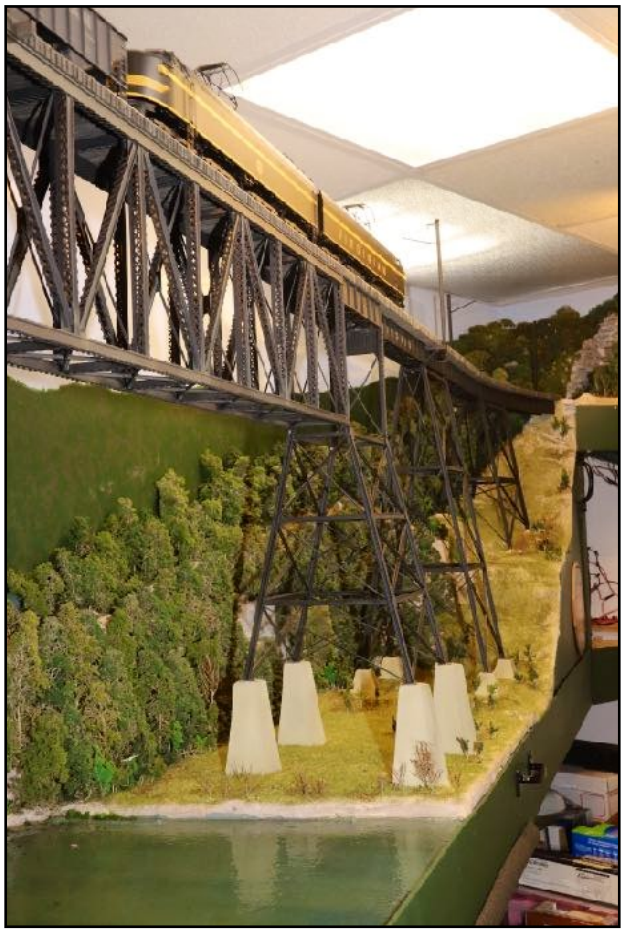


Photo 18: The Virginian Railway and Norfolk and Western Railroad in Virginia by George Lasley. (Photo by John Sokash).

The Archer Lodge & Southern Division of the Norfolk Southern by Russ Austin

The Archer Lodge Division & Southern Division of Norfolk Southern is a freelanced railroad that depicts familiar cities and control points from Morehead City to Linwood, NC. (**See Photo 19**). The double track mainline with multiple yards covers approximately 7.5 miles of scale trackage and is built for operation.

Photo 19: The Archer Lodge & Southern Division of the Norfolk Southern by Russ Austin. (Photo by John Sokash).

The New York & Hudson Valley

Photo 20: The New York & Hudson Valley Railroad by Vinny DeRobertis. (Photo by John Sokash).

The NY&HV RR is a fictitious branch line that connects New York City to the industrial and rural areas along the Hudson River in New York State. (**See Photo 20**). This layout is set in the late transition era with the New York Central being the prototype influence. You will see diesel and traction power in a heavy urban setting with spectacular buildings and scenery. The layout exhibits a congested array of structures with an urban waterfront feel.

Southern Pacific and Union Pacific Railroads by Eric Dyke

This freelanced transition-era HO railroad features the Southern Pacific and Union Pacific Railroads running through rural California with run-throughs from other western lines such as Santa Fe and Northern Pacific. (**See Photo 21**). There are two levels on this basement-sized layout which are connected by a helix. Both levels feature long mainline runs with plenty of switching opportunities along the way.

Photo 21: Southern Pacific and Union Pacific Railroads by Eric Dyke. (Photo by John Sokash).

For the most up-to-date information including registration and hotel information, see the convention website at Piedmont Junction 2024 (cpd13.org). You can also find a link on the NMRA conventions page at Region Conventions | National Model Railroad Association (nmra.org). 20

Presenting a Clinic – It's Not That Hard!

By John Pursell

For me, one of the most important parts of a conference or convention are the clinics that I attend. No matter what the subject, I almost always come away with new ideas or information that I can apply to my own modeling.

After retiring from the United States Air Force Band, I became an Artist/Clinician for the Yamaha Music Corporation and have had the pleasure of presenting clinics on musical subjects throughout much of the eastern and mid-western United States. This experience has been key to my presentation of clinics on model railroading topics; while the subjects may be different, the basic elements of a successful clinic are the same. Hopefully, the ideas I present here will help you improve your own clinic presentations.

Presenting a clinic is a type of public speaking and, believe it or not, public speaking is the number one fear of Americans. It beats *death*, for heaven's sake! But anyone can become a better speaker, and it translates into many other areas of lives and professions. So, don't avoid it: the first few times you do a clinic, you'll be nervous. Admit it and accept it; this will help you focus more on your presentation. If you really have a serious problem about speaking in public, then I would recommend you look into a group called Toastmasters International. Their basic goal is helping people develop public speaking skills.

Here are what I consider the basic steps to presenting a good, informative clinic. Notice I said "good," not "great." Don't worry about being great, just be good, and that's good enough. Great clinicians are usually those people who have been doing this a long time.

1. **Pick a topic that interests you.** Clinics are not usually put together over night; you'll spend some time on it. So don't pick a topic that doesn't interest you. You will either never finish it or if you do, you will probably be less than enthusiastic about it – and your audience will pick up on that.

Many people may think, "Oh I have nothing to talk about." Not true! If you are skilled in a certain area, like putting in sound decoders, or detailing locomotives or if you have rail-fanned one particular railroad, you can probably talk extensively about that subject. Think about casual conversations you've had with other people and what areas of your modeling they seemed interested in. In all likelihood, you'll find a prospective clinic topic.

2. Know your audience. In my profession, that's either music teachers or college-level music students. Knowing this helps me put together something relevant to their lives. In your case, the audience will in all probability be model railroaders. So, you and your audience will "speak the same language." You won't have to explain the difference between, say, HO scale and N scale. You can assume your audience already knows that.

3. Pick a presentation style. There are basically three: 1) reading to the room, which can be really boring to the audience; 2) completely ad-lib…not recommended in the least, and 3) extemporaneous, which is usually the best trade-off. Speaking extemporaneously usually means speaking from an outline with notes and is the best way for most people to present any kind of topic.

4. By this point, you have your topic. Now it's time to make an outline of your subject, just like you're back in school, writing an essay for English class! Pick 3 or 4 main points of the subject that you think are absolutely crucial. Then start putting in your support for each point. If you find an overly large amount of material for any one point, consider cutting it into two points. Your outline can also become a handout if required.

5. Time to start writing. Using your outline as a guide, write out the whole clinic as if you were talking to someone. Writing it out and then reading it out loud lets you gauge how long it is: most clinics are roughly 45 minutes to an hour long. Once you have your main points covered, add a short introduction, and a short recap. In the military, we used to say, "Tell them what you're going to tell them; then tell them; then tell them what you just told them." Now take your written clinic and transfer the important points and support to a pad or notecards; this becomes the actual material you will use to speak from to the audience.

Writing it out also lets you decide if you need to use PowerPoint or some other visual aids. PowerPoint is very common and is easy to use, requiring no more than simple computer skills. But some topics, especially ones that demonstrate a hands-on skill, are probably better served by a live projection onto a screen so attendees can see what you're doing. Don't automatically use PowerPoint; take the time to decide if you really need it. If you do use it, keep it simple. Use brighter colors, larger fonts and good contrasts.

Personally, I use PowerPoint as a type of "speaking outline." I print out the screens, four to a page and then add my speaking notes under each picture. This helps keep me on track and coordinated with the material on the screen.

But remember, the very worst thing you can do with PowerPoint is to fill screen after screen with text, mostly in a small font, and then turn your back on the audience and read it to them! I can assure you, they can read faster than you can speak and they will very quickly start checking email on their cell phones. I have attended clinics like that, which I think would be more appropriately called "public readings."

6. So you have your clinic put together, ready to go. Now what? Now, you practice. Practice it at home several times, then do a presentation for two or three friends. Personally, I never do a clinic without at least three complete run-throughs. When doing musical clinics for Yamaha, I always do them for my wife first. She's a non-musician, so if she understands what I'm talking about, I'm pretty sure trained musicians will, too.

7. Some final points: Do not worry about being nervous. That's completely natural. The better prepared you are, however, the less nervous you'll be when presenting. Do not go out and party the night before, wear comfortable clothes, and get to your clinic room in plenty of time. If you start talking and feel yourself getting anxious, it often helps to pick out one person towards the back of the room and basically talk to them. Personally, I have always found smaller groups to be more difficult to work with, since I can pick out individual faces. With larger groups, the faces all seem to blend together.

And lastly: the audience is really on your side. They probably do not care about a slick, professional quality clinic. They are just interested in the topic and want some clear, useful and easy-to-understand information.

Well, that's about it. Some people (like me) love being a clinician, some detest it. But it's not all that difficult and is easily within the grasp of most people. Being able to speak lucidly in public is a skill that translates into many different areas.

Plus, you pick up Author points towards your Master Model Railroader!

William Gleason Tool Builder (Photo by Jerry Lauchle, MMR - Courtesy of Howard Zane)

Railroad Prototype Modelers- Valley Forge

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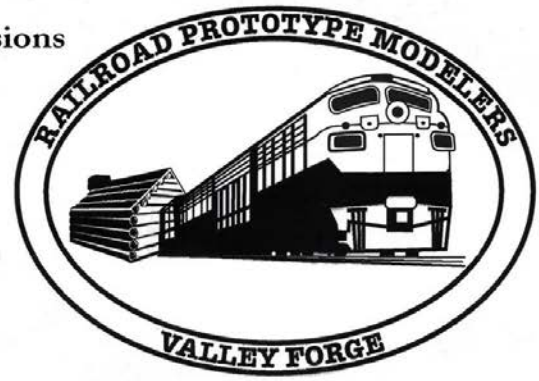

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Victorian Conservatory in O Scale from Inter-Action Hobbies

By Greg Cassidy

Prior to the Victorian Era, a Conservatory, or "Glass House," was quite a spectacle and definitely only for the rich. In Britain, the combination of the Window Tax (number of windows) and Glass Tax (by weight) put any greenhouse out of the reach of all but the ruling class. But during the Victorian period efforts were soon made to meet the increasing demand from the rising middle classes, both there and in the United States.

My wife was a high school science and horticulture teacher her whole career. As such, she had the school's greenhouse as part of her extended classroom. I spent a lot of time there, and that may be the reason why I was so intrigued when I first saw this Victorian Conservatory from Inter-Action Hobbies (**Photo 1**). I'm always interested in a kit where I can play with the many weathering techniques we have as modelers.

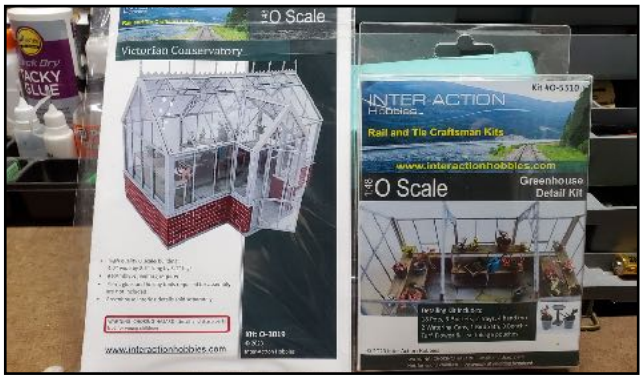


Photo 1: Victorian Conservatory kit and Greenhouse Detail kit from Inter-Action Hobbies

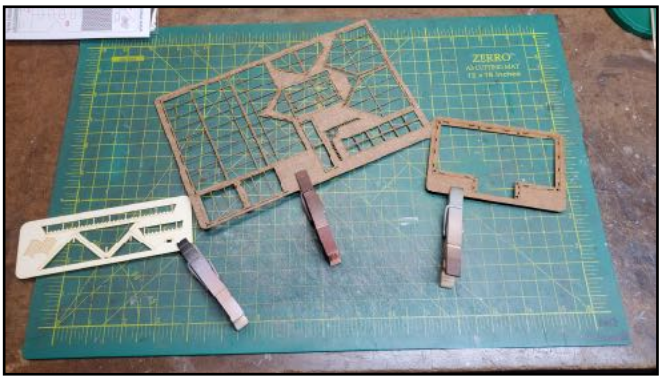


Photo 2: The laserboard parts ready to paint silver

In addition to the O scale Conservatory kit, there is a Greenhouse Detail kit available. They are also available in S and HO scale (sorry N). The greenhouse kit is comprised of basswood laser cut brick walls, a concrete floor, and a greenhouse frame cut out of laser board, with matching laser cut acetate. In addition to very thorough instructions, there is an online assembly video available. I started by first spray painting the frame components silver (**Photo 2**). Then I sponged on a dull white to represent the peeling paint, and then a rust color as the steel frames in older greenhouses were subjected to high moisture levels (**Photos 3, 4**). Next, I painted the concrete floor gray, cut some cracks in the concrete with a hobby knife, and then weathered it. Then I spray painted the brick walls red and added mortar (**Photo 5**). You need to cut a 45-degree angle in the ends of them to get a right angle when assembling them to the floor (**Photo 6**).

Photo 3: Using a sponge to apply rust to the painted framework

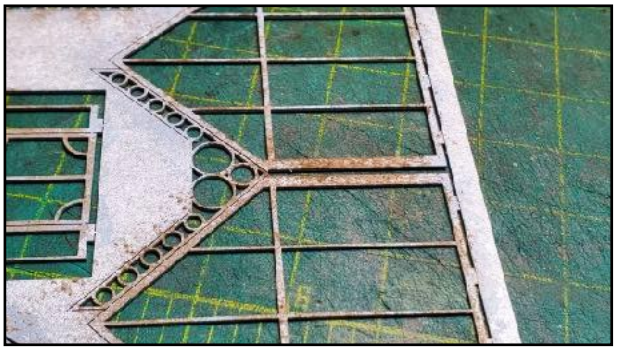


Photo 4: Closeup of rust effect

Photo 5: Applying mortar to the painted brick walls

Photo 6: The brick walls assembled onto the

Now I started building the greenhouse frames. When assembled, the pieces fit together very nicely, and the glass perfectly fits the frames. I used Liquid PSA (Pressure Sensitive Adhesive) for gluing the glass to the frame as this won't squeeze out and mar the glass like other glues might. After installing the frame supports, I attached the glass frames, making sure everything was square (**Photo 7**).

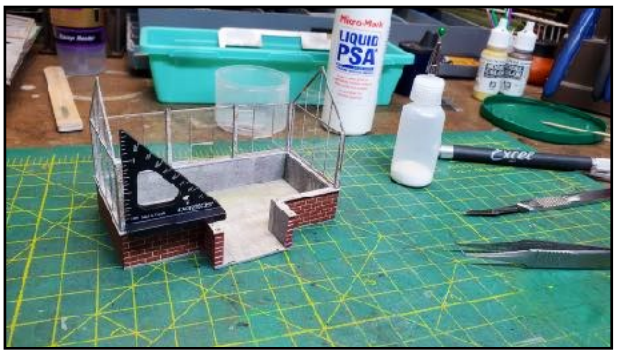


Photo 7: Assembling the glass framework on the

But before putting the roof on, I completed the detail kit. This consisted of painting all the 3D printed pieces, which includes many clay pots, watering cans, buckets, and even a birdbath as well as wooden tables they will sit on (**Photo 8**).

Photo 8: All the items included in the Detail kit

I first stained and assembled the worktables that are made from lasercut wood (**Photo 9**). I also added some dirt spots on the tables. Preparing all the 3D printed details meant removing them from their supports, sanding any spots where they had been attached to the base, and then priming and painting them. This involved several different techniques, and I was happy to find that painting the clay pots (they had no plastic pots back then) a Pueblo color looked right, but I needed to use white oil paint and mineral spirits to get the look of the minerals in the water that would leech through the porous clay. My wife's pots on the deck were a perfect subject to use as a reference. Next, I added the foliage that comes in the detail kit, having some of the pots just have dirt, and others blooming with plants (**Photo 10**). Then I glued the tables in place, and started placing and gluing all the details where they looked good. I added a couple details of my own such as a water pipe with hose (made from brass tubing and solder) and a basket to hold all the soil that would be used in potting plants (**Photo 11**).

Photo 9: Assembling the worktables after staining the wood and painting the frames

Photo 10: All of the detail parts painted and tables glued in place

Photo 11: Everything glued in along with the hose and wicker baskets

Now it was time to close everything up. This meant assembling the roofing and attaching it. There were also several outer details to put in place, such as the trim on the roof ridges and gable ends. These had to be painted and weathered on the ends as well since they would be seen. The same applied to all the small vent windows required (**Photo 12**). Again, gluing the glass in place and adding the supports was done before gluing the vent windows in an open position. The last piece I added was the door. I also wanted it open for interest, but saved it till last as it might have been bumped while working on the rest of the structure had I put it on earlier. I made a couple hinges for it out of 0.020" wire and glued them in place before gluing the door to the frame (**Photo 13**).

Photo 12: The roof and trim installed and preparing to attach the vent windows

Photo 13: Installing door with added hinges

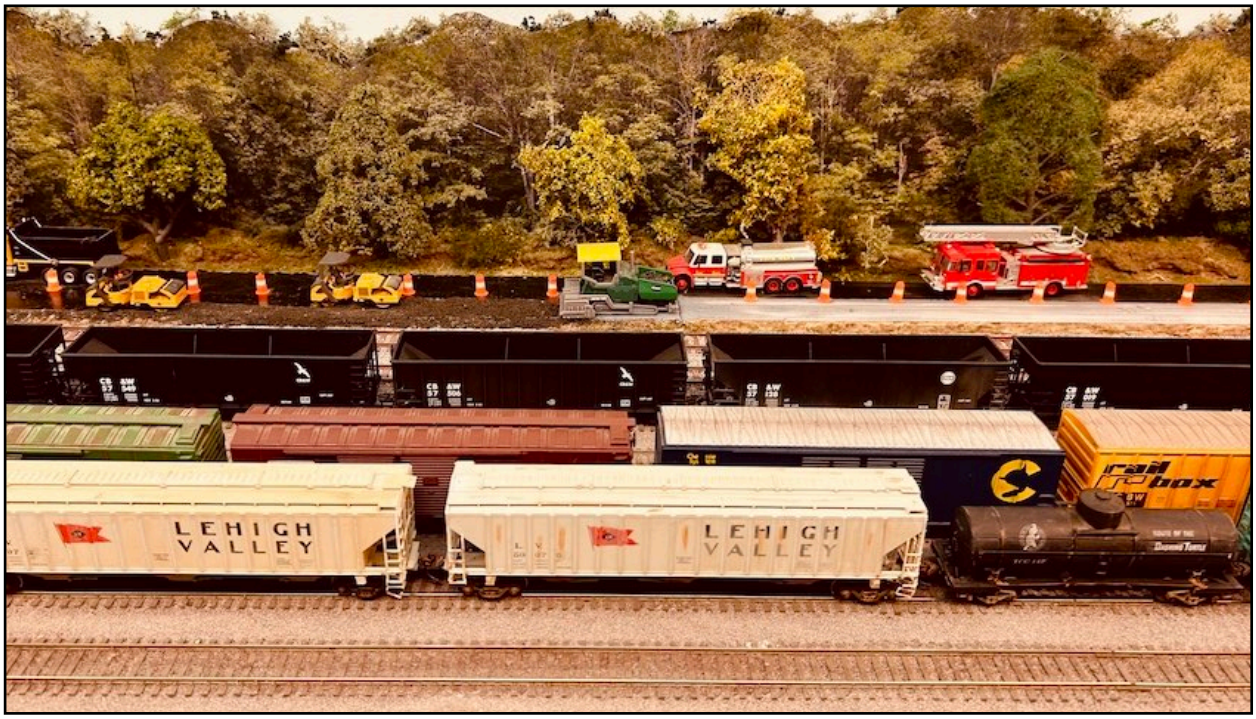
When I was finished, I built a modest base for it out of foamcore to take a few photos. I marked out where the conservatory would sit, and a gravel path with a spot for the birdbath. I then painted the areas with acrylics and used thinned glue to hold down some Woodlands Scenics turf of various shades, and some fine ballast for the gravel path. I glued the greenhouse and other items to the base, but only in a couple spots. I may be removing it later depending on if it will sit on my shelf or go to a friend's layout (Photos 14, 15).

Photo 14: Outdoor shot attached to the base

Inter-Action Hobbies
https://www.interactionhobbies.com/
HO Greenhouse: $28.95 Detail kit: $19.95
S Greenhouse: $31.95 Detail kit: $21.95
O Greenhouse: $34.95 Detail kit: $24.95

Photo 15: Finished Product

This kit was some of the most fun I've had assembling and weathering a structure in a long time. And I'm very happy with how it came out.



Chesapeake Bay & Western - Grafton, Virginia (Photo by Greg Warth)

From the Divisions…

Branch Lines

As *The Local* Editor, I have the distinct pleasure of receiving a copy of all the Division newsletters, which are all very informative and creative to say the least. Here are links to those publications and to their Division Websites for easy access:

Divisions	Newsletters
South Mountain Division	*Wheel Report*
Potomac Division	*The Potomac Flyer*
New Jersey Division	*Train Orders*
Susquehanna Division	*Sidetracks*
Philadelphia Division	*The Dispatcher*
Tidewater Division	*The Callboard*
James River Division	*Crossties - Index*
Carolina Southern Division	*The Brass Pounder*
Carolina Piedmont Division	*The Herald*
Chesapeake Division	*The Relay*

Reminder: Here's how to access the **Digital NMRA Magazine:**

1. Go to https://www.nmra.org/user/register
2. Answer a few questions.
3. Click on Create a New Account.
4. You will receive an email on how to set your password.
5. If you need help, watch the YouTube Video

Other NMRA Links:

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Archives	Education	Turntable
Submit Articles	Videos	Clinics

Hit the Brakes – Installing Brake Details on Models

By Martin Brechbiel, MMR

I look at models and what I frequently see is the glaring absence of underbody details, aka "Naked Underbody Syndrome." To my eye, this detracts from the complete visual impact of our models. Many of the better RTR cars have passable levels of detail, and many brass cars do as well, but the rest are questionable. Of course, if you are totally focused on looking down on your rolling stock, literally from above, then you may not care. However, those with layouts closer to eye-level can see cars rolling by lacking these details. And then when you get to kit built and scratchbuilt cars, inclusion of these sorts of details becomes almost a necessity to create a complete and finished model. All too many cars either completely lack the brake system from the underbody or they just have the casting(s) stuck into the floor, often oriented incorrectly. We can and should do better.

Let's start with the "K" brake system simply because that's the era I model, and I have installed many variants of this system in a lot of models. First off, there are a near infinite number of variations of this system as evidenced by actual prototype underbody locations, actual parts and their dimensions, and how the plumbing and rigging is all connected. If you have prototype information and photos, that is great for that specific car, and you can follow that example. Otherwise, there is a bit of leg work involved looking at various diagrams and other models to decide what to install under your car(s). There are also a lot of examples published in model railroading magazines, quite a few in better kits, and there's a good generic diagram in the Precision Scale Catalog. If it is a kit, then that should give you a diagram, parts, and instructions. Note the use of the word "should" in the prior sentence.

Being an O scale modeler, I will be referencing O scale parts and sources, but given the proportion of HO suppliers, etc. to O suppliers, parts should never be an issue for that smaller size scale. For seeing what you are doing and manipulating the parts, well, they make magnifying visors and microscopes, too.

Let's start with the prime component. There are many sources for the basic "K" brake and they have been produced in various materials. In **Photo 1** there are a select few that I have about in my shop. Grandt Line at one time made brass parts that are much coveted now and that were replaced by styrene kits to assemble a brake casting in several configurations. Yes, Grandt Line parts are still available from San Juan (https://sanjuandetails.com/).

Photo 1

Wiseman Model Products sells the Back Shop line of brass castings and there are two slightly different versions available. A neat aspect to these is the inclusion of the "T" joint plumbing off the brake casting that can be drilled out to be connected to the train line of the car. On planet O scale there are a host of white metal castings still "out there" and probably even still being produced by some kit vendors. Lastly, there are 3D printed parts. These can be very nice, and some are available through Shapeways. I will address other parts as we go along.

We need a donor car to pursue this exercise so one of my generic flatcars has volunteered for this demonstration as an example. I am also going to donate a brass Grandt Line part (my precious!). I have already installed the train line through the framing and end sills (**Photo 2**). The Grandt Line casting is on a substantial sprue and takes either a manly pair of nippers or a Dremel cut-off wheel to free it. The small part with a clevis on it is something I never use. It is either cast closed or once open is just too narrow to accept a brake lever (**Photos 3, 4**).

Photo 2

Photo 3

The brake casting needs a platform to be installed so it can be mounted in place. Location for this tends to be predicated upon all the other "stuff" that might be under the car such as, in my case, truss rod supports that the brake rigging has to be threaded though and supported. I am leaving that out for now for better clarity. This particular casting called for support under the main tank as well as for a "foot" at the rear as the tank itself sits below the casting supports. As such this calls for two support areas as in **Photo 5**. Some scrap wood glued into place is all that is needed. These could be dressed up with nut-bolt-washers (NBWs) as desired.

Photo 4

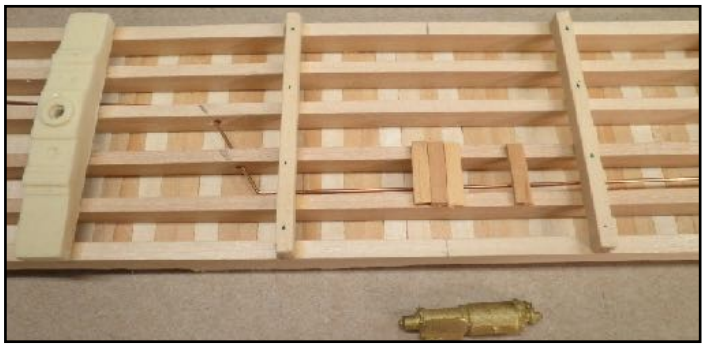

Photo 5

Photo 6 shows the brake casting mounted in place. Being brass to wood, I am using a film of Goo on the wood and medium CA on the brass. Put them together, they have a little party, and you have very little time to change your mind so get it right the first time. Now I have to back up here to note two important details. Number one is that the casting is installed with the pointy end directed to the end where the brake wheel will go and it is also in board roughly the same distance as the brake wheel, too. Number two, that same pointy end gets a hole drilled in it prior to mounting to accept the wire that is used for the brake rigging, in this case either 0.025" or 0.020" wire (Tichy). I prefer to drill these brake component holes 2-4 sizes larger than the wire as fiddling about inserting wire into exact size holes leads to madness. The excess space in the hole gets filled with glue and after painting it is not visible.

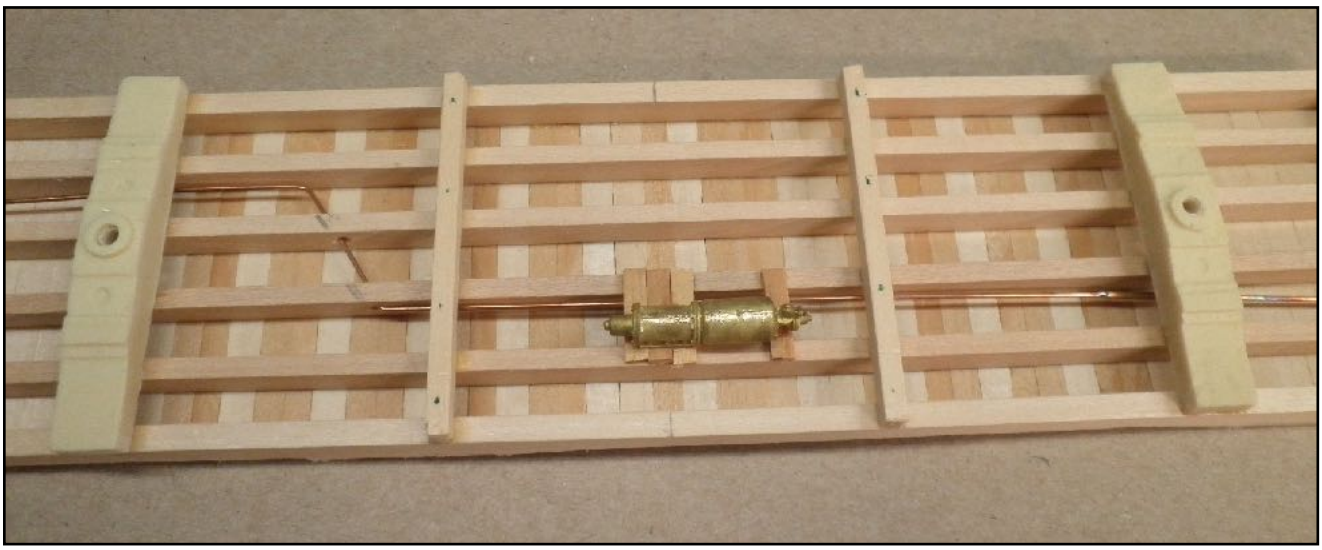

Photo 6

Now I need the rest of the parts (**Photo 7**). I have already noted the wire, but now there are Grandt Line turnbuckles, brake levers from Berkshire Valley, and lever hangers from Precision Scale. The latter two are easily made and the Berkshire Valley parts are no longer available. I make my own or use ones from Scale City Designs. Lever hangers are easy to make from either brass or styrene, although brass will most likely be sturdier. Why do I need the turnbuckles? These are what I make the clevises from to connect everything together. In **Photo 7** you

Photo 7

can see the replacement for that brass part I discarded earlier up at the top next to the wire container. **Photo 8** shows how that was made and then installed in the brake casting. Following an amalgamation of diagrams and photos, I have assembled the basic brake rigging connecting the casting to the levers using the wire tipped with clevises made from the turnbuckles (**Photo 9**). Everything is secured with Goo and CA. Lastly, I have added the brake hangers which were secured to the frame with Goo and CA, as well as to the brake levers themselves to make this a single unit of the car frame (**Photo 10**). Now I have more of these to do and to also install the truss rod system (**Photo 11**).

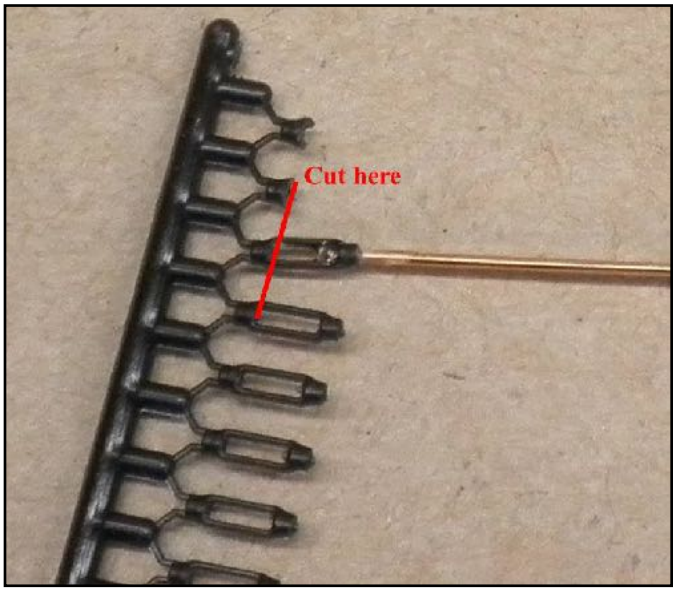

Photo 8

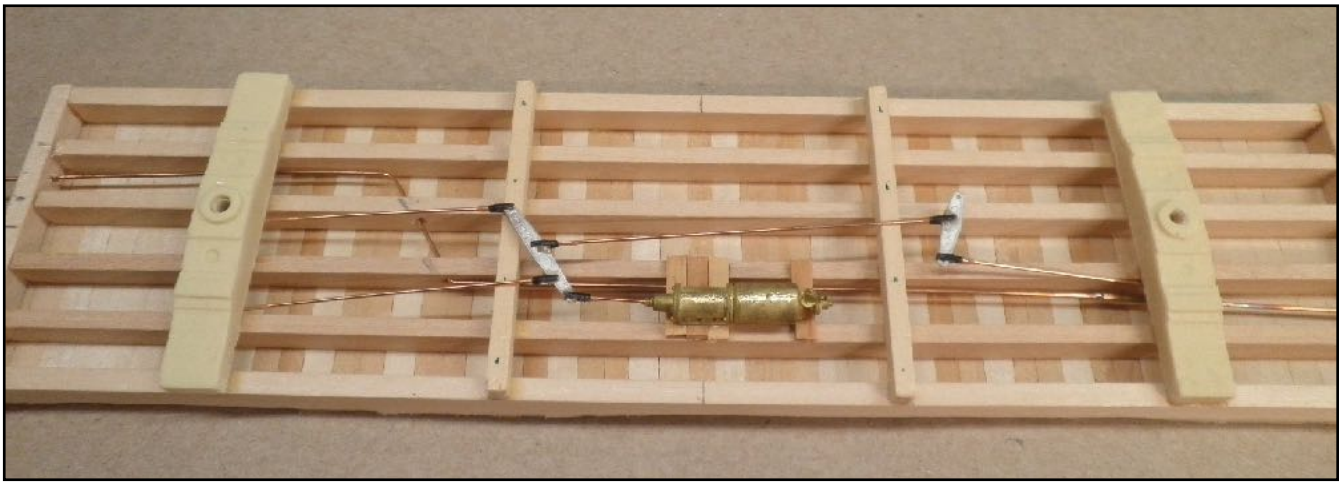

Photo 9

Photo 10

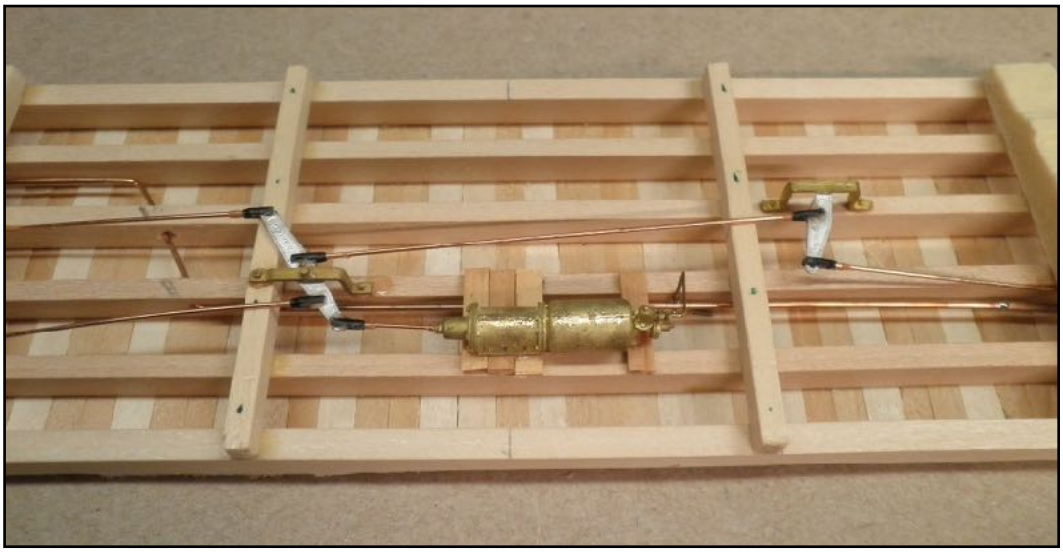

Photo 11

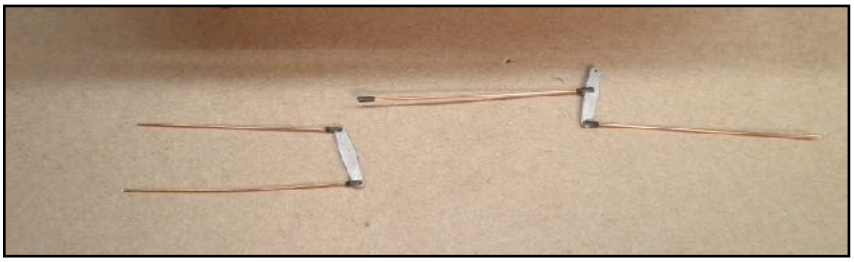

Photo 12

But wait, there's more! What I have described above works for most house cars and, with an additional lever, for a caboose with brake wheels at both ends. Hopper cars are a bit trickier and if you consult the PSC catalog diagram, you will find that that the brake components consist of a two-part K brake installed under one end. It is tight quarters under there so this is something to consider installing during assembly and not retrofitting. But what about adding all this under a tank car? There is not a lot of framing under there to support "stuff" and it's all out in the open.

I pulled out an older brass IMP import tank car that had no underbody details. First, the levers and connecting rigging is really pretty much the same as under any other house freight car (**Photo 12**). I've pre-fabricated the lever and rigging framework in two sections.

The more challenging aspect of this car is mounting the actual brake casting. In this case I have chosen to use one of the Wiseman Model Services castings. I have also opened up the "T" plumbing joint in for the train line on this casting. But first it has to be mounted to the tank car frame. I have soldered on a section of brass angle with a space cut out for the tank body. This provides a platform the front and back section of the brake casting can rest on, similarly to what was done for the mounting of the casting on the wood car in **Photo 5**. I sweat-soldered the casting to the mounting platform and in this cast retained and used the supplied clevis inserting that into the brake casting. The train line (0.033" brass wire) was threaded through the end sill of the car, through two staggered holes in the center sill frame, then through the "T" plumbing joint of the brake casting. A second section of 0.033" brass wire with a union joint at one end was threaded through from the opposite end sill to connect up to and complete the train line. A quick jab of soldering sealed those connections. Since the lever and rigging framework were pre-fabricated, the location for the lever hangers was also known. Those were fabricated from brass and soldered to the center sill frame (**Photo 13**).

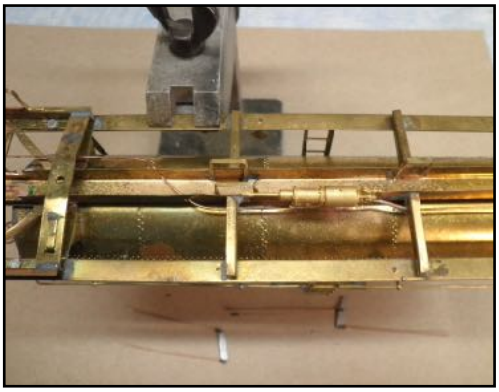

Photo 13

After that was completed, it was a simple matter to insert and assemble the levers and connecting rigging to complete this installation (**Photo 14**).

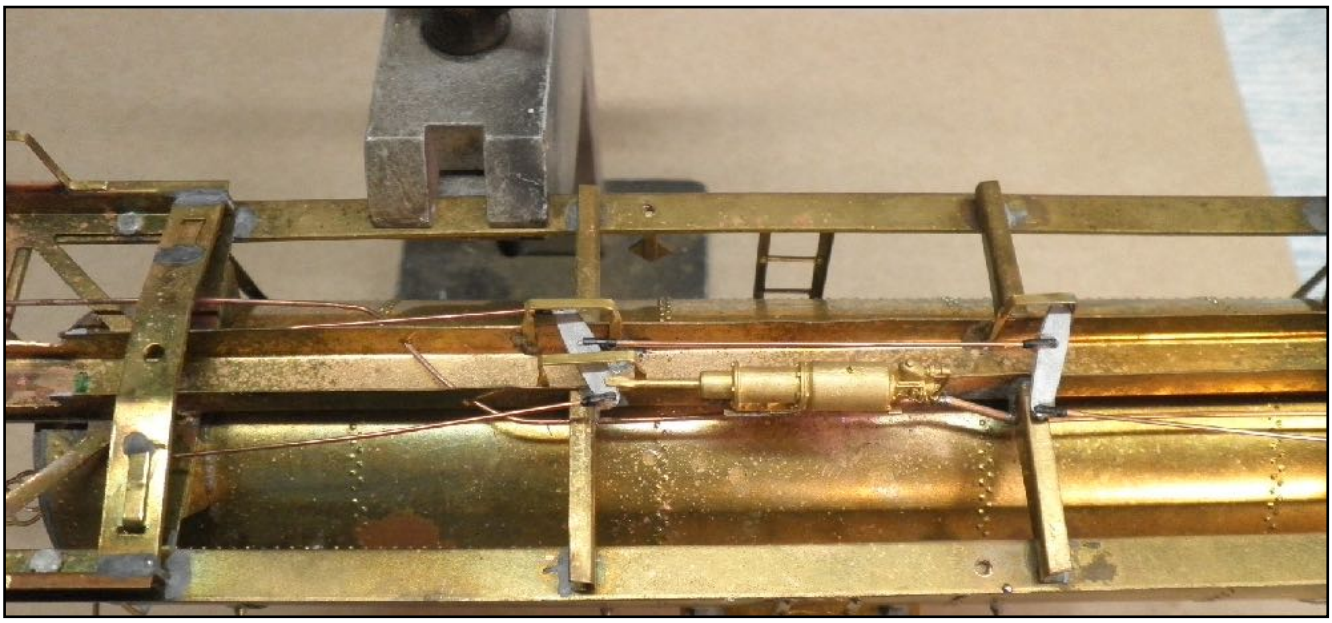

Photo 14

After a little painting, **Photo 15** shows what this underbody looks like. So, you see that this is not a terribly difficult exercise for model railroaders, and it adds a lot of visible details under your cars. I will confess that I left bits out like the retainer valve, and then connecting this all up to the brake wheel at the end of the car. It is rare that I bother with the retainer valve. Connecting to the brake wheel is actually pretty straightforward in most instances so covering that in the future will go hand in hand with the next car that gets built in my shop. However, another installment in a future issue regarding putting an AB brake system under your model cars seems more likely.

Photo 15

Tips for Improving Car Construction

By Kenneth Montero

PART I

I. Safety

Model railroading is supposed to be fun. Let's keep it that way by observing a few safety practices.

A. Safety glasses or goggles

Flying parts or shards, or splashes of solvent cements (especially cyanoacrylates) can cause major eye damage or blindness. Example – I have an old pair of eyeglasses with a dot of cyanoacrylate cement in the middle of one lens. Safety glasses or goggles are cheap and easy to use.

B. Paint booth or outdoor airbrush painting

You don't want to inhale VOC's (volatile organic compounds) when airbrushing with solvent paints (lacquer, enamel, etc.) – and some acrylic paints that contain alcohol or similar products. When using any paint, including acrylic paint, you don't want to inhale any airborne particulate paint that did not land on the model being painted. A paint booth, especially when vented out of the room, pulls almost all of it away from you, the painter. When painting outdoors, this happens only if the wind is blowing away from you.

C. Chemical Cartridge/Gas Mask Respirator

It is entirely possible for some paint fumes to not be extracted by a paint booth (blowback, etc.) To be as safe as possible when airbrushing, also wear a chemical cartridge/gas mask respirator (that has a replaceable filter cartridges). That does not include N95 masks or dust masks.

These masks have replaceable filter cartridges – observe the time limits (based on usage) for replacing them. Use one that is meets the standards for use with VOC's (volatile organic compounds) set by NIOSH (National Institute for Occupational Safety and Health, the United States federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness). For more information, go to: https://www.cdc.gov/niosh/npptl/topics/respirators/factsheets/respfact.html and https://todayshomeowner.com/how-to-choose-a-respirator-or-dust-mask/

Note 1: Want to know what is in your paint? Go online and look for the SDS (Safety Data Sheet), formerly the MSDS (Material Safety Data Sheet).

Note 2: Please remember that fumes from solvent cements and cyanoacrylate cements will escape from open containers on your workbench. Keep them closed when not extracting

the cement. Consider having a small fan to blow fumes away from your work area, especially if you are sensitive to the smell of these cements, especially cyanoacrylate cements – same for using a chemical cartridge/gas mask respirator.

II. Selecting the kit

A. Ask yourself these questions:

- What skill level is needed to build this kit? Don't hesitate to stretch your limits a bit – it will help develop your skills. But, as a general rule, don't make a big leap to avoid disappointing results.
- What tools, paints, additional parts, decals and supplies will be needed to successfully build this kit to your satisfaction? If you don't know this when selecting the kit (trucks especially, but also additional details), be prepared to acquire them after selecting the kit. This step will be reviewed again later.
- Be prepared to spend more time building the kit than you anticipate.

III. Opening the kit

A. Make a copy of the instructions. Keep the original in a separate place so that additional copies can be made if necessary – especially if a drawing for the layout of the parts is included (primarily for wood kits) because there are some kits for which the drawing is the template for laying out some of the parts.

B. Select a space where you can take **everything** out of the package.

C. Take **everything** out of the package.

- If parts are in separate bags, carefully open the bag (cut open with scissors or a knife) so that you don't break any parts. **Be careful** – don't lose any small parts.
- You may need to have some small containers (preferably with lids) to hold small parts. A box with compartments for fly fishing often works well for this purpose. **Caution:** don't use a black box if your parts are cast in black plastic – separate parts are difficult to distinguish in that setting. Can you see any detail in the painting "A Black Cat With Eyes Closed in a Coal Bin at Midnight"?

D. Use the copy of the instructions to verify that the kit contains all of the parts that are supposed to be in the kit. If parts are missing or damaged, deal with the vendor or manufacturer **NOW** to get missing or replacement parts before proceeding further. If the manufacturer is no longer in business, then decide how you will deal with this problem (buy parts elsewhere, make your own part, return the kit to the vendor if possible, repackage the parts and forget this project, etc.)

Note 1: **DO NOT REMOVE PARTS FROM ANY SPRUE, FRET, RESIN SHEET OR DECAL SHEET AT THIS STAGE** – you may either lose the part or not be able to identify the part when it comes time to install the part.

Note 2: If the instructions contain a list of parts, use a pencil (not a pen) to check off the parts as you identify them. If there are multiple examples of a particular part, check off only if all of the listed number of parts are found. Do not cross through any listing – you never know if and when you may need to refer to that list.

Note 3: If the instructions do not have a parts list, use a pencil (not a pen) to place a check mark next to any illustration showing the parts. It may be helpful to make a separate list of such parts.

Note 4: Parts with part numbers – look for the number on the part or on the sprue to which the part is attached. Such number placement is not always present.

Note 5: As you identify parts, move them from parts that have yet to be identified to avoid "mind clutter". Because a sprue, fret or resin sheet may have parts that are not in consecutive order, you may have to verify the parts out of strict numerical order – but don't remove parts from a sprue, fret or resin sheet at this stage. Also, keep different parts or types of parts (your choice) in separate containers or compartments – and label the containers or compartments if needed to avoid confusion at a later stage.

Note 6: Strips (wood and plastic).

- (wood) In some kits, different types of stripwood will have different colors painted on one end of the stripwood. Consult the instructions for details on the dimensions of each type of stripwood. If no list, make your own list of each type (example: .25" x .5", red) and number of strips, measure a sample strip, and separate them accordingly. If no color coding, make your own list of each type (example: .25" x .5") and number of strips, measure a sample strip, and separate and label them accordingly.
- (plastic) Usually no color coding. Therefore, make your own list of each type (example: .25" x .5") and number of strips, measure a sample strip, and separate and label them accordingly.

Note 7: Start deciding if you will be replacing or adding any parts with parts (including decal items) from other sources. If so, be sure to make a list of such parts and acquire them at this stage, then supplement your instruction sheet. You will repeat this process later. Sources of information for making those decisions for specific prototypes can be found through prototype research in prototype books and historical societies. Also, general information can be found in the NMRA Data Sheets – for example, Air brakes (Book 1, part D9n) and Safety Appliances (book 3, part D5d for standard gauge, book 3, part D5c for narrow gauge), which is helpful if you are making a freelance car.

Note 8: Start deciding if you will be fabricating any parts, including air brake lines and brake rodding. If so, be sure to make a list of needed raw materials not already in the kit and tools and acquire them at this stage, then supplement your instruction sheet. You will repeat this process later.

Note 9: For kits that do not have pre-painted parts, or for additional unpainted parts, decide when in this process to "de-grease" the parts with alcohol, detergent or other liquid cleaner so that the paint will adhere better to your model.

- Once de-greased, the model should be handled only while wearing gloves – latex, neoprene, etc.
- Frequently, such de-greasing takes place after the model is assembled and ready for painting. However, a model with no openings should not be dipped in a liquid cleaner, as the cleaner may get trapped inside the model.
- Some modelers initially de-grease the components, then do so again when the model is ready to paint.
- Plan ahead as to when to do so.

E. Study the instructions – don't just glance at them. Do this several times, trying to imagine what each step takes for you to accomplish that instruction. If you don't clearly understand each and every step, contact the manufacturer, vendor or a fellow modeler for assistance. This is where a knowledgeable hobby shop staff member can be an invaluable resource, as can being a member of a NMRA Division.

Note 1: Some kits come with very little or no written instructions. Some kits have poorly written instructions. You may need to prepare your own step-by-step instructions, or provide supplements to certain steps – especially if kitbashing or building from scratch. Those instructions need not have more information that to trigger your memory as to what to do at that step. Sometimes just adding numbers to each step can be helpful.
Sometimes you may need to change the order in which certain steps will be followed – if so, write them down. Sources of information for making those decisions for specific prototypes can be found through prototype research in prototype books and historical societies. Also, general information can be found in the NMRA Data Sheets – for example, Air brakes (Book 1, part D9n) and Safety Appliances (book 3, part D5d for standard gauge, book 3, part D5c for narrow gauge), which is helpful if you are making a freelance car.

Note 2: Review your earlier decisions regarding adding, deleting, modifying, fabricating or replacing parts, and also decide if additional such changes in the instructions are needed (supplemental instructions). If you will be doing so, be sure to write that information as part of your supplemental instructions. If there are numbered instructions, use that numbering scheme to add your additional instructions. Acquire needed parts at this stage, then sort out parts being replaced or deleted.

Note 3: Review your earlier decisions regarding what tools, paint and additional supplies that you will need to build your model, and determine at what stage of construction you will need each of these items. Acquire paint and supplies at this stage, acquire or plan at this stage to acquire all needed tools.

Note 4: Decide at this stage if you plan to paint any parts before assembling then into your model. If so, decide if and when you are going to prime all parts to be painted (generally recommended to insure an even color base upon which to paint the final colors), then decide if and when parts will be masked for multi-color schemes.

Generally, items to be painted should be painted before assembly is started, especially as to items that may be difficult to paint completely once those parts are assembled on a model – for example, air brake components. In some cases, painting may need to be deferred until a specific step in the construction of the model – if so, add a note in your plans (see above).

Note 5: Like Note 4, if you will be adding decals, decide when and to what parts you will be adding decals. This step is taken after the affected parts are painted. In many instances, decal application will be deferred until everything else in constructing the model has been completed. Example: Install grab irons after applying decals since doing otherwise will prevent proper application of the decal – and be prepared to use a needle to poke holes after applying the decal so that the grab irons can be installed.

Note 6: Plan where to locate the weights – flatcars and gondolas can be challenging. See IV, 12. Below, for detains on final weigh-in before assembly.

Note 7: Especially for passenger cars, decide if you plan to install interior details and, if so, how you plan to do so. This is critical in determining when to add the car sides, ends and roof.

IV. Construction Tips

A. General concepts

1. Step-by- step – Don't skip around - follow your plans. As you perform each step, use a pencil (not a pen) to put a check mark beside that step (do not strike through it). If you have to go back to re-do a step, you can erase a penciled check mark, but not one made with ink. If you strike through a step, you cannot erase an inked line, and a pencil eraser may remove the photocopied instructions. This is especially helpful if you don't complete the car model at one session – you don't have to try to remember where you stopped working on your model.
2. Test-fit major components at the beginning of the construction process to see if they fit and, if so, how well. If any don't fit well, determine if adjustments to the parts can be made to make them fit.
3. For minor components such as grab irons, you most likely will test fit just before gluing such parts to other parts – and, if they don't fit well, make adjustments at that time.

4. Square and level – If the assembled parts are not square and level, the car generally will look odd and may not run well, especially as to the frame of the car (even a frameless tank car has ends that are framed), ends and sides (be sure that each is the same length and height as its opposite component). When you wish to make an exception (such as a gondola with dented and bowed sides or a swayback boxcar or flatcar), care must be taken to make the car functional.

   Note A: Use a Machinist's square or similar device to determine if corners are square. If not, you can use a file or sanding block to rework the part, or use strip plastic or wood and any needed filing or sanding to make a part "square up".

   Note B: Use a section of plate glass or other similar item known to be flat – and place the part in question on the known flat surface to see if it is flat. Often, it is the back side of the part that needs to be flat so that it can be successfully used. If a part is not flat, a part sometimes can be flattened by placing it in low heat (150 degrees Fahrenheit)for a few minutes to flatten the part, but this process can be risky and may not always straighten out the part:

   - For resin parts, place the part on the back or side that needs to be flat on a cookie sheet or similar flat metal surface and then place it in an oven to cause the part to flatten – but be sure to let it cool thoroughly before touching the part to avoid marring the exposed surface. If possible, experiment with scrap resin from the kit – not all resins react the same to this process.
   - For styrene plastic parts, place the item in hot water for a few minutes, then withdraw it from the water and place it flat-side

   Sometimes, the part is flexible enough that it can be straighten out by gluing it to its intended place on the model. This is especially true for strip wood and plastic.

   Note C: Measure to ensure sure that:

   - Each end is the same in height and width.
   - Each side (and parts of sides) are the same in height and with as their opposite component.

5. Prepare large parts for the addition of smaller parts at a later step in the construction process – For example, it usually is easier to pre-drill holes for grab-irons on a car side before assembling it with other large parts into the car body. Avoid painting places that will become parts of a glue joint – either by masking or by scraping away any paint that gets on the part that will become part of a glue joint – because a joint containing a painted surface is quite likely to fail.

6. Decision Point - Assemble large parts before adding details or assemble sub-assemblies for complex part assembly to be attached later to larger parts
   - Small parts are easily broken or their alignment changed by adding them to a large part before all of the large parts are assembled to each other. If small parts are

     added first, then care must be taken in assembling large parts with added small parts to other large parts to avoid damage to the small parts.
   - However, there are times when it makes better sense to assemble some smaller parts into a larger assemblage for attachment to a larger part or assemblage. If small parts are added first, then care must be taken in assembling large parts with added small parts to other large parts to avoid damage to the small parts.
   - In reviewing the instructions, decide when each of these approaches works best – one approach may work at one point of construction which the other approach may work at a different point.

7. Measure twice, cut once
   - When cutting strip or sheet wood or plastic, measure twice with a reliable measuring device (ruler, caliper, etc.) and mark with a pencil where you want to cut.
   - When trimming a part, check carefully against any picture in the instructions to avoid trimming off a segment of the part.

[To be continued in subsequent issues. This article was too long to be put into one issue, but it is too important to leave it out. You may want to consider printing this section so you can put the series together when all are available. - Ed.]

Back on Track…

Steve Salotti Susquehanna Caboose

End of the Line for 2023 (Photo by Jerry Lauchle, MMR)

Taking our Modeling to New and Higher levels for 2024 (Photo by Jerry Lauchle, MMR - Courtesy of Howard Zane) — Happy New Year!