Rochester Model Rails

Dedicated to Quality Model Railroading

VOL. 5, NO. 48 **ROCHESTER, NY** **DECEMBER 2006**

Climbing to Cumbres on the Cumbres and Toltec Scenic Railroad, New Mexico. Photograph by Gerald Brimacombe, Copyright 2006.

A Model RR Club Chief Engineer's *Trials and Tribulations* – Part I

by Peter Darling

I am currently the Chief Engineer of the Rochester Model Railroad Club, located in the First Universalist Church on Clinton Avenue in Rochester. I have held this position for about seven years, and the experience has been both very rewarding and at times frustrating.

I first became interested in model railroading when I received an *American Flyer* train set at age eight. Not long after, I became primarily interested in HO model trains, and have worked on many layouts of varying size and quality. In 1996, I retired after 32 years in the Navy, married my wife Lisa and moved to Rochester. Previously I lived in the Saratoga Springs, New York area where I was a member of a Tuesday "Tree and Scenery" group, a Wednesday round robin group, and a monthly National Model Railroad Association Division group. So when I moved to Rochester I began searching for some model railroaders to hook up with. As I didn't know anyone in the area, I looked in the old, reliable NMRA *Bulletin* (now *Scale Rails*) in an attempt to find a club that would lead me to other modelers.

I found the Rochester Model Railroad Club listed in the Bulletin, and stopped by to visit during a regular Monday night meeting. The members were very friendly, and I particularly liked the approach they had toward prototype modeling. Construction of the bench work and track were just about complete. The scenery was in the infant stage and the main line was the only portion of the layout that was fully operational.

There were routinely 15 or 16 of the 52 members regularly in attendance on a meeting night. I spent the first year or so getting to know the members and observing how things were run at the club. I discovered there wasn't much coordination when it came to actual construction of the layout or the purchasing of supplies. There was no training available for new members, or to train current members in areas they were not familiar with. I found that members would generally arrive and work on either something that they had previously worked on, or just see if there was something for them to do.

After about a year and a half as a club member, I volunteered during our annual election to be the Chief Engineer (that's how it happens in clubs you know). I wanted to see if I could help to make the club a more productive and fun place to be. One important thing I have learned over the years with a volunteer hobby organization is that you have to be organized, but not overly organized. Most members join a club to socialize, learn something new, and to be part of producing a satisfactory model railroad, not to be exposed to a work-like organizational environment. To prevent this from happening I took a lot of the organizational pressure upon myself.

Digital Images by Peter Darling.

The first thing I did was to split the layout into work sections and assign a member to be the Superintendent of each section. I then assigned other members to each section to work with the Superintendent on that specific portion of the layout. This gave each member a sense of responsibility for their particular area. In this way they knew what section of the layout they would be working on when they arrived at the club each week.

I work with each Superintendent and ensure they have the materials they need and help them with areas of the layout when they are having problems. If some members have a particular skill or area of expertise, I will assign them to help a Superintendent with a problem as well.

Pete Darling has been the Chief Engineer of the local Rochester New York Model Railroad Club for seven years. He was formally from Saratoga Springs, New York where he worked with other model railroaders, specializing in scenery. There he belonged to a "Tree Group" of modelers including Lou Sassi, Biagio Pace and Robert Hamm. [Ed. – see their scenery articles in the 1995 *Model Railroader* magazine, May, July, September and November issues.]

Next Month – Part II

Building a Large HO Scale Sawmill

Part II – Benchwork

by Richard Senges

Planning

In the last *RMR* issue, we covered the History and Planning of the sawmill project. This month I will cover how the benchwork was planned and executed.

Special features were incorporated into the planning. Ten 6-drawer plastic storage cabinets had to fit under the benchwork and be assessable from the side. The benchwork had to be at the proper height to mesh exactly with the existing layout, especially the track height. It had to be sturdy and easily accessible underneath for wiring, etc. The side fascia must allow access to the cabinets and an end fascia would extend to the floor. And it had to be made of a good quality wood.

Relative to the planning technique, *Microsoft Word - Draw* drawings were made of the benchwork, both side views and end views – see Figures #1 and #2.

Construction

The benchwork is typical model RR construction and one that I have used on the current *Oil Creek Rail Road* HO scale layout since 1990. It is composed of an "L" girder made from 1" x 4" lumber that was screwed and glued together with yellow carpenter glue. The "L" girder was bolted to 2" x 4" legs using carriage bolts. The legs were bolted to the floor.

This combination of "L" girder and legs was planned in such a way to be strong as well as resulting in a smooth surface to attach a fascia to the side and end - see Figures and Images.

On top of the L girder were mounted 1" x 4" joists. Most of these were screwed and glued to the "L" girder except for the one joist that may interfere with a future turnout and *Tortoise* machine. This joist was just screwed allowing for adjustment as required. Planning the approximate location of each turnout is essential so that the benchwork does not conflict with the *Tortoise* switch machines.

The joists were positioned with one at each end and three spread out between resulting in about 20" centers, enough to support the 2" foam layout base. The final foam base will be a total of 2.75".

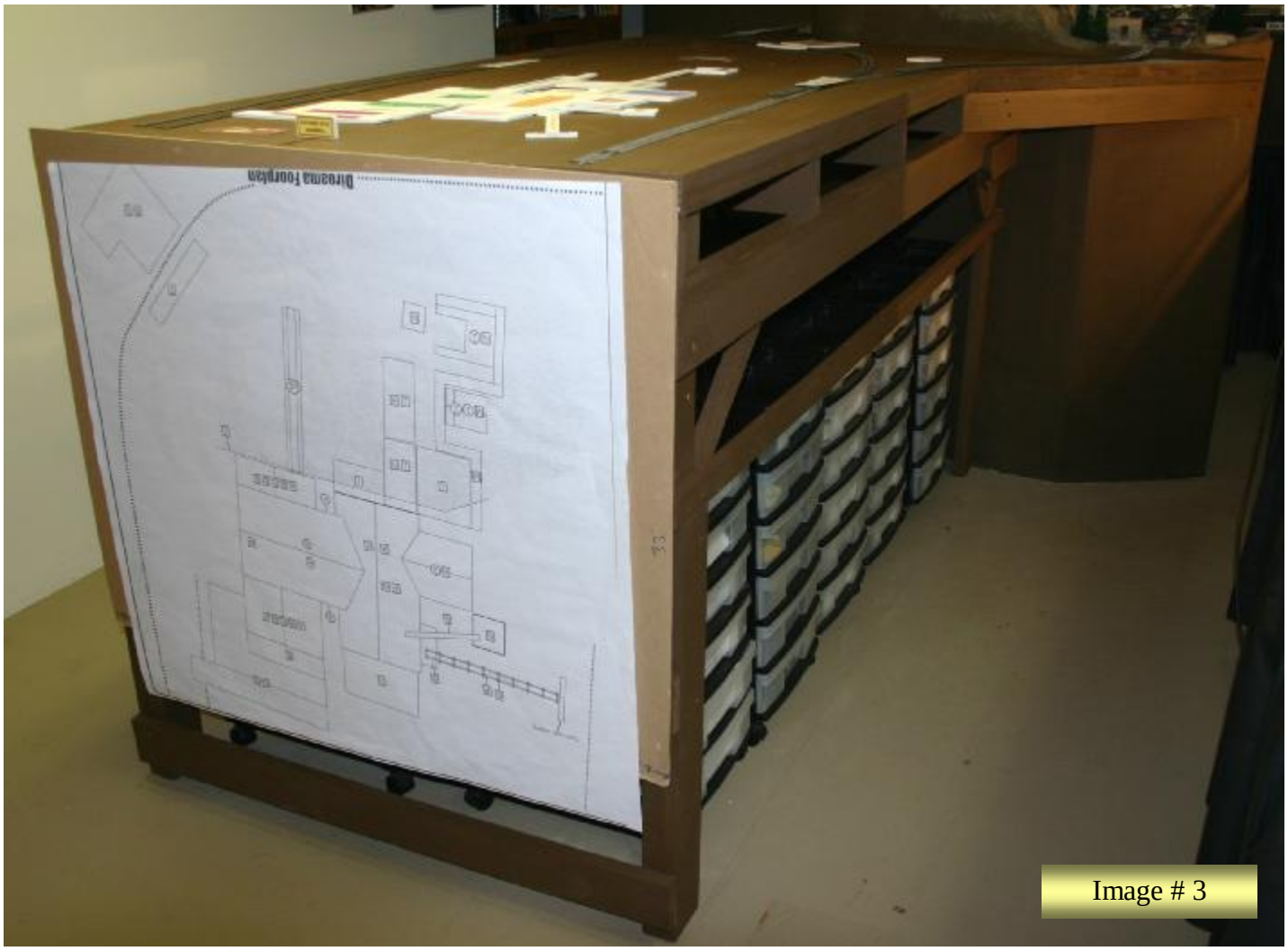
Sway braces (45 degree) were added at the corners to help study the structure. In addition 1" x 4" braces were added at the end and 1" x 2" wood strips were attached to the side to support the fascia.

I painted the benchwork and the foam with brown latex paint since I would be looking at it for some time during the mill construction phase. The fascia was left off to allow access for the wiring, etc. and will be added later. See Image # 3.

Next Month – *Tools and Techniques.*

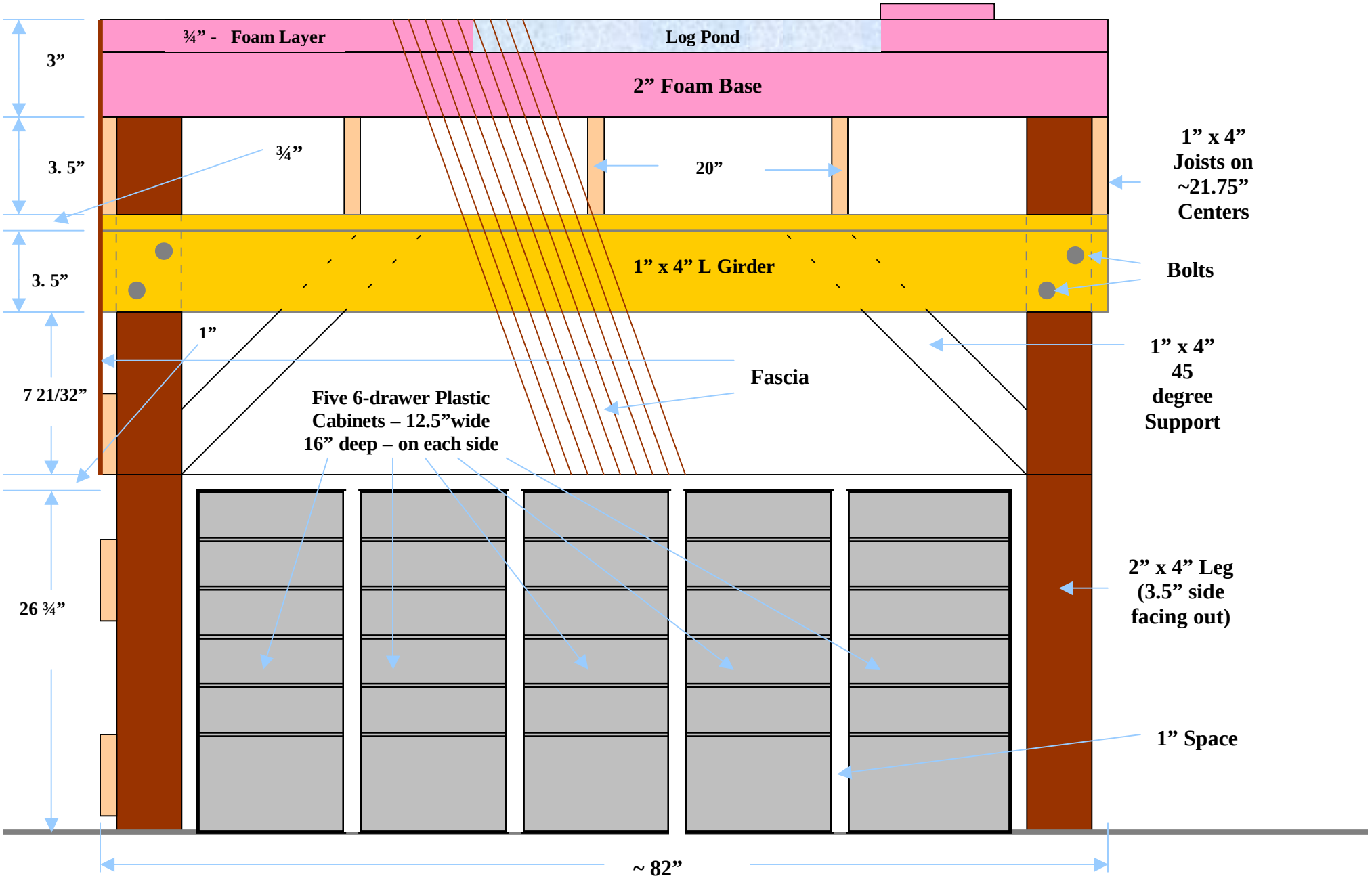
Basic wood benchwork with 1" x 4" "L" girders, joists and supports. Legs are 2" x 4"s bolted to the floor with metal "L" brackets. Carriage bolts hold the legs to girders.

The ten 6-drawer cabinets in position under the benchwork. The wood was painted with brown flat latex paint.

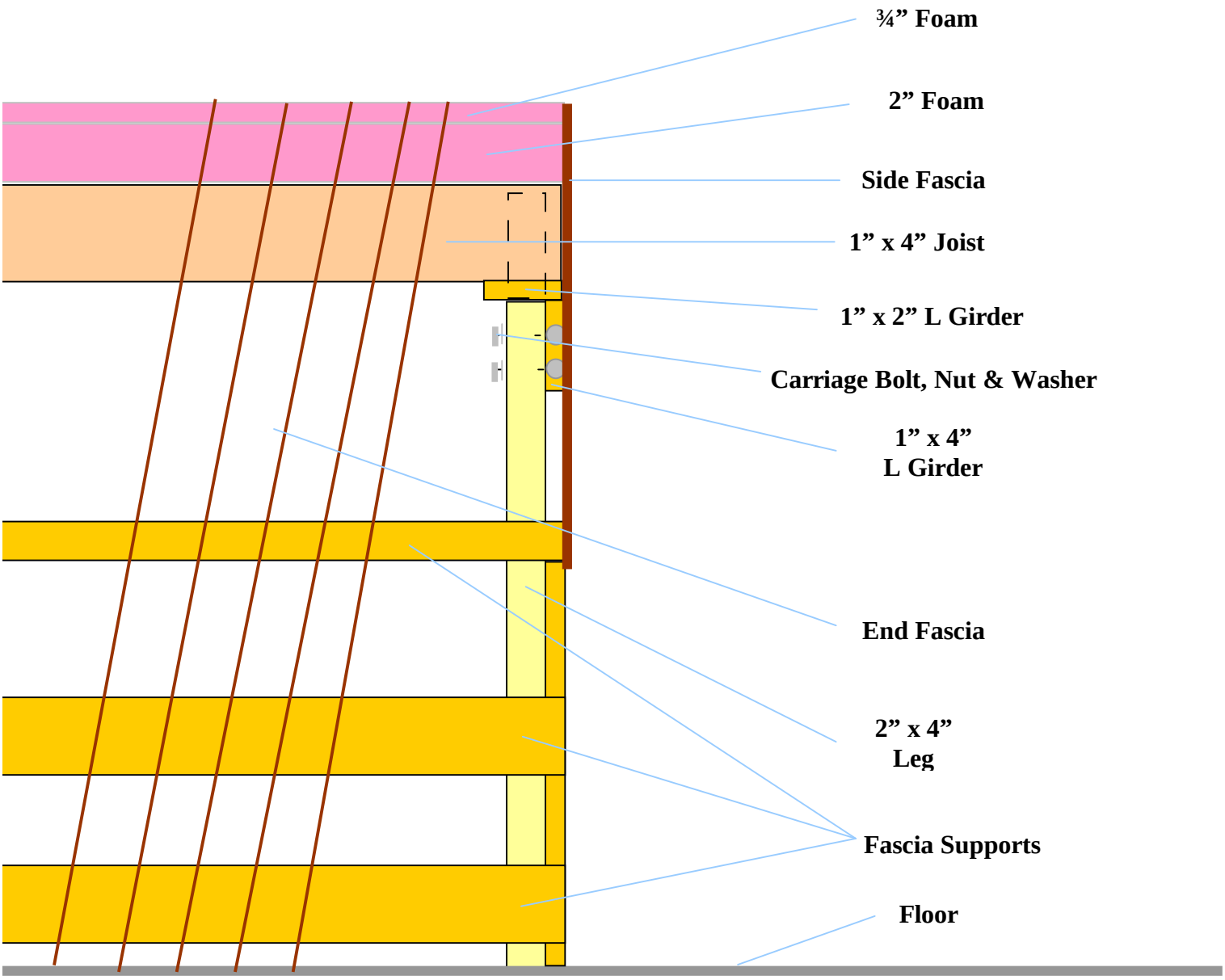


The 2" foam is attached to the joists and painted brown. A temporary corrugated end fascia is attached to the benchwork in order to support the mill drawing. The mill drawing (in white) is copied and enlarged from the *SierraWest* mill plan and is to scale. The end of the fascia is 42" wide and 46" high which illustrates the size of the sawmill complex. Later, permanent fascia will be attached to the sides and the end of the benchwork.

Sawmill Benchwork – Side View - Figure # 1



Sawmill Benchwork - End View – Figure # 2



Where a joist is located next to a leg, the joist is attached (screwed) to the leg. The leg is bolted to the 1” x 4” L Girder using carriage bolts, nuts and washers. The fascia on the end will go the floor; where as the fascia on the side will extend about 19 inches from the top allowing access to the cabinets. The legs are bolted to the floor using metal L brackets.

The Model RR Post Office

Number 19 in the Series

by Norm Wright

This $1.05 stamp from the Solomon Islands (Scott # 811) was issued Nov. 6, 1995 as part of that year's Christmas issue. A toy steam locomotive and train cars may be seen underneath the Christmas tree. This stamp was the only one in a set of four with any railroad interest.

Home Built Hot-wire Foam Cutter

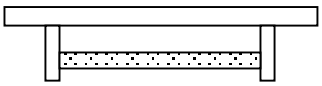
Part III

by Dick Roth

This board needs to be positioned so that it is centered below a point about 1" from the free end of the upper wire support so the cutting wire will be at a right angle to the deck when finished. It will need to be spaced a bit below mid-way between the bottom of the frame and the deck board as shown in **Figure # 7**.

Figure # 7 shows the 4-piece base as shown at the left of Figure # 6. For clarity, it is shown without the end board. If the base frame was made as shown on the right of Figure # 6, the screws can be driven at a slight angle to allow attachment without the need to remove anything.

Figure # 7



It's now time to mount the upper wire support frame. To do this, locate the frame on the deck as it needs to be and mark the location with a pencil or pen. (Dry-erase pens work well for this task because they can be easily wiped off later. Once the outline of the upper support has been transferred to deck board, set it aside and use s small drill bit to drill 4 clearance holes for the attaching screws along with a hole for the wire to be threaded.

Attach the upper support frame and use screws to mount into place. 2 to 2½ inch long drywall screws work very well for this task. Make sure that the wire hole in the vertical support column is aligned with the wire hole in the deck before snugging up the screws. Do not tighten them real tight yet because it needs to be removed temporarily after the next step to allow easy completion of the lower wire holder.

Sit the full assembly on a table. Drill a ¼" vertical hole in the upper wire support about 1½" from the free end, then using a plumb bob or other means, mark a spot directly under it on the deck. Drill a ½" hole through the deck board. Finally, drill another ¼" hole in the lower wire support board. It is important that all three of these holes be aligned as much as is possible. Now, remove the screws holding the upper wire support assembly and lay it aside once again while the cutting wire holders are fabricated.

Both are made from ¼" – 20 carriage bolts or ¼" – 20 Phillips-head screws. They need to be at least 2" long and fully threaded if possible. Making the wire holders is probably the toughest part of the whole thing. The first thing that needs to be done is a 1/16" hole drilled into the thread end of both bolts as shown in **Figure # 8a.**

After completion of that step, another 1/16" diameter hole needs to be drilled at a 45º angle to it as shown in **Figure # 8b**. The second hole can be drilled pretty easily if a small file is used to first file a flat on the side of the bolt at the point where the hole will be. It is important that this whole meet the hole drilled from the end. It may be necessary to touch up one or both a second time with the drill to insure that the wire will easily pass through.

Figure # 8a

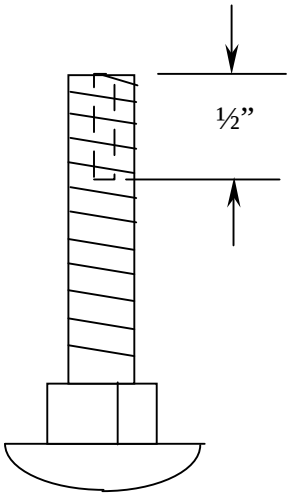
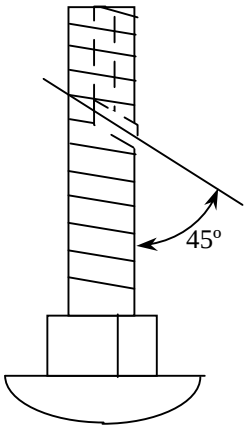


Figure # 8b



Drilling the holes into the bolts can be tricky business. To make things easier and safer you might want to use a piece of scrap lumber. Drill a couple ¼" holes and run the bolts through them. Put nuts on them and snug them up. This will hold the bolts so they don't turn and give you something other than the bolt on which to hold.

The next step involves creating a bit of a land on the bolt at the point at which the wire will come out. It allows a nut to be snugged against the wire without cutting it. The easiest way to create the land is to use a small grinding stone and grinding away the thread of the bolt at and just above the hole. **See Figure # 9.** A medium sized file can also be used in this operation. It may require a bit of testing and fitting to get it to a depth where the nut can be snugged against the wire without cutting it through. Don't worry too much about losing some threads. As long as the threads remain around a little more than half the diameter at that location, the nut will thread on without difficulty.

The final step in preparing the bolts to become the wire holders is to file or grind the ends until the outer diameter is just slightly larger than the hole drilled in the center. This taper should be about ¼" long. Don't go much longer or it will interfer with the clamp area for the wire. With the taper ground on the bolts, they are ready to assemble.

Figure # 9

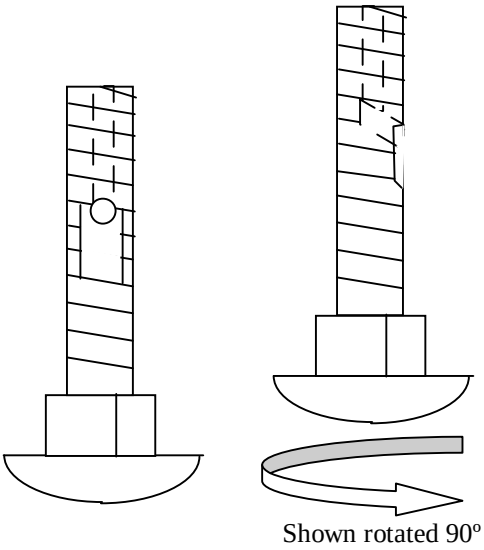
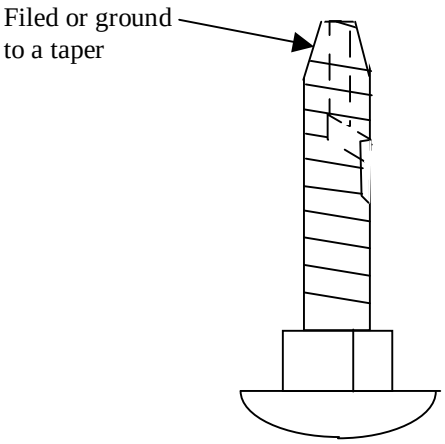
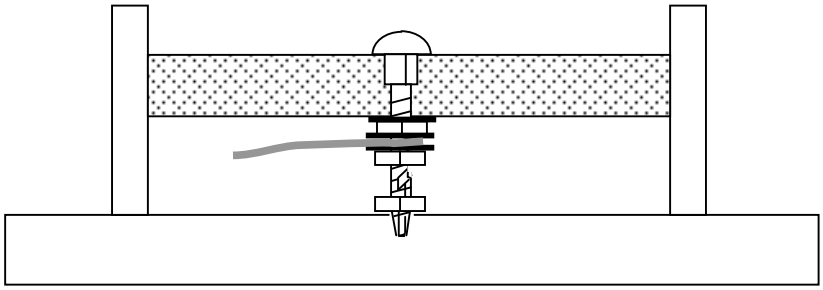


Figure # 10



Turn the base over with it resting on the top as shown in Figure # 11. Run the bolt through the ¼" hole drilled rearlier.

Figure # 11



Place a washer than a nut on the bolt and tighten rather tight. Put another washer on the bolt followed by the stripped and looped end of a piece of 12 awg. wire about 12 to 15 inches long. Add still another washer and nut and tighten against the wire. (A scrap piece of "romex" about 24" inches long will fulfill all the wire needs for this project.) Finally, start another nut onto the bolt.

Thread the other end of the wire through the holes provided and route it back to one of the two bolts through the back of the base frame. Wrap a turn of the stripped wire around the bolt as shown in Figure # 3 and tighten securely.

Next Month – Part 4

Installing Decoders in *Old Locos*

Conclusion

Clinic Given at the NMRA NFR LSD Meet in the Fall of 2005

by Dave Mitchell

Step 4 - What functions do I want, and how can I use them?

DCC decoders offer many functions that increase the pleasure of train operation. The following functions are some of those used by NCE on their decoders:

Start Voltage: This is controlled by Control Variable #2 (CV2) and is used to set the minimum voltage that the decoder puts out at Step 1 command.

Maximum Voltage: (CV5) is the maximum voltage that the decoder will increase to at Step 28 command.

Midpoint Voltage: (CV6) is the voltage put out by the decoder at Step 14.
All of these values are in the range from 0 to 255, which corresponds to actual motor voltage of zero to twelve volts. (i.e.: 128 = 6 volts, 192 = 9 volts, etc.)

It is easiest to set up these values using the PROGRAM ON THE MAIN function of the controller. Factory default values of 000 gives start voltage of 0, mid voltage of 128, and maximum voltage of 255. Operate the locomotive and clock its scale speed. One actual foot = 87 scale feet which is close to 88 feet for our purposes. Using a 10-foot length of track on a layout, run the locomotive at top speed. If it passes thru the marked length in 10 seconds, then the locomotive is going a scale 60 mph. If it passes thru in 4 seconds, then it is operating at 180 mph. Record this speed. Now see at which step the locomotive starts to move. Record this value.

For example, top speed is 120 mph @ step 28 and it starts at step 4. If the prototype speed for your locomotive is 79 mph (on steam locomotives this is nominally 1 mph per inch of driver diameter), try setting CV5 at 79/120 x 255 = 168. Now set CV2 to 4/28 x 255 = 36. Go to run mode and see if the locomotive starts at step 1. Go up or down from 36 until the locomotive just starts reliably at step 1.

Now set CV6 for half way between the value you have determined for CV2 and CV5 (i.e. ((168-36)/2 + 36 = 102) or ((CV5-CV2)/2 + CV2)). Now go to run mode and clock the locomotive speed. It should be about 79-scale mph. You will now have full range control on your throttle, and the top speed will be prototypical.

Lighting Effects are covered in the instructions for your decoder. The most difficult job here is installing the light bulbs in the locomotive. Older brass locomotives that did not have lights often have scale size light housings. Drilling holes it them takes lots of patience, a sharp drill, and a pin vise. Do not use a power drill, or you will have the housing rip off the boiler when the drill bit breaks thru. (Ask me how I know this fact!)

When choosing bulbs, do not use the old bulb, if there is one, without checking the current draw. DCC Decoders are rated for 30 milliamperes per output. I also like to put a 22-ohm resistor in series with the lamp, and use 14-volt/30 ma. bulbs from *Miniatronics*, available at your hobby shop. The resistor limits the inrush current when the lamp is turned on, which puts less strain on the bulb and the decoder. When mounting lights in plastic locomotives I prefer to use 1.5 volt/30 ma. bulbs from *Miniatronics*, and use a 720-ohm resistor. The heat of the 1.5 volt bulb is 1/10 that of the 14 volt bulb, but the rest of the heat is generated by the resistor, so keep it away from the plastic body.

When drilling the hole for the bulb, use a micrometer or vernier caliper to find the maximum diameter of the bulb you want to use. Then use a drill guide to find the next larger drill. Drill the hole carefully with a smaller drill, then work up to the light bulb size hole. I fasten the bulb with a tiny drop of ACC or Super Glue. This holds the bulb in place. If the bulb burns out, put a drop of Un-Cure (I call it Super UnGlue) and after about 15 seconds, you can easily remove the bulb!

I hope this article will encourage you to consider DCC for your older locomotives.

Reference Material

A-Line (Division of ProtoPowerWest) (see Walthers Catalog)	Replacement motors, gears, flywheels, and couplings Set-up as specific replacements, or available as parts.
Bowser Mfg. Co., Inc. 1302 Jordan Ave. Montoursville, PA 17754 1-570-368-2379 Website http:/www.bowser-trains.com E-mail: bowser@mail.csrlink.net	Replacement open frame motors for Bowser Flexible rubber couplings for motor-gearbox connections.

Reference Material

Micro-Mark
340 Snyder Ave.
Berkeley Heights, NJ 07922-1595
www.micromark.com
1-800-225-1066

Replacement can motors, tools,
Light bulbs, supplies

North West Short Line
Box 423
Seattle, WA 98111-0423
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e-mail: info@NWSL.com
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Future Articles

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A Trip Down Nostalgia Lane

Modeling Keuka Lake - Hammondsport

Siegel Street Revisited

Tortoise Installation Made Easy

The Climax Locomotive

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Building a Hot Wire Foam Cutter Part 4

Rochester Model Rails

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Authors: Articles, digital images, And plans are welcome.

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Old Issues of *RMR*

Web Site:
www.trainweb.org/rmr

www.railroadmuseum.net

Train Events for 2006/2007

Updated 10 - 25 - 2006

November 4- 5 **Syracuse NY** – 32nd edition of the Central New York Train Fair. One of the largest train shows In the Northeast covering 150,000 square feet in two large buildings at the New York State Fairground. More that 100 vendors; more than 50 operating layouts; all scales. Sat. 10:00am – 6:00pm. Sunday 10:00am – 5:00pm. Sponsored By Central New York NRHS.
http://cnynrs.org/ Show Info: http://cnynrhs.org/train_show.html

November 11-12 **Milwaukee, WI** – Trainfest, Wisconsin Exposition Center at State Fair Park.
Info: www.trainfest.com

November 12 **Batavia, NY** - The Great Batavia Train Show, Batavia Downs Gaming, 9:30am – 3:30pm. Donation $5.00

November 18-19 **Syracuse, NY** - Open house for Central New York Model Railroad club and Historical Society 18 Nov 2006 10 AM to 4 PM, and 19 Nov 2006 Noon to 4 PM
Info: http://www.cnymmrc.com/

December 9-10 **Rochester, NY –** 1st Annual Tiger Tracks Train Show, RIT Gordon Field House on the campus. Sponsored by the RIT Model Railroad Club. Over 350 vendors, modular layouts, displays. Play area for the kids. Admission.

2007

January 27-28 **West Springfield, MA –** Amherst Railway Society Big Railroad Hobby Show, Eastern States Exposition Grounds, Memorial Avenue. Info: www.AmherstRail.org

February 16-18 **Denver, CO -** 22nd Annual Sn3 Symposium. Contact: Doug Junda 303-275-8926

February 17 – 19 **Scranton, PA –** Penn. GRS / Warrior Run Loco Works Winter Meet. Daily 9:00am – 5:00pm. Electric City Trolley Station Museum, Steamtown National Historical Site
www.warriorrunlocoworks.com

February 18 **Syracuse, NY** - Syracuse Model Railroad Club Train Show
18 Feb 2007 10 AM to 4 PM. 2 HO layouts, LEGO train layout, family oriented vendors Info: http://www.wyrmodelrr.org/

March 10 – 11 **Rochester, NY -** Rochester Model Railroad Club Annual Show, Basement of First Universalist Church, 150 Clinton Ave South, 585-454-2567 (club room) Saturday 10 AM - 5 PM, Sunday 1 PM - 5 PM

March 10 – 11 **Rochester, NY –** Greenberg's Great Train Expo, Dome Center, Henrietta

Train Events for 2007

Updated 10 - 25 - 2006

March 30 - 31 **York, PA -** East Coast Large Scale Train Show (ECLSTS), Friday 9 – 8; Sat. 9 – 4
www.largescaletrainshows.com (major large scale show)

April 15 **Batavia, NY -** The Great Batavia Train Show. The events will be held at Batavia Downs Gaming from 9:30 to 3:30. Admission is $5 for adults, $3 for under 18, and under 13 free.

April 27- 29 **Rochester, NY –** NMRA NFR convention. The "Flower City Flyer" event will include the usual – model railroad clinics, model contests and layout tours. So far five layouts on tour: RIT RR Club, RMRR Club, John Marshall, Bob Hogarth & Dick Senges. Info: Mike Roque at mike@tsny.com

May 5 – 6 **Lockport, NY -** Railroad Showcase, Kenan Center, Sat.-Sun. – 10:00am to 4:00pm
http://nomre.railfan.net/shows.htm (click on NOMRE Activities Calendar)

May 18-20 **Kimberton. PA** – Mid-Atlantic Narrow Gauge Guild - Module Meet, Fri. – Sun.
http://midatlanticng.railfan.net/modmeet.html

June 27 – 30 **Las Vegas, NV** - 23rd National Garden Railway Convention, Las Vegas, NV Wed. – Sat. www.2007ngrc.com

June 30 July 1 **Galeton, PA** - Bark Peelers' Convention, Pennsylvania Lumber Museum
Info: info@lumbermuseum.org

July 22-28 **Detroit, MI** – NMRA National Convention – Great Lakes Express
Info: www.NMRA.org/2007/

Aug. 29 – Sept 1 **Portland, ME** - National Narrow Gauge Convention, Portland, Maine, Wednesday - Saturday www.27thnarrowgaugeconvention.com

November 3- 4 **Syracuse NY** – 32nd edition of the Central New York Train Fair. One of the largest train shows In the Northeast covering 150,000 square feet in two large buildings at the New York State Fairground. More that 100 vendors; more than 50 operating layouts; all scales. Sat. 10:00am – 6:00pm. Sunday 10:00am – 5:00pm. Sponsored By Central New York NRHS.
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