

# THE BRASS POUNDER



Newsletter of the Carolina Southern Division 12, Mid-Eastern Region,  
National Model Railroad Association

Volume 18 Number 5

July 2018

## START PLANNING

**As previously announced, CSD will host the MER Convention in 2020 ! Stay tuned for details as Convention Committees are formed and planning starts. A BIG THANKS to Neal Anderson for stepping up as the Convention Co-Chairman. Get ready to help Neal and CSD make it a great convention.**

### **Division Coming Events**

(See CSD Website for further details)

**CSD July Monthly Meeting**  
**Saturday July 21st**  
**9:30am - 12:45pm**

**Layout Visit at Neal Anderson's**  
**172 Woodfield Drive,**  
**Statesville, NC, 28677**

## Superintendent's Corner

By Alan Hardee

I wish to thank Jack Monette, our newest Master Model Railroader for opening up his home and layout to us for the June division meeting. It had been a few years (12) since I had seen his layout so it was great to see the improvements. We discussed several options for the upcoming 2020 convention such as general location, dates to consider, and the convention name. A BIG thanks to Neal Anderson for volunteering to be the Convention Co-Chairman. Although I did hear the term "Railroaded" uttered softly behind my back. LOL!!!

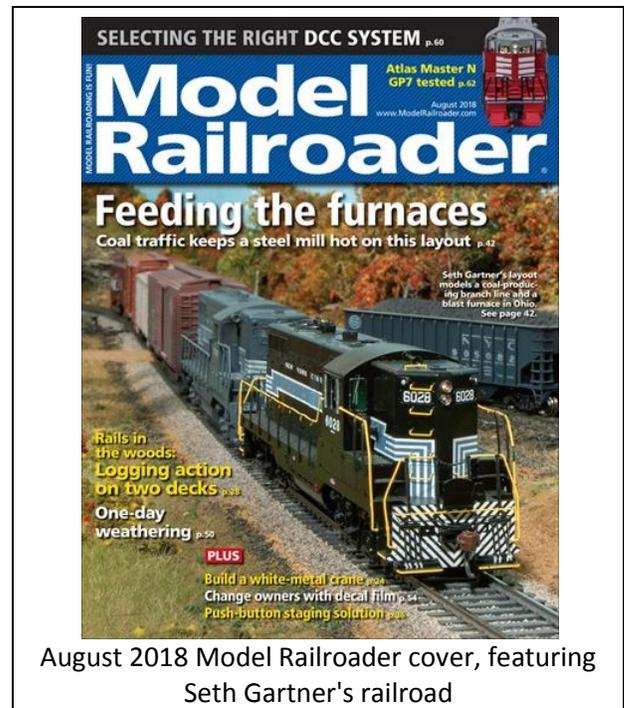
The July 21st division meeting we be another layout visit and Operating Session on Neal Anderson's KK&L Railroad. This is a large layout on several levels. It has 850 ft of dual mainline and a helix on each end connecting two different railroads making it a Point to Point railroad. This

basement layout is totally freelanced. Neal's address is 172 Woodfield Dr. Statesville, NC. A short meeting will start at 9:30 followed by operating trains till around 12:45. We will then meet at Randy's in Troutman for lunch. Please note that Randy's is CASH Only. Check the [carolinasouthern.org](http://carolinasouthern.org) website for this and more updated information.

It seems the national spotlight will again be focused on one of our Carolina Southern Division members. The August 2018 issue of Model Railroader features Seth Gartner and his NYC, Cleveland Div, Piney Fork Branch. This layout occupies approximately 420 square feet of

a large basement built on three levels. The single track stretches about 260' between Minerva and Dillonvale, OH. Seth hosted the February 2018 division meeting and operating session. Please see my photos of this wonderful layout in the March 2018 issue of this newsletter. Congratulations Seth on this great accomplishment. This will be the second time in 4 months that Model Railroader has featured a layout from our division. Jack Parker's Piedmont and Western was the centerfold in the May 2018 issue.

I hope everyone has made plans to attend the 2018 convention. It is just 3 months away. Visit [mer-nmra.com](http://mer-nmra.com) for the link to the convention information and registration page.



August 2018 Model Railroader cover, featuring Seth Gartner's railroad

## **UPCOMING AREA TRAIN EVENTS**

**Columbia Model Train  
Show  
October 13, 2018  
[Columbia, SC](#)**

**Neuse River Valley  
Model Railroad Club  
Train Show  
November 3-4, 2018  
[Raleigh, NC](#)**

## **Editor's Notes**

By Ed Gumphrey

This edition of *The Brass Pounder* continues as a monthly publication. Thank you for continuing to send me material for our newsletter. If you have ideas for articles or features, please email me [editor@carolinasouthern.org](mailto:editor@carolinasouthern.org) and we'll work together to get your efforts published.

In this issue you'll see a follow-up from Jack Monette, MMR, with some photos and information from his RMU clinic about scratchbuilding freight cars. There's an article from Fred Miller, MMR on building a flickering campfire. You'll also enjoy the update from Tim Rumph on the continuing story of his railroad under construction.

If you're like me, you've never attended a National or Regional NMRA Convention. I'm pleased to say that CSD member Ed Smith has attended every National Convention for the past two decades. To help build enthusiasm for attendance, he

has agreed to alternate between layout construction updates and conventions, starting this month with an overview of his experiences. He's really tweaked my interest, and I'm going to try to join other CSD members at the MER Convention in October. I've also included an article about our neighboring SER Division's Convention in late May - mostly about the adventure as opposed to convention coverage.

If you missed the Sipping and Switching Society of NC at their Glenfest 2018 show in Denver last month, I've included a couple of photos here. One of the most noteworthy features is some of their intricate hand-laid trackwork. I enjoy their annual visits to Denver because without the large traffic volume of typical of train shows, you can talk to members about their modeling techniques.



A nicely executed farm and silo scene along the main line



One of many scenes with track laid in the streets



An overhead view of some complex hand-laid trackwork. Notice the dual gauge crossings, including three tracks crossing in one spot in the center of the photo.

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## DIVISION AND REGIONAL NEWS

By Ed Gumphrey



### MID EAST REGION CONVENTION

Rockville, MD

October 4-7, 2018

[INFORMATION](#)

As Alan Hardee mentioned in *Superintendent's Corner*, CSD's July monthly meeting is a layout visit at the home of Neal Anderson, 172 Woodfield Drive, Statesville, NC, 28677. The meeting will be Saturday, July 21st from 9:30 am until about 12:45 pm. Here's Neal's input about the meeting:

*The meeting will be at 9:30am till 10:30am*

*From 10:30am till 12:45pm we will be running trains.*

*The car cards have no numbers on them.*

*They work by placing a car at each business that is on the layout.*

*At 1:00pm we are going to Randy's BBQ for lunch. (This is a cash Restaurant)*

If you've been reluctant to operate on somebody else's layout because of the complexity of car cards and forwarding waybills, this simplified use of car cards should make for an enjoyable operating session. Hope to see you there!

In other Division news, I received some information from Bob Halsey about Rick Knight, who was a founder of the CSD and our first Superintendent. Unfortunately, Rick suffered a fall during a trip on Amtrak and hit his head. He is in a hospice in Richmond and has not been doing well. Knowing that a lot of CSD members knew Rick Knight, Bob felt that many would want to contact Rick to wish him well. For those of you who would like to contact Rick, contact me [editor@carolinasouthern.org](mailto:editor@carolinasouthern.org) and I will pass along the additional details that we received from Bob Leohne.

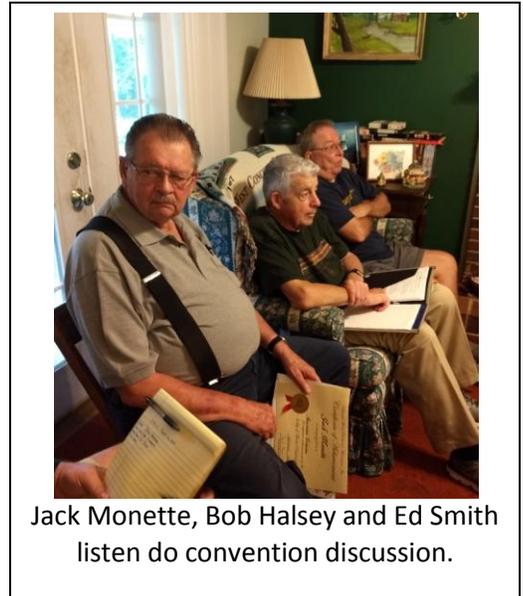
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# Meeting Notes

By Ed Gumphrey

CSD's monthly meeting for June was held at the home of Jack Monette, MMR. Our thanks to Jack for hosting the 10 members who attended. Most of the discussion was about convention planning. Specific focus was on lessons learned from other conventions. Here are some bullet points on the major topics based on the good and not-so-good features of the recent SER Convention at Lake Junaluska:

- When we plan the 2020 Convention, make sure we arrange for food services at the hotel where the convention will be located. Embarrassingly, SER didn't pre-arrange for the hotel restaurant to be open except for the banquet dinner. You can imagine the problems that ensued. Fortunately they were able to arrange support after the first night.
- Some of the clinics at the SER Convention were exceptionally good. Of particular note, Jack Ellis of Bar Mills gave an excellent clinic on making signs, including a CD handout for participants. It was emphasized that our committee should try to arrange similar noteworthy clinics.
- A sample timetable from the SER Convention was passed around and everyone liked the format that could be easily kept in a hip pocket. Alan Hardee will contact the SER to find out about how the timetables were produced.
- Related to the timetables, it was noted that a number of model railroad manufacturers had evidently paid for advertising in the timetables - an important way to reduce the cost of production. Alan Hardee noted that we will need to have an advertising coordinator for the 2020 convention.
- After some joking around about being "railroaded," Neal Anderson agreed to be a Co-Chairman for the 2020 Convention.
- For members hosting layout tours, we need to research insurance requirements and procedures as part of our planning.



Jack Monette, Bob Halsey and Ed Smith listen do convention discussion.



Michele and Dave Chance and Jack Parker at the June CSD meeting.

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## Achievement Program Update

Information provided by Neal Anderson, CSD AP Co-Chair

At the June CSD meeting, Neal Anderson presented Jack Monette, MMR with his AP Certificate for Association Volunteer. Jack will receive his MMR Certificate at a future meeting. Again, Congratulations to Jack on becoming MMR #613.

The following members are working on more AP Certificates:

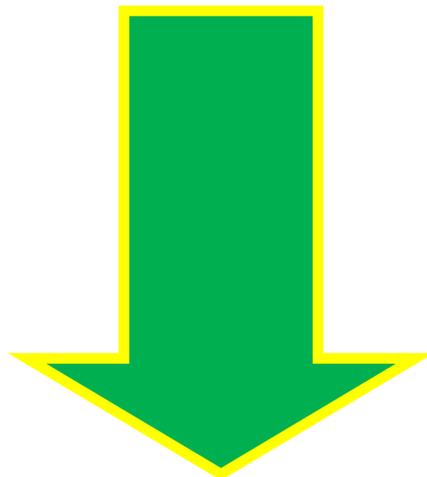
- We have Alan Hardee turning in his Volunteer in June.
- Bob Halsey is working on his Author.
- Gill Brauch is working on his Motive Power.
- Neal Anderson is working on his Cars.

Please continue to let Neal Anderson know what AP goals you are working toward. Send him an email or give him a call.



[kkrrailroad@yahoo.com](mailto:kkrrailroad@yahoo.com) 704-775-2830

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# HO Campfire Flicker

A micro-controlled model railroad project  
By Fred Miller, MMR



Hobo Campfire on Author's Layout

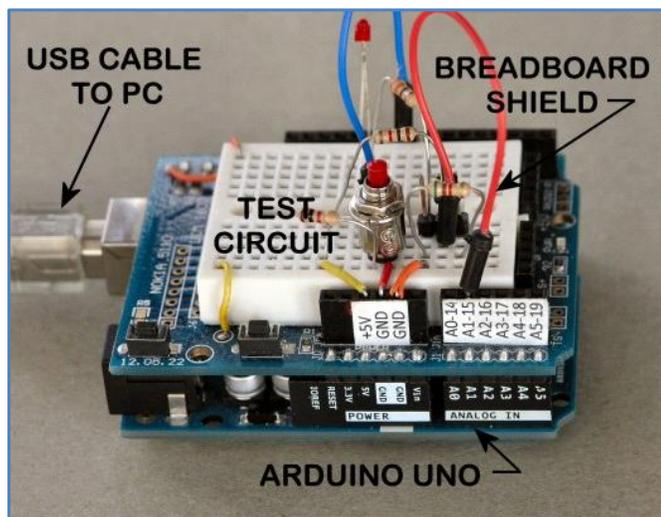
Everyone wants a hobo camp adjacent to their railroad mainline. A search on the internet will bring up several commercial kits for flickering fire simulations. These vary in price from \$15 to \$25. However, for far less \$, a simple project can be constructed by the modeler who would like to experiment with current day electronic circuits. A reasonable representation of a flickering campfire can be modeled using a bright miniature yellow LED. This is a simple job for micro-controllers

such as the popular Arduino series. The project described in

this article was built for around \$5 - a good price to perhaps sprinkle many such hobo camps around a layout. The micro-controller can be programmed to control a variety of seemingly random flashes. My project is set to run a bright randomly timed ON/OFF flickering LED representing the sputtering campfire.

## Building the campfire

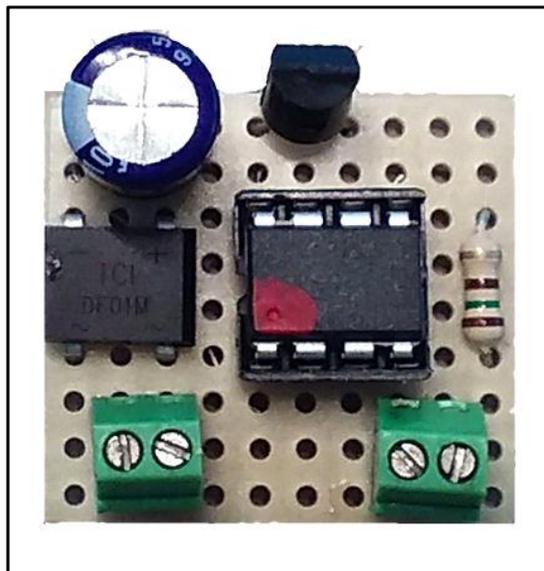
I constructed my campfire using one small size yellow LED with portions tinted with red nail polish. Some articles describing a fire simulation suggest using several LEDs of yellow and red. Although this multi-LED approach may yield a better simulation it is not suitable for a small campfire. I mounted my single LED in the layout and cemented random sticks surrounding the LED to represent fire wood. The simulated campfire is constructed using a small LED with very fine wire attached to the (shortened) LED leads and then covered with shrink tubing.



Hardware/Software development platform

The assembled demonstration fire is shown in the photo. Simple and easy.

### The electronic circuit

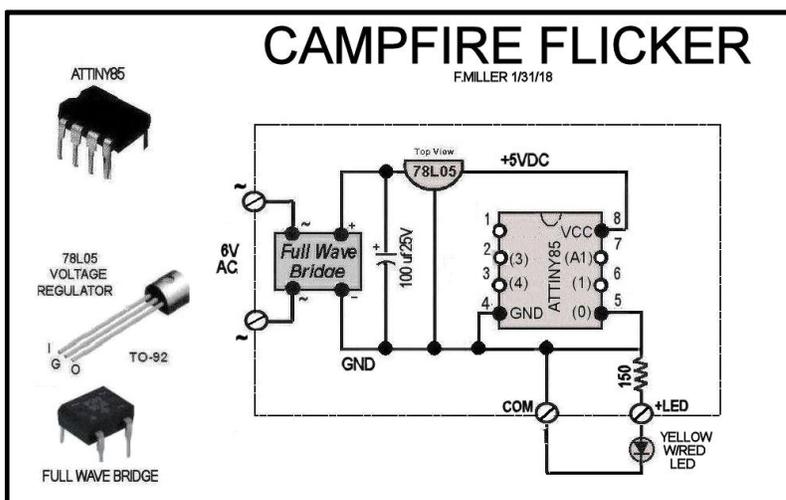


Complete assembled unit

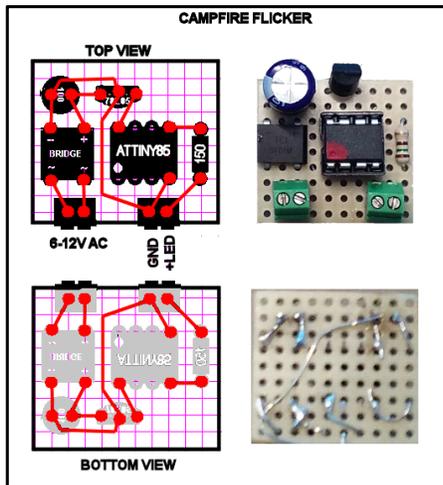
All of my Arduino micro-controller projects begin by developing the program code (called “sketches” in the Arduino world) and preliminary electronic circuit on an Arduino UNO with a plugged in Bread-board “shield.” This starting point “workbench” facilitates easy changes in software and the controlled circuitry. The “sketch” is developed using the free Arduino development system (IDE) running on a PC. The software is written, compiled, and then downloaded to the UNO for testing using the provided simple menu controls and a USB cable to the UNO.

Rather than use the larger Arduino UNO for the completed project, I generally move the software to smaller micro-controller chips. In this case an inexpensive 8-pin chip called an ATTINY85 was used. The Arduino IDE can be used to program the ATTINY85. A stand-alone circuit board then is designed and assembled to house the micro-controller chip and parts.

The developed circuit is shown below along with the parts list for the project. The software and additional programming advice is available from me just for the asking. For those modelers interested in building the campfire control board, but not in learning the Arduino world of micro-controllers (shame, shame!), I would be glad to make pre-programmed ATTINY85 chips available at a cost plus shipping basis. Wiring the control board, however, is left to the modeler.



The parts can be acquired from a number of online electronic parts suppliers. The parts list shows the part numbers from the Jameco.com source.



Top & Bottom view of planned and assembled unit

## CAMPFIRE FLICKER PARTS LIST - F.MILLER

PARTS, PRICES AND SOURCES							
QTY Board	Cost Board	QTY Purch	Purch Cost	DESCRIPTION	SOURCE	PART NO.	
1	\$0.29	1	\$0.29	FULL WAVE BRIDGE	JAMECO	103000	
1	\$0.15	10	\$1.50	100 MFD 50V ELECTROLYTIC CAP	JAMECO	29962	
1	\$0.25	1	\$0.25	78L05 5V REGULATOR	JAMECO	51182	
1	\$0.10	10	\$1.00	150 OHM 1/4 W RESISTOR	JAMECO	690662	
1	\$1.95	1	\$1.95	ATTINY85	JAMECO	2151312	
1	\$0.25	1	\$0.25	8 PIN IC SOCKET	JAMECO	112206	
1	\$0.25	1	\$0.25	YELLOW DIFUSED T1 LED	JAMECO	2155241	
2	\$1.18	1	\$0.59	2-POSITION TERMINAL BLOCK	JAMECO	152347	
1	-	-	-	Some form of blank project board with 0.1" holes			
PROJ TOT		PURCH TOT					
\$4.42		\$6.08		Some parts available in minimum quantities of 10			

The software sketch and/or an ATTiny85 chip with the software already loaded is available. Contact me at [tractionfan@aol.com](mailto:tractionfan@aol.com)

If enough interest is expressed within the Division, I could develop a "make-n-take" clinic which uses a printed circuit board making the assembly a lot easier. A kit of parts and instructions would be provided at a cost of about \$5. This would be similar to the Fusee "make-n-take" project offered two years ago.

## CONVENTIONS

By Ed Smith

Our Division will be hosting the MER Regional Convention in 2020. With that in mind, I've been asked to write future articles on experiences that I have had while attending conventions.

I've been a NMRA member for almost 30 years and have had the good fortune to attend almost every National convention since 1996. Over the years, while I have changed, personally and physically, the hobby has changed dramatically. The quality, product reliability, techniques, technology, and the evolution of DCC have changed the hobby exponentially. But the one constant that remains, the sole of the hobby, is our membership. And for the 4 or 7 days that is the convention, we share the camaraderie of this

great hobby. This short time is filled with all facets of model railroading, inevitably resulting in too little time for so many experiences. At the end, I wonder where the time went, but come away with my batteries recharged. New ideas and techniques, prototype information, memorable layouts, more must-have items for my ever-growing collection, and



most of all, old friendships renewed and new ones made. These are the things that draw me back year after year. Not to mention, the opportunity to explore new areas of this great country of ours.

When I first started attending, I had no knowledge of what to expect or any idea of what I wanted out of a convention. The first 4 conventions were basically impromptu. No pre-planning or scheduling, just registering and showing up. In retrospect, this was very inefficient. It left me with limited selections once the convention had started. But because of the vast array of events, I always found something to fill my days, mostly layout tours, the auctions, both live and silent, and the train show that ends the week. I also had plenty of time to explore the cities of Long Beach, CA, Kansas City, MO, Madison, WI, and St. Paul, MN. A highlight of these early conventions was my choice of transportation... Amtrak. My journeys started in Northeast Ohio, to Chicago, then to the aforementioned cities. You have to want to ride our rail system. It's not cheap, timely, or always comfortable, but it's prototype railroading and West of the Mississippi River, once past the corn fields of the great plains, the scenery can be breathtaking.

These early conventions laid a foundation for future conventions that continue today. Although I enjoyed these early endeavors thoroughly, I began to realize how much I was missing by not taking advantage of the whole experience. This would change in 2000. First, I knew I wanted to utilize the convention agenda to its fullest. This meant a wide array of clinics, prototype events, layout tours, model contests, sig activities, and so much more. But more importantly, I had remarried, and my yearly sabbatical had a whole new social aspect. Luckily, these conventions offer activities outside the railroad realm, so my wife always finds plenty to occupy her time while I immerse myself in the hobby. That said, we will be leaving in early August for the National Convention



in Kansas City. In future correspondence, I will try to describe what the Kansas City convention was all about. Also, in the future I will try to relate past convention events that have not only enlightened my modeling abilities, but have created lasting memories.

In closing, I will relate one episode from my first convention that will always stay with me. On Amtrak's California Zephyr, going to Long Beach, CA, I had an encounter with an elderly gentleman, whose name I don't recall. We met in a group of 4 in the dining car during lunch. The conversation turned to the NMRA convention and I talked about the attributes of the upcoming event. All the while my elderly companion remained quiet. After lunch, back in the coach, the gentleman searched me out and sat down to talk. Low and behold, he was heading to his 50th consecutive convention and was to receive recognition for this fete. Talk about embarrassment! There I was expounding on something I had yet to attend, to someone who had made it a mainstay of his life. But, as with most people in our association, this was a true gentleman. We talked for several hours about everything in the hobby, as if we were old friends. I've never seen him again, and I think that is my loss.

Until next time .....Ed



## My Southern S-line Part 3

By Tim Rumph

How do you build a large layout? That has lots of answers, but the way I do it is a little piece at a time. This started on my last layout. The layout room was only 9-1/2 by 14 feet. There wasn't room to build the layout in the train room, so I moved construction into my workshop in the garage. The picture below shows the helix on my last layout under construction.

Fortunately, my current layout doesn't require a helix, and that helix has found a new home elsewhere. Building the layout in pieces allows me to work in a pleasant space with lots of room and easy access to everything. The pieces of layout are limited in size to the size of my workbench, which is made from a solid core door. I can hang over a bit, so let's call it one sheet of plywood.

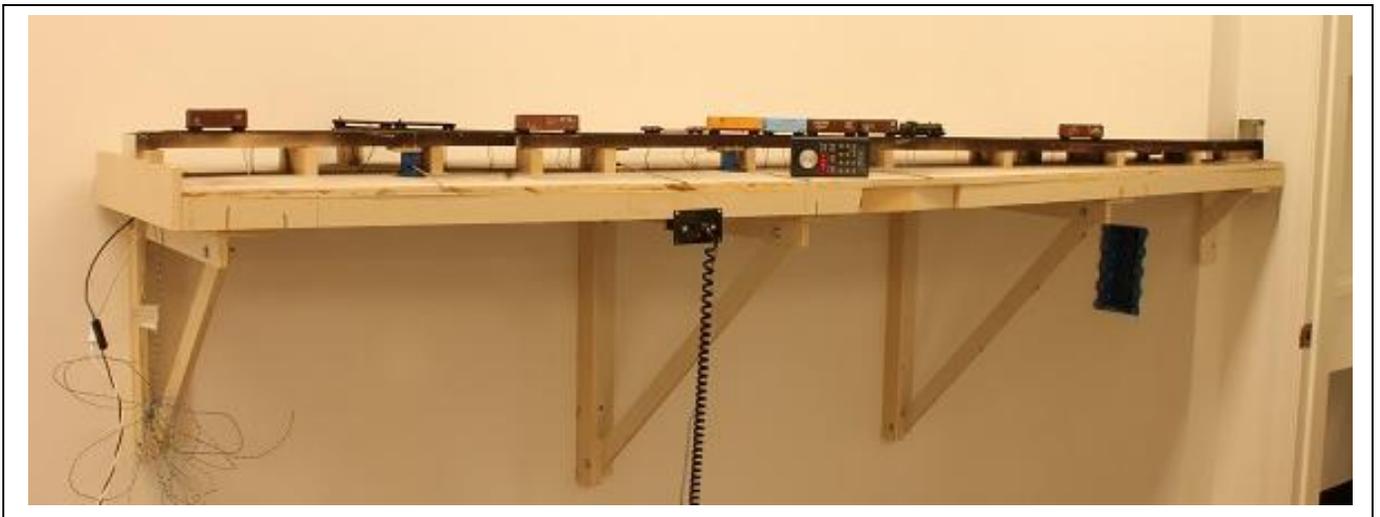


The entire benchwork is made from 1/2" cabinet grade plywood, which Lowes calls "whitewood". When I started construction I got a pneumatic brad nailer. The frame is all made from strips ripped from this plywood and is glued and nailed together. Below is the framework of the first section of the layout framing, ready to apply the top, also from 1/2" plywood.

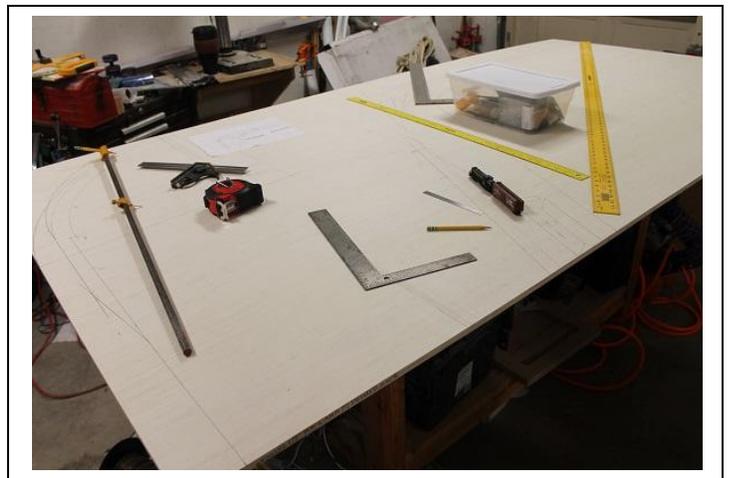
I don't just build the frame in the garage, but I also add the roadbed, track, and wiring. Here is a picture of my Gastonia staging yard, which has the track on it, and I'm working on the wiring.



Having spent a lot of time under other people's layouts, wiring is much easier with the pieces of my layout clamped to the work bench, easily accessible sitting on a stool. This construction is strong and light enough so that I can pick them up and carry them around. Finally, here is the first piece installed in the train room.



The braces were put in using a level and were also made from plywood L-girders. Everything was screwed and bolted together. The roadbed for the South Newton section is splines cut from a poplar 1x6. Track is painted with Rust-Oleum Camouflage Earth Brown. I had to order some parts for the staging yard control panel, so the North Newton section is now on the workbench, with track and benchwork edges laid out, including the "famous" Newton horseshoe curve.



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## We Went To The SER Convention

By Bob Halsey

When Neal Anderson and I signed up to attend the Southeast Region Convention (May 24-26), I thought there would be at least several other CSD members present, but we were the only ones from here. So most of us missed what was probably the best set of clinics and presenters I have seen in a long time! We did not visit any of the layouts that were available for operations, due to our time limitations - they were spread out over a wide area. Neal was scheduled to give his make-and-take ballasting class and layout room lighting class, but for those of us interested in detailing and unusual scenery methods, we were treated to some excellent presentations by several very knowledgeable modelers, including Jack Ellis from the Bar Mills Co. (in Maine) – he flew to Charlotte from New Hampshire and then got a ride with friends – he showed us a lot of ways to make various signs. Stephen Milley told us how he designs and makes laser-cut kits using his laser cutter (he runs his own company – rail-scale-models.com), another modeler showed us how to make very realistic building awnings, and another made very unusual scenery plants using common items from the yard and garden. On Friday and Saturday there were three different clinics going on every hour from 9 AM to 5 PM (with lunch break from 12 to 1).



Jack Ellis from Bar Mills preparing CD handouts from his clinic on signs.



Some of Jack Ellis' creations from Bar Mills. Signs and weathering are noteworthy from the clinic.

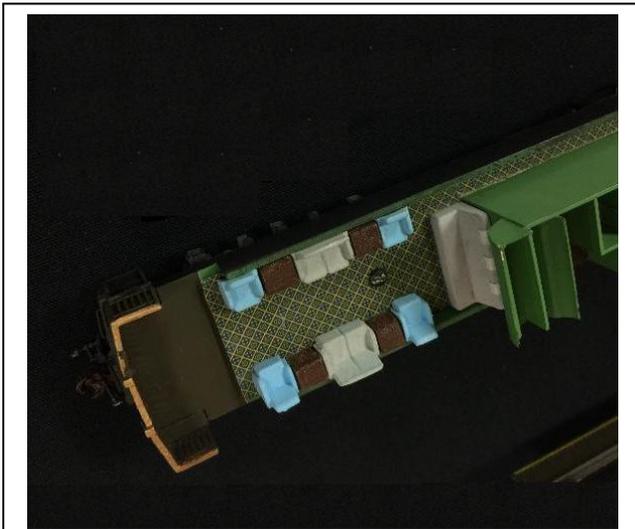


More Bar Mills creations. Notice the ivy on the side of the building.

You have just learned about the best part of this convention - now for a couple of hiccups: when we first arrived at the top-quality Lake Junaluska Conference Center (it is on the

shore of a beautiful small lake just west of Asheville), we were sure this was going to be a well-run event. The SER members at the check-in desk had individual packets for the attendees, including a shirt (polo or tee with SER logo) and a detailed schedule of clinics, layouts and events/locations. So far, so good! Unfortunately, as we were checking in, the Center Manager came up and asked the SER guys “How are you going to feed all these people? No-one has made any requests to have the dining room open except for the Saturday evening banquet!” Uh-oh! (Note to CSD 2020 convention planners: must arrange to feed conventioners!) There were 121 convention attendees, many of whom brought their wives. However, next morning we noticed the dining room was open for breakfast (and later for lunch, but not for dinner!), and on Saturday it was only open for that evening’s banquet dinner – which was a really good meal! Naturally, we saw several other attendees shopping at the Food Lion (2 miles away) for survival rations. The only other options were a near-by BoJangles and the Burger King at the shopping center, but we were there for the clinics and so weren’t that concerned with the food situation!

Neither the “white elephant” room nor the contest room had as many items as we were expecting, but Neal had submitted two scratch-built flatcars for judging, one HO and one a four-foot long 7.5” gauge car that he had made the frame pieces for, welded them together and then added wood deck boards, grab irons, and the brake parts underneath. Of course, it has commercially available trucks and couplers. One of the contest winning models was a kit-bashed Athearn HO observation car made into a private-label business car with a very detailed interior. There was also a scratch-built wooden coal mine hopper loading facility that must have taken a huge amount of time to make! And of course there were some outstanding photos!



A detailed passenger car interior from a kitbashed observation car.

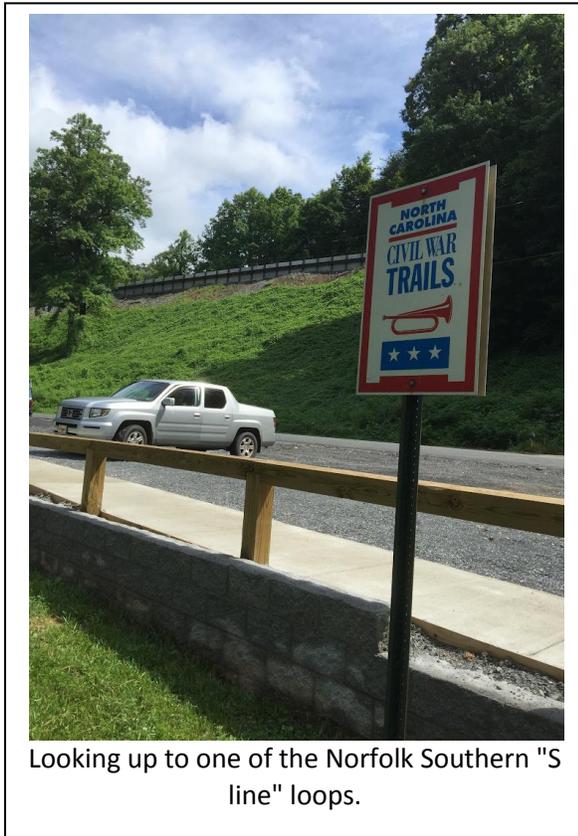


Neal Anderson with his scratchbuilt 7.5" gauge flat car

At the Saturday evening banquet, they showed photos of old western North Carolina logging railroads, and then presented awards to the contest winners and to SER members who had rendered important services. All during the weekend, we met many SER people (including former MER member Exum Davis), which is one of the benefits of attending a convention! But we did not want to stay for the SER board meeting!

On Sunday morning the weather had become sunnier, so after leaving an IHOP farther down the road, we continued east on I-40, and then Neal suggested we make a brief stop at Old

Fort. Just northwest of the town is where the Norfolk Southern "S line" has to climb up to make its approach to Asheville. It does this through a series of loops and switchbacks adjacent to Black Mountain. Most of these loops can be seen from a small park called Andrews' Geyser. There is a real geyser that shoots water about 80 feet up; it is driven by water coming down the mountain, some of which goes through a pipe to a fountain in the center of the park.



There is also a display map and sign that tells us Old Fort Gap, on the east side of the park, was the site of a Civil War battle between McDowell County rebel troops and Union forces under General Stoneman. This was part of Stoneman's Raid in the Piedmont area of North Carolina from mid-March 1865 to late April (well after Lee's surrender at Appomattox). Stoneman's troops couldn't break through the Gap (it is a very narrow passage area exactly in between 2 of the rail loops), so leaving a few there to continue the fight, the rest left to chase General Johnston's Confederates, catching up to them near Durham and finally ending the war. The park sign also tells us that McDowell County troops fought as part of six different NC infantry divisions, and lost over 200 killed (more troops from North Carolina fought for the Confederacy than from any other state). So what has this got to do with model railroading? Nothing! Except that we wouldn't have learned this bit of history if we hadn't stopped at the geyser park in Old Fort and then driven over Black Mountain on our way back! We didn't see any trains going through the loops, but there was one waiting at Old Fort station, headed up by a set of Union Pacific engines (and you thought UP didn't run this far east!). This was a great learning experience, following all the information we gathered from the clinics! Now we are looking forward to the MER convention in October at Rockville, MD!

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# Scratchbuilding and Kit-bashing cars 101

By Jack D. Monette, MMR

## Why should I think about scratch building?

1. The thrill of starting with nothing but an idea
2. A strong desire to create
3. The challenge of starting with some basic material and creating a beautiful model
4. The educational value of researching the subject
5. The challenge of collecting parts for the project (fun?)
6. Pride – the sense of accomplishment



A HAZMAT cleanup car scratchbuilt by Jack Monette, MMR

## Getting started.

1. First and foremost, do not let yourself be intimidated by the project, or worse yet, the accomplishments of other modelers!
2. Form an idea in your mind.
3. You may want to sketch out some rough plans.
4. Find printed plans or draw some formal plans of your own.
5. If you are writing an article for publication, keep a good photo record.
6. Keep good notes; materials used, commercial parts, etc.
7. Start to work.
8. Practice self-criticism.

## Design.

1. Scale sized drawings?
2. Drawings in another scale?
3. Pay special attention to details.
4. Consider the use of commercial parts.
5. Check construction standards, e.g. width, length, height.
6. Develop and use your power of observation.

## Records.

1. Keep good notes, especially if you are trying for a merit award.
2. Base your model on an existing car, even if it is freelanced. (Make it credible.)
3. Design your model to fit your preference.
4. Make acceptable drawings.

5. Share your experience with others.

### **I want to ask the question again, why scratch build?**

Have you been into model railroading long enough to remember the phrase, "Model railroading is fun"? If memory serves, this phrase was made popular by *Model Railroader* Magazine in the 1950's or 1960's. A few years later the saying was, "The world's greatest hobby." This time I think it was the N.M.R.A. that popularized it. My point is this: Yes, model railroading can be fun, and it is the world's greatest hobby. In one way or another I have been involved in model railroading since 1948, and very active since 1982. Hobbies come and go, but none has been as rewarding, to me, as model railroading.

The great thing about this hobby is that a person can't really be wrong in his/her approach. Anything goes from tinplate to fine scale and everything in between. Only you can decide what aspects are right for you!

One aspect of this great hobby in which I thought I would never become involved, is scratch building rolling stock and locomotives. In recent years all that changed dramatically. True, I had done some serious kit-bashing on several cars and two locomotives, never thinking of merit awards. Our A.P. chairman was planning a class on judging and borrowed some of my models to use as examples, and all of them got enough points for a merit award. I did the paper work and was awarded merit awards on both locomotives and three freight cars. That did it! The bug bit me, and I can't seem to quit scratch building or major kit bashing.

To answer the question, "Why become involved in scratch building?" It simply boils down to this:

1. Scratch building is very rewarding. One starts with a few raw basic materials and the project blossoms into a unique piece of rolling stock.
2. Meeting a challenge can be very rewarding.
3. The knowledge gained by research will enhance your model railroading pleasure and skills for years to come.
4. Pride of accomplishment.

### **How to get started**

Here's how I do it. You might choose a different path, but this works for me.

1. Start with something simple: It is easy to come up with a grand plan to do a favorite caboose or freight car that can be very complicated. You get started and quickly discover that you have not developed enough skills to complete the project. Set that project aside and start a simpler car; a flat car, or a gondola. After you have completed some of the simpler projects you will have probably developed enough experience and skills to move on to a more complicated project.

2. Try some craftsman kits first: Although Don Tichy claims his kits are not craftsman kits, some of them are in my mind. A good example of this is the Brownhoist steam crane. I spent many hours assembling this fine kit. In doing this project I was able to “fine tune” my modeling skills. Sadly there are fewer and fewer kits on the market today; there is a greater emphasis on ready to run models. In a world of instant gratification many do not want to put the time and effort into putting together a kit. I have to admit that I love to see and sometimes possess a highly detailed locomotive or car that I might not have the skills to build, but for me, owning such models doesn't bring the satisfaction that building or kit-bashing does.

3. Kit-Bashing: My definition of Kit-Bashing is:” Taking any model and changing it significantly to represent a different aspect of that particular subject.” For instance; I took several Tichy 53'6" #1000 flat cars and turned them into mid sixties trailer on flat cars. I researched the various railroads and altered these cars to resemble the road I wanted to model. This can be done with any car, locomotive, or building.

4. Modeler's license: Some modelers model a specific prototype and would never even think of having anything on the layout that isn't prototypical. Others don't model any particular railroad. They just buy or build anything that strikes their fancy. Still others base their pike on a specific railroad, but want freedom to have rolling stock and locomotives from other railroads; this may include real or imagined lines. I fall into this category. If you visit my layout you will find several railroads represented, all of which served the coal country of West Virginia. Represented on my pike are the B&O, C&O, Delaware & Seneca, Turtle Creek Central and several others. The D&S and TCC are fictitious lines. My point is this, do what you like, don't let anyone intimidate or dictate what you should or shouldn't do!

5. Books: I have a small library of both prototypical and model railroad projects which I often refer to. Along with that, I have been known to save kit instructions and will sometimes refer to them.

6. Magazines: As soon as the latest magazine comes I check for construction and kit-bashing articles. One of my favorites is the Dremel kitbashing Award in Railroad Model Craftsman.

7. Museums: We are fortunate to have The North Carolina Transportation Museum almost at our door step. This can be a treasure trove of information. There are quality museums all across the country that can be visited in our travels.

8. Prototype web sites: Fallen Flags.com is one of the best, but there are many good sites.

9. Pictures: Over the years I have taken hundreds. Unfortunately most of them were of locomotives, not rolling stock. But everyone of these are valuable when it comes to detailing the motive power of a specific locomotive or railroad.

10. I look for something that catches my eye. A few years ago I saw a kit bashed pickle car in R.M.C. and fell in love with it. I built the car and it won a merit award. Recently an early B&O fifty ft. trailer/flat car caught my eye. This project was on one of the N.M.R.A. regional web sites. I had to have one and now I do. The point here is, you have something that is not available in the hobby shop, and it is unique to you.

11. Look for scale drawings, if you can't find them; make sketches and/or drawings of your own. If you are trying for an A.P. award you will definitely need them.

### Construction of the model

1. If you are trying for an A.P. award, be sure to make detailed notes, you will need them for the paperwork. To me, the paperwork is nearly as hard as building the model. I learned very quickly to:

- a. Keep track of every fabricated part, no matter how small.
- b. Document every commercial part used, and if it was altered in any way.
- c. It is a good idea to note what glues and solvents you used as well as body fillers.
- d. Paints and decals need to be listed.
- e. Be sure to follow your plans exactly. I have lost points when not doing so.
- f. Freelance cars are acceptable, but be sure they are prototypically correct in their nature.

### Tools

One thing I have found out over the years is that having the right tool produces not only better quality, but faster results. I am somewhat like Jack Hamilton, MMR, who is the tool guy in the NMRA Magazine, I like tools; and so I have a fair collection and am always on the lookout for more.

#### Tools I like to Use

##### Cutting and shaping Tools:

- Good hobby knives, At least three are in my tool drawer. The #11 Xacto blade is normally all I use but a small chisel blade is usually in one of the handles.
- Spur cutters-Xuron Micro Shear #80333.
- Despruing Tweezers- Micromark #82393.
- Xacto Razor saws- one deep cut, the other regular.
- Miter box- I like the aluminum one.
- Double edged ultra fine modeler's saw- from JLC- [www.umm-usa.com](http://www.umm-usa.com), or Micromark #85853 blade and #86084 handle.
- Files- 8 inch and 12 inch.
- Needle files, various shapes. These are dedicated, one set for metal, the other for plastic.
- Diamond files, I use these on plastic only.
- Northwest Short Line Chopper; can't live without it!
- NWSL True Sander.
- NWSL Detail Sander.
- Assorted sand paper, grit range 180-2000.
- Single edged razor blades.

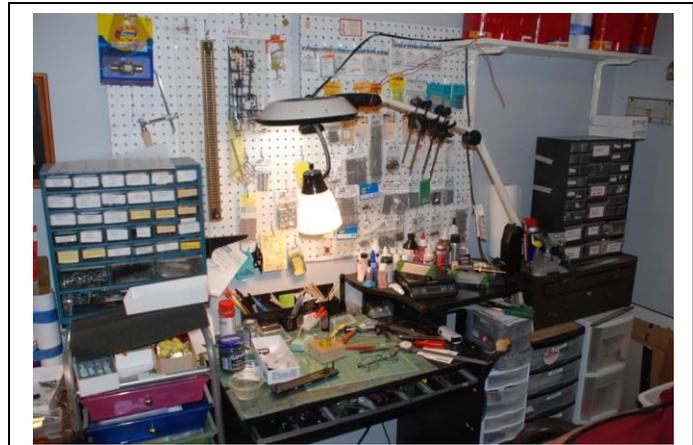


Jack Monette's milling machine

- Scissors large and small. My small ones are from a surgical pack, from a trip to the emergency room.
- Self healing cutting mat.
- Plate glass.
- Dremel motor tool. The one I have is over 40 years old.

#### Holding Tools:

- Modeler's vise with soft jaws.
- Hand Vise.
- Hemostats. Again, most of mine are from a couple of trips to the ER. (I bought a few from a train show but they were not very good quality.)
- Needle nose pliers.
- Slip joint pliers.
- Duck Bill Pliers.
- C Clamps.
- Bar Clamps.
- Spring Clamps. Most of the above clamps came from Harbor Freight.
- Tweezer Set, Zona #37-540



Jack Monette's model-building area

#### Drilling and tapping holes:

- Assorted pin vises.
- Drill index, with numbered drills #1-60.
- Drill index, #61-80.
- Taps. 2-56 is about all I ever use, but I do have others.
- Screw drivers, get good ones especially Phillips.

#### Measuring and squaring:

- 6 Inch dial caliper. Wouldn't want to model without this! I prefer the dial rather than the digital type.
- Scale rule, General #1251 or Micromark #10116.
- 6 inch rule, good quality.
- 12 inch rule, good quality.
- Machinist quality combination square.
- Thin beam 5 inch square, Micromark #83261.
- Zona square, 3x4 inch. #37-434.
- NMRA Standards gauge.
- Magnetic Assembly Jig, Micromark #60304.
- Calculator.
- Dividers. Sharp points for laying drilling points for grab irons etc.

#### Miscellaneous: But nice to have:

- Hammer. I found a nice small one with inter-changeable striking faces, brass, steel, nylon, at Harbor Freight.

- Distressing/weathering brush with brass bristles. Micromark #82466.
- French Reamers. Micromark #26108. Nice to have when a hole is a tad too small.
- Modeler's Chisel for plastic. Micromark #80893. I use this for carving off unwanted detail such as grab irons.

#### Gluing and finish:

- Tenax 7-R or Micromark Same Stuff 84113.
- Model Master Liquid Cement for Plastic # 8872.
- MEK. (I don't like it, but many craftsmen use it.)
- C.A. (Super glue) Thin. I get mine in small tubes at Harbor Freight.
- C.A. Thick. Same as above.
- Super glue debonder, Zap Z-7 #PT-16.
- Zip Kicker, Zap #PT-15, this is an accelerator for C.A.
- Thread locker, Low strength for truck screws. Harbor Freight.
- Tamiya Putty for plastic. This is far superior to Squadron putty. It goes on better, shrinks less, and bonds well. Found this at Hobby Lobby.



#### Wish List:

- Nibbling cutter, Micromark #81477.
- Xuron Parallel jaw pliers-Mm. #86632.
- Tool maker's angle plates 1x1x1-Mm. #60713.
- Sanding Twigs- Mm. #84425
- Automatic center punch, Jewelers' grade- Mm. #10102.
- Chop It XL- Mm. # 86288. The NWSL Chopper is perfect for short work, but I find that cutting multiple long pieces is somewhat time consuming.
- Protractor, for laying out and transferring angles- Mm. #50278.
- 90 degree punch, for cutting out windows and doors- Mm. #82394.

## RESOURCES

Good resources are essential to stress free modeling. This list is far from complete, as I can't always remember many of the on-line sites I have used.

Model Railroader books: <https://kalmbachhobbystore.com/catalog/books>, or go to [Modelrailroader.com](http://Modelrailroader.com). These books cover a wide range of helpful subjects.

Walthers Model Railroad Reference Book: <https://www.walthers.com/> A handy source of what's available for thousands of parts and most anything. Little Choo Choo always has these in stock.

Tichy Train Group: <https://tichytraingroup.com/Default.aspx>, 336-329-9038, Fine scale kits, parts, excellent decals. I highly recommend these fine people.

Little Choo Choo Shop: One of the best model railroad hobby shops in the U.S. Carries a huge inventory of supplies. The staff is outstanding. <https://www.littlechoochooshop.com/> Located across from the N.C. Transportation Museum, 704-637-8717 or 1-800-334-2466.

McMaster-Carr: <https://www.mcmaster.com/#> or phone 404-346-7000. This is a great source for drills, screws, metal, and all kinds of tools. They are reasonably priced, have no minimum order, (they will sell you one 2-56 screw if that's what you need), and you will usually get your order the next day.

Micro-Mark: <https://www.micromark.com/> 1-800-225-1066 Thousands of high quality tools, paints, glues and solvents. I have never bought anything from them that wasn't first class.

Microscale: <http://microscale.com/> 714-593-1422 Quality thin film decals, and setting solutions. Friendly staff, good people to deal with.

Northwest Short Line: <http://www.nwsl.com/> Quality tools, almost anything needed for power trains, wheel sets, and great quality.

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