

# The Local



A PUBLICATION OF THE MID-EASTERN REGION OF THE NMRA

Volume 74

March — April 2019

Number 2

## Learning From Pendon – A Photo Essay words and photos by Nick Kalis

Many scenery techniques are explained at this museum in Long Wittenham, Oxfordshire. Here are a few photographs of the many displays that model railroaders who visit will enjoy.

To both learn more about Pendon visit <http://www.pendonmuseum.com/> or write to

Pendon Museum Trust Ltd, Long Wittenham, Abingdon, Oxfordshire OX14 4QD

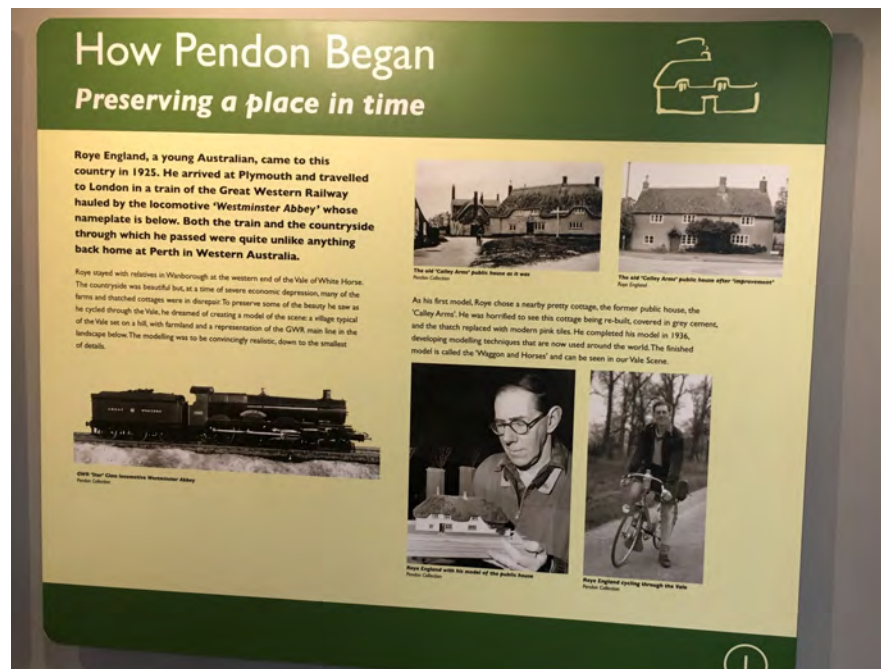
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The Story of Pendon.

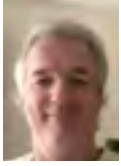
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# The Local

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

Opinions expressed here do not necessarily reflect those of MER elected officials. Commercial suppliers, supplies and materials addressed in The Local in no way constitute endorsement by the MER. Copyrighted material that appears in The Local is used for educational and historical benefit only and does not constitute infringement of a copyright.

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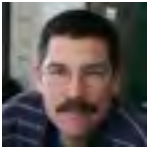


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# NEW MEMBERS

Lucas	Ballard	Carolina Southern
Kathy	Basiago	Susquehanna
James	Cathell	Tidewater
Richard	Crispino	Philadelphia
Barry	Cruthers	Tidewater
Mark	Dickey	Chesapeake
Don	Doyle	James River
Thomas	Greg	Philadelphia
Mase	Issa	Potomac
Christian	Kier	Philadelphia
Phillip	Kinsey	Philadelphia
Janet	Kluxen	New Jersey
Charles	Kluxen	New Jersey
James	Limani	New Jersey
Matt	McMullen	Potomac
Family	Millard	Tidewater
Daniel	Parmelee	Potomac
Richard	Rhodes	Tidewater
Jesse	Seegmiller	
Michael	Walker	Philadelphia
David	Wiley	Philadelphia
Marvin	Wyant	Carolina Southern

If you are interested in advertising with the Mid-Eastern Region of the National Model Railroad Association, please contact the editor. The current advertising rates (one year) for The Local are as follows, and must include camera ready art (text, doc/docx, jpeg, pdf, bmp, tiff formats):

Callboard ads (30 - 50 words, Div and Clubs Only)..Free

- Business Card size .....\$60
- Quarter Page ad.....\$125
- Half Page ad .....\$225
- Half Page ad per issue (Div only).....\$25

On page 1, at the top, is a small freight station, from the model contest at 2018's convention. Bruce Blackwood, modeler. It was a Bar Mills kit originally.

The Local welcomes articles, photographs and model railroad related material as contributions to members' mutual 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 having back-up copies of both. Editors, by definition, reserve the right--and have the responsibility--to make corrections, deletions, and changes to accommodate space. Upon receiving any submission, the Editor will confirm receipt, and, at a later date, indicate the anticipated edition the submission will appear in The Local. If you do not receive a postcard or email within two weeks, please re-send your submission or contact the editor by email.

If your item is time-sensitive in any, these dates are the relevant deadlines you need to look out for. Otherwise stories and photos are used in approximately the order they are received.

**Publication Schedule Deadline**

Jan/Feb	Dec 1st of previous year
Mar/Apr	Feb 1st
May/June	Apr 1st
Jul/Aug	Jun 1st
Sept/Oct	Aug 1st
Nov/Dec	Oct 1st

*Welcome all new members!*

*Apologies if you joined recently and I missed your name here. The way join dates are handled in our database makes for slight imprecision on this.*

↖

**Custom  
Layout  
Building**

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**Layout Design**

**By Lance Mindheim**

www.shelflayouts.com  
301-404-8164

# President's Column



Kurt Thompson, MMR

## Starting the New Year More Resolutely

Time for the New Year's Resolutions. Or not. As it seems with many things, we approach the New Year as a time to make grand sweeping changes in our lives, hopefully for the better. The one resolution that comes up each year (and has failed for many years) is to be better organized, especially with time and scheduling.

Stepping up from Vice President to President means I have to reexamine this resolution. I now have a few more things on my plate, including this column every two months. Plus some of writing work I have agreed to for other people.

The reason my past attempts about better scheduling failed is the same reason other major projects have trouble. I forgot that a project is big and can't be completed in one step. Accomplishment takes time. And a project must be worked in many steps.

Each and every annual MER convention is also a project. If you attended the last one in Rockville that was hosted by the Potomac Division, it was the cul-

*If you're going to attend the Liberty Bell convention and have a Go Pro, please contact MER President Kurt Thompson. He's looking for four folks for a special project. It probably involves "Krazy" Kurt doing some hair-raising train-riding stunts on top of a speeding locomotive. He has a new cape and crash helmet, after the last one, so he's ready if you are!*

mination of a two-year project. And actually a conversation and idea that was considered three years ago in 2015. The same holds true for the Philly Division who is now within the last year of the planning and execution of their convention project. Carolina Southern Division is starting their 2-year plan while the Chesapeake Division is gathering to start their 3-year plan.

As the old adage goes, "How do you eat an elephant? One bite at a time."

I want to thank Potomac Division for presenting the most recent convention and thank the Philly, Carolina Southern, and Chesapeake Divisions for stepping up to the banquet table as they prepare to "eat their own elephants." Please consider helping these Divisions in their tasks as a convention volunteer and as a convention attendee.

Now it's time for me to get my 2019 registration in for the October fun in Valley Forge.

I hope you are registering too!

### Additional MER Volunteers:

#### Registrar:

Kirk Bateman

MER-Registrar@mer-nmra.com



#### Ballot Chair:

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#### Contest Chair:

Alan Mende  
alanmende@yahoo.com

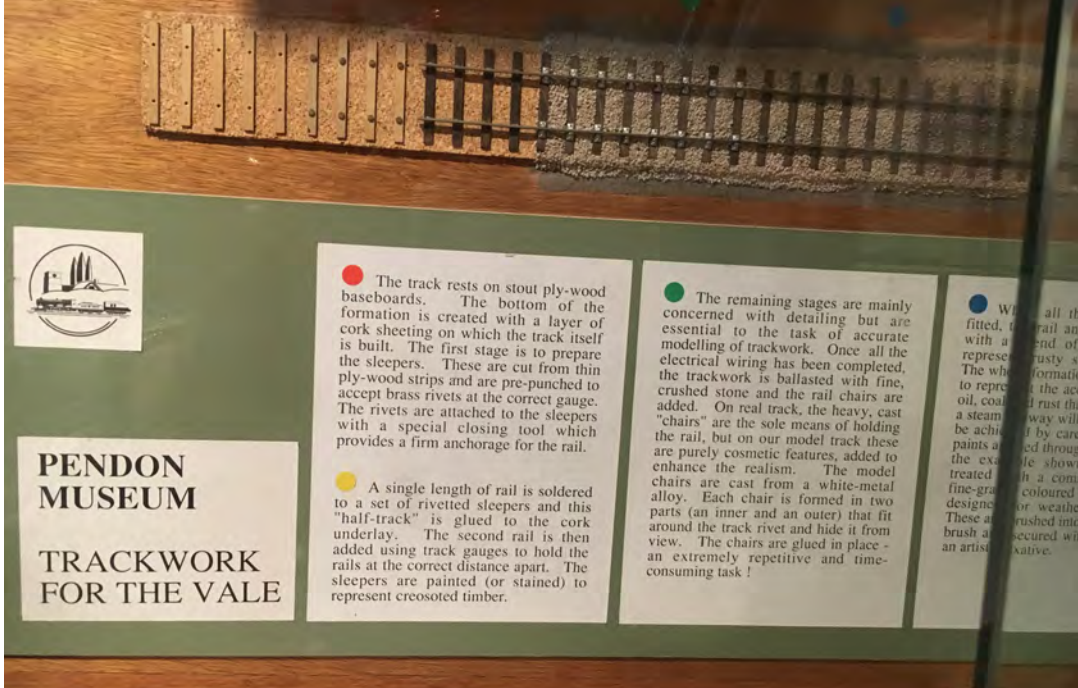
### MODEL RAILROAD DCC STUFF FOR SALE!

I'm trying to move the whole package in one for \$750. If you want individual parts, the price is listed after each item:

- 1 RRamp Meter V.4 (new), \$100.00
- 1 Digitrax PS2012 20 Amp power supply (used for about 1 hr.), \$150.00
- 1 NCE Power Pro 5 Amp system (new in the box), \$500.00
- 2 NCE Cab04p (one new in the box, one lightly used), \$50.00 each
- 2 UTP panels (one digitrax, one NCE), \$10.00 each
- 1 NCE Decoder Test Kit, \$25.00
- 1 NCE D13SR decoder (wired version, no plug), \$15.00

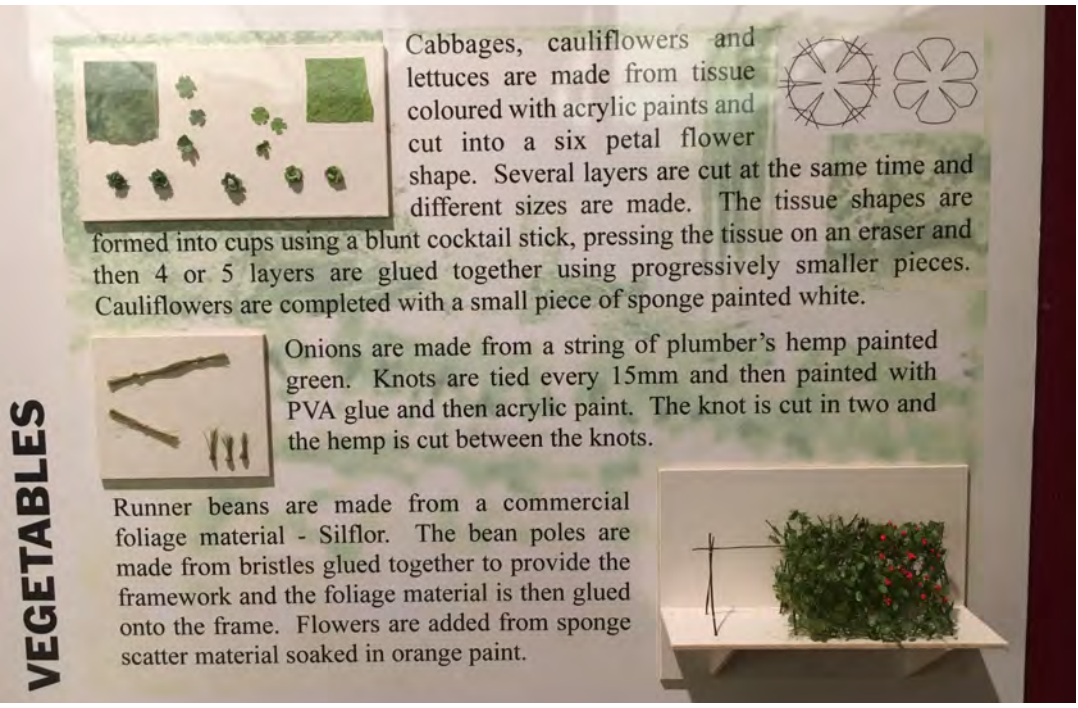
Total package is \$750.00. Paypal preferred, checks accepted but held to clear. USPS Money Orders good for quick shipping. Shipping is extra.

Contact Kurt Thompson, kurtrain@verizon.net



Trackwork The Pendon Way.

The other 5 photos are in the E-LOCAL.



Reminder: The E-LOCAL is always available from the MERR website, at <http://mer-nmra.com/MERelocalsCurrent.html>

Here is a photo of one of many cool displays at England's Pendon Museum.

# Keeping In Touch...

**Howard Oakes**  
**MER Business Manager**

**H**i, let me introduce myself. I'm Howard Oakes from Susquehanna Division 11. I volunteered to be the business manager after Bob Price decided he needed a break. Bob has been the business manager for the past 7 years and has done an admirable job. Now he can work on his layout when he isn't helping me. John Hoyt III volunteered to be the assistant business manager. So between us two newbies and Bob's mentoring we hope to have something resembling normal operations by the spring.

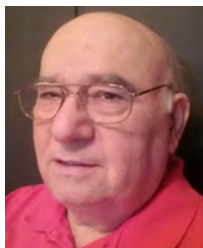
So how did I get interested in trains and model railroading? Like so many I grew up fairly close to railroad tracks, mine being in central Illinois. The Peoria and Eastern (NYC) was about a block away and I remember the passenger train pulling in each afternoon on its way from Peoria to Indianapolis. I think the engine was an RS3. A couple of miles away the Illinois Central ran north-south through town. I still recall the brown and orange passenger trains and I actually rode in one on my way to Chicago to be inducted into the Army. The Illinois Terminal Railway was a mile south of our house. I vaguely remember seeing an interurban car when I was very young. Later we moved and were right across the street from the IT mainline when the green and yellow engines were in vogue. I came out east in the 1970's and became interested in the Western Maryland and the Baltimore and Ohio. I'm a member of both historical societies and highly recommend you check out the historical society of your favorite railroad.

John, the assistant business manager, started model railroading with his father as a young boy. As a small child he remembers every time he passed under the long gone Lehigh Valley Railroad trestle in Dushore Pennsylvania, feeling great fear and fascination. He models the Bernice and Bowman's Creek Branches of the LVRR of the 1890 - 1920's as they ran through his grandfather's home town of Ricketts, PA and his mother's birth place of Lopez, PA.

As always *Keep in Touch* with any questions or changes in your subscriptions or addresses. A current address on file saves the MER some money.

## Achievement Program

### Achievement Program Update *By Dave Chance*



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

#### Division 2 – Potomac

Nicholas Kalis – Scenery  
Martin Brechbiel – Scenery  
Martin Brechbiel – Chief Dispatcher

#### Division 3 – Philadelphia

Alfred Zollers – Scenery  
Alfred Zollers – Structures  
Glyn Thomas – Master Builder Cars  
Glyn Thomas – Master Builder Motive Power

#### Division 5 - James River

Terry Terrance - Author

#### Division 11 – Susquehanna

Scott Unger – Golden Spike Award  
Scott Unger – Electrical

MER's Newest MMR's - Martin Brechbiel of the Potomac Division is MMR #629. Glyn Thomas of the Philadelphia Division is MMR # 632. Martin and Glyn are MER's newest MMRs, so offer your Congratulations the next time you see them!

Note: \*\* MMR # not yet assigned.

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 - PLEASE HELP ME. National does NOT accept R&V forms except for AUTHOR. Please don't send these any more.*

George Speidel of New Jersey Division...that's a custom step on his deck, with track embedded into the step.



Still--watch the muddy feet!

Moving? Changing email addresses? Promptly notify the NMRA at <http://nmra.org/members/update> or by mail at:

NMRA  
P.O. Box 1328  
Soddy Daisy, TN 37384-1328

to insure continued timely delivery of The Local to you, and so we can contact you as necessary. (NMRA notifies the MER of such changes, saving you one more step).

**MID-EASTERN REGION, NMRA, INC.  
ASSET STATEMENT  
12/30/18**

Account	Balance		Notes
<b>ASSETS</b>			
BDPS (1.25%)	\$3,562.72		Bank Deposit Program (Cash)
MPUXX Money Market Checking (2.29%)	\$25,946.48		Morgan Stanley Money Market
MPUXX Convention Base Checking (2.29%)	\$5,076.27		Morgan Stanley Money Market
Investments	<u>\$32,217.03</u>		Mutual Funds and Bonds
TOTAL Cash and Equity Accounts	\$66,802.50		
<b>TOTAL ASSETS</b>		<b><u>\$66,802.50</u></b>	
<b>LIABILITIES</b>			
Restricted Life Member Fund	\$27,294.00		Updated 12/15/18 excess to new Operations Fund
<b>Restricted Operations Fund</b>	\$4,640.88		New fund, proceeds to general fund
Subscriptions 2018	\$0.00		Transferred to General Fund 2018/12/15
Subscriptions 2019	\$431.50		
Subscriptions 2020	\$48.00		
Subscriptions 2021	\$3.00		
<b>TOTAL LIABILITIES</b>		<b><u>\$32,417.38</u></b>	
<b>NET WORTH</b>			<b><u>\$34,385.12</u></b>

**Note 1: As of May 2018 we have invested in conservative mutual funds and bond funds. There is a small loss in principle at the end of 2018 due to the down market. The income received from the funds exceeded the loss in principle.**

**Note 2: The Restricted Operations Fund is a new endowment type fund designed to generate operating income while retaining principle. Funds received from fund-raising programs will be invested in this fund, with only the income going into the operations of the MER.**

Respectfully submitted  
Brian Kampschroer, Treasurer, MER, NMRA, Inc.

# THE MER NEEDS YOU!

Yes, you! If you are a member in good standing and want to support your region with good ideas and real involvement, we need you to volunteer to serve as one of the three Directors for the region. The MER Board of Directors meets 3 times per year, with one at the convention. The deadline for nomination is May 30, 2019 and term of office is two years, with a limit of two terms. This year there are three Director slots up for election.

Any MER member in good standing can nominate him/herself by contacting and supplying to any member of the nominating committee the required photo and a 200 word (max) statement outlining his/her interest and qualifications for the position by May 30. Additionally, candidates may supply a 500 word statement suitable for placement on the MER Web site. Nominees who meet criteria and the submission deadline with all of their required materials shall be placed on the ballot.

You can make a difference by giving something back to the hobby you thoroughly enjoy. This is your chance. Successful completion of three years in office fulfills most of the requirement for the Achievement Program "Association Official" certificate. Please respond in one e-mail to all three committee members to insure reception of your nomination!

## NOMINATING COMMITTEE:

**Barry Schmitt** ([bschmitt@comcast.net](mailto:bschmitt@comcast.net))

**Jerry Ritter** ([jbritter@comcast.net](mailto:jbritter@comcast.net))

**Bob Charles, MMR** ([rcharles@aol.com](mailto:rcharles@aol.com))

## Deadlines and Schedules for 2019 Nominations and Balloting

Our by-laws require the publication of deadlines and schedules for nominations and balloting for every year to be published in the first issue of The Local of that same year. The dates schedule for nominations, ballot and election results are in Executive Handbook, Section 5, Policies, Article VI. The dates for 2019 are:

**May 30, 2019** -- Deadline for receipt of self-nominations sent to the Nominations Committee. Date for Nominations Committee to notify Board of Directors of slate of nominees validated by the Business Manager.

**July 7, 2019** -- You must be a member in good standing (paid up NMRA dues) based on the membership report supplied to the MER Business Manager from NMRA National as of 07/07 (the 7th of July) of every election year to be eligible to vote. If an individual is not a member or if membership has expired as indicated by that record supplied to the MER, and the MER officials have not been informed by NMRA National of a valid renewal of membership by 07/07 (the 7th of July), such individual will not receive a ballot nor be permitted to vote in that year's election.

**August 1, 2019** -- Deadline for mailing paper ballots to members and for commencing electronic voting; could be mailed earlier depending on other deadline requirements.

**September 3, 2019** -- Deadline for electronic voting, also last day as shown by postmark for mailing paper ballots.

**September 7, 2019** -- Deadline for receipt by Balloting Committee of paper ballots sent by mail.

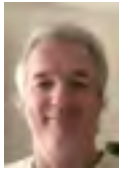
**September 14, 2019** -- Deadline for Ballot Committee to transmit results to President, the Director overseeing this committee, and the Business Manager.

**September 21, 2019** -- 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, 2019** -- Deadline for publishing election results on MER-NMRA website



# Coupler Comments



**Clint Hyde, Editor**

The reason for the paper size change is that both variations of The LOCAL are being merged, so that I am only producing a single document, and that the print LOCAL is the first 12 pages from the E-LOCAL. This means those pages will be common to both, and the E-LOCAL will have more pages after the first 12.

Changing to first class mailing requires an envelope because the paper can't get mailed loose/stapled.

Etc. Many changes.

Over the rest of this year, the copy count will be heading towards 100, so my workload will drop. In 2020, we will be under 100. The page count may drop below 12 in the future. This does of course mean that typical article/story content won't be in print, only in the E-LOCAL.

I've been saying for the last two years, the electronic (PDF) LOCAL (aka "E-LOCAL") is a better publication, with all the content from print and quite a lot more. Plus color. My efforts to improve the publication are all going into that version. You need to sign up for the E-LOCAL and let go of the print version.

In the E-LOCAL are additional/longer stories and photos, as usual, and COLOR!!, with more to come while I experiment with fancier layout aspects.

The E-LOCAL is always available for download from the MER website:

<http://mer-nmra.com/MEReLocalsCurrent.html>

One unfortunate thing about merging the print and PDF versions is that I may not be able to use my favorite typeface any more--it's a serif'd print typeface, it's beautiful in high resolution, on paper, but doesn't work well on a screen, in a small size. I'm going to try it, but it might not get used again.

**W**elcome to the beginning of the end for the print LOCAL. Or at least the beginning of the beginning of the end.

The print (hard copy) subscription copy count is continuing to decline, and that is unstoppable. Jan/Feb was 185 copies, March/April is 155. May/June is 140--you see the trend. The bottom number is 83 or so, for the remaining MER Life Members.

The Jan/Feb issue was printed as usual, bulk-mailed on the permit; the very last one done that way, because you have to have at least 200 copies to use the permit (so we printed a few extra and mailed them to me). We are saying goodbye to Penny Press of York, PA, for printing the LOCAL for us for at least 20 years (I don't, myself, know how much farther back than that). Their printing press is certainly better than my big laser, so the photos won't look as good as the have in recent years.

This issue, March/April, will be below the quantity/cost breakpoint where the bulk-mail permit can be used, so the entire process is changing.

The new process is that I am doing the printing myself. MER bought a good industrial printer for me to use 18 months ago, capable of holding multiple reams of paper at the same time, and printing 40 pages per minute.

It will stop being 11x17 sheets, and go to 8.5x11 sheets. It is dropping to 12 pages (6 sheets). It will get mailed first class, in a brown envelope. This means the cost is \$1.50 per copy per issue, which fits the budget.

## The Future of the Print LOCAL, Part 3

**The  
Liberty Bell Special  
2019 Mid-Eastern  
Region Convention**

**Sponsored by  
The Philadelphia Di-  
vision – NMRA**

**October 10-13, 2019**



*Come celebrate trains in the cradle of liberty!*

Greetings from The Philly Division/NMRA

by Chip Stevens

We've been battling the cold weather as many of you have been recently, but we have made good progress on Liberty Bell 2019 scheduled for October 2019.

Our clinic schedule has begun to gel. We have a great list of speakers and subjects committed to us or penciled into our draft clinic schedule which will be published later this spring. The highlight so far is a seminar about The Hot Rod Chicken. No, it's not barbecues nor car racing, but the description looks intriguing. We have also had several well-known manufacturers volunteer to do "Make and Take" clinics carrying a small charge for materials.

But the biggest development firmed up is the Saturday, October 12th Day on the Colebrookdale Railroad. The railroad was a branchline of the former Reading Railroad. Our tentative plans are to meet at the Boy-



**[www.LibertyBellSpecial2019.org](http://www.LibertyBellSpecial2019.org)**

ertown, PA yard at 9 AM to review the days plan. We will then have a locomotive tour and go through the actual start up process for a day's locomotive work. Next, we'll have an abbreviated explanation of the conductors and brakeman's duties followed by an Initial Terminal Test and Inspection walk of our train and a crew meeting.

After boarding a passenger coach, there will be a raffle for tickets giving the winners an actual cab ride during the day's trip. Three photo run by's are scheduled prior to lunch in the dining car. After arrival in Pottstown, PA, a run-around is slated with a Continuity test scheduled prior to the start of the return trip to Boyertown. There is an additional photo op scheduled during the return trip which should reach Boyertown by 3 PM., in time for the Saturday night banquet. One of our division members is working with the railroad to add additional features to this exciting day. Cost information for this trip should be on the Liberty Bell website by the time you read this summary. Work is under way on additional tours, but so far, this is my favorite.

For updates and additional activities and convention and hotel reservations, please visit the Regional websites [LibertyBellSpecial.org](http://LibertyBellSpecial.org), [MER2019.org](http://MER2019.org), or [LibertyBellSpecial2019.org](http://LibertyBellSpecial2019.org) regularly.



***Aerial shots like these used to be impossible for mere mortals to achieve. Now, with a camera drone, you too can take intriguing photos that are pretty darn good looking.***





# Mid-Eastern Region, NMRA 2019 Convention

## Liberty Bell Special



October 10<sup>th</sup> to 13th, 2019  
[www.LibertyBellSpecial.org](http://www.LibertyBellSpecial.org)

**Use Online Registration for Secure Payment and Better Up To Date Activity Availability. See Info below.**

Please enter (print legibly) all names as you wish them to appear on your registration badges. They will not be changed at the convention.

Primary Registrant: \_\_\_\_\_ MMR? Y / N, Any Title for Badge? \_\_\_\_\_  
 Significant Other Attending (living at same address): \_\_\_\_\_  
 Children Attending (18 & under – list all): \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Zip + 4: \_\_\_\_\_  
 Phone #: \_\_\_\_\_ E-mail: \_\_\_\_\_  
 NMRA #: \_\_\_\_\_ Region: \_\_\_\_\_ Division: \_\_\_\_\_  
 Favorite Scale: \_\_\_\_\_ Is this your first MER Convention? \_\_\_\_\_ Putting Items In Sale/Auction? \_\_\_\_\_

Description	Act. #	Cost	#	Paying
Early Registration (through August 31)	E	\$50		
Basic Registration (September 1 thru October 3)	B	\$55		
At Door Registration (October 10-12)	D	\$60		
Non-NMRA Member Extra Fee	N	\$20		
Significant Other & Children Under 18	O	\$0		<b>No Fee</b>
Banquet – Saturday Night	401	\$50		
Friday Breakfast, price includes tax	402	\$15		
Saturday Breakfast, price includes tax	403	\$15		
Sunday Breakfast, price includes tax	404	\$15		
Supers/Editors - Breakfast, Circle 1, Division Super 405 Division Editor 406	405/406	\$0		<b>No Fee</b>
<b>Call Boards / Ops – Expanded Call Board Info Available on Website</b>	-----	-----	----	-----
	801	\$5		
<b>Coming Soon</b>	802	\$5		
	803	\$5		
	804	\$5		
	805	\$5		
	807	\$5		
<b>Prototype Tours – More Info on Website When/If Available</b>	---	----	---	-----
<b>Coalbrookdale RR Excursion/Tour, Friday, All Day w/Lunch Included</b>	201	\$75		
<b>Extra Fare Clinics – Registration Required, Info On Website When/If Available</b>	601	\$		
<b>Made in the MER Tours – More Info on Website When/If Available</b>	---	----	---	-----
	701	\$		
<b>General Interest Activities – More Info on Website When/If Available</b>	---	----	---	-----
	501	\$		
Would You Like To Be A Contest Judge At The Convention – Circle YES or NO		----	---	-----
Have You Been A Contest Judge In The Past – Circle - Yes or NO Total Being Paid				

Online Registration Available at: <http://merregistrar.coffeecup.com/forms/2019%20Online%20Registration/>  
 Fill in Form, Press Submit Form for Invoice, then Press PayPal Button and Make Your Payment. A PayPal Account Is Not Required.

Payment [Check Only] must accompany Print Registrations sent by USPS.  
 Checks payable to: MER Conventions, Send to: MER Conventions, PO Box 426, Sykesville, MD 21784-0426

Completed PDF Form can be emailed to Registrar with a note requesting an Invoice for Payment to be sent via PayPal.  
 PayPal Account NOT Required, can use Guest Checkout. Payments by Visa, MC, Discover, AmEx, and PayPal

Any Questions and/or additional information, e-mail to [MER-registrar@mer-nmra.com](mailto:MER-registrar@mer-nmra.com), or 410-422-0446 (leave a message)

**Hotel** – Crown Plaza Philadelphia-King of Prussia, 260 Mall Blvd., King of Prussia 19406  
**Reference** - Mid-Eastern Region-National Model Railroad Assoc., Hotel Reservations: 610-265-7500  
**Online Reservations use** - <https://www.tinyurl.com/MER2019>  
**Room Rate** - \$109.00 night + tax, Room Rate applies 10/7/18 to 10/16/18

LOCAL  
 Mar/Apr

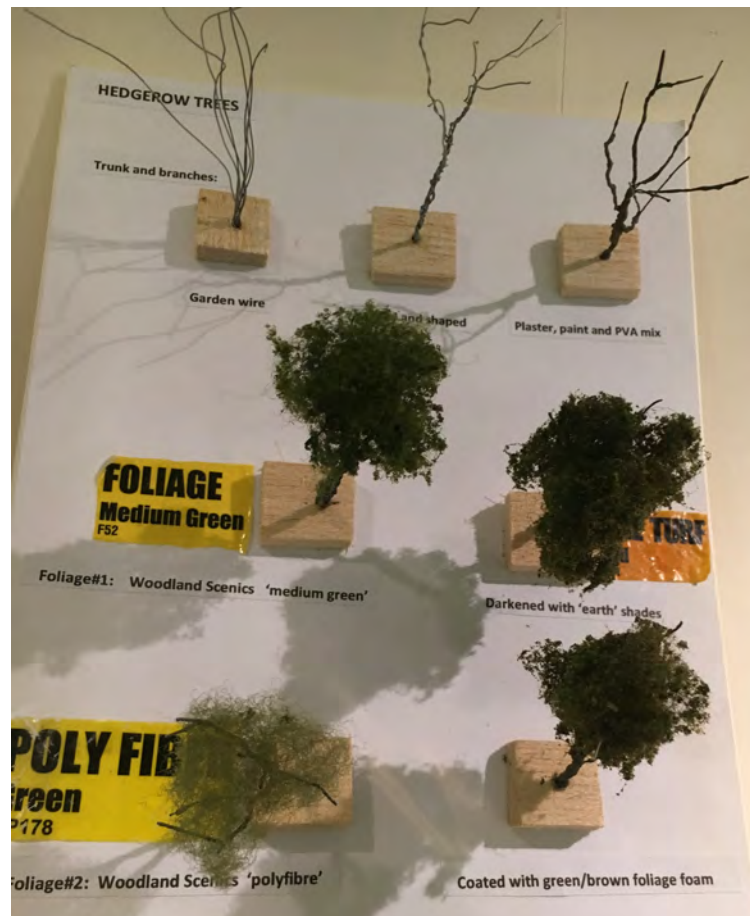
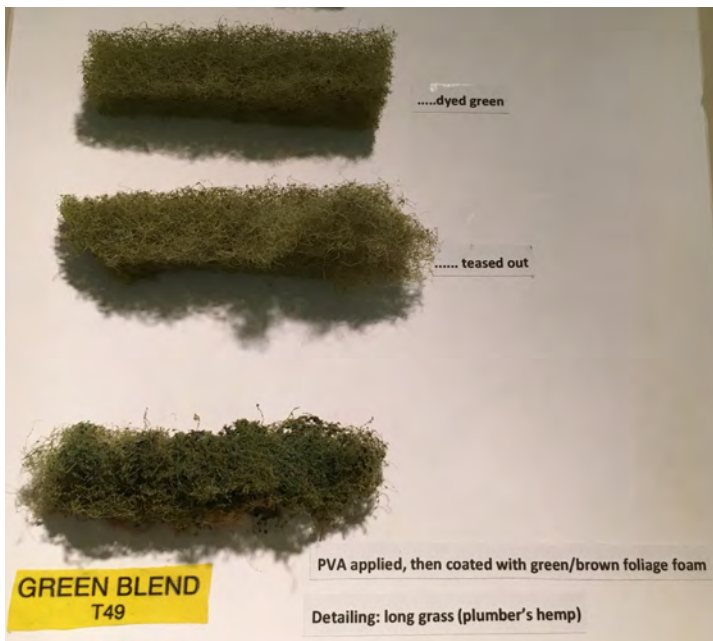
There are various recipes for the bark covering. Some modellers use hot glue sprinkled with sand, others use a mixture of paint, plaster and PVA glue. Some trees have a fairly smooth bark, whilst others have quite deep fissures in the bark surface. The bark mixture is usually applied to the trunk and main branches only, the smaller branches being sprayed. The bark is painted with light grey/brown oil based or acrylic paints and green is added to one side to represent the weathering of the bark.



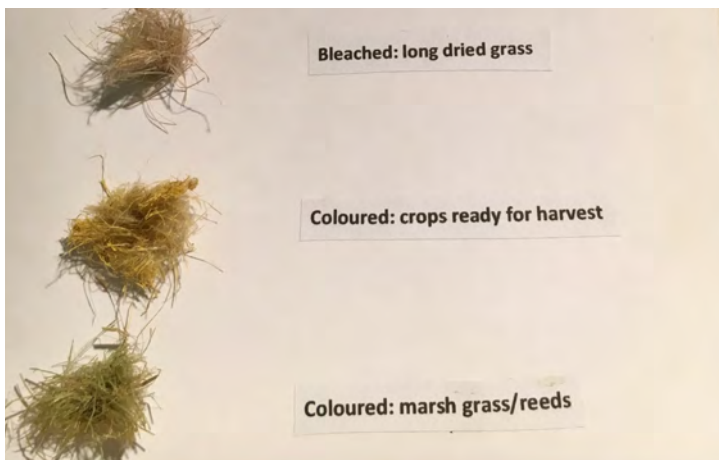
All layouts need trees, unless you're modeling the Death Valley Railroad.

These folks' techniques look similar to ours.

**TREES(2)**



That's a floor polisher pad used to make hedges.



Plumbers hemp, bleached, colored various ways. It's a natural fiber rope, you can buy it on Amazon.

# Put a Spring in Your Step and Volunteer at MER!

## by Kurt Thompson, MMR, MER President

Happy Spring, everyone. With the New Year holiday passed, I received confirmation of three very willing volunteers to help with the running of the Mid-Eastern Region. Not all of the work of the MER is handled by members voted into office. There are many staff slots that help to move forward the Region. Among them are Business Manager and Convention Registrar.

As most of you know, I've been in search of some people willing to serve in these capacities. Instead of just finding two, I had four people willing to share their talents. So now I have a Business Manager and an Assistant Business Manager as well as a Convention Registrar and an Assistant Registrar.

Howard Oakes of the Susquehanna Division has stepped up to take over the Business Office from Bob Price. He will be assisted by John Hoyt from the Chesapeake Division who will be handling most of the membership database duties under Howard. Kirk Bateman, also from the Chesapeake Division, has stepped up to take over as Convention Registrar so Bill Grosse can step down and continue as New Jersey Division Superintendent. Jim Fisher will assist Kirk with the duties of Convention Registrar. Jim is also a Chesapeake Division member.

If you run into Bob Price or Bill Grosse, please thank them personally for the years of service they provided to the MER. Without them, the MER would not have functioned as well as it did. Bob served as Business Manager for a bit over 10 years; Bill served as Convention Registrar for over 3 years. As incoming President, I was sorry when they each told me they needed to step down. However, both have graciously extended a hand of institutional knowledge to Howard and Kirk, respectively.

As the new Business Manager and Convention Registrar get into the swing of their respective positions, please help them as much as you can. If you need to ask them something, please give them time to respond. Remember we have all been new in a job before and needed some patience from the customers.

Thanks again to Bob Price and Bill Grosse. Welcome to the fun of staff work, Howard, Kirk, John, and Jim.

The Mid-Eastern Region still has plenty of openings for you to step up to the plate and serve your fellow model railroaders, both in elective office and in appointed positions.

Elsewhere in this issue is information about running for Mid-Eastern Region Director at Large - there will be three such positions open this year. Two incumbents will not be running again (one is term-limited), which improves your likelihood of electoral success. Such service counts towards the Official Certificate in the Achievement Program.

There also are positions appointed by or through the President for which candidates are being sought - Photo Contest Chair, Model Contest Chair, Advertising Manager, Assistant Achievement Program Chair, and Archivist, all immediately come to mind. Finally, if you tell us that you want to volunteer but don't have a particular position in mind, please say so - and I guarantee you that MER will identify a worthwhile post for you to fill. All time served counts toward the Volunteer Certificate in the Achievement Program. Most of these jobs take just a little bit of time periodically to perform, so they won't drastically interfere with your other model railroading activities.

Please take the time to serve. Contact any of the officers listed on page 2 of this issue to do so. We are always looking for volunteers willing to tackle a job, no matter how small.

2019 Elections are for  
DIRECTOR.  
Please consider running for that  
office--it's always worthwhile to  
have new participants.

# Mid-Eastern Region Blogs

*Compiled by Nicholas Kalis*

## MER Member

## Blog Address

### **James River Division**

Shannon Crabtree [viriniamidlandrr.blogspot.com/](http://viriniamidlandrr.blogspot.com/)  
Rod Vance <https://www.sites.google.com/site/willowcreekrr/home>

### **Philadelphia Division**

Bill Blackburn [PRR-GVD.COM](http://PRR-GVD.COM)  
Bob Dietrich <http://www.dietrichsfam.com/shj/>  
Val Pistilli [www.rpmvalleyforge.com](http://www.rpmvalleyforge.com)  
Robert Putnick <http://rputnick777.wixsite.com/horseshoecurve/line>  
<https://sites.google.com/site/ephratavalleyrailroad/home>  
Greg Shindledecker <https://www.facebook.com/groups/WMThomasSub/>  
Joe Walder <https://prrcambridgesectrk.blogspot.com/>  
Paul Welsh [http://www.rrscience.com/G\\_gauge/wmrr.shtml](http://www.rrscience.com/G_gauge/wmrr.shtml)  
Jeffrey Witt <http://witt-family.com/LayoutConstruction.htm>  
Bob Zeolla <https://www.facebook.com/Conemaugh78>

### **Potomac Division**

Alex Belida <https://esprblog.wordpress.com>  
Bernard Kempinski <http://usmrr.blogspot.com/>  
Stan Knotts <https://mrrminutiae.blogspot.com/>  
Marty McGuirk <http://centralvermontrailway.blogspot.com/>  
Lance Mindheim <http://lancemindheim.com>  
Norman Reid <https://nfandcr.blogspot.com/>  
Dean Ripple <https://sites.google.com/site/monongahdiv/>

### **South Mountain Division 10**

Jay Beckman <http://jaysoscalelayout.blogspot.com/>

### **Susquehanna**

Jerry Britton <http://pennsyrr.com>



*Icons courtesy  
flaticon.com, freepik.com*

*Listed in alphabetical order by last name*

*Revised November 26, 2018*

*If you know of a Mid Eastern Region (NMRA) member who maintains a personal model railroading-related blog, please contact Nick Kalis at [nkalis@verizon.net](mailto:nkalis@verizon.net) with the member's name and blog address so that we may include that blog on our list. Thank you.*

# Columbia Railroad Day May 4, 2019

from Barry Schmitt

Grab your 2019 calendar and add the following to May 4: "Reserved All Day for Columbia PA Railroad Day" from 9:00AM to 4:00PM. The Harrisburg and Lancaster NRHS Chapters, **NMRA Susquehanna Division**, the Columbia Historic Preservation Society, Columbia and Susquehanna Model Railroad Club, and Columbia and Reading

Railway (CORY) are sponsoring this major Columbia Railroad Day event. This will definitely be an exciting program for railroad history and prototype buffs, model railroaders, and the general public with its primary focus being the extensive history of railroading in Columbia, Pennsylvania.

This unique program will likely surprise many prototype railroad aficionados as well as model railroaders and Columbia residents about the depth of railroad history attributed to city. When asked to name Pennsylvania cities with extensive railroad history most would likely offer Altoona, Pittsburgh, Philadelphia, Reading, and/or Erie; but very unlikely if any would suggest Columbia. After attending the many presentations, visiting railroad historical hotspots, and exploring current day rail industries attendees will gain a new appreciation of Columbia's significant railroad history and today's varied railroad activity.

The program begins at 9:00AM at the Columbia Historic Preservation Society (CHIPS) located at 21 North 2nd Street in the society's main meeting room where you will receive an overview of the day's diverse activities while enjoying morning munchies.

Here you will have the opportunity to learn about Columbia's railroad history from such noted historians as Peter Green who will talk about the Philadelphia and Columbia Railroad, John Brown speaking on the Reading and Columbia Railroad; Doug Bosley, National Park Service Ranger and historian at the Allegheny Portage Railroad National Park; Pat Morrison, Director of the Railroad Museum of Pennsylvania; and a possible speaker from the Norfolk Southern Railroad. Also, Tony Segro and other model railroaders will also present interesting model railroading clinics and model displays.

Throughout the remainder of the day our railroad historical presenters will take you on a journey beginning with Pennsylvania's 1824 goal of building a railroad westward from Philadelphia to Pittsburgh. It all began with the construction of the 82-mile Philadelphia and Columbia Railroad (P&CR) to Columbia. Why Columbia? To transfer passengers and cargo from the



Brite Sunshine View of 99.9% Scratchbuilt Downtown Columbia on Columbia and Susquehanna Model Railroad Club Layout



Scratchbuilt Model of Columbia PRR Station on Columbia and Susquehanna Model Railroad Club Layout



P&CR to the Pennsylvania Canal System which then transported them westward by canal boats to Hollidaysburg PA where they crossed the 2100' Allegheny Mountains on the Allegheny Portage Railroad to Johnstown, and finally back on canal boats to Pittsburgh – a most daunting 394 mile engineering accomplishment completed in 1834. Throughout the day expert historians will take you back in time to those early days and describe in detail this massive undertaking as well as many other key Columbia railroad developments. You will also learn about the major roles both the city and the Columbia and Reading Railway played during the Civil War and some of the unique ways the railroads aided the historic Underground Railroad.



1975-1980 Era Amtrak GG1 #914 Between Columbia Rt. 462 Bridge and Signal Tower. Trains Frequently Detoured from Philly – Harrisburg Due to Accidents or Problems on the Mainline.

The Columbia Historic Preservation Society building is also home to the HO Columbia and Susquehanna Model Railroad Club which occupies the entire top floor of the building. This spectacular layout began as a recreation of Columbia as it appeared back in the 1950's where the city was served by both the Pennsylvania Railroad (PRR) and Reading Railroad with each providing both freight and passenger service. Their respective passenger stations, extensive freight yards, and engine terminal as well as accurate replicas of most of the important city structures are front and center on the layout. Recently the club received a large home layout donation which will allow you to see how they are integrating it into their expansive layout room. There are also plans to locate an O-Gauge modular layout at the Columbia Crossings building which is located just a few blocks from the club layout and positioned between the Norfolk Southern mainline and the Susquehanna River.

Trolley rides will be available throughout the day and will include a Columbia history expert who will narrate your hop-on-hop-off trip around the many railroad historical spots. A key trolley destination will be the Columbia and Reading Railway Company (CORY) which will host an open house. The company

Refurbished Narrow Gauge Consist that the Columbia and Reading Railway (CORY) accomplished for Six Flags



repairs and restores all types of railroad equipment, and you will be able to tour their shops and observe up close their current projects. For example they just completed restoration of an RDC unit for a museum in Bellefonte, PA and have also completed extensive work on Disney and Steam into History equipment. Rail Mechanical Services (RMS) is a sister CORY organization that repairs all types of railroad equipment and infrastructure around the country. CORY and RMS employees plan to offer various show-and-tell demonstrations such as hand spiking rail, speeder operations, hot riveting, and more. You will also be able to see their locomotives and equipment. Norfolk Southern will also have their Operations Lifesaver Safety Team on site and possibly other displays at the CORY facility. Our CORY event team members have also agreed to allow free space on their property for railroad associated vendors, and both the Harrisburg and Lancaster Chapters of the National Railway Historical Society are the first to agree to participate. After your CORY facility visit is completed you will return to the Historical Society building via the trolley that will be running on an approximate 30-minute cycle.



CORY On-The-Road Generator Replacement Project at Finger Lakes Railroad Facility

And last but certainly not least there will be one or more food trucks strategically located along the trolley route. Also, a list of several nearby excellent local eateries within easy walking distance from the Historical Society building will be provided. And no railroad focused visit to Columbia would be complete without savoring the well-known and mouth-watering Columbia Shifter Sandwich created in the 1930s and named by local train crews who operated a large fleet of small steam locomotives called "Shifters" that moved railcars around the many local yards and sidings. Paraphrasing an old TV advertising jingle, "It definitely takes 2 hands to handle a Shifter!"

Below are several photos of various Columbia past and present railroad attractions to give you a taste of current and past area railroad activity. If you have any questions about the planned May 4 program contact our NMRA project officer Barry Schmitt at [sbschmitt@comcast.net](mailto:sbschmitt@comcast.net).

This will definitely be a great day for railroading fans so block your calendar today for this can't miss event. We look forward to seeing you in Columbia on May 4!



A Major On-The-Road CORY Repair Operation at Coatsville, PA Steel Mill

# Membership has its benefits...

Your NMRA membership entitles you to all these benefits, plus the fellowship and assistance of more than 18,000 members across the globe.

## Partnership Program

The NMRA has partnered with model railroad manufacturers of all sizes who have agreed to give discounts to NMRA members. Discounts range from free shipping to 20% off all purchases. From Micro-Mark to Rusty Stumps, more manufacturers are being added every month. To see the current listing, see our website's Partnership page in the Members Only section.

## Model Railroad Directory

Whether you're at home or traveling, you can contact other NMRA members for a layout tour, to talk trains, or even to join in an op session! There are maps, descriptions, photos, videos, and more.

## NMRA Online Archives

More than 10,000 photographs, slides, plans, drawings, erection elevations, paint schemes and more, with additional scans being added all the time. High-resolution files are available for download at a discount to members.

## Achievement Program

The AP helps modelers get more out of the hobby by providing an incentive to learn and master the skills necessary. Those who have completed the AP receive Master Model Railroader (MMR) certification.

## Liability Insurance for Clubs

\$1 million liability insurance is available to model railroad clubs in which every member is an NMRA member. \$50 administration fee and completed application required.

## Special Access to Places and People

As an NMRA member, you'll have access to all kinds of railroad locations you'd never otherwise see. Often National and Regional conventions will tour prototype facilities such as yards and maintenance shops, and will charter special excursion railroads that are usually never open to the public. You'll have the chance to see top-of-the-line model railroads that usually don't accept visitors. And you'll be able to spend time talking with some of the most famous personalities in model railroading today.

## Bi-monthly NMRA eBulletin and NMRA Turntable

Every other month we publish the electronic NMRA

eBulletin, containing late-breaking news and reports of happenings in the organization. The NMRA Turntable is a monthly electronic publication that rounds up some of the most interesting model railroad websites, videos, blogs, and articles on the web. We do the searching so you don't have to! Every member with a valid email address receives a copy of both publications.

*Clint sez: This was in NMRA Magazine in 2017. I asked for permission to reprint it here. Theirs was prettier, but this is important information to tell folks in recruiting them. More info on the NMRA website.*

## NMRA Magazine

NMRA Magazine is the monthly publication of the NMRA, and features news about the organization and its Regions and Divisions, along with modeling articles, product conformance reviews, and other information. Because the subscription rate/postage depends on where you live, check [www.nmra.org](http://www.nmra.org) for your rate.

## "Members Only" Company Store

The NMRA's Company store offers many items, from apparel to mugs to gauges, available only to NMRA members.

## Online Video Library

The Members Only section of [www.nmra.org](http://www.nmra.org) features dozens of helpful "how-to" videos produced by professional video companies, as well as over 50 videos of clinics presented at national NMRA conventions.

## Annual NMRA Calendar

Features spectacular model photographs, as well as dates for Regional conventions and more. Free to every U.S. member. Additional copies can be ordered for \$5 each from HQ. Outside the U.S., contact HQ.

## Liability Insurance for Meets and Shows

This insurance covers liability claims for all Region, Division, and NMRA SIG-sponsored events up to a specific limit of liability provided for in the policy. (For clarity and assurance of coverage, we prefer that SIG events be co-sponsored by National, a Region, or a Division.) Please see the website for important details.

## Conventions

The annual National convention runs one week and usually features about 100 clinics, more than 50 layout tours, and dozens of prototype tours. The National Train Show runs for the final three days of the convention.

Regional conventions vary in duration from two to five days. Many feature prototype and layout tours, plus clinics and other activities.

### Modeling With The Masters (MWTM)

This is an intense, multi-day regimen of direct instruction by Master Model Railroaders. Modelers get hands-on experience in beginning and intermediate modeling techniques. MTWM classes are usually offered at the National convention, but MTWM courses have also been offered in various cities and at Regional conventions across the country.

### Discounts and Advance Registration on New KML Books

Kalmbach Memorial Library periodically offers special books and book reprints to the general public. NMRA members receive a substantial discount on the retail price and can reserve copies in advance.

### Local Divisions

There are more than 150 local Divisions in the NMRA, located in large and small communities across the U.S., Canada, Australia, New Zealand, and Britain. Most hold regular meetings and meets featuring clinics, presentations, layout visits, and more.

### Standards and Conformance

The NMRA constantly researches and sets Standards and Recommended Practices for all scales and gauges of train models, as well as adjunct items such as DCC and modules. The NMRA continually checks new products for conformance to Standards and RPs.

### Private Insurance

This service offers NMRA members group property insurance for collections, layouts, live steam, tools, slides and photographs, books, magazines, railroad memorabilia, and more. This insurance also covers an individual's property if it resides on a club layout. Members receive NMRA Group Rates.

- Free quote or brochure, contact J.A. Bash & Co: 1-800-654- 2256 or 300 Mt. Lebanon Rd., Suite 225, Pittsburgh, PA, 15234.

### NMRA Standards Gauges, Data Sheets CD ROM, and Turnout Templates

NMRA members can purchase Standards Gauges at significant price reductions over retail prices. Data Sheets CD and Turnout Templates are available only from the Company Store. Many data sheets are being updated and will appear in NMRA Magazine, as well as available for free download from the Members Only section of [www.nmra.org](http://www.nmra.org).

### Beginners' Guide

The Beginner's Guide pages on [www.nmra.org](http://www.nmra.org) offer those new to the hobby help in learning the basics of track, wiring, scenery, and more.

- [www.nmra.org/beginner/](http://www.nmra.org/beginner/)

## HELP WANTED: Archivist

Jack Dziadul, MER Director  
[jdziadul@mer-nmra.com](mailto:jdziadul@mer-nmra.com)  
919-721-8757

**The Mid-Eastern Region's position of Archivist** will become vacant effective April 1, 2019 due to the retirement of Chris Conaway. We are seeking Chris' replacement for this volunteer position.

The Archivist is responsible for maintaining the historical records belonging to the Mid-Eastern Region. These would include MER meeting agendas and minutes, budgets and financial reports, copies of The Local as well as Division newsletters, etc.

### Specific responsibilities:

1. The archivist maintains an electronic copy of the archives and updates it as necessary. At the end of each year, the Archivist makes a copy to a CD for the MER President and the MER Business Manager.
2. Periodically writes a short column for The Local (i.e., In the Region 30 Years Ago).
3. Prepares an annual budget request to cover anticipated Archivist expenses, if any, for the coming year.

For those participating in the Achievement Program and working toward their **Association Volunteer** Certificate and MMR, the Archivist position is a quick way to accumulate required volunteer time units. Please contact MER Director Jack Dziadul with any questions or expressions of interest.



# PHOTO ETCHING

by  
**Glyn Thomas**

Glyn Thomas is our newest MMR.

Glyn is British. I met him at the 2017 MER convention, saw this clinic, and thought “we need this in The LOCAL.” So I asked him later to write it and send it...a little overdue getting published, but that’s more about the length than anything else.

This was written as a series, but the entire article is presented here.

## Part 1 – Introduction and Artwork

I first became interested in photo etching living in England about 20 years ago. I’d used commercial etched detail parts and kits for several years before the British magazine, *Model Railway Journal*, ran a couple of articles on how to photo etch at home using a process designed for Printed Circuit Board production. I was in the middle of scratch building some coaches, and this appeared to be a good way of cutting an accurate line of windows on the sides. I bought the materials and started to experiment. My biggest problem at the time was transferring the computer-generated artwork onto the metal, but I did make some progress. Then I was offered the chance to move to America for work and shipping corrosive chemicals across the Atlantic with my models was too high a risk, so I disposed of my materials and the experiment was shelved.

Fast-forward to 2011 and another work assignment rekindled my interest in photo etching. I’d spent the intervening years building a large US layout, but as it neared completion I accepted a long-term assignment in Minnesota. We rented out our house (with the layout locked in the basement) and moved to a small apartment overlooking the Mississippi. I refocused my modeling from the macro to the micro. About this time, MicroMark introduced their home photo etching kit (#83123) and I thought it would be good to build a few small models to understand the process. Construction of my first model, a diminutive Minnesota Commercial railroad snow blower, was featured in *Model Railroad Craftsman* in December 2013. That could have been the end of the story, but photo etching maintains an enduring appeal for me due to the near-magical way that fully formed components appear from the bare metal. Over time I’ve found that I use photo etched components in nearly every scratch built model I make.



The author, ready to etch.  
Or fight off the zombie apocalypse.

The purpose of this article is to introduce the photo etching

process with the objective of proving that it is within reach of modelers who scratch build. I'll not explain the production with step-by-step detail, since the MicroMark instructions do this well, but I will point out some lessons learned that go beyond the basic process steps. In the remainder of this first article, I will explain how I produce artwork for my etchings.

The first step that is required is to produce some artwork. There are many ways to do this, and I'm sure it is possible to do it with a draftsman's pen and a photocopier, but most people these days will start with a computer and printer.

You will need a good drawing package to produce artwork on the computer. A package that produces raster graphics rather than vector graphics is preferred, since you will need to manipulate individual pixels. Personally, I prefer GIMP ([www.gimp.org](http://www.gimp.org)) for this process, because it is powerful, free, and available on both the PC and Mac. The only disadvantage with GIMP is that it is fairly complex and will require some practice before producing good results. However, any practice will be repaid many times over by the ability to produce custom designs "on demand".

When using GIMP, it is important to become familiar with layers. These are best understood as being analogous to layers of tracing paper placed on top of each other over a physical drawing. I start by creating a new document, usually 8 1/2" x 11" letter size, at 300 dpi resolution. The first layer is a background of white, the size of the overall page. Then I'll load a scan of an actual plan e.g. a side view of a locomotive as a second layer, and scale it to HO scale. I then create a third layer for my etching artwork. Drawing on the artwork layer, I trace out the parts I want to etch (e.g. the cab side) using the stroke tool – I usually set line width to 2 pixels, and disable antialiasing to avoid any grayscale pixels. Elsewhere on the page, I create a bounding box of 3" x 3", which is the maximum size the MicroMark etching system can etch, and move my tracings into this area as they are completed. Once the box is close to

The LOCAL has run articles about GIMP before. It is exactly as Glyn describes. Powerful, but not trivial to learn and use. Well, same with Photoshop.

being full, I draw bounding boxes around the components, and use the flood fill tool to paint the intervening space black (this will be the material removed during etching). Any voids in the component itself, such as cab windows, also need to be filled black. Then I'll copy the entire etching box, and flip it horizontally to create a back-to-front image – this will be used to mask the other side of the etching. I draw tabs on one side only to hold the fret together – I use 7 pixel white lines, but these often etch through on a typical run, so you may prefer to use heavier lines. You can also add fold lines on one side using 3 pixel black lines, to make it easier to fold up parts that represent multiple sides in the final etch.



Figure 1 – There are 18 homemade photo etched parts in this photo, including windows, bench, water wheel details, tie rods, and sluice mechanisms.

When I've completed the etch design I hide the plan layer, and the work is ready for printing and transferring to the metal.

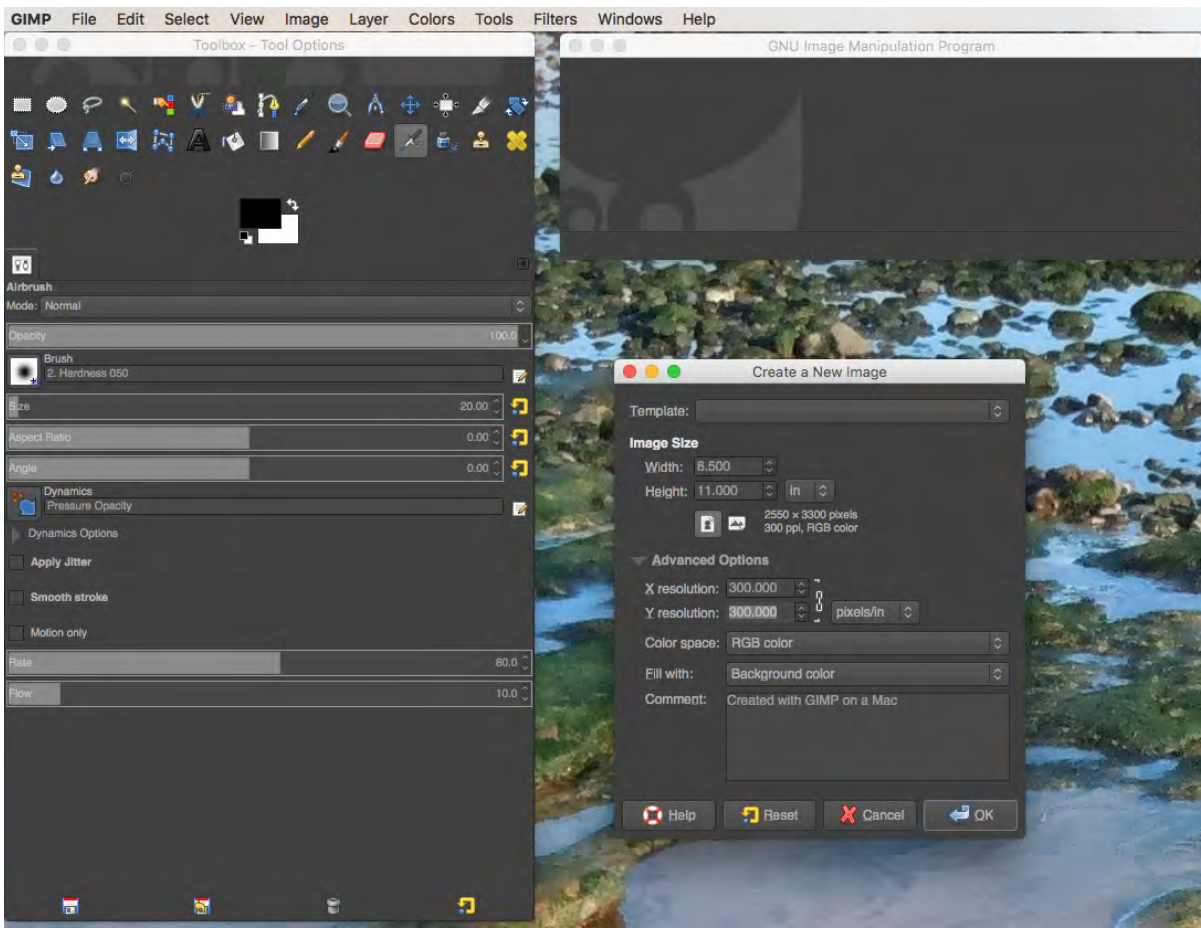


Figure 2  
Creating a new document in GIMP at 300 dpi resolution.

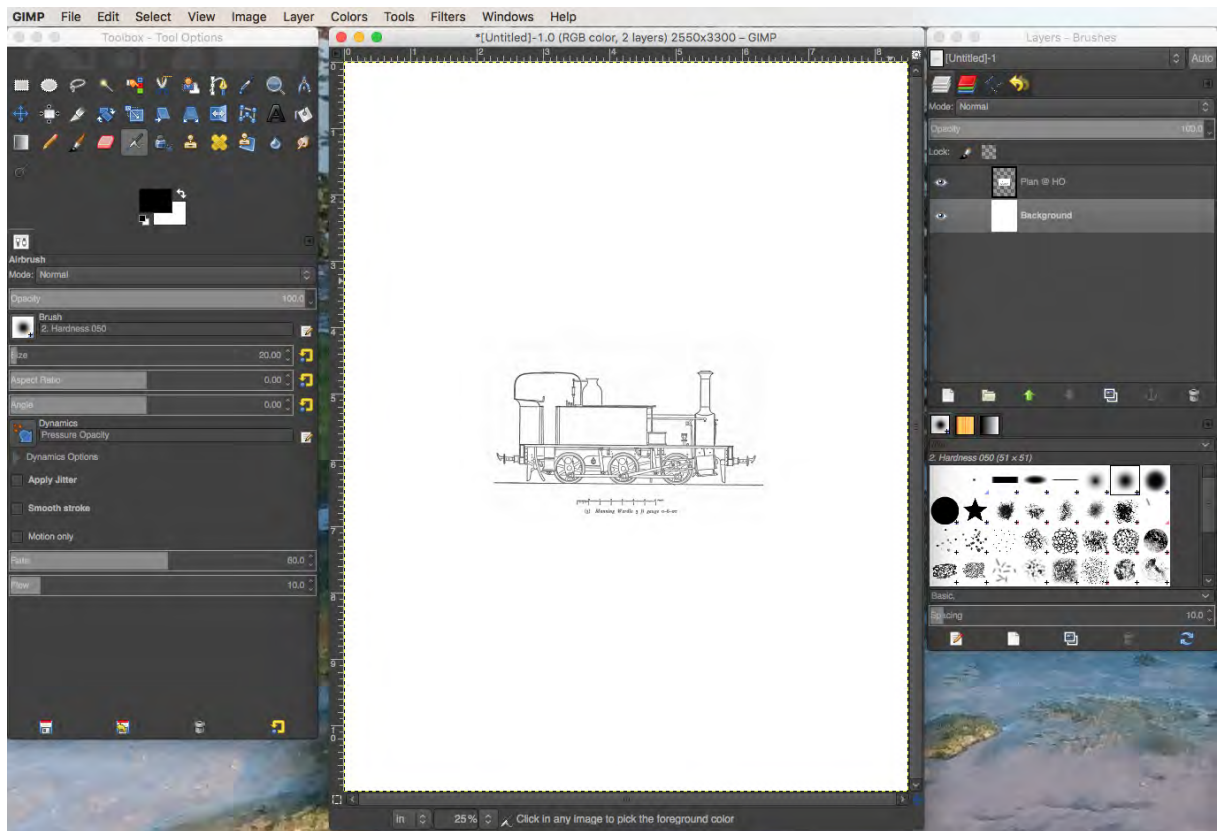


Figure 3  
A plan has been loaded as a separate layer and scaled to HO scale

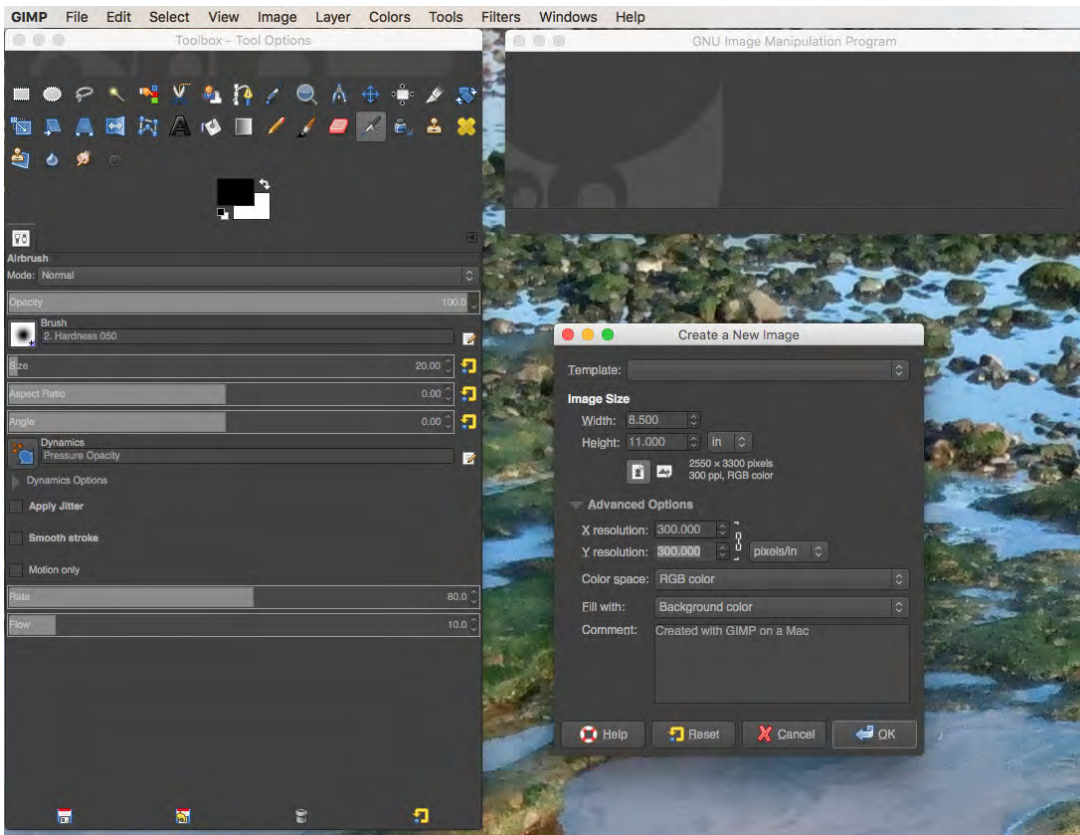


Figure 4 – Tracing the side tanks of the plan on a separate layer, using the Stroke tool.

Note 2 pixel width and no antialiasing

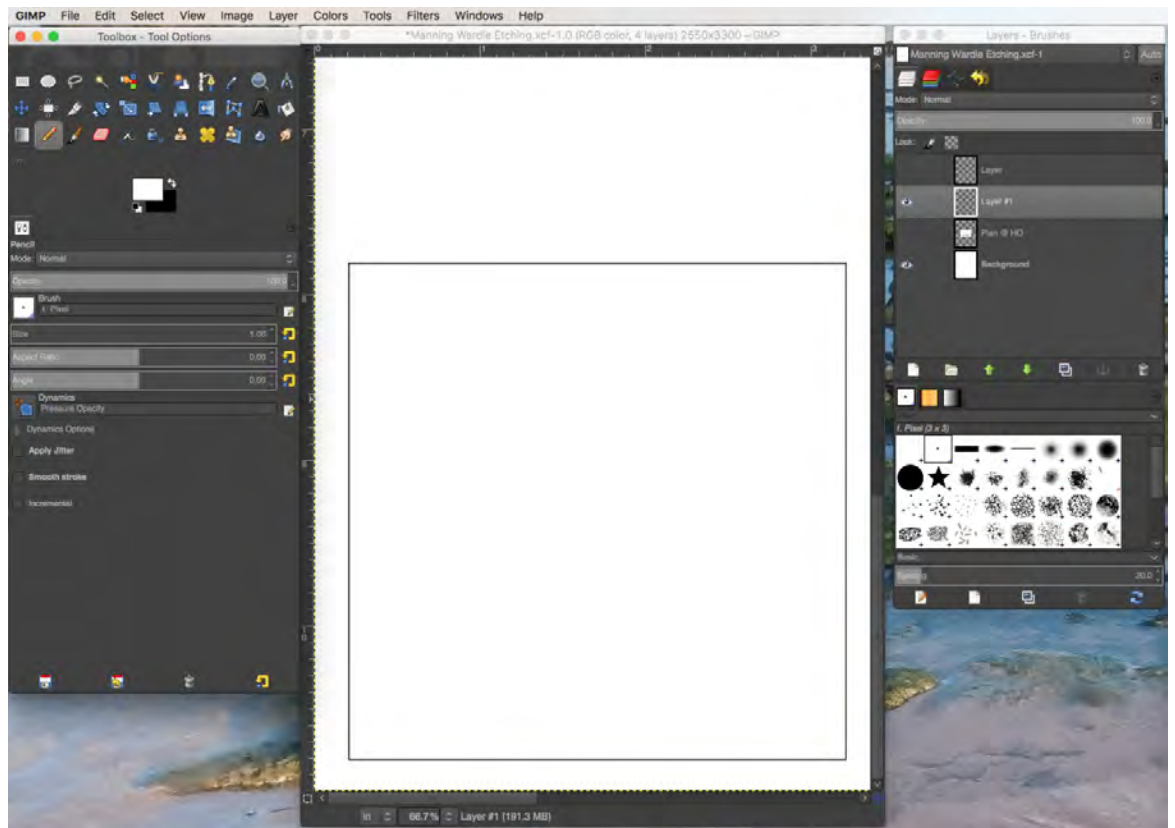


Figure 5 – Draw a 3" x 3" bounding box elsewhere on the sheet, using the Stroke tool



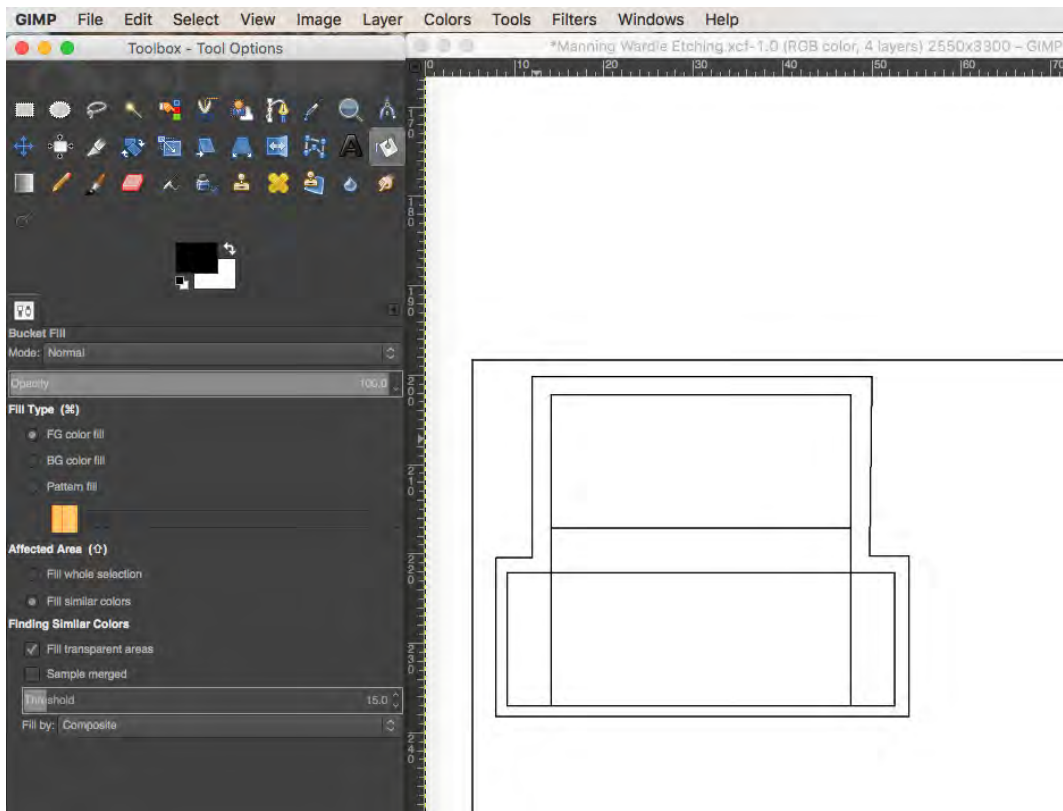
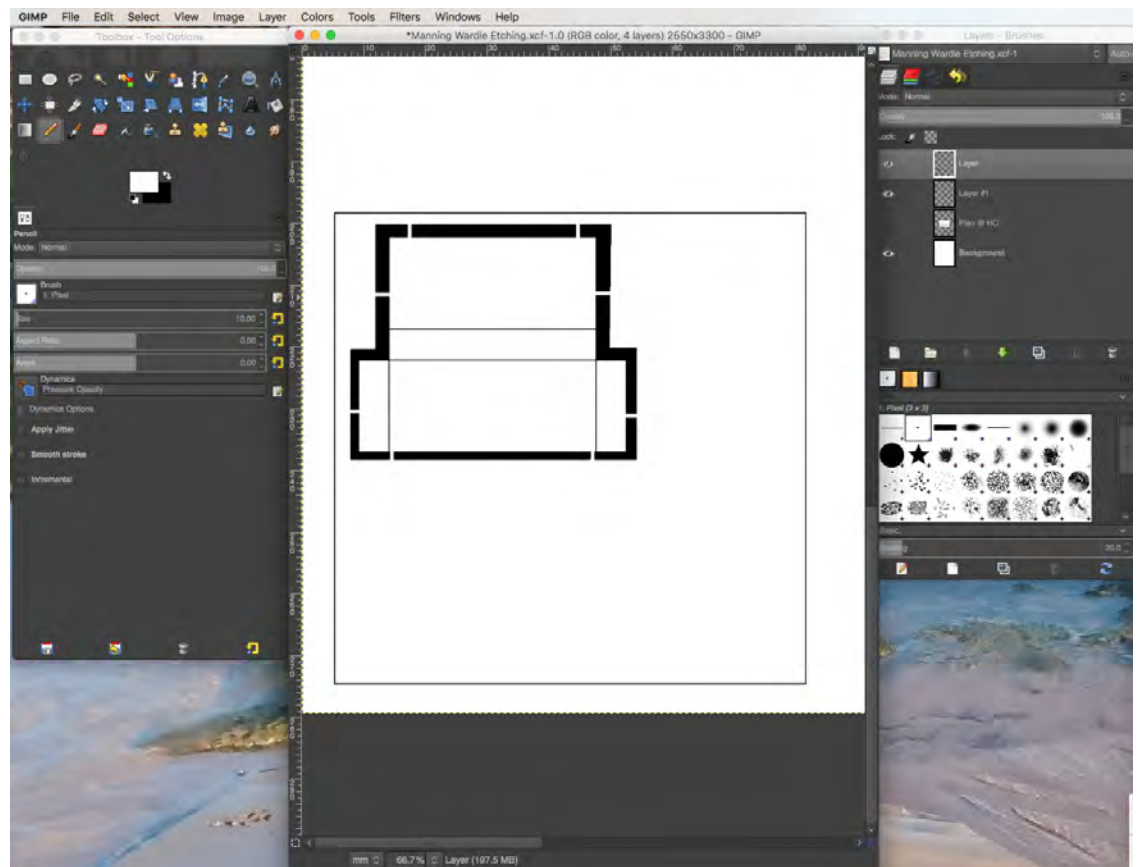


Figure 6 – The tank design has been completed (including top, sides, and rear, to be folded) and transferred to the bounding box. An outer box has also been drawn.

Figure 7 – The space between the outer box and the tank design has been flood filled with black and tabs added with the pencil tool



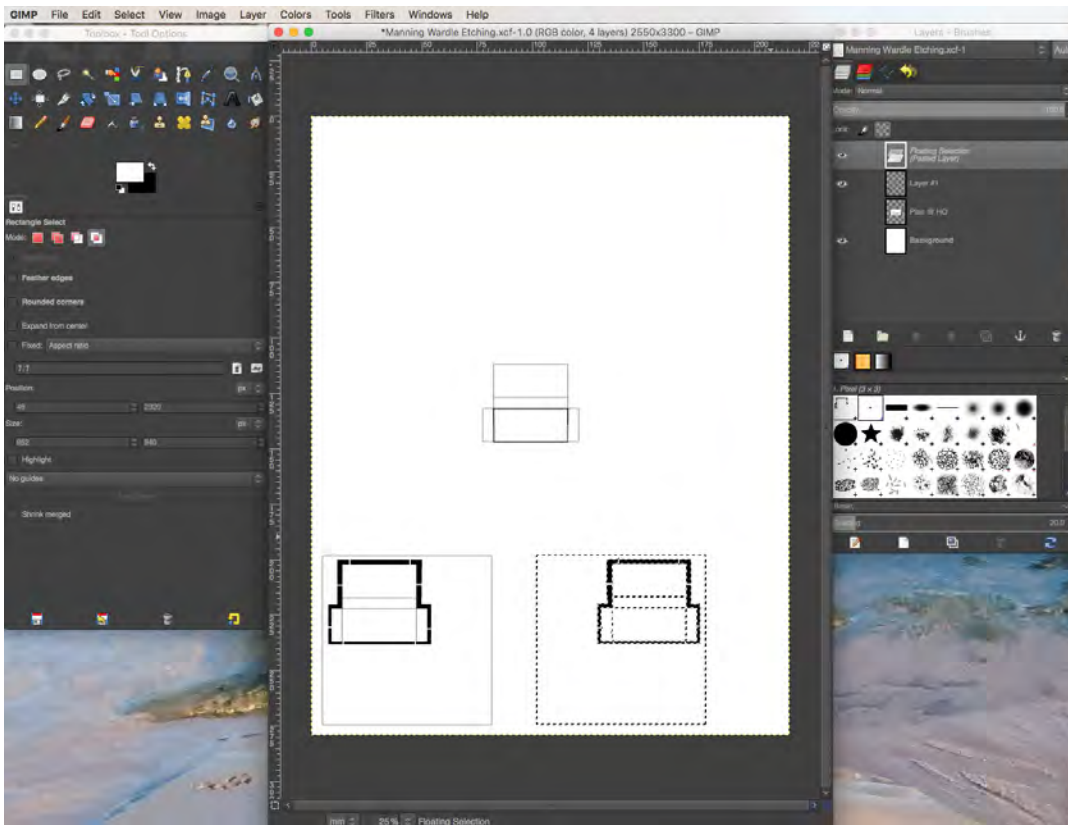


Figure 8 – Use copy-paste to create a copy of the design, then flip horizontal to create a reversed copy

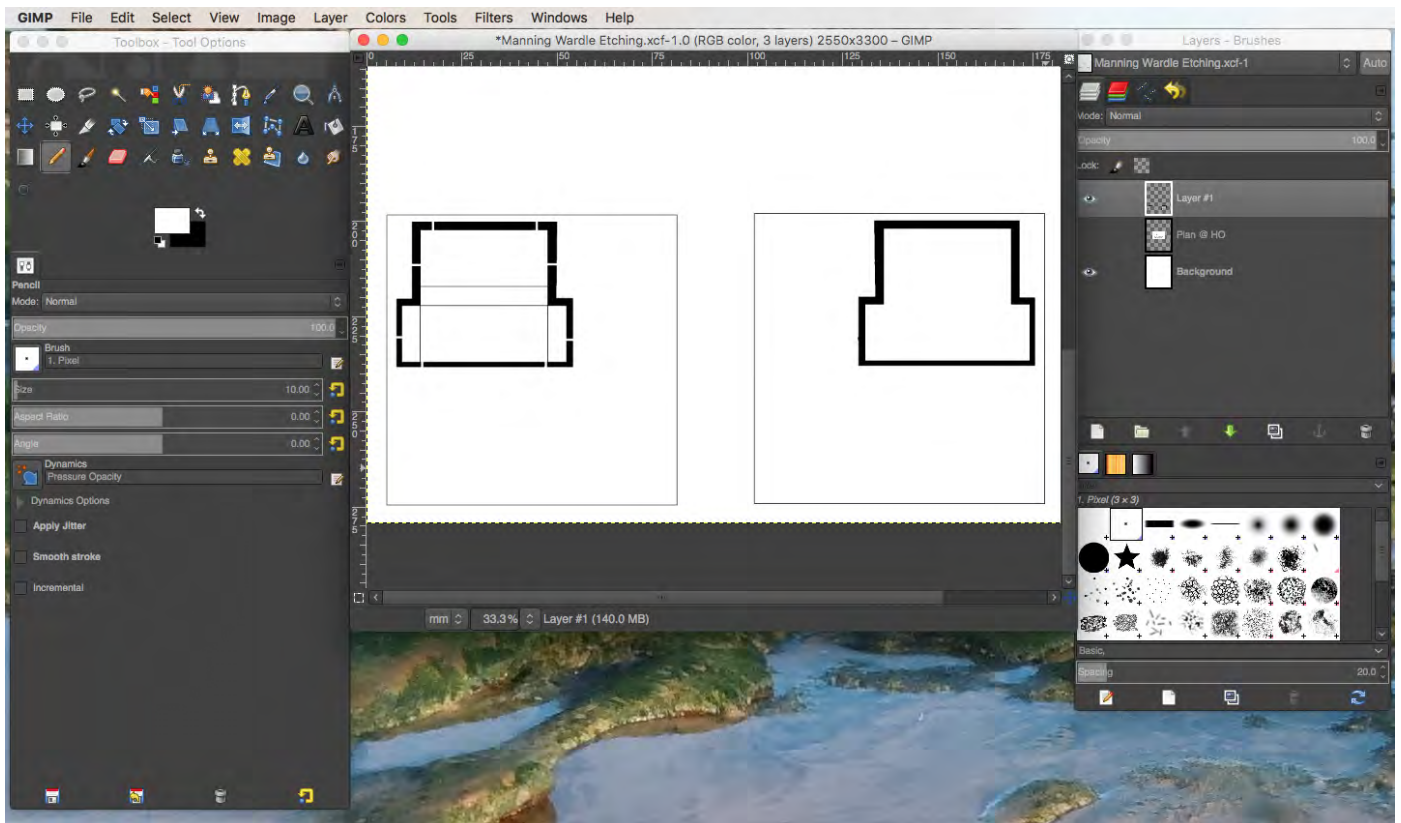


Figure 9 – In the final design, the reversed copy has tabs and fold lines removed (they will etch half-way)

## Part 2 – Transferring Etching Artwork to Metal

In this second section, I'll discuss some potential uses of photo etched components, and how to transfer artwork to metal.

Many modelers will have already used photo etched components. They are often provided as details for craftsman kits, or can be bought as individual parts to enhance existing models, e.g. the very fine Plano Model Products etched walkways for freight cars.

The primary materials that can be etched are brass or stainless-steel sheet. The MicroMark kit will easily work with either 0.005" or 0.01" thickness material. 0.005" material is useful for non-structural detail parts, and can be used for small structural components if folded or laminated in layers. I've used it for many projects including:

### Windows

When I built my large layout, I constructed 30-40 structures from scratch, mainly using Grandt Line windows and door castings. I can now spot these components on other people's layouts from about 20 paces. Therefore, to make my structures more individual, I now etch most of my own windows

### Handrails

### Signal parts

Non-functioning mechanical components, such as gears, levers, and hand-wheels

### Ladders

### Street furniture

### Cab and car sides.

0.01" material has good mechanical properties and can be used stand-alone for structural components. I have used this for a freight car springing system in brass, and loco coupling rods in stainless steel.

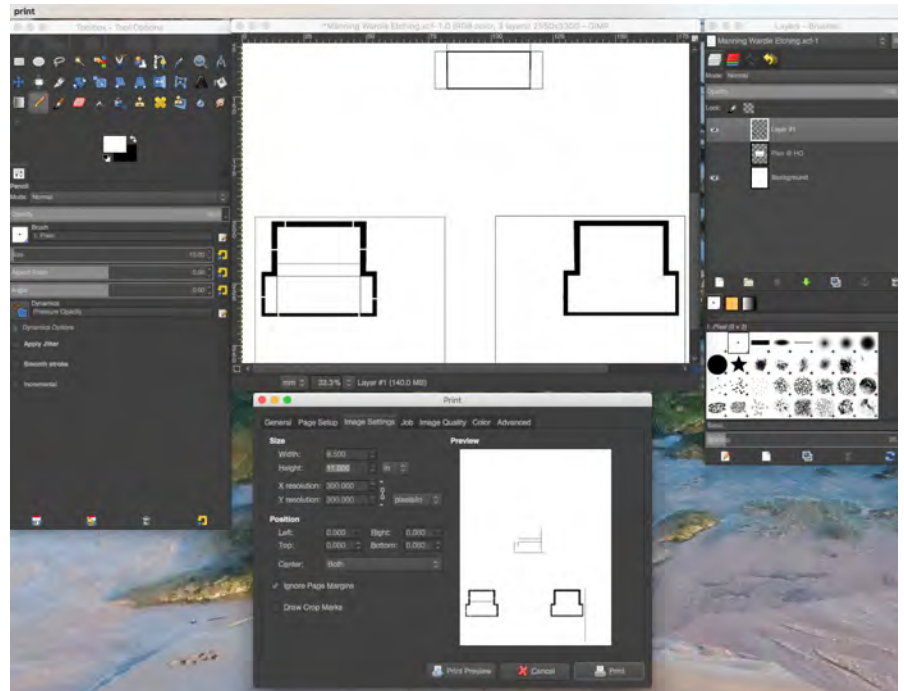


Figure 10 – Printing the design created earlier. Make sure the scale is 100% and 300 dpi.

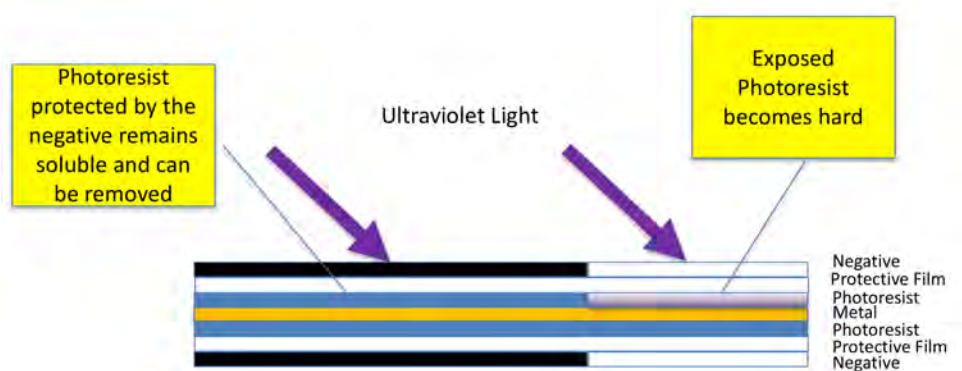


Figure 11 – The purpose of this stage is to attach photoresist to the metal and then sandwich the result in a negative. When exposed to the light, the photoresist will harden where the negative is clear.

Stainless steel is useful for its stronger mechanical properties and the attractive high shine that remains even on small scale components.

If you followed the steps explained in part 1, you should have some artwork that is ready for etching. The next step is to transfer the design from the computer to metal. This is achieved by attaching a special material, photoresist, to the metal, and then printing the design onto the photoresist.

I start by printing my design from GIMP onto MicroMark Inkjet Film (#83128), making sure to keep the scaling at 100% and setting your printer to print at Best Quality Photo Paper. A single sheet of the Inkjet Film will take three 3" x 3" designs, so if you are frugal, you may want to wait until you have that many pieces to etch. Alternatively, partially used sheets of inkjet film can be retained and used for future printing. It is important to print on the matt side of the film, because the ink won't adhere to the gloss side.

Taking the printed film, I then cut out the 3" x 3" front and reverse patterns (with about 1/2" of extra sheet all around) and place them together with the matt faces inwards. The patterns are aligned and then the patterns are taped together to form a sandwich that will enclose the metal sheet to be etched.

For the next few steps, it is necessary to prepare the workspace in advance. I partially blackout a part of the room that has access to running water (in my case, the WC that adjoins my railroad room), and place tools that I will need there – scissors and tape, plus the lightproof bag of photoresist, the Plexi-glass sheets, and clamps from the MicroMark etching set. At this time, I also usually plug in the MicroMark laminator to allow it to heat up.

I then prepare the metal in the lit part of my workspace. I cut a 3" x 3" sheet of the required material using tin snips. The metal needs to be burnished in order to achieve good adhesion of the photo-resist material. Burnishing is achieved by rubbing vigorously with a dampened metal preparation pad (Mi-



Figure 12 – Using the metal preparation pad to burnish the metal



Figure 13 – The two sides of the negative need to be aligned and taped together

croMark #83134). This doesn't need to be over the top – about one minute per side is sufficient.

The purpose of applying photoresist is to protect the parts of metal that we want to keep when we etch our artwork. Photoresist is a material that hardens when exposed to ultraviolet light, and when hard cannot be dissolved by the corrosive acid used for etching. MicroMark's photoresist (#83130) is provided as rolls of the active material, protected with a thin plastic film on front and rear. To apply the photoresist, I move to the partially darkened room. I open the bag of photoresist material and cut two 3" x 3" squares. Using tape, I remove the inner protective film from the photoresist, wet one side of the metal, and then slide the photoresist onto that side. I then repeat the process for the other side. The photoresist needs to be bonded to the metal by passing both sides through the laminator on its heated setting. MicroMark provides thin waxed card (#83129) to place above and below the work as it's passed through the laminator, and this is recommended in order to avoid damaging the photoresist layer (BTW, plain paper doesn't work for this purpose!)

While still working in semi-darkness, I sandwich the prepared metal between the patterns and clamp it between plexi-glass sheets.

Now it is time to expose the work to ultraviolet light. This can be achieved simply by taking the work outside on a sunny day. In summer midday sunlight in Philadelphia, an exposure of about 2 ½ minutes per side is usually adequate to print the design. Working later in the day, during other seasons, or higher latitudes will increase the exposure. It is virtually impossible to print on a winter overcast day in Minnesota regardless of the exposure (I know!). It is usually possible to detect hardening of the photoresist because it will turn light blue due to the light even before the development stage.

The work now needs to be developed to remove the unexposed (clear) photoresist. This is necessary so that the etching acid has access to the metal in the appropriate places, and it also halts any further



Figure 14 – Photoresist has been cut and the inner protective film removed. It is then temporarily attached to the metal with a film of water. Using the heated laminator, the photoresist is bonded to the metal.

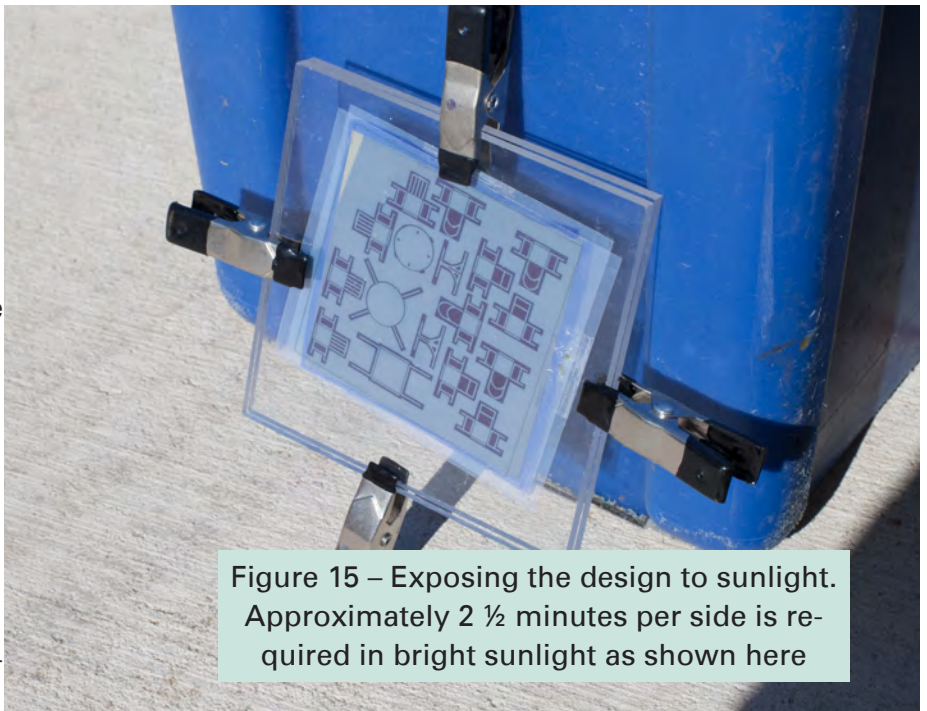


Figure 15 – Exposing the design to sunlight. Approximately 2 ½ minutes per side is required in bright sunlight as shown here

printing on the metal due to light exposure. Returning indoors, I put on surgical gloves so I can work with the developer. I remove the treated metal from the pattern sandwich. Then I use tape to remove the outer protective film from the photoresist on both sides, and develop the result using diluted photoresist developer (#83127.) This is a critical stage and requires careful timing of about 20 seconds per side. I occasionally remove the work from the developer, rinse off, and brush over with an old paintbrush. The effect to aim for is a slight embossing of the blue (hard) photoresist, with no residual clear (soft) photoresist. Care is required to avoid lifting the hardened photoresist, but if bubbling occurs, it can usually be arrested by quick rinsing. The result should be a piece of metal sheet with the design clearly visible in blue on both sides. If the design is not visible, then strip the photo-resist and repeat.

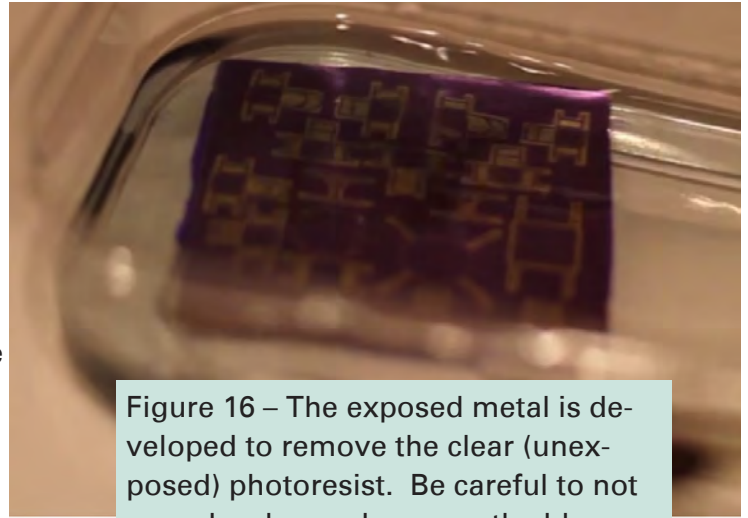


Figure 16 – The exposed metal is developed to remove the clear (unexposed) photoresist. Be careful to not over-develop and remove the blue (hardened) photoresists.

### Part 3 – Etching the Metal

Before describing the etching process, it is necessary to talk about safety. The etchant used is Ferric Chloride (MicroMark #83126), and this is harmful if it gets on exposed body parts. In particular, it is necessary to protect eyes from splashes and spills, so use eye protection whenever handling the fluid.

MicroMark provides appropriate goggles in their kit. It is also necessary to avoid exposed skin, so use a protective cloak and gloves – again, these are included in the MicroMark kit. The gloves are single use, so buy a box of surgical gloves from your local pharmacy (these are also very useful for other messy modeling processes, e.g. handling paint). Furthermore, the fluid will cause indelible stains on metal, wood, fabrics, and ceramic surfaces, so make sure the workspace is well covered. Since the protective gear can be

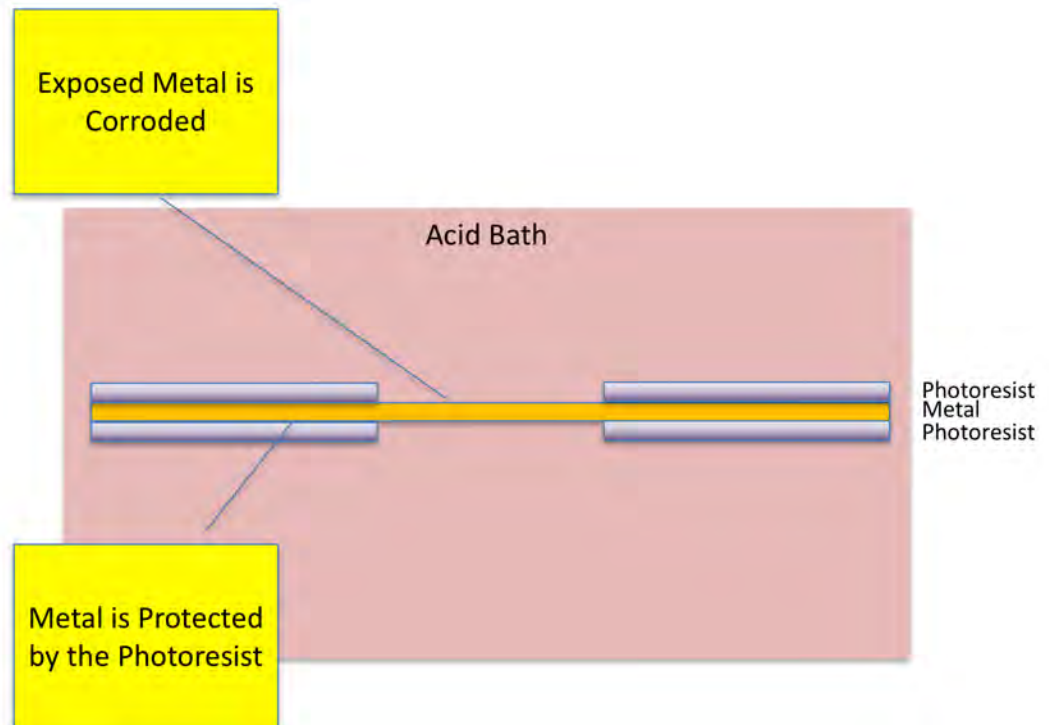


Figure 17 – When the metal is immersed in etchant, it will be corroded away where not protected by photoresist

bulky and restrict motion, it is worth clearing fragile items, such as work-in-progress models, from the workspace to avoid inadvertent damage. Finally, make sure that your workspace is well ventilated to avoid buildup of fumes.

The MicroMark kit comes with a plastic etching tank with work clamp, and a fish tank aerator that will agitate the etchant. I follow the MicroMark instructions in preparing the work area, with a bucket of water for rinsing work, and another that can be used to rinse any spills. I heat the etchant by placing the MicroMark container into a bowl of hot water. Then the tank is filled and the agitator started. The previously prepared metal is attached to the clamp and lowered into the tank. Every five minutes or so, I remove the work from the tank and rinse it.

Although this is a protracted process, it is very satisfying. Even from the first 5 minutes, you will start to see definition on the design where the etchant is dissolving the metal. Soon afterwards, you start to see holes all the way through the metal. Eventually, the holes link together and you see the fully formed parts.

One of the challenges with the process is differential etching. Typically, items towards the center of the workpiece will etch faster than those around the edges. I found that using relatively small tabs on the work means that fully etched parts can be snapped from the etch during the rinsing process, and this will avoid over etching these parts.

Typically, 0.005" brass will take about 20 minutes to etch through with fresh etchant. Times will increase with subsequent repeat usage, and I usually replace the etchant when I hit about 40 minutes per etch – in my experience this is equivalent to 8-10 pieces. I make a note of etches and times on the etchant bottle to track usage.

With the piece fully etched, I clean up my workspace. I remove the remaining photoresist from my etched parts using undiluted developer and I'm ready to incorporate the parts into my models. For painting, I'll usually use a spray primer, such as Tamiya Primer, followed by an airbrush of the appropriate finishing color.

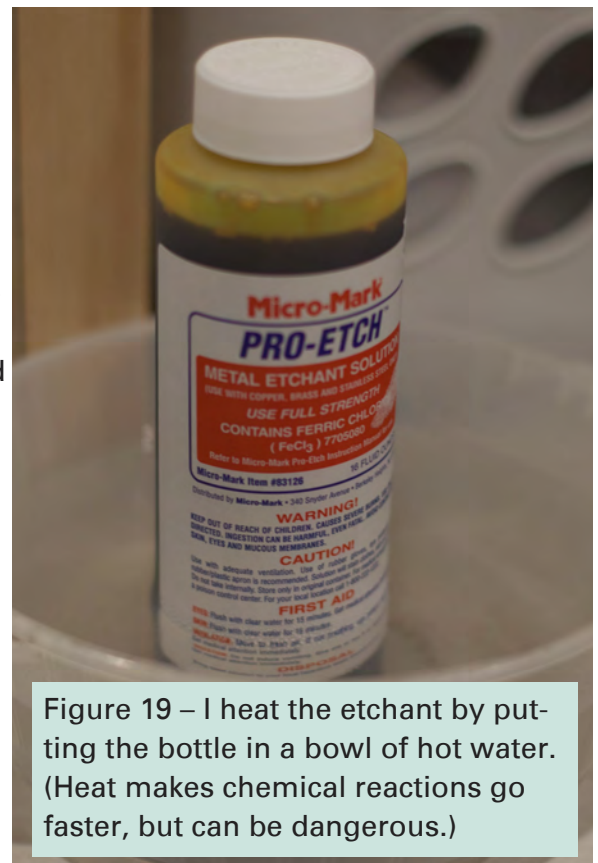


Figure 19 – I heat the etchant by putting the bottle in a bowl of hot water. (Heat makes chemical reactions go faster, but can be dangerous.)

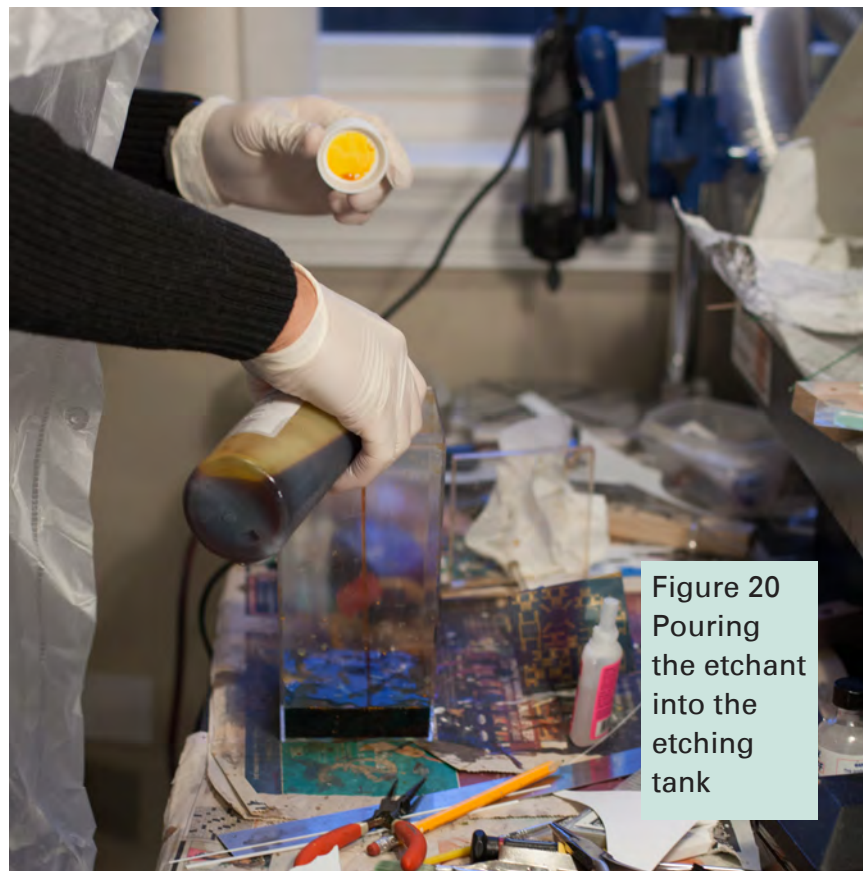


Figure 20  
Pouring  
the etchant  
into the  
etching  
tank

One of the biggest improvements I made in the process over time was create small batches. The artwork can be produced at any time, but there are benefits to batching the transfer of artwork to metal, and the etching itself. If you have several designs ready to transfer to metal, it's easier use the whole sheet of the inkjet film. You also save time on setup, and this process can be saved for a bright sunny day. Once designs have been developed, they are stable for a long time without needing to go directly to etching. I tend to do the etching itself on evenings where I have nothing else to do and my wife is out at social events – if you have 2-3 hours free, it's possible to get through a number of etches in a single night.

Overall, the process is complex, and you will make mistakes, especially the first time through. One difference from regular modeling is that there is little benefit to “falling forward” i.e. continuing when a problem arises – better to step back and redo the current stage. This is fundamentally a reproduction process, so it's always possible to go back and redo work. The one area that may not be reversible is safety, so PLEASE BE CAREFUL.

I hope that this series of articles will encourage others to try this fascinating process. I have provided a sample design that can be photocopied by anyone who wants to try this out (non-commercial use only, please!)

NOTE: I have frequently referenced MicroMark products in this series. I have no link to MicroMark apart from being a satisfied customer.

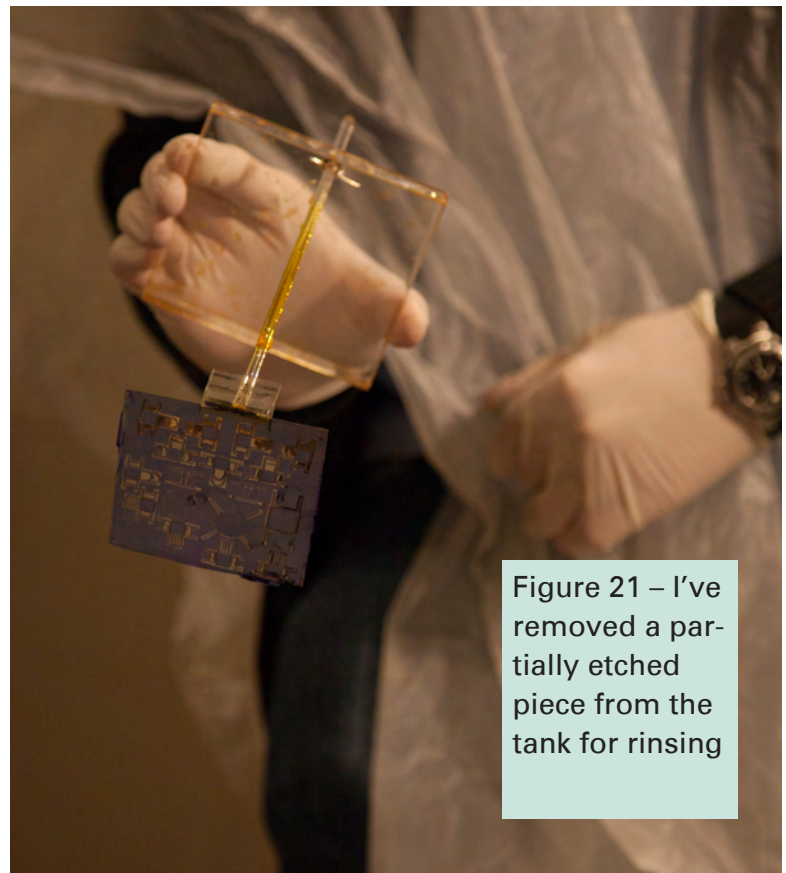


Figure 21 – I've removed a partially etched piece from the tank for rinsing



Figure 22 – The work is rinsed in a bucket of water



Figure 23 – The agitator bubbles air through the etchant during etching



Figure 24 – Etching is complete, some parts have come loose in the final stages of the process

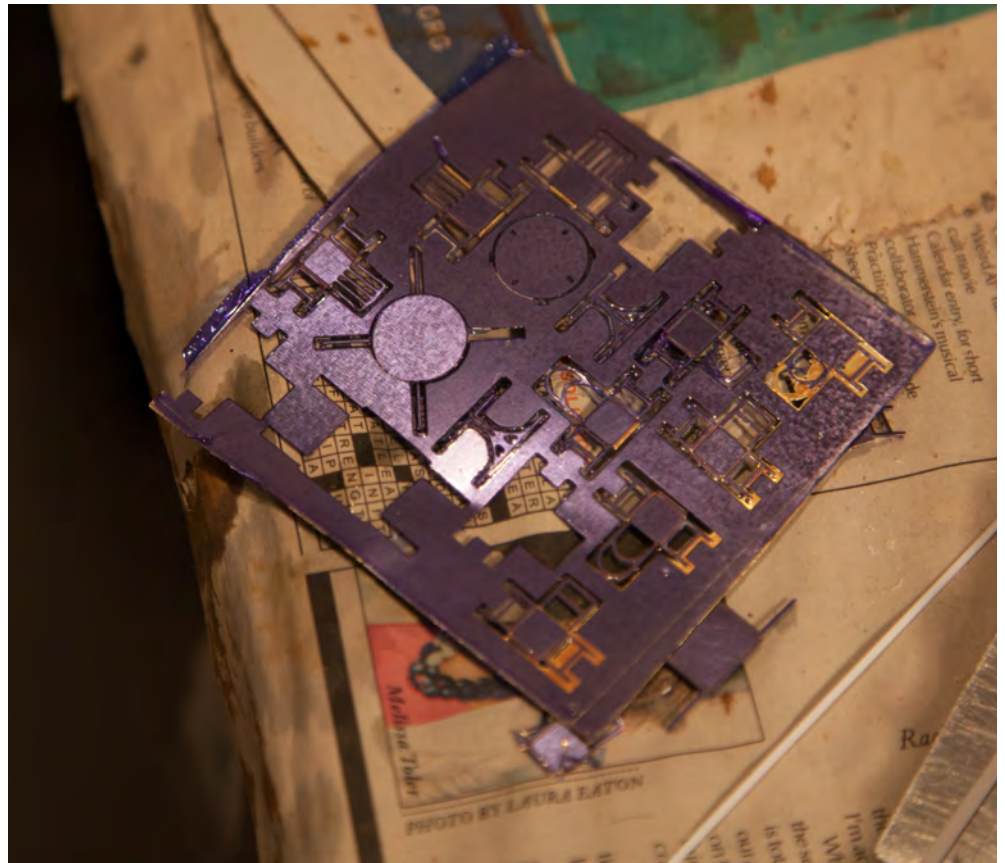


Figure 25 – Undiluted developer is used to remove the photoresist

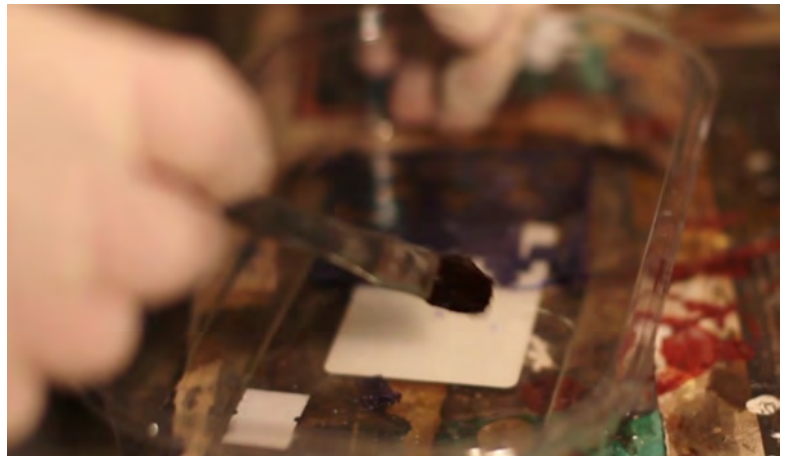
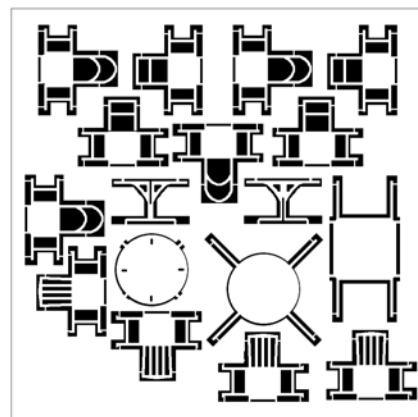
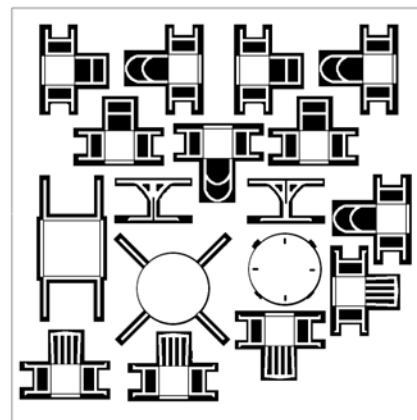


Figure 26 – Street furniture design – try it at home!

Figure 27 – The final artwork for the table and chair above. Pack the art in tight and make more than one at a time.



# INVITATION TO AUTHORS AND PHOTOGRAPHERS. BY JACK DZIADUL, MER DIRECTOR

Do you have a modeling tip, a how-to article, a step-by-step scratch-build, kit-bash, or kit build to share with your 1,800 friends in the Mid-Eastern Region? Perhaps you have photo exhibits of a recent train show, from a layout tour, or of an operating session. With our e-Local, we have an expanded page count available to publish your contribution and sharp color to give some pop to your photographs.

Among our Region's objectives are:

- Expand interest in and publicize the hobby of model railroading
- Promote membership growth (and retention)
- Support the National Achievement Program

Each member can play a role in achieving these objectives.

We have a great deal of talent in the MER as evidenced by so many Master Model Railroaders in the Region, and in the variety of high-quality contest entries at our conventions. Let us all share those talents more broadly. For those participating in the Achievement Program and working toward their Railroad Author Certificate and MMR, the Region and Division level requirements below are excerpted from the NMRA web site. Refer to [www.nmra.org](http://www.nmra.org) Education tab for the full statement of requirements that encompass clinics, etc.

To qualify for this certificate, you must prepare and submit material on any of the following subjects:

- 1 Model Railroading
- 2 Prototype Railroading, Applicable to Modeling
- 3 NMRA Administration (e.g. Officers or Committee Reports)

The material being claimed must be the work of the author, photographer, artist, draftsman, etc. applying for the certificate. A total of forty-two (42) points must be earned. This is material that appears in printed media, such as newsletters and may include text, photographs, drawings, etc. Material that has been published or accepted for publication may be claimed. A copy of the published material or of the acceptance receipt from the publication must be submitted as proof.

Item	Region	Division
Article or Column	2	1
Photos or Art Work	2	1
Scale Drawing of Prototype	4	2
Scale Drawing of Track Plan	2	1

A "page" is approximately 1200 words. Credit may be claimed for partial pages down to quarter pages. No more than half of the total required points (21) may be claimed for Division or 100% NMRA Club publications.

You will note that your article does not need to actually even be published before submitting your Region level points for credit. You only need certification from the Editor that your work has been accepted for publication. For guidance or questions pertaining to the Achievement Program, please contact Region AP Coordinator Dave Chance or your Division AP Coordinator.

What is the next step? Submit your article, photographs or inquiries to Editor Clint Hyde ([local-editor@mer-nmra.com](mailto:local-editor@mer-nmra.com)) with a copy to Jack Dziadul ([jdziadul@mer-nmra.com](mailto:jdziadul@mer-nmra.com)).

As the E-LOCAL is expanding, there is room for more writing and photography by YOU!

This prints better than it looks on screen, for me.

Announcing our 27th Annual Spring



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**You can find all of the Meet information at:** <https://groups.io/g/ECSPM>

See the Files Section once you have registered

This year we are bringing in well-known Santa Fe experts and modelers.

Lance Garrels :

- 1) Santa Fe mainline action in Kansas in the late 70s ~ mid 80s, with emphasis on the scenic action and nighttime artsy photography.
- 2) Santa Fe Middle Division branch line action, primarily the Strong City, Salina and Minneapolis District branches. (He worked numerous times on these branches during his nine years with the Santa Fe).
- 3) An all-Gibson collection (father Bill & son Art) show with NUMEROUS Santa Fe goodies from the 50s and 60s, including zebras, lots of Red & Silver and a very limited amount of steam around Amarillo ca 1955.

Stuart Forsyth: Helper Operations on Cajon Pass – Seven Days in May 1945

Jon Harrison:

- 1) Modeling Summit Topography
- 2) Jon will be discussing some of the more unusual aspects of his layout, such as spring switches, working turnout targets, and Central Valley track and turnouts.

Bill Van der Meer: Modeling a Bridge Over the River Dry - From Design to Finish

Mike Davis: Modeling Cajon bridges from photographs

Thursday night Earl Paine will host an open house

Friday Registration and setup at DELVAL: 3:00 PM

Saturday Door opens/registration at DELVAL: 8:00 AM

**REGISTRATION:      ECSPM Members      \$25.00 before April 15, 2017  
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Send checks payable to "ECSPM" to:

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Reservation name: "East Coast Santa Fe Modelers"

The block rate is \$85

Block reservation ends May 9th

