THE S RESOURCE

S SCALE

NEWS, REVIEWS, INFORMATION TO USE

October/November 2017
Volume 4 No. 1

NASG National Meet

South Jersey S Gaugers

Extended On The Workbench

Indianapolis O&S Scale Midwest Show

Practical Lighting - Working With SMD LEDs

Shows, Meets and So Much More...

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S Scale Midwest Show

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Bill Of Lading

Published Bi Monthly

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October/November 2017
Volume 4 No. 1

Welcome to the online *S 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

South Jersey S Gaugers layout at the NASG National Convention. Photo by Glenn Guerra

Rear Cover Photo

South Jersey S Gaugers layout at the NASG National Convention. Photo by Glenn Guerra

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

August and September were pretty hectic months for us here at The Model Railroad Resource as we were not only working on the magazine, but also finalizing the details for the Indianapolis O Scale Show and S Scale Midwest Show that was held this past weekend, September 21-23 at the Wyndham Indianapolis West. After a bit of a bumpy start, our first show went smoothly, and the show was well received, setting the benchmark for future shows. We had a great time, and enjoyed meeting a lot of new people. There's a brief overview of the show in this magazine, and we will publish a more detailed "behind the scenes" look in our next issue.

Speaking of shows, this issue also brings you a look at the 2018 NASG National Meet that was held in Baltimore, Maryland. Glenn Guerra made the trip, took some great pictures, had a nice time and shares his observations with us.

While at the NASG National, Glenn had a chance to speak with the South Jersey S Gaugers about the construction of their portable layouts. Mike McConnell submitted an interesting article about what goes into the construction of a portable layout, and the lessons learned along the way.

As I mentioned, we've been pretty busy. That being said, we decided to re-publish an article entitled "Practical Lighting - Working with SMD LEDs" that first appeared in the March/April 2014 issue of *The O Scale Resource*. Since lighting is not scale specific, we thought we would re-run the article in this magazine. Even though all of our articles are archived, some of you may have missed this great article, especially since it was published before *The S Scale Resource* had even debuted in October/November 2014. I can't believe we're going into our fourth year of publication!

Next issue, we promise to get back to modeling and construction articles.

As you know, for the last issue put the word out on our FaceBook Page asking for help with that issue. You, our readers, responded, but we want, and need to, continue to hear from you! Send an Email to Daniel Dawdy, daniel@modelrailroadresource.com, or call 815-584-1577 and let's talk.

Happy Reading & Happy Modeling,

Amy Dawdy

NEWS YOU CAN USE

Concept Models has released a kit for building a 10,000 gallon chemical tank car. The kit is available for making the Hooker Chemical or the Baker's Chocolate Tank car. The kit is provided less trucks and couplers but includes the decals of choice. The kit is priced at $49.99 and is shipped within 10 working days or less. This is a standard length 40 scale foot car and should accommodate most layout radii.

Also from Concept Models is a kit for building the multi-ringed cryogenic tank in S Scale. The car measures approximately 60 scale feet and is suitable for most S Scale layout track radii. The kit is priced at $49.99.

Long a producer of HO heavy duty depressed flat car kits, Concept Models is now releasing their special flat car kits in S Scale.

See their Website for all the details.

East West Rail Service is announcing a new S scale Coal Trestle kit. This kit is a joint project with Roy Meissner of Bark River Scale Models.

The Coal Trestle closely resembles many early coal trestles found in the United States. When assembled, the model has a footprint of 6" W x 8 ½" L x 3 ¾" H. The trestle is laser cut and includes a one piece tie assembly for laying your rail (rail not included), a walkway on each side of the rails, a

safety fence around the perimeter of the trestle, an access ladder and three resin cast abutments.

The kit is designed to accommodate one two bay 30' hopper. If you desire a coal trestle to accommodate longer or additional hoppers, multiple kits can be joined together to meet your needs. Additional abutments can be purchased by contacting Roy Meissner at rmeissner@wi.rr.com. Availability is scheduled for the end of September. Price Per Kit: $40.00

To view additional images of the Coal Trestle or download a copy of the assembly documentation, visit www.eastwestrailservice.com.

Daniel Navarre from River Raisin Models sent us an update on their Early Berkshire Project, B&A, B&M, AT&SF, SP and IC Versions.

The Early Berkshire Project is well underway, with the August receipt of three sample models. The samples are exciting versions of the Southern Pacific, Boston and Albany, and the Illinois Central Railway. The final corrections are being made and construction is now underway for the production run of the Early Berkshires. The production run is planned for completion around the end of this year.

These models are available with Loksound Select DCC Sound, with factory installed ESU's Full Throttle files. This option must be pre-ordered with your reservation. There are still a few unsold models available in this limited run production. Contact River Raisin Models to check availability of your favorite version. All five versions listed above are being produced in fine S scale brass and factory painted and lettered. Below is a photo of the sample models.

See their Website for full details.

James Bester from Model Tech Studios LLC has some new S Scale figures.

Mitch is pulling his work dolly loaded with the daily supply shipment. Includes the loaded supply dolly and the freight worker "in action" pulling it in to make deliveries. S scale Working figure series. Comes Finished and layout ready for you.

It's cleanup day… the company janitor, Fred, is pulling his loaded and heavy trash dolly. Create "in action" worker scenes to make your detailing come alive. Perfect for any industry, retail or other scene to show a cleanup in progress.

See these and all the S Scale products at Model Tech Studios LLC

Precision Vintage Classics announces a new kit. The Denver & Rio Grande Western 6600 series Flat Car in Sn3. In the fifties, the discovery of oil fields in the Farmington, New Mexico area and their intensive development brought a very important traffic to the Rio Grande narrow gauge, particularly on the Durango-Farmington branch line. To deal with this influx of traffic, the D&RGW built 103 flat cars 40 feet long with a capacity of 25 tons (#6600 to 6694 and #6400 to 6407) between 1955 and 1957, using the steel frames of standard gauge cars (boxcars and stock cars) and equipped them with Andrews trucks salvaged from retired narrow gauge stock cars.

The Durango & Silverton is using some of these to make open tourist cars. These kits will consist of a Resin molded flat car and wood deck with trucks and couplers. On30 will have Bachmann trucks. Load Shown Not Included. SK13 Sn3 with trucks and couplers $40.00.

See their Website for more information.

Pierre Oliver's Yarmouth Model Works is now applying the finishing touches on its upcoming S scale release, 2 CNR 1937 AAR boxcar kits. These resin kits feature one piece resin cast bodies, laser cut running boards, Des Plaines Canadian ladders, custom etchings, and Black cat decals.

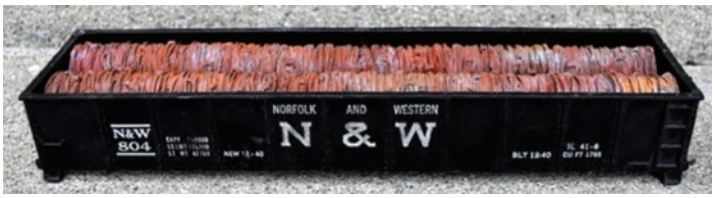
The prototype is the National Steel car built 40' boxcars built for CN between 1939 and 1945, of which some 5700 cars were built. The kit features a custom designed NSC-2 end created specifically for this project.

There will be two versions offered, one with the flat panel roof and one with the raised panel roof. Price is yet to be determined.

The kit will be available for sale before Christmas, 2017.

See their Website for more details.

Sue Wellman from St. Charles Model Works has three new S scale loads that just came out in the last few weeks.



S scale Coiled Wire Rod Load for American Flyer Gondolas

S scale Steel Pup load for American Flyer gondolas

S scale Medium Grade Coal load for American Flyer 3 bay hoppers

See their Website for more details.

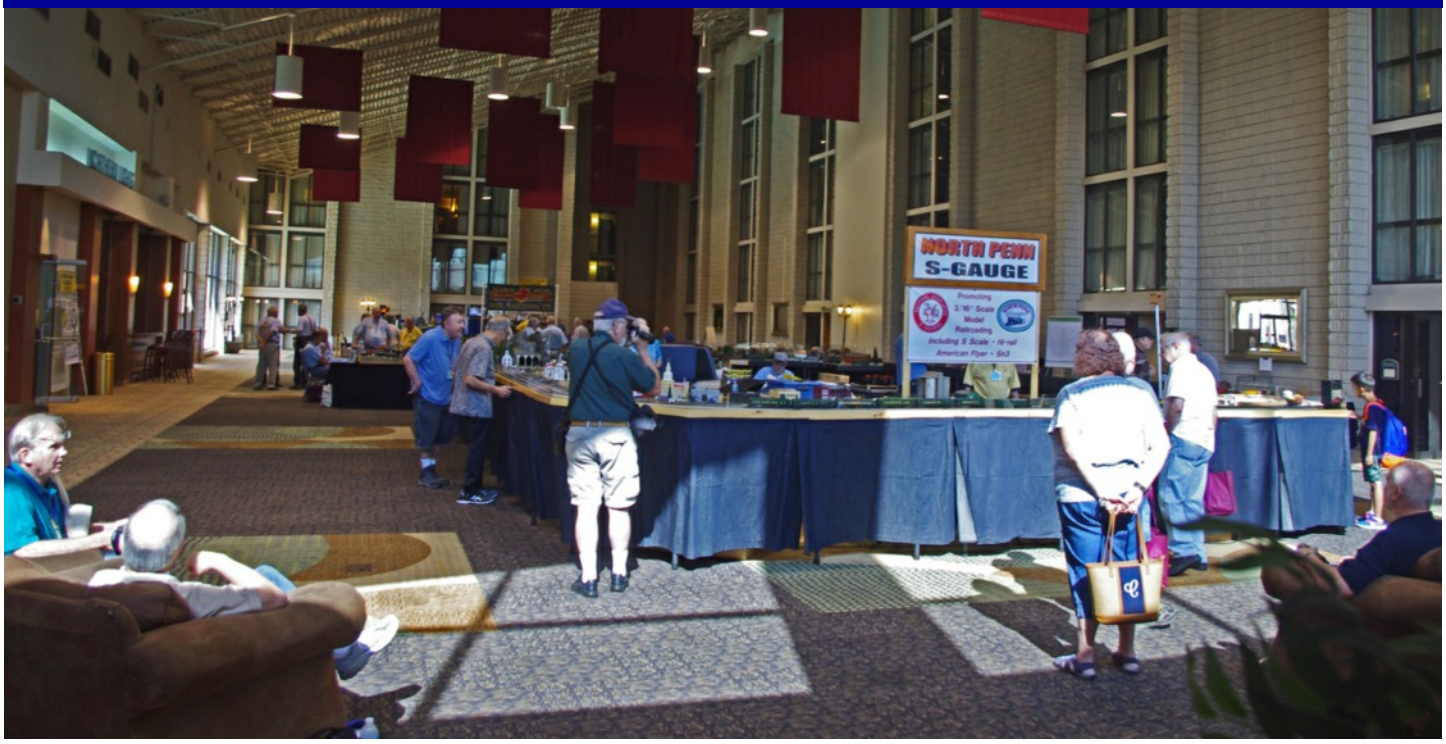
Des Plaines Hobbies/S Scale America is happy to announce our Thrall 2743 will be coming factory assembled and painted in late December (we hope).

There will be 5 road names, each with three numbers. Each will have prototypically correct, laser sharp lettering, separately applied grab irons, ladders, etched brake platform, and 100 ton roller bearing trucks. Cars will come weighted and will come equipped with American Flyer compatible knuckle couplers and wheels. Couplers and trucks will be easily converted to scale. Price to be announced.

NASG National Meet

Hosted By

Baltimore Area American Flyer Club



The Radisson Hotel had this large lobby and it worked well as a display area for the club layouts. Since this is also a public area, there was plenty of opportunity for the public to get exposed to S Scale.

By Glenn Guerra

This year the NASG S Gauge National was held in Baltimore, Maryland. The host club was the Baltimore Area American Flyer Club, and they did a great job of putting on a show. There was a large lobby at the Radisson Hotel, and they were able to fill it with portable layouts. This is a public space at the hotel so it had the function of exposing other hotel guests to our hobby. I noticed a lot of other guests looking over the layouts.

The Baltimore club has a layout of their own, but decided not to set it up and concentrate on running the show. There were other clubs who filled the void. The South Jersey S Gaugers had a nice layout with a lot of scenery on it. I was watching them move in and set up. There is a lot of thought that went into their layout and I asked them if they could tell us more about the club and layout. Be sure to check out their article in this issue! Another large layout by the Atlantic Coast S Gaugers was interesting and featured animated displays. Every section of the layout had animated displays that could be actuated by the viewer. This was a big attraction to the general public.

There were many clinics to attend. This year Ken Zieska from Minneapolis ran a building clinic. He did this last year at Novi, and repeated it this year. A modeler would purchase a small building kit and build it at the show. Ken had the kits available, and would sit all day at a table to help the modelers. When attendees had time, they would sit and work on their kits at Ken's table. These sessions with models are popular and everyone has fun. Part of our hobby is sharing ideas and techniques.

The trading halls were open for long periods of time on Thursday, Friday, and Saturday. These shows are a great way to find unusual items. They are also a great way to see what is new and talk to the manufacturers. If you plan ahead with your wish list, you may just be able to fill it.

Well, that's a brief view of what was at the show. Many thanks go to the Baltimore Area American Flyer Club for hosting and running the show. With all that being said, let's look at some photos from the show.

The South Jersey S Gaugers had a nicely sceniced modular layout. I was impressed with the engineering that went into the layout. They even had well engineered travel boxes for transporting the layout. The scenery is permanent, and the travel boxes are designed to hold each module.

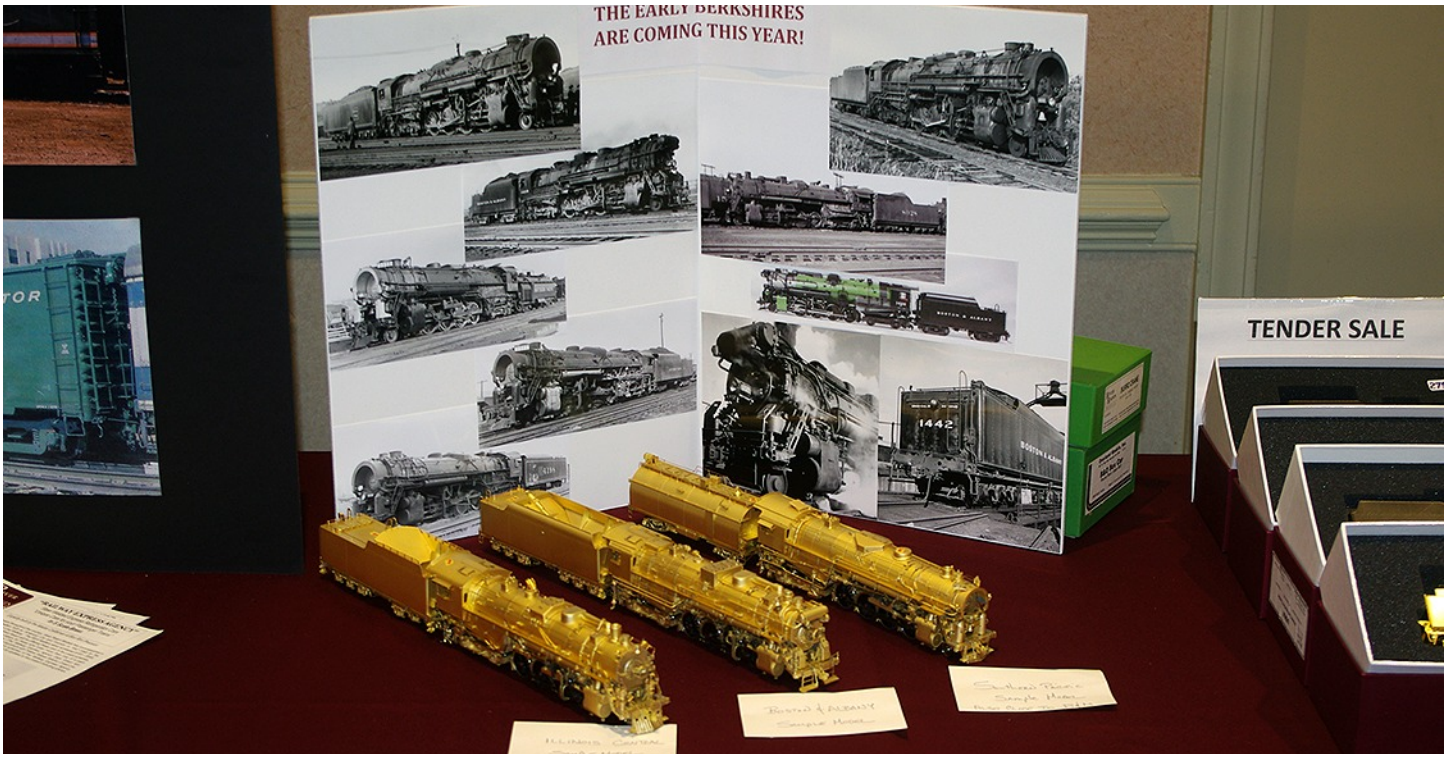
Here are a few views of the South Jersey S Gaugers layout. They show some of the nice scenery on the layout. All this scenery is permanent to the module. The travel boxes are designed to protect the scenery when the layout is traveling.

These two photos show some of the Atlantic Coast S Gaugers layout. This layout is designed to expose the general public to S Gauge. All the accessories were powered and the public could actuate all of them. This layout was popular with the public all through the show. These types of displays take the place of the department store holiday displays that so many of us remember. This is what introduced model railroading to many of us.

There was a huge spread of food for all conventioneers on Thursday evening.

This is what the trading hall is all about. Lots of stuff to pick through for that special project we have back at home. Be sure to bring your wish list to the show.

Dan Navarre, on the right, and Ron Sebastian were having a visit. Dan owns River Raisin Models and had some of his new models on display. He also announced his next project which is REA express reefers.



River Raisin Models had the first three pilot models of there Berkshire project on display. These models are entering production and will be shipping soon. Dan Navarre said the run is almost sold out so if you want one, get in touch with him soon. At this point it may be possible to add to the run, but that opportunity will be gone soon.

MTH was at the convention with this nice display. They had some samples of the EMD F-3 A and B units they are now shipping. These models are a rework of the old S Helper Service units, but they are quite improved. The people who have seen them run say they are much smoother than the originals. This should make a lot of people happy to see this popular engine on the market again.

Al Castellani from East West Rail Service was there with some new kits. The customer is holding a sample of the new coal yard kit they are coming out with. Al is working with Roy Meissner who will be producing the resin castings for the piers of the trestle. Al does the laser cutting on the wood and plastic parts. The basic kit has two bays. By adding kits together, you can make the trestle as long as you have room for on your layout. These types of coal yards were located all across the country at one time.

Another view of the new coal trestle kit from East West Model Service, and a photo of the prototype they modeled.

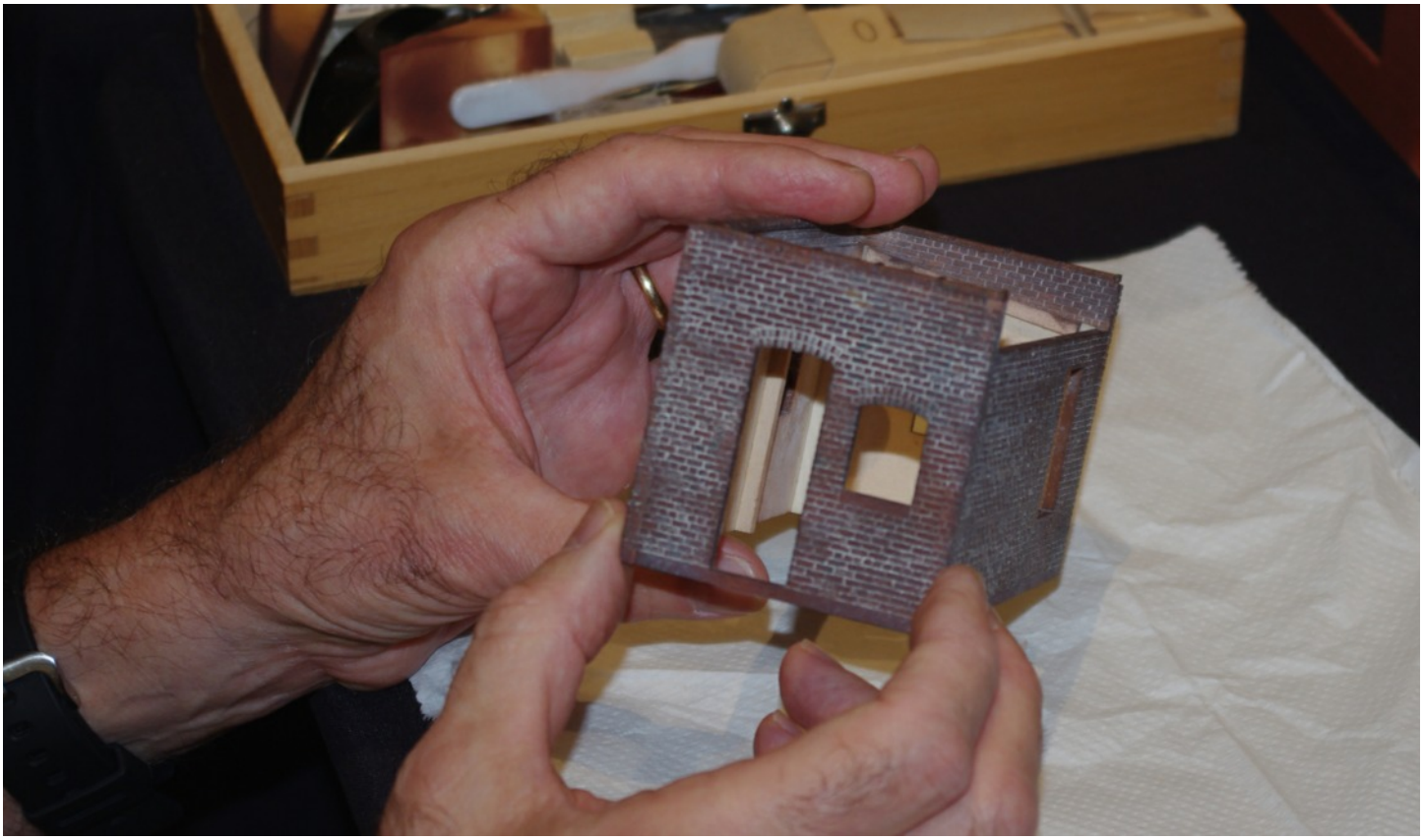
Roy Meissner from Wisconsin is a busy guy at the shows. Roy runs the NASG store and sells items at the shows. Roy also makes resin parts and detail items. In the April/May 2016 issue of The S Scale Resource, we had an article about some of the truck models Roy makes. In the lower photo, you can see some of the models and the truck dump boxes Roy sells. You can also see some of the piers Roy makes for the new East West Rail Service coal trestle kit.

There are many smaller dealers and services at shows. Going to the show allows you to meet some of these people to see what they have to offer.

Philip Kehr from Lehigh Valley Models was at the show with a big selection of building kits.

Ken Zieska, on the left with dark green shirt, ran an all day clinic for people who wanted to build a model at the show. This year's kit was a small brick building. You build it sitting at the table with the other guys. Ken has pointers and help if you need. This is the second year he did this, and it is well received.

There is a great story to go with this photo. See the photo below.



One of the modelers working with Ken Zieska on the building kits put too much white glazing on his model for the mortar lines. He was worried about the effect and thought the building was ruined. Ken told him the white glazing could be washed off with a tissue dampened with rubbing alcohol. There was no rubbing alcohol around, but the modeler remembered that he had a bottle of 14 year old Scotch whisky in his hotel room. A splash of that on a tissue and the building was saved. Modelers are so resourceful aren't they?

The model contest had a lot of categories to fit any interest or skill level. The first time you enter a contest, you can show with others who may be entering for the first time. If you win, you must bump up to the next contest level and compete with other modelers who enter contests a lot. There are categories for modifying existing models, in addition to scratch built.

These models were all entered in the modified Plasticville building contest. You can make nice building out of these kits and they lend themselves to kitbashing.

Michael Warman built this dinner. The interior detail is very nice. If you look close, you will notice this is a detailed Plasticville building. This was a separate category in the contest this year. Don't overlook these inexpensive buildings, you can do a lot with them.

I grew up in a town near Chicago and the EJ&E ran through our town. Since I am writing this article, I will tell you unashamedly these models had to be in the article. They were built from Omnicon kits by Tom Lennon, and are a very rare prototype that very few railroads had.

Stephen Kutash made this model of a New Haven class I-4 Pacific. He started with an American Models undecorated model.

After the show closed on Saturday night, those who wanted sat down for a nice dinner. The people who worked on the show were honored at this time. Will Holt, the new NASG president, handed out awards. Dick Karns then announced some of the prize winners from the model contest. We had a presentation about the upcoming 2018 NASG National. With that all finished, Jamie Bothwell got the auction going, and much fun was had y all. It was a good way to end a good show.

Construction of the South Jersey S Gaugers Portable Layouts

By Michael McConnell

Photos by the author unless noted

The first public showing of our new club layout was the 2008 NASG convention in Lowell, MA. At that time, the layout had about half of its scenery completed, the other half was temporarily covered in paper maché painted a turf brown color. At this point, we had almost eight years in the planning and construction of the layout, and it took us another 2-3 years to get it to the point it is today; fully sceniced and fully functional.

We were in no hurry to build the new layout, since we had a fully sceniced single-tier portable layout with two loops, plus a point-to-point track, that was servicing us well. We spent a lot of time in the planning stage of the new layout before construction was even started, as we wanted to address as many of the first layout's perceived shortcomings as we could.

Once construction was started, our club was blessed with many expert craftsman, machinists, painters, and electronic experts to lay a great foundation for the layout. Great design decisions were made that are servicing us well today. (We also have our share of not-so-great decisions that we are working to overcome, but that's a detail for later in the article!)

History of the SJSG's first layout, lessons learned.

Some history of our first layout and a list of the things we wanted to correct would be appropriate here. Construction of our first layout was started in May of 1995 with the purchase of four corner modules and two straight sections from member Pat Tenterelli. The club decided to build their new layout as a sectional layout by using Pat's modules as a foundation for a 10 x 20 foot sized rectangular layout. The straight sections were 2 x 4 foot, and the four corner sections were quite a bit bigger. The layout debuted at a train show in Rosenhayn, NJ about eight months later.

By our definition, a modular layout is assembled using modules that are built to exact specifications as to rail height from the floor, and rail distance from the edge of the module. The layout can be created by placing modules in any order in the layout. Scenery tends to be disjointed as each module is usually built as a complete scene. In a sectional layout, the specifications can be the same, but each section has a specific position in the layout. This tends to lend itself to scenery that flows from section to section.

The club's first layout served the club admirably for over five years before wear and tear started taking it's toll. Many things were learned with the use of the first layout, and members decided it was time to update the layout with a new one, making it bigger and better. Some of the shortcomings we decided to address were:

1. The modules size restricted design of the scenery, the 24" wide modules didn't leave much room for scenery after adding two track loops, passing sidings, a track for accessories and a point-to-point track.

2. A single-tier layout really required backdrops to aid as view blockers, and the backdrops interfered with the observance of running equipment, operation of accessories, and interaction with visitors.

3. The tracks on the sections were connected by using bridge rails between the sections. With all of the track work on the layout, we had a boatload of bridge rails to install and remove each time the layout was

setup. Each bridge rail was built in place and they were not interchangeable. That made for a lot of numbered plastic bags to organize the bridge rails for each setup/teardown. Also, wear and tear on rail joiners often made for loose electrical connections and erratic operation.

4. Scenery was not fastened to the sections. Each building, accessory and scenery item (even some of the mountains) had to be carefully removed, boxed and stored between operating sessions. Small items such as vehicles, trees, people, telephone poles, etc had to be manually placed on the layout, then collected and stored after each operating session. The backdrops also had to be carefully packed to prevent marring the photographic surfaces.

5. The sections were originally designed for Sn3, and we found they were not strong enough to hold up to the extra weight of the stuff we put on them and the modules sagged between the frames. Trains looked like they were bobbing on water going down the straights. It didn't do the connections to the bridge rails much good either. We were never able to fix this on the old layout.

6. The design of the layout had the legs clamped between the section frames when the sections were fastened together. That required four people to setup each section; one to hold the legs, two to hold the section in place, and one to clamp the sections together. Rinse and repeat as the sections were assembled for the layout. The design of the legs also made them act as the section alignment mechanisms. Expansion/contraction of the wood, and wear and tear made it difficult to setup the layout ensuring good track alignment. Frayed nerves were a common outcome during the layout setup.

7. We built racks in the trailer to slide in each straight section for transportation, and the corner modules were bolted together back-to-back to protect the foam mountains. These were loaded last and mounted to the floor of the rear of the trailer. This meant hand-carrying the sections from the trailer to wherever the layout was being assembled for display. Our members resembled a procession of ants foraging for food... the sections were followed by another procession of boxes, containers and bags containing all of the loose items placed on the layout. The curtains put up around the layout helped hide the mountain of boxes and containers used to hold everything. Logistics to track what boxes held what was a chore.

8. Time to get trains running from opening the trailer doors to operation took four or more hours to get everything just right, and that was with 6-8 members scurrying around.

9. Our decision to use American Models code 148 rail meant we could run original flyer and scale equipment. The intent was to be close enough to scale to satisfy our scale-oriented members without compromising the ability to use high-rail wheels. We fell short on our goals with the turnouts, and scale equipment didn't run that reliably on the layout. That cost the club a lot of the support of our scale members.

With all of that, we took the layout to many shows over its lifetime - and our presentation was usually well received by show attendees. The layout was fairly reliable and performed well.

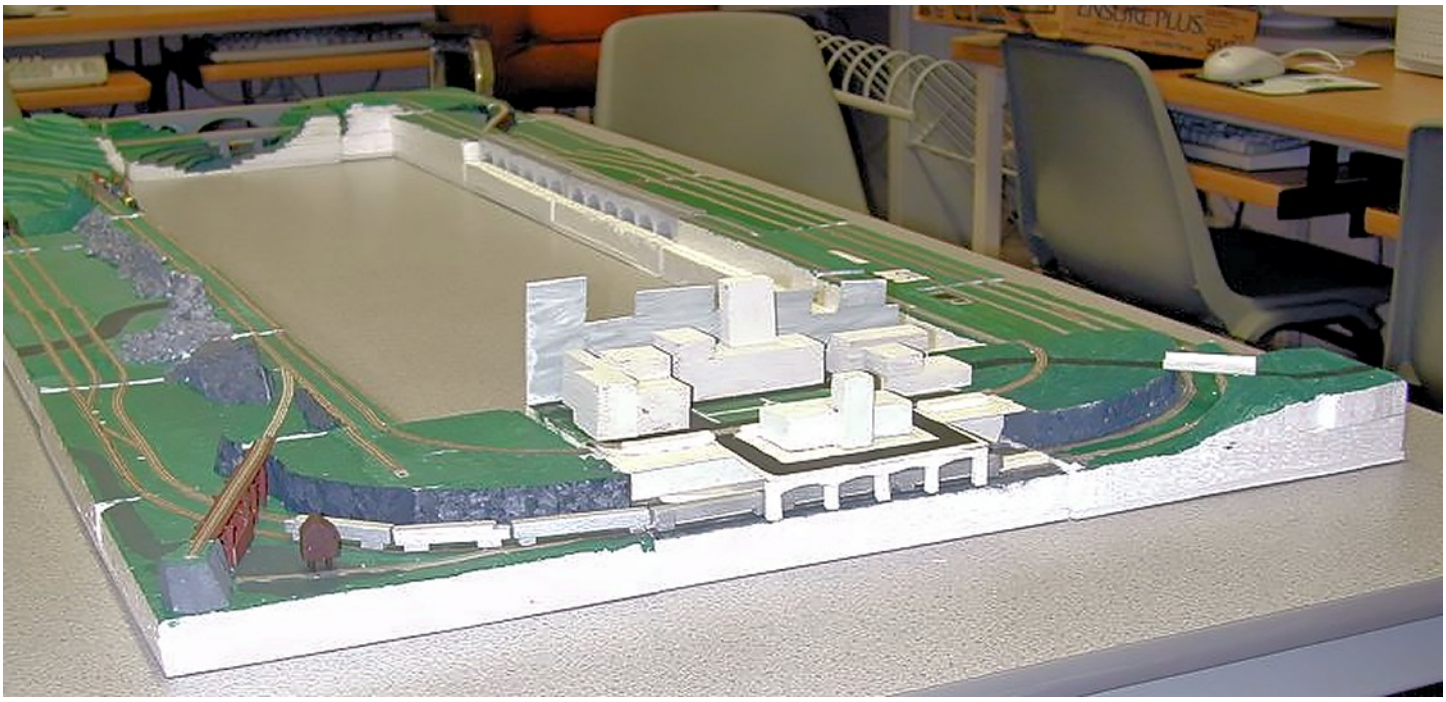
There were some things we believed we did correctly with the old layout, and we wanted to preserve those items as much as possible when we built the new layout.

10. Since the scenery was not fastened down, each setup of the layout could be changed in reference to the scenery layout, or 'theme' presented. This made presenting a military theme, a circus theme, or a 'kids' theme fairly easy.

11. We built two sets of legs for the layout, a long and short set. The long legs worked well for most train shows, the short legs lent themselves to hospital or veterans shows, where visitors were often in wheel chairs. The short legs, however, presented difficulty for some of the members who had to crawl under the

layout to get to the central area to run the trains. Since the short legs did not have cross braces, the layout was a bit more susceptible to wobble. If a crawling member tried to stand up too soon, they caught the edge of the layout in the small of their back, which immediately caused two reactions; and universal cry of 'earthquake' from the members and a cry of agony from the offending crawlee. An anxiously concerted effort by members to put cars back on the roads, and little people back on their feet usually took a few minutes. Not often, but sometimes, wrecking crews had to be assembled to re-rail trains.

12. Passing sidings proved to be handy to change running trains in short order, which presented a different look to the layout for visitors. We found out that running the same trains for a whole show tended to cause visitors to lose interest in our layout during the course of a show. Changing out rolling stock and engines gave visitors something new to look at every time they passed by.



As part of our planning for the layout, we build a 1/4 scale mockup out of foam to get an idea of how track and scenery will look. The final layout design varied from the mockup as it was built.

Building the second layout, planning was everything.

When the decision was made to build a new layout, we decided we would do it right by investing a lot of time and effort into planning what we wanted. We initially had no timeframe to meet, but in hindsight, that allowed us to do a lot of procrastination on the design. The decision to build a new layout came around 2000, but the decision to take the new layout to the 2008 NASG convention was the impetus to get serious about the construction. That was what got us to start assembling cut wood for the framework of the sections. But even then, we didn't get all of the scenery finished for our first presentation at the convention.

One of the club's early decisions was the creation of a layout committee, a smaller group of members who made decisions on direction and design of the new layout. Input and suggestions were invited from all of the members, and all the club members were invited to help in construction. But, we relied on the expertise of our expert craftsman in the committee to make sure the design made sense and followed the goals the club had defined for the purpose of the layout. Many a great project stalled because a large group of people argued over the fine details, and nothing ever got done. Our decision to make club decisions from a subset of members proved a wise choice. Even so, some of the early design decisions had ramifications that did not become apparent until we started putting things together. Decisions to address the shortcomings in the previous layout,

Above: Members (L-R) Joe Balcer, Michael McConnell, Walt Mumi, the contributors of the original track plans and mock-up. Photo by Hank Worrell

Left: Member Hank Worrell
All of the wood used to build the sections was double-coated with polyurethane to help control expansion of the wood in different environments.

along with our enthusiasm to make a bigger, better layout made for some interesting obstacles that we had to overcome.

Some of those obstacles are still being addressed today. Some of the decisions we made were:

13. We wanted the sections to have the legs attached which meant less fiddling during setup.

14. In order to address the expansion/contraction of the wood used to build the sections, everything was double-coated with polyurethane before assembly to minimize the impact of the changing environments. That seems to have helped a lot.

Above: Wayne Schneyer hand-laid the track for the custom closed-frog turnouts. We've found these turnouts work with both high-rail and scale wheelsets. The lower tracks are mounted on risers to the section frames, as are the upper tracks.

Left: Member Hank Worrell checking the clearance height of the under-city trackage after layout foam board was installed.

15. To facilitate more freedom in scenery design, we increased the size of each section to 3 x 4 feet. In order to allow for running more trains at once, we also added a second tier to the layout. The second tier acted as a scenery block for the first tier eliminating the need for those pesky backdrops. We then had room to add staging tracks to the inside of some sections. We also wanted to ensure the sections wouldn't sag over time so we added 1/8" aluminum strips to the cross braces. In hindsight, we overbuilt the sections a bit making them heavier than we intended, but they didn't sag!

Members (L-R) Dan DeSantis, Joe Balcer, Tom McDonald. Photo by Hank Worrell.
Dan was the current President and one of the motivators to build a new layout. Joe was our master metal worker who contributed many of the designs of metal work. Tom is a master woodworker, and helped plan the layout section construction.

16. We did away with the bulky corner sections, all 16 layout sections are now exactly the same size, and bolting them together in an L-shape at the corners gave us the room to make nice sweeping curves. It also made it easier to cookie-cut a lot of the sub-assembly pieces.

17. The one-size-fits-all design of our first layout was determined to be too restrictive, so we originally built the new layout with only 14 sections. Once all of the track work was completed, we inserted the final two side sections and added track to match the existing adjoining sections. Now we can put the layout up in either a 12 x 22 foot, or 12 x 26 foot size. A decision to go even bigger could be made, but it would require some major changes in a lot of things to accommodated the extra sections.

18. We also decided to build rolling carts to hold the sections, making it easier to move multiple units from the trailer to where we were setting up the layout with less people. By making all sections the same size, we could also standardize the size of the carts. We built seven carts to store the sections, each cart holds 2-3 sections, and the carts weigh between 300-450 lbs loaded. The carts need 38" of clearance in order to pass through doorways and ramps, but that has only been a problem a few times.

Members (L-R) Dave Pierce, Dan Mastrobuono, Hank Worrell, Peter Grout

Dan offered the use of his basement to setup all of the sections for the complete layout. Here we are checking alignments of the frames and legs, and installing the alignment pins.

19. The larger sections required we upgrade the trailer to a larger one (a US Cargo 8' x 16' dual axle) to hold the seven section carts and the 240 lb power cabinet. There is not a lot of room left over in the trailer! The downside to the larger and heavier trailer is the need for a 3/4 ton vehicle to pull it. That limits the club members who can move the trailer, and it has caused us occasional challenges with our show scheduling.

20. Another shortcoming we addressed was the method of connecting power between sections. We built wire harnesses so that each section had AC power to run the accessory wall warts, power bus wires for each loop of track, and signal wires as necessary. Each section has a multi-wire plug that connects it to the next section. All power to the layout comes from a separate power cart connected to the layout via one master layout section.

21. Scenery was designed at the start of construction to flow from one section to another, and each side of the layout fit a design theme. Almost all scenery items are securely fastened to the layout; people, vehicles, fences, poles, lights - everything stays on the section as it gets put away, with the exception of some building roofs and those items for action accessories such as barrels, lumber, coal, mail bags, etc. This means we do a lot of minor repairs to re-attach things that come loose, or get broken from show to show. Telephone and light poles seem to be the most fragile items. Our layout committee keeps track of needed repairs and makes sure materials are on hand when the sections are available to be worked on.

22. Special workbenches were built to hold a section so it can be flipped over, allowing someone to work on the scenery above, or wiring below, without getting out of their chair.

23. We wanted to ensure we could run scale and hi-rail equipment. Our first choice was to use S-Helper flex track due to the smaller code of the rail, but at the time there was no indication on when it would be

Members (L-R) Rick Wark, Walt Mumie

A test fit of the three sections that will make up the city end of our layout. Note the fold-up legs that we first tried to use on the layout. The section weight made these legs unsafe to use, and they were replaced.

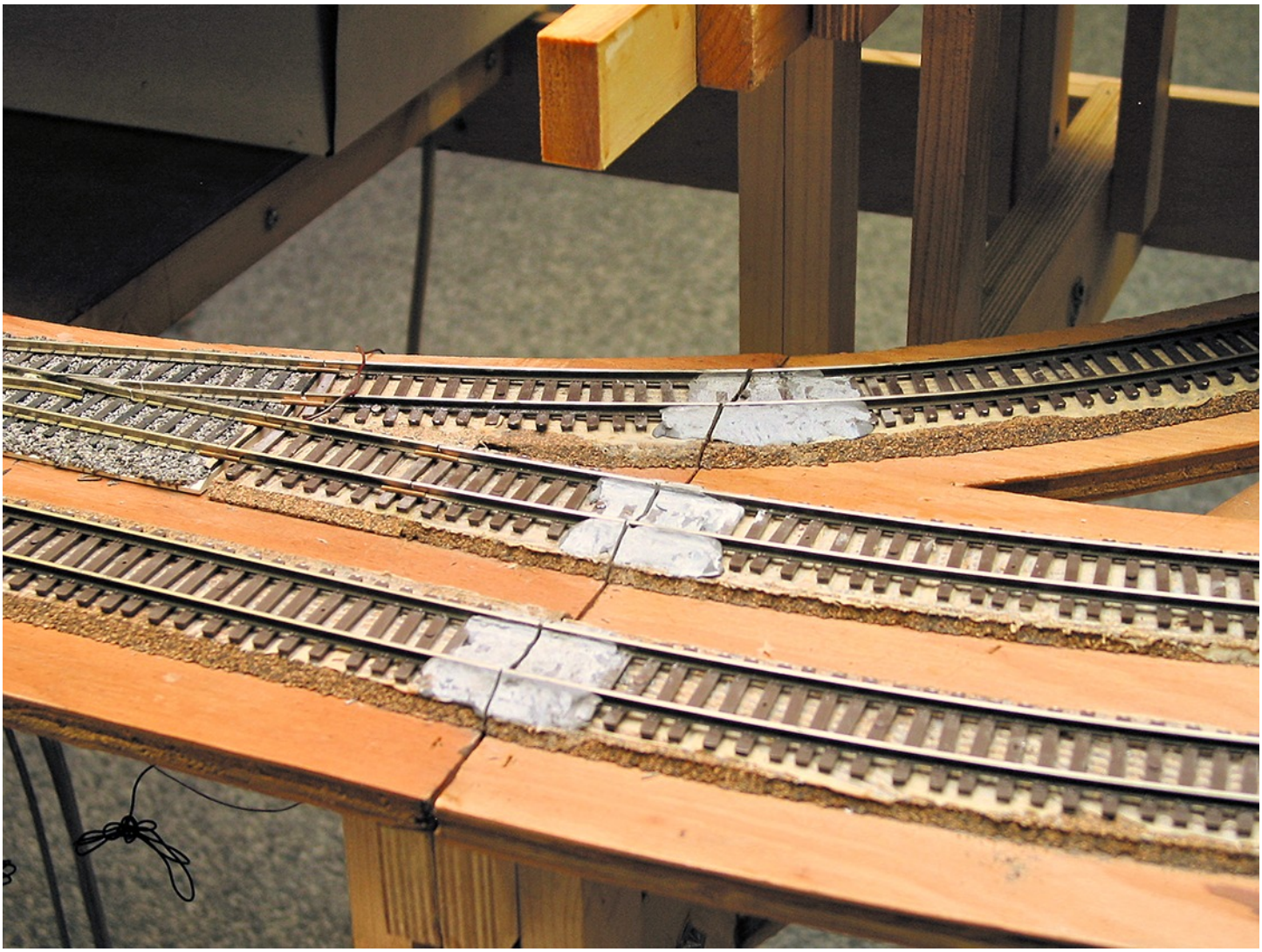
released. Due to our self-imposed deadline, we again decided on American Models Code 148 flex track. By this time, however, American Models was manufacturing their track using a brass alloy rather than nickel-silver, but we found we could special order nickel-silver if we ordered a sufficient quantity. While waiting for it to arrive, we continued our planning of the layout.

24. We solved the scale/hi-rail turnout problem. One of our members volunteered to hand-build custom closed-frog turnouts. The new layout can now run both scale and hi-rail equipment with ease.

The final outcome is better, but not perfect.

Now that we've used the current layout for almost 8 years, we've found that most of our original design goals were met. However, even with our best planning efforts, there are some things we would want to change in the future. Here are our current results:

25. We can now have trains running within three hours after opening the trailer doors and rolling out the carts. We can setup/tear down with a bare minimum of four people; however, things go much easier if we have at least 6 or more members.



The decision to eliminate bridge rails required a solution to protect the track at the ends of each section. Metal braces, screws and epoxy putty held things together, and everything was covered in ballast. So far, the tracks have held up well.

26. We can easily run the layout with two members, one inside and one outside. More, of course, are better. We like to have more members outside of the layout to engage our visitors.

27. The larger sections, although they look much better, have also gotten much heavier. They weigh between 80 and 100 punds each. However, they can still be setup with three people.

28. The original "attached leg" design failed us due to the weight of the sections. We reverted to separate legs that slide into machined sockets under each section. Four of the sections have four legs each (and are setup first), and the other twelve sections only have two legs each.

29. We also had to forgo the layout legs of different lengths, and settled on a compromise height that is suitable for visitors in wheelchairs. Able-bodied visitors tend to bend at the waist.

30. The power cart idea worked well – as we can now power each loop independently with AC/DC/DCC or Legacy power, all controlled by toggle switches at the power cart.

31. A poor decision was made to replace the desired passing sidings with a small switching yard. The thought being that the switching yard would be a better attention getter. In hindsight, we don't use the switching yard that often, the passing siding might have been more useful.

Members (L-R) Joe Balcer, Tom McDowell

Both members did metal work for a living, and they teamed up to weld the frames for the section carts. The castors shown did not last long, and had to be replaced with castors rated for 250 lb loads. Each cart holds 3 or 4 sections, and the carts weigh between 300-450 lbs when loaded.

32. We built hidden staging tracks on the inside of 3/4 of the sections; however, the turnouts to connect them to the lower inner loop are located under the city making visual observation of point clearance impossible. Plus, with the option of multiple power choices, using the turnouts proved to be more time consuming than simply doing a "5-fingered crane" approach to switching out rolling stock. We still swap out equipment on a half-hour schedule to keep visitor interests up.

33. Although the fastened scenery does limit us to the amount of changes we can make to an operating day theme, we find we can still add enough interesting items and rolling stock to change the look of the layout depending on the show we are attending. By setting a theme, it gives us something to strike up a conversation with our visitors.

34. The one operating accessory that has had the most interest on both our old and new layout is the operating mail car accessory. Old and young alike stand to watch it operate, and the younger generation get a big kick out of scurrying after errant mailbags that bounce across the floor.

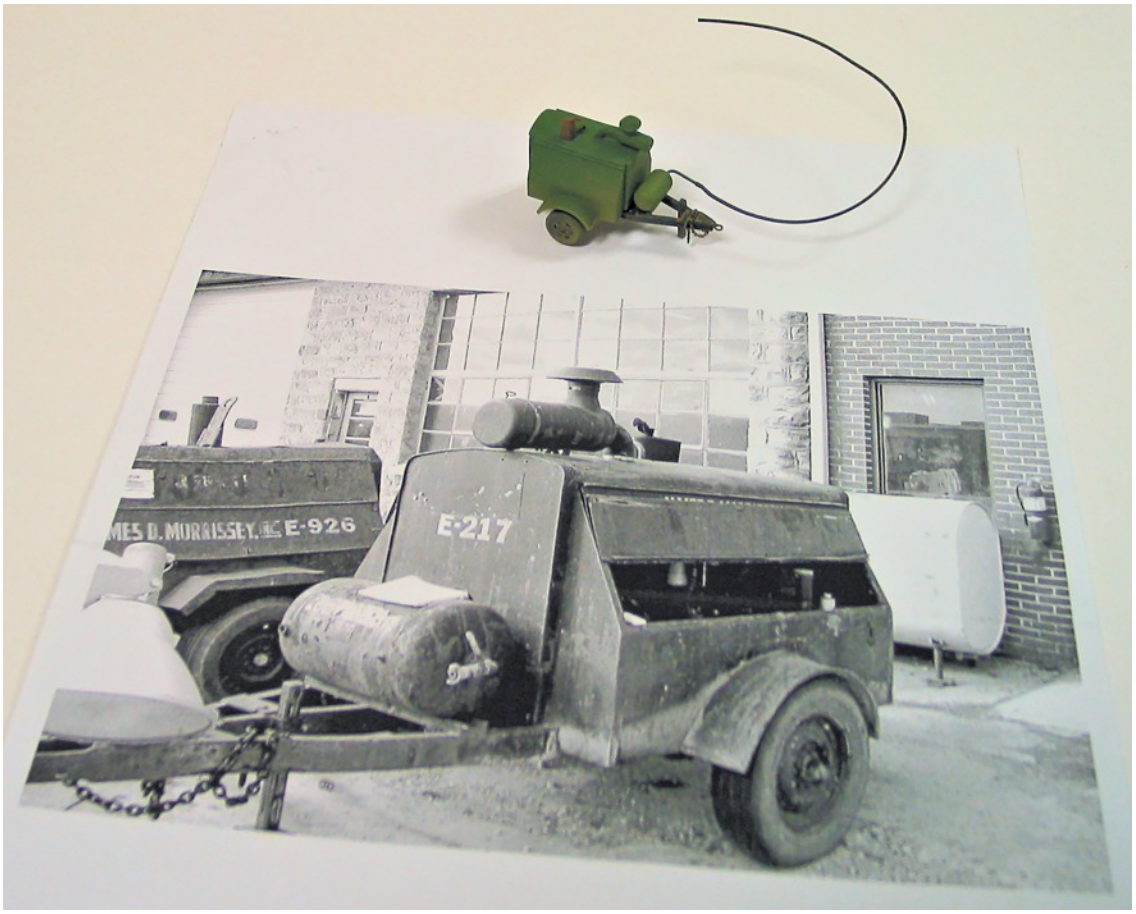
35. We also found that replacing the normal coal in the AF coal loading accessory with mini-M&M's not only makes the accessory work better, but it catches the visitors eye and elicits many a comment. We always make sure to have a fresh bag of candy for each show - it's surprising how much of it disappears during the operating sessions!

All in all, the new layout is much less finicky than our old layout; and setup and tear down is easier and quicker. Changes in the environment have much less impact in the alignment of the sections, or operation of the layout. We do have a harder time manhandling the sections once they are out of the carts; and as time goes on, we either have to recruit members with stronger backs, or have a larger contingent of members attend the shows.

Above: (L-R) Hank Worrell, Greg Berndtson, Jerry Mackey. Greg, a master craftsman and major contributor to the scenery on the new layout, often gave clinics and tips to members on creating scenery.

Below: Members (L-R) Greg Berndtson, Jerry Mackey. Greg scratch built many of the structures on our new layout. Jerry takes a few tips on wooden bridge construction. Photo by Hank Worrell

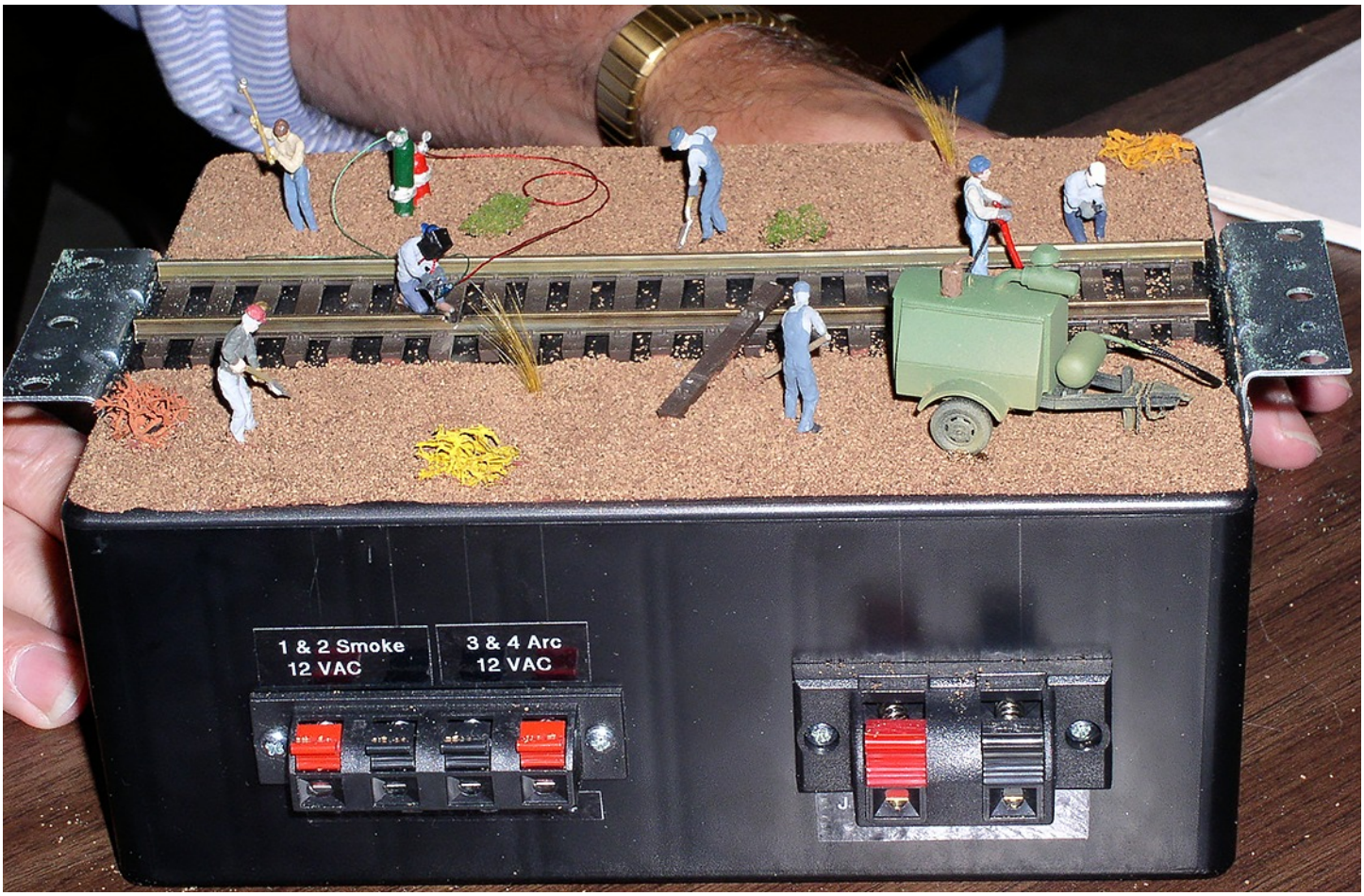
A real team effort (L-R, Supervising by Hal Farlow, Grass Planting by Joe Balcer, Irrigation by Ron Schon. Photo by Hank Worrell



Wayne Schneyer found a nice prototype for the power generator that was used on the automated Willard Track Gang accessory. Wayne scratch built the generator.

Above: After installation and scenery have been added, the jack hammerer and track welder make a pretty impressive display that catches visitors attention.

Below: Before mounting to the layout, the as-received module is pretty much ready to mount.



We've also learned that even if you have the best scenery, or the most interesting rolling stock, visitors will lose interest in the layout quickly if you don't engage with them. We make a determined effort to include the visitors in what we are doing, we engage them in conversation and answer questions they have, and we strive to keep the layout operating at all times. Train shows are not the time to do repairs or engage in fancy yard switching activities. Train shows are for fun, both for the members and visitors – and we work hard to not forget that.

Upcoming shows we will be attending.

- WGH on Tour in Edison, NJ March 10-11, 2018
- NASG Convention in Boxborough, MA July 24-29, 2018

Known videos found on the Internet of the old and new SJSG layouts .
(click title to play)

2012 Christmas Card	Engineer's view of the layout	2008 NASG Convention
Slo-mo of the mail car	2014 TCA Convention	Iron Rail Models Cracking tower load
SP A-B-A from AM	2015 WGH show at Edison, NJ	2012 Septa Rail Rodeo display
2014 Septa Rail Rodeo display		

On the following pages, we present all the sections of the layout as photographed by Hank Worrell. Pictures were taken facing the layout from the outside, starting at section 1 and working clockwise.

Not seen in photos:

- Staging tracks run along the inside of sections 3-7 and 13-16 + 1. Staging tracks connect to inside lower loop via turnouts under city in section 1 and 3. Due to complexity of flipping power while running trains, we normally do not use staging tracks during a show. Instead, we use the "manual five-finger crane" to swap out rolling stock on the 3 running track loops. It's much less prone to "accidents".
- The power cart is connected to the layout at section 10 using umbilical cords; and that provides all of the power to the rest of the layout. The entire layout is powered by the one power cord from the power cart to an electrical outlet.

Additional notes.

- Sections are transported in 7 carts. Each cart holds 2 or 3 sections in 'trays', and a fully loaded cart weighs between 300 - 400 lbs. Some of the cart 'trays' hold the legs for the layout and the removable items from the layout (such as roofs, logs, barrels, coal, etc.). Almost all scenery items (buildings, figures, vehicles, etc) are permanently fastened to the sections and require no extra handling during setup/takedown.
- The power console is built using a mechanics rolling tool chest as the framework. It contains all of the transformers and electronics to power the layout, and is estimated to weigh about 240 lbs currently. All of the carts and power console, banner, stanchions, club-owned rolling stock, cables, cords, tools, etc fit into a 8' x 16' trailer.
- With everything going smoothly, we have been able to get trains running in about three hours, from the point of rolling carts off the trailer to putting trains on the track. It can take up an extra hour to fine tune the track if the floor we set up on is not level, longer if the coffee is not perked!

Above: Section 1 - right (East) side of the city. Lower level features two loops of track, upper level runs one loop of track.

Below: Section 2 - Center of the City. Upper loop passes through "Union Station". Lower level track loops are viewable under Union Station as they pass through a subway concourse. Shopping stores, a diner made from a New Haven coach and steps up to Union Station above are present.

Above: Section 3 - Left (West) side of the city. Second city street scenery, electric plant. Scene of Mike Rowe "Dirty Jobs" episode being video taped.
(Next 5 sections feature scale-quality scenery.)
Below: Section 4 - Oil depot. Section has turnout connecting switching yard to the inner track loop (rarely used). Station terminal for upper point-to-point loop. Turnouts on lower two loops for crossing trains between loops. Not often used during shows.

Above: Section 5 - Traffic overpass. Lower two loops, switching yard, upper tracks for track loop and point-to-point.

Below: Section 6 - Cement plant. Animated sand dump truck. Upper level has Frank Titman freight house reused from the first layout. Switching yard on lower level.

Above: Section 7 - Power Dam. Campground at foot of dam, upper tracks run across dam. End of switching yard.

Below: Section 8 - Lower loops enter tunnel, upper track cross farmland. Radio tower is reused from first layout and is modified Armco building produced by NASG. TV building and fence drop into layout for transportation to protect radio tower.

Above: Section 9 - Farmland end. Custom built A-frame bridge along with Amish-style barn and a Plasticville ranch house. Lower-level tracks are hidden.

Below Section 10 - River end. Upper-level bridge is modified MTH bridge. Bridge for lower level (beneath and behind the MTH bridge) is a stone viaduct-style bridge.

Above: Section 11 - stub-sidings end. Sidings were originally built to allow for expansion sections that would connect to true scale trackage sections. The scale sections have not been built. Section 11's upper level is sceniced with a rural delivery station, lower level features a track wreck crew repairing a de-railed car. An animated track gang features people using a jackhammer and a welder.
Next 5 sections feature hi-rail quality scenery and feature AF accessories.
Below: Section 12 - auto junkyard. Upper level, far track is track loop. Near track is automated point-to-point. Lower level rear track is powered track for accessories and ends in a tunnel on each end. Next two tracks are powered loops.

Above: Section 13 - action accessories. AF coal loader accessory. Most recently, we've been using mini M&M's for coal, it gets kid's interest and the M&M's work better than the coal! Also features a Lionel aircraft beacon.

Below: Section 14 - action accessories. Upper level shows a station stop for the point-to-point. Lower level features an AF barrel loader, baggage smasher, and log loader. Crossover between two lower loops is mate to that on section 4.

Above: Section 15 - action accessories. AF magnetic/metal crane. Single track upper level.

Below: Section 16 - action accessories. AF sawmill, Moe & Joe lumber car, animated semaphore. Near track features our most popular accessory, the AF mailbag pickup. Most train consists will include a mail car, and a club member is stationed to keep the mail moving during a show.

Collingswood Church December 2016 show. Photo by Stu Gillard

Members inside layout (L-R) Hank Worrell, Hal Farlow. Members in the crowd; Jim Oliver, Ken Palmer, John Bigley, Frank Fusco, Jerry Mackey, Joe Sullivan.

In the previous issue of *The O Scale Resource* magazine, I talked about LED vs. incandescent lighting, as well as, how to work with LEDs. This time out, let's see some ways to wire these small SMD (Surface Mounted Devices) LEDs, as well as, wiring buildings.

To solder or not to solder…

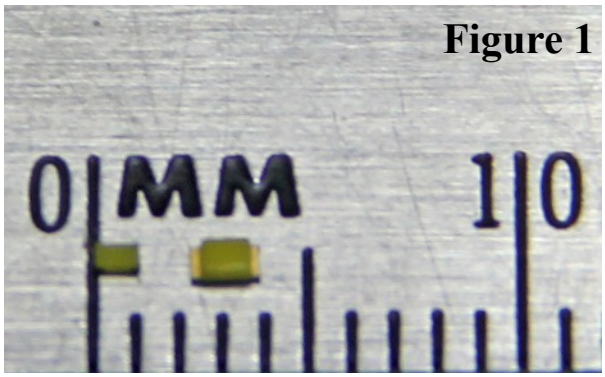


Figure 1

Soldering SMD LEDs can be a challenge. But, with some tips and your trusty Optivisor, it not very hard, and you can save a lot of money.

SMD LEDs are available in a few sizes. The two most common (and the ones I use) are the 0603 and 0402. You can see the size difference in Figure 1. You can buy them in bulk without lead wires very inexpensively, under $6.00 per hundred. Those already soldered with lead wires could cost as much as $5.00 per set. For that price difference, I'll do my own soldering.

Click to view video!

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

I am a visual person. In other words, I have to see things being done in order to fully understand them. So, in the future when we have an article that I feel would benefit from a video, we'll create one. It will not replace the article, but will enhance the understanding of the article. In our *O Scale Resource Magazine* Video Extra, I run through some tips I have found on the Internet along, with some of my own. I also go over tinning magnet wire, soldering 0603 LEDS, lighting ideas and painting LEDs. Although the 0402 LEDs did not arrive before I shot the video, I did solder some using the same techniques. Just crank up the Optivisor a bit, and you will do fine.

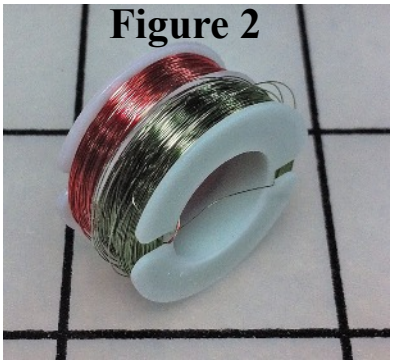
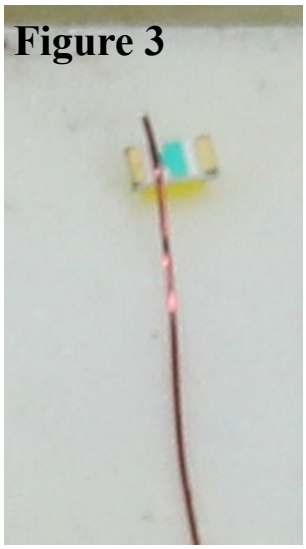


Figure 2

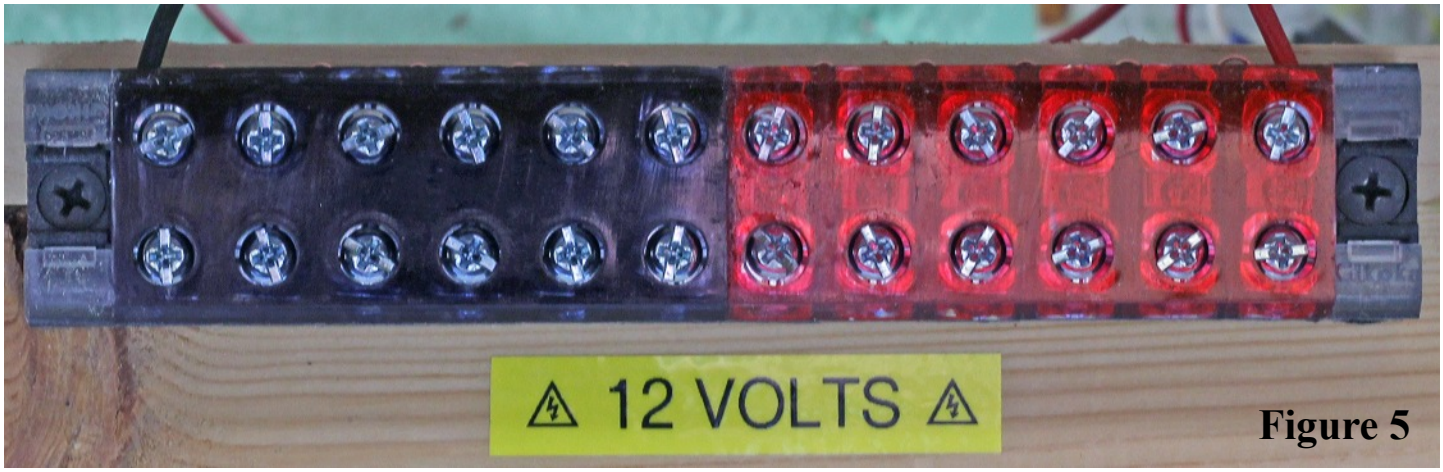
The two LEDs I mainly use for locomotives and buildings are the 0603 and its smaller cousin, the 0402. I start by using 3M 110 Double-Sided Foam Tape placed on my work surface. Using a tweezers, I lay the LED face down. The face is the smaller rectangular yellow colored side. I use a water-based flux to tin the



magnet wire, as well as, the the LED. I like to use colored magnet wire, red and green. (Figure 2) Because I'll build up a dozen or so in a single session, this helps later on so I know what is the Anode/Cathode. Once tinned, lay the small tinned magnet wire on the pad of the LED and just touch your iron or gun to the pad. (Figure 3) It only takes a quick second. We don't want to burn the pad. Depending on the use of the assembly, I like to place a dab of ACC on the pad I just soldered. This allows for a little rougher handling of the unit. It's a tedious job, but you can bang out a dozen in less then 20 minutes. Then, you will have some ready to go for your next project.

OK, we have a 0630 LED with our two wires soldered on and tested, so now what? Well, these will fit in any small lamp shade like Miniatronics Corp. Brass Lampshades. They are marked HO but look better in O. Ngineering also has a good selection of shades and sizes. These LED's are very directional, so if you are using them inside a building, you may want to use a clear bead to help diffuse the light. (Figure 4)

The good news is there are no municipal codes when it comes to wiring buildings on a layout. You do, however, need a plan for routing the 12 volt wire (or whatever you will be using) around the layout, keeping wire colors and sizes consistent. One of the smarter things I did when I started building was to run a 12 volt buss all around the layout on both the upper and lower sections. I chose 14 gauge for this, but depending on how far you are going, 16 gauge (and possibly even 18 gauge) will work. I also started to run a 1 ½ volt buss and extended it through most of the yard area. Later on, I thought this was a bit much, so I stopped using 1 ½ volt bulbs altogether. One of the nice things about having

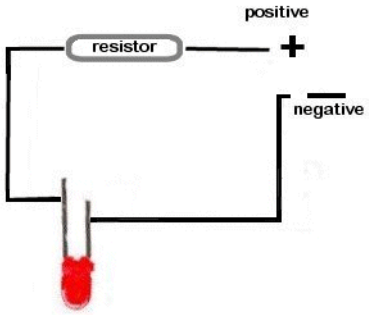


the buss in place is that you can tap off anywhere you need to. In Figure 5, I have a tap off set under a town that is still in the planing stages. This allows for many connections to go anywhere I need them within this area. Almost all of my buildings have the LED limiting resisters housed within the building knowing they would be driven at 12 volts. Most of my incandescent lighting is also 12 volts.

At this time, all of the LED lighting I have used contains the current limiting resisters inside the building based on a 12 volt feed. As I touched on in the January/February *O Scale Resource* article, the only possible danger here is using a resistor with a lower wattage rating than recommended. That will cause heat, and I have

actually burned myself on a resistor in the past. Resistors can get extremely hot before they fail. Sitting inside a wood or styrene "attic" could cause problems. I just made it a habit to use the next larger wattage so I didn't have to worry about it. We'll see a real world example of this later on when I talk about the roundhouse lighting.

Single led

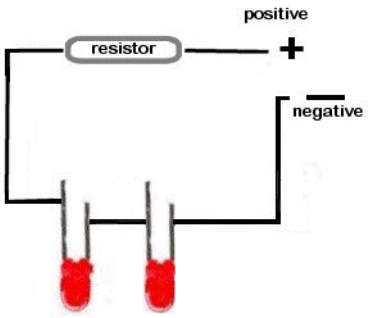


Supply Voltage
12 VOLTS
Voltage Drop Across LED
3.2 VOLTS
Desired LED Current
30 MILLIAMPS

Click To Calculate

Calculated Limiting Resistor
293.333 OHMS
Nearest higher rated 10% resistor
330 Ohm
Calculated Resistor Wattage
0.264 WATTS
Safe pick is a resistor with power rating of
0.44 WATTS

Leds in series



Supply Voltage
12 VOLTS
Voltage Drop Across LED
3.2 VOLTS
Desired LED Current
30 MILLIAMPS
How many leds connected
3

Click To Calculate

Calculated Limiting Resistor
80 OHMS
Nearest higher rated 10% resistor
82 Ohm
Calculated Resistor Wattage
0.072 WATTS
Safe pick is a resistor with power rating of
0.12 WATTS

Figure 6

I am normally a frugal person, but when talking about resistors that can be bought at less than $3.00 per hundred, I don't mind using them on a one to one basis. That is, if I have four LEDs lighting the inside of a building, I'll use one resistor for each LED. I could wire in series or parallel as we talked about in the last article, but then you get into some odd resistor values. I keep a good supply on 330, 470, 750 and 1000 ohm ½ watt resistors on hand. Using a one to one system allows me to cover 99% of my needs in building wiring. When we start using series wiring, we get into some low ohms and much higher wattage, and those can be harder to find.

For example, I have a building with four hanging LED lights. With my 12 volt input, I would need four 330 ohm resistors rated at .50 watts, one for each LED. (Figure 6) Remember the calculations will give us the lowest resistor needed to produce the the highest light output safely. Conversely, stepping up to a 750 or 1000 ohm resistor will just give us a dimmer light output which, in some applications, is not a bad thing. Just taking the stock price from digikey.com we are at $.08 a piece. Yeah, I can afford $.32 for this. Even Radio Shack's $1.49 for five I can handle. But, if we went and wired this in series it wouldn't work because the LEDs are rated at 3.20 volts, and four of those surpassed the 12 volt buss. So, let's try just three LEDs in series. We end up with an 80 ohm .25 watt resistor which, while available, is not that common, and you still have to go back and wire the last one by itself. Granted, there are sometimes were we have to do this (series/parallel) wiring as we'll see later; however, for most builds, I stick with one to one.

Of course having said that, I did do one building in series because I had the resistors, and I just wanted to try it. I did not do this to save anything, definitely not money as we have seen, but just to demonstrate how it would work.

Figure 7


Figure 8

Let's start by looking at Guerra's Grocery. (Figure 7) This is a Thomas Yorke kit I bought back in the late 1970's. Living in an apartment, and chasing women (this was back in the day), I had a friend of mine build this. There was no thought to lighting or any interior. He did an OK job, and I boxed it up for use on a layout some day. Fast forward to the present. There were some problems with the building, and things I did not like. I wanted an interior and lighting because the large windows lent themselves to it. The problem was, he mounted the building on a board and there was no way to get in. This bugged me for awhile until I decided to cut into the roof. Luckily for me, it was cardboard from the original kit. Once the roof was off, a new one would be built, I found the easiest way to get two floors was to build a three sided box that could be dropped back into the building shell. (Figure 8) The first floor has four LED fixtures. I simply put a 603 LED in a bead to help diffuse the light. I did wire these in series, two sets of two with a 270 ohm resistor. The upstairs was modeled just enough to give the impression that there is something going on up there. A single 603 LED was used upstairs. Yes, the brass rod is a bit on the large side here, but stepping back and looking through the windows, it works. The lights on the main floor are nice and bright while the light in the room above is dimmer, just bright enough to give the illusion that there is something up there.

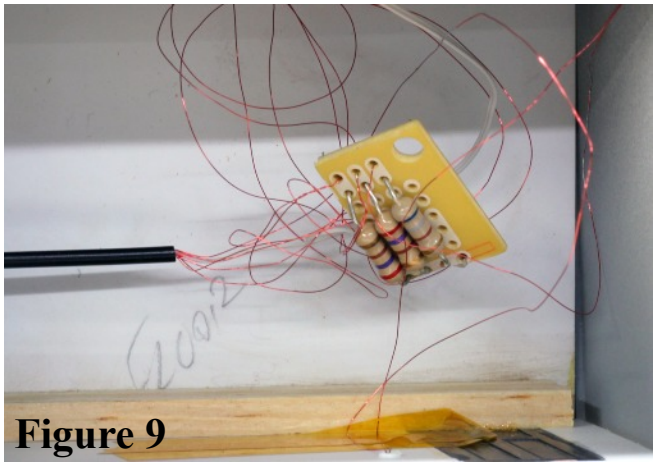


Figure 9

I tried to keep this neat by using some "project boards" from Radio Shack for soldering the resistors to along with the wiring. (Figure 9) This was housed behind the upper storeroom.

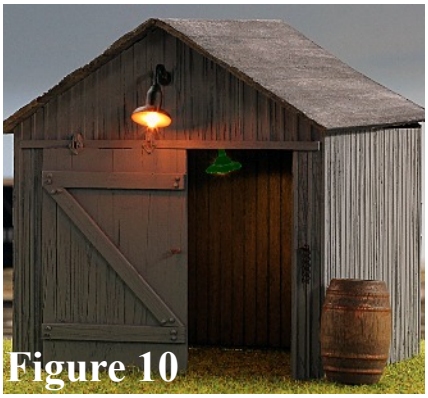


Figure 10

Because of the small amount of current, I was able to use fairly small wires going into these buildings. My wire of choice is 38 gauge magnet wire. Magnet wire (or enameled wire) is copper wire coated with a very thin, but tough layer of insulation. I buy it with green and red insulation which makes it easier to work with once soldered to the smaller SMD LEDs. For larger LEDs, such as 3mm, I use 32 gauge, 2-conductor wire such as Cir-Kit CK203. I also use that for the main feed wire.

Let's look at a few other buildings, and how they were lit. The small scratch built building in Figure 10 uses a single 0603 LED inside a brass

shade. For the outside lamp,I cheated and used a Walthers Cornerstone lamp. These were sold as HO, but are much better suited to O scale. I bought a bunch of these back when the price was low. Unfortunately, they are no longer produced.

Schnepf's Warehousing and Storage (Figure 11) was all done using 12 volt incandescent lighting. This is an old Magnuson Models kit I tried to build back in he 1980's. It had some warping problems, so I never finished it. A few years ago I pulled it out, and tried again. In Figure 12, the red stained inner ceiling for the first floor was added. All the lighting is small 12 volt bulbs and shades from Miniatronics. All I did was use small diameter tubing stuck through the inner roof with the wires fed through the bottom. A single row of bulbs was strewn across the upper floor. All the lights were tied together, fed down through a hidden wall, and brought out through the bottom of the building. I also used Miniatronics plugs, which can be fed through the layout allowing me to disconnect if I

have to move a building for any reason. The small dividers jutting out next to the window allow the viewer from the outside to be fooled into thinking there are rooms and more in the building than there actually is.


Figure 13

Balue's Tavern (Figure 13) is typical of how I add lighting to most of my smaller cast building kits. There is a sub roof that sits just below the outer roof. This sub roof lays on top of the stained siding material I used to finish off the interior. Again, using small diameter tubing through the sub roof allows me to drop the wires down with the lamp and shade in place. There only needs to be enough room between the roof and sub roof for the wires, and in this case the resistors, to lay flat. Note the "vent pipe" in the upper right. Almost invisible from the outside, it allows all the wires to go through the building and out the bottom.

Howard's Super Service is an Evergreen Hill wood kit. (Figure 12 and 15) The plan will be to also light the pumps, but that will have to wait for its final place on the layout. Lighting here is very simply. Again, using the bulb and shades. You have to remember that back in the 1940's for

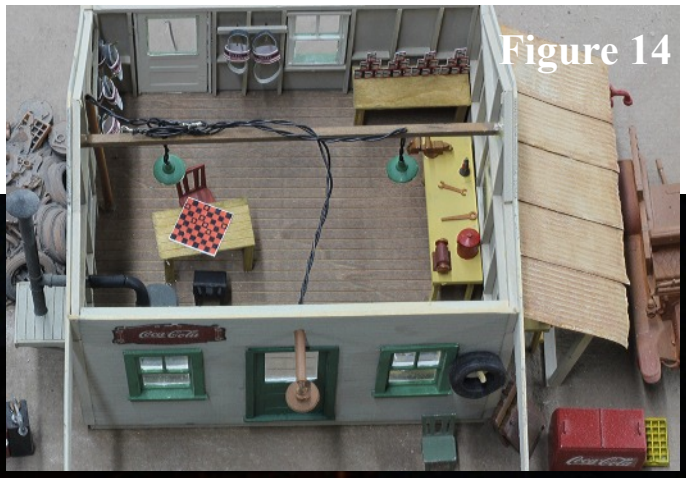


Figure 14


Figure 15

buildings like these there was not a great selection of fixtures. Bare bulbs hanging from wires would also work in this era.

The Roundhouse was a big challenge. This is an older Korber Models kit that I needed to shorten to fit my space. That could be a whole article in itself, so for now I'll stick with the lighting. The outside lights are not yet finished, but I'll simply make the standard old time gooseneck lamps over the doors. It was the inside that made me think. In the new instructions for the redesigned kit from Korber Models, there was a section on how someone wired their roundhouse. It was done in series, limiting the number of LEDs on a set. Although it looked nice, I used a simpler way. One thing I want to make clear here is that my buildings are not what some would call museum quality. I have seen some fantastic modeling on the forums, and some of these people go to extremes in their detailing. I love that, but it's not for me. My feeling is that if the people looking at the layout can't see it, I don't model it. Now, I know that many of you will say "but I know it's there" and that's fine. That's the great thing about this hobby, we can do as much as we feel is needed or that you are comfortable with. I don't tell anyone how to do something, I let people see what I have done, mistakes and all, and then they can use my ideas or other's ideas, or better yet, come up with new ideas of their own.

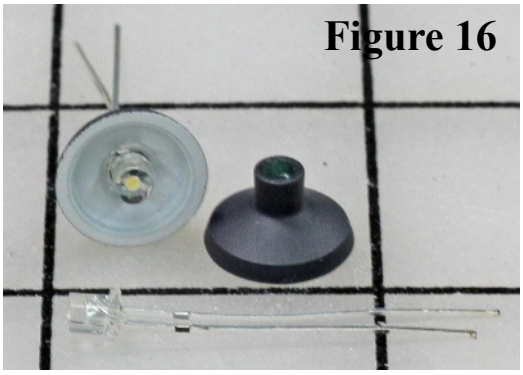


Figure 16

Let's get back to the roundhouse. The one thing I did take away from the instructions was to use 3mm flat top LEDs. They are a little larger, but the disperse the light in a much wider pattern. (Yes, I tried sanding a 3mm LED flat, and it just does not look right.) Figure 16 shows the 3mm flat top LED and the Plastruct lamp shade which is just large enough to fit the LED. I also like this set up because if you look from eye level, you see the light from the shade, but don't notice that there is no real bulb there.

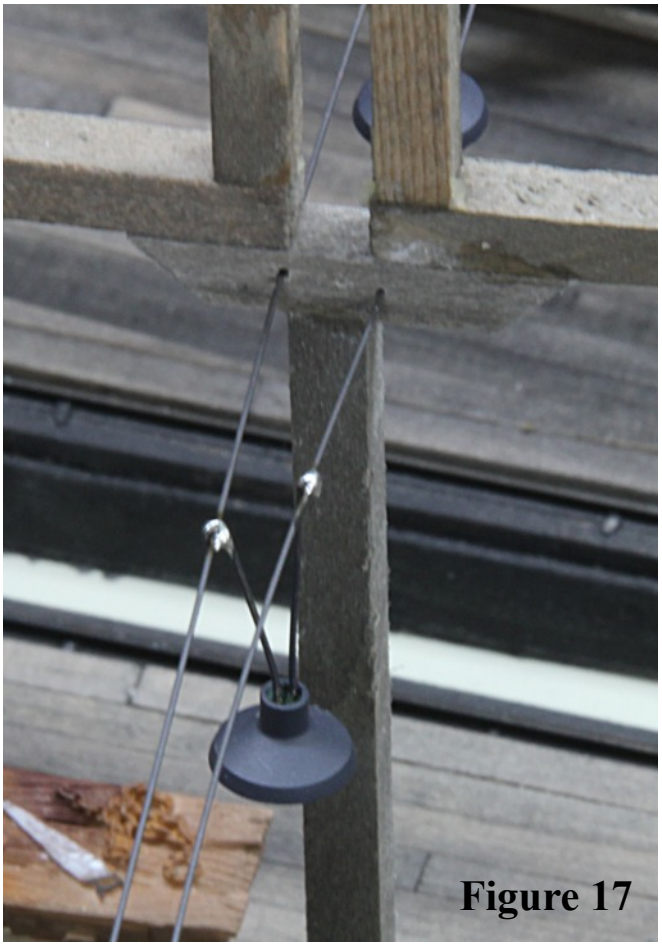


Figure 17

The roundhouse has three stalls, and I wanted two lights for each track, one on each side. That gave me six LEDs across, and I needed three rows. Trying to wire this in series was not going to be pretty, so I looked at parallel wiring. What I decided to do was drill two small parallel holes in each beam going across the roundhouse. Then, I cut and strung .055 music (piano) wire through these holes. I simply bent the end of the LED with the shade attached and hung them where I wanted them, remembering to keep all the anode and cathodes on the same side. Once placed, I used a dab of solider and I was all set. (Figure 17) I then used a small brush and painted the wires flat black. That was the easy

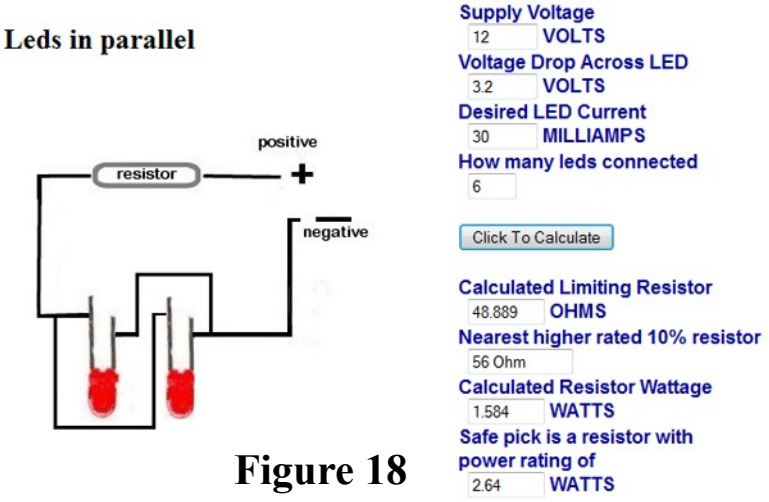


Figure 18

Figure 19

part, but how was I going to power these and where would all the wires need to go? Well, let's go back to our LED calculator. (Figure 18) I knew this was not going to use the resistors I normally have on hand. Three LEDs with a forward voltage of 3.2 volts rated at 30 milliamps with a 12 volt supply gives us one 56 ohm 2 watt resistor per set of six LEDs. You're not going to Radio Shack to find that so, back to digikey.com. They had them and in stock at $.19 each. Well, there is always something else I can add to that order, and within three days I had them. Now I needed to figure out how to wire and hide these rather large resisters.

Thinking about some of the old buildings I worked in back when I was a "rent-a-cop", I remembered old electrical cabinets along the walls. That would work for me. I scratch built three cabinets, complete with doors and door handles. I had three sets on six lamps, so each set needed it's own resistor and cabinet to hide in. Using brass tubing that I had on hand, I carefully drilled a hole in the sides of two of the cabinets, and one in the last. The tubing was measured, cut and added to the cabinet sides. Small tubing was then run out the roof of these cabinets up to the wires. (Figures 19 and 20) All of this was assembled on the bench after careful measuring.

Now the wiring. After testing, I used three sets of magnet wire so each light set would be fed from it's own set of wires. This allowed me to use the very thin wire to fit my conduit. One

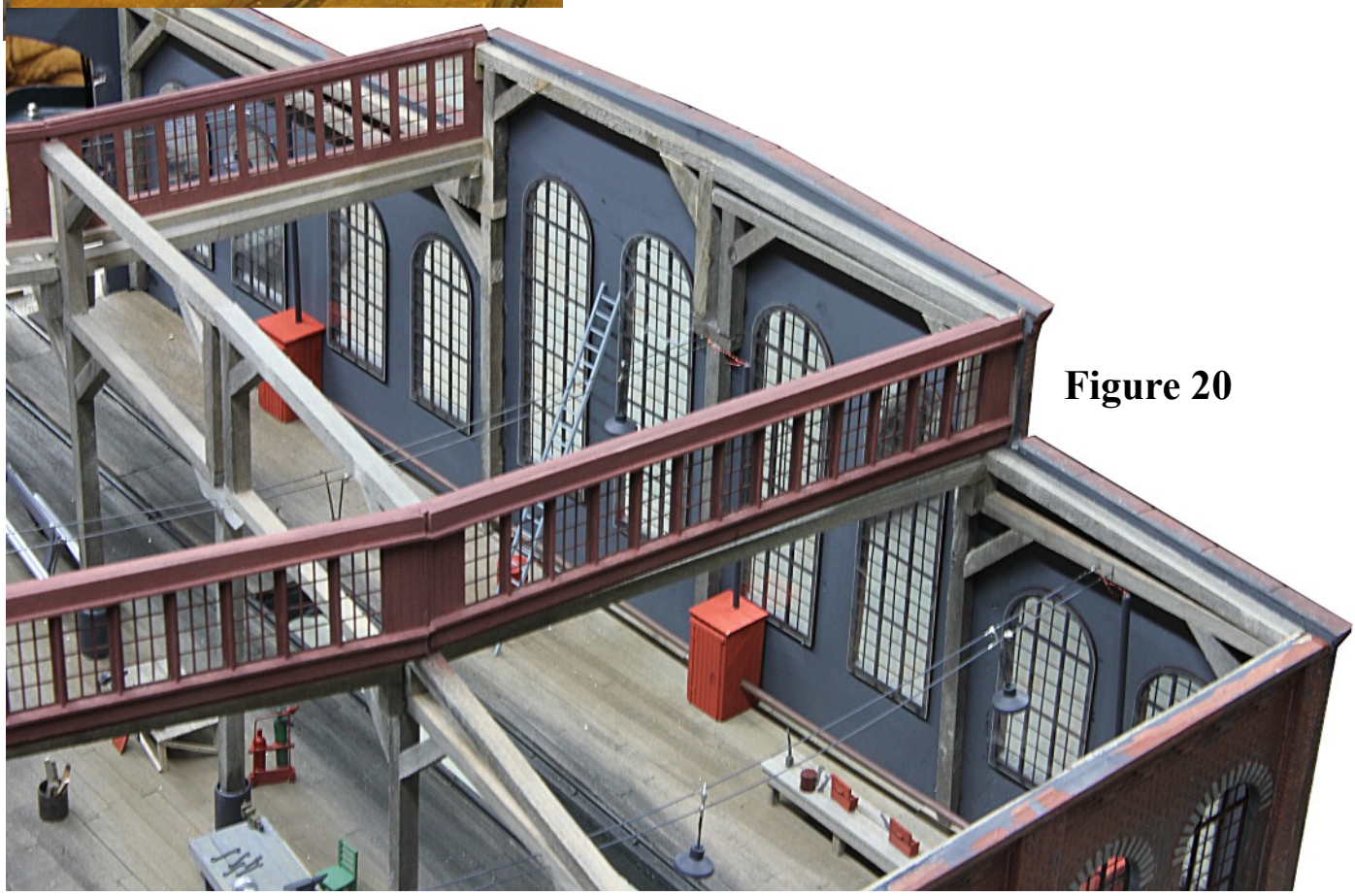


Figure 20

set of two wires feed the resistor and then up to the the first bank of six LEDs. Then the other four wires (two sets of two) continued to the next cabinet where another pair of wires was used for the resister and then sent up to the second bank of six LEDs. The last set of two wires did the same in the third cabinet. When looking at eye level from the layout, the effect is very nice. I'll finish off with a few more pictures of my lighting. In the next issue, we'll take a quick look at using LEDs in rolling stock and locomotives.

Using incandescent outside lights with SMD 0603 LEDs inside.

Warehouse lighting looks just right using 12 volt incandescent lamps.

Sometimes things get real challenging to wire, but even in this Mullet River Model Works C&NW Crossing Tower, I was able to add lighting and run the magnet wire down a "vent stack".

Postscript:

Here is some clarification from the last article in the January/February issue. Wayne from the MTJ Forums had a few things to add, and also correct. He corrected me in that it was not color temperature that made for green pictures using film under fluorescent lighting, but rather high intensity green phosphors that made film pictures look green. I also said "You may need a current limiting resistor depending on the voltage." I came to that conclusion because, running from my 3 volt battery pack and my 3 volt transformer, I did not not need a resistor. Wayne's point is that you always need a resistor. In my case, the internal resistance of the batteries inside, and the test lead resistance read high enough to limit current to safe levels. I sometimes try and keep things too simple, but at least people are reading! Check out the MTJ Forums, O-Gauge, 2-Rail, Model Railroading, when you have time. There is a very diverse group of souls there.

Indianapolis S Scale Midwest Show

By Daniel Dawdy

The Indianapolis O Scale show is in its 49th year. Amy and I took over the show and immediately rebranded it as the Indianapolis O Scale and S Scale Midwest Show. Since there was not an S Scale show in the Midwest, we thought it was a great idea to bring the two scales together like the S West / O Scale West show in California has been doing for awhile.

Next issue, we'll run an article about what goes on behind the scenes for this type of show. Since it was our first time hosting the show there were a few issues, but all in all, the show was a success and the number of S Scale people who attended was surprising for the first show. Next year's show will be September 20th - 22nd, 2018. For more information, please go to sscalemidwest.com.

We were very happy to have the Southeastern Michigan S Gaugers at the show with their beautiful layout. Another shot of their layout on the following page.


M-127
M-127
M-127
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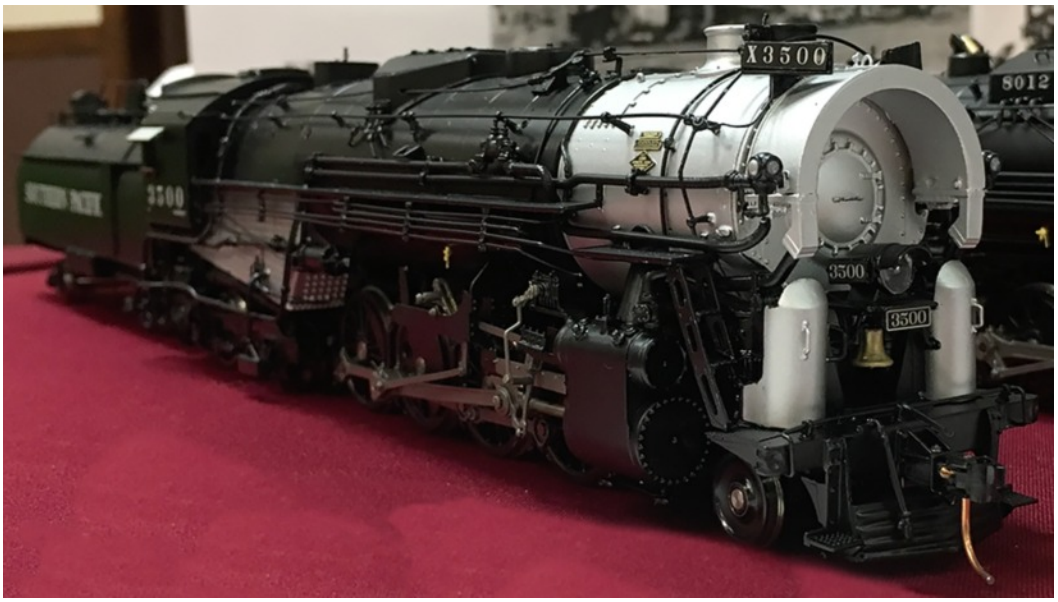
The Hoosier S Gaugers S Scale T Track Demonstration was a big hit.
(Courtesy of Charles Malinowski - not pictured)

Chic Hartert was demonstrating tree making throughout the show for all scales.



River Raisin Models had their current products at the show, along with samples of their new early Berkshire models coming this year.

Left: Ron Sebastian *from Des Plaines Hobbies had a lot of products from his S Scale America line.*

Below: Fox Valley Models was there and had more product specifically air freighted in for the show.

Dan Navarre from River Raisin Models on right.

All in all, this was great first show. We want to make this the premier S Scale show for the country and are looking forward to next year.

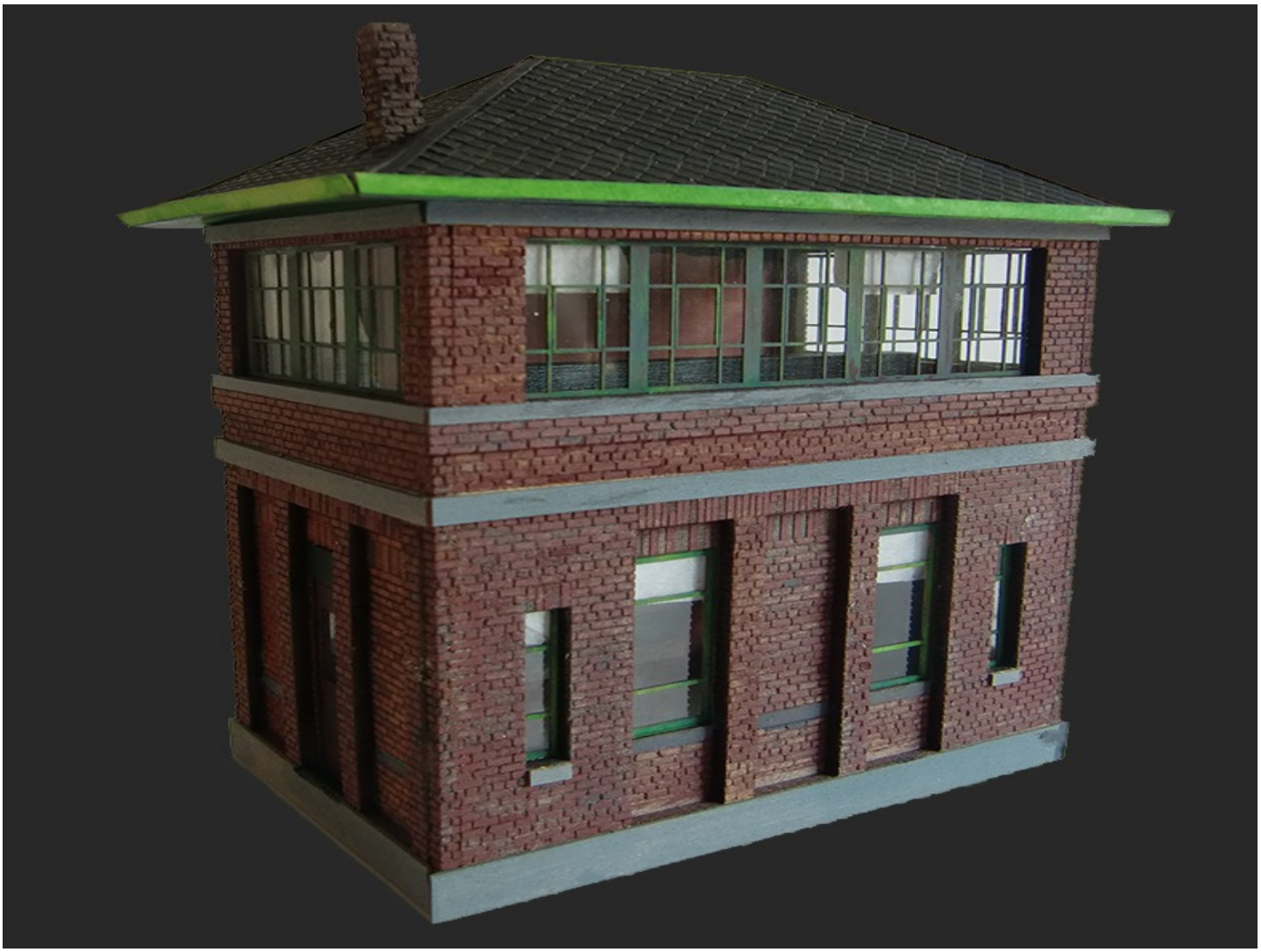
More than one O Scaler came up to me and said they had no idea there was a scale S and were very impressed. That's the kind of comment we like to hear.

We want to thank all of our vendors, but especially Ron and Sue Sebastian from Des Plaines Hobbies and Matt Gaudynski of Fox Valley Models, for all their support of this show, the first of many shows to come.

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

Karl Johnson sent some pictures for a kit he is working on. "I purchased a kit from "Monster Model-works". It is their S Scale Yard Tower that is based on the prototype, used on the B & M RR (Boston and Maine, later Guilford, now Pan AM Rys.), located in East Deerfield, Mass. The tower still exists, although currently it appears to not be in use. There is a website called "NERAILS", and under the Boston & Maine Rail-



In this photo, the pre painted sides of the building are glued together. Windows are installed, the roof is completed. Although the overall painting is complete, there are some small details to work out. I was not happy with the primer gray as a color for the concrete, the roof trim green didn't look right, and some touch up work and small detail work remained.

road section, you can find older and more current photos of the East Deerfield yard and this tower. One photo showed an oil tank outside the entrance door, which one would assume might be for heating oil. The B & M had many towers that have a similar appearance.

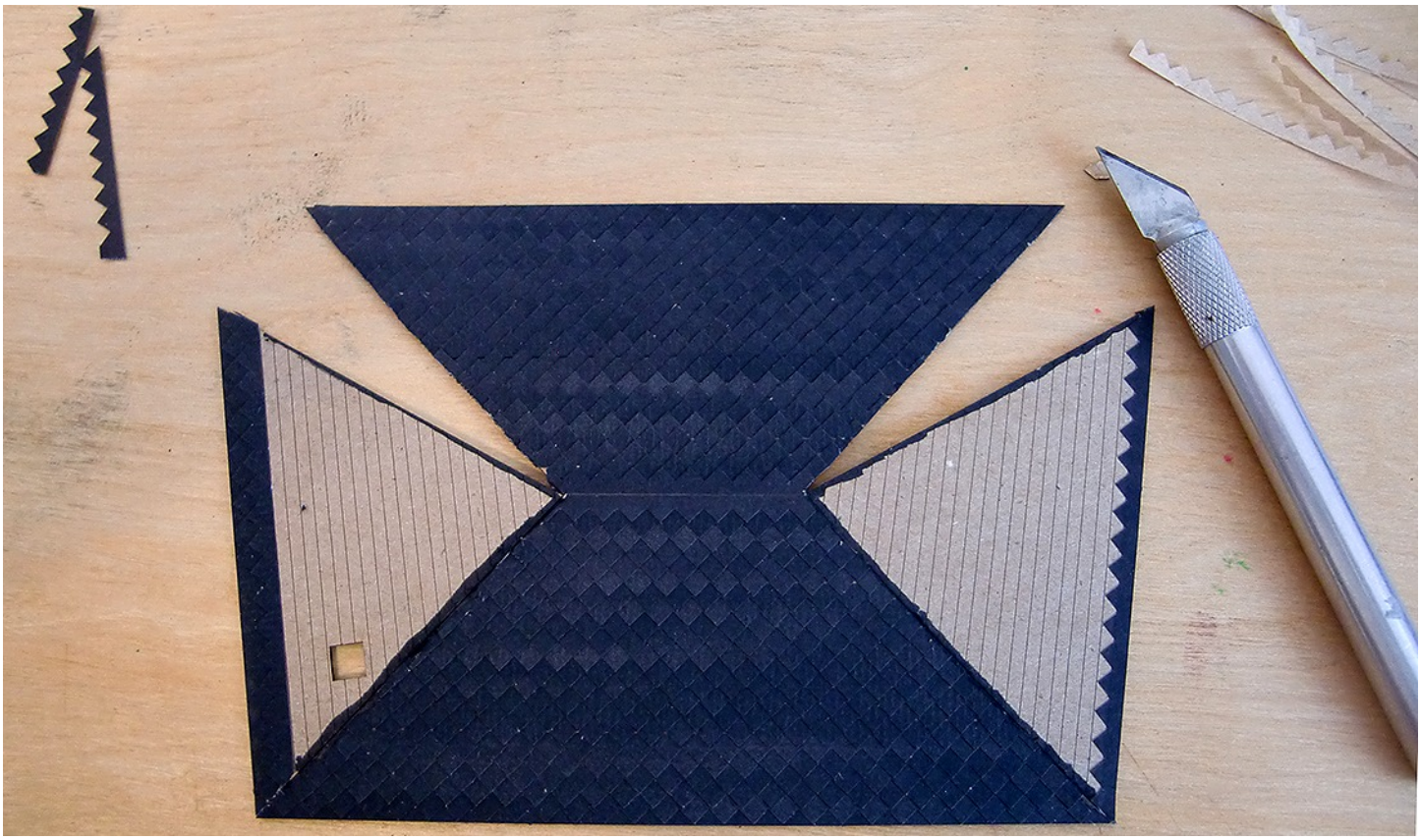
The model that is shown here, took many hours and days to complete. The "days" work may have been very minimal, maybe some painting or gluing sides of the building together.

The directions included with the kit are clear, however. I am one of limited resources (no local hobby shops to purchase supplies easily). I made a few changes, and along with that, a few errors. One error was painting the sides of the building (which are nicely detailed). I used water based paint, which caused the building to warp (and there is a warning about this in the directions, so I was prepared), and as the sides were still wet, I placed the parts under a weight (see the slice of streetcar rail) that was hefty enough, and when the pieces were dry, they were again flat.

I've added a floor (second floor), a cut out for steps (for shadows it should have lighting installed), a switch panel, shelving, a desk. It has been an enjoyable kit to assemble.

As I mentioned in the article, I didn't have the "correct" acrylic paint as advised in the instructions. What I did have available was water based. You can see the badly warped sides, and the weight I used to apply to the sides in order to have them flat once the parts were dried out.

These are the main part of the building. I pre-paint everything, as I find it easier to then assemble the parts and see how the model will look as the assembly progresses. The photo also shows a few weights I use in keeping the parts flat as they dry, I also use them in the gluing phase to be sure the parts have no gaps. For the brick and mortar, I first paint a thinned out grey paint for the mortar, wiping the brick surface off. Once dry, I then dab with a red brick color (I use Oxide Red) with a paper towel. This leaves the grey mortar visible. It takes time to do this.



The roof; This is a great piece of work as it folds together nicely. I used a black paint pen prior to adding the shingles. This is to color the mating edges in case the final assembly of the shingles didn't quite cover the edges there is no bare wood shown. Or you could add some grey to show some weathering, and maybe a few drip buckets on the floor for those areas where the water drips into the building. Hard times on the railroad and the employees. Mine? No, I am not a fan of working in any leaking building in a cold rain.

This shows the beginning of the assembly. I also pre-paint the interior walls. Yes, hard to see inside, but if the building is lit, it'll be very noticeable. I also have begun to add the windows. The exterior paint work is not completed, you can see areas that are in the process of touch up. I assemble both of the two sides together, then once that is done you can glue them together to form the building. You can see how the building outcome is going to look as you move along.

Another view of beginning of the assembly

A floor on the second story has been added, and a cut out for the stairway. I find buildings that look empty, even in smaller scales, just don't look right; hence the painting of the interior walls and some (even minimum detail work) on the inside. I have added a strip of wood to simulate a long switch control panel, a desk, shelving and a person. There would also be a panel showing the railroad and corresponding switches it controlled, complete with indication lights and trains in the blocks. There is a challenge for someone! The downstairs is empty, and will need some electrical panels for controlling the interlocking, or maybe this tower could have had rods and levers coming out of it to control the switches.

There are strips of thin wood to add to the exterior for the concrete trim. Again, pre-painting these prior to installation is a better idea, even better would be to use the finial color. I wasn't happy with the grey, so I began to carefully use a acrylic dark yellow, which is better; but again, I am not thrilled with it. Monster models advises using Yellow Ochre. Soon, I may make a long distance trip to a hobby supply shop.

I have started to change the color of the green roof gutter trim, as well as the concrete color, I also added shades to the interior windows (the backing off the supplied windows works, or brown paper will do too). The chimney has been added, it's a little darker in appearance, it's possible the building was heated with coal at one point. Again, an enjoyable model to build, the instructions are clear, and leaves little doubt about what parts go where. That I found most helpful, as it leaves the guess work out of most of the assembly.

Here are two photos taken in the fall of 2015 at the Illinois Railway Museum (IRM).

Top: The long panel with the switch interlocking is what I mimicked in my model without all the detail work..

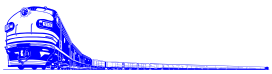
Above: Shows what IRM uses for their demonstration railway, complete with working indicator lights, etc.

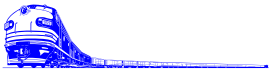
S Scale Shows & Meets

The S 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.

Grand River Valley Railroad Fall Train Show
October 14, 2017
HSB, Inc. 5625 Burlingame Ave SW
Wyoming, MI 49509
Train Show and Swap Meet All Scales, LEGO & Thomas The Train play areas
Email: kwskopp@gmail.com
Website: grandrivervalleyrrc.org

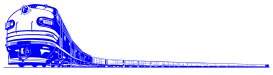
Fall S Fest
October 27 to October 29, 2017
The 42th Annual Fall S Fest
Hosted by State-Line "S" Gaugers
|October 27th – 29th, 2017
Holiday Inn Express
3100 Wellington Place, Janesville, WI 53546
http://www.state-linesgaugers.org/
Dick Bird rbird292@comcast.net

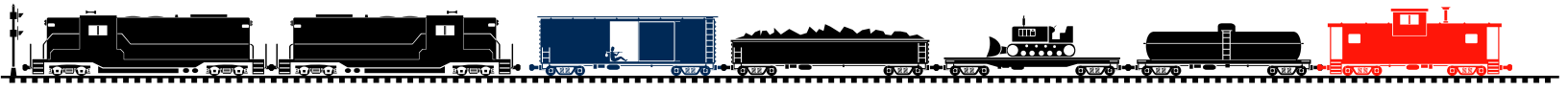




RPM Chicagoland
24th Annual "Naperville" Conference
October 26 through 28, 2017
Sheraton Hotel and Conference Center, Lisle, IL
Railroad Prototype Modelers Meet, 40+ seminars from leading presenters, vendors, layouts, meals, and more. Free Mini-kit, including S & O scale available, for early bird registrations!
Email: mike@rpmconference.com
http://www.rpmconference.com

Classic Shows Train & Toy Show
Sunday November 5, 2017 and
Sunday February 11, 2018
Zandri's Stillwood Inn, 1074 South Colony Rd
Wallingford, CT
Featured at all our shows are quality vendors with all gauges of trains, including N, HO, O, S and G, along with train items, die cast and toys.
Website: classicshowsllc.com





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