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Volume 27 - Issue 7 **April 2020**

Superintendent's Bulletin

What a difference 30 days can make. A difference that has changed our lives. A difference that at times is overwhelming and seems like a bad dream. But a difference that will hopefully make us better persons. Better in the way that we'll slow down, enjoy life, take better care of ourselves and be kinder to each other. So far, we've shown that when faced with a dire situation where drastic measures must be taken, we are still very capable of doing what must be done to survive. We are in this together.

We are blessed to be together in this great hobby of Model Railroading. And during this time of being at home we have time to work on the layout, build kits, watch videos and read. We all have books or magazines that we didn't look at because we didn't have time to read them. We all have a kits to build that we didn't build because we didn't have time to work on them. And the list goes on and on and all have the same reason attached; "we didn't have time." Well, now we have time. Time has once again shown to be a precious commodity.

When we finally get back together in a group, and we will, let's share with each other what we did with our time. I decided I should make a list of projects to work on and not be rushed. And when I cross one project off the list, I'll add another, but not overwhelm myself. Another thing we can do is talk with each other through phone calls, emails and texts. The prototype railroads are still operating and there is no reason for the model railroad to stop. Most of us have computers so check out the model railroad layout and modeling skill videos on YouTube.

We will send out "Train Order Bulletins" to let you all know what will happen with the election, the Regional Convention and our monthly events as we go along. If anyone needs something please contact one of us Officers and we'll do what we can to help you.

Take care of yourselves and stay safe.

All Aboard!!
Jim DiPaola, Superintendent
NMRA, MCR, Division 1

Module Group

Because of the Salem Show cancellation, as of now there are no setups for the modules this season.

Due to some personal reasons the convention has been taken off of my priority list. At this time there has been no interest from the convention committee about having our modules displayed.

I also spoke with a group holding a fundraising raffle in June to support a rail bed to bike trail group. They would like to hire the module group to set up and run during the all day raffle. This is still in the works, more details at the meeting.

See you at the meeting, hopefully.

Bob Ashley, Jr., Module Chair
(216) 905-8860
Rinkerman250@gmail.com

Membership Report

We had a great time at the Mount Hope Show, where we talked to a lot of people, signed up one new member, and sold some items. Thanks to Don Bonk for helping at the table. Since then, all other train shows have been canceled so we have not been able to talk to anyone about becoming a new member. Whenever things return to normal, we'll be attending train shows once again and will need volunteers to help with the membership table.

Membership stands at 91.

Kurt Sanders
Membership Chair

2019 - 20 Division 1 Events

~~April 26 - Jim Peters, Sagamore Hills~~ **CANCELED**
May 17 - Kurt & Karen Sanders
June 28 - Bob Ashley, Jr., Green

Interested in hosting a meeting?
Contact any Division 1 officer.

Switching Layout Takes Shape
Start of a larger layout to come

While I have the extra imposed time at home, I've been working on the 2' x 8' switching layout which will eventually be part of a layout going around three walls. This section houses five industries: DJFabrics & Textiles; Hardwood Furniture; Fluffy Biscuit Company; Janx Distillery; Liberty Electric; one as yet un-named small industry; and one industry to be determined. Presently there are two full size buildings and four shallow backdrop industries. Other space is filled with flats made from Cornerstone Modular pieces and printed background buildings created on my computer.

The layout is wired DCC and operated with a Digitrax DCS 50 throttle.

Jerry Kruse
Warren

Layout Tour
Mahoning, Trumbull and Columbiana Counties
Saturday, April 4, 2020
Time: Noon – 3 PM

Canceled

Of the five layouts in the three counties, two will be open for our Spring Layout Tour. Please wear Division 1 apparel to help identify yourself! Thank you!

Jim Pe

The Spring Layout Tour is canceled. **But, a virtual tour of Jim Peters' layout will be Saturday, April 4 at 12 noon.** An invitation to attend on Zoom will be emailed separately to Div. 1 members.

unty

Spring Layout
If you have any

most importantly, enjoy

Jim Peters
Layout Tour Chair
(216) 402-8507

United Trucking Transfer Terminal
Walthers Cornerstone Series

This unfortunate time of isolation can be very favorable if you remain prudent and work on your RR! The LS&MJ is far from complete and may never be, but I see that as a plus, knowing I can go downstairs and dream up a new area to be serviced and then finalize track laying and construction of the new structure. Scioto Docks is one of those projects. I looked thru my inventory and found the United Trucking Transfer Terminal whose footprint fits well in the area where I already had the track in place. Also, I decided to add the owner's home, adjacent to the warehouse. You can see the kits in figure 1.

The structure is amazingly simple, literally walls and a roof. I started by painting it a pleasing brick color, letting it dry several days then added thinned white paint to imitate mortar. I also painted the window frames to help get rid of the toy-like shine. Then I glued glazing. OK, but it still looked almost out of the box, no real character. So, I then simply cut out two of the warehouse doors so I could glue them back in black partially and fully open. I also added a Styrofoam floor now that I could see inside. Next, I added lighting and some figures inside. (See figure 2).

I hope you enjoyed my project.

Jim Peters

A Scioto Docks worker takes a breather from unloading a Virginia & Ohio boxcar on Jim Peters' HO scale Lake Scoito & Mingo Junction Railroad. Scioto Docks is from the Walthers Cornerstone Series United Trucking Transfer Terminal.

Figure 1: Walthers Cornerstone Series structures. On the left are instructins for owner's home with the United Trucking Transfer Terminal on the right.

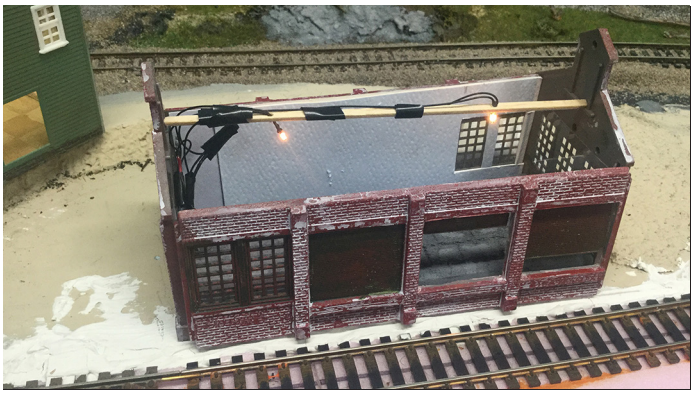
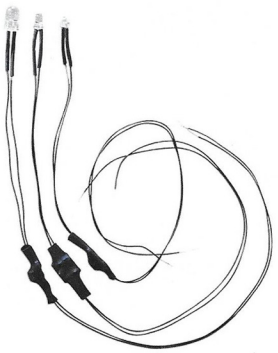
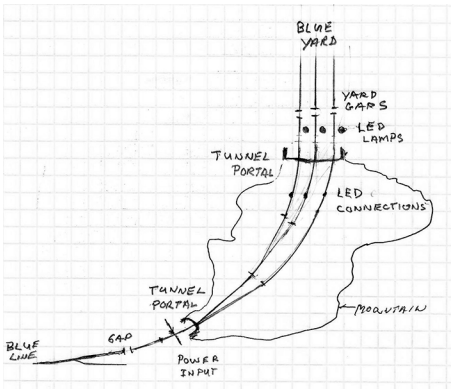


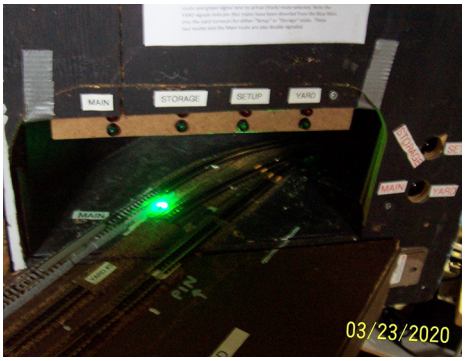
Figure 2: Lighting is added to Jim Peters' Scioto Docks. With a few modifications the Walthers Cornerstone Series kit now has a home on the LS&MJ RR.

N-SCALE REPORT

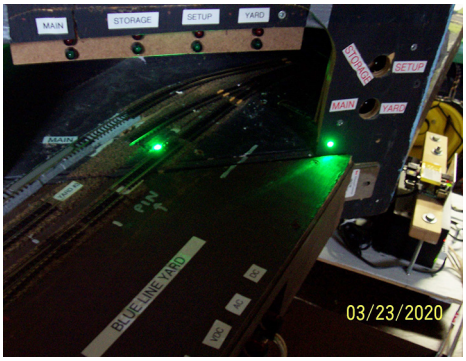
A Hidden Turnout's Position and/or Power. The "ACY" N modules' B Yard and Sleeping Woman Mountain complex is comprised of seven modules with twelve turnouts. Eight of these turnouts are visible and therefore route and power can be verified. The other four *Peco Electrofrog* turnouts are hidden in mountains at either end of the B yard and power flow and route was of concern. Regardless of whether the turnout used is *Insulfrog* or *Electrofrog*, indications of position and power routing would be based upon indirect monitoring of turnout closure via turnout relays or stall motors is questionable. After monitoring that relay contacts for our four turnouts they did not always provide a positive indication of routing and power flow we looked for an alternative. *Evan Designs* produces pre-wired universal LEDs shown below that function on DC, AC, and DCC. By connecting these universal LEDs to the *Electrofrog* through and diverging branches of the turnout or the final turnout branches in a chain as shown below, a positive indication of position and power flow was obtained. This type of LED connection would also work great for a control panel. Note that the yard indicator LED is lit (far right) when yard tracks are used, but not the main.



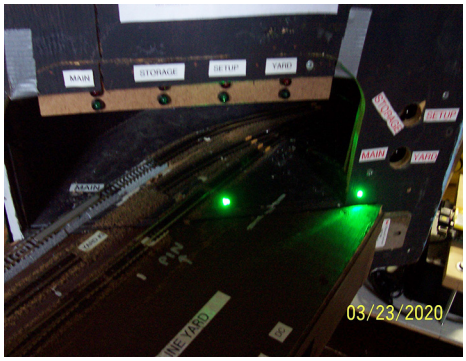




Main in Use



Yard Storage in Use



Yard Storage/Setup in Use

Never Stall Fights Corrosion. In a search for something to improve balky locos with corroded wipers and contacts we found "Never Stall" which also works on Turnouts as well as Locos. At the NMRA Convention in Indianapolis President Charles Getz used a tube he borrowed from ACY N-TRAK to get the NMRA display up and running. Also some AYC module turnouts which had been idle for over a year were balky. Never Stall was applied to Turnout's point areas, heels and closure rails, and the frog and its flangeways which were then dried with a micro paint brush. The Turnouts operated well with power flow in a like new condition.

All Scale Show scheduled for March 28 - 29 was canceled due to the COVID-19 virus. Hopefully the virus issues will be over by mid-April and we can show the modules at *Ages of Steam Roundhouse* this summer.

Atlas April Release will include "Atlas Master" GP40s with a number of road names, a 64' Trinity Reefer with Tropicana logo, 40' wood reefer with "Rath's Black Hawk Bacon" plus others. Check your dealer for complete list and availability.

Don Bonk
NTRAK/T-TRAK Chair

Benchwork: Expanding the Empire

Introducing "T" Girders as an Alternative to "L" Girders

By Steve Zapytowski, MMR®

All photos and illustrations by the Author

I enjoy looking at photographs of finished model railroads. They portray the special visions of modelers who built their layouts listening to an inner voice that guided their hands. In this article, however, I choose not consider that layer of scenery, structures, locomotives and cars. Rather, I'll talk about what lies beneath. Benchwork supports most layouts and it may be simple or complex, but regardless of its intricacies, benchwork is often forgotten once it is no longer visible. While building four and a half layouts since my high school years I learned the manners in which the structural support of a model railroad influences the finished product placed on top of it. I also learned to build benchwork that is both flexible in terms of supporting roadbed and scenery, but also rock solid. Should I collide with a leg of my current layout I am much more likely to break a toe than cause any rolling stock to derail. This article illustrates how I built the benchwork for my current model railroad. (see photo above)

Consider what lies beneath a photograph such as this one - the benchwork. It must have both structural integrity and stability. It provides the foundation for one's railroad and influences what the finished project eventually looks like. The scene is on the first part of my layout but I used exactly the same techniques here as I did on the second half of my railroad that you will see in this article.

When my wife and I moved to our current dwelling the first thing I did in the basement was build a workbench that I used for a number of projects during our initial year in the house. In the second year I returned to model railroading after a two and a half decades absence from the hobby I eventually had a point to point layout occupying part of the unfinished portion of the basement near my workbench. (Figure 1) While initially satisfied with my design I came to miss being able to run trains in a closed loop around my layout, but I could not think of a way to do this. The solution eluded me until one day we were driving back from a railfan trip and in the days after getting home I developed a new track plan that used my current layout as its beginning. (Figure 2) I was pleased with my new track plan and the only thing preventing me from adding on to my railroad was a workbench sixteen feet long. (Figure 3)

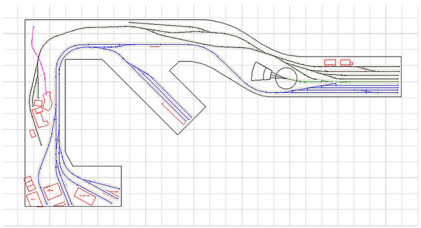


Figure 1: This is the track plan of my point to point layout and I have both HO and HOn3 tack on it. While prototypical railroads don't run in closed loops, I did miss being able to run trains in in that manner. The workbench I'd built occupied the space along the bottom of the illustration above.

The door to my train room opened into the space and this became an early concern for me. The "drawbridge" I planned to cross this opening would prevent the door from opening. It seemed that having to raise the bridge every time I wanted to enter or exit the train room would quickly become an annoyance. Nor, for safety reasons, was having a portion of my layout prevent that door from opening a good idea. One of the first things I did was reverse the swing of that door. (Figure 4) The next project was to make a place for a new workbench. The alcove seen at the rear of figure three was the obvious location and to begin with I cleared that space out to distribute its contents to other locations in the basement. I built a two-foot long wall at the end of the existing work bench and then began framing in my new workbench. (Figure 5)

As you can see in Figure 6, I attached the frame of my new workbench directly to the house. This will give your work surface great stability. (Figure 6) Another important consideration when building a new work area is the inclusion of sufficient outlets. I did a little math, counting battery chargers, small power tools, power supplies and similar items that were in use at my old workstation and arrived at a number. (Figure 7) My work surface is made of three-quarter-inch medium density overlay (MDO) board with a birch veneer on both sides. This I salvaged from my old work bench.

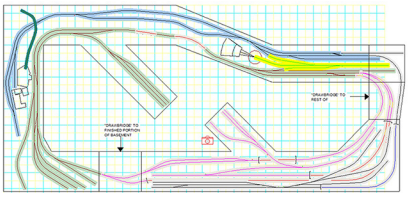


Figure 2: This is the new track plan I developed that allowed my standard gauge line to operate on a closed loop. The HOn3 portion remains a point to point operation, but the amount of narrow-gauge track was significantly increased.

It is strong, dimensionally stable, and once sanded, gave me a smooth work surface. The height of the work surface is thirty-six-inches which is six-inches more than a standard table. This is kitchen counter height and it lets me work comfortably while standing. When seated I use an adjustable drafting stool that gives me a good seated working height. The stool's casters let me roll up and down the entire length of the bench.

Thinking about which tools I used most frequently when seated at my old workbench I located them on the new pegboard so they might be within easy reach while seated at new one. (Figures 8 and 9) After spending several weeks with this new bench I made an addition.

I added a fold down work surface that is used most frequently for light cutting. I was happy with this addition as I found it much more efficient to spin my stool ninety degrees than to roll it along the workbench to cut some basswood or score a piece of polystyrene. (Figures 10 and 11) In the end I found myself much happier with this new workbench arrangement than the original.

Figure 3: A sixteen-foot long workbench was all that stood between me and beginning construction on the new portion of my layout. The wall above the workbench was covered by a number of very full shelves. Stripping this area clean, for whatever reason, did not occur to me as an option until a few years ago. Once I came to this realization, I saw a way to finally expand my layout. Beyond the end of the workbench is an alcove where I had pegboard and shelves for tool storage. That small area will be repurposed as this project continues.

Figure 4: (above) I reversed the swing of this door so that it opened outwards. The reason for doing this was to allow egress from the train room when the "drawbridge" was in its lowered position. In day to day operations this also proved to be a major convenience.

Figure 5: (below) I framed a short two-foot wall extending from the pegboard at the end of the old workbench as seen in this picture. By this time the alcove behind the new wall was stripped clean.

All of this work created, apart from the new workbench, a nice empty space in my basement that I could expand my layout into.

(Figure 12) Knowing that the addition to my layout would create a dust storm of epic proportions the very next thing I did was cover the original layout with light weight Visqueen sheets. These came from the paint section at my local home improvement store. Being four mils thick the weight of the plastic sheeting was not a hazard to some fragile scenic areas on the existing layout. (Figure 13) When beginning benchwork it's important to understand that the concrete floors of your basement are not necessarily level and the corners may not be truly square so proceed as it they are not. Establish a single datum point from which to determine all your elevations. In my case that was in the corner of the walls on the floor to the left of my dog as seen in Figure 12. (Figure 14) In my case I planned for a height of fifty-inches to my roadbed and not the top of my framing. That was placed three-inches below my intended zero-track level. Attach your benchwork, where ever possible to your house. The stability gained from doing

Figure 6: This is the start of my new workbench. The pegboard was newly purchased, but the paneling seen in the photo were salvaged from the wall above the old workbench. I added a vapor barrier on and insulated the concrete basement walls at the rear and left side of the alcove and am glad that I did. That corner of the basement was chilly during winters, but now the temperature there is comfortable.

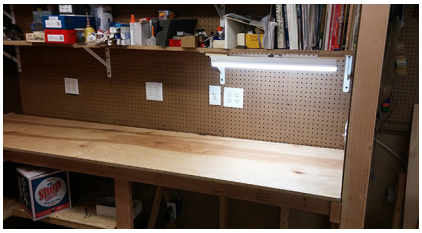


Figure 7: Nineteen outlets are arranged around the work area. These provide power for the tools I need in my immediate work area and also for stationary tools that will occupy space along the bench top. Note the bench top overhangs the frame by an inch and a half. This was done so that I could clamp things along the edge of the bench. I built shelves under the countertop.

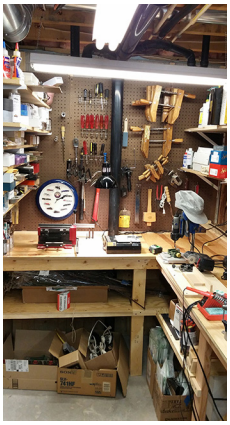


Figure 8: (left) Here is my completed "L" shaped work bench. Shelves were added to the walls along the left and right of this photo. The tools I use the least are seen in this photo.

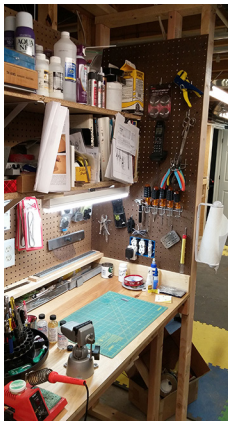


Figure 9: (above right) This is the end of the bench where I sit on my rolling drafting stool while working. The tools along these two pegboard walls, within easy reach while seated, are the ones I use most frequently. Over time I found that I moved some tools farther away and brought others closer. I don't consider the pegboard arrangement as fixed and may place tools in different locations depending upon the project I'm working on.

this is well worth it.

In my basement there are two steel columns that protrude out past the surface of the studs I attached my 2x4 framing to and they were in the way of the background I'd planned on. To fix this I screwed furring strips to all the studs and the cold air return and thus made a surface that placed those columns behind my background material. (Figures 15 and 16) This was also a good point to paint the ductwork above the layout flat black. Before installing my background, I ran an RJ12 cable for DCC, seen hanging just to the right of the cold air return in Figure 15, along the floor joists above the basement and down to the benchwork. This is also a good time to allow for any electrical outlets or other power needed along the benchwork. (Figure 17) Next, I put up tempered Masonite, or hardboard, on top of the furring strips as the beginning of my back drop. Masonite provides a good paint surface and I used it frequently at work before I retired for precisely that purpose. (Figure 18)

Masonite should be primed before applying a finished coat. It's a very thirsty material and will absorb a lot of paint until its surface is sealed. I used an inexpensive latex primer for this purpose, and once it was dry applied my base color. (Figure 19) When planning a background consider how far the visual range of your layout extends above your benchwork. Things that I consider above the visual range are places that I don't want people's eyes drawn to. It's easy to apply some flat black paint to those areas. Although the full height of my background is visible, one's eyes will be drawn to the brighter areas below those painted black. Painting is always much easier before the benchwork goes in. The temptation to get the benchwork done so I could lay track was too great when I built the first half of the layout. On the new half of my railroad I'd learned my lesson and painted before starting my benchwork. (Figure 20)

Finally, once the highlights and shadows were painted onto my mountains,

Figure 10: The fold down work surface, seen here folded against the wall, is a scrap length of edge-glued pine boards left over from a previous project. It's attached to a cleat on the left wall with a piano hinge.

Figure 11: The support brace was also attached to the wall using a piano hinge. It was cut from a scrap of 3/8-inch plywood with a 1x2 stiffener at its hinged side. The top of the brace fits between a pair of scrap 1x2s attached to the bottom of the work surface. These keep my brace from accidentally folding up if it is bumped.

Figure 12: This was the space occupied by the old workbench. I paused a moment just to appreciate what this space might become in the next few weeks. The inspector came by as well and gave his approval, thus allowing work to proceed.

Figure 13: Covering the original portion of my layout with four mil Visqueen was a necessity. I created a veritable dust storm during construction and it drifted throughout the basement as is settled. I did not want to clean that dust from the original part of my railroad.

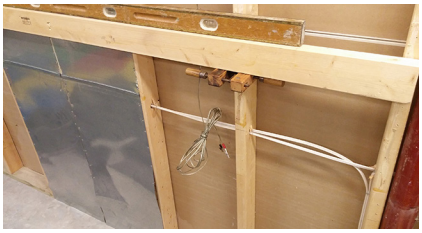


Figure 14: Measuring up from the basement floor was done at only one point. Clamps were used on this wall's studs to hold a 2x4 at its approximate height above the floor. I put one screw at the corner end of that 2x4 and then used a four-foot spirit level to adjust my clamps until that framing member was level. Once level It was screwed at each stud.

Figure 15: Here furring strips extend the surface I need for my background past the two steel columns in this basement wall. Three quarters of an inch was enough thickness to accomplish this. Early in benchwork construction I recommend painting any ductwork flat black. Visually, this was well worth the effort.

Figure 16: There is a folded seam in the sheet metal that makes up this cold air return duct. Rabbeting out the backside of the three furring strips I placed on the duct was necessary for a flat fit against the duct.

Figure 17: (below left) Coming through a hole in the 2x4 screwed to the studs is the RJ12 cable that I ran to the new section of the layout. Also present are several runs of 14-3 Romex which will be integrated into the benchwork for convenience outlets, lighting control, and track power.

I was free to start building my benchwork. (Figure 21)

As a philosophy behind designing and building your benchwork, consider all the joints in your frame as pivot points. Diagonal braces should make triangles and not trapezoids or some other geometric shape. A trapezoid will collapse if a lateral force is applied to it, but a simple triangle will not. In Figure 22 you will see only one screw in each end of the diagonal braces and since both braces form triangles with the benchwork frame and the legs those single screws will hold that leg squarely in place. Without creating triangles with your bracing no number of screws or bolts will guarantee the integrity of your structure. Indeed, the wood may well crush around those metal fasteners and tear out. My benchwork got its horizontal stability by attaching it directly to the house. Should you build a layout that is free-standing, or runs some distance from the walls of your house, diagonal braces work just as well horizontally in corners just as they do vertically with legs. In constructing this peninsula (Figure 23) I used diagonal braces to hold corners square during construction.

Figure 18: Here is my Masonite back ground attached with drywall screws to furring strips seen earlier. All the holes were predrilled and countersunk to get the screw heads below the finished surface. I used drywall joint tape to cover the seams and joint compound to cover the seams and screw heads. Drywall also provides an excellent paint surface, but I'd much rather carry three sheets of Masonite to the basement than a like number of drywall sheets.

Figure 19: This shows my Masonite after priming and getting its base sky color. Everything above the lower edge of the blue masking tape I have, conceptually, placed above the visual range I'd planned for my layout.

Figure 20: The time to paint a backdrop is before the benchwork is installed. I gave into temptation and built my benchwork first on the old half of my layout. Painting the backdrop was possible, but not nearly as easy as you see in the photo above. Here I've laid in my mountain base colors. As the mountains recede in depth from the foreground those base colors were greyed, thus helping create a simple illusion of depth. Also, note how the flat black paint above my sky helps limit the visual range above my benchwork.

Once the basic framework was done I recommend securing the bottoms of legs to the floor. (Figure 24)

I needed to extend the benchwork at one end of the original portion of the layout to accommodate the curved track leading to the new benchwork. First, though, I removed the terrain at that end of the old layout. (Figure 25) I took the old background piece from the end of the original layout and, since the mountains lined up simply relocated it on the rear of the benchwork. (Figure 26) As seen in Figure 18 I used joint tape and compound to cover the gaps, corner, and screw heads on these new and relocated background pieces. The mountains were blended together across the joint tape at the seam using the original colors of the background. The new end piece was painted in the same manner seen in Figure 21. There are two places on the layout where I placed draw bridges to maintain walk throughs. They were framed as seen in Figure 27. During this phase

Figure 21: I used an airbrush to paint simple high lights and shadows on the mountain base coat. These colors also greyed with distance as did the mountains' base colors. Only at this point did I install the rest of the framing. Note that clamps were used to hold the legs in place while the frame was leveled. Remember, also, that the elevation at this front left corner was transferred from the datum point established at the right rear of the benchwork frame and not from a distance above the floor.

Figure 22: I considered the joints in my benchwork as pivot points and this is just an element of good practice. There are single screws attaching the ends of each diagonal brace. These are sufficient to hold the braces in place and the leg plumb in both directions.

Figure 23: A diagonal brace held this corner square while I built this peninsula. During construction it is often easier to screw temporary braces to the top of a frame. Once I'd finished this portion of the frame, I added a pair of horizontal diagonal braces to the underside and removed the one from the top.

Figure 24: (below left) Here I've secured the bottom of a leg to the basement floor with a simple bracket made from a scrap of angle iron. The lag screw going into the floor is screwed into a lead anchor while the leg is attached with a pair of drywall screws.

of construction, I added a micro switch in the frame for the end of the bridge to depress when the bridges are lowered. (Figure 28)

While my benchwork was still open I ran bench power along the outer edge of the framework. The convenience of having electrical outlets every four feet, or so, along the outer edge of my framing was well worth the effort. I use these almost every day when working on my railroad and not having several extension cords laying across the floor keeps my work area less cluttered and avoids trip hazards. Also, I ran a seperate set of switched outlets that terminated at my control panels for my track power. Though not every model railroader has this luxury, when we built our house, I added an extra fifty amps to the electrical service. This easily provided three fifteen-amp circuits that now deliver power for my stationary power tools, track power, numerous electrical outlets, and for layout lighting. (Figure 29)

Instead of placing the traditional L-girders on top of my benchwork I chose to use T-girders. I'd used them in building the benchwork on the first portion of my railroad and they'd worked so well for me then that I planned on using them for my addition as well. T-girders are made with one by two nominal lumber and a simple fixture allows for easy assembly. (Figure 30) I recommend placing T-girders on sixteen-inch centers along you benchwork frame. This spacing leaves plenty of room for one to stand between girders and provides sufficient support between risers to sub-roadbed for track. (Figure 31)

Using T-girders provided me with the several advantages. For example, support risers can be placed on one or both sides of the T-girder. I placed my track zero-inch elevation not on top of the T-girder flange, but above that point as seen in Figure 32. This was done to accommodate scenic features that needed to be placed below my lowest track elevation. (Figure 33) Auxiliary T-girders may also be dropped between any two existing T-girders as needed to provide support for trackwork or other features. (Figure 34) Placing risers on both sides of a T-girder and screwing the plywood

Figure 25: It may look as though I've chipped off more terrain than needed, but this was done to help blend terrain into the addition and to allow for new structures that I planned to put into this space.

Figure 26: This is the benchwork extension with its background pieces in place. The short piece of painted hard board was formerly placed along the end of the old benchwork. The space to the right of this photo is the walkway to my new work bench. I'd always planned to have a pair of draw bridges connecting the two halves of the layout.

Figure 27: The foundation for my draw bridge required stability and thus it was framed in the same way as the benchwork. A layer of birch plywood will go on top of the upper 2x4 seen here and the hinges for the bridge will go above the plywood.

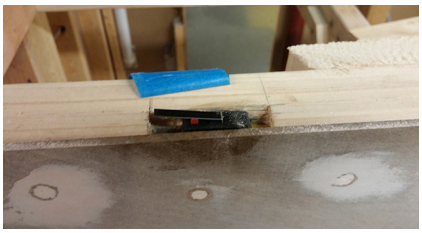


Figure 28: This microswitch was added to the framing on the opposite side of the opening seen in Figure 27. If the draw bridge is in the up position all power to the tracks leading to this side of the bridge opening is cut. When the bridge is lowered down it closes the switch and power is restored to the track.

Figure 29: I ran outlets along the outer edges of my benchwork. When planning your railroad think about places where you will need electricity for your future work. Placing outlets at your work bench, which I did earlier, should be considered as you plan the electrical distribution needed for your railroad.

Figure 30: This simple assembly fixture made from scrap lumber holds the two pieces of one by two in place so they may be drilled and then screwed together.

Figure 31: These T-girders are placed sixteen inches on center. They were fastened down with two screws on each end.

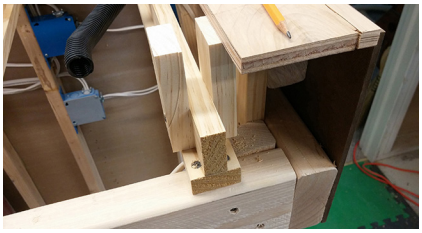


Figure 32: If needed, support risers may be placed on both sides of the T-girder. The top of the plywood where you see the pencil is my track zero elevation level.

sub-roadbed to them creates a vertical easement when transitioning between grades and level track. (Figure 35)

I used one half-inch birch plywood for my sub-roadbed and any large, level areas on the layout. Birch plywood is relatively flat with smooth surfaces on both sides. It also has very few voids in its layers. Though more expensive than other available products I find the quality of the birch plywood eases construction quite a bit, and the results I obtain are well worth the bit of extra expense involved. The track plans were drawn using 3rd Planit from El Dorado Software (Figures 1 and 2) that I printed out at full size. I traced my roadbed and layout track locations on the layout with these. (Figure 36) After considering several options I elected to use Homasote roadbed as I did on the first half of the layout. (Figures 37 and 38) When building a drawbridge on a layout it's important to make sure the barrels of the hinges used are above the track. (Figure 39) When gluing curved flex track across gaps at my bridges I soon learned that over time rail tends to straighten. This was something I learned some months after laying my track. Upon inspection, I saw that not every tie was firmly glued into place and the slight force of the rails wanting to straighten out caused their ties to migrate. The result was, obviously, track falling out of gauge at the drawbridge seen in Figure 39. My solution, after tearing up that track was to totally embed the ties on either side of the gaps in adhesive. (Figures 40 and 41) Building up around the ties near the gap prevented those ties from shifting over time. After the adhesive was fully cured it's best to cut rails that cross the bridge gaps using a rotary tool. Then a razor say may be used to cut the plastic ties. (Figure 42) To protect wiring passing between the main layout and my drawbridges I used a plastic cable loom. (Figure 43) All of the control panels on my layout will also fold down out of the way when needed.

Figure 33: The locomotive and caboose are at my zero-inch track elevation, while the water and schooner are placed directly on top of the T-girders.

Figure 34: Here you see an auxiliary girder placed between two existing girders. The web of this girder was made slightly longer than its flange, as you can see. Thus, making the new girder self-supporting. It is fastened in place by screwing into its ends though the existing girders.

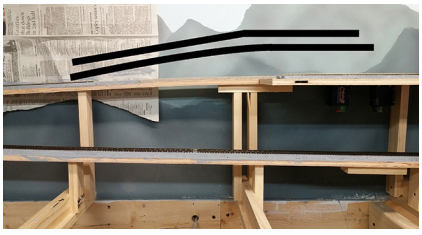


Figure 35: With risers on both sides of a T-girder the inherent stiffness of my plywood sub-roadbed created a smooth transition between grades and level track. Rather than an abrupt change indicated by the top black line the path of the track is smoothed as shown by the bottom black line.

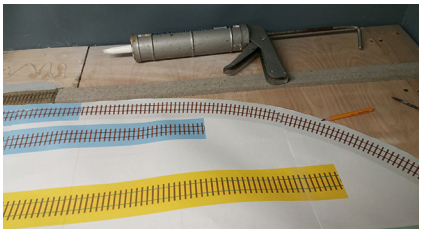


Figure 36: (below right) Here I used a full-sized printout of my track to mark roadbed locations on my layout. I drew these plans using version 10 of 3rd Planit and they allowed for accurate work on my part. In reviewing El Dorado's website for this article, I found that the current version of their software will interface with CNC routers and laser cutters, thus rendering my sabre saw obsolete. This is all very exciting and something to consider if there is ever a new layout in my future.

Figure 37: I glued the Homasote roadbed down with Franklin's Titebond II glue and then tacked it in place with a brad gun.

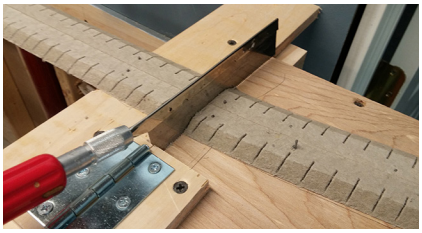


Figure 38: I ran my roadbed across the gaps between the layout and the two drawbridges on my layout. After the glue dried, I cut the roadbed.

Figure 39: This is important. The centers of the hinge barrels must be physically above the top level of the rail. Otherwise, when the other end of the bridge is lifted the ends of your rails will be forced into each other and, thus, bending your rail.

Figure 40: I used Loctite's Power Grab adhesive to hold my flex track in place. Power Grab creates a strong bond shortly after the surfaces are pressed together. It can take, depending upon the amount applied, a few hours to fully cure. For a few inches on either side of the gaps on this bridge I completely encased the sides of all the ties in adhesive.

I used cable looms on those as well. (Figure 44)

I'd planned a small yard at the rear of the bench work and I found it much easier to build it out of its place and then install it when completed. I laid a piece of half-inch birch plywood on a vacant portion of my layout and began working there. (Figure 45) Though it wasn't in my original thinking it was soon obvious that I could flip the whole yard over and install my point motors as soon as the adhesive was fully cured. (Figure 46) Once finished, all I needed to do was place the Three Sisters yard on top of its risers and the screw it in place. (Figure 47) With the yard in place the task of building the benchwork for the my layout addition was complete. Though much work remains on my railroad, this point marks the end of the chapter on its benchwork.

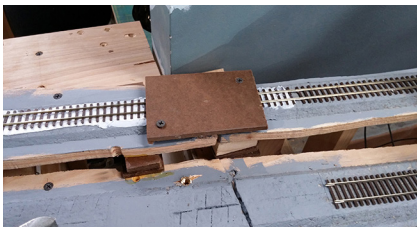


Figure 41: With so much adhesive around those ties near the gap I felt the track needed to be clamped down. The method that worked the best for me in this situation was the one seen above. It did take several days for this much Power Grab to fully cure, but was ultimately worth the wait. All four tracks crossing this bridge remain securely in place to this day. Take care to not overtighten the screws when clamping the track down.

Figure 42: I used my Dremel tool with an abrasive wheel to cut the rail at the gaps. As opposed to using a saw this method places much less stress on the tiny rail spikes holding rails to the ties. With the gaps cut in the rails a razor saw may be used to cut the plastic ties.

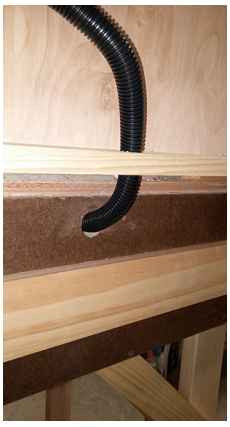


Figure 43: This is a plastic cable loom. It's simply a split corrugated tube that will hold a number of wires together. I used it to prevent wires from abrading against wood as I raise and lower my draw bridges.

Figure 44: (below left) My control panels fold down to allow for easier access to the rear of the layout. Given enough slack, wires slide smoothly over the inner surfaces of the cable loom. I ran my wires into the control panel in the folded down position to provide the needed slack.

Figure 45: The track with the fresh, white adhesive is the Three Sisters yard taking shape on an empty part of my layout. There is a clamp and scrap of wood holding down the track at the left end of the yard. More clamps and weights were added to hold the track down until the adhesive fully set.

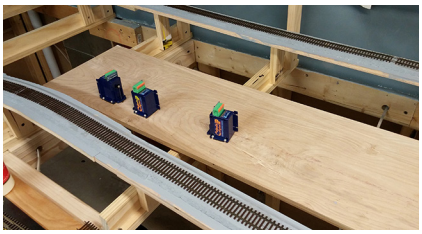


Figure 46: This wasn't part of the plan, but I can tell you that this was the easiest time I've ever had installing switch machines. I wish I'd thought of this when I was building the first half of my layout. If you have the opportunity this technique is well worth trying.

Figure 47: I took this photo moments after finishing the work described in this article and before cleaning up my tools. The Three Sisters yard is in place at the left of this photo.

The Au Sable & Antrim Railroad

An On30 Modular by Matt Woods

The A&A is a protofreelanced On30 2'x6' modular switching layout representing a 1930's era common carrier narrow gauge railroad in northern Michigan. The A&A is primarily a logging railroad, but does handle agricultural products and a few passengers. Although the railroad itself is fictional, it represents an area of Michigan that I am very familiar with and consider highly modelgenic. The A&A is loosely based on characteristics of the real life East Jordan & Southern, the Manistee & Northeastern, and the Boyne City Railroad.

Old Mission & Leelanau boxcar spotted at the elevator. Agricultural products are a big part of the A&A's traffic.

The A&A began life as a 2'x4' module called "Antrim Siding" that was built for the Midwest Narrow Gauge Show diorama contest. A number of elements and structures were retained from that original project and recycled for the current iteration of "Antrim Siding." The layout is built on a 2'x6' birch plywood module with folding legs on a 2" foam base. I was assisted by my father-in-law in the construction of the modular framework. All track work is Micro Engineering Code 70 On30 track. The layout is DC controlled.

Apart from the main line, there are three sidings serving a freight house, grain elevator, and pulpwood unloading siding. The village of Antrim consists of a small depot, two stores, an old carriage repair shop and blacksmith, and a few miscellaneous sheds. Some of the structures are scratch built, with all remaining structures being craftsman kits. A number of novel scenery techniques were used in building the layout, including extensive use of *Das Air Dry Clay* for the terrain and road surfaces, along with the sidings, which are embedded in the clay to depict hard packed dirt. The benefit of the clay is it is very moldable and retains tire tracks and texture very well. Many of the layout's surfaces are covered in static grass and underbrush made from artificial steel wool covered in ground foam. Another scenery medium is the wonderful line of products by Martin Welberg depicting thick undergrowth and vertical relief. Real sand was also used in many locations.

(above) Bachmann mogul #3 eases into town past a boxcar storage shed that has seen better days.

(left) A view of the Antrim depot and an old boxcar that has been relegated to storage purposes. The boxcar was made by actually cutting the walls to the swayed back shape and sided board by board.

(above) The AuSable & Antrim mogul #3 sits on the main in the middle of the tiny village of Antrim.
(below) A curious moose wades through a bog to check out the activity at the Antrim Siding.

Although small in size, the layout does have some operational capacity and cars can be switched between the different sidings from the main line. This small layout allows me to operate some of my On30 locomotives and rolling stock and utilize a number of structures that previously did not have a home. All structures are removable for transport of the layout along with other details and scenic items. Further detailing will be an ongoing process and help maintain interest in the layout.

Hopefully, this layout provides an example of a small project that can be completed in a reasonable amount of time and allow the modeler to hone their skills before tackling a more expensive layout.

Matt Woods

DIVISION 1 Exhibition Topic - April Topic - Layout Photos

We may not be able to physically meet and show off our latest locomotive, caboose or bridge. But with that can't stop us from sharing photos of layouts, modules or dioramas. Send me a digital image with a brief description and we will share with the Division via the Peddler Freight. Smart phone photos are fine. Digital photos should be jpeg format at least 266 dpi. If you've already shared photos previously, take some new shots of a recently completed section of your layout. Or, take some pics from a different angle with a different train rolling through.

The deadline for the May issue is April 20. Any questions, send me an email or give me a call.

Bruce Hukill, PF Editor
hukillbruce@gmail.com
(330) 571-4037

Light Stand

A quick project from scrap wood

by Kurt Sanders

I decided to work on my T-TRAK modules. When starting on the scenery, I decided that I could use more light. I went to my shed looking for some lights. I found some clamp lights and also noticed that I had a lot of wood left over from various home improvement projects. I decided that I could use some of this wood to make a light stand. The wood pieces were already the sizes that I needed and I only had to make some spacers for the stand by cutting the wood to the size needed. Never throw away wood, you never know when it might be needed.

I put the trim pieces together and decided that I needed a spacer in between them, for two reasons: 1) they made the stand a little thicker and 2) it made it easier to move the stand.

For the base I cut off two pieces from a longer board. When I cut the base boards, I cut them long enough to hold the light stand up so it won't tip over.

When attaching the light stand to the base, I added another piece of wood to the stand and attached that to the base. This made it easier to attach to the base. Everything is screwed together, so if I want to take it to a show it can be easily moved. I may cut the stand in half, thereby having tow sections, making it more portable.

My light stand doesn't look like much, but it works, is portable, and puts light where you need it. You never can have enough light.

Kurt Sanders

THIS MONTH'S MEETING
Sunday, March 26, 2020
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735 Southridge Rd, Sagamore Hills, OH 44067
(Use Northfield, OH for some GPS) 2 PM
A layout will be available.
Snacks will be provided.

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Do you know the requirements for the different Certificates? The Golden Spike? If you have been in the hobby for a while you may already have some of the items needed for a certificate: Cars? Structures? Scenery? If you were on the committee planning the Regional Convention, you may have enough points for Association Volunteer.

The NMRA website has all the information you need to help you earn a Certificate. Check it out. If you have any questions contact me and we will figure it out.

Lloyd Horst
AP Chair

Train Shows and Open Houses

Division 1 Layout Tours – April 4, 2020
see article on page 5
Admission: Free Noon - 3:00 PM

Canceled

Toy Train & Model RR Flea Mkt. – April 19, 2020
Salem Center Plex
1098 N. Ellworth Ave., Salem, OH 44460
Admission: $5.00 10 AM - 3:30 PM

Canceled

2020 Steel City Express – May 28 - 31, 2020
Mid-Central Region Convention, Pittsburgh, PA
www.keystonedivision.org/convention/index.html

12th Ohio N-Scale Weekend – May 15 - 17, 2020
Franklin County Fairgrounds
4100 Columbia St., Hillard, OH
www.centralohiontrak.org

NMRA National Convention – July 12 - 18, 2020
Saint Louis, Missouri
www.gateway2020.org

Model Train Days - June 13 - 14, 2020
Painesville Railroad Museum (aka NYC Painesville Depot)
475 Railroad Street, Painesville, Ohio 44077
Admission $5.00 10 AM - 5 PM
http://painesvillerailroadmuseum.org

NYCSHS Train Show - May 17
Holiday Inn Cleveland South
6001 Rockside Road, Independence, OH 44131
Admission FREE 10 AM - 3 PM

Hobo Day - July 25
Painesville Railroad Museum (aka NYC Painesville Depot)
475 Railroad Street, Painesville, Ohio 44077
Admission $5.00 10 AM - 5 PM
http://painesvillerailroadmuseum.org

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The “Peddler Freight” is published each month September through November and January through June. Opinions expressed in this issue may not represent the opinions of the Editor, Division 1, MCR or NMRA.
Suggested donation is $5.00 a year.
Checks payable to:
Division 1 - MCR - NMRA, Inc.
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