



# The Local

Newsletter of the Mid-Eastern Region, NMRA  
The Local, 75, Number 5, Sept-Oct, 2020

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

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## How to Get Your Chief Dispatcher Achievement Program Certificate

By Kurt S. Kramke, MMR

Chief Dispatcher was the first AP (Achievement Program) certificate that I obtained in my journey to become a Master Model Railroader. At the time, I happened to belong to a club in Massachusetts that had operating sessions. This particular certificate requires the modeler to participate in operations with other modelers. So, naturally, getting an Achievement Program Award for doing something that I was already involved in anyway seemed like a good place to start.

Every month, the club had two operating sessions that were two hours long with many trains in operation at the same time. This allowed me the opportunity to participate in the positions that are required for the Chief Dispatcher certificate. Afterwards, I had three members sign a form stating that I had performed all the requirements and added that to my documentation. Interestingly, some of those requirements that had to be accomplished then are no longer necessary. There is no need to confuse you with prior requirements. So, I'll just let you know what they are now, which is what really matters to those who are seeking this certificate.

The current requirements are as follows:

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### ACTIVITIES:

**The modeler must have participated in the operation of a model railroad, either at home or at a club, for at least 50 hours, not all of which has to be as a dispatcher. A minimum of ten hours each must have been served in three of the following five categories, one of which must be Dispatcher:**

1. Engineer (mainline freight, passenger, or wayfreight) – Each engineer runs their train in a way that would simulate the prototype, guided by the signal system or by the Dispatcher's orders. No fast starts or sudden stops. (con't on page 3)

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### Virtual MER Board Meeting Schedule

1. MER Virtual Board Meeting October 8th, 2020 Starting at 7:00 PM  
(Details: <http://mer-nmra.com/bod.html>).

2. MER Virtual Annual Meeting October 10th, 2020 Starting at 7:00 PM  
(Details: <http://mer-nmra.com/agm.html> ).

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	<b>Chesapeake Division 14</b> Mike Zitmann N/A <a href="mailto:super@chesdiv-nmra.org">super@chesdiv-nmra.org</a> <i>Division web page:</i> <a href="http://www.chesdiv-nmra.org">www.chesdiv-nmra.org</a>				

(con't from page 1)

2. Yardmaster (or station master) – The yardmaster runs the freight yard. Makes up the trains with the appropriate cars so they are ready to go when required by the Dispatcher. The stationmaster manages the passenger yard.

3. Hostler (or power desk) – Manages the engine facilities, servicing locomotives and assigning locomotives to the appropriate engineer. Exiting locomotives must be facing the proper direction and be ready to go when the Dispatcher orders it. Returning locomotives are placed in their appropriate stalls.

4. Towerman (or traffic manager, or road master) – Operates control panels to set up appropriate routes at the proper time at the direction of the Dispatcher. The traffic manager controls which cars come and go from each industry and specifies the route. The roadmaster is the chief troubleshooter and repair person to keep everything running smoothly.

5. Dispatcher – Coordinates all train movements – either by sequence, timetable or fast clock or by any other operating system that gets the trains to and from wherever they are supposed to go, in order to serve the railroad's customers (passengers and industries) in the most efficient manner possible.

**While the Chief Dispatcher Achievement Program Statement of Qualifications form describes what each position does, the regulations also state that these “...descriptions are not designed to list ALL of the things that a particular job must involve - they list things that are typically involved in each job. Naturally, jobs, duties, and overall operating complexity will vary from one model railroad to another.”**

The regulations also state that this experience has to be accumulated on one or more model railroads that has at least two mainlines and yard activities occurring at the same time. Some system of freight and passenger car movements, including road switching, needs to be used for controlling train activity.

The hours required can be done at one or several layouts and with different operators.

NOTE: The modeler HAS to document these time requirements. It is best and easiest for them to be written down while they are performed. USE the log page in the Statement of Qualifications form!

#### DOCUMENTATION:

For documentation, the applicant must prepare four documents (a computer may be used to do so). These include a layout schematic, timetable, operating train chart (graph), and a system of operation.

1. The first requirement is to prepare a schematic of the model railroad that was used while on the job. If more than one layout was used, choose one. *The modeler can either choose one of the layouts physically used in the operating sessions or can design a layout and an operating session that meets the requirements. I used the club's layout and operating session because the sessions were based on a 24-hour time period, which used to be the requirement.* The schematic can be a print-out of the computer-designed layout or it can be hand drawn.
2. Timetable. If your club or group uses timetable operation, you can use that if it meets the criteria.
3. A graph for the train movements needs to be developed based on the operating timetable schedule in number 2 listed above. Indication of at least one train meet on the drawing is required. A description of the meet includes train position and describing the actions of the meet. It can be one train overtaking another at the siding.
4. A system must be developed for the operations described. If the club or group has a protocol already set up, that can be used, as long there are forms and explanations available for their use.

A group of individuals can submit copies of the same paperwork, but each applicant must develop and submit their own timetable and train chart, even if they are copies of the same ones used by others in the group.

My suggestion is not to overthink or complicate the requirements of this or any other certificate. I found that when working on the certificates, I tended to complicate the requirements – making them more difficult than necessary. It's important to break the requirements down into small, simple steps. That way, the whole process is not so overwhelming. Also, remember that every certificate has more parts than what are actually required to be done. The choice is yours as to which ones to do.

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## **UPCOMING MER CONVENTIONS**

**2021 Convention** – Chesapeake Division – Oct. 21 - 24, 2021 - Delta by Marriott Hunt Valley Inn, 245 Shawan Road, Hunt Valley, MD

**2022 Convention** – “Carolina Special Look South in 2022”



## PRESIDENT'S COLUMN

### Fall Fun!?

President Kurt Thompson,  
MMR

When you get this issue of *The Local*, since you're an active member of the MER, you probably have already voted in the MER election. If you haven't done so, please take the time to vote for the candidates of your choice for President, Vice-President, Secretary, and Treasurer. Also, please read, consider, and vote for the Bylaw changes on the ballot as well.

Regardless of the outcome, we are grateful to those few members who have volunteered to be candidates in this election. If you are unhappy with the number of candidate choices on the ballot, please feel free to volunteer to serve your fellow MER members by throwing your hat into the ring for next year when the three Director seats will be on the ballot.

Enough about the election until the November issue when I will announce the winners in print. The winners will take office at the end of the Annual Members meeting.

This year, since we are not meeting face-to-face at our Convention in October, the Annual Members meeting will be held as a Zoom meeting on Saturday, October 10, 2020 at 7 PM. Information on that meeting is listed in this issue and was included with the ballot information sent to each member of the Region. I hope you will attend the Membership meeting.

You can also attend the Board of Directors meeting, which will be held two days earlier on Thursday evening, at 7 PM, October 8, 2020. Information on that meeting is listed in this issue.

As part of the Annual Members meeting, Rick Uskert, the Local Convention Committee Chair

for the 2021 Convention, will make his presentation. This presentation will be done along with all the other reports and presentations that we normally do during the MER convention - after the Banquet and on Sunday morning. Please add the Annual Members Zoom meeting to your calendar.

Until then, don't forget to get busy on your models for next year's convention. The President's Award next year will be for any model (car, locomotive or structure - anything) from a railroad operating in 1946 in the Baltimore metropolitan area. The prototype for the model must have been built or in use in Baltimore in 1946, which is the year that the MER was chartered by the NMRA as a Region.

Happy modeling.

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## Meritorious Service Award for Dave Chance

By Kurt Thompson, MMR

On June 11, 2020, the NMRA awarded a Meritorious Service Award to Mid-Eastern Region's Achievement Program Manager, Dave Chance. Dave's award was one of two MSA's awarded for Achievement Program activity. The citation reads, "The AP Committee of the Education Department recognizes Dave Chance...with MSA for outstanding service to members in [his] Region as part of the Achievement Program. These two Regions had the most active AP participation based on numbers of certificates awarded during the year. [His] dedication and results warrant recognition among their fellow Region AP managers, all of whom are dedicated to serving our members." Please join me in congratulating Dave on a well-deserved award from National.



## EDITOR'S COLUMN

Greg Warth

This issue of *The Local* is once again chock full of model railroading information and interesting original articles by our many accomplished

members. We are delighted to be in a position where we have so many great articles coming in for publication. The only downside is figuring out where to put them all. You may have noticed that some of your recent issues have been a bit longer than usual. We try to keep the page count down to around 50-55, since it may become cumbersome to continue reading beyond that point. At the same time, we always try to accommodate the authors of the articles as much as possible. We don't want to delay publication of these articles any more than necessary. It's a balancing act, but it's a good "problem" to have. So, keep the articles coming! The more the better. We just can't always guarantee when they will appear. If your article is time-sensitive, let us know, so we can try to get it into the next issue.

### Facebook:

Communication continues to be a key in learning more about our hobby and improving our skills. We can't let cancellation of our physical meetings get in the way of talking to each other.

So, in keeping with this philosophy, we have developed a Facebook group (titled MER-NMRA), thanks to the efforts of our Webmaster, Jeff Burch, just for members of the MER (Mid-Eastern Region) of the NMRA. If you haven't already signed up, go now to this link and join right away:

<https://www.facebook.com/groups/mernmra>.

Don't forget to post something about what you're doing in the hobby so we can all be enlightened. (No ads please). The more we use this, the more we can all learn. Include text, photos, videos – anything that will expand our knowledge, or even just entertain us, as long as it's about model railroading or railfanning. You may even want to

do a video clinic – post it on YouTube and share a link to it on Facebook.

### Zoom:

Another way that we might consider communicating is by setting up Zoom sessions to share our ideas, show our layouts and our models, or even to do live clinics. Some of our members have already taken advantage of this. We should use the technology that we have available as much as possible. If you would like to present a live clinic on Zoom, let us know so we can get the word out.

### NMRax, Gateway X, MER Website:

Some of you may have noticed that the NMRA has been hosting virtual clinics, to which all members are invited, through a new branch of the NMRA, called NMRax, which was born in April 2020 (<https://nmra.org/tags/nmrax>) to enhance our digital network.

Also, I hope you were able to join in on Gateway X, the virtual NMRA 2020 convention, July 12 – 18. You won't receive this issue of *The Local* till afterwards, but we will post links to any recorded sessions on Facebook, so you can still connect to them. Links to these programs can also be accessed through our newly refurbished and updated website at <https://mer-nmra.com> - thanks again to Jeff Burch, who has been working hard behind the scenes to bring us up to date.

### Send in Your Contributions:

*The Local* welcomes 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 for publication are used in approximately the order they are received.

The deadline for submission of articles is always exactly one month before the publication is scheduled to appear, unless an urgent need is requested. After the publication has been sent out for distribution, there can be no further changes made for that issue. Now that we have a Facebook Group Page, urgent messages can be distributed in that format.

Please observe the following steps to submit your contribution:

1. Compose and submit your text in one of the following formats: TXT, DOC, or DOCX. Not PDF.
2. 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.” Send the illustrations separately and numbered as you would want them to appear in the text. JPG, GIF, TIFF, or PNG formats are best for photos.
3. Your photos **MUST** be original, sharp, clear and high-quality.
4. **PLEASE** only send us your own, original, 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.
5. If you have captions for your photos, create a separate text file for the captions, each of which should be numbered to match a numbered photo or figure.

Submit your articles by email to [local-editor@mer-nmra.com](mailto:local-editor@mer-nmra.com) in 3 separate attachments - one for text, one for photos and one for captions. You will receive recognition of your submission within 24 hours.

All articles will be reviewed for their quality, originality and subject matter. They will be corrected and edited, as needed, by our panel of proofreaders and by the Editor, before finally being entered into *The Local* and *eLocal* by the Publisher. Some sections may need to be rewritten to improve clarity and quality.

We truly appreciate ALL contributions to *The Local*. We are happy to work with our authors in producing the highest quality publication possible. Please let us know if you have any questions or concerns.

### Advertisements:

For advertising in *The Local*, please contact the Editor at [local-editor@mer-nmra.com](mailto:local-editor@mer-nmra.com). The current advertising rates (one year) as follows:

Callboard ads (Division and Clubs Only)...	Free
Business Card size .....	\$60
Quarter Page ad.....	\$125
Half Page ad .....	\$225
Half Page ad per issue (Div. only) .....	\$25

and must include camera-ready art (text, doc/docx, jpeg, pdf, bmp, tiff formats).

Please remember that the “door” to the editor’s office is always open. Don’t hesitate to let me know if you have any ideas, questions or concerns about how our team can serve you better.

Email: [Local-editor@mer-nmra.com](mailto:Local-editor@mer-nmra.com)

### Deadlines and Schedules for 2020 Balloting

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

The remaining dates for 2020 are:

**September 8, 2020** -- Deadline for electronic voting, also last day as shown by postmark for mailing paper ballots.

**September 12, 2020** -- Deadline for receipt by Balloting Committee of paper ballots sent by mail.

**September 19, 2020** -- Deadline for Ballot Committee to transmit results to President, the Director overseeing this committee, and the Business Manager.

**September 26, 2020** -- 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, 2020** -- Deadline for publishing election results on MER's website.

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**Proofreaders:**

Alex Belida , Martin Brechbiel, Ken Montero

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## Achievement Program Update

By Dave Chance, MER AP  
Manager

August 01, 2020

Since the last report in *The Local*, the following Achievement Program certificates were earned and awarded:

### Division 2 – Potomac

**Alex Belida – Proto Model**  
**Robert B. Rodriguez - Model Railroad**  
**Author**

### Division 4 – Tidewater

**Dale Ridgeway – Master Builder Motive**  
**Power**

### Division 5 - James River

**George Gaige - Master Builder**

### Structures

**George Gaige - Master Builder Cars**

### Division 12 – Carolina Southern

**Ed Smith – Model Railroad Author**

### Division 13 - Carolina Piedmont

**Robert Gamble – Golden Spike Award**

**Bill Aulicino - Golden Spike Award**

**James P. Murphy – Master Builder**  
**Scenery**

**Charles Rausch - Master Builder**  
**Structures**

**MER's Newest MMRs:** Dale Ridgeway of the Tidewater Division, MMR No. 657 and Charles Rausch MMR No. 659 of the Carolina Piedmont Division are the Mid-Eastern Region's newest MMRs, so offer your congratulations the next time you see Dale and/or Charlie!

During this time of “social distancing”, it is an ideal opportunity to work on those AP certificates that you have been putting off.

You can discuss any questions with your Division AP Chair, or you can contact me. **704-933-4200** or **loconut@carolina.rr.com**

In a perfect world, this information will appear soon in the **NMRA** magazine. This should not deter you from giving recognition locally. Normally you will be able to recognize AP accomplishments long before the names appear in the **NMRA** magazine

PROBLEM - The R&V form is for your personal use. Only use it with the Author Submission.

Please, NO R&V FORMS with other submissions.

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## Making Loads for Transit

By Roger Bir

You have marked the calendar on your workshop wall, even set the date on your phone for when the next model train show scheduled. Like a pre-flight checklist for pilots, we model railroaders put together a list of things that we “need” and those items that we would “like to have” as we anticipate the next train show. The drive to the show heightens the anticipation as conversations with your passengers center around what you think will be available, how much “to or not to spend,” or what vendors do you specifically want to see. The car is parked, ticket purchased, and you spend the extra minute filling out the door prize form, wondering what you will do with the item should “Lady Luck” smile your way. You give your ticket at the door, get your hand stamped for return entry, and into the show you go. The first thing that you notice is a vendor selling loads for coal cars. Seeing this, you now remember the six-pack coal car you received last week. However, you did not remember to take the car’s measurements.



**Photo 1. Items needed**

This scenario has happened to me and I am sure to plenty others in our hobby. To avoid frustration in the future, I would like to provide an alternative story line - build your own custom-made coal loads. The items needed for this build are pretty straightforward. We are using an HO 40' offset B&O hopper, paint stir-stick (Home Depot or Lowe's), Elmer's glue, Styrofoam packing strip, black spray paint, and micro-grain coal.

As I mentioned in my previous article (Ed: *Flatcar Load – Volvo Log Loader Vol.75-2*), you will need to decide the following; to “Weather...or not to weather.” Because this load is removable, the choice is yours. Now that the weathering choice is made, the next thing to accomplish is to check the car weight against NMRA standards. Our hopper is 5.5” long and weighs (empty with wheels) 3 oz. Per NMRA requirements, the car needs to weigh 3.75 oz, so 0.75 oz of weight is added to the floor of the hopper. The reason why I am using a paint stir-stick is somewhat obvious. Stir-sticks are 1 1/16” wide (or 27 mm) and a standard coal car opening is 1 3/16” (or 30 mm) wide. Because of this, no cutting or sanding is needed in order for the stick to fit into the open top.

Measure the length of the hopper (measure twice...cut once) and cut both the stir-stick and Styrofoam strip. Next, sand the stick edges and check the overall fit (stick and strip) in the car. At this point, you will notice that the Styrofoam strip that I am using is 2-3 mm wider than the car opening. Measure the car’s interior width and compare it with the Styrofoam strip width. Taking the difference of the two, use a scalpel to trim off the excess Styrofoam. Once trimmed, first place the stir-stick and then the Styrofoam strip into the hopper to check overall fit. Re-trim as necessary to ensure a snug fit.

Now you have the base and the “load” ready for the next phase - centering and gluing the strip to the stick. Apply Elmer’s glue to the stick and the strip, smoothing both sides to ensure that a secure bond takes place. Center the strip on the stick (remember, the strip is wider than the stick) and place together. Take the remaining piece of the stir-stick and apply it to the top of the Styrofoam strip/stir-stick making

it a “sandwich” of sorts. Using the “sandwich” approach prevents the clamps from leaving an impression in the Styrofoam. Set aside to properly dry (usually within an hour). When dry, remove the clamps and the remaining piece of the stir-stick that you used to make the “sandwich.” The Styrofoam part of the stir-stick now becomes the underlying base of the coal load.

The next phase of the build is to customize the appearance of your coal. The era of your layout will determine just how the finished load will appear. For this load, I am using what is standard by today’s fare in the coal transport business by rail...controlled interval. Take a straight edge/ruler (black felt tip pen) and at each end of the load, you make a mark about 1/16” on the top and the side of load. Taking the felt tip pen, connect the marks on the top and the side. Using the same measurement, make the marks on the opposite side and both ends. Then take your scalpel and follow the angle down the marked edges of the underlying base. Discard the remnants. Next, take the underlying base and, using a clamp, spray paint a coating on the top and side of the underlying base. Set aside and allow to completely dry.



**Photo 2. Underlying base marked for shaping**

This next phase deals with the addition of your coal. For some modelers, you could stop here. The texture of the Styrofoam (and now black in color) is such that most would feel it would suffice in appearance as a standard coal load. Even better, no mess or, for that matter, no coal residue would be on either your layout or your travel box. If you decide on using this option, I would recommend using a paint that is flat, not glossy, for a more realistic look.



**Photo 3. Underlying base test fit in hopper**



**Photo 4. Underlying base painted**

This particular car is for our Division Superintendent’s (Fred Humphrey) layout and part of his mantra is “attention to detail.” With this understanding, we move to the next step of the process. Find an aluminum pan, such as one used mostly as a grease catcher on an outdoor grill, as it is the perfect “catch-all” for this next part of the procedure. Taking an old paintbrush and Elmer’s glue, apply the glue to the top and angled edges of the underlying base. With the glue wet, place the underlying base into the aluminum pan. Next, take a spoon and begin “heaping” teaspoons of micro-grain coal onto your

underlying base. Make sure not to move the pan, as any motion may jar or knock off the newly applied coal. Being careful when moving the pan, set it aside to completely dry (usually overnight is the best timeframe).



**Photo 5. Aluminum pan**

The coal application to your underlying base should be thoroughly dry before starting the final phase. Take the load out of the aluminum plate and gently shake off any excess micro-grain coal. Because you have the pan, any remnants can be poured back into the original container. There is a chance some of the glue/coal could be stuck to

the lower sides of the underlying base. Using your finger, gently rub off any leftover coal from the lower sides/ends of the load. Doing this allows a better fit into the hopper body. At this point, bring out your hopper car and place it wheels down. Next, take your load and place it towards the end bulkhead of your car. Once the end is in place, then gently work and adjust the load into place.



**Photo 6. Finished coal load**

The load is complete and ready for service on your layout or available for the next operating session. Before closing, I would like to share one last thing. What we have completed is a standard coal load. Using the same basic materials (stir-stick, Styrofoam strip, Elmer's glue) you can create a "homemade" sawdust/wood pulp, ballast, or even an iron ore type load. Should you decide on iron ore, remember this one important fact. Iron ore by mass, is much heavier than coal or ballast. In creating an iron ore hopper load, you would not fill it completely to the top. Normally, one-half to three-quarters would be a normal iron ore load. If you have any questions concerning this load, please feel free to contact me at: [sorcerer54@cox.net](mailto:sorcerer54@cox.net).

# 75<sup>th</sup> Anniversary Logo Contest

By Kurt Thompson, MMR

Reminder to submit your Logo Contest entry to me by the extended deadline of November 30, 2020. We have several very nice entries so far. **The winner will receive paid registration to the 2021 MER convention.** Full details are in the September-October 2019 issue of The Local.

## Membership and MMRs

As of August 6, 2020, and since the previous report, we have lost 67 members and gained 30, which resulted in a net decrease in total MER membership from 1906 to 1888. This is somewhat disappointing, but not surprising, in view of our country’s recent economic and unemployment difficulties. These numbers should help inspire us to keep encouraging our friends, neighbors and family members to join, even though they may only have a mild interest in the hobby - just to follow along and see what others are doing. It may generate a major interest later.

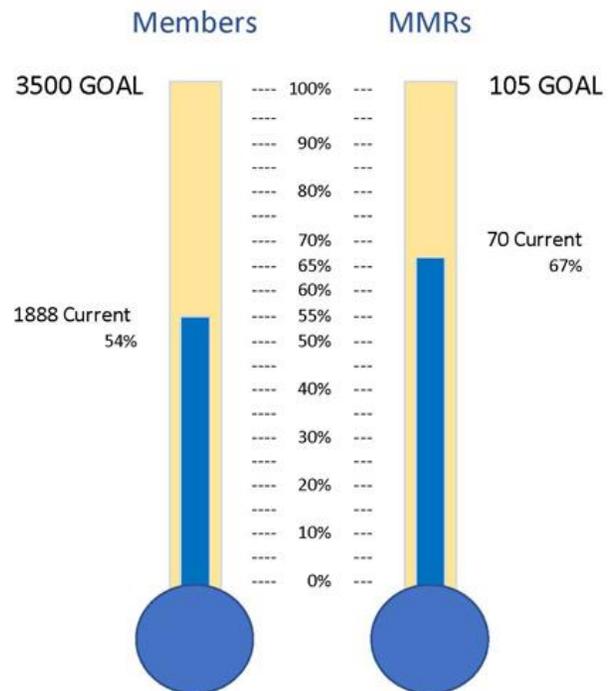
On a lighter note, we would like to congratulate two new Master Model Railroaders – Dale Ridgeway, #657, and Charles Rausch, #659 – for their accomplishments and expertise in model railroading. This brings our total number of MMRs for the Mid-Eastern Region up to 70 – Only 35 more to go to reach our goal of 105 before our 75<sup>th</sup> Anniversary in October 2021. (Information on membership and MMR data obtained by courtesy of Howard Oakes, Business Manager, and Dave Chance, AP Program Chairman, respectively.)

**Custom  
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**Layout Design**

**By Lance Mindheim**

[www.shelflayouts.com](http://www.shelflayouts.com)  
301-404-8164



**NOTE: Due to many cancellations related to the current pandemic, please confirm the event before attending.**

### Upcoming Events\*

2020	Dates	Event	City	State	Contact
SEP	10-13	Mid-Atlantic RPM	Linthicum Heights	MD	<a href="http://www.marpm.org">www.marpm.org</a>
SEP	12	TCA train show	Mebane	NC	<a href="http://www.traincollectors.org">www.traincollectors.org</a>
SEP	22	Carolina Piedmont meeting	Apex	NC	<a href="http://www.cpd13.org">www.cpd13.org</a>
SEP	26-27	Old 97 Rail Days	Danville	VA	<a href="http://www.dcs.smv.org">www.dcs.smv.org</a>
SEP	27	TCA train show	Philadelphia	PA	<a href="http://adtc.com">http://adtc.com</a>
OCT	2-3	Selma Rail Days	Selma	NC	<a href="http://www.selma-nc.com">www.selma-nc.com</a>
OCT	2-3	Susquehanna Ops weekend		PA	<a href="http://www.susquehannanmra.org">www.susquehannanmra.org</a>
OCT	3-4	Great Scale Model Train Show	Timonium	MD	<a href="http://www.gsmts.com">www.gsmts.com</a>
OCT	8	MER Board meeting	Zoom Meeting		<a href="http://mer-nmra.com/bod.html">http://mer-nmra.com/bod.html</a>
OCT	9-12	NER Convention	Westford	MA	<a href="http://www.millecity2020.org">www.millecity2020.org</a>
OCT	10	MER Annual Meeting	Zoom Meeting		<a href="http://mer-nmra.com/agm.html">http://mer-nmra.com/agm.html</a>
OCT	15-18	Look South in 2020	Charlotte	NC	<a href="mailto:kkdrailroad@yahoo.com">kkdrailroad@yahoo.com</a>
OCT	17	2 Rail O Scale Train Show	Strasburg	PA	John Dunn 609-432-2871
OCT	23-24	TCA train show	York	PA	<a href="http://www.easterntca.com">www.easterntca.com</a>
OCT	24-25	Great Scale Model Train Show	Timonium	MD	<a href="http://www.gsmts.com">www.gsmts.com</a>
OCT	27	Carolina Piedmont meeting	Apex	NC	<a href="http://www.cpd13.org">www.cpd13.org</a>
NOV	1	TCA train show	Philadelphia	PA	<a href="http://adtc.com">http://adtc.com</a>
NOV	7-8	Neuse River Valley Train Show	Raleigh	NC	<a href="http://www.nrvclub.net">www.nrvclub.net</a>
NOV	7-8	Susquehanna open houses		PA	<a href="http://www.susquehannanmra.org">www.susquehannanmra.org</a>
NOV	10	Carolina Piedmont meeting	Apex	NC	<a href="http://www.cpd13.org">www.cpd13.org</a>
NOV	14-15	Susquehanna open houses		PA	<a href="http://www.susquehannanmra.org">www.susquehannanmra.org</a>
NOV	21-22	Susquehanna open houses		PA	<a href="http://www.susquehannanmra.org">www.susquehannanmra.org</a>
DEC	5-6	TCA train show	Raleigh	NC	<a href="http://www.traincollectors.org">www.traincollectors.org</a>
DEC	8	Carolina Piedmont meeting	Apex	NC	<a href="http://www.cpd13.org">www.cpd13.org</a>
2021	Dates	Event	City	State	Contact
JAN	28	Carolina Piedmont meeting	Apex	NC	<a href="http://www.cpd13.org">www.cpd13.org</a>
JAN	30-31	Railroad Hobby Show	West Springfield	MA	<a href="http://www.railroadhobbyshow.com">www.railroadhobbyshow.com</a>
FEB	25	Carolina Piedmont meeting	Apex	NC	<a href="http://www.cpd13.org">www.cpd13.org</a>
MAR	23	Carolina Piedmont meeting	Apex	NC	<a href="http://www.cpd13.org">www.cpd13.org</a>
APR	23-24	TCA train show	York	PA	<a href="http://www.easterntca.com">www.easterntca.com</a>
APR	27	Carolina Piedmont meeting	Apex	NC	<a href="http://www.cpd13.org">www.cpd13.org</a>

\*This calendar is updated and current as of **August 6, 2020**.

# Modeling an Elevated Subway

## Part 1 - Building the Track Support Structures

By Brian W. Sheron, MMR

### Introduction

This is the first part of a two-part article on modeling elevated subways. Actually, most of it is also applicable to modeling any elevated railway. However, my focus will be on elevated subways.

### Background

Elevated subways are typical in large cities. The two cities in the U.S. that I am aware of that have extensive elevated subways are New York City (NYC) and Chicago. Of the various methods for providing rail transit systems, ground level trackage is by far the least expensive to build and maintain, provided the land is available. In urban areas where land is not readily available, either elevated or underground subways are used. Elevated subways are less expensive to build than underground subways, and are used when trackage and track support structures can be acceptably built among the existing infrastructure (roads and buildings). In New York City, most, if not all, of the elevated subway lines were built above existing roads during the first half of the twentieth century.

Elevated subways can add railroading action to urban scenes on a layout as well as add to the urban atmosphere. They can be simple point-to-point or loop track plans that can be retrofitted onto existing sections of your layout, or they can be more complicated with branch lines, etc. With some of today's model subway trains, the trains can be programmed to operate automatically, eliminating the need for a layout operator to manually control their movements.

Back in 2015, I retired and decided to expand my Long Island Rail Road (LIRR). The expansion consisted of adding a 17' x 5' island to my existing layout in an adjacent section of my basement. The basic track plan for the island addition was a double track mainline that loops around the layout island, with a view block running down the middle. On one side I modeled the LIRR car floats, car float gantries, and car float yard that was along the East River in Long Island City in the NYC Borough of Queens. On the other side, I modeled Holban Yard in the foreground and Flatbush Avenue in the background.<sup>1</sup>

I had modeled an elevated subway on another portion of my layout some time ago, and more recently purchased NYC subway train sets from MTH Trains to run on it. I was impressed with the capabilities of these subway trains, and thus decided I needed to build an elevated subway above my model of Flatbush Avenue.<sup>2</sup> **Photo 1** shows the Holban Yard / Flatbush Avenue side of the 17' x 5' expansion, and the planned route of my elevated subway (red arrows).



**Photo 1: Proposed route of the elevated subway**

## Elevated Track Supports

Elevated subways often run above existing roadways, and usually have two parallel tracks. Each set of tracks is supported on two or three wide-webbed I-beams that run parallel to the rails. These are reinforced with structural stiffeners along their length. The rails can be attached to wood ties, and the wood ties are then supported by the parallel, horizontal I-beams. In some cases, the track support can be a masonry structure, in which case the tracks can be attached by bolting them to a concrete roadbed.

In the case of rails attached to wood ties that are supported by I-beams that run parallel to the rails, the I-beams, (and tracks) are then supported along their length by structures composed of two uprights and a wide-web I-beam cross member. When the elevated subway runs above a road, the uprights are typically spaced far enough apart such that the roadway can run under the tracks and between the uprights.



**Photo 2: Typical elevated subway support structure**

The structural design of the uprights and cross members can vary considerably. A quick search on the internet for images of elevated subways will yield a wealth of pictures that show a wide variety of upright structure designs. The uprights are usually box girders or H-beams, and are riveted, bolted, or welded to the cross members. The cross members are typically wide-webbed I-beams with structural stiffeners attached to the web along its length. **Photo 2** shows a typical elevated subway support structure.

## Modeling the Track Support Structure

As previously mentioned, the structure that supports the track can be a wide variety of designs, and what you choose for your support structure is really a matter of personal taste and the complexity of the structure you wish to build. For example, a support structure with two simple H-beam or box girder uprights (**Photo 2**) and a wide-web crossbeam would be simpler to build than, for example, one with more elaborate curved structural supports on it (**Photos 3, 4**).



**Photo 3: Elevated subway support structure in Harlem, New York City**



**Photo 4: Elevated subway support structure in Harlem, New York City**

Micro Engineering makes a number of elevated railway viaduct kits. They come in both 90' and 150' scale lengths and in single or double track widths. A typical Micro Engineering HO elevated railway city viaduct is shown in **Photo 5**. The benefits of using Micro Engineering City Viaducts is that they can be easily and quickly built, and look realistic. However, if you are putting your elevated subway above an existing road on your layout, the width of the Micro Engineering City Viaducts uprights is fixed, and may be either too wide or not wide enough to span your existing street unless they are modified.



**Photo 5: Micro Engineering 90' double track city viaduct**

I chose to scratch-build my track support structure. I wanted to build my elevated subway above my model of Flatbush Avenue in Brooklyn. This had storefronts with a plethora of colorful signs that were photocopies of actual storefront signs (**Photo 6**). The elevated subway support structure was designed to minimize obstructing the views of these signs. Therefore, I did not want any structural members

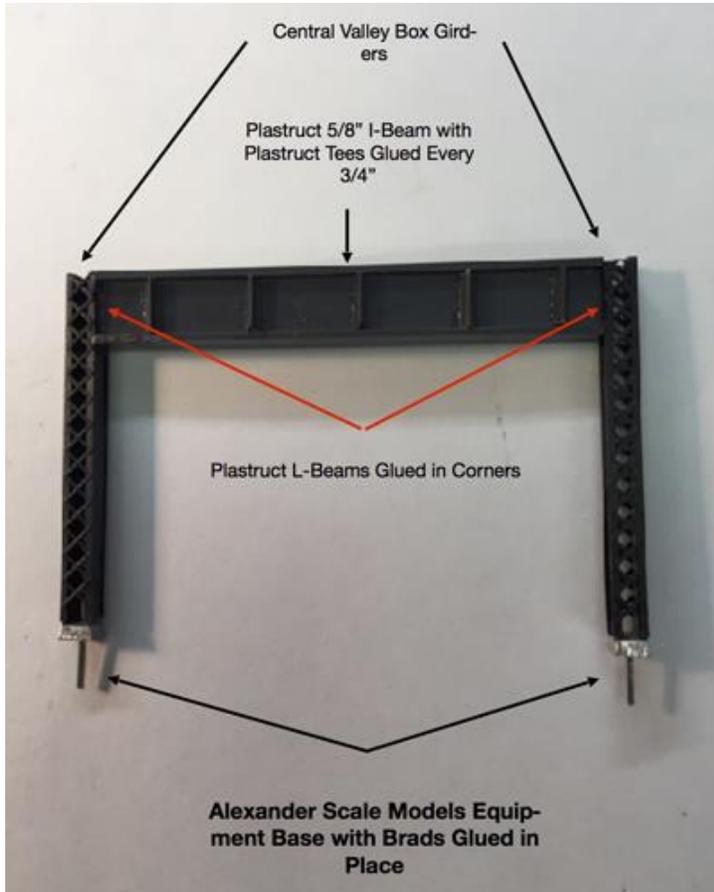


**Photo 6: Flatbush Avenue in Brooklyn on my LIRR Layout**

between the uprights and the track support I-beams. I chose a design with single open box girder uprights and a reinforced wide-web I-beam as the cross member.

### **Building and Installing the Track Support Uprights**

The upright open box girders were Central Valley HO Scale Steel Bridge Girders (kit No. 1902-5). The wide-web I-beam cross members were made from Plastruct 90031 5/8" I beam, with Plastruct 90084 1/8" tees cut to length and glued every 3/4" along the web of the I-beam. In the corners where the girder and I-beam meet, I glued Plastruct 90503 3/32" Styrene angle (L-beam). For the base that supports the upright girders, I used Alexander Scale Models Equipment Base No. 3113. This base is partially hollow underneath, and I glued small brads with the point cut off into the recess of the base. These brads serve as alignment pins when positioning the uprights and constructing the track support I-beams. The width of the support structure was determined so that the box girder uprights would attach to the layout on the edge of the sidewalk that ran down each side of the street. **Photo 7** shows a completed upright support structure.



**Photo 7: Completed upright support structure**

I spaced my track support structure uprights between 11" and 11-1/2" apart along the length of the roadway. This was because I had existing infrastructure along the road (parking meters, fire hydrants, etc.) and did not want to move these. Once I found a suitable location for each upright that did not interfere with the existing infrastructure, I drilled a small hole on each side of the street in the sidewalk and located the pins in the base of the uprights into the holes. This allowed the uprights to remain vertical while the remaining track supports were being constructed and attached, but allowed the uprights to be easily removed. **Photo 8** shows several uprights in place using this method.

### **Building the Horizontal Track Supports, Track, and Third Rail**

Once several upright support structures were built and put in place, I began assembling the horizontal wide-web I-beams that would attach to the top of the support structures and provide the support for the track.

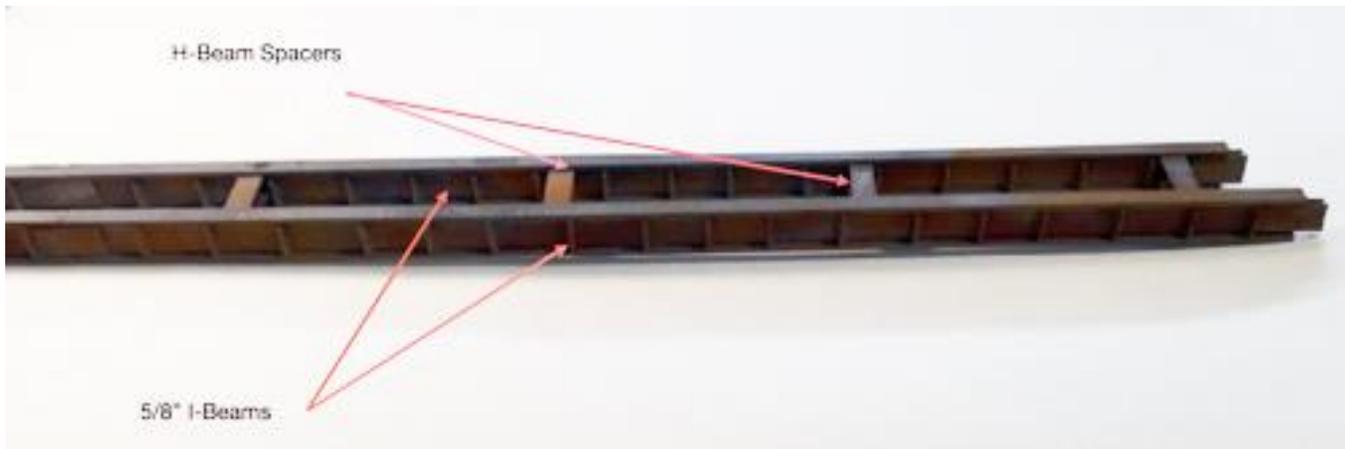
Because elevated subway trains use electric traction motors, they need a source of electricity. Electricity for most elevated (and underground) subways is provided by electrified third rails, which I wanted to model. In addition to modeling a third rail, I would also need to model the boards that covered the third rails, including their support brackets. To do this, I would have to construct the horizontal track support beams, the track, the cover boards, and their supports as a unit at the workbench, and then put them in place on top of the support structures.



**Photo 8: Several upright support structures painted, weathered, and mounted in place**

Each of the Plastruct 5/8" I-beams was 15" in length. I decided I could construct a complete track / track support / third rail assembly that was 30" long at the workbench. I started by connecting two 15" I-beams using scrap styrene cut to the width of the web about 1" long, and gluing them to each side of the I-beams where they joined. This would give the I-beam butt joint stiffness and simulate structural tie plates. Again, I cut Plastruct 1/8" tees to fit between the web flanges, and glued them every 3/4" along the length of the I-beam. Because of the number of web stiffeners needed (e.g., one 15" I-beam would need about 20), I strongly recommend investing in a Northwest Short Line Chopper if you do not already own one. If your elevated subway is only going to be viewed from one side, there is no need to glue web stiffeners on the side of the I-beam that will not be seen.

For each track, I used two sets of I-beams to support the track. These need to be spaced 1-1/2" apart from the outside of one I-beam flange to the outside of the other I-beam flange so that the ends of the ties would rest on the flange of the I-beam. To space the I-beams correctly, and also to model the structural spacer beams used on the prototypes, I cut Plastruct No. 90547 5/16" styrene columns (H beams) to length and glued them between the I-beam webs every 4". **Photo 9** shows a completed horizontal track support section.



**Photo 9: Horizontal track support structure**

With both the upright and horizontal track support structures, it is best to paint and weather them before installing them permanently. Based on prototype photos, most elevated subway structures are painted either a medium gray or a light to medium green. However, that does not mean that other colors were not used, such as a light blue. I chose to paint my support structures a medium gray.

Elevated subway structural supports, because they are exposed to the elements, typically have rust and peeling paint on them. I used Bragdon Enterprises rust-colored weathering powders to give all of the structural components the appearance of a light coating of rust.

Once the 30" horizontal track support structure was completed for one track, I set it in place on the uprights to make sure it fit properly. I connected one end of the I-beams to the end of the structural track support section previously installed, again using scrap styrene glued to the web flanges to stiffen the section where the I-beams butt together. Once I was satisfied that it fit together properly, I removed it and took it back to the workbench. **Photo 10** shows horizontal I-beams being test fit on the structural uprights and connecting to the I-beams previously installed.



**Photo 10: Horizontal I-beams being test-fit into place on upright support structure and connecting to previously installed track support**

It was now time to install the track. I used Atlas Code 83 Nickel Silver Flex Track. I attached it to the horizontal I-beam supports with contact cement. With contact cement, you coat each surface to be joined (bottom of the track ties and the top flange of the horizontal I-beams) with the cement, and then let it dry for about 15-20 minutes. Note that when you place the track onto the top flange surface of the horizontal I-beam structure, the bond will be permanent!

Once the contact cement dried on each surface, the horizontal track support structure sections were put into place on the structural uprights. These were connected to the adjacent horizontal track support structure I-beams. One end of the track was connected to the track on the adjacent horizontal support structure with rail joiners. When sliding the ends of the rails into the rail joiners on the adjacent track, I made sure to hold the rest of the track section up so that it did not inadvertently become glued to the I-Beams before the track was properly located.



Once the tracks were connected, the track was carefully laid down onto the horizontal I-beam flanges that were coated in contact cement. I made sure that the track was centered between the flanges. After the track was glued into place, the complete 30" horizontal track assembly was removed. **Photo 11** shows a 30" segment set in place with the track glued to the surface. Next, the third rail and the third rail cover boards were attached.

Once the tracks were connected, the track was carefully laid down onto the horizontal I-beam flanges that were coated in contact cement. I made sure that the track was centered between the flanges. After the track was glued into place, the complete 30" horizontal track assembly was removed. **Photo 11** shows a 30" segment set in place with the track glued to the surface. Next, the third rail and the third rail cover boards were attached.

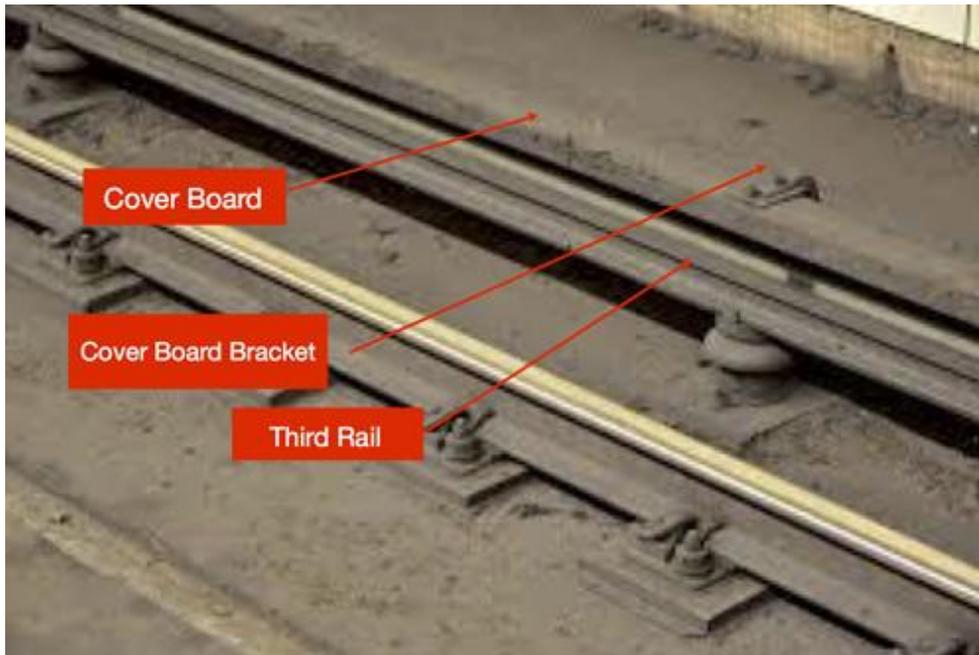
**Photo 11: A 30" horizontal support with the track glued in place sets on top of the structural uprights and connected to the previously installed horizontal support that has the track and their rail completed**

## Attaching the Third Rail

The third rails run parallel to the subway tracks and a sliding

“shoe” attached to the subway car truck slides along the third rail. This made the electrical contact and provided the electrical power to the traction motors. Third rails are typically smaller than the rails the subway cars ride on and are mounted on insulated supports that in turn mount to the track ties. To keep the third rail the proper distance from the trucks, every third or fourth tie is slightly longer than the other ties and these are called “sleeper ties.” The third rails, insulators, and mounting brackets are attached to the extended portion of the ties. **Photo 12** shows a typical third rail with cover boards and cover board

brackets on a concrete base (note that captions added are the author’s).



I decided that I would model the third rail using code 55 rail glued directly to the outer edge of the flex track ties, rather than remove every fourth tie on the flex track and replace it with a longer tie. With the cover boards installed, the third rail is essentially hidden from view. I glued the third rail on using contact cement.

**Photo 12: Third Rail with Cover Board and Cover Board Brackets**  
(captions in red added by author)

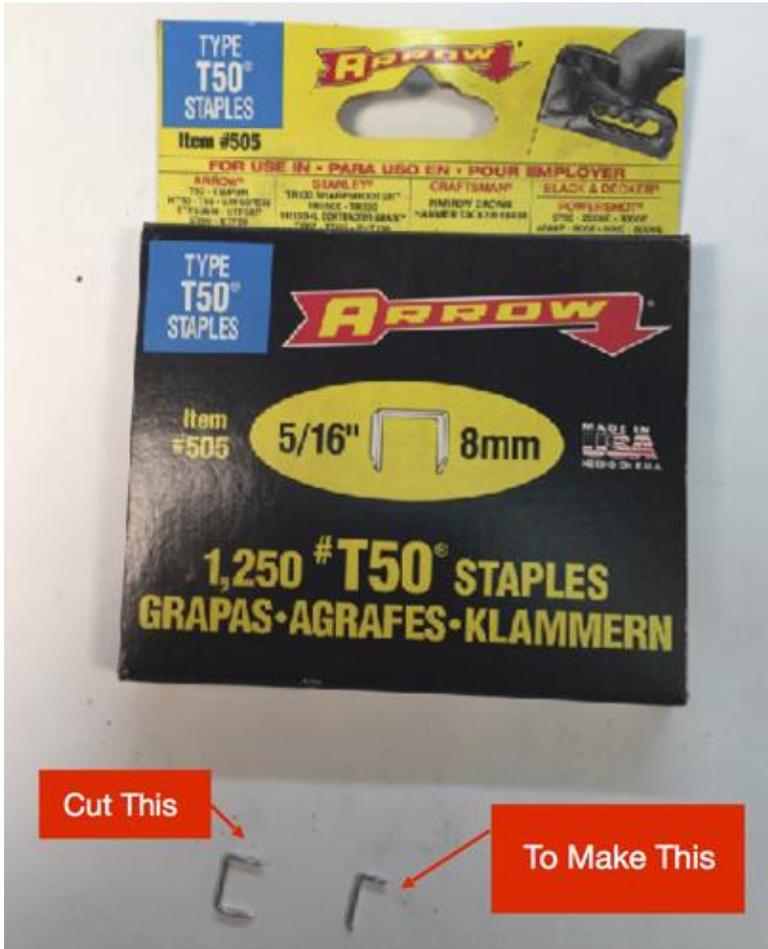
## Cover Boards

Cover boards are sometimes, but not always used on subway third rails, and can be made of a variety of materials, such as wood planks, composite boards, or metal. There are several materials that can be used to model cover boards on our layouts, such as styrene, basswood, and brass. In all cases, support brackets have to be attached to the cover boards in order to mount them over the third rail. I made the support brackets out of Arrow T50 staples. I separated the staples from each other and then cut them as shown in **Photo 13**.

I decided to use Evergreen No. 135 0.030” x 0.100” strips for my cover boards. I located the support brackets every 2” along the styrene strip. I found that applying a drop of Plastruct Plastic Weld Solvent Cement to the styrene strip where the support bracket will be located would soften the plastic sufficiently to hold the bracket in place. I then added a dab of Duco Cement for a permanent bond. The completed cover boards and brackets were spray painted a light gray, and then mounted on the track assembly by drilling holes into the I-beam flange where the brackets were located. A dab of glue cemented the cover board brackets into place. You can see the cover boards in place over the third rail in **Photo 11**.

### Installing the Horizontal Track Assembly

With the third rail and cover boards now in place, the 30" horizontal track assembly can be permanently installed by connecting the I-beams at the tie plates, along with the track at the rail joiners. I put Plastruct liquid cement on the inside of the tie plates and the receiving I-beam before putting the assembly in place. Once in place, I made sure it was in the right position on the upright support structure, then applied liquid cement and cemented the bottom of the horizontal I-beams to the upright structure transverse I-beam where they met.



This process of constructing 30" segments of track support assembly was repeated until the end of the line was reached.

Several things to note:

- 1.) When installing the completed track sections, remember that the track needs to get electrical power. Decide where you want to connect the wires to the track and where you want to run the wires to your power bus such that they will not be visible.
- 2.) If your subway line needs to curve (**Photo 10**), remember to add structural members under where the track ties will rest. Ties should not be suspended in air.

**Photo 13. Cover Board Brackets made from Arrow T50 Staples**

3.) As I added sections of the track assemblies, and before I connected the permanent power feed wires, I connected jumper wires from my mainline tracks to the elevated subway tracks. I test ran the subway train on each completed section to make sure the tracks were aligned correctly and there were no track connections that would cause derailments.

In the next installment of this article, I will discuss adding the signals, walkways, walkway railings, stations, and the subway trains themselves. All figures used in this article were provided from free internet sites, or were used with the owner's permission.

<sup>1</sup> My modeling intent was to capture the general atmosphere of the Queens/Brooklyn part of New York City. In real life, Holban yard is located in the Borough of Queens, whereas Flatbush Avenue is in the Borough of Brooklyn.

<sup>2</sup> In keeping with my modeling intent as stated in footnote 1 above, note that in real life Flatbush Avenue does not have an elevated subway over it.

## Achievement Program Article Series

By Greg Warth

Despite the chaos around us, we continue to forge ahead with working on AP (Achievement Program) certificates and ultimately achieving the MMR (Master Model Railroader) designation.

Our goal, once again, as set by our MER President, Kurt Thompson, MMR, is to increase the number of MER Master Model Railroaders by 75% for a total of 105 MMRs by the time of our MER Convention in October of 2021 – our 75<sup>th</sup> anniversary. We encourage ALL our non-MMR members to join in and start earning those AP certificates. There is only a little over a year left.

*The Local* is dedicated to providing all the information you need to make personal progress in attaining your achievement awards. This issue of *The Local* contains three new AP articles to present:

- “Chief Dispatcher” - by Kurt Kramke, MMR, p.1
- “Master Builder – Structures” - by Glyn Thomas, MMR, p. 23
- “Prototype Models” Part 2 - by Andrew Dodge, MMR, p. 45

They are not that difficult. Break each project up into small easy steps. Don’t rush. Do it right. And don’t forget to have fun with it! Write a brief article about each project so you can also add points for the Author Achievement Award.

After this issue, there are two more articles – one on Motive Power and one on Scenery. They will appear in the November issue. The following table shows the complete lineup of articles that have been included in this series, which began in January 2020:

Model Railroad Equipment	Category	Author
	Master Builder - Motive Power	Joe Walters, MMR
	Master Builder - Cars	Ron Baile, MMR
	Master Builder - Cars	Ernie Little, MMR
Settings	Category	Author
	Master Builder - Structures	Glyn Thomas, MMR
	Master Builder - Scenery	Mary Miller, MMR
	Master Builder - Prototype Models	Andrew Dodge, MMR
Engineering and Operation	Category	Author
	Model Railroad Engineer - Civil	Ernie Little, MMR
	Model Railroad Engineer - Electrical	Rod Vance, MMR
	Chief Dispatcher	Kurt Kramke, MMR
Service to the Hobby	Category	Author
	Association Official	Kurt Thompson, MMR
	Association Volunteer	Brian Sheron, MMR
	Model Railroad Author	Martin Brechbiel, MMR

## Master Builder - Structures

By Glyn Thomas, MMR



**Photo 1. Creating a scene with scratch-built structures – White Haven, PA in 1948**

**Photo 2. Placing and dating a location by its structures 2 – Northern France, 1960's. The mill is based on the mill in Renty in northern France. The bridge is based on Eymoutiers in south-west France. The mill features etched brass windows and a laser cut water wheel; I would have earned more points if I had hand-laid the pantiles on the mill roof instead of using a Noch product. The bridge, built in soldered brass, is an example of points lost in an overly complex structure due to errors**



I suspect that Master Builder - Structures is the most commonly earned Achievement Program certificate.\* Beyond the trains themselves, model railroading is, largely, about building a believable miniature landscape, and structures are a major element of that landscape. While there are some high quality and beautiful kits on the market, eventually the modeler needs to address the desire for that *particular* structure to make the scene. This can only be done by scratchbuilding or kit-bashing. Many railroads had distinctive house styles, and architecture varies from region to region; representing a prototype signature structure can provide an instant visual cue to location. Ideally, you should be able to place and date the entire model railroad without a locomotive or car in sight.

So, if you need to scratchbuild or kit-bash structures anyway, why not take on Master Builder - Structures?

The basic requirements for Master Builder Structures are as follows:

- 12 structures total, of which 6 must be scratchbuilt
- 6 different types of structure must be represented, including a bridge
- 6 structures must attain 87.5 points or above on assessment by Merit Award judging, or in an NMRA contest
- Written Statement of Qualification, describing the structures submitted.

The important thing to note about these qualifications are that *only* six structures need to be scratch built, and *only* six need to score 87.5 points or above. These do not need to be the same structures, so you may be able to score most of the points with highly detailed craftsman kits. Although, these would usually need to be detailed beyond what is provided in the kit itself. It is worth noting the requirements to model different types of structure and the bridge.

In my case, I had already built many structures from scratch in order to represent actual towns in the upper Lehigh valley for my Central Railroad of New Jersey layout, so I was able to fulfill the 12 structures requirement entirely with scratch-built models. The structures that I selected represented the following:

- Signal (brass)
- Bridge (brass)
- Water mill (styrene and wood)
- Fisherman's hut (wood)
- Garage (wood)
- Flour mill (wood)
- Feed store (wood)
- Office block (styrene)
- Courthouse (styrene)
- Freight depot (resin and styrene)
- Hotel (styrene)
- Water tower (wood)

I generally use plastic to represent brick or stone structures, often faced with textured sheets such as Plastruct. In some cases, I have used homemade resin castings, where similar wall patterns repeat. I use wood to represent wood structures. Many of the older structures use window and door castings from Tichy Train Group or Grandt Line. More recently, I have photo etched, or laser cut my own windows, especially for structures intended for contests.

Four of the models that I submitted already had judging forms from NMRA contests. The remainder of the models were assessed in a single Merit Award evaluation session at the layout. I must thank David Messer (sadly, recently deceased) and Earl Paine for making the long drive to my home to do the merit award evaluations. If you are close enough to achieving sufficient merit awards at once to justify a visit from the judges, then Merit Award judging is the best way to go.

In order to achieve high points in judging, I suggest the following:

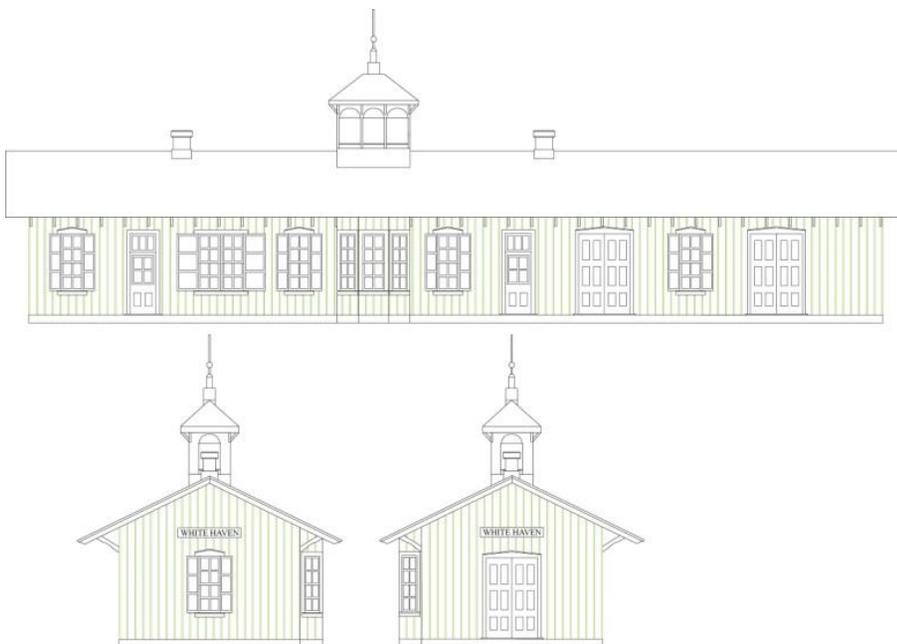
1. Choose structures that are likely to get sufficient points.

- It is worth reviewing the NMRA Judging Guidelines available via the website. It shows that complexity (both of model and finish), level of detail, and prototype conformity influence scores as much as quality of workmanship and difficulty of techniques.
- Ideally, select prototype-based structures that are moderately complex to build and require some specialized construction or finishing techniques. Going for an overly complex model may be counterproductive due to the amount of building time required and it increases chances of losing points due to construction errors.



**Photo 3. An unusual way of earning points, this French Lartigue signal was photoetched from brass at home. It earned 94 points in a Region convention contest.**

- Select prototypes with some history – weathering and decay are good ways of showing off your finishing prowess.
- Regardless of the above, build structures that you want to build – either just “because you like it”, or because it has a specific purpose on the layout. Construction will typically take 10’s to possibly 100’s of hours, so you need to like what you are doing.
- If you are able, draw your own plans. This makes the model your own, and will gain some points in judging. For me, these also provide the basis for photo etching and laser cutting when used.



**White Haven Station plans – example of home-produced plans for construction and documentation. These were made in Adobe Illustrator, which makes them immediately usable for laser cutting.**

2. Get the basics right. Be critical of your own models and aim for a high base standard. For example:
  - Make sure that the model is square where it should be square (complex angles will get you more merit points, but only if they are meant to be there!).
  - Avoid loose parts and open joints. Clean up corners where possible. For example, neaten up brickwork at corners, possibly using some filler and filing/carving as necessary.
  - Avoid obvious glue marks and spills.
  - Ensure that paint finishes are high quality, smooth without obvious brush marks. I personally start with airbrushing a base coat of paint, and then finishing by hand. Some surfaces may also require a primer, which can be applied with a rattle can. It can be helpful to delay final assembly until after painting. This might allow multiple colors to be applied separately with less masking.
  
3. Be attentive to prototype details:
  - It seems that the most common failures mentioned in AP judging are no eaves at the roof overhang, and failure to show the line of the basement (which is often poured concrete, regardless of the actual structure's construction technique). Note that these features are not universal on real structures, but you may need to justify a decision to not show them via paperwork and prototype photos.
  - Sweat the details to maximize prototype conformance – in addition to the above, the judging forms suggest adding fascia boards, troughs, downspouts, gutters, nail heads, and doorknobs, and there other details that can be gleaned from prototype photos.



**Photo 4. This Philadelphia city block shows the benefits of paying attention to detail. The main structure is in styrene, with laser-cut wood windows and photoetched ironwork. Several rooms are furnished, and it has interior and exterior lighting. This model scored 93 points in a Region convention contest.**

4. Use craftsman techniques:
  - Per the judges' guide, there are more points for hard to add details, so in some cases it may be better to make an element by hand, rather than buy a product. For example, you could cast a stone wall in plaster, then carve the stones rather than use a textured plastic sheet. Or,

construct a clapboard wall from individual boards rather than buy milled wood sheet. I always hand lay shingles or tiles on roofs of structures that I plan to submit to contests.



**Photo 5. White Haven CNJ station, back dated to its early appearance. The model is built of wood. I constructed the board and batten siding using a jig. I laser-cut the windows, eaves, and cupula. The model has a fully finished interior with a removable roof. I would have received additional points if I had mentioned in the paperwork that all signage was produced at home. This scored 92 points at a Region convention contest.**

5. Consider adding interiors and lighting:
  - I was initially unenthusiastic about adding interiors, but they add to complexity and, therefore, can help with scoring points.
  - I create rubber molds for any interior furniture that I make, so it is easy to resin cast furniture for any new models that I build.
  - If you add interiors, it is worth going the extra mile to add lighting so that people can see your handiwork. I attach cheap 9V battery packs, so the lights can be shown in contests. If possible, it is also good to make roofs removable so that judges can see the interiors.
6. Pay attention to paperwork:
  - If submitting to a contest, it is virtually impossible to adequately represent your work in the space available on Form 902. I generally create a little booklet for each model that follows the structure of the form (construction, detail, conformity, finish and lettering, scratch built), but provides more details, including plans, prototype photos, construction photos, and photos of the finished model.
  - With Merit Award evaluations, it is worth doing the same, adding an attachment to the SOQ with detailed descriptions of each model to be scored.
  - Depending on your local judging team, they may request that you also provide judging forms for each model submitted.

In my view, anyone who has done a good job of a typical craftsman kit already has the skills needed for Master Builder - Structures. Earning the certificate is a mixture of dedication to make the models plus being smart about what you submit and how you submit it. The great side effect of doing the work is that your layout will end up looking more individual once you are done. Good luck!



**Photo 6. Mauser Mill, Treichlers, PA.  
Scratch built in wood; an earlier model with  
Grandt Line windows.**

**Photo 7. Placing and dating a location by  
its structures 1 – Mauch Chunk, PA in  
1948. All of the visible structures are  
scratch-built**



\* According to Kurt Thompson, MMR in his President's Column in The Local Volume 75-3 May-June, the MER certificate awards rank as follows:

1. Association Volunteer 140
2. Master Builder – Scenery 92
3. Model Railroad Engineer – Electrical 88
4. Chief Dispatcher 81
5. Model Railroad Author 80
6. Model Railroad Engineer – Civil 55
- 7. Master Builder – Structures 48**
8. Master Builder – Cars 38
9. Association Official 27
10. Master Builder – Motive Power 17
- 11. Master Builder – Prototype Models 5**

## Constructing a Brass Locomotive: The South Park's *Fairplay* Part 2

By Andrew Dodge, MMR



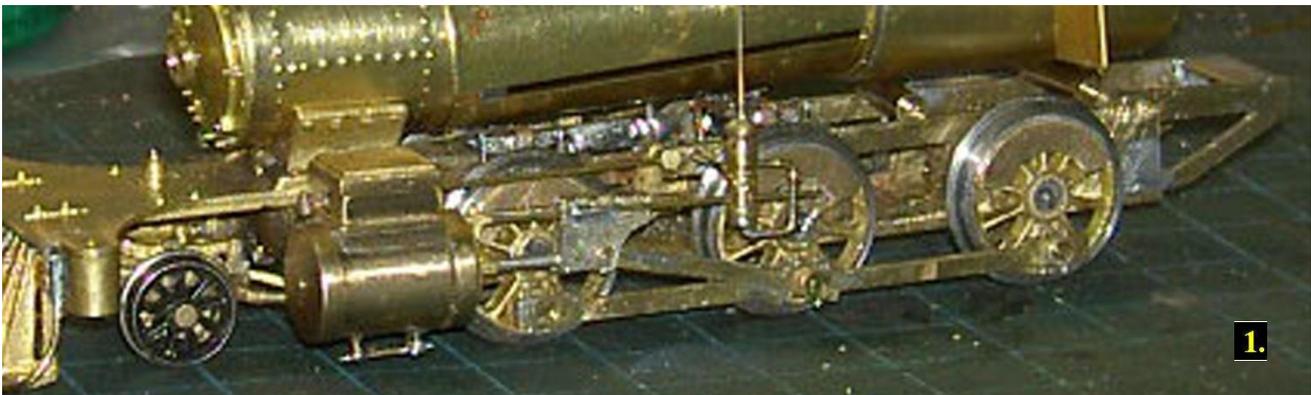
### Drive Train Assembly:

With your driving wheels, bearings, axles, and frame completed, it is now time for assembly. Although each operation is important, one of the most difficult and daunting is mounting the gear and drivers squarely onto the axles. A press is strongly recommended, along with some specialized tools that one has to make oneself so as to properly and squarely press the parts together. I would suggest taking a piece of round bar stock a little shorter than the length of the axle and then drill a hole through the center

just large enough for the axle to slide through. Then you can put the gear on the flat, base surface of the press, center the axle over the hole while it is in its sleeve and slowly apply pressure with the press' arm. You also might want to put a very small bevel on the end of the axle so it will start more easily into the gear and later the drivers. Remember that your baseplate and the sleeve have to be square and have flat surfaces so the axle is pressed perpendicular to the gear and drivers.

Once you have gotten the axle started into the gear and later the drivers, it is easy to follow the same procedure with other plates to center the gear, which is extremely important and easily done with your measuring calipers. Before pressing the drivers, make sure you have your bearing on the axles and in the correct orientation. Also, have the drivers quartered nearly where they will need to be. Quartering tools are available or you can make your own.

Remember: The drivers must be quartered exactly or the engine's drive train will not rotate.



Cylinder saddles are available in a number of sizes, and you will want to buy or make yours when doing the plan for the frame. As shown in the photo, it should be fit nicely in front of the first driver, under the

boiler's smokebox, and with the piston rod parallel to the rail and centered with the axles (**Photo 1**). The side-rods are easy to make once you make a bar-tool the length of the drive train with bolt holes spaced exactly like the axles are located. You then drill and tap the bar-tool with the same size bolt holes that will be used on the drivers. This reproduces the exact spacing for the drivers. The side-rods have to have that same exact spacing. Small adjustments might be needed, but be careful not to go too far with one side because that will impact the other.

### **The Boiler:**

Fabricating a boiler requires the use of sheet brass. I used 0.017" for my O scale engines, some simple math and the  $\pi$  formula. Several modelers in the past have asked about using tube metal for different applications in building a locomotive. Tube materials are not the same alloy and are not fabricated in the same process as sheet or bar stock. You will find that unless it is an exact, usable size, it is not an option because it cannot be machined. The first step in making the jacket would be determining the distance from the backhead in the cab to the back of the smokebox. That will give you the length. Determining the width of the piece will require the modeler to know the finished diameter of the boiler. Say the measurement across the boiler is two inches, then you multiply 2" x 3.14159, which gives you 6.28318" and thus the width of the sheet. Once cut, start to bend it around something like piece of pipe or some other cylinder. To finish bending it, I use car radiator hose clamps that I keep tightening until it fits around the pipe.

After squaring the ends and making sure your backhead fits properly, it is time to solder the two ends together. Do not forget to cut or allow spaces for the gearbox. In order to get as perfect a circle as possible and keep the jacket from trying to flatten out again when cutting an opening for the mechanical

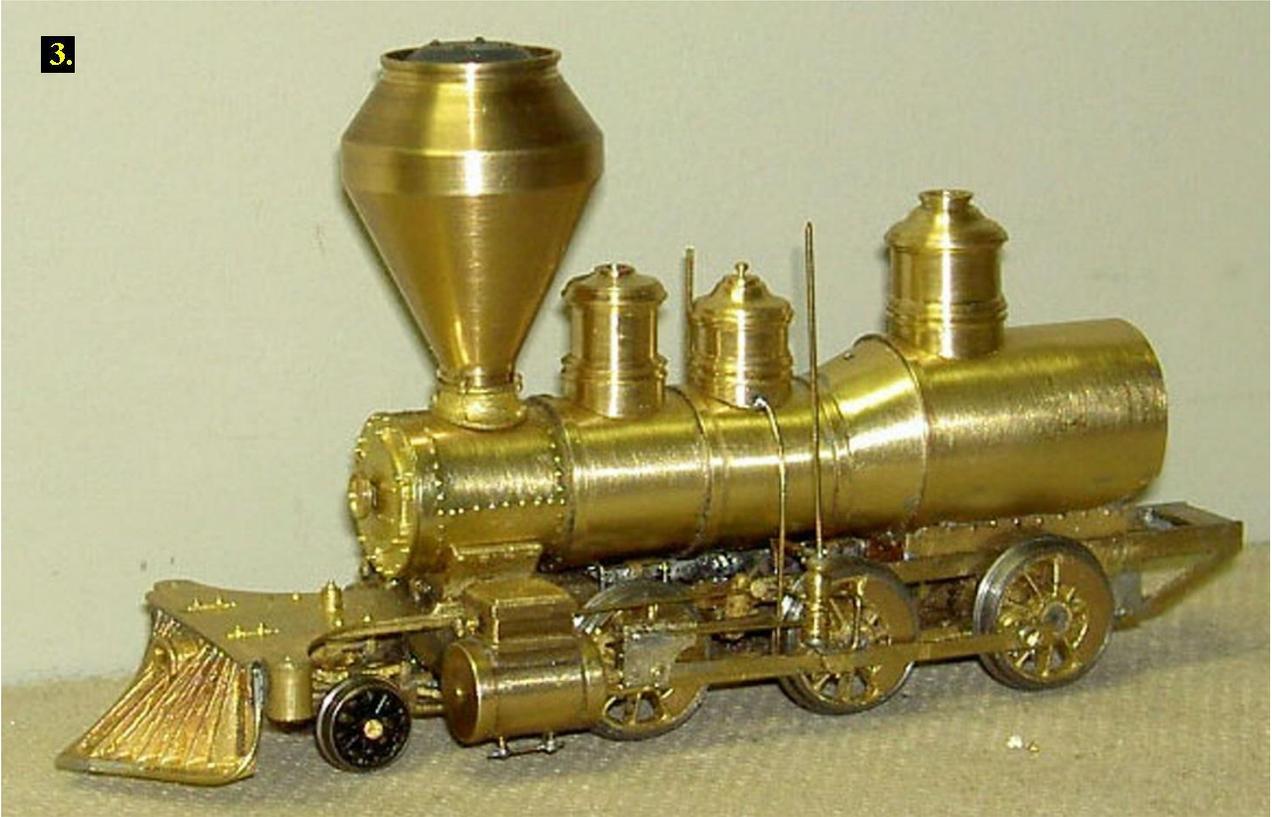


part of the model, make large rings out of brass, similar to the tires on a driver, which will go inside the jacket. Place one where the backhead goes, one just inside the front allowing for a small space for the insertion of the smokebox, and another in front of the opening for the motor assembly. After checking, solder the rings to the inside of the jacket before removing the clamps (**Photo 2**).

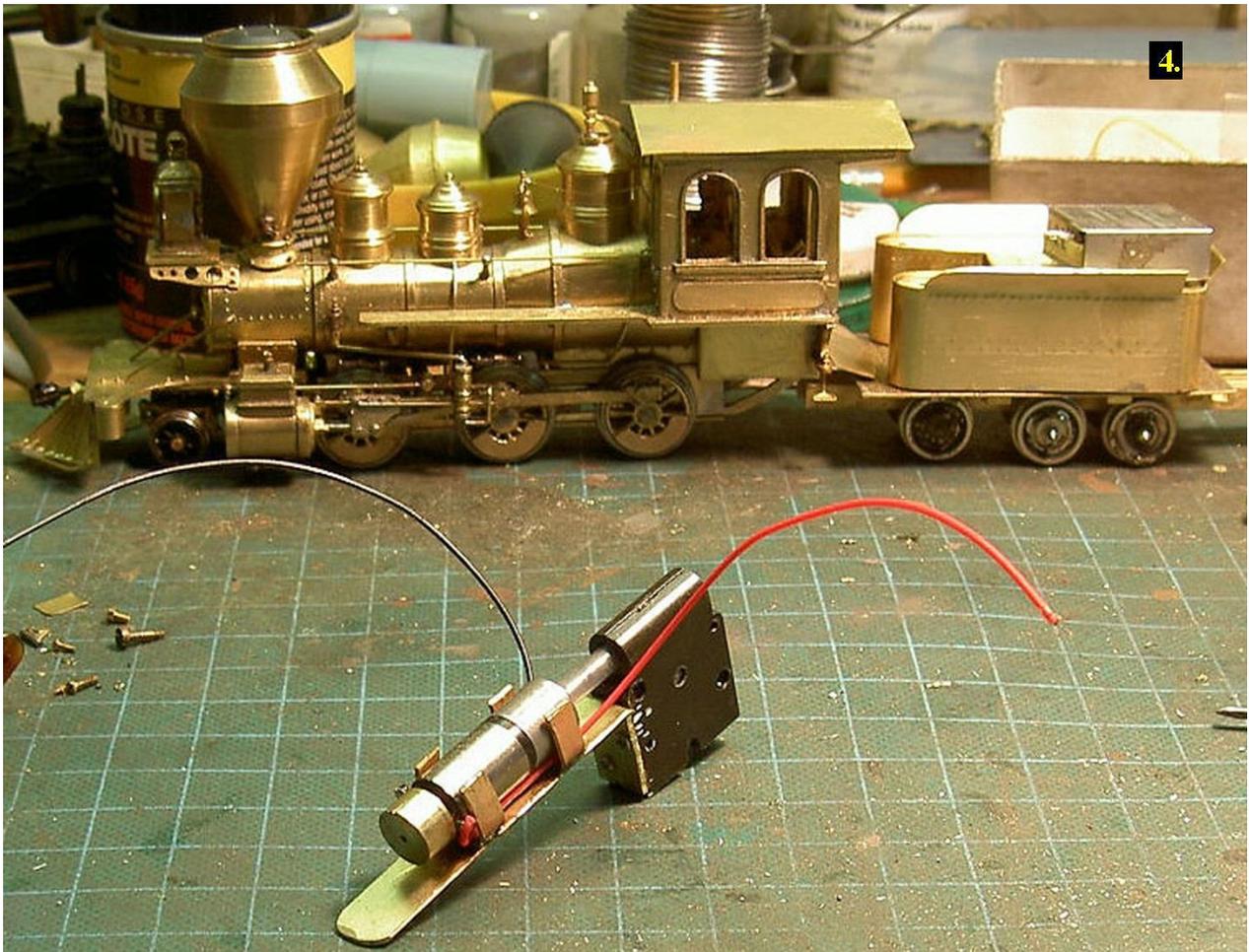
Fabricating the smokebox takes us back to using tube materials. Again, do not fabricate, unless it is exact, and even then I would not suggest it. Use 360 brass round bar stock. Machine out the center and machine down the outside diameter to fit into the front end of the boiler jacket. This is why I placed the ring inside the front end of the jacket slightly back from the leading edge. You want the smokebox piece to just fit into the boiler jacket and where you will solder the jacket and smokebox together.

The smokebox will be centered over the cylinder chest, and the smoke stack will go directly above the chest (**Photo 3**) All these parts could be glued, soldered etc. together, but Don't. Tap and screw it together. Why you may ask? Because it will have to come apart to attach your domes, which you can buy or make, and because you will have to deal with the motor issues throughout the life of the locomotive.

3.



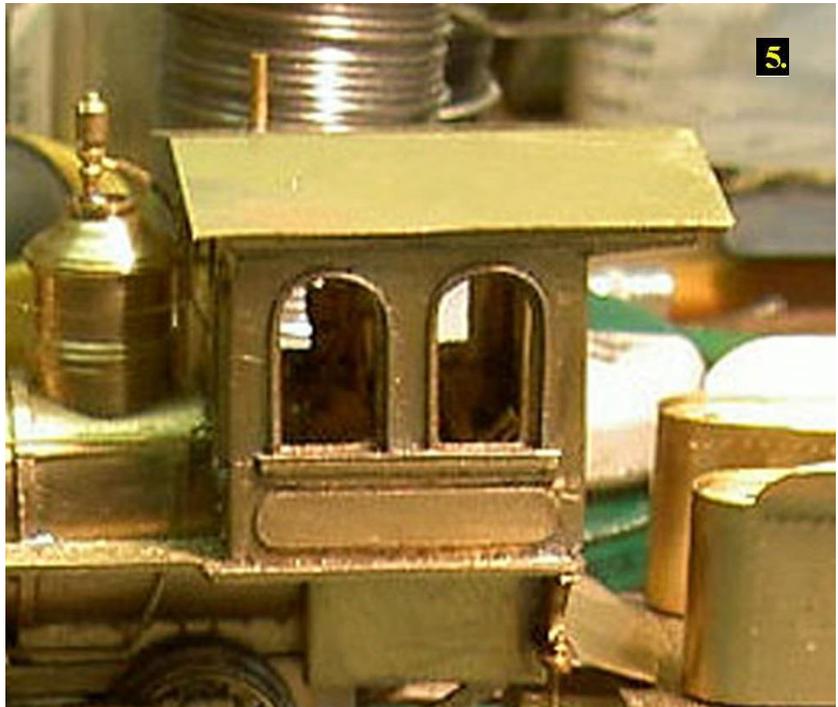
4.



The design of the locomotive must be able to accommodate an electric motor with gearing to one of the driver axles. I have never liked seeing the gears or gear boxes between the frame and the boiler. Therefore, I have always designed my engines with the gearbox located on the last axle, which conceals it behind the firebox. The motor is mounted directly onto the gearbox to eliminate any binding and just “floats” inside the boiler. Of course, the smaller the scale, the greater the problem with size, but the *Fairplay* is a very small engine and compares well with even smaller HO engines. Notice that the motor even has a flywheel on the far end away from the gearbox (**Photo 4**). The question of where to place the motor and gearing should be addressed in the design phase, not here and now. Another option would be to place the gearbox on the front axle, which perhaps would allow a little more room. However, the modeler would then give up having a fully round boiler because the two units have to be able to come apart. Also, nowadays, most everyone wants a full cab interior, which would be impossible with a motor sticking out the back of the cab.

### **The Cab:**

This brings us to cab construction. Unless you are constructing an engine with a lot of angles and curved areas, the fabrication process involves cutting sheet brass and placing additional applications of brass pieces on top of the base material or cutting holes for windows and panels that are recessed. In this case, one can see the placement of the engine’s name board below the window and on top of the base sheet. (**Photo 5**) The windows are cutout with strip brass representing the frame. The sill is just another set of pieces made up of narrow brass strips. If you want the roof to be removable, then you simply form the roof and then solder small tabs or bars on the bottom of the roof section so they are in just enough contact to require some pressure to remove the roof. Having a removable roof is especially helpful when detailing the cab’s interior and putting glass in the windows.

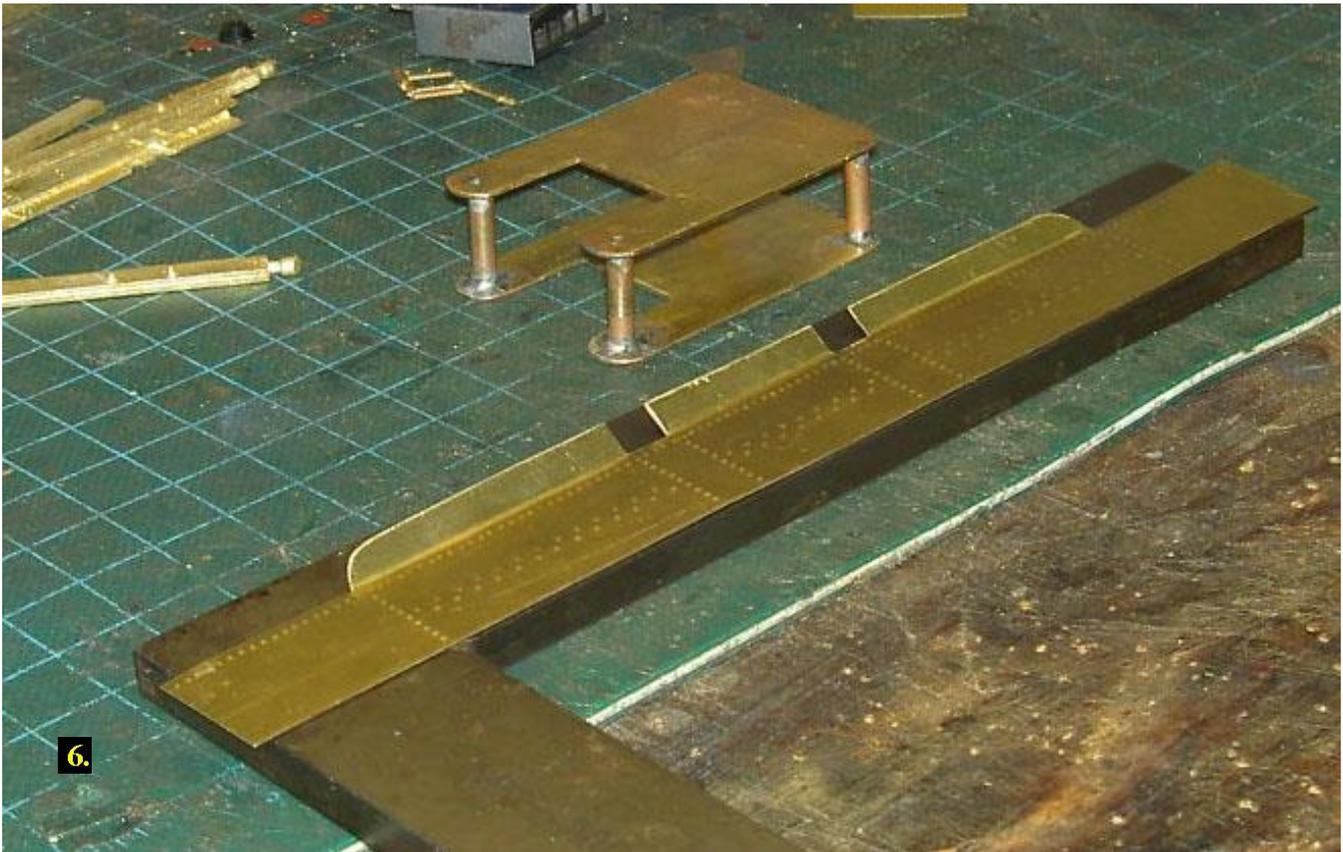


### **The Tender Bunker:**

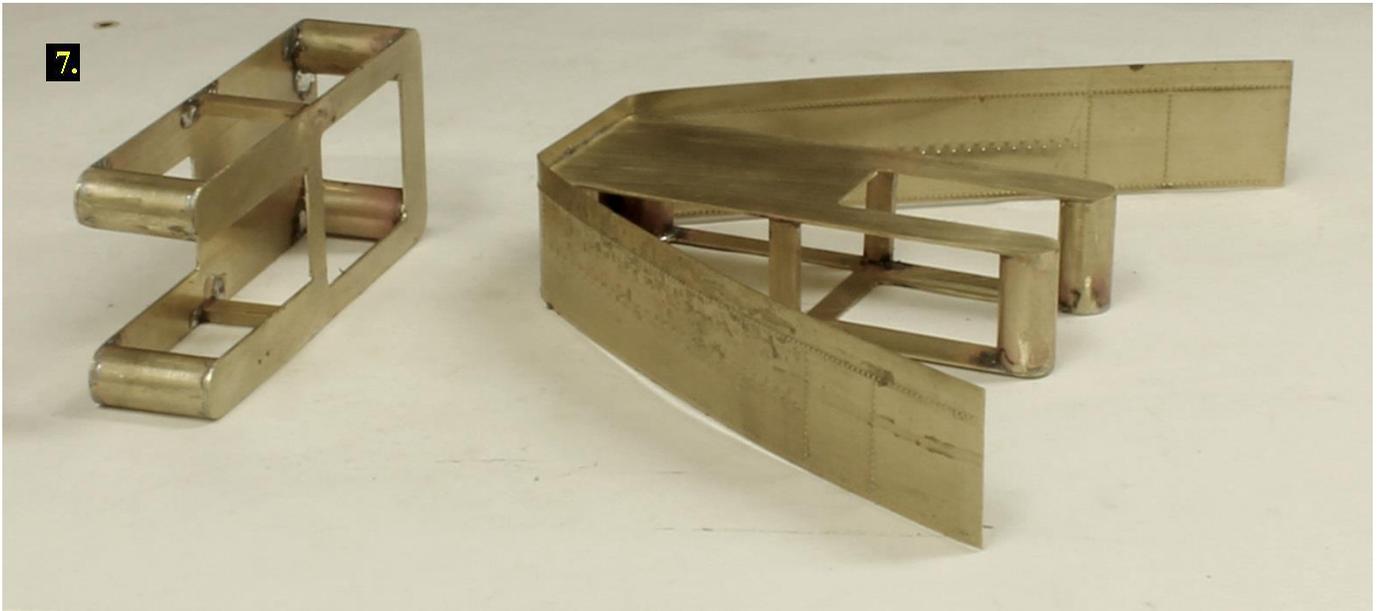
The tender can be as challenging as the boiler and presents its own problems. The first step after determining the frame and bunker sizes is that the modeler must cut a top and bottom plate for the bunker to its exact size and be a matching set. Since the frame for a tender is rather straightforward with ladders, steps, lift-bars, bolsters, etc. I will skip this and focus on the more difficult areas. Once the top and bottom plates for the bunker have been fabricated, the next item is to cut four or more sets of spacers, which will give you the proper height (**Photo 6**). It is best to use spacers that were exactly the same size as the radius of the curves (**Photo 7**). Do not use solid brass round stock because of its weight, and that much brass will become difficult to solder. (*Whatever you do, do not use any heavier or thicker brass than needed here, on the smokebox, or anywhere else since it will act as a heatsink making soldering almost impossible.*) Squaring the bunker plates is an absolute must if you want the wrapper to fit properly. With the bunker done, you will have to return to your  $\pi$  formula to calculate the distance

around all the curves ( $1/4$  for the rear curves and  $1/2$  for the water legs). Double and triple check the distances along each straight side, plus the distances of the curved sections because you do not want to spend time fabricating and riveting a sheet of brass and then find out it does not fit.

Carefully cut a sheet of brass the size needed for the entire wrapper, allow for the flaring on the top, if applicable, and lay out your rivets. Rivets can be made using real rivets if you are a really hard case, they can be made with a rivet puncher of various types, which have to be done before assembly, or you could use applied rivet decals after you have finished mounting the wrapper.



When the wrapper is formed, riveted, and ready to be mounted, mark the exact center of the rear of the bunker and the same for that section of the wrapper. Align the marks and solder the rear areas together while not getting too close to the corner curves ([Photo 8](#)). Once soldered along the top and bottom of the bunker frame, start to work the wrapper around the corners, the sides and around the water legs. Clamping is a must while soldering and keeping sure the bottom edge of the wrapper is flush with the bottom of the bunker frame. Upon completion of soldering the wrapper and bunker together, you then can bend the top flares into place. Since you cannot bend the flare around a corner, that portion of the wrapper has been removed ([Photo 9](#)). To fill in the curved area, a small piece of sheet brass will have to be hand formed to simultaneously match the three areas that will be in contact with the wrapper. After carefully soldering in place, a Dremel tool can be used to finish off the top so as to match the flared sides giving you a nice curved, flared corner. A piece of small brass wire can be soldered all along the top of the flared edge to give the tender wrapper a finished look.

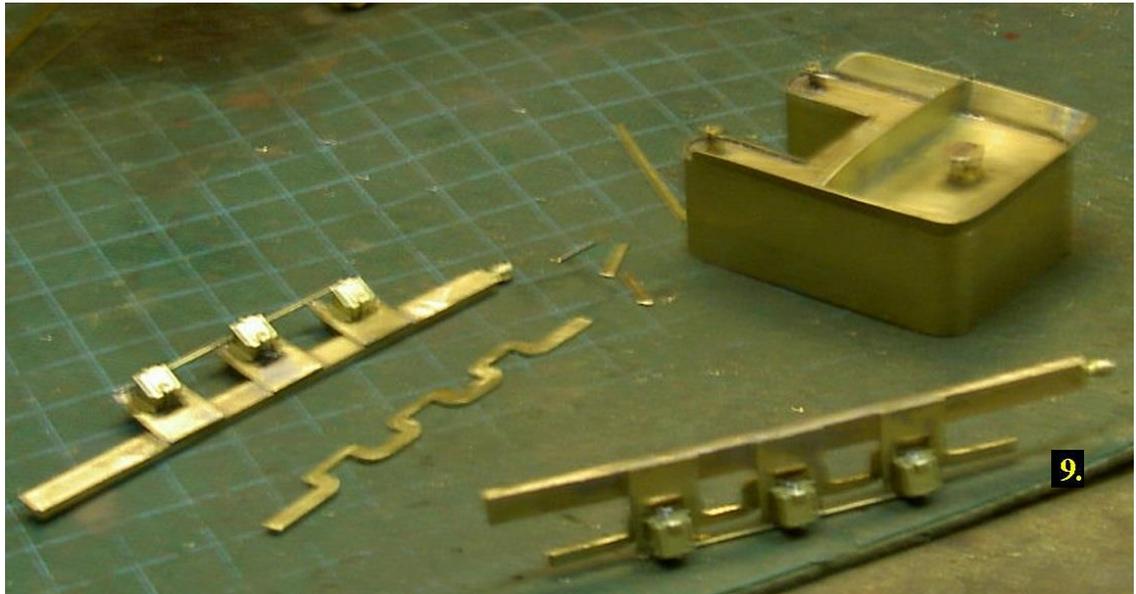


To complete the tender's bunker, castings for the valves to feed water up to the engine can be placed near the ends of the water legs and a cross panel installed to indicate where the coal bunker ends. Water hatches come in a variety of types, and your fabrication or casting should match the period and type of hatch railroad's used on your locomotive.

**Trucks:**

The type of trucks used, like the water hatch, will vary with the weight of the tender, i.e. its size, capacity, and the time period modeled. Two and three axle trucks would be the most common and typically would be of a heavier type truck than those used on your typical freight cars. Castings for these types of side frames can be obtained from part suppliers like Precision Scale. Be prepared to do some machining and drilling so the axles fit into the casting and the frames can be attached to the bolster. Also be aware that the height of the trucks with the cross member must be of the correct elevation so the tender deck is in alignment with the deck of the cab and the connecting floor plate.

However, on older and lighter applications, the traditional type trucks were not always used. Fabricating a three axle pedestal truck was not as difficult as expected (Photo 9). I cut a piece of heavy brass



that would be attached to the tender frame. On to that, I soldered three “U” shaped frame pieces that would carry the journal boxes and allow them to move up and down on their springs. The journal boxes were modified castings from Precision Scale. I fabricated a thin sheet of brass to go over the journals and step down to accommodate the springs. The springs and their retainers came from another model railroad item where I did not need them. Before installing the springs, I needed to solder a bar across the bottom of the journals to hold them in place. With the bottom bar in place and the springs installed, the tender was now fully sprung and ready to be soldered to the frame (Photo 10).



**In Conclusion:**

Here is my first scratch built brass locomotive (**Photo 11**). Completing such a project should give the builder one of the highest levels of satisfaction and joy. As stated in my first paragraph: *Patience is not passive waiting. Patience is active acceptance of the process to obtain your goals and dreams.* Besides the pride, you can also submit your work for review for the AP Program in *Engine Building*, and depending on your locomotive selection, you can earn points towards *Prototype Modeling*. Do not be intimidated by the multiple steps needed for each phase of the construction process. Break everything down into doable and understandable units. The rewards are immeasurable. Please consider joining the club of scratch builders.



**Some cooler weather at the Southbridge, MA depot in 2019 (Photo by Jack Dziadul)**

# Mill Rift Bridge

By Ed Smith

I model the Erie Railroad, Delaware Division, circa 1947. The Erie mainline meanders along the Delaware and Susquehanna rivers, and their tributaries. This creates a wide variety of bridge structures. That brings us to the subject matter of this article, scratch building the Mill Rift Bridge. This is a four-deck, through-truss bridge connecting Mill Rift, PA and Sparrow Bush, NY. (Editor: A photo of the Mill Rift Bridge that Ed used for his modeling can be seen on the cover of *The Diamond*, published by The Erie Lackawanna Historical Society, vol. 34, no.1, 2020.)

My infrastructure, spline sub-roadbed, and Homabed are installed. I have cut out the spline where the bridge will be installed and added primary landforms (**Photo 1**). I was not ever able to see the bridge in person. It was not easily accessible. However, my extensive library on the Erie Railroad and Google Earth gave me more than enough material to build a bridge that closely resembles the prototype. I built four decks, each being 11 ½", for a total of 46". The total dimensions are 4" wide, 46" long, and 1 ½" high. This closely equals 28' wide, 353' long, and 10' high in HO dimensions. By using pictures of trains on the bridge, I was able to extrapolate roughly the

dimensions to my satisfaction. In two areas, I did use builder's prerogative. First, the Erie had a wider double track mainline than standard. My tracks are 2 ½" on center



**Photo 1**



**Photo 2**

making the bridge a little wider than the prototype. Second, I compressed the lower girder supports to fit my scene.



**Photo 3**

First, the four deck sections were built using Central Valley box girders, Plastruct H beams, and Evergreen Styrene (**Photos 2, 3**). All pieces were cut to fit the needed dimensions. The sections were painted flat black and, when dry, internal steel supports were added using strip styrene and rod styrene from Plastruct and Evergreen, using CA glue. (**Photos 4, 5**) Then, everything was painted flat black again. Next, assorted gusset plates were



Photo 4



Photo 5



Photo 6

cut from sheet styrene, sanded to form, painted black, and applied in the proper locations (**Photo 6**).

Sheet styrene was cut to fit the tops of the four decks. This is not an open grid bridge. It is ballasted, so I needed the effect of a steel or wood deck. I cut switch ties to make the bridge ties, stained them, and using CA glue, I secured them to each deck (**Photo 7**). After everything dried, I glued the decks to the supports, turned them over, and weathered the decks a rust color (**Photos 8, 9**). Finally, all four segments were secured.

I purchased laser cut HO wood tie plates (4 sheets, 1600), laid them out on the ties, and used wood glue to secure them (**Photo 10**).

I hand laid code 83 rail and used CA to secure them. I tested the gauge, using a wheelset, and added ballast (**Photos 11-13**). This was allowed to dry overnight. Next, I flipped the entire structure over and added gusset plates, detail, and weathering (**Photo 14**). Between the rails, I added a wood walkway using Northeastern Scale lumber. The track, walkway, and steel sides were weathered with an India ink and alcohol wash, and Pan Pastels (**Photos 15, 16**).

Photo 7





Photo 8



Photo 9



Photo 10



Photo 11

Photo 12

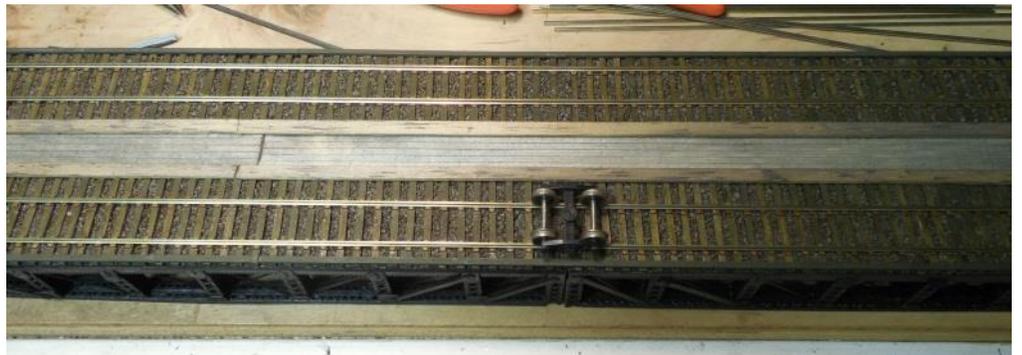




Photo 13



Photo 14



Photo 15

Photo 16

The next step was adding the guard rail track. I did not have any smaller rail, so I used the guardrail from extra Walthers bridge track. I



stripped it off the Walther's track and glued it to the bridge using ties to space the rail. This was painted rust (**Photos 17, 18**).



**Photo 17**



**Photo 18**

The final construction on the bridge proper was adding Micro Engineering bridge shoes and one last weathering with Pan Pastels (**Photos 19, 20**). Now, it was time to add the stone piers and abutments. I decided to use two abutments and one pier from Chooch Enterprises on the pieces that would be on solid ground. I needed two cutwater piers for the water supports. I found five Hydrocal piers by C.C. Crow on eBay (**Photo 21**). I had to square off one end of each pointed pier. This was done by carefully sawing off one end of each pier with a razor saw (**Photo 22**).



**Photo 19**

**Photo 20**

Next, I made molds using Woodland Scenics latex and the cutoff ends and remnant stone cut pieces. (**Photo 23**). I poured several Hydrocal molds and, after they cured, I cut, fit, and laminated them to the ends of the piers to replicate the stone construction.



Photo 21



Photo 22

While the plaster cured, I finished the prep work on the riverbed and adjoining land forms. This is an article on bridge building, so I will not get too involved in scenery techniques. Lowe's blue insulation foam board was carved to desired contours and cardboard strip lattice was hot glued to the backdrop. (Photo 24) I covered the lattice work with red rosin paper. This will support the Polyfiber background



Photo 23



Photo 24



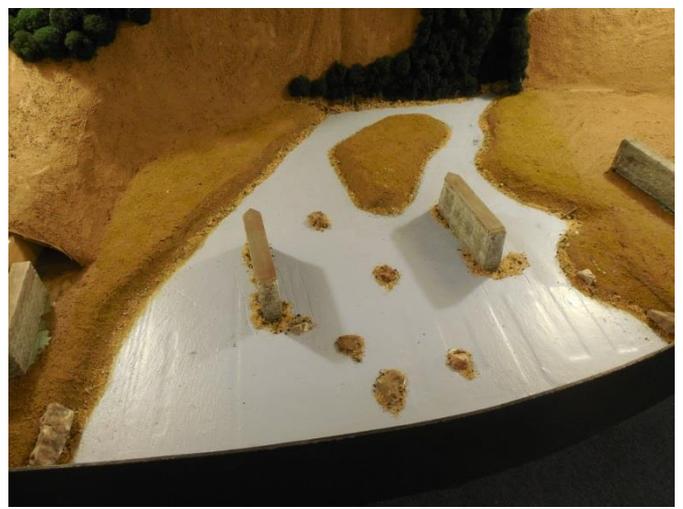
Photo 25

trees (Photo 25). The riverbed edges were sealed with latex caulk and the bed was painted with latex blue paint. Caulking the edges is mandatory because this will prevent the resin from leaking out when the river is poured. Lou Sassi's ground goop recipe was used to cover all the landforms around the river. Using black poly fiber, green ground foam, and cheap hairspray, I made a large batch of background trees. This is sort of a shake

and bake application. You tease the fibre into small balls, spray with hairspray, and drop in container of ground foam. Hot glue secures the trees to the rosin paper (**Photo 26**).



**Photo 26**



**Photo 27**



**Photo 28**



**Photo 29**

I added Earth blend ground foam and sand to the shoreline. Hydrocal rock pieces, stone debris, and an island were added to the riverbed. Then, the stone piers were glued in place, using Elmer's white glue (**Photo 27**). I poured the river using Woodland Scenics Realistic Water and a few drops of Woodland's navy blue tint. It took 44 ounces of the resin to attain a river with about 1/8" depth (**Photo 28**). After it cured for five days, I added waves, ripples, and rapids, using Woodland's water effects (**Photos 29, 30**).

**Photo 30**

The bridge was added and secured to the piers and abutments with white glue. The stone works were hered with Pan Pastels (**Photo 31**. Finally, all the scenery was completed and the build was done (**Photo 32**).

**Photo 31**

This is just one of many bridges that I am building on my layout. I do not know how many will be completed by the Look South Mid-Eastern Region convention, but the layout will be available for viewing in October (if pandemic restrictions permit).

**Photo 32**

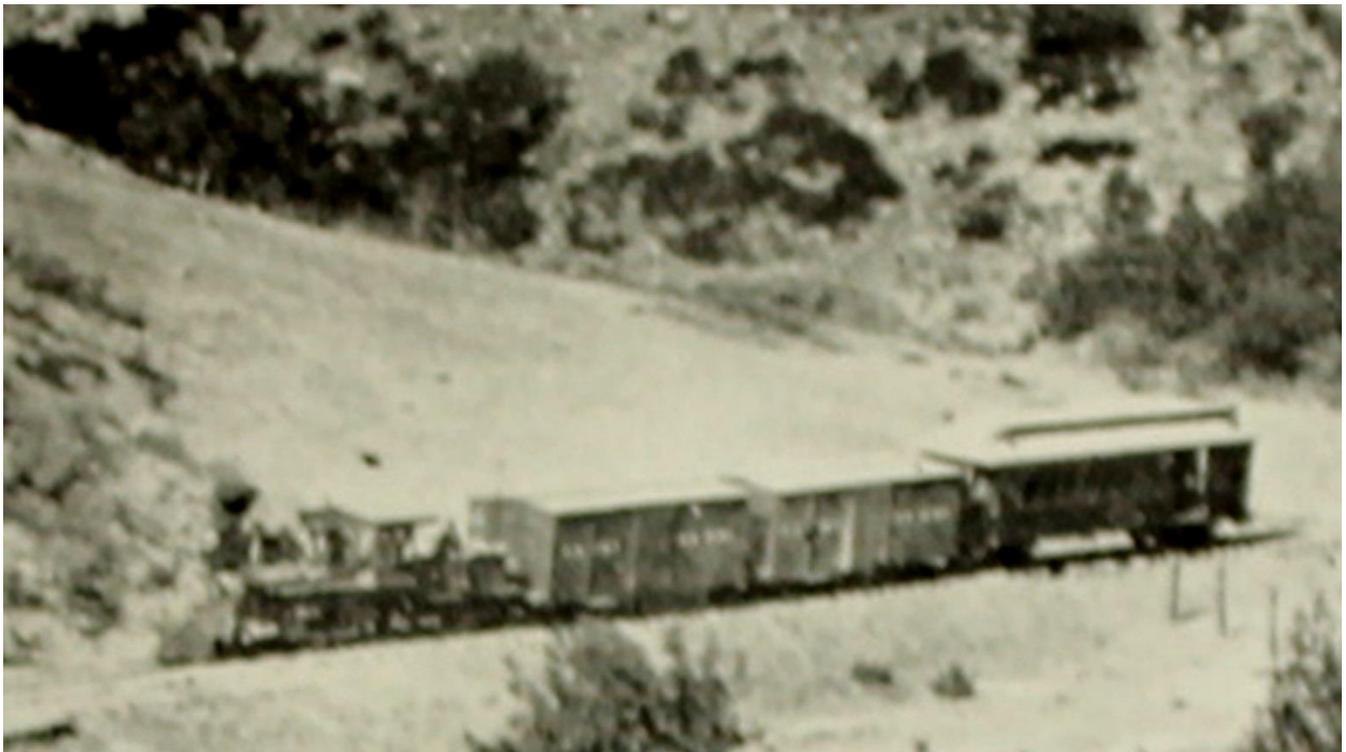
## Obtaining Your Master Builder - Prototype Models Certificate: Part 2

Andrew Dodge, MMR

### **Motive Power:**

When selecting a locomotive for prototype judging, one can make it relatively simple with a well-known type that has been thoroughly documented by photographs, or one can step off into the “wilderness” as I did. When contemplating using a locomotive in this category the best advice is to select an engine for which you can find an available set of plans that you can acquire from a historical organization, or that has been published in a magazine such as *Model Railroader*. Other sources include the Baldwin Locomotive Collection at Southern Methodist University. The best option in the use of photographs is to locate a complete set of images of the locomotive taken on the same day or very nearly the same day. All too often, the only thing one can say about a photograph of a locomotive is, “That is the way that side looked on that day.”

Since I modeled the Denver, South Park & Pacific Railroad as it was in the year 1882, I included all the references that I used in recreating my locomotive of choice according to its prototype configuration. I noted that I relied on various sources such as photographs, artistic works, and the Union Pacific Equipment List and Renumbering –June 1, 1885. Only two photographs are known to exist, but while the one here is very distant and pixilated, it provided sufficient guidance to know that the Philip Ronfor painting of locomotive No. 1, *Fairplay*, was quite accurate in its design. Using these sources, and the Union Pacific records, which included wheel sizes, firebox length, length of the boiler tubes, etc., as a basis I was able to produce a scale drawing of the locomotive. The painting included some important guidance for its construction, including the piston pumps used to force water into the boiler instead of injectors, a range of cab information, and the locomotive’s piping.





Besides the photographs and historical documentation, you should include the usual description of the model such as the frame, tires, cylinders, boiler, domes, Nesmith smokestack, pilot, tender and trucks, customized decals, etc., to reinforce the authenticity of your prototype model. I also included the finishing touches, such as mixing custom paint for the Russian Iron boiler jacket that matched a piece of Russian Iron in the collection of a railroad

museum in the San Jose area of California. This is the same type of information provided in the AP locomotive paperwork, which also needs to be included in the prototype category.

As a final note, the more documentation on the prototype that you can provide, the better job the judge can do. One note of caution though, when providing plans, make sure you have followed those plans because deviations will detract from your point total. The simplest course of action in reproducing a prototype scene is to use the engine that you built for the locomotive AP award.



### **Railroad Structures: (Value: 35 pts)**

Prototype-designed structures on a layout usually present a problem concerning space, mass, etc. Many times, structures on our layouts have to be compressed, but they must still convey the image and character of the prototype. As one modeler asked me: "Do I have to build a model of the same type of cement plant used by my railroad, or will any cement factory do?" The reply was very simple: "You need to replicate the essence of the prototype with selective compression." I will use the hotel at Deansbury, Colo., on the South Park as an example of selective compression. To replicate the historic building would have required the building to be approximately three feet deep in O scale, which was impossible. Because the building stands by itself, I was able to reproduce a believable replication of the prototype in a much smaller space. However, make sure you include the proper roofline, chimneys, track placement, and items near the structure that give it definition as to its purpose and historical place in time.

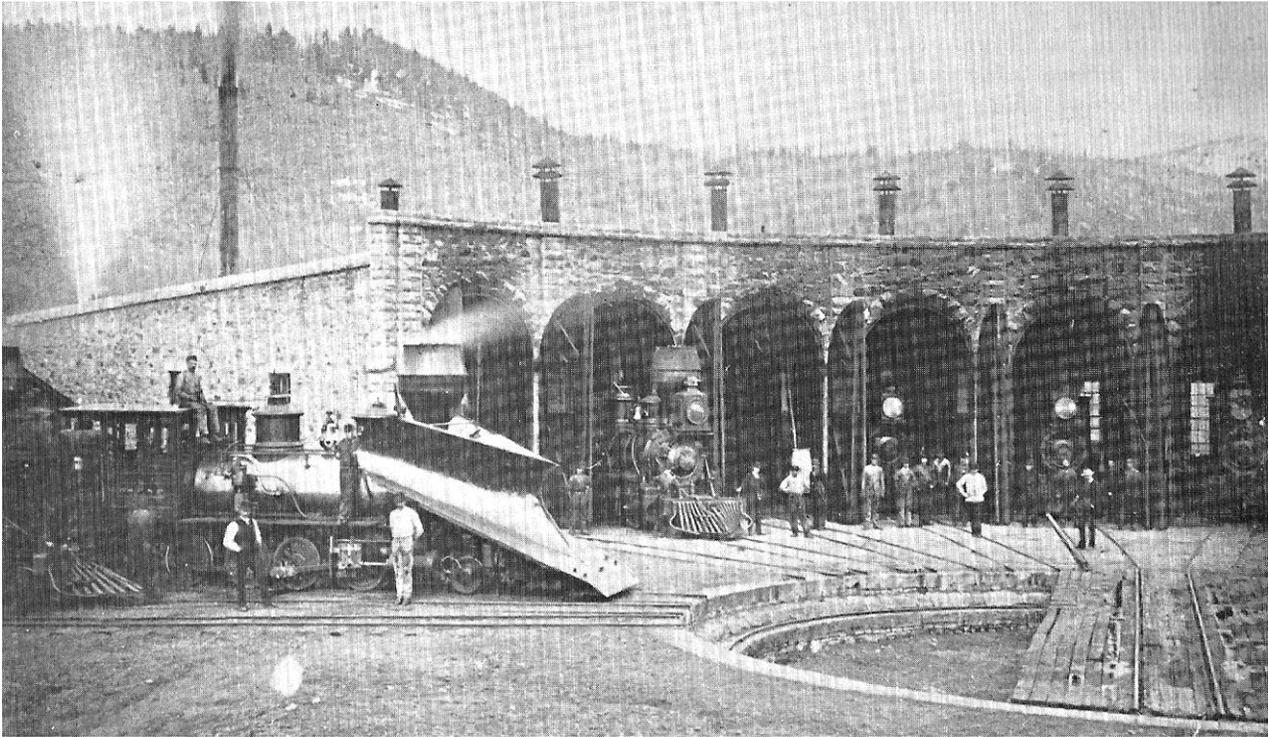


I have included a part of the description I used on the AP form to buttress my use of the hotel as a prototype model structure:

*Developed scale plans based on dimensions provided in tax records. Hotel compressed to fit location but retain its overall appearance. Stone foundation created to set building so it would be at the correct height. Also includes numerous details associated with the nearby tie camp and shipping point on the railroad during the era modeled. Provided prototype photos of the building illustrating that it also*

*conforms to the placement of the railroad right-of-way. I have omitted a small wing on the back of the hotel due to space limitations and the fact that its deletion did not significantly alter the overall effect.*

As an example of a non-compressible building, I have included these images of the roundhouse at Como, Colo., in the 1890s and the modeled version. In prototype modeling, it is dangerous to try to compress iconic structures such as this 6-stall engine house.



In addition, many times buildings such as this one have a physical orientation that cannot be significantly altered without destroying the very prototypical image one is attempting to recreate. When comparing the following

historical photo taken of the Como engine house in the 1880s with the full-scale stone roundhouse on my layout they have approximately the same orientation. The back of the building faces the tracks with the turntable facing off into the “wilderness.” The relationship of the water tank to the roundhouse adds to the prototype quality of the layout.



We will continue our Prototype Models discussion in Part 3 in the next issue of The Local.

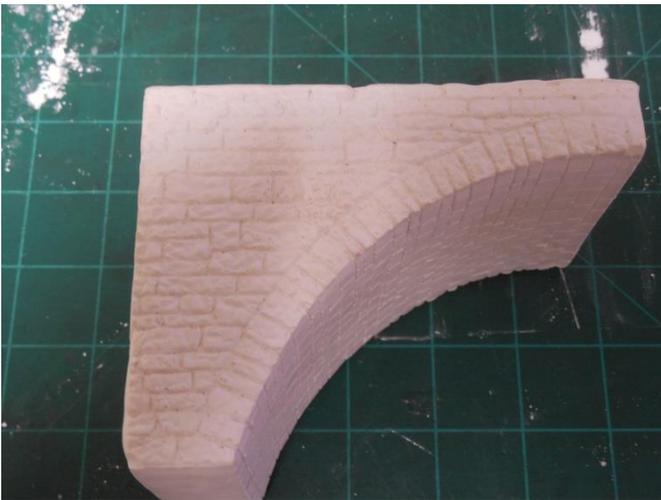
## Utilizing Leftovers

By Ed Smith

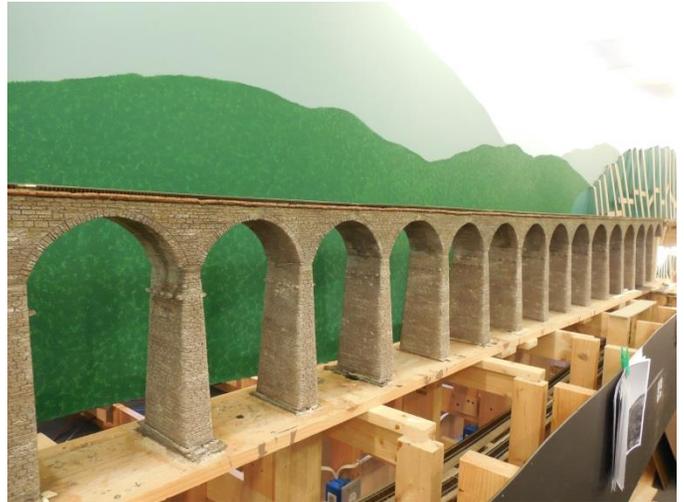
My Erie Railroad layout has a signature bridge, the Starrucca Viaduct. This viaduct is located outside of Susquehanna, PA. The cut stone, 17 arch structure was completed in 1848 and is still in use today. I built this viaduct utilizing multiple Hydrocal kits from Stoneworks to attain the 17 arches (**Photo 1**). But, this article is not about this viaduct. It is about utilizing leftover remnants from that build to create a model of the single arch viaduct located in Shohola, PA. (**Photo 2**).



**Photo 2**

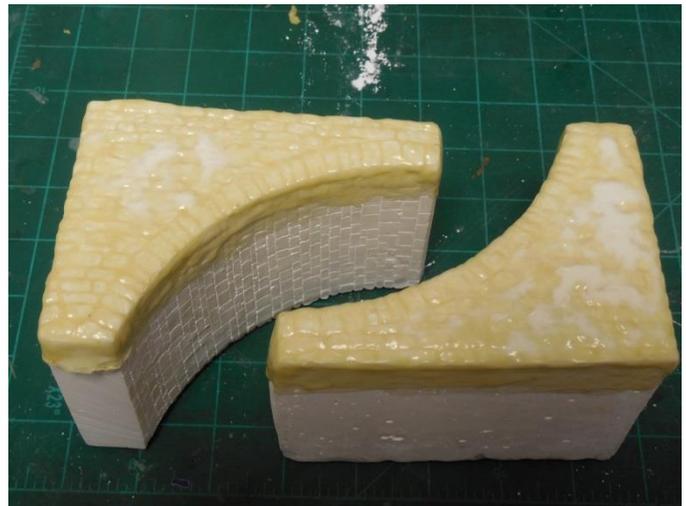


**Photo 3**



**Photo 1**

I had several Hydrocal segments left from the previous build (**Photo 3**). The first thing I did was to make latex molds of the stonework (**Photos 4, 5**), so I could pour castings of the stone (**Photo 6**). With this done, I glued two arch segments together, using full strength Elmer's white glue (**Photo 7**). I find that Elmer's glue works great on Hydrocal. I used this process in the construction of the Starrucca Viaduct model.



**Photo 4**



**Photo 5**



**Photo 6**

On my layout, the double track mainline is on 2½” centers. This means that the viaduct is not wide enough and has to be widened. I found this out the hard way. A few years back, I was in a hurry to build my new stone Starrucca viaduct. I followed all the plans and built a great structure, never taking into consideration my 2½” centers. Well, 17 arches cannot be widened easily. So now, my approaches squeeze down to 2” centers on each end. Lesson learned. A visitor may not notice, but I know that it is there. Now you do, too. Back to this construction story. After letting the glue dry, I cut the

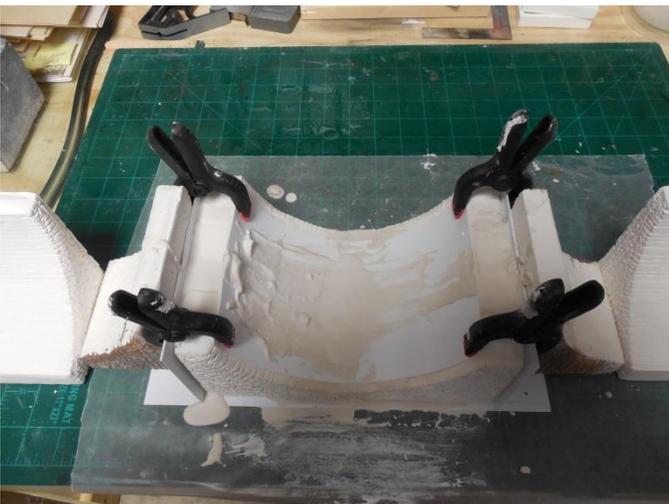


**Photo 7**



**Photo 8**

arch in half with a razor saw (**Photo 8**). I turned the pieces upside down and placed them on a styrene sheet, with a ¼” gap between them. Using 0.020” styrene on the ends and 0.005” styrene in the arch, I made an enclosure to dam the Hydrocal pour. Then, using a soupy mix of plaster, I poured the mix into the orifices created by the styrene (**Photo 9**). I let this dry for over 24 hours.



**Photo 9**

After curing, Cut Stone Rectangular Bridge Piers (Chooch Enterprises part 8431) were shaped, and blended with the stone castings. These were then added to the bottom of the arches to gain the desired height. Also, using molds, I made castings for side wings (**Photo 10**). The wings were glued, at angles, to the sides of the arch. I primed the entire viaduct with acrylic grey paint. After drying for about two hours, I weathered the stone with Pan Pastels and a wash of India ink and alcohol (**Photo 11**).



**Photo 10**



**Photo 11**

Moving to the layout, I installed a plywood base that would support the viaduct. After cutting out the spline roadbed, the viaduct was installed using adhesive caulk to secure the bridge (**Photo 12**). Homabed was added to the viaduct surface. Finally, blue foam board was cut, formed, and fastened with caulk, to form the riverbed shoreline. The shoreline was sealed with caulk to prevent resin leakage when the river was poured. It will leak, if any hole is available. I learned this the hard way, but only once. Soupy Hydrocal was poured to form the riverbed.



**Photo 13**



**Photo 12**

Hydrocal rock pieces and sand were added along the shoreline (**Photo 13**). The river basin was primed with Woodland Scenics Hunter Green (water undercoat CW4532). “Ground Goop” (Ed: Lou Sassi’s recipe of Celluclay, Vermiculite, brown latex paint, and Elmer’s white glue) was applied to the banks and surrounding areas (**Photo 14**). Using Woodland Scenics Realistic Water, I poured the river, adding waves, ripples and rapids

(**Photo 15**). A bridge railing was built using .020 Phosphor bronze wire, secured with CA glue. It was installed in weathered Northeastern Scale lumber (**Photo 16**). Last, the ballast was added (**Photo 17**).



**Photo 14**



**Photo 15**



**Photo 16**



**Photo 17**

This is one of many bridges under construction on my Erie Delaware Division layout. The plan is to have as many as possible finished for the *Look South in 2020* Mid-Eastern Region convention in October.



## The Last Stop!

### Just for the Fun of It... Nicknames of Freight Trains:

Railroaders have a long history of creating nicknames for just about everything. Freight trains are no exception. Officially, they are usually identified by numbers. However, railroad workers, such as they are, frequently penned their freights with much more personalized names that made more sense and were easier to remember. The nicknames usually related to certain memorable characteristics of the freight – like speed, history, region and sometimes even animals or people. The ongoing romanticism of trains over the years owes much of its glory and popularity to these various adornments. Here are a few of the more interesting ones:

“Queen City”	NYC	Gardenville, NY to Cincinnati
“Banana Special”	B&O	Baltimore to Detroit
“Blue Goose”	G&F	Willacoochee, GA to Augusta
“Coal Digger”	B&O	Cumberland, MD to Somerset, PA
“Dirty Shirt”	B&O	Willard, OH to Garrett, IN
“Bulldog”	N&W	Williamson, WV to Portsmouth, OH
“The Goose”	GN	Superior, WI to Wilmar, MN
“Naked Lady”	IC	Centralia, IL to Chicago
“Peanut Run”	B&O	Akron to Warwick, OH
“Pork Chops”	IC	Council Bluffs, IA To Freeport, IL
“Rabbit Run”	B&O	Flora to Shattuck, IL
“The Speed Witch”	NYNH&H; PRR	Boston to Philadelphia
“Zipper”	N&W	Roanoke, VA to Winston-Salem, NC

Many more nicknames, too numerous to mention, can be found at the following link: [Association of American Railroads](#) (courtesy of Ken Montero).

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Ed.: Thank you for reading this issue of *The Local*. Thanks to all the volunteers who help to put this publication together every 2 months; and thanks for all those who volunteer as officials, board members, authors, web-managers and other contributors, all of whom keep the MER running.