THE O SCALE RESOURCE

NEWS, REVIEWS, INFORMATION TO USE

Volume 4 No. 1
September/October 2016

Modeling White Pass Containers
We Visit with Takashi Daito
Pittsburgh Railways West
Making Cylinder Heads
Tunnel Project
And so much more...

THE O RESOURCE
NEWS, REVIEWS, INFORMATION TO USE
O SCALE

Published Bi Monthly

The Model Railroad Resource LLC
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September/October 2016
Volume 4 No. 1

Welcome to the online *O Scale Resource* magazine. The magazine is presented in an easy to use format. The blue bar above the magazine has commands for previewing all the pages, advancing the pages forward or back, searching to go to a specific page, enlarging pages, printing pages, enlarging the view to full screen, and downloading a copy to your computer.

Front Cover Photo

Two Pittsburgh interurbans pass on a bridge while a freight passes underneath.

Photo by Glenn Guerra

Rear Cover Photo

The sun is starting to set as two cars pass at the siding. The PCC car will soon enter the loop and lay over for a few minutes before starting the run back.

Photo by Glenn Guerra

Bill Of Lading

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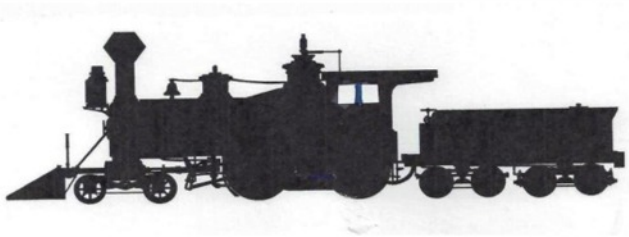
The Model Railroad Resource, LLC publishes THE O SCALE RESOURCE and THE S SCALE RESOURCE. Be sure to look at both of our magazines. There are many articles in our magazines that are not scale specific and will be of interest to you. Click the magazine title in this announcement to see the magazine.



From the Publisher's Desk

Happy Anniversary! This issue marks the fourth anniversary of The O Scale Resource. The brainchild of Daniel Dawdy and Glenn Guerra, the inaugural issue, September/October 2013, was released in August of that year. From the first issue, we have strived to keep the magazine informational, light-hearted and unbiased. There have been a few organizational and format changes over the years improving the magazine both visually for the reader and behind the scenes. *The O Scale Resource* readership continues to grow. I would like to personally thank not only our readers for our success, but also the advertisers and authors that make the magazine possible. Without these, we could not continue to provide you with the excellent magazine you have come to expect.

This issue features a new author, Böerries Burkhardt, who tells us about modeling containers. As always, we have some great articles from Glenn (making cylinder heads and visiting a trolley layout) and Dan (modeling a tunnel portal), along with the "Oddity", "What's On Your Workbench Today?" and our new feature "Scene Around the Layout". Dan also had a chance to meet with Takashi (Tad) Daito on his recent visit to the U.S. They spoke about his O Scale Museum in Japan, and Dan has written a brief introductory article with more to come in future issues.

We continue to promote the magazine by attending shows across the country, and our fall schedule has been finalized. We are heading off to the Indianapolis to attend the 48th 'O' Scale National Convention September 22-23, 2016. This well established show is only three hours away for us, so we attend it every year, and it kicks off our fall show schedule.

We will be heading back to Strasburg, Pennsylvania to attend the Eastern PA 2 Rail O Scale Train Show/Swap Meet on October 15th. This was the first show we attended as a magazine, so Dan and I will be continuing the anniversary theme of *The O Scale Resource* and also as we celebrate our 30th wedding anniversary October 3rd with a vacation during this trip. We are looking forward to not only the train show, but also spending a night in a caboose, seeing the Strasburg Rail Road and enjoying a "Victorian Dinner" dinner during their "Steampunk unLimited" event, and visiting the Railroad Museum of Pennsylvania. Finally, we will visit with family in Roxboro, Pennsylvania before heading back home to Illinois.

Glenn will be representing *The O Scale Resource* October 20-22 at the RPM Conference being held in Lisle,IL. If you've never attended, this is a great prototype show with a lot of learning opportunities and clinics.

November 5th puts us back in Cleveland once again for the Cleveland 2-Rail O Scale Meet. We always enjoy this show, and this year, they are featuring a dinner as well. I'll let you know more about that and our plans for this show in the November/December Publisher's Desk. In the meantime, click on the link above to visit their website for more information.

Don't forget to keep sending in your projects for "What's On Your Workbench Today?" or photos for "Scene Around the Layout along with any comments to: daniel@modelrailroadresource.com.

We look forward to seeing new and old faces at all of the upcoming shows!

Happy Reading & Happy Modeling,

Amy Dawdy

NEWS YOU CAN USE

L&N Hummingbird/Georgian tavern-lounge and dining car decals, in dulux gold, are available in O-scale (set # 135) from Bill Mosteller, Great Decals!, 3306 Parkside Terrace, Fairfax, VA 22031 for $17.99 each. Virginia residents please include sales tax.

Each set has the letterboard script, numerals, and car names specific to the this group of cars. The sheet includes four pairs of L&N road names and each train name, car names and road numbers. Each sheet does up to four cars.

Car names include Churchill Downs, Boston Club, Carnival Club, Belle Meade, University Club, Aristocrat, Fiesta Inn, Bouquet Inn, Azalea Trail, Dixiana Inn, Duncan Hines, and Cincinnati Club.

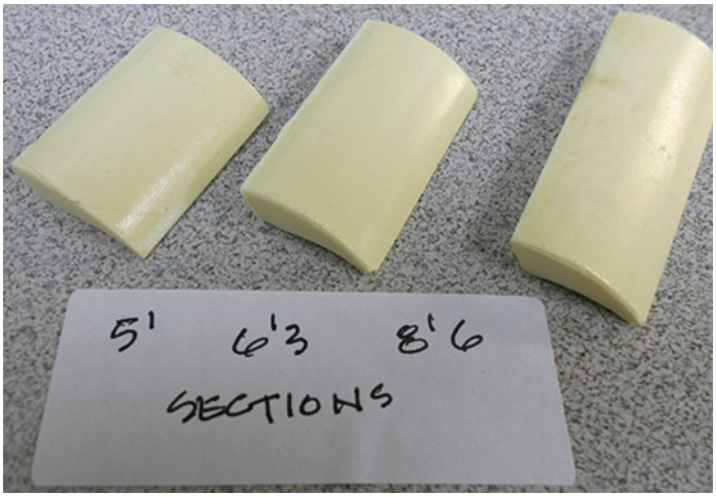
Tom Yorke says: Attached are two new kits I have developed for the new Lionel Disconnect Logging Cars. The resin kits are for 2 rail or 3 rail and are easily assembled on top of a person's own logging truck. The Caboose and the Tank Car kits are both $49.95 plus $5 shipping per order. Tom Yorke, 210 Pitch Lake Ct, Roswell, GA 30076.

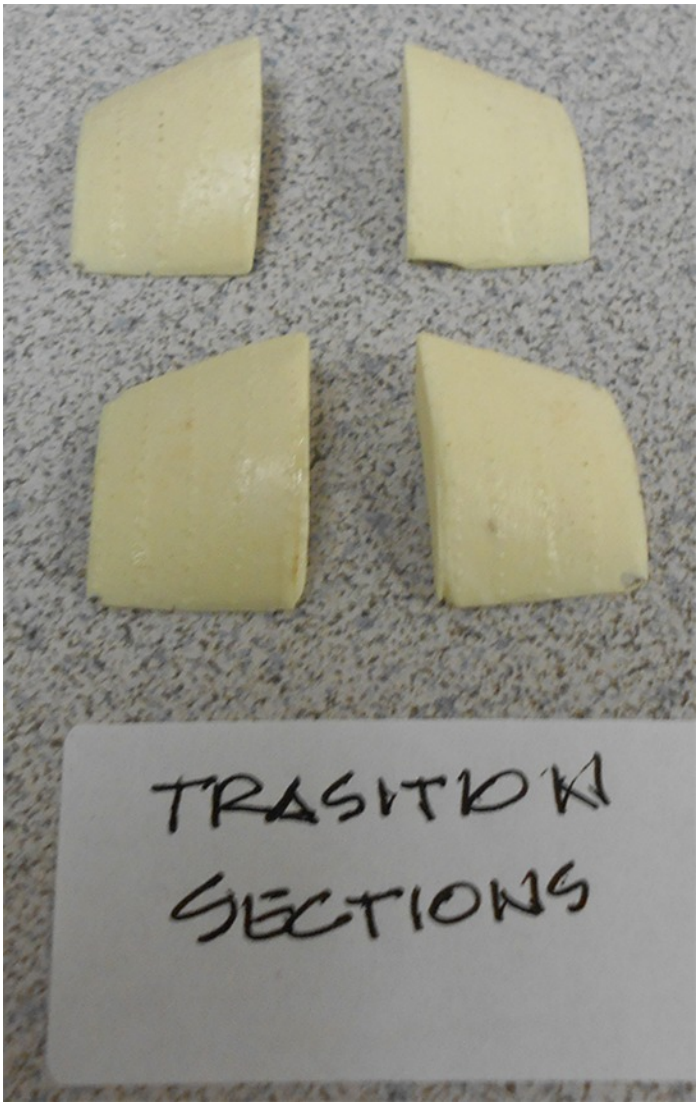
Bill Wade from B.T.S. says: We just released the first three kits of the O Scale Hyde Pulp Mill.
Full info about the project can be seen at
http://www.btsrr.com/bts4095.htm

The Hyde Pulp Mill complex consists of eight buildings, a storage tank, and a riverside dock. It is a vast complex and it is being released as seven different kits. Each can be used as stand-alone buildings or tied together into the Hyde Pulp Mill complex. The first three kits are Shipping/Storage Building, Dock and Repair Shed shown below.

Bill Basden from Delta Models writes: There is much going on with development and research for new parts to add. Just add 15 new parts to the web site on the home page. 260 - 272. these are parts for the Santa Fe 4 4 2 Regal series cars, done by PRB in the 1980's

Also just finished up items 252 - 252A. These are cast parts for AC duct work for Pullman Heavyweight roofs. 252 is the starter set - you get 2 sections 25' 6" long with the transition pieces. To add additional length there are 3 options 5', 6' 3" and 8' 6" - this is item 252A.





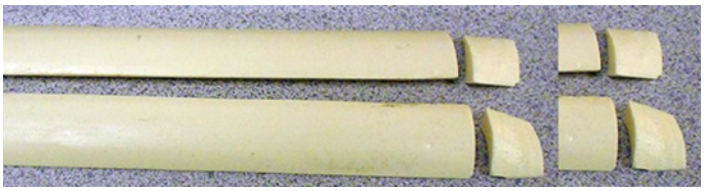
Other things will be a group of parts for the 50' express box cars used in Passenger service. Parts will fit the PRB type plastic cars. This is a fishbelly type of underframe with all the detail.

I asked several months ago if people were interested in interiors for the Atlas CZ cars. The only thing most asked for were the Dome Coaches, so we are currently working on parts for this. Some have already been completed to check for fit, there are probably 60+ parts for this car.

News from Ted Schnepf of Rails Unlimited: The newest car is the 36' long boxcar from Northern Pacific. This car has the unique Pressed Steel underframe, with its fishbelly side sills, making it a standout in any transition era train. The cars were long lived getting BN reporting marks in MOW service. Several of the group of 750 cars, got AB brakes. This body has been sold at both the Chicago and O Scale West shows this spring, selling out each time. I now have bodies to ship through the mail. The basic body is $120.00. ALSO just arrived are decals custom made by Protocraft Decals, printed by Microscale for this model.

I now can offer Northern Pacific boxcars in three lengths: 36', 40' (Ultra Scale) and 50'.

The reissue of the Santa Fe RR27 reefer is going well and selling out each small delivery.



This is a 40' steel sided reefer with a fishbelly underframe and a basic SFRD reefer. I expect to be caught up on back orders shortly and will take mail order sales. The body is $130.00.

I got a new surprise from one of my suppliers, in a boxcar, USRA, double sheathed, with many improvements over the initial offerings 25 years ago. The one piece body is straight, with no bowing. There are NBW molded into the sides and ends making only the addition of wire to make hand holds and door pulls. These cars were used by ATSF, Wabash, PM, RI, NYC, GN, KCS, MP, Frisco, NWP, M&StL, SP&S, B&M, CNW, DTI, ACL, CBQ, DLW, EJE and others.

The 1932 steel boxcars come in two types for THREE road names, SAL, NKP and C&O. The SAL cars with its "Orange Blossom" or "Silver Meteor" slogans is particularly attractive. These cars come as flat kits, assembled bodies, or RTR. There are also brass roping staples for these cars. These lower height cars break up the monotony of PS-1 and 1937 boxcars.

Lehigh Valley "wrong way door" boxcar is available in two styles, with the Duryea underframes, are also attention getters in a train.

Remember box cars also from Wabash, Milw and SP. Milw stock cars and low side gondola from ACL.

As a service to my customers, I can now offer Ultra Scale parts for detailing your purchases. These parts join PSC, San Juan, Grandt and other detail parts suppliers, allowing you to detail in brass or plastic or a mix of your choice.

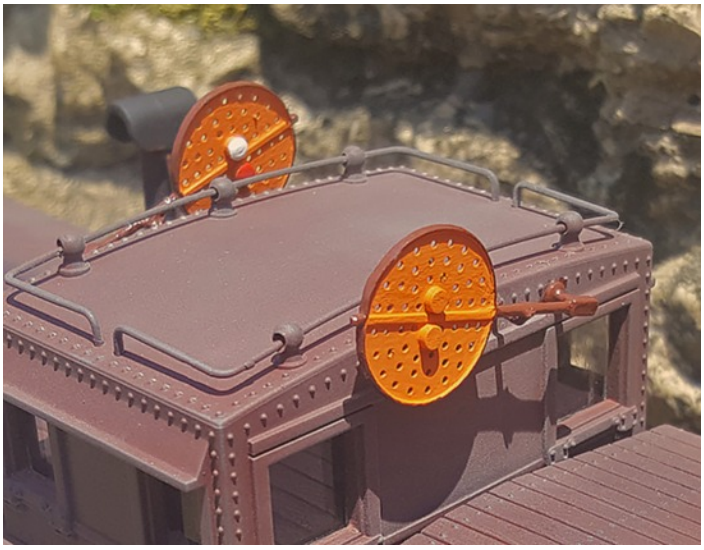
The second release by the folks at "Railroad Line Models" features a "road-to-rail" transfer platform.

This laser-cut kit features simple construction as well as budget pricing, with a special focus on beginning & intermediate modelers as well as modelers concerned about transporting more expensive high end structures on modular club-type layouts. Locking walls, and self-adhesive "corner posts" help to make this offering suitable for modelers of any skill level, and all scales... N-HO-S-O will be available through your local retailer or visit www.railroadlinemodels.com for more information.

Doug Kearney from The O Scale Hauler is proud to announce the ATSF caboose wig wag (highballer signal) in brass.

If you are modeling the Santa Fe era from the early 40's into the early 60's, this detail part has been absent from our market for many years. The ATSF used seven different style wig wags, this one being Style 7, the last and most commonly used. Although use of the radio made this form of communication obsolete by the mid 50's, they remained on a few waycars into the early 60's until they were rebuilt. These 1 piece brass detail parts are sold as a pair for

$20 plus flat rate shipping. It is a limited production as only had 100 pairs were produced.
http://oscalehauler.com



From Twin Whistle Sign & Kit Co comes the New York Engine & Ladder 8 Firehouse. This firehouse comes built, as a kit, or just as a facade. This is a beautiful rendition of the firehouse that has been seen in many movies. We built this kit to be user friendly, and it requires moderate skills to complete. The model is made from cast resin and has wooden laser cut windows, doors and accessories. The roof can be removed, if desired. Footprint: 12.5"L x 6"W x 11.5"H The Kit features:

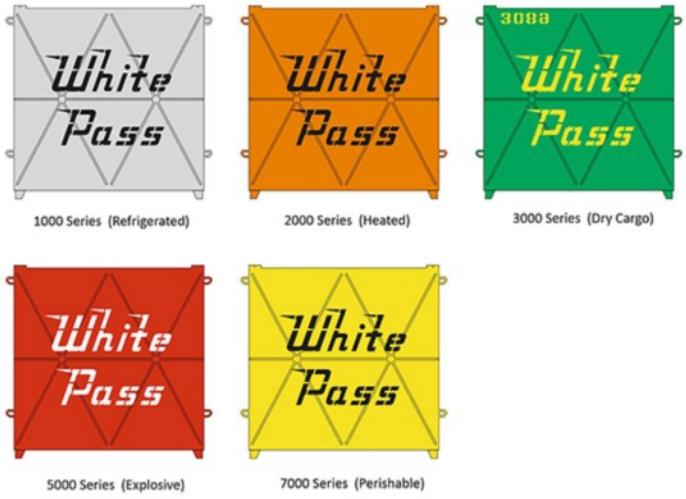
- Resin Body
- Laser Cut Windows and Door
- Plaques and accessories
- Complete Directions with Photographs
- The Door Slides or can be Completely Removed

See the firehouse on our website.

Atlas O Trainman® 20' Containers will arrive in August. The development of shipping containers reached a turning point in the late 1970s when standardization began to take place. Prior to this time numerous designs and sizes of containers were seen throughout the world. The true intermodal era began in the 1980s with the expanding world economy, Panama Canal ship size restrictions, intermodal railway car (wagon) designs and the setting of ISO standards for international shipping containers.
Features:

- Scale length, width and height
- Prototypical paint schemes & lettering
- Non-opening doors
- 20’ based on corrugated design with logo panels
- Accurate painting and lettering for steel 20-foot containers
- Two containers will fit end-to-end in the Atlas O Gunderson Twin Stack cars.

Böerries Burkhardt of Germany sent us some information on his new container castings.



In 1955, the ship builder Western Bridge & Steel Fab. Ltd. of Vancouver build several batches of 8 by 8 feet containers. The Series 1000 to 1050 were cooled, 2000 to 2179 were heated, 3000 to 3340 were the dry standard containers, 5000 to 5009 were used to the transport explosives and finally 7000 to 7003 were insulated. The 3 insulated cars were painted yellow and called banana cars. Explosives were red, cooled silver and heated orange. The standard dry container got the White Pass green. They were used on daily trains between 1955 to ca. 1965/1969 when larger 25 foot container with the new container vessel were introduced to their customers. But they were still used as storage units along the railroad between Whitehorse, Yukon and Skagway at the sea level in Alaska.

My model is the dry version as well as an insulated, cooled and explosive version. I have 2 dry and the other version on one brass sheet. To offer this also to other railroads fans, I'll sell one container for US-$ 30. Or the set of 3 for US-$ 80.

This includes all brass parts from the engraving as well as a custom made decal set for the standard dry container in yellow and black for the others except the white explosives version. This decal set for one container is US $5 extra. All prices are plus shipping and handling. Email Börries here for ordering.

See article in this issue on how Börries came to build these!

Tichy Train Group has released more new O Scale Decals. All decals are available in all scales and in 6 packs. Numbers below are HO, add N for N scale, S for S scale and O for O scale. Other scales, send an email request. Single decals are: HO $4, N $4, S $5, O $6. All are in stock. See the O Scale versions here.

Scale City Designs has announced the purchase of Russian River Railroad Company from Chris Comport http://newsite.chriscomport.com/.

Russian River specialized mostly in Narrow Gauge Freight car Kits, an exceptional ON3/On30 Roundhouse kit, and several resin details which will work great with O Scale. Junk Piles, Rolls of Insulation, Brick Piles, Shingles, and so much more!! Make sure you tune into scalecitydesigns.com to see how the line is growing!

While you're there, don't forget about your formerly Keil-Line Parts! We have been working hard at replacing molds and getting your much needed details back in production!

Great news from Jay Criswell: Announcement Regarding Right-O'-Way

Over the last seven months, there has been a lot of speculation about Right-O'-Way (ROW). This would include parts availability, its continuation and ownership, etc. The truth is, Lou Cross left ROW to me. The lawyer for Lou's estate has not allowed me to talk about any of this or do anything with the line. It's been extremely frustrating to just sit here silently and not be allowed to share all of this. To pass the time, I've spent almost every day helping to liquidate Lou's collection so his wishes can be honored. His collection is vast and there's still a lot to do. I consider Lou's gift to me to be one of the greatest honors of my life and I will do everything in my power to do everything as he would.

My plan is to continue ROW using Lou's business practices. This would include taking orders over the phone or via US Mail. Lou didn't have a computer or, really, any form of communication other than his landline and the US Mail. He made it work, but obviously, the line needs to be enhanced with some upgrades. I tell people I want to bring ROW into the 20th century…..we'll deal with the 21st century later. As a side note, some upgrades will also be some of the parts. They are fine, but I think we can make some a little better. To be completely upfront, upgrading the parts won't happen right away.

Because the lawyer discouraged me from doing anything, we're really behind where we should be. To that end, we're building a website and that's a step in the right direction. When the website is up, the url will be http://www.right-o-way.us/ All of the ROW inventory will be shown and can be ordered from the website. Photos of all the parts are being developed by a really good photographer (happens to be an O Scaler too). I will accept PayPal or personal checks. I will probably test the waters and list some parts on eBay, just to get the word out.

I do have PDF copies of Lou's last catalog (2015) and I'll be happy to email copies to anyone asking. I have no intention of making any changes in pricing. Because the website isn't ready yet, anyone needing to get in touch with me can email me at criswell@pacbell.net, call me at (559) 297-0505 or use Lou's old number which is (559) 665-1001 (right now it's forwarded to my cell phone). My snail mail address is,

Right-O'-Way
Attn: Jay Criswell
2286 Hampton Way
Clovis, CA 93611-6047

Walter Building Iron style …

Andre Garcia of River Leaf Models says, there is always a corner to fill on our layouts, and are not always a square. In real life it happened the same, and the Flat Iron style building was born.

The Flat Iron name is associated to the appliance, some people say the name was given after the first

building was built on a corner called Flat Iron; in both cases the appliance shape was the reason. River Leaf Models make this unique building style, in O scale, with some interesting features.

The angled side could be interchanged with the opposite side to accommodate to your needs. There is also 4th floor extension availability.

For more information visit us at www.riverleafmodels.us or contact us to riverleafmodels@gmail.com

From Scott Mann and Sunset Models: HOT NEWS: SD7 and SD9 entering production. Models to be completed in October. RESERVATIONS ARE NOW CLOSED. STANDBY RESERVATIONS ACCEPTED. See Here. All SD7s and 9s, will have horizontal Canon motors, 152 Road Specific Details applied. Fixed Pilots, Real Ball Bearings in each Axle Journal. Models like this just don't come around very often.

Also, SP S-12 0-6-0 Switcher entering production. To be completed in September. 3 Distinct Versions. See Here. Made from the finest brass, these highly detailed models have been reviewed by some of the best SP modelers alive. Don't miss this fine scale model of the SP S-12 Switcher.

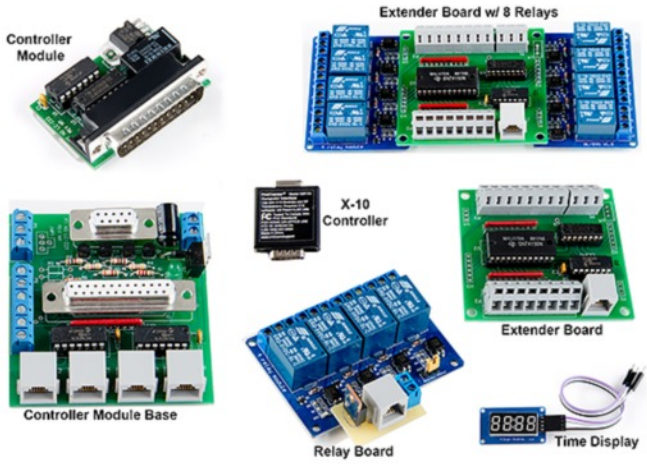
BlueRail Trains has released Bluetooth plugin boards that will allow you to control your loco with your iOS or Android phone or tablet from over 100 ft with no additional equipment. The board is perfectly sized for low-amperage DC O scale use (2 amp) and compatible with Bachmann E-Z App.

Control motor and up to 4 lights, optional battery power, wireless firmware updates and more. Complete DeadRail kit also available. Visit BlueRailTrains.com for more details.

New from Altoona Model Works Diesel Maintenance Shop building used to perform basic repairs and service. Features side workshop which can be placed anywhere on side wall. Custom CNC cut base to match any type of track & roadbed height. Options: lighting, steam piping under windows and an elevated service platform in center. For more details see our website altoonamodelworks.net and many more trackside structures.

Alan Zamorski from Milhouse River Studios has a new product due out in October.

Finally, there is a simple way to add realism to your layout! It doesn't matter the size, scale or whether it is a small home layout or in a large museum. LTAC (Layout Time Animation Control) allows the user to add animation / automation control to their layout.



From simply controlling relays, to triggering anything from animation accessories, LTAC does the job! LTAC plays sounds and uses the X-10 home automation control to automate room lighting so that you can have automatic changing of time from day to night on the layout. Best of all, the system can be as simple or complex as the user wishes. Millhouse River Studios wanted to design a system that doesn't require advanced knowledge of computers to use.

The main heart to the system is our LTAC controller module and controller base. The controller module is removable from the base. Once it is installed on your layout and wired to whatever you are controlling, if you decide you want to change your programmed sequence you can easily unplug it from the base. You then plug it into the programmer, load the new time sequence, then reinstall it back on the layout. The system also has the ability to have two different controller modules programmed with two totally different scenarios on each. It is convenient and easy to swap them out as you like.
Go to Milhouse River Studios for all the information.

Making Cylinder Heads

By Glenn Guerra

Recently, I have been working on a few models of a switch engine and needed some cylinder heads. Take a look at the photo of the prototype engine in a park. The cylinder head cover is off of the engine in this photo, but I wanted to model it with the cover on. The square block around the piston rod is to tighten the packing material around the piston rod to keep steam from leaking out. This would show even with the cover on. Also, notice the two ledges where the guide bars bolt to the cylinder head. These ledges would also show when the cover was on. I needed four of these, and started thinking about how I would make them.

The basic cylinder head with cover would be a simple turning on the lathe. The problem was how to make the square block for the piston rod packing and the two ledges that hold the guide bars. I could mill this all out of a piece of brass, but there are some problems with that. The number one problem is, I don't have a mill. I have a friend who lets me use his, but he lives an hour and a half away. The second problem would be the small milling cutters that would be needed. These small cutters are way more delicate than my abilities as a machinist could handle. So machining this out of a solid block was not going to work for me. That left fabricating it out of individual parts.

We have all seen the isometric drawings of how assemblies go together. Looks simple right? Just make all those very small, tiny, hard to hold parts and put them together. Oh, and by the way, make sure they are in the right place. Do I need to mention that there will be other parts attached to this assembly later? We don't want these very small, tiny, hard to hold parts coming off of our assembly later. How do all these other builders do it? They must have some tricks right?

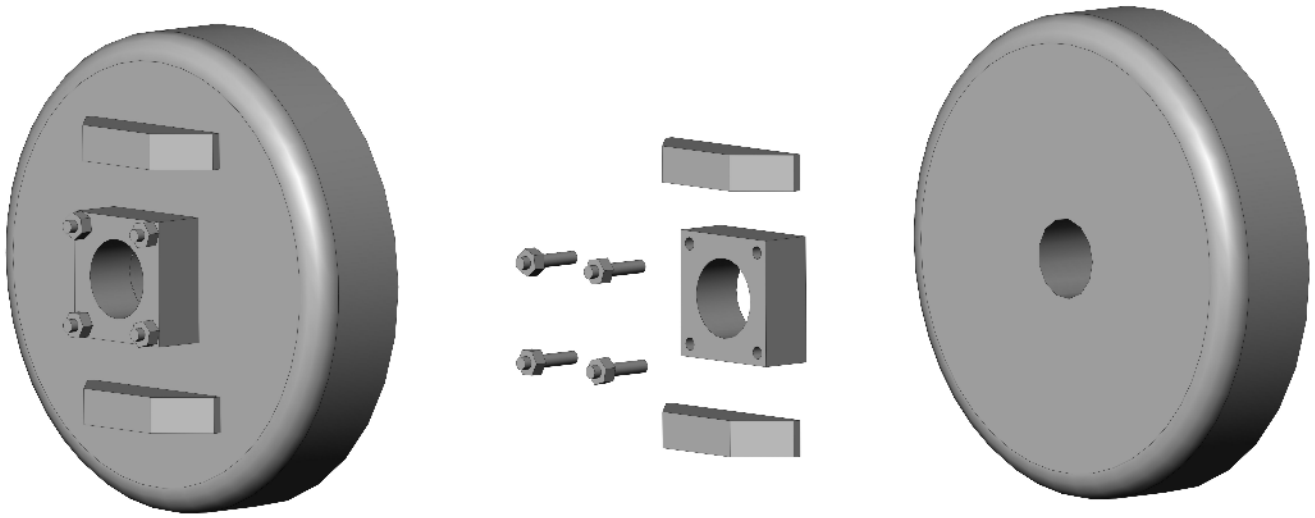
Yes, they do have some tricks. As you have seen me mention in some of my other articles, leave a handle on the parts. I first heard this from Hank Balinski, a machinist friend of mine. He was teaching me a little about machining and telling me about holding your parts. Hank would say that you need to think each cut through to see how you will hold the part in the vice. In a lot of cases, he would machine the part on the end of a bar and the last operation would be to cut the part off the bar. That way, he always had some place to hold the part. I would do some of this in my wood work also. Sometimes it works to leave an edge on your work to help in other cuts you will make. Later, when talking to other modelers about how they did things, I heard a similar technique. When trying to solder a small part on, or even make the part, leave a handle on it that you can cut off later. This is what I tried to do when making these cylinder heads, and what they never show you in those nice isometric views of the assembly.

Another concern when making these cylinder heads was locating where the parts would go. There were four of these needed, and I like to use fixtures a lot because all the things you make with them will be the same. When I first tried this, I made a fixture to assemble the parts on. All the parts are located relative to the piston rod so my fixture had a pin that was where the piston rod would be. All I needed to do was stack parts up on the fixture and solder them together. That worked great – until I found it was real hard to not solder the parts to the fixture as well as the cylinder head. So much for that idea! The frustration level was getting high so it was time to quit for a while and think things over.

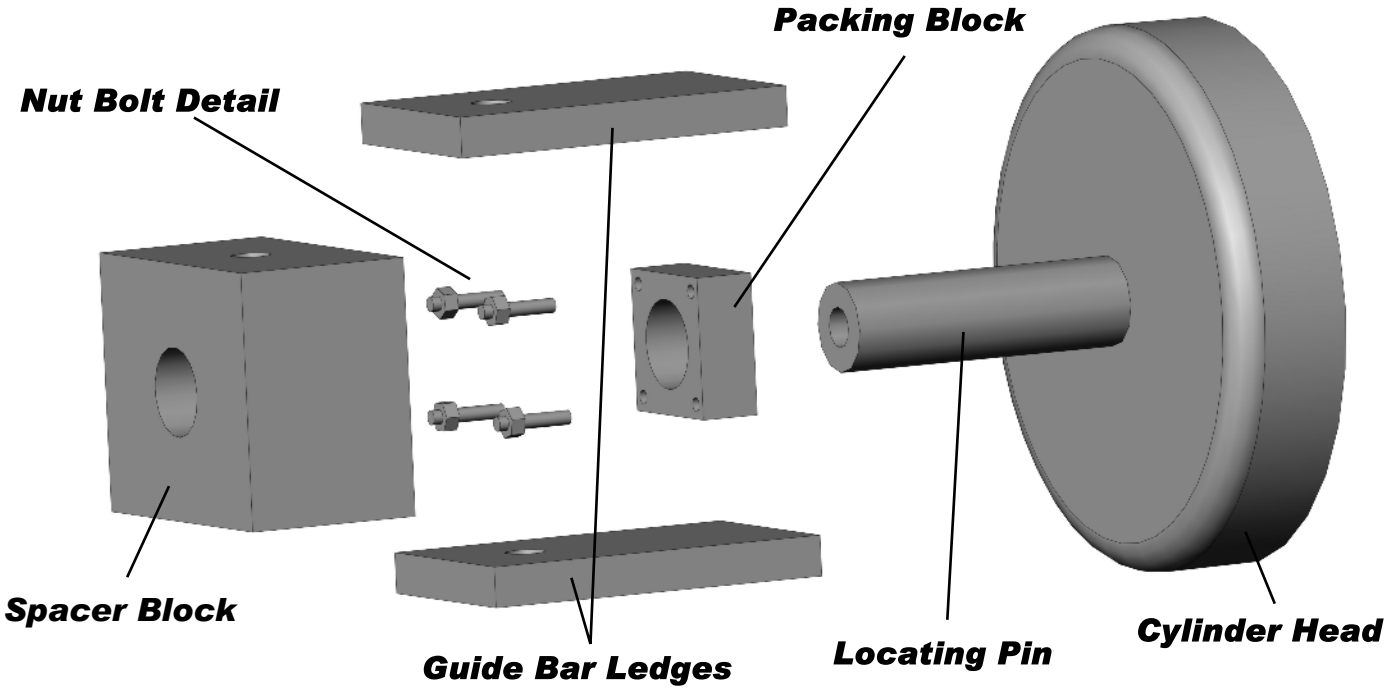
With a clear head, and no longer mad at the world because my part was soldered to my fixture, it came to me. Why not turn the cylinder heads with the pin on them (instead of a hole in them) for the pin on the fixture. That way, I would solder all those very small, tiny, hard to hold parts to the cylinder head with the pin on it and drill out the piston rod hole later. With renewed vigor, I headed back to the shop.

Before we get to the photos and show how this worked, there is one more thing. I decided I would solder these parts together with hard silver solder. Hard silver solder is very strong and melts at around 1000 deg. F. These parts would stay put while I soldered the guide bars on later. I have worked a little with hard silver solder, but this would be a challenge to me. Harmon Monk did a lot of hard soldering on his Chicago and Alton engine he built, and some of it was on small parts. After seeing what he did, I thought "this is something I need to get more familiar with".

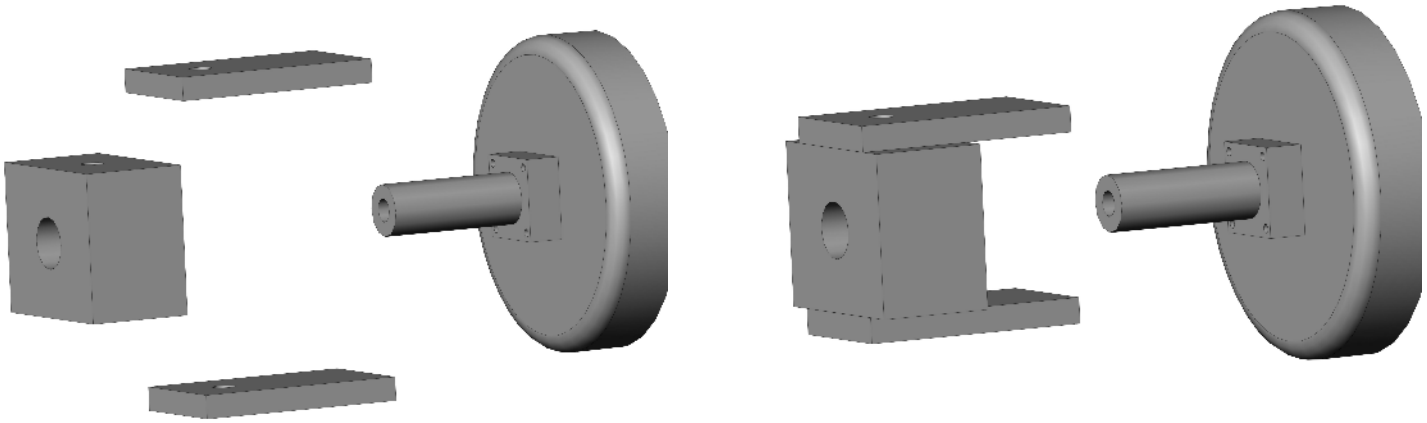
Here is how I did it. I learn from each of the things I try, and continue to get better with practice.



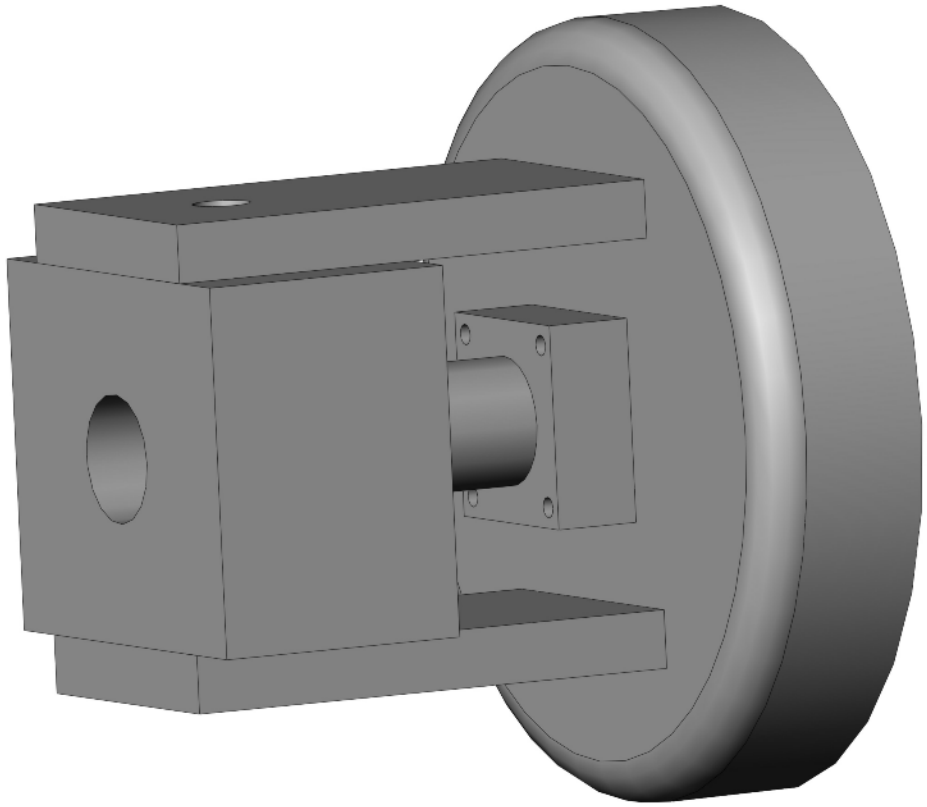
Here are some drawings of what I wanted to make. You don't need to make CAD drawings, but it was the only way for me to make an exploded view to show you. On the left is what I wanted to make. On the right is the exploded view you usually see. Looks simple right? Now start thinking about how small those parts are and how you are going to get them in the right place. There must be a way though. We have all seen lots of scratch built models people have built, so it must be possible.



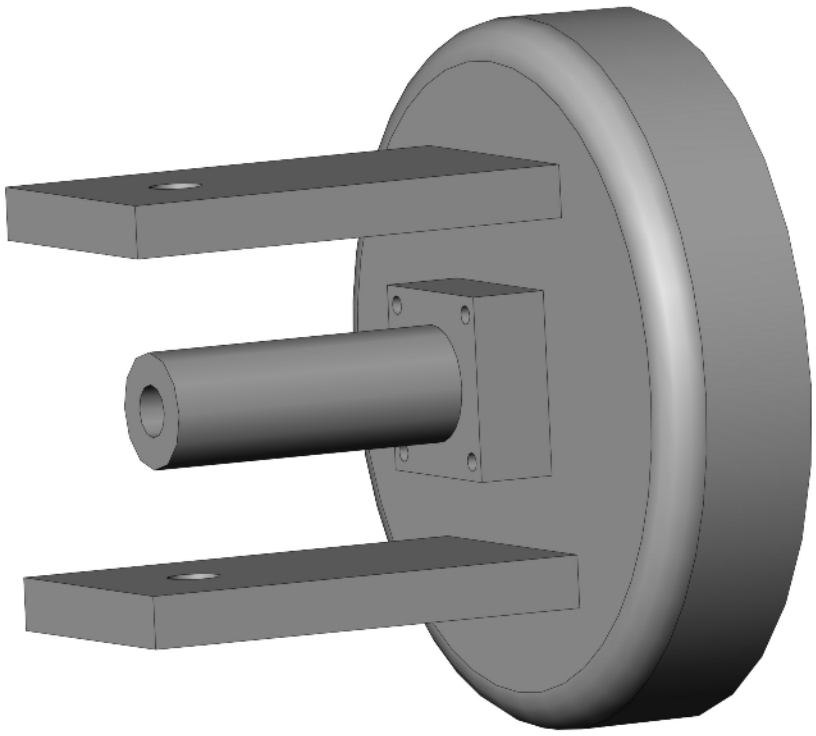
Here is how I made my cylinder heads on the second try. For the first try, I had the locating pin as part of a fixture and a hole in the cylinder head. After soldering the whole thing to the fixture, I gave up on that idea and tried this. The packing block fits over the locating pin and solders to the cylinder head. The guide bars are long and the holes in them are to screw them to the spacer block with 00-90 screws. The hole in the spacer block locates on the locating pin. This will make all the parts I want to make have the same position for the guide bar ledges. By screwing the spacer block to the locating pin with a 00-90 screw, I will hold the guide bar ledges tight in place while I solder them. One last comment. Spend some time making the spacer block. The accuracy of it will determine a lot of the accuracy for the final assembly.



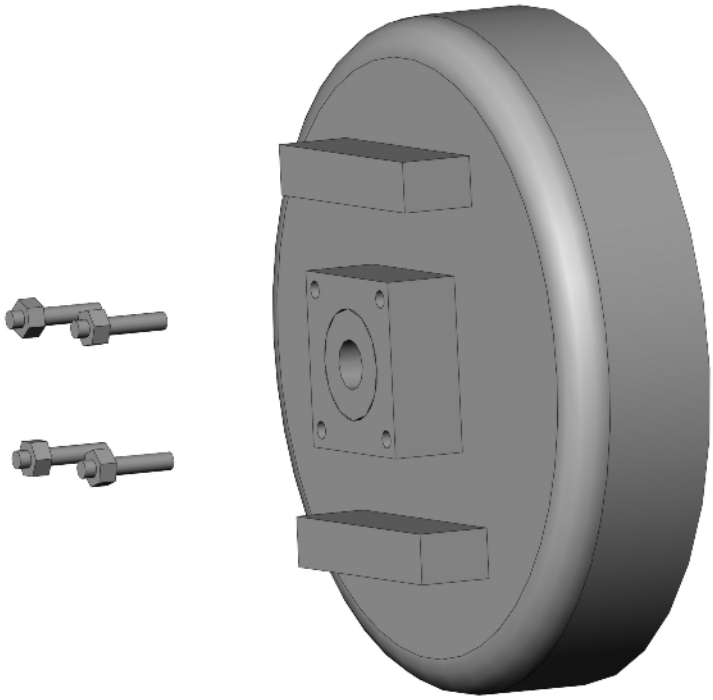
These two drawings show the next steps in my assembly plan. On the left, I would solder the packing block to the locating pin. When I turned the cylinder heads on the lathe I turned the locating pin with a hole in it all at the same time. This way, I did not lose the location of the center of the cylinder head. I tapped the hole in the locating pin for a 00-90 screw. In the view on the right, I would screw the guide bar ledges to the spacer block with 00-90 screws and slide that over the locating pin. This would be held in place by a 00-90 screw into the end of the locating pin.



This is how my assembly would look when I was ready to solder the guide bar ledges to the cylinder head. After my first try, I could see I needed more space between the spacer block and the cylinder head. Hard silver solder will flow to any nearby joints, and I had trouble with solder getting into the joint between the spacer block and the guide bar ledge. I also had to think about how I would index the guide bar ledges and keep them parallel to the edges of the packing block. Following are some photos that show that step.



This is what my cylinder head would look like when the hard silver solder was done, The next step would be to trim the locating pin and guide bar ledges back to the same plane as the face of the packing block.

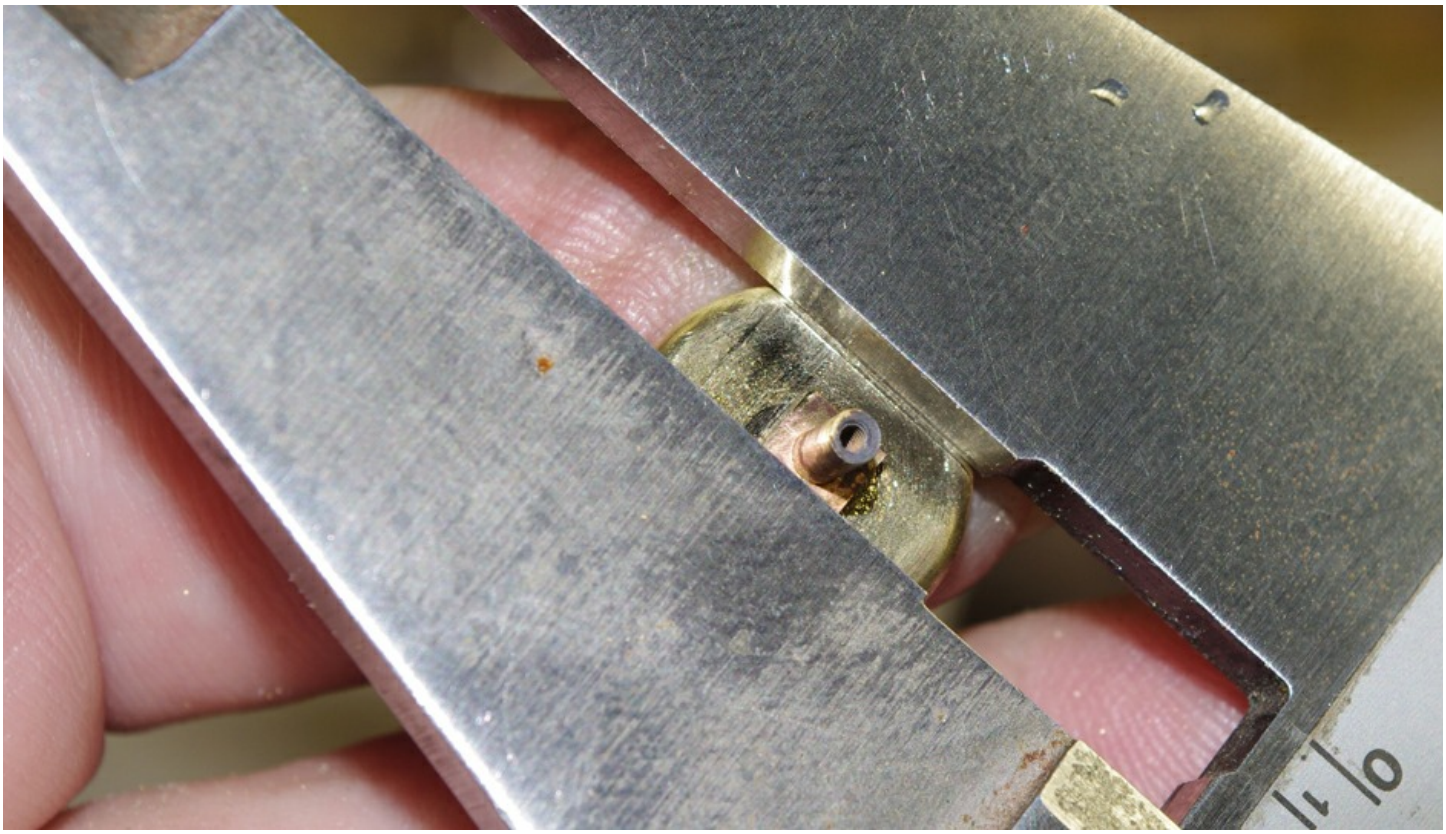


After I had the locating pin and guide bar ledges cut back, I would solder the nut bolt detail in. The last thing would be to put a small chamfer on the guide bar ledges with a file.

Hard silver solder melts at around 1000 degrees Fahrenheit, and you need to use a torch to do it. I do not have a lot of experience with hard silver solder, but want to learn more. There are some advantages for model work. Once this part is hard soldered on, it will not come off with any other soldering I need to do. Hard silver soldering uses Borax for a flux and this usually comes as a powder. I mixed a small amount with some water to make a paste so I could spread it. Try to be neat as the solder will go to wherever the flux is. I put a bit too much on here. The torch is on but you cannot see the flame. Notice the small piece of solder laying next to the packing block. Don't try to feed hard silver solder into your work like you do with soft solder. Cut small pieces like this and lay them on your work.

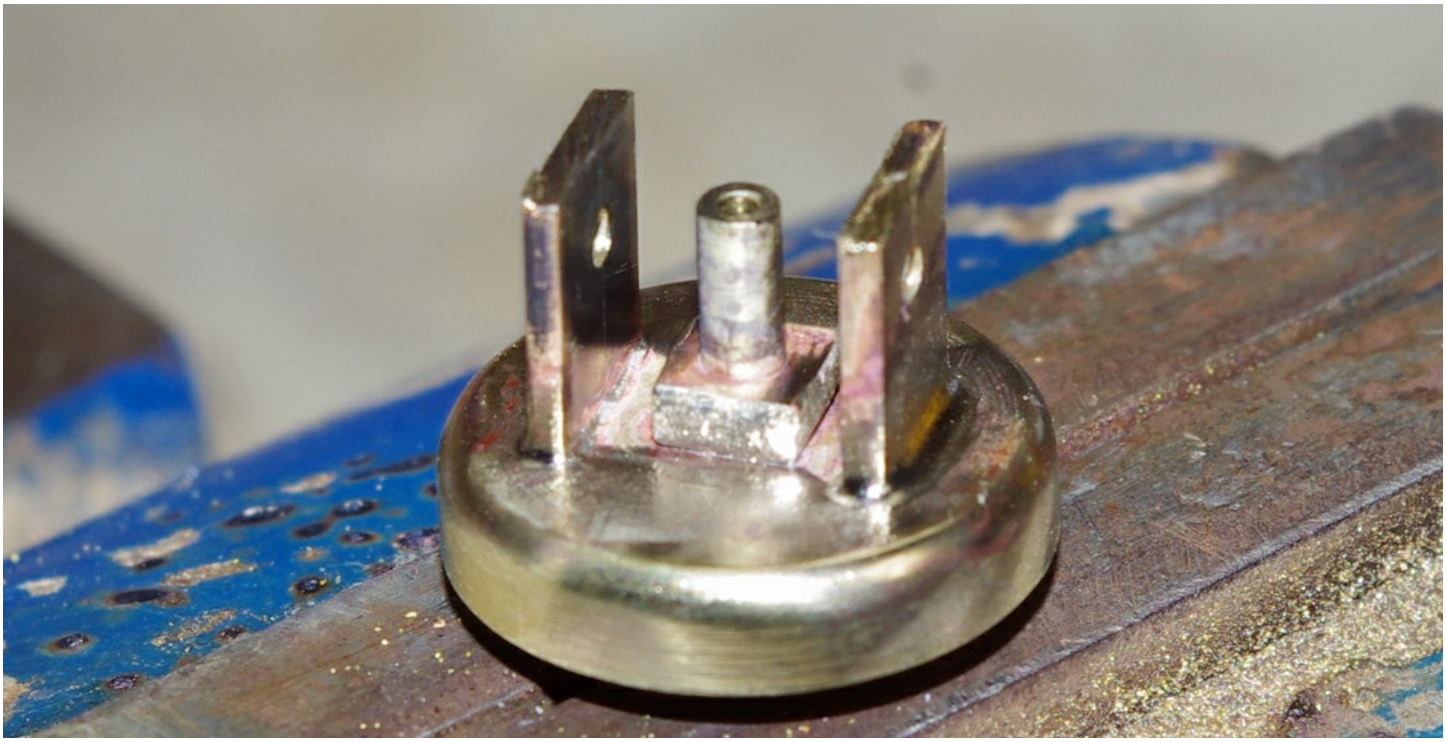
As you heat the part, the flux will get a glassy look at first. Then, the solder will start to get shiny. Keep heating, and you will see the solder melt but not flow. Keep heating and, all of a sudden, the solder blob will get smaller as it wicks into the joint. If the solder is not flowing, you can add more flux while you have the heat on. I used a small stainless steel probe dipped in my flux to add more.

This is what the part looked like when it cooled. Notice how the tarnish formed. This is easy to clean off with some vinegar and a Scotch Brite. A wire brush in the motor tool also works well for this task. Soak the part in the vinegar for a few seconds and then wire brush it.



I needed a reference line parallel to the edge of the packing block for locating where the guide bar ledges would be. To do this, I figured out what the distance would be from one edge of the packing box to the outside of the opposite guide bar ledge. Then, I set the caliper and held it tight to the edge of the packing block. I used the other jaw on the caliper and scribed a line on the cylinder head as shown. When I put the assembly of spacer block and guide bar ledges over the locating pin, I made sure the guide bar ledge lined up with the scribed line. Then, I tightened the spacer block down with the screw into the locating pin.

This view shows the whole assembly being soldered. You want to be neat with the flux here. If you get some flux on the joint between the guide bar ledges and the spacer block, the solder will find it. This happened to me on the first try. Trust me, you will not be happy if this happens.



This is what the whole thing looks like after cleaning off the tarnish. Hard silver solder can be a challenge to work with because of the heat, but if you can do it, the parts will not come apart. Notice how nice the solder flowed around the joints. Jewelers use very small torches for hard silver soldering. Harmon used one a lot, and I think I need to get one. The next step is to trim off the "handles".

This photo shows my cylinder heads in the various steps used to make them. I made five of them. I need four for the two models I am working on, and I made the fifth one slightly larger for a pattern. Starting from the far right is the assembly right after soldering. The next photo shows the assembly with the spacer block removed. Then I cut off the excess guide bar ledge and locating pin with the cut off disk in my motor tool. At first I tried to file it all flush, but then tried cutting the remaining excess off in the lathe. This worked well, but you need to take very small cuts and feed very slow. When taking interrupted cuts like this, the tool can grab your work. Lastly, I drilled out the hole for the piston rod and filed a small chamfer on the guide bar ledges. To finish, I need to drill the holes for the nut bolt detail and put them in. Once I had this figured out, it went quickly. Spend some time making the spacer block. The edges of the block must be parallel or it will make the location of the guide bar ledges wrong. This only took a few hours to do all five of these once I had it figured out.

Modeling White Pass Containers

By Böerries Burkhardt

I've been doing White Pass & Yukon Route modeling for more than 30 years now. I started in HOn3 scale and continued on for many years before I switched to On3 scale several years ago. Knowing that not much is available for White Pass in this scale. But, as I like to build model trains, I saw it more as a challenge to make them in 1:48. Special as I feel HO scale is, it is too small for me and LGB scale too big, as I have no space to run large garden railroad. Sn3 was never a question to me, even if Railmaster from New Zealand has a large quantity of White Pass rolling stock. So I started to design my own O Scale models over many years now. Learning to design in 3D CAD, I learned quickly, that you have to design the model in the exact scale that you are doing. A full size drawing resized to the required scale doesn't work. You have to learn to design in your scale. Over time, you know exactly what you see, what you may have to design a little bit bigger or thicker so that it will have the same effect like your full scale original.

The basics were to make brass engravings and design 3D brass castings using the latest 3D wax printing technology to make the casting form. I started with the White Pass caboose 901, made side tests of the Aniox hopper cars and small details that would be nice to have, such as mile post sign, number plate, builder plates only to mention a few. Also, brass parts to modify the EBT 3-Bay hopper for the use on White Pass as well as overhaul PFM brass tank cars into real White Pass tank cars. Add safety card plates, running board and ladders to mention a few.

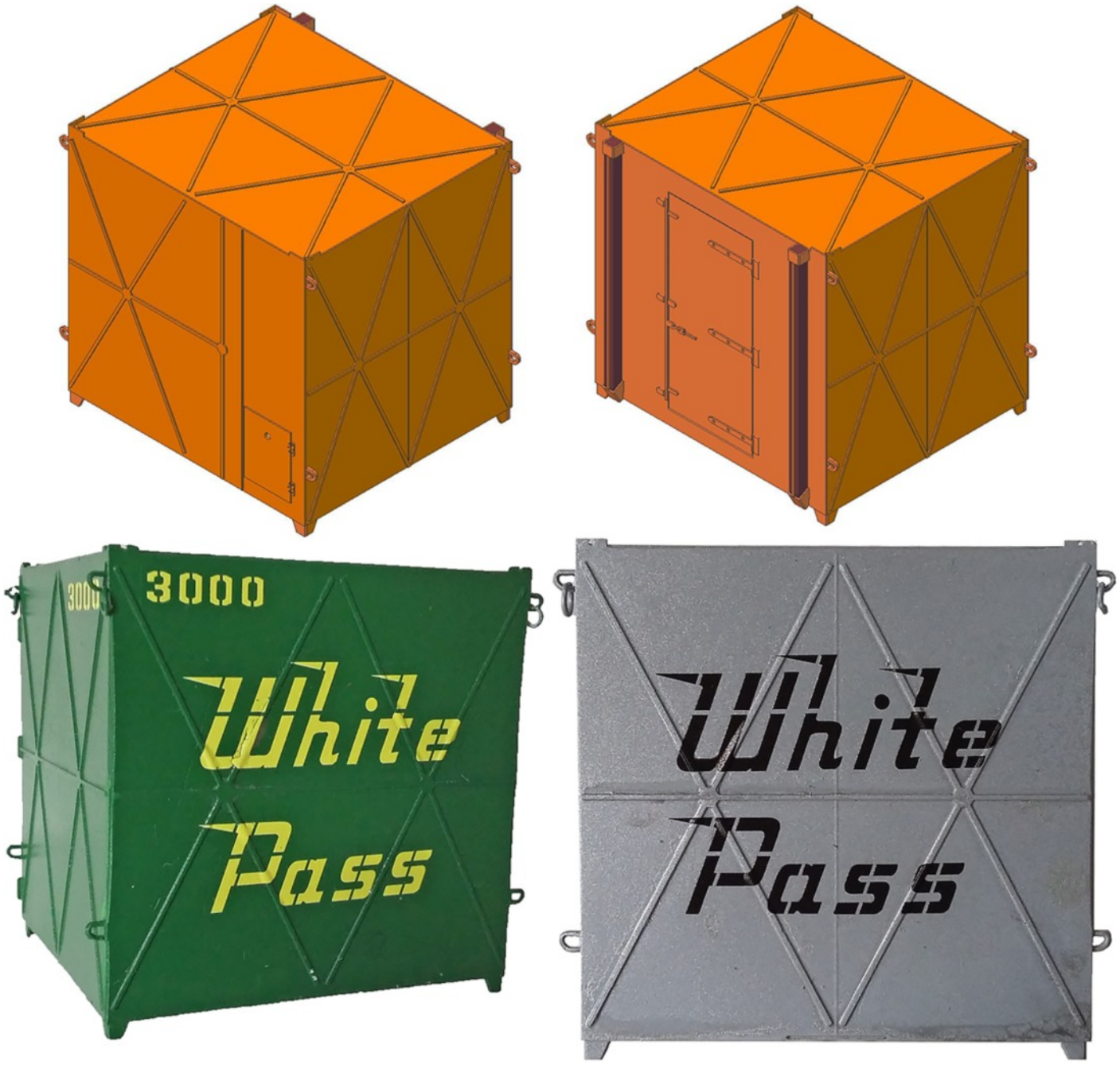
Later, I tried to make my body shelf with 3D. The first example was done by a professional printer in 2011. And the quality is still great. Additional tests were made over several years. But this required a modification to

my major 3D design, as they need a minimum wall thickness and details need to be with the main body. With caboose 905, I started my first hybrid model. A basic 3D print was made of the main body, all additional parts were made out of brass. Engravings, as well as castings, were used in this project. The big advantage is that you get your results very fast. With details printed on paper, you are able to see how it may look later on. For me, this is also a fun part. But, the cost of this 3D printing is still very high. So I decided to start my caboose 905 in brass, too.

Now I have two models growing together. A full brass and a hybrid. White Pass had different colors for their caboose, so a good change for me was to have them in all paint schemes.

Even though I was stocked in the 905 caboose project, I needed a quicker kit – an easy to make, new challenge and a finished kit in a short time.

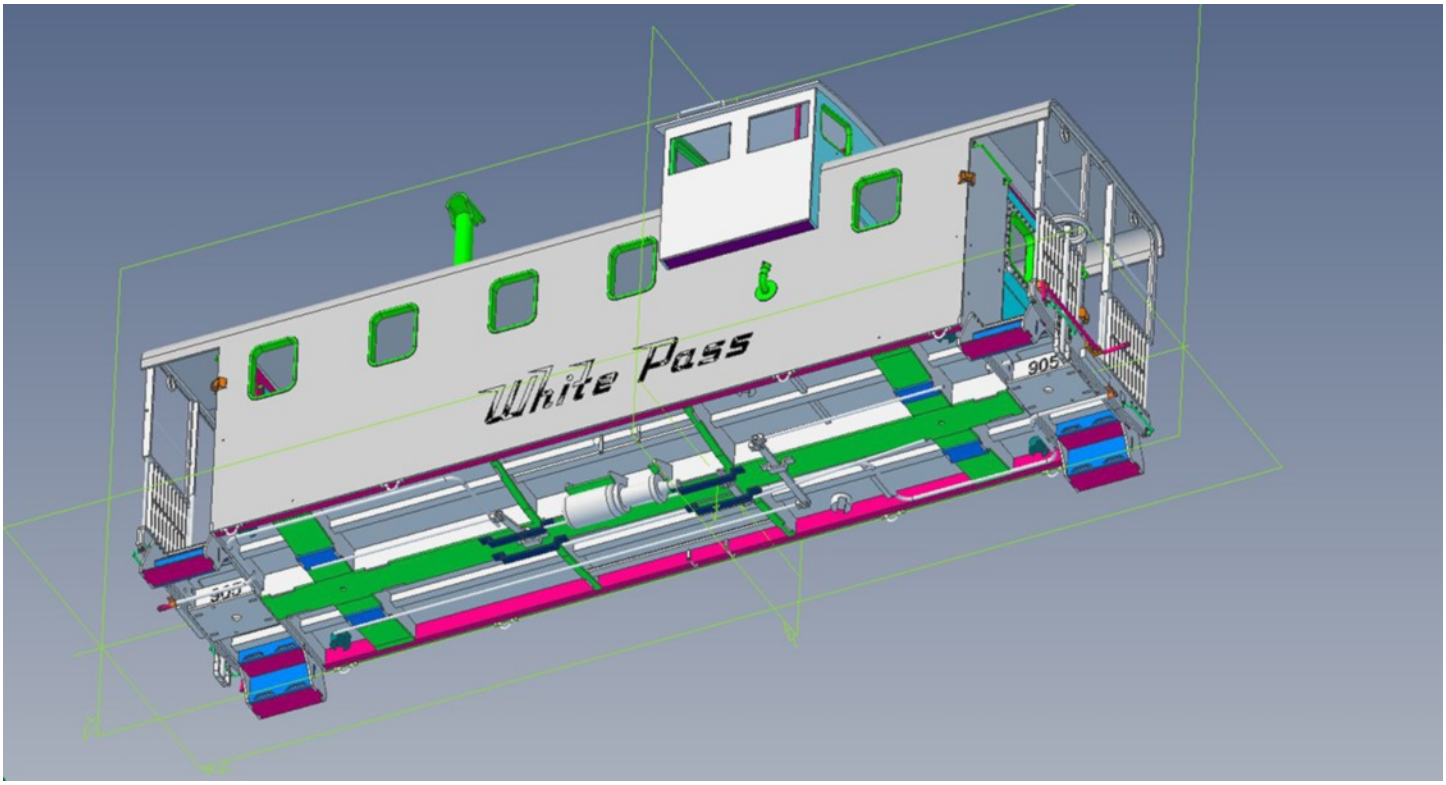
As the WP&YR is known as the Container Route, it was clear I needed to make containers in O scale.

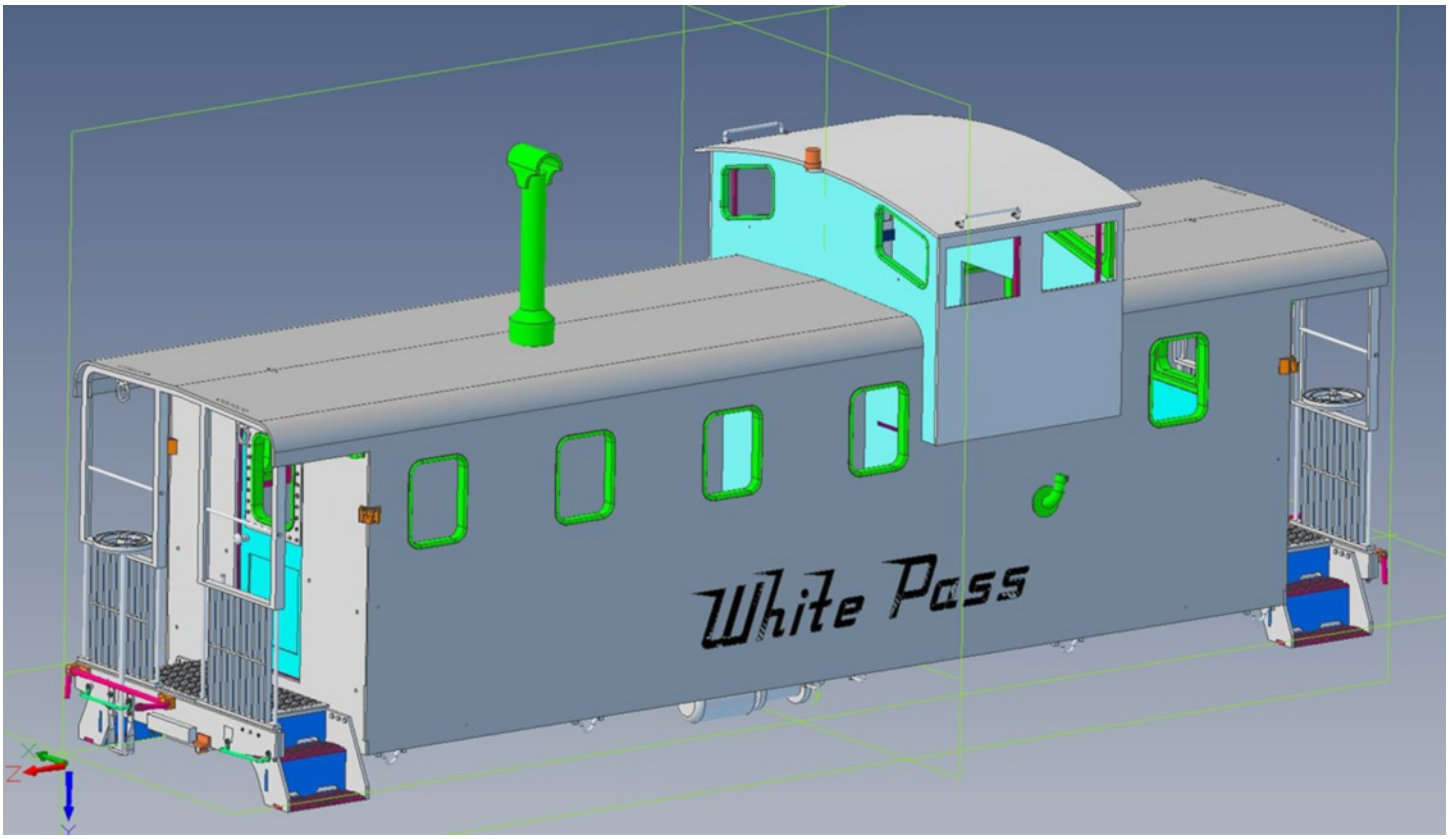


All available models on the market didn't fit to White Pass, with the exception of the 20 foot ISO container that White Pass used only a few months before they stopped their freight business in 1982. White Pass was the first company worldwide to use containers in one integrated system. They used them in their own designed container ship, running over the railroad and hauled them with White Pass trucks to their final destination in the far North of the Yukon and Alaska.

On the next page is a sample of the 3D drawing for the 905 caboose. In later issues of The O Scale Resource Böerries will share much more of his 3D work and drawings.

Check the whitepassfan.net, Böerries Burkhardt personal White Pass website. Here you'll find a lot of information from the past, as well as today's operation.


White Pass
905


White Pass

A Visit with Takashi Daito

By Daniel Dawdy

Melissa Hill from the Chicago O Scale Show (March Meet) Emailed me to say she was going to visit Takashi (Tad) Daito in Japan. She heard Tad was starting an O Scale Museum there. Well, that peaked my interest, so I contacted Tad. I had met him at previous Chicago shows, and he was a very good friend of the late Harmon Monk. He had tables for several years selling a new system he had developed for unique wheels with lesson friction enabling more train cars to be pulled with less force. Melissa was in Japan April, and then Tad and I started a dialog. Through our conversations, I found out Tad was coming to the states and staying with Harmon's wife Marie for a few days to visit and pick up some items that Marie wanted to donate in Harmon's name to the museum. So, on July 28th, I drove over to Marie's home and sat down the Tad for a few hours.

Tad says:

"The museum is under construction. The size is 35' x 65'. I have bought three story building. I can use the 1st and 3rd floors. I'll have a casting plant on the 3rd floor. All the engines are re-built by Mr. Sofue. I and Mr. Sofue have been very good friends for 35 years. All the engines are equipped with DCC sound or PFM sound. As you might know, I am the inventor of free-to roll mechanism. It was published in Nov. 1985 *Model Railroader*. Also, I have invented Low-D wheels to reduce friction on curve.

Sample of Tad's Low-D wheels and axle

One more thing, to negotiate very rough track, I have invented very unique suspension. I like to watch industrial lines. Generally speaking, it has very rough track. Freight cars are running very slowly, it is swinging.

Demo showing the mechanics of Tad's new suspension.

In April, Melissa Hill went to the museum as an inspector.

My father was an engineer at Mitsubishi Electric. He was a talented engineer to design big motors for ships, big generators for power plants. Also, he did fuel pumps for aircraft. Probably Zero fighter used his design.

Tad and me at Marie Harmon's home July 28th, 2016.

After the war, he worked for sewing machine company as a manager of electric division.

He liked trains, he didn't do model railroading. The only thing he did was to cast drivers for 3-cylinder steam engine. The driving wheels were in the warehouse, they were rusted out when I found them.

He gave me a train set when I was 6 years old. I enjoyed 3-rail toy trains for 10 years. Then I decided to make 2-rail scale trains. I have built some MU's and a steam engine. He advised me how to do. It's not a modeling technique. It is based on true engineering. He taught me gear train and electric motor theory. Also, bearing for journal is very much interesting.

I was taking the MU train to school every day. When the train starts, 580-Amp current is drawn. Then it coasts to next station. The motorman applies dynamic brake before mechanical brake. 500-Amp current is generated to dissipate momentum. That is the very moment, I decided to build such railroad model someday.

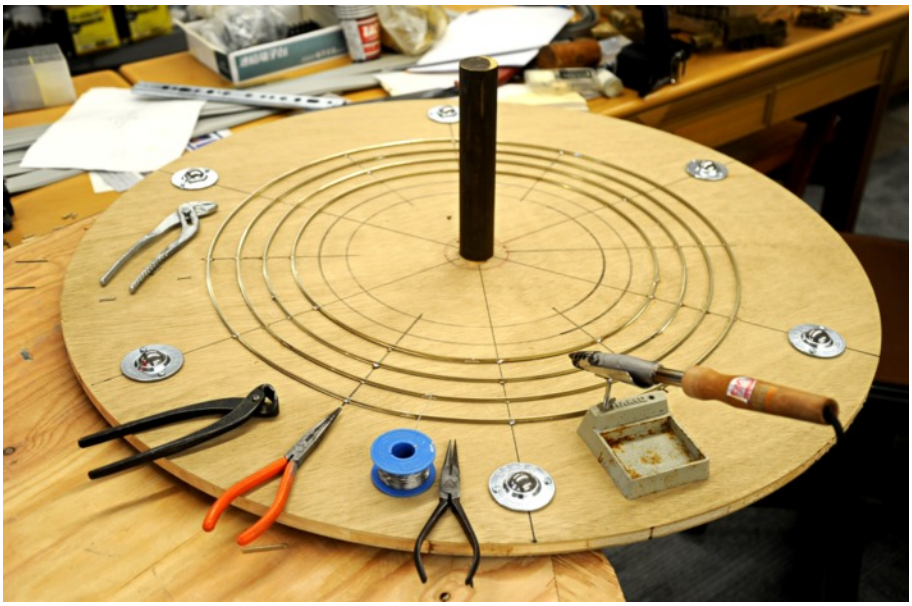
My father told me that spur gear efficiency is 95%, motor efficiency is also 95%. If ball bearing is used, the model train rolls like real ones. The problem is: such high efficiency motor and gear is not available for model use. Ball bearings are too big for models. They are filled with sticky grease, and very difficult to rotate.

When I was 25 years old, I met Mr. Kimpei Sofue. He was the very person to have built engines for Max Gray. He is a genius. He can build any engines in very short time. Not only appearance, he is very much interested to improve running mechanism. We had a common dream. We are to build the "world's best running locomotives."

Our final answer is to combine coreless motor, 3-thread worm gear and ball bearings. It took three years to get to the goal. 3-thread worm gear is my idea. It was published in Nov. 1985 *Model Railroader*. The engine starts very smoothly. It coasts. The pushed engine generates electricity to make the head light "ON". If one engine is pushed, another engine on the same track moves. Coreless Motor can be a generator. There are many kinds of coreless motors. We bought most of coreless motors in the market then.

Our friend Mr. Seiichi Yoshioka measured all the motor performance. Then, we were able to choose best motor for our project. My engines, two UP 4-8-4's are apparently best engine in the world, in power performance. They were built by correct engineering to perform best drive efficiency with big power. Their efficiency is more than 50% (most of the stock model engines have only 10% or less). The engine can pull more than 100 cars on level track. Freight cars are equipped with completely new mechanisms. They have cone end journal and special wheel contour. ”

Shot of the museum under construction. Pictured is a 100 car freight train with all cars equipped with Tad's very low friction wheel contour pulled by a single steam engine. This engine can pull 117 cars on this layout at less than 1 Amp draw. 90% of the cars are brass – old Max Gray, US Hobby and custom-built by Tad. This layout has 1.56% grade.



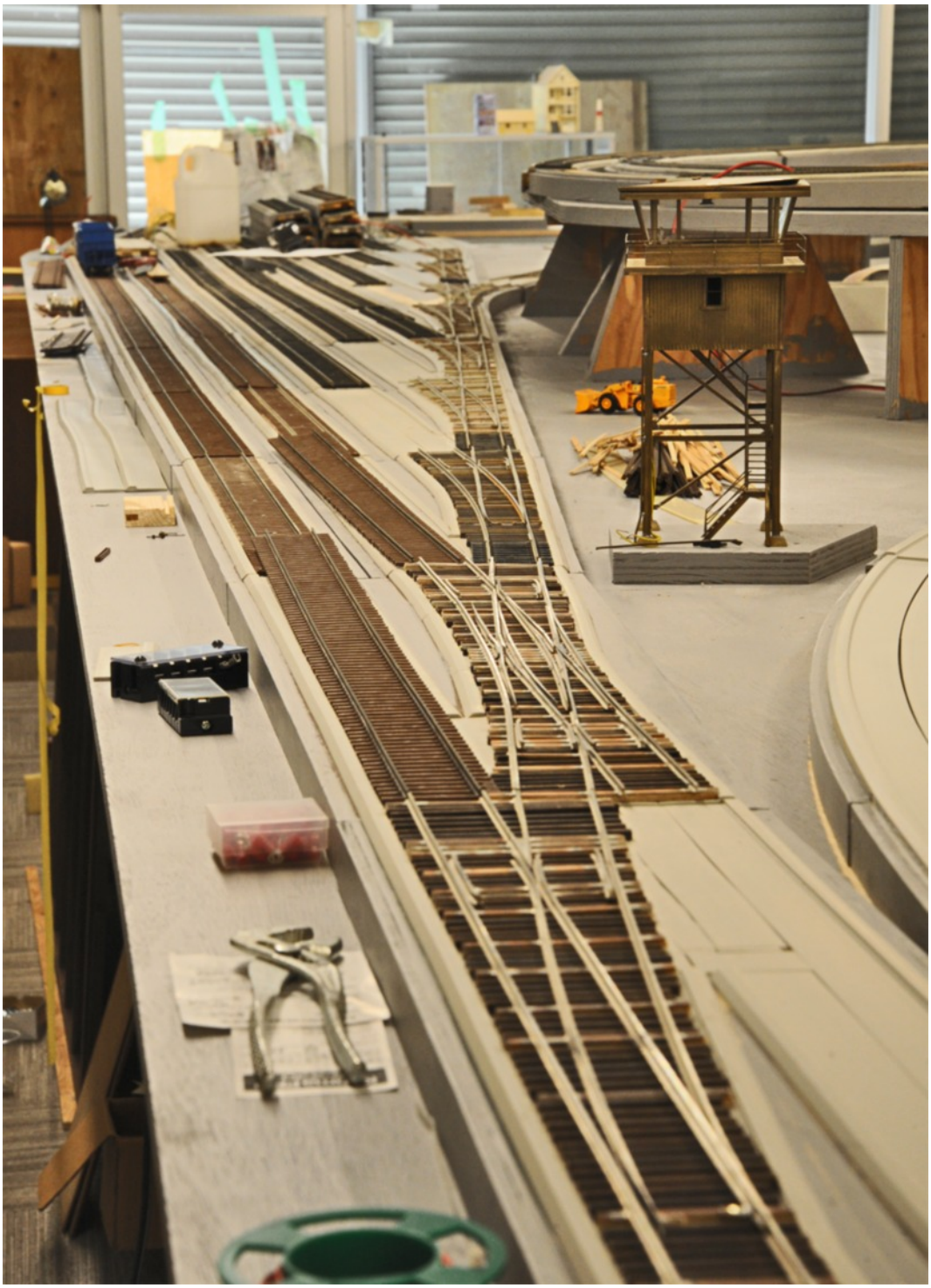
Turntable under construction. Tad has very strong feelings on how things should operate.

This video show the rolling ability of one of Tad's cars.

https://www.youtube.com/watch?v=amhMVCjU2mg

This video gives an all over look from the train of the layout under construction.

https://www.youtube.com/watch?v=BBjdloWpG2c



Shot of ladder tracks going in. All switches are hand built.

We'll be talking more with Tad in upcoming issues as he continues to work on the museum and other projects.

Editors note: Mr. Kimpei Sofue "The Most Famous O Scaler Nobody Ever Heard Of" was one of top custom builders for O-scale brass models. In 1922, he was born in Tokyo. He got a job in Tokyo Keiki Industry Co., Ltd. in 1937, learned four years in the company's technical training school while working. Participation in the production of O scale model of Katsumi model shop (KTM) in 1945. Poised a workshop at Gyoda, Saitama independent in 1962, accepted orders from Katsumi. Opened the Sofue Works at Kumagaya, Saitama in 1964, began to custom-build including the Sofue-Projects. In 2009, died at the age of 86. He was inducted into the O Scale Hall of Fame . See The O Scale Kings Website for more information on Mr. Kimpei Sofue

Pittsburgh Railways West

A general view of George Zrust's Pittsburgh Railways West traction layout.

By Glenn Guerra

George Zrust lives in the Chicago area and models Pittsburgh Railways. Well that's nice, but tell us the rest of the story. I would be glad to, so let's go see George and his layout. George and his brother, Frank, grew up in Pittsburgh, Pennsylvania. They lived near one of the street car lines of Pittsburgh Railways and rode it a lot. As kids, they had a Lionel train layout that dad helped them with and both of them developed a life long interest in trains. Frank still lives in the Pittsburgh area and models in O Scale. George went to school at the Art Institute in Chicago and moved to the area while going to school. Like so many of us, when you start paying your own way and having to make a living, modeling and playing with trains take a back seat. But, it never seems to go completely away does it? While attending school in Chicago, George would visit the local hobby shops. The All Nation Hobby Shop was still open in Chicago, and George could not resist the temptation to stop in for a look. He saw some R&M die cast kits of PCC cars. These kits were later marketed by Ashland Car Works and The Berkshire Car Shop.

George remembered PCC cars on Pittsburgh Railways. The temptation was too much, and he bought a few. George was still living in an apartment at the time, but he had some models to fool around with.

This is George's model of Avalon Loop.

When George started thinking about building a layout, he thought about

Pittsburgh Railways. George has art training and can appreciate creating an illusion with models. We were talking about this prior to my visit. To do this, you make things to scale, but there is more. As we have all found out, it's hard to stick to exact scale on our layouts. For example, we model in 1/48th the real size. A mile is 5280 ft. and 1/48th of that is 110 ft. Now think about fitting even five miles of railway in your layout room. You need to make a lot of compromises. This then becomes the challenge in creating our miniature world. We tend to focus on the things that will make a point for us. Rather than model a whole five mile long freight yard, we model important features of it like the engine terminal, yard offices, scale areas, ice houses, and so on. In real life, when we go to the rail yard and are at the engine terminal, we experience that terminal and not the rest of the yard. When we make a model of the terminal in miniature, we can capture the same feeling and don't need to worry about the rest of the yard. As George and I were talking about this, I made the reference to the model as creating an illusion. George said he likes to think of it as evoking the feeling of being there. With this mind set, George started his first train layout as an adult.

This is the actual Avalon Loop.

George took the photo on of the loop as it appeared when he was still living in the Pittsburgh area. He took photos like this for future reference, and they are coming in handy now that he is building the layout.

Some of the special work at Avalon Loop. Notice the unused rails still in the street. Streetcar systems modified their track, and modeling this was a nice touch. Also, notice the different brick used around the track and the cut "Belgian Block" stone used by PRCo. in the loop area.

George decided he would call his model railway Pittsburgh Railways West. It would not be an exact replica of Pittsburgh Railways, but was meant to evoke the feeling of Pittsburgh Railways. George looks into the details of projects, and this also influenced him on his model railway. He felt that by getting some of the detail right, his model railway would give you the feeling of being in Pittsburgh. He also had a time frame in mind. What he remembered of the railway was the late 1950's and through the 1960's. This would be the era he would model. By this time, some lines had been abandoned and many had changes in track layout. He would model some of this abandoned track to give the feeling of that time period. There was a lot of different brick and stone work in the street so he would model this also, as well as, many other small details.

While living in Pittsburgh, George took many photos and keeps this small file of some of them on his workbench for reference. As an adult, he has taken many more for reference. Notice the Pennsylvania Railroad passenger train is entering a tunnel.

To those of us from the Midwest, this may seem out of place for a traction layout, but this is what Pittsburgh looks like. The steam railroad is going into one of the many tunnels around the area and is there for effect only. Notice the wood deck on the bridge. This is how it was done in Pittsburgh. George said the yellow cupola on the Pennsylvania cabin car signifies it is in pool service. The brown cabin car is a brass N5 lettered for "Pittsburgh Region".

Another view of the bridge over the steam railroad. George customized the Car Stop Café from an MTH building and made the sign in Photoshop from actual PRCo. car stop signs. George discovered only recently that there is an actual bar by the real Avalon Loop named similarly. While not an actual scene, this scene does incorporate things you would see in the Pittsburgh area.

George wondered about equipment. This decision got made very early in his college years at the late, great, All-Nation Hobby Shop on Madison Street, where George bought three white metal R&M Industry PCC kits from legendary "Traction Ted" Siefert. The masters on these cars were carefully made and proportioned, leaving George the main challenge of assembling them and customizing them to represent the six varied classes of Pre-War and Wartime PCC cars used by Pittsburgh Railways. George managed this with parts from Q-Car, Wagner/Current Line, and miscellaneous other suppliers. These cars were eventually re-issued by Ashland Car Works and George beefed up the fleet buying them from another traction master, the late Rich Bosak of Chicagoland (and once, Downtown Hobby). He's found some more at meets and bought them also. When St. Petersburg Tram Works issued the first Post War 1700 PCCs, George got them too, along with some low-floor orange "Jones Cars."

This overhead view of the same scene shows the two trolley wires used by Pittsburgh Railways. This eliminated not only the trolley wire frog, but the problems with getting the pole to go where you wanted.

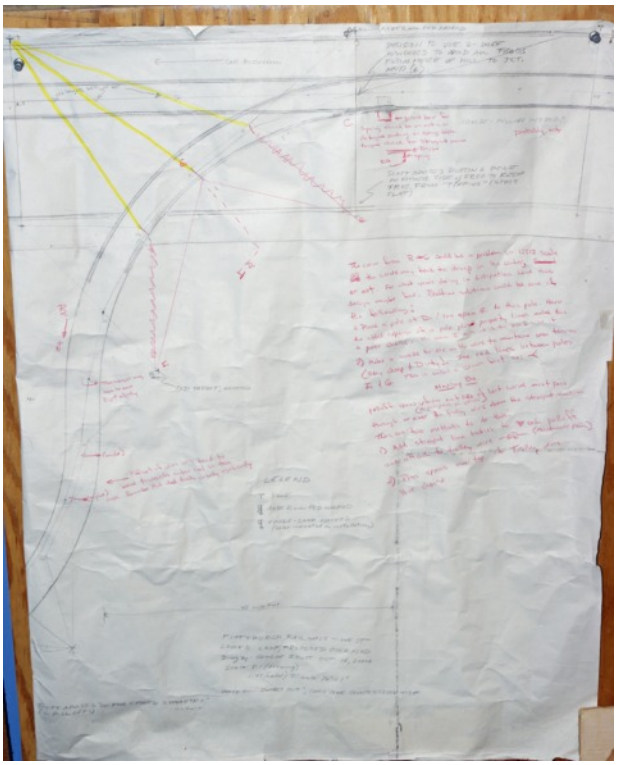
As part of his research on the signal system, George made a trip to the Pennsylvania Trolley Museum and photographed this installation of a Pittsburgh Railways signal on the museums railway. He made his models using HO Scale Tomar and Oregon Railway Supply signal heads. He made the relay cases by modifying Irish Track Layer parts.

The next step was to learn about the railway. Sure, he rode it as a kid, but how did it really work? And there were all those signals on the line. What did they mean and who made them? This led George to the Pennsylvania Trolley Museum and their archivist, Ed Lybarger. The Pennsylvania Trolley Museum is in Washington, Pennsylvania, about 30 miles south of Pittsburgh. They focus on the electric railways of Pennsylvania and some of the surrounding area. George contacted Ed with some questions about Pittsburgh Railways, and found out the museum has quite a lot of material. George was even able to get a copy of a Pittsburgh Railways standards book. This explained all the construction on the railway. Then came the signals. At that point, Ed told George he should probably go see Scott Davis. Scott worked in the signal department of railway operations for the Port Authority in Pittsburgh. Scott also ran the signal and electrical department at the museum. When George and Scott were talking about Pittsburgh Railways and Nachod (pronounced nay-shod) signals, they found they also had other interests in common. They both like blues music and Scott goes to the Blues Festival in Chicago every year. So another friendship was developed.

This close up of a car on the interurban line shows the signals on the poles. There are two relay cases hanging on the pole to the right. On the other pole, the signal heads are controlling the crossover. George modeled the crossover, typical to railway practice. There are three crossovers in a row, and this allows the railway to operate them as two passing sidings and pass a third car.

One of the loops on George's layout is at the end of a line. The white building is scratch built by George from company plans. It's a rest room for the car operators to use. Notice how George modeled the worn paths through the grass. Look closely at the pole just behind the car at the stop. See the signal. This signal controls the second car in the loop, and helps to space the cars as they enter the street. George had paid a lot of attention to detail.

As George was planning his model railway, he would contact Scott with questions. If you are a traction modeler, you soon realize that it is not all the same – just like the steam railroads are not all the same. The overhead wire is not just a wire hung from some poles along the line. This was done a specific way, and it can become part of your model. George made a drawing of the overhead on part of his layout and sent it to Scott. It came back with all kinds of notes as to how and why Pittsburgh Railways installed it the way they did. George then set about trying to make his model that way. The Pennsylvania Trolley Museum has many displays and has built their railway using historic equipment. George had to make a few trips to see some of the equipment still in operation. By equipment, I don't mean just the cars. The whole line is built using the old signals, as well as, track and overhead equipment. George photographed this and Scott told him how it all worked.



George made this drawing of the loop on his layout shown above. He sketched out how he thought the trolley wire should be hung, and sent it to Scott Davis in Pittsburgh. Written in red are Scott's comments on how to improve it.

The sun is starting to set as two cars pass at the siding. The PCC car will soon enter the loop and lay over for a few minutes before starting the run back. When photographing a layout at this angle, you can really appreciate all the details. Notice the signals all up and down the line. I like the weathered automobile also, a detail not always modeled. George said the street was originally paved with Pittsburgh Belgian Block which was quarried near Pittsburgh. The smooth patches George put in give the whole scene some life.

After leaving the passing track, the motorman comming down the street has another amber "Proceed" while displaying a red "Stop" to another car waiting in the single-track lower loop. This lower loop has no name right now because it is a mash-up of similar loops all over Pittsburgh, especially Beltzhoover, Spring Hill, and Troy Hill. Once we pass the track switch at the lower loop, we continue a bit further down the street so we can enter this "doors out" loop and clear the signal for the other car to head inbound. The term "doors out" means the doors on the car will face the outside of the loop when the car goes around it.

George is pointing to some transformers hanging on a pole. This was typical Duquesne Light Company practice. The brackets for these are modeled from company plans, and are typical mountings from the area. The top crossarm is a Clouser pattern from the 1970's. The transformers and other details are Keil-Line (now being sold by Scale City Designs). The lower photo is an actual pole in the Pittsburgh area that George photographed for reference. Details like this that are specific to your locale or railroad, make your model railway evoke, to use George's phrase, "the feeling of the prototype".

Wow, George had a lot of good resource material now. Next came the railway. Where to build it and how big to make it. George could see that his detail oriented vision was going to take some time. He decided that building to fill the whole basement was not going to be possible and could turn into an overwhelming monster. He decided smaller was better.

George modified a Berkshire Valley building kit into the crew room at Avalon loop. He put an interior in it complete with the toilet stall and lighting.

Project under way. These are kits of pre war PCC cars originally made by R&M, and later marketed by Ashland Car Works and The Berkshire Car Shop. They are still common at shows.

Now came the challenge to create the illusion, or as George puts it, "evoke the feeling", of Pittsburgh Railways. This is where you start thinking about what it is about railroads that initiates feelings for us. For some of us, it is long trains, others of us like big power, don't forget small switching. And what about those passenger trains? Think about your own models and what they represent to you. What is it about that model that makes you think about your interests in railroading? These are the thoughts George had. On his layout, what was going to make you think of Pittsburgh and Pittsburgh Railways?

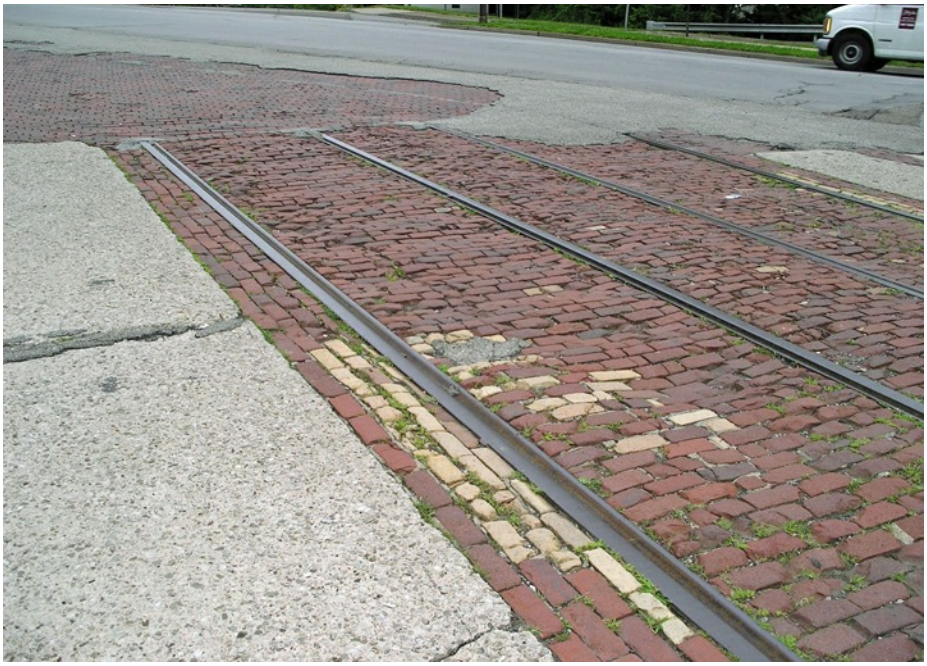
PCC stands for Presidents Conference Committee. The presidents of a lot of traction companies got together in the 1930's to develop a standard car they all could use that would be mass produced to save money. These are the cars they adapted for a standard design. As you can see, the details are still different. These are two cars George is working on.

The cars that ran on the interurban lines of Pittsburgh Railways had trucks for open track (B3's). George is modifying this car to run on his interurban line. The roof light is also a PRCo. addition.

Pittsburgh is located in the mountains. Not like the Rocky Mountains, but nevertheless, in the mountains and it is hard to find level ground in the area. Remember Scott Davis? I know him also through my museum work and have been to his house in Pittsburgh. At street level you walk up a steep flight of about 20 steps just to get to the front door. To get to the garage in the alley behind the house, you need to go to the second floor of the house and exit there. On one visit, Scott showed me an abandoned street car route and his pickup truck could barely climb the grade. I can't imagine how they ran street cars on that grade, but they did. When I first saw George's layout, I knew he was modeling Pittsburgh. Trolleys and mountains don't seem like the natural combination, but if you are in Pittsburgh they are. Tunnels are another part of Pittsburgh. They are everywhere. Take a look at George's layout. He modeled the street running at the base of the cliff just like it would be in Pittsburgh, and the steam railroad going under it and into a tunnel. This is it, George has evoked the feeling of Pittsburgh is a small setting. You get the idea you are looking at Pittsburgh. Since we are in that area, take a look at the street bridge over the steam railroad. It is paved with wood. This was common in Pittsburgh and these are some of the things you do to get the feeling of the area.

From the bridge, our car heads out to the end of a line. Notice the trolley wires – there are two of them. When trolley lines get to a switch, there is usually a frog in the trolley wire just like there is in the track. The trolley wire frogs can be a problem sometimes, and Pittsburgh Railways did it different. George was really getting into this while he was explaining it to me. In another sense, our models are an introduction to tell visitors about our favorite railroad subject. As we explain our models, we are telling people what we know and how we learned it. Now, back to the wire. The way Pittsburgh Railways operated was to have two wires on the overhead. The car operator would put his pole on the wire to the right of the direction he was going. Then, when he got to a passing siding, the wires would diverge and one would follow the track into the siding. By doing it this way, it eliminated the potential for the pole to follow the wrong route when going into a siding.

At the end of this, line there is a small loop. On prototype traction systems, curves of 50 feet radius are normal. This is one of the attractions to traction modeling, you can run prototype curves. That 50 foot radius curve is about 12 inches in O Scale. At these loops, the tracks usually go off the street and into the loop. In normal operation, these loops are places to end a run and start a new one. On this one, there is a small rest room in the center for the car operator to use. Notice how George has modeled the worn path from the car stop to the rest room. Also notice there are two paths. During rush hours, these loops would collect cars and would then space them out again to start their runs. The second path is where the next car would usually be parked and waiting to go. George was explaining all of this to me as we were looking at the layout.



You have probably noticed the detail of the brick work in the streets on George's railway. He spent time photographing what was left of old lines around Pittsburgh. Notice the bricks outside the rails are laid with the direction of the rail and between the rails they are crossways to the rail. George felt these details were important and wanted to do them on his model railway.

If you look closely, you will see a signal on the pole where the second car would stop. George was so fascinated by how the line side signals worked he had to model them. This generated a lot more conversations with Scott Davis. The signals on a street railway act to space the cars out as well as prevent collisions. At the loop, the second car would pull up to his signal short of the actual loading point. When the car ahead got an amber signal to proceed out on the single track, the second car would still have a red signal. When the first car was a ways ahead, the second car would get a clear signal to move to the stop and pick up people. He would get An amber to enter the street when the first car was some distance down the street. The signal system also used counters.

George was reading Charlie Pitts' article in the September/October 2015 issue of THE O SCALE RESOURCE and got inspired to light one of his cars. This is the work in progress.

George likes to use Hydrocal® plaster for his streets. He was telling me it is stronger and easier to carve than regular patching plaster. He made these tools out of "T" pins to carve the mortar lines for the brick into his streets. He drags the tool along to make one direction of the mortar lines. Then carves the other lines with a single point tool. Sometimes the plaster chips out, but that actually adds a lot of realism to the pattern. Spreading the plaster is also not a perfect smooth surface. Streets have a crown to them and this shows with your hand work putting the plaster down.

This view of one of the loops on the layout while under construction gives you a good idea of some of the tools you will need. George likes to use Hydrocal® plaster for the base of his streets. The brick and stone work will be carved into the plaster street as he is doing here.

As cars entered a loop they would trip a counter. The counter would reset as the cars left the loop. It was a way of keeping track of how many cars entered the loop and how many left with out having to have separate blocks for them all. As an example if 5 cars entered the loop and only 4 left the inbound signal would still show the loop had a car in it. The inbound operator would know there was a car ahead of him and reduce speed accordingly. Besides finding out how it all worked George had to model it. He scratch built many of the signal components for the line and all the signals are light.

As we leave the loop, we go over the steam railroad at the tunnel and enter another loop. This is Avalon loop near where George grew up. George had the original track plan, and was going to model it as it was. As he started thinking about how he wanted to operate his railway, he modified the track plan a bit. Not only did he modify the track plan, he made it look like the railway modified theirs also. Look closely at the photo and you will notice unused rail still left in the street. All that track work had to be scratch built, and George even took the time to scratch build track that would not be used. Look at the brick work in the street. There was even a story for this. If you notice, there are sections with red brick and sections with gray stone. George told me some sections of the railway were built to initial specifications with cut stone paving blocks. As time went on, the specifications changed and some areas had red brick. And, there is more to the story.

Not all streets in Pittsburgh were paved the same way and George modeled some of each type. This section has quarried and cut stone instead of brick. After George has the base street done in Hydrocal®, he gives it a light color wash to seal it. Then he cuts the joint lines in with his homemade tools. Following this, he gives the street a darker wash. The dark wash will soak into the raw Hydrocal® where he has scratched the joint lines, and wipe off of the previously sealed top of the stones. The result is on the right. When cutting the joint lines, he gets some broken corners which add to the effect.

The Pittsburgh area has lots of massive retaining walls made with cut stone. George photographed some like this one for reference. He made them on his model railway using "Pennsy" Cut Stone Walls from Scenic Express.

There are always government regulations. In Pennsylvania a long time ago when street railways were getting going, there was some legislation passed regarding track gauge. It seems the people were afraid the big steam railroads would buy the street railways to get access into towns and cities. To stop this, they made street railways 5' 2-1/2"gauge and other railways 4' 8-1/2" gauge. That way, there would be no freight trains on main streets. Not all of Pennsylvania was like this, but most of it was. Today, the Pennsylvania Trolley Museum runs on 5' 2-1/2" gauge track. As well as determining the track gauge, regulations specify where your alignment is in the street and what you are required to maintain. For Pittsburgh Railways, they had to maintain the street to the ends of their ties. So, we have yet another type of paving in the street, that which the city maintained, and that which the railway maintained.

Pittsburgh Railways had some lines that ran to nearby communities, and these lines were referred to as the interurban lines. These lines required higher speeds for longer durations than the street car lines. When the railway started running the PCC type of car, to the casual observer they were all the same. Well, not quite, as a traction modeler will point out to you. On Pittsburgh Railways, two of the features to look for are the pilots and the trucks. The interurban line cars had small bar pilots mounted under the front dash of the car. They also had a slightly different truck for a better ride at higher speeds. The normal PCC car is like stepping into a small boat when you get on the car. They have very soft springing. George is adding the next section on his layout, and it is one of these interurban lines on private right of way. As part of the feeling, he modeled a short section of steam railroad next to it. The steam railroad does not go anywhere, but is part of the scene. This also gives George a place to park steam road cars with names of local Pittsburgh area railroads. A little reminder of home.

This is the section of the layout currently under construction and models one of the Pittsburgh Railways interurban lines on private right of way. The steam road is only for effect and a place to put cars lettered for railroads around Pittsburgh. By using different ballast for the two lines, George is able to evoke the

There will be another small section added on to the interurban line, but one thing at a time. George wisely limited his railway to something he could manage and have fun creating. This was a good visit. It's fun to hear how people see their empire.

Here is a parting shot. As I was taking some photos of the layout, George took a photo of me and thought I should put it in the article. George's layout has a lot of good places to take photos and we had some fun doing it. George actually studied some photography and was a lot of help. For a future article, George and I have been talking about doing something on photographing your models. I am looking forward to it, and am sure I will learn a lot.

Making a Tunnel Portal and Finishing A Scene

By Daniel Dawdy

Way back in the July/August 2015 issue of The O Scale Resource, I did an article entitled "Planning A Scene". The track and buildings were established and some basic scenery was completed. The tunnel portal was just a free hand cut piece of pink foam to show where it was going to be placed. Now it's time get back to work.

The small town of Athens was built and featured in the July/August 2015 issue of The O Scale Resource. The tunnel mockup is seen on the far left.

Temporary fascia will allow me to place the template portal made of pink foam. Cutting and shaping the foam allowed me to see the best placement for the final version. The picture on the right was my inspiration.

The first thing I needed to do was figure out the best place for the tunnel to start. The tunnel track itself was going to be a six foot dead end. The reason for this is to give the appearance that the track leaving Athens goes somewhere, but more importantly, it gives the layout a run around track for switching the Athens trackage.

Once I had the best location for the tunnel portal, I needed to make the portal. I used a Chooch Enterprises portal on the upper track, but here I wanted something older as this line was built back in the late 1800's. It was not a mainline, but a branch with small mixed trains, and the tunnel needed to portray that feeling.

Looking at many pictures on-line, I came across a few that would be good candidates. I decided on a picture found on the Library Of Congress Website of the Chesapeake & Ohio Railroad, Blue Ridge tunnel, Highway 250 at Rockfish Gap, Afton, Nelson County, VA. The old one to the right of the new really showed what I was after.

Chesapeake & Ohio Railroad, Blue Ridge tunnel, Highway 250 at Rockfish Gap, Afton, Nelson County, VA.

Image from The Library of Congress Collection

The image above shows the old and new tunnel. This Is a general view of entrance to Blue Ridge tunnel (left) from southeast. The original Blue Ridge Railroad (Crozet) tunnel is visible at right. and it's the old portal that I wanted to try and reproduce. There is not much like this on the market, and I also wanted it now, so I had to make it myself. I started by cutting a template out of some scrap pink foam. Using the temporary fascia as a guide, I placed the portal and shaped the sides to fit. The height meets the specifications of the day – 1947 on my layout. If friends come over with modern double stacks to run, they are not going through this way!

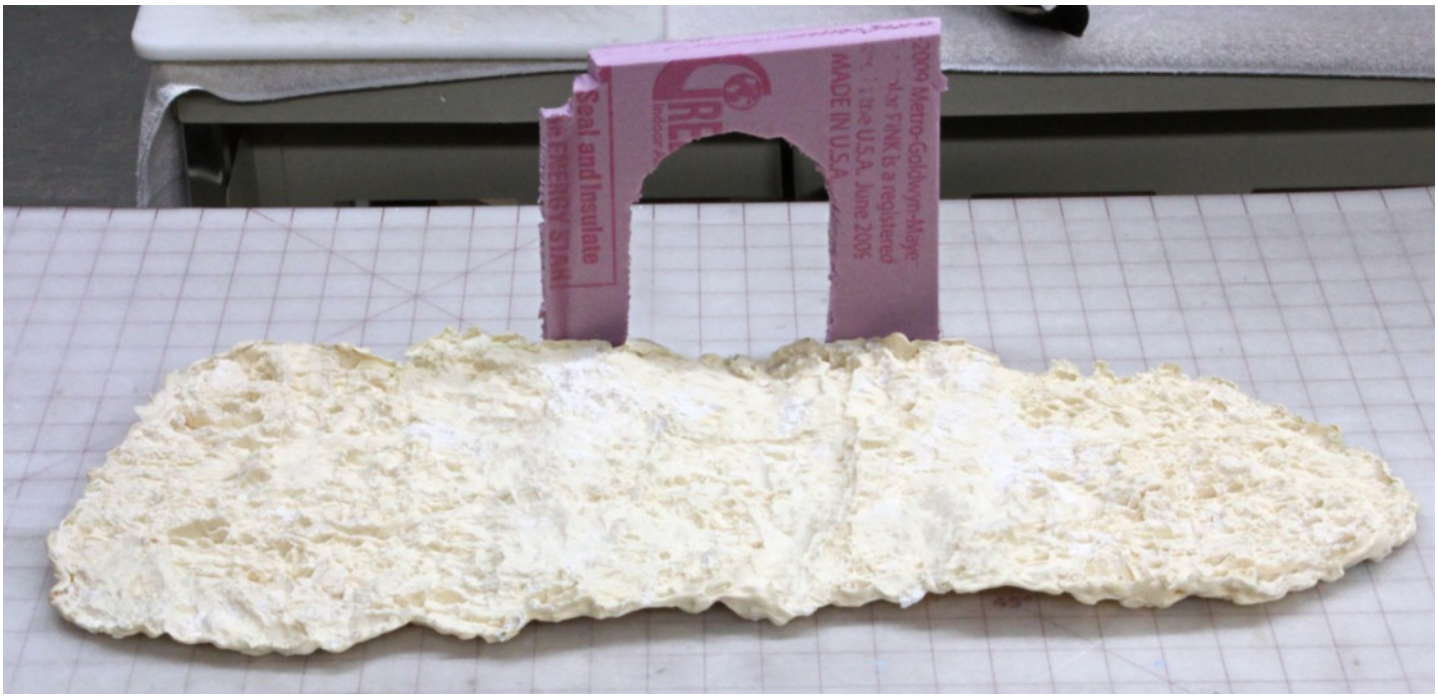
A pink foam template was cut to size using the front fascia and upper level for a guide.

Now came the hard part, how to accomplish this masterpiece I had planned. Remember way, way back (March/April 2014 - Senery - On Our Own) when Amy and I, using all we learned from Gary Engle, did the large wall using rock molds?

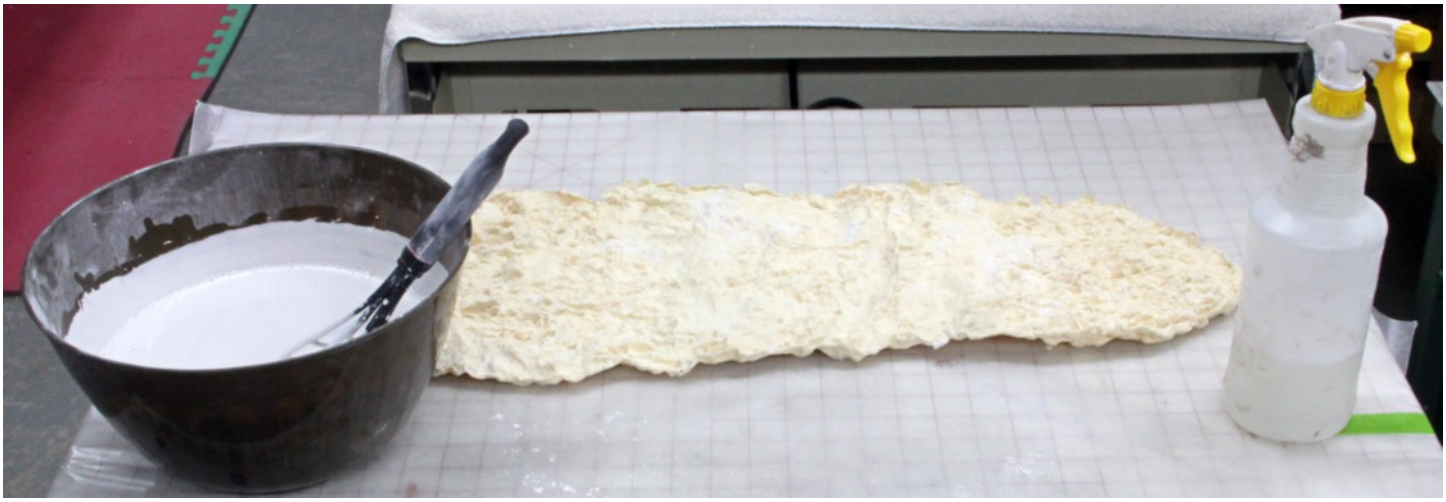
That should work (hypothetically anyway). Finding a large rock mold that matched the rock that would appear above the scene, I figured I could get two portals out of one cast. I never hurts to have a spare. Below are the steps I used to make my portal.

The Hydrocal® was mixed as in the regular rock molds we made. One cup water to about two cups Hydrocal®. Once the mold was sprayed with wet water, I poured and used a cheap paintbrush to move the Hydrocal® around and fill all the nooks and crannies of the mold.

Now it's time to wait for it to set up. If you wait too long to flip the mold, you'll never get an Exacto knife through the setting Hydrocal® to carve out the portal. Flipping the mold too early will result in have mess running all over the table.



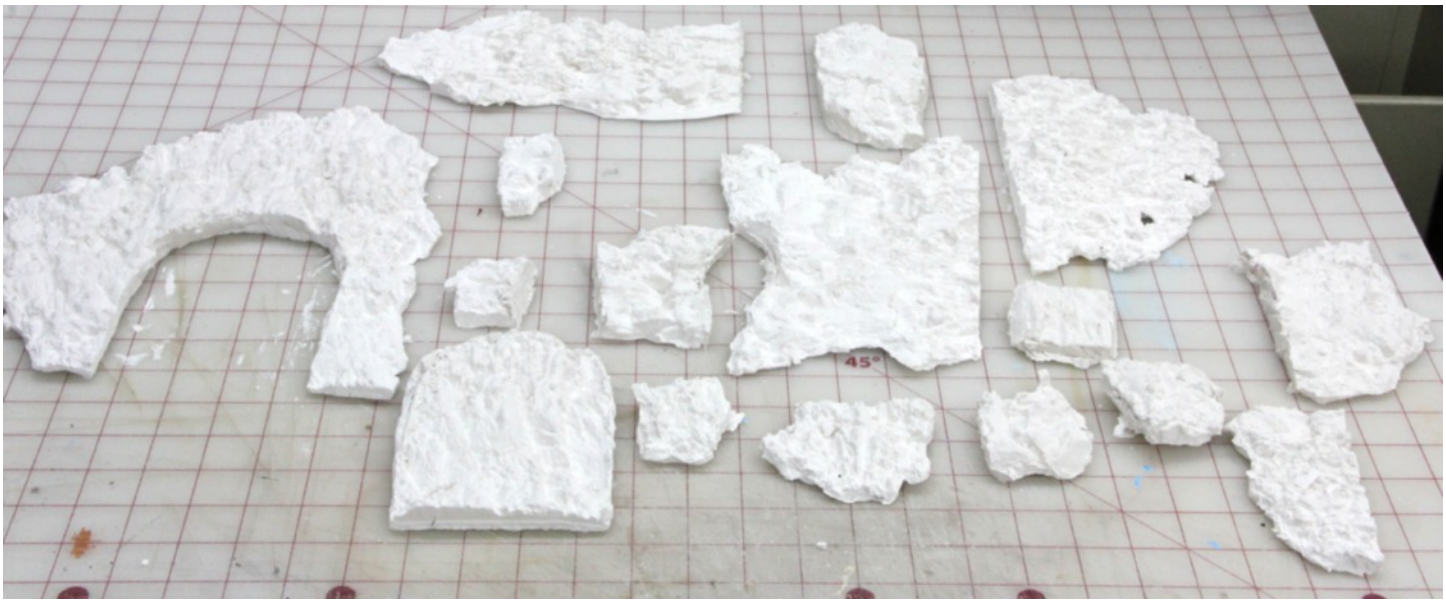
This is my cut template portal with a large rock mold.
You can see below that I should be able to get two portals from one casting.



Here is the Hydrocal® mixed and ready to be poured. The mold has been lightly sprayed with wet water, which is simply water with small amount of liquid dish soap added to it.

The mold is full, and now it's a waiting game. This will be a big mess if you flip too soon. Conversely, if you wait too long, you will never be able to slice through it.

I kept touching the Hydrocal® as I wanted to just see my finger print in the setting Hydrocal®. At that point, I flipped the mold, and using my foam template, cut around the outside, as well as, the center hole. I had to work fast because the rock was really setting up. If I made a mistake, all I was out was a few cups of Hydrocal® so there was really no money involved, just my time. That turned out to be a good thing because on my first attempt that I was so proud of, Amy walked over and said, "they're backwards". What? Yes, I sliced the Hydrocal® with the template laying on the casting with the wrong side up! There was no way I could use them since one side of the template was much wider than the other to fit my spot. Golly gee whiz, was I ever unhappy. Well, thankfully I only wasted a little time.



The new portal came out fantastic, and after breaking the other half of the mold I had lots of smaller pieces I could use in other places such as hill sides as protruding rocks on the layout. It was at this point that Amy looked and "announced the world" that I had messed up and the portal was backwards!

OK, reboot the entire process this time laying the template the right way on the Hydrocal® *and then slicing the large casting. This time I waited a little too long, so I had more of a mess as the casting was tough to cut, but I also had two good portals "the right way around"!*

As shown on the previous page the second time around worked and I had a good portal casting. It needed a little touch with the Dremel, but I was happy with it. Now that it was finish the real hard part began.

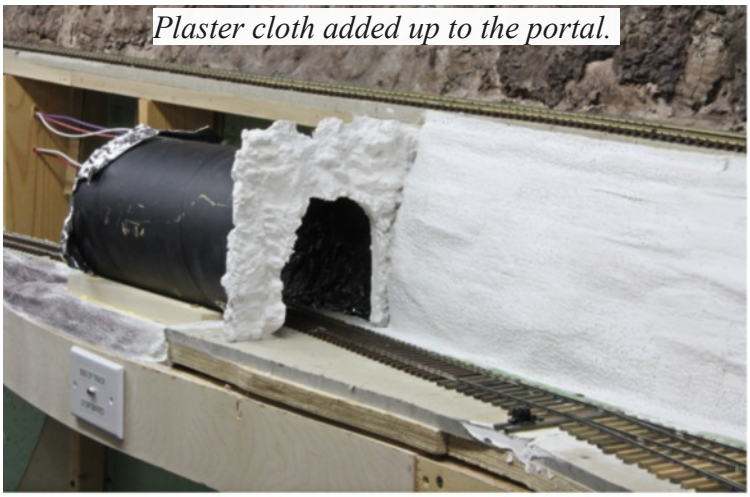
The new tunnel portal in position with temporary Masonite fascia for fitting.

The pictures on the next page are a collage of how this went together up to this point. Cardboard strips were cut and hot glued in place extending the work that was already in place behind the town of Athens. The tunnel itself was a cement tube with foil inside as I described in the March/April 2015 issue of The O Scale Resource. The portal was set, and I needed to build a small wooden frame on the inside facing side for better support.

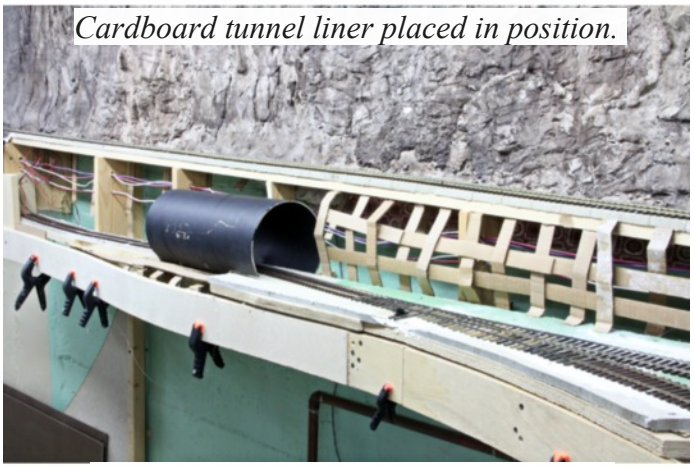
Once all of this was completed, I had one more thought, and that was how will an operator know how far into the tunnel they can go before hitting the end? Azatrax had a small and simple detector using IRC LED's (Infrared LED's). I installed the LED's in the center of the track about 6 inches from the end, and then wired the warning LED to a faceplate on the fascia with a dire warning. Anything rolling over the LED's will cause the panel LED to turn on.

Laminated fascia installed and cardboard strips waiting for plaster cloth to be added.

Plaster cloth added up to the portal.



Cardboard tunnel liner placed in position.



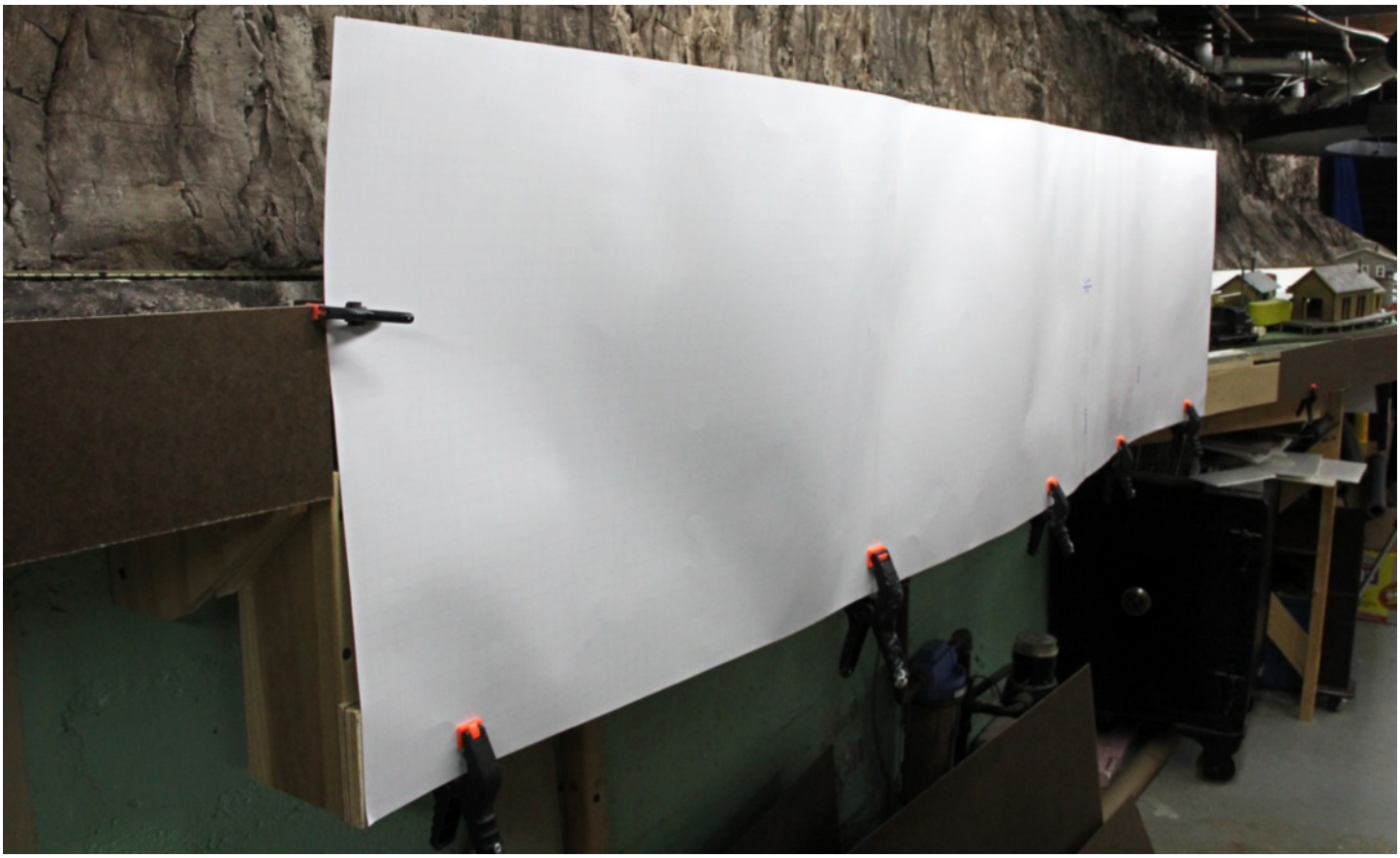
Rear view of tunnel liner.

The Portal was added and fit into place.

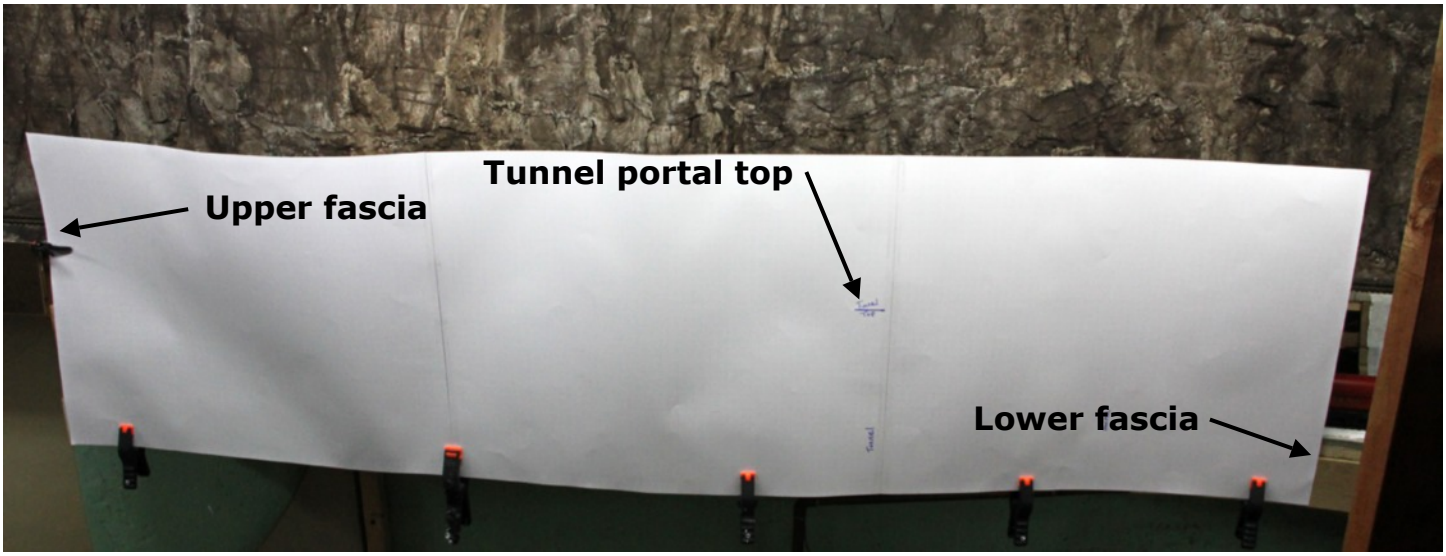
Below is a view of the completed portal and tunnel liner as seen from Athens yard.

An infrared LED was set about a feet before the dead end that will be inside the tunnel. When anything rolls over it, the "End of Track" light will come on as a warning.

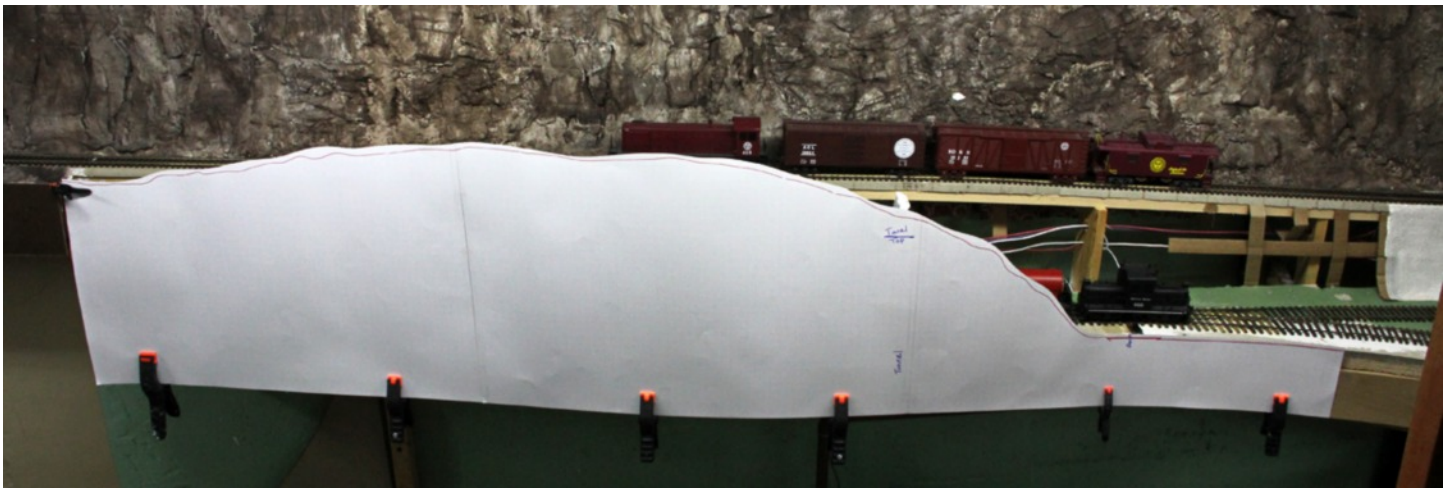
To add visual interest, Glenn Guerra suggested I make a "cut" hiding some of the "Widowmaker" as it heads up to the second deck. This was a good idea but how was I going to lay it out and make it look good? Amy, ever the quilter, said "use a paper template". Ya right, that's not going to work well I thought, but said, "Dear, how would you go about this?" Poster board, she exclaimed. You take off the temporary fascia and I'll be back in a few. Off she went with that smug expression of "you really do need me" and I went back to work as directed. Putting the casting in a safe place, I was NOT going to make more, I removed the clamped on fascia and waited. Amy came back with some poster board, and I could see that this just might work after all. Taping two of them together and then cutting for the proper width, we had a wall of stiff paper. I marked the three locations I needed to hit to make the fascia work: the lower fascia on the far right, the top of the new tunnel portal, and lastly the upper fascia on the far left. After marking those, I simply freehanded a sweeping line connecting to marks as I went. Using a scissors, I cut just above my line. I figured I could always adjust lower if need be. Once I was happy with the look, the paper was removed and laid on a piece of 1/8" Masonite which is the final outer fascia material.



The wall of paper was going to be our template for the cut hiding part of the upper main and forming the reason for the tunnel.



I had three marks to hit, the far right top of the fascia, the top of the tunnel portal and the far left upper level fascia. Now, I could freehand a long curving line and hit those points.



I cut a little higher than I thought I would want as it would be easy to adjust lower from there. This gave me the shape I wanted that I could then transfer to the Masonite fascia and cut.

This is what it looked like looking up the hill. There's still a long way to go, but it's taking shape.

The cardboard strips are in place and waiting for the install of the cut Masonite. At this point, I also decided the red was not working, so I came back over with colored Sculptamold for more strength.

Once the Masonite was cut, it was attached to the laminated fascia boards. The fascia on my layout is a series of three 1/4” pine strips glued together to form a very strong laminate. The Masonite is glued to that as a finishing piece that takes paint beautifully.

Now it's time to tie all of this together. Cardboard strips were added from the upper track over to the Masonite and hot glued to the new portal. More strips were added from the portal back toward Athens, and the area was then ready for plaster cloth. Once that had all set up, Sculptamold® was added to blend everything together, covering up the dark red paint that was supposed to look like Tennessee red clay. As you can see, it did not look convincing, so it was covered up.

This shows the tinted Sculptamold® in the foreground. Amy colored to portal casting using PanPastels® and dry brushing. Ballast was added along with real dirt, and it was completed for the open house.

Tinting the Sculptamold® a dirt color was challenging. The first few times it looked like chocolate ice cream, but then I got a formula down. That was as far as I was able to get before our open house for the Chicago Show back in April.

All in all, it was a fun and great learning experience. Not only have I been able to build my own retaining walls from my plaster molds (March / April 2015 Issue), now I can make my own tunnel portals. Next on the agenda are roads and ground cover to complete this area of the railroad.

Ballast and lots of real dirt were put down throughout Athens. The next step will be more scenery, including roads, turf and static grass.

Scene Around the Layout

We are proud to feature reader's work. Depending on your response, we would like to make this a regular feature. So get those cameras and cell phones out and start shooting!
High quality JPG or TIF files only.
Email to scene@oscaleresource.com with a description of your picture.

Dale Olson from Calgary, Alberta writes: The attached photo was taken on my friend Rick Reimer's On30 Ruphe & Tumbelle Railway. In the picture, the afternoon local freight has just arrived in the town of Tumbelle. The building on the left is the home of "El Diablo Dies, Deals & Caskets". The gable and turret of the local station is seen at center poking up above the train. The small shack on the right side is just another typical railroad structure. The buildings were scratch built by Rick. Tumbelle is the western terminus of the Ruphe & Tumbelle Railway.

Jeff and Darcie Lang says, My friends and I have been doing a lot of scenery for the NMRA National Convention. (See there full layout in the September/October 2015 Issue of The O Scale Resource)

Mike Luczak writes: I wanted to say i really appreciate the magazine and enjoy the visit to your house / railroad. I wanted to submit a few pics for consideration in the magazine. This is my small engine terminal layout.

Top: Lazy afternoon at the ready tracks.

Left: Roundhouse is busy tonight.

Oddity

n. 1. One that is odd. 2. The state or quality of being odd; strangeness.

By Daniel Dawdy

Many people take photos of engines and even cars, but most stop at that. I, on the other hand, just love to shoot things that I may want to model in the future. I love to model details and have people say, "Must have made that up… never seen a real railroad do that.". That's when I whip out the picture to show them that indeed the real railroad did.

Caution: This tactic does not make many friends :-)

I guess if you had an outdoor layout you could replicate this scene… but no smoking!
The Amtrak Empire Builder is being pulled into Winona, MN with the help of Milwaukee Road switcher after hitting track equipment that sliced through the entire train. September 1986

What's on your workbench today?

This series shows our readers what other modelers are working on, and we need your help to make it successful. All that's needed is a simple snapshot of what your workbench looks like and the project on it. Send us a picture or two along with a short description of what you are working on so we can share it here. If it's a project under construction, send it in. Repair job, send it in. Completed project, send it in. Send your pictures and descriptions to daniel@modelrailroadresource.com

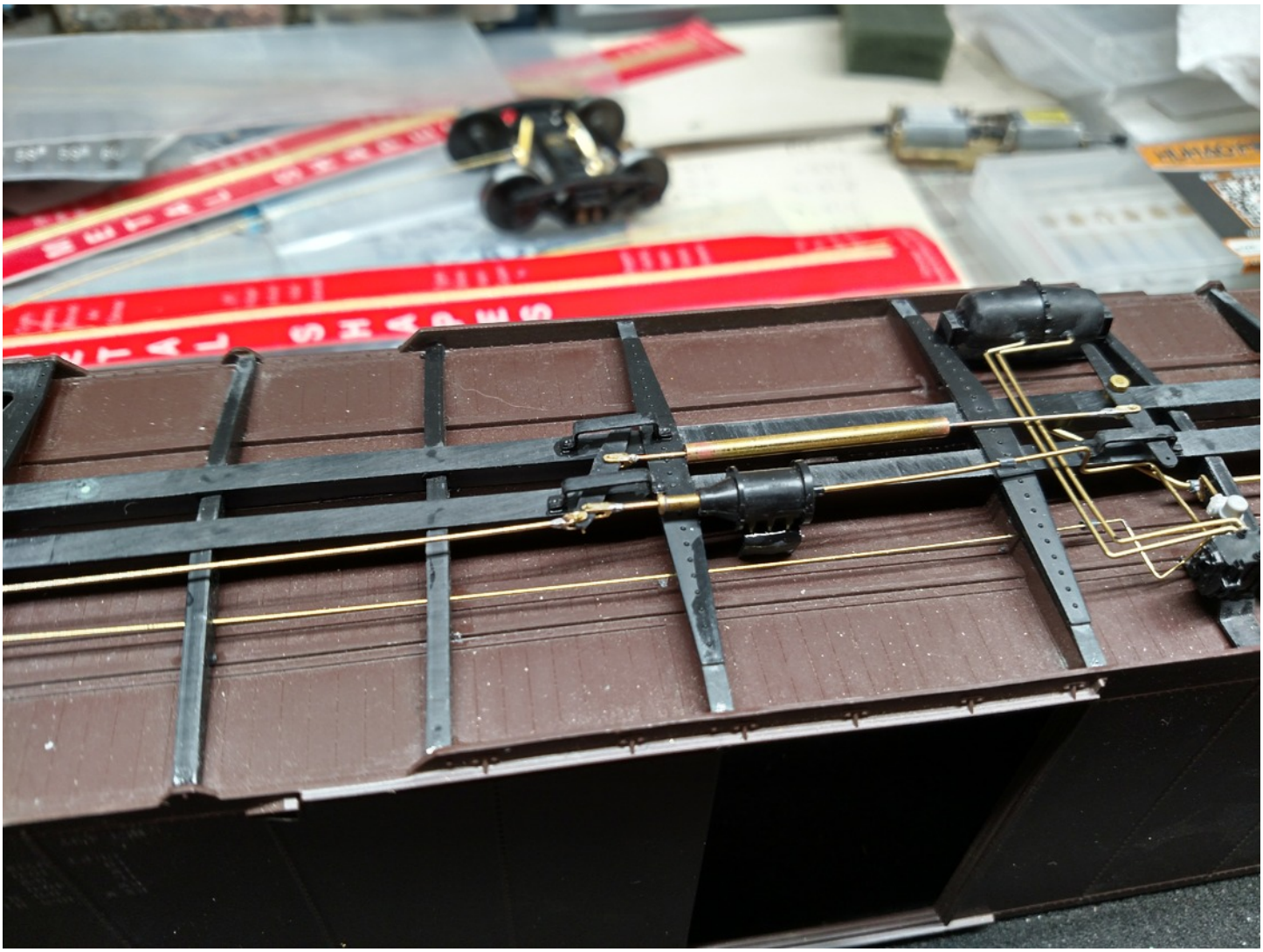
By Jamie Robinson

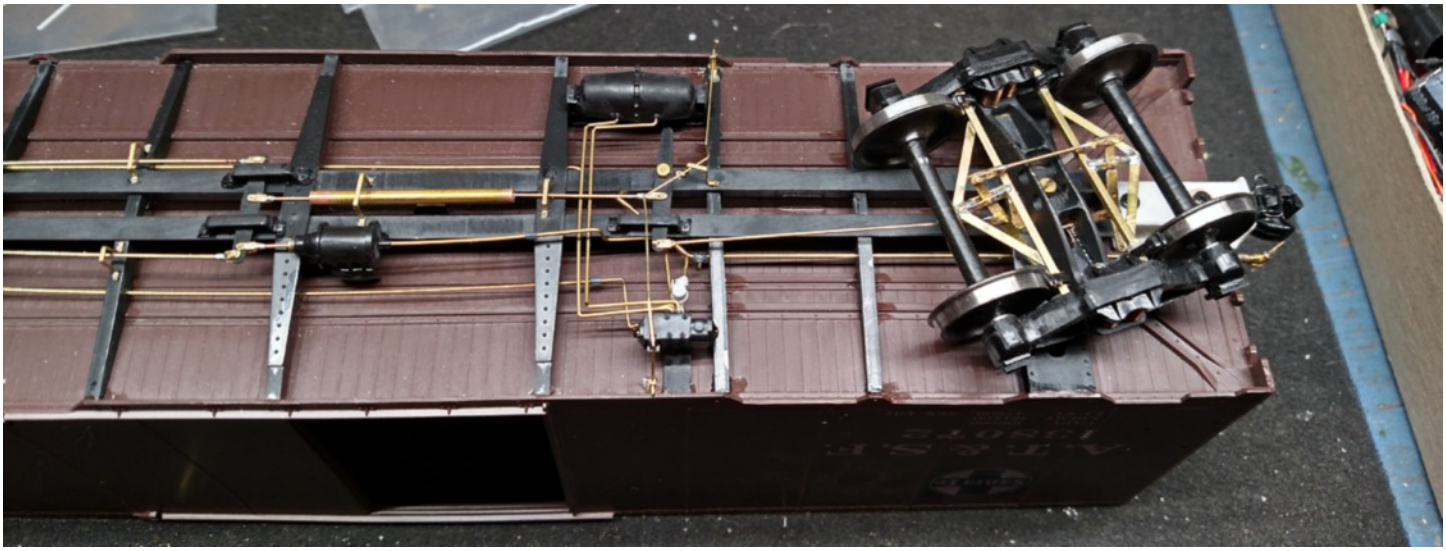
My workbench. I have a layout that is HO, but am now working in P48. I haven't taken the old layout down yet since I still have a bunch of HO stuff.

On the bench is an Intermountain boxcar kit being modified to have working brakes. The truck brakes are fully operational; I'm working on making a functional handbrake and scheming on how to activate the brake system for road service. At this point, I'm leaning toward a small solenoid activated by a magnetic reed switch waved over the car, but it's still very much in flux…

What's on your workbench today?

What's on your workbench today?





O Scale Shows & Meets

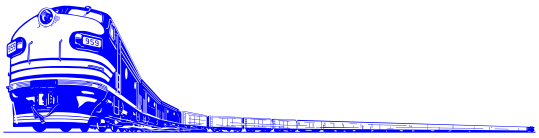
The O Scale Resource Magazine will now be providing a free listing of upcoming events. This small, text only listing will include the Event, Date, Location, Type of Event, and Contact Information. **Click here** to go to the sign up form. This form will take your information, and we will publish it in our next issue. If it is an annual event, you will need to submit your information every year.

The 48th National O Convention Indianapolis Indiana
September 22-23, 2016
Wyndham Indianapolis West
2544 Executive Drive Indianapolis, IN
Please come join us in Indianapolis September 23rd and 24th at Wyndham Indianapolis West located at 2544 Executive Drive, Indianapolis, IN 46241 317-248-2481 to make your room reservations for the 48th year of the Indianapolis 'O' Scale Convention

Southern New England O Scale Model Train Show and Open House
October 1st, 2016
161 Chestnut Street Gardner MA 01440
Dealers, Displays, 2-rail, P48, 3-rail scale for sale. The Club's O Scale layout with its 850' double track main line opens at 10 AM. Free Parking and lots of great homemade food.
Contact Maynard Stowe, Phone: 413-369-6010 or
sneshowchairman@snemrr.org
godfreys78@aol.com

Eastern Pennsylvania O Scale Show
October 14th, 2016
Strasburg Fire Department
Strasburg, Pennsylvania
Email: jdunn8888@hotmail.com

The Fall 2016 Mass Transit & Trolley Modelers' Convention
October 15-16, 2016
The Parsippany PAL Center, 33 Baldwin Road, Parsippany, NJ 07054
Transit & Traction Modeling, Transit memorabilia - sales and operating layouts.
Email: transitmeet@yahoo.com
www.facebook.com/nycmodeltransit



23rd Annual Railroad Prototype Modelers Conference
RPM Chicagoland (aka Naperville RPM)
October 20 - 22, 2016
Sheraton Hotel and Conference Center, Lisle, IL
mike@rpmconference.com
http://www.rpmconference.com

Southwest O Scale Meet
October 22, 2016
Saturday at Ft Worth Academy gym, 7301 Dutch Branch Rd, Ft. Worth TX 76132
Friday 10/21: tour the GE locomotive plant; north Ft Worth layouts and dinner. Saturday sales / trading / clinics south side layout visits
Email: swoscalemeet@gmail.com
www.oscalesw.com

Cleveland 2 Rail O Scale Meet
November 5th, 2016
Lakeland Community College Auxiliary Gym 7700 Clocktower Drive Kirtland, Ohio
Email: J1d464@yahoo.com

O Scale South 2017
January 14, 2017, Atlanta, Georgia,
Two-rail swap meet at the Cross of Life Lutheran Church, 1000 Hembree Road, Roswell, Georgia, 9AM-1 PM. Modular layout and clinics. Admission $5 (spouses & children free). Tables $25. Layout tours on Saturday afternoon and on Sunday, Jan 15, 2017.
Website (www.oscalesouth.com) (PENDING)
Email (oscalesouth@gmail.com)
Dan Mason at 770-337-5139

Chicago March Meet
March, 17, 18 and 19, 2017
Weston Lombard Hotel
Lombard, Illinois
Email : info@marchmeet.net
Web Address: marchmeet.net

O Scale West 2016
TBA

Have an upcoming O Scale event? We would like to help publicize it. Send us the information up to one year in advance, and we'll place it here along with a direct link to your Website and/or Email.
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