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Beginnings

For Christmas 1975, I received my very first train, an O-27 Marx “Yardmaster” complete with a searchlight car, crane, a flatcar with stakes, and a neat little work caboose. I spent many hours on the floor running it past Lego houses and lines of Hot Wheels waiting patiently at imaginary crossings. Not long after the initial charm wore off, I took the shell off the engine and became fascinated with its inner workings. A few years later I received my first Lionel set, the “Wabash Cannonball”, at the time considered a major upgrade since it was my first die-cast steamer. Soon after receiving this set, I started to work on my first layout. I named it “Greensville”, and it was nothing more than a chunk of plywood covered in Life-Like grass paper with a train station made out of a shoebox. This was replaced in time by the Wabash Short Line, a 4’ x 5’ layout sitting atop a set of sawhorses built by an uncle.

Since Then...

Throughout my teen years, I would pursue the hobby in fits and starts, even experimenting with HO and N Scale for a brief time. It was not until 1994 that I began to pursue O Gauge again, after living in Pittsburgh for a few years. Being around Pittsburgh’s awesome railroad and industrial heritage got me hooked once again, as I was able to do some memorable railfanning and train collecting. Years later, after a series of moves around the country and having built my fair share of apartment-sized layouts, my wife and I settled in Michigan. While house shopping in late 2002, quite a few basements were scoped out for what was to be my latest layout. After settling in to our new home, work began in earnest to prepare the space that my newest and largest layout would occupy.

Initial Layout Concept and Construction

Once I had the space prepared for construction, I began to work on a trackplan and a concept for the layout. Initially, I just wanted to run a lot of trains, both scale and semi-scale at the same time, in a mostly scale environment. Wide curves were a must for some of the larger scale steamers I managed to acquire in the past few years, and long straight shots were desired to show off long lines of freight cars. After assessing the space I had available, I decided on four separate loops, with two separate yards for storing engines and cars. Scenery would consist of mountains at one end and a large industrial city at the other. An attempt was made, early on, to achieve a flowing, natural look without too much clutter. Mountain cuts were envisioned, as opposed to tunnels, to give more train viewing opportunities. Larger engines and cars would be run on the outer loops, with semi-scale and smaller equipment occupying the innermost loop. A wide aisle in the center would allow unfettered access to all the trackage.

Technical Layout Aspects

Benchwork for the new pike started in February, 2003. The layout would measure out at 9.5’ x 22.5’, a size I consider to be just right for conveying a feel of expansiveness, yet still being manageable. An average height of 36” was chosen to balance the needs of tall scenery and relatively low ceil-
The layout was built modularly, then bolted together in sections. The trackwork is all Atlas O, chosen for its realistic looks, ease of assembly, and curve geometry. Steel track was used on the innermost loop for my Magne-Traction locomotives. Standard 4.5” spacing was used along the two outermost lines. The switches are all Atlas O-72, controlled by TMCC SC-2s in strategic locations. The trackage is finished with Woodland Scenics medium ballast of varying shades. I used locally obtained sand as initial fill between the ties. By doing so, I was able to apply a thin layer of ballast over the sand, which helped to extend the amount of track that could be covered for a given amount of ballast.

Wiring was run out with 14-2 Romex cable, with 16AWG feeders in four main locations, soldered to the rail joiners. Auxiliary power jumpers were added where needed. This was a very cost-effective way to provide power to my track and handle the high current required by multiple unit locomotives and long lighted passenger trains. Switch wiring was run with Belden 22AWG cable scraps. The color-coded wires aided in keeping track of switch wiring. The power is supplied by a modern Lionel ZW, with a combination of Powerhouse 135’s and 180’s.

Control is handled by Lionel’s TMCC system. I run command control exclusively, although the ZW can provide conventional control as well. I keep a few CAB-1 handheld throttles on hand for visitors, and up to three people can run the layout simultaneously. I have been using TMCC since 1997 and find it to be easy to use and reliable.

The layout scenery is influenced by the places I’ve lived, namely New England, Pittsburgh, and Detroit. I am a big fan of Eastern US scenery, both industrial and rural. Mountain scenery consists of plaster-soaked shop towels over screen, with forms made of plywood scraps and MDF. Because the trackage comes so close to the walls in places, some of the hills are nothing more than 1/8” masonite hardboard cutouts. The background is made of 1/8” masonite hardboard, painted a very light gray, then lightly painted over with a sky blue in an attempt to give it a hazy appearance. Ground cover is mostly Woodland Scenics’ products along with common backyard dirt. Trees are Scenic Express Super Trees, spray painted black, dipped in diluted carpenter’s glue, then sprinkled with fine turf.

After the mountains were roughed in, I began experimenting with my urban industrial section of the layout. I envisioned large concrete and brick factories looming authoritatively over the mainlines. Interspersed with these structures would be smaller buildings of different styles. I soon realized that to make anything of the size needed to convey a sense of imposing presence, I would have to scratchbuild. The building designs were freelanced, based on structures photographed around Detroit and Pittsburgh. I used foamcore, 1/8” and 1/4” masonite hardboard, 1/2” MDF, Plastruct rough brick sheet, and various scrapbox materials to make up the bulk of the buildings. Windows and details are from a few different manufacturers. Some windows are nothing more than 1/4” hardware cloth held in place with Gallery Glass (picked up at Michael’s Craft Stores). Most of the structures are named for friends and family. Scratchbuilding also helped fulfill another desire, to make the layout look as unique as possible. A few kitbashed structures are present, but the desire to make a unique setting for my trains led to creating and building my own designs.
While the residents of Greenbrook were kind to him, the undeniable pull of that distant lonely whistle keeps our hobo moving along.

A small hunter's shack on the road out of Greenbrook.

Photo 5: A small hunter’s shack on the road out of Greenbrook.

Photo 6: Depot Street, Greenbrook.

Photo 7: Back alley view of Greenbrook, behind Shirley’s Diner.

Photo 8: The Machesky Filter complex, named for an influential train buddy. This building was kitbashed from some Lionel kits I had laying around and was designed to fit this curved siding.

Photo 9: A C&O wooden caboose built from an old Quality Craft kit to bring up the rear of my Allegheny-powered coal drags.
Changing Roster, Evolving Layout

Motive power and rolling stock started off as a mix of Lionel TMCC-equipped semi-scale and scale equipment that I had acquired in the years prior to the construction of this layout. As the layout progressed though, I found myself drawn more and more toward Lionel’s full-scale offerings. This led to the selling off of many of the semi-scale items. During this time, I came up with the cash necessary to purchase a slightly used JLC UP Challenger. Its maiden run across my layout immediately showed me some of the problems my original plans created, namely clearance issues. It turned out that the biggest problem area was the mountain cut. I set out to correct this problem by carving the section up with my trusty Sawzall and installing a concrete retaining wall made up of masonite. This gave me enough clearance to allow the Challenger to charge through the cut, free of obstruction. This locomotive acquisition and the accompanying clearance project changed the outlook on both my motive power choices and my layout’s construction.

The mountain cut project allowed me the opportunity to freshen up a part of the layout I had considered finished. Along with the retaining wall, I decided to add a bunch of rock castings and more foliage, to add more depth to the mountain cut scene. Completion of this project

Layout Info

Size: 9.5’ by 22.5’

Benchwork: Semi-modular Tabletop

Track: Atlas O Nickel-Silver and Steel

Curves: 0-90, 0-81, 0-72, 0-54 (diameter)

Switches: 0-72, #5’s

Power: Lionel ZW, Two 135W Bricks, Two 180W Bricks

Control: Lionel TMCC w/SC-2s for Switch Control

Motive Power: Lionel Steam and Diesel, TMCC, Railsounds, and Odyssey-equipped

Rolling Stock: Lionel, Atlas, K-Line, Quality Craft, Pecos River

Timeframe: ‘Flexible’ - Steam/Diesel Transition Era, Some Elements of 1930s and ’40s

Scenery: Freelanced Eastern US; Industrial Urban, Appalachian/Berkshire Influenced Mountain, New England Small Town
led to the idea that it may be time to rethink my original concept for the layout.

**Renovations, Fall 2004**

In the fall of 2004, I started to renovate the whole back section of the layout. This project lasted six months, adding more operational interest to the layout and providing more interesting scenery opportunities. The innermost loop was combined with the third loop, creating a sort of ‘back road’ through the hills. The original four-track dead-end yard was removed and replaced with a few industrial sidings, whose approaches crossed over each other, serving some small industries. About this time I added Wilfred Gage, an odd-shaped free-standing industry that would be the inspiration for future projects. The addition of this structure and the Machesky Filter complex helped add depth to the layout. A small wooden station was added along with a dilapidated old hotel and bar. A rocky hill helped transition the mountain-to-city scene with another cut comprised of more concrete retaining walls and hand-carved plaster rocks. A couple of small street scenes were added, along with figures, vehicles, and other details.

**Further Observations on Layout and Roster Evolution**

As the scenery gravitated toward more realism and detail, so too did my tendencies toward motive power and rolling stock purchases. I have found myself attracted to big steam in a major way. Lionel’s efforts of late have been very accurate representations of their prototypes and their sounds, especially the newest RailSounds 5.0 versions. These latest versions of on-board sound add much to the experience of running these machines. I’ve gravitated toward Eastern steam, lately, and my current favorites are the Pennsy T1, the JLC C&O Allegheny, the N&W #611 J Class, and the PRR Y3. I still find time to run my JLC Challenger and a UP “veranda” turbine on hotshot freights though, and will maintain their trackage rights for quite some time to come.

Older power is getting the Train America Studios EOB treatment on a case-by-case basis, my latest conversion being the T1. Along with EOB conversions, I have taken to modifying some of my smoke units for increased and more reliable production, and adding TAS’ Puff-n-Chuff boards where that feature is desired.

The rolling stock on my layout has become a mix of Lionel’s newest scale cars, such as the PS-1 boxcars, PS-5 gondolas, steel PFE reefers, 50-ton hoppers, and milk cars. A TMCC crane with matching sound car has added some interesting action. A small but growing collection of Atlas wooden reefers can be seen on the rails too. An interesting side project was the construction of an almost 30-year-old Quality Craft C&O caboose to properly bring up the rear of my C&O Allegheny’s consists. This little project was very satisfying to complete, and added an interesting new dimension to my scratchbuilding activities.

**Yet More Changes**

As anyone with a permanent layout will tell you, a layout is never truly complete. Feeling the urge to build again, I thought of a new opportunity to add depth and believability to the layout. A new village section was added across the center aisle, started in September of 2005. This section would allow me to try my hand at some small- and medium-size wooden structures with a sort of old New England feel. Thus, the Village of Greenbrook was born, the name being an homage to my first little Greensville layout and the Greenfield Village of the Henry Ford, one of my favorite sources of inspiration. A short siding enters one end of the village, which will provide a perfect location for another small industry to help justify the small settlement just outside the big city.

**The Future and a Note of Thanks**

Future and ongoing projects include signaling for the mainlines, completion of the new village area, and more details and vehicles. As time allows, some of my larger buildings may have more details added to them to freshen them up a bit. Expansion of the layout is considered from time to time, and many staging yard schemes have been pondered. Weathered rolling stock is on the list too.

Many lessons were learned during the building of this layout, and I’m sure many more are to come. With that being said, it is probably time to thank those who I feel have provided much needed inspiration and encouragement. First off, I’d like to thank my wonderful wife, Deborah, for being so understanding of my sometimes strange obsession. Dan Machesky, who not only has provided server space for my own little train website [http://norm.beesky.com/], but has shown me what an effective tool scratchbuilding can be for creating a unique layout experience. Thanks to Bob Bubeck, Mike Sheedy, and the whole Glancy Trains crew for putting up with me. And most importantly, thanks to my dad for getting that first Marx set, which started me down the track toward a hobby that has provided me a never-ending outlet for creativity and learning.

For more photos of Norm’s layout visit his website listed above. Norm also has a blog at [http://normstrains.blogspot.com/] where you can see videos of Norm’s layout. — Joe G.)

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My railroad (Ready for a big surprise?) violates most, if not all, of the accepted rules for successful trackplanning. There's no hidden staging, no big yard. It's actually two railroads, not interchanging with each other at all. A point-to-point switching railroad is woven in with a double-track mainline parade route for the big impressive stuff, both through plenty of gritty New England urban scenery. If I, or my few remaining friends, want to switch cars all night, or if we just want to sit and gasbag about the latest O Scale behavioral issues while watching the Minuteman gliding past a manifest freight, we have that choice. Visually, this rather flagrant flouting of the enSIGLicals of layout design works best by establishing two different recognizable identities for the two different lines. This issue required some thought, which is fortunate for me (evolving into this edition of Scace's Snappy Patter as it did) and perhaps useful to you because you may also want to re-enforce that idea of visual identity if you're modeling, say, an interchange on your road. More important to most of you, however, may be to consider these thoughts to help you replicate (or create, for you freelance types) a visual identity for your railroad as a single entity.

As I've opened up the myriad moving boxes full of stuff I forgot I had, I've been consolidating all the structures I've accumulated into various categories. One of these is (strangely enough) railroad structures, such as towers, watertanks, stations, and section houses. What a huge collection of nice stuff, if I say so myself, but not all of it is going to be useful.

Many railroads used a common style of architecture that defines locale and company to the public eye. Mission-style stations key off the Spanish heritage of the Southwest, as an example, and fairly scream, “Santa Fe”. In O Scale, one of the first companies to make prototype-based building kits was the Model Structures Corporation, whose railroad buildings followed Espee practice. In my case, I wanted to define one line as Boston and Maine, and the other as Boston and Albany. B&M influence is defined using those nifty pagoda-style towers (also common on New Haven), combined with their later wooden stations and lineside structures. The B&A identity is re-enforced with fortress-like stone stations of Richardson design, mixed with their standardized large squared hip-roof towers. The trick here is to use common architectures to visually define each railroad. A careful cull, and my remaining lineside structures that don't architecturally fit are up the road.

Much like locomotives and rolling stock, standardized paint schemes on everything from sheds to stations add to that family feeling we're seeking; in my case, the grey and green of B&A contrasts nicely with the ochre and brown of B&M. Paint everything your railroad owns in a common scheme (even if the architecture is, shall we say, undefined), and you'll get a long way down the road to that visual company definition we're looking for. Next, take a gander at the signage. Standardized fonts, color schemes and sizes actually help even more than spelling out the owner's name on everything. Red and yellow keystones are the Pennsy, as much as K4s and GG1s. Station signs with “targets” on either side of the name were the public's first (and lasting) image of the Santa Fe. I grew up with the black and gold cast station signs of the New York Central.

The whole company standard thing even gets down into the little stuff, such as whistleposts, crossbucks, signals, and paint color on mechanical things such as bridges and relay boxes. Mileposts are really worthwhile, as they establish place very handily. The B&A's granite tombstone mileposts, carved with whatever number of miles you are from “B” for Boston, are a good example. Cut granite retaining walls are a hallmark of the Northeast, covered bridges speak to New England, and spindly wooden trestling has that Northwestern three-foot logging flavor. Even a single lone lineside detail can convey identity, loud and clear. John Armstrong's Canandaigua Southern featured an interchange with PRR. In reality, all that was there was a single piece of track crossing the CS mainline. What defined it was a Pennsy position-light signal (contrasting with the CS standard searchlight signals) permanently lit at “stop”, protecting the diamond.

So where does all this wisdom come from? Check photos of your favorite railroad or locale. The Trainshed Cyclopedias, Simmons-Boardman Engineering & Maintenance Cyclopedias, drawings from historical societies and some of the early architectural periodicals are loaded with info on everything from shop buildings to spike barrels. Better yet, go look at the stuff in the flesh! In my case, several of the B&A Richardson stations are still standing, and some are being restored to their past splendor. (We just got back from a very pleasant visit with Phil and Brenda Opieiwoski; we went to the newly restored Palmer station. It is now a very nice restaurant, and the owners were most kind in showing me a lot of the details of the restoration. The food was very good, too!)

If someone can pick up on the separate identities of the two companies represented in my basement with nary a train in sight, I've pulled it off. Give this a little thought (re-enforced by stuff drink, perchance?) Perhaps this might help to make your efforts feel more like a single property rather than a visual stew of well-built, yet disassociated, models.

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Work Trains – Storm Cleanup

To start, an introduction would be in order. I became involved with two-rail O Scale model trains in the early 1970s. In 1977 I went to work for the Frisco Railroad as a Brakeman – Switchman out of Birmingham, Alabama. In 1990, after the Frisco merger into the Burlington Northern, I qualified as a Locomotive Engineer and have worked continuously as an engineer ever since. Currently I am assigned to Inter-Division Service, working between Memphis, Tennessee, and Birmingham, Alabama. We operate empty unit coal trains northbound to Memphis, and loaded unit coal trains southbound to the Miller Steam Plant outside of Birmingham.

Construction of my second two-rail O Scale layout is well underway. I do model the Frisco, as well as the BN and BNSF, and consider myself a Modern-Era modeller. More on this later; now, on to this column’s subject matter.

Work trains are a class of service that handles construction, maintenance, repair and other railroad projects that involve the movement of company materials and equipment. Let’s look at August 2005 (Hurricane Katrina), when BNSF managers activated a response plan to deal with storm damage prior to the hurricane coming onshore.

August 29, 2005: Work train crews are called and transported to multiple locations where equipment and materials have been pre-staged. As the storm rolls across the Birmingham Subdivision, the main line is closed down. Trains are stopped and tied down on line of road. The crews are removed and transported to their home terminals. All we can do now is wait, and hope for the best.

August 30, 2005, 5:00 AM: Reporting for duty at Winfield, Alabama, our assignment is to clear a thirty-mile section of main line. Maintenance crews have been out for several hours monitoring the storm and listing milepost locations where the track is blocked. For our use are two 50’ flats. One has a Komatsu excavator chained to the deck, while the other is loaded with a trailer mounted electric generator and telescoping construction lights. Gons loaded with panel rail, loaded ballast hoppers, and air-dumps with rip-rap are also available. Today, we will only need our locomotive, a BNSF SD40-2 #6716 and the 50’ flatcar with the excavator to perform our work. Track and Time issued, and a work and safety briefing behind us, we get started.

Encountering our first obstacle, several large trees blocking the main line, the excavator operator flags us in to a spot (Photo 1). He then goes to work breaking up the trees, moving the debris into the clear on the side of the mainline. Clearing this area, we move to the next location, clear this obstruction, and then move on. Reversing direction is simple; the operator relocates the excavator to the opposite end of the car, and we run around the car with the locomotive. After completing our day’s work, we return to the location where we began, report the mainline clear and release our Track and Time. After all other crews report clear, revenue traffic begins moving: it’s now 6:00 p.m.

The other photograph that illustrates this column was taken on my layout (Photo 2), with models on hand. Here, you’ll see an Atlas GP-60, Weaver 50’ flatcar and 1:50 scale Joal excavator, various Lifelike figures and scenery materials. Loading a flatcar or gon with straight track sections creates a track panel car. Prototype panels are usually 39’ long. If you have model ballast hoppers, load them with the same ballast that you are using on your track. If not, use some two- or three-bay open-top hopper cars. In years past, I have unloaded ballast by this method on the prototype. Load a side air-dump or gondola with a grade of gravel that simulates rip-rap. Revenue equipment is often used when specialty cars are not available.

Work trains are an everyday part of railroad operations. Adding one to your layout will create new and different operating possibilities, regardless of what era you may model. Using older equipment for the era you model is also acceptable, and a common practice on the prototype. Have fun with these modern prototype operations.

Until next time, “All-aboard!”
Need something different? Switch to B.T.S.!

Bridge Crane
Overhead bridge cranes were located at various places including the team track, engine house, large industries and the freight house. It was used to move heavy loads from flats and gons.

The model is a brass import. The hoist trolley is positionable on the bridge. The model is painted and ready for you to simply hang the hook and chain on the hoist. Approx. Size: scale 20' wide with 16' clearance from ground to the bottom of the bridge. This is a limited run project that is sold direct only from B.T.S.

#18505 $119.95

Junior’s Shiner
Down by the tracks is the location for this early mobile home fit for any time from the 1930’s to the present. The nickname "shiner" came from the unpainted aluminum siding used on many of the early models.

It is a laser-cut kit featuring styrene sides and a wood core. Included are venetian blinds, color awning, and oil tank. Footprint, without awning, is a scale 29' x 10'.

#17405 $49.95

McCabe Drying Kiln and Tramway & Storage Yard
The McCabe Lumber Co. Series Tramway (above right) connects the Slatyfork Sawmill to the storage yard, drying kiln, and planing shed. It is a key feature of the complex. In this kit are the eight drying platforms, cart turntable, single and double track tramways, and the loading docks. Also now available is the Drying Kiln, shown at the left above.

This kit consists of laser-cut basswood, plywood, detail castings, and a very complex appearance. However, the well-engineered construction provides fast and easy assembly. Weathered code 70 rail and spikes are part of this kit, as are the laser-cut spike holes! And in the box are hundreds of pieces of pre-cut lumber for stacking in the yard. If the Drying Kiln (#18230) is to be included in your complex, it will be easier to build the kiln and the tramway at the same time.

The footprint is of the Tramway and Storage Yard is about 100' x 110'. The footprint of the Drying Kiln is about 33' x 50' including 13' of deck on the front. And because of our engineering, it can be assembled in one of several different positions to better fit your layout. HO model shown; some details may vary between scales. It is a limited edition kit.

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<td>Slatyfork Sawmill</td>
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Celebrating over 26 Years of Service since 1979
The engine servicing facility under construction on the Cincinnati Model Railway Club’s O Scale layout required a 110’ turntable. The prototype is a Bethlehem twin-span turntable. One of these was the 115’ table at the Cincinnati Union Terminal, and another was located on the C&O at Hinton, West Virginia. This selection of a prototype seemed appropriate for the C&WV, a C&O-theme coal hauler. Prototype plans for the turntable were published in the March 1973, Model Railroader. The roundhouse area is located on an upper deck over the staging yard at the “other” end of the line. This location required the turntable pit depth and drive system to be no more than four inches deep. Due to the limited working room above and below the deck, it was designed as a modular unit and was built off-site.

The cross-section schematic of the turntable and drive box (Figure 1, page 18) shows the relationship of the major components. The drive box has a base, four sides, and a mounting post at each corner. The top of the drive box also serves as the support for the turntable pit. A “Lazy Susan” bearing is mounted at the center of the base and supports the circular drive disc. A square driving post is mounted at the center of the disc. The turntable fits over the driving post. Around the lower edge of the disc is a driving ring that is friction-driven by the motor.

Construction started with the drive box base using a 30” square of 3/4” plywood. The four 3/4” plywood sides are 1.25” high.

The drive disc (Figure 2, page 19) provides rotation, electrical connections, and support for the turntable. It is a 24” diameter pre-cut MDF disc, also purchased from the local home improvement store. A 1/8” hole was drilled through the centerpoint. Using the bearing as a guide, four pilot holes were drilled for the bearing mounting screws. Four triangular lightening holes were cut out of the disc.

The friction drive ring is a length of HO gauge cork roadbed mounted at the outer edge of the bottom side of the disc. It is held with yellow glue and brads. A circle of HO flex-track is mounted inboard of the cork drive ring to provide...
the track power to the turntable. It has two short insulated sections that allow the polarity of the turntable to be switched at each 180 degrees of rotation. The circle of N Scale track provides power to the lights on the turntable.

The square driving post also has a 1/8” center hole for the center alignment pin. It is attached to the drive disc with two woodscrews. The sides of the post were carefully sanded to allow a close fit into the turntable. We’ll see more on that later.

The disc has routed slots that hold the wires feeding the two track circles. The wires exit the top of the disc against opposing flat sides of the drive post. This insures that they will clear the center hole of the pit as the post rotates. Miniature connectors provide quick electrical connections to the turntable.

The motor is a Pittman gear-head motor with a 19.5:1 speed reduction. The motor mounting bracket is a piece of 3/4” plywood drilled to fit the body of the motor. The bracket was then cut down so the hole was open on one side. A metal strip is used as the motor clamp. A rubber bushing on the motor shaft provides the friction-drive transfer to the cork drive ring on the disc. Since the output shaft of the motor is off-center, rotating the motor in the mounting bracket adjusts the load of the bushing on the drive ring. The weight of the drive disc helps maintain this friction coupling.

Three-rail locomotive pickups provide the voltage transfer to the power tracks. The voltage pickups for the N Scale track are installed 180 degrees apart. They are mounted on brass strips.

The two pickups for the turntable power are mounted in one cutout. This is due to the short length of the two insulated sections of the track circle. Their mounting brackets were made from 3/8” square styrene tubing.

The two pickups for the turntable power are mounted in one cutout. This is due to the short length of the two insulated sections of the track circle. Their mounting brackets were made from 3/8” square styrene tubing.

The photo above shows the drive disc installed into the drive box. Masking tape was added over the wire slots on the disc to hold the wires in place. The drive disc is shown rotated with the insulated sections of the HO power track positioned over the power pickups. Positioning the drive block at this location will orient the turntable at approximately 90 degrees to the inbound track. This will be the point of rotation at which the turntable track polarity will be reversed. The drywall screws located around the drive disc add extra support to the top panel of the drive box.

The square driving post also has a 1/8” center hole for the center alignment pin. It is attached to the drive disc with two woodscrews. The sides of the post were carefully sanded to allow a close fit into the turntable. We’ll see more on that later.

The disc has routed slots that hold the wires feeding the two track circles. The wires exit the top of the disc against opposing flat sides of the drive post. This insures that they will clear the center hole of the pit as the post rotates. Miniature connectors provide quick electrical connections to the turntable.

The photo above shows the drive disc installed into the drive box. Masking tape was added over the wire slots on the disc to hold the wires in place. The drive disc is shown rotated with the insulated sections of the HO power track positioned over the power pickups. Positioning the drive block at this location will orient the turntable at approximately 90 degrees to the inbound track. This will be the point of rotation at which the turntable track polarity will be reversed. The drywall screws located around the drive disc add extra support to the top panel of the drive box.

The top panel of the drive box is 1/4” plywood, and is attached to the sidewalls with drywall screws. The center hole is two inches in diameter. The corners were cut out to clear the corner posts. The cutout sections were glued to the lower side of the corners of the base. These feet allow clearance for the wiring, when the drive box is sitting on the workbench. The 2” x 2”corner posts are 2-3/8” high. A 5/16” diameter hole was drilled through the posts, base, and corner feet. The drive box is mounted to the layout by four 1/4” diameter bolts through these holes. A six-screw barrier terminal strip provides connections to the power supply and control panel.

A 28” diameter circle was drawn on the top panel of the drive box, which established the location of the outer side of the pit wall. A 1-7/8” wide strip was cut from a large sheet of 1/8” styrene on a tablesaw. This strip was then cut to a 90” length. The cut edges were then sanded. A heavy bead of adhesive chalk...
was placed on the marked circle on the top panel. The pit wall was rolled in place on this circle and secured using a number of C-clamps. The ends overlapped about two inches, and were trimmed flush. A splice plate, made from 0.020” styrene, was glued onto the outer side of the wall. Another bead of adhesive chalk was then added around the entire outer edge of the wall. A cure time of 24 hours was allowed before removing the clamps.

Styrene strips 0.250” x 0.040” (Figure 3, page 19) were glued around the top inner side of the pit wall. A single layer of half-sections of HO cork roadbed was glued around the inner edge of the pit. A 2” ID x 1/8” cross-section rubber plumbing washer was glued around the center hole of the pit floor. Then I drew an eight-inch diameter circle in the center of the pit floor. Spackling compound was then placed between the cork circle and the center washer. I smoothed and tapered it down close to the pit floor at the drawn circle, to simulate the prototype pit floor’s drainage slope. A short section of open roofwalk was then embedded into the spackling, at the lowest point, to simulate a storm drain.

After the spackling set up, another layer of cork roadbed was glued on top of the first, to make the pit rail ledge. The pit and wall were then painted a light concrete color. The pit rail and ties are cut from HO flextrack, using a brand that has one rail tightly molded into the tie strip. The flextrack was cut in two on a table jigsaw, so the ties were equal in length on both sides of the fixed rail. The single rail and tie strips were spiked and glued in place. A short length of cork roadbed, on edge, was used as a template to space the track from the pit wall. Rail joints were connected with rail joiners and soldered.

The turntable structure (Figure 4, page 20) was built from wood. The two sides are 1/4” x 1-1/2” white pine lath stock. The two end-blocks and the center blocks were cut from 2 x 2 white pine (which is actually 1-3/8” square). The two center blocks are centered, spaced 1-3/8” apart, to create the square slot for the drive block to engage into the turntable. Yellow carpenter’s glue was used for assembly.

The side detailing started with a lamination of 0.040” styrene onto the wood sides using contact cement, followed by flowing a bead of thin CA along the edge of the wood and styrene interface edges. The upper chord and the vertical stiffeners are 0.040” x 0.125” styrene, and the lower chords are 0.040” x 0.250” styrene strip. The riveted flanges are from 0.010” styrene sheet using the riveting technique from an article in OST (Issue #23). The lower flange stiffeners are 0.020” x 0.250” styrene strips. On the inner sides of the main girders, vertical stiffeners were installed with horizontal diagonal braces added between them. I used 1/16” square wood strips for these parts.

Athearn archbar sideframes were used for the end trucks. The bolsters were made from 3/8” square pine strips that were sanded for a press-fit into the sideframes. The wheels are from three-rail trucks, selected for their width, with the flanges removed using a mini-lathe. The axles are from the Athearn trucks, shortened and re-pointed on the lathe. The completed trucks were then installed onto a 0.020” brass plate with a single 2-56 screw and nut. The plate has two slotted holes for the mounting screws to the turntable end block. Using these two screws and each truck mounting screw, the trucks were then carefully set to the pit-rail radius.

The truck’s support structure was fabricated from various sizes of styrene strips and channels, using the prototype plans as a guide. Since much of this can’t be seen, a lot was left out. The motor casting is a Plastruct part. The turntable was painted flat black.

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<tr>
<th>Qty</th>
<th>Type</th>
<th>Length</th>
<th>Used for:</th>
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<td>Short</td>
<td>2-1/2”</td>
<td>Standard tie length</td>
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<tr>
<td>28</td>
<td>Long</td>
<td>3-1/8”</td>
<td>Extend out on one side to support walkway</td>
</tr>
<tr>
<td>18</td>
<td>Long+</td>
<td>3-1/4”</td>
<td>Extend 1/8” for post for railing</td>
</tr>
<tr>
<td>2</td>
<td>Tower</td>
<td>4”</td>
<td>For extended walkway at tower</td>
</tr>
<tr>
<td>2</td>
<td>Cab</td>
<td>4-3/8”</td>
<td>Support platform under cab</td>
</tr>
</tbody>
</table>

They were painted flat black, then glued directly to the top edge of the 1/4” wood sides with yellow glue. The repetitive tie locations can be seen in the photo above. Code 125 rails were spiked down using four spikes per tie. Additional beams under the control cabin were made from the tie stock. The diagonal
support for the cabin platform was built up from styrene strips.

The deck was fabricated from 1/16” x 1/4” balsa wood strip. The strips were brush-painted with a mixture of black and burnt umber acrylic paint and wiped before the paint dried. They were then cut to several lengths to create a random pattern. Five rows were glued to the ties on each side of the track. Simulated nail holes were added at each tie location.

The lower tower sideposts were assembled using Plastruct Pratt-truss stock and Evergreen 1/4” styrene channel. The upper sections used the truss stock with 0.040” x 0.125” styrene strips. The platform was assembled with 1/16” x 1/4” balsa strips. The top was finished off with various bits of styrene to simulate the electrical pickup of the prototype. I formed the railings using 0.020” brass rod. The light assemblies were built up similarly to those on the cabin. I cut Plastruct KL-8 ladder stock to fabricate the ladders. The tower supports were built up using styrene, following the prototype plans. These can also be seen in the photo below.

The turntable is driven by the driving post, which fits into the center between the sides and the center blocks. The blocks were positioned very carefully during construction to assure that the turntable would be centered and level. The drive post was also squared and sanded, followed by wood sealer and additional sanding to provide a close, but “slip” fit. Most of the weight of the turntable is carried on the drive post. However, due to the clearances at the drive post, some of the load rests on the trucks. Each of the male connectors is located on a center block. I connected each of the track wires to a short length of solid wire that was soldered to each rail. The lighting wires are connected to the light power supply that’s located between the main girders of the turntable.

The lighting power supply (Figure 5, page 20) converts 16 volts AC to 1.5 volts DC for the six micro-bulbs. The circuit was developed using the schematic on the back of the LM317 regulator’s package. The heatsink is a thick brass washer. The circuit board was installed on the turntable, after discovering that feeding the 1.5 volts through the roller pickups and N Scale track resulted in a lot of flickering of the lamps. The output of the supply is connected to two 24 AWG bus wires installed along the bottom of the side girders. These wires are soldered onto the heads of brass nails. The leads from the bulbs are soldered to these bus wires at various locations along the turntable.

The tubing was then heated to conform to the bracket.

The railing posts are 0.060” square brass tubing. Each is 3/4” high, drilled for the 0.032” diameter brass railings. A 0.032” brass rod was soldered into the lower end of the posts for mounting. The knobs on top of the posts are the heads of straight pins (the kind used in new shirts). After locating the posts and railings onto the deck, they were soldered and painted.
The control panel box was constructed of 3/4” plywood. The front is 1/8” woodgrain-decorated hardboard. A pair of hinges is used to mount the unit to the layout fascia, allowing it to be tipped up for wiring access. I created the front panel diagram with a CAD program, then printed it on cardstock. The result was covered with a piece of clear styrene, and mounted with four screws. The “direction” switch is a center-off DPDT telephone switch. The lever can be locked in either position, or just be held slightly off-center to easily jog the turntable to align the tracks. The “lights” switch is a simple SPDT toggle switch. The center three-position rotary switch will control track power to the turntable, the turntable and radial tracks 1 through 11, or the turntable and tracks 12 through 22. With this switch set to OFF, the desired radial track can be selected without sequentially energizing any of the other tracks. The six-stall roundhouse tracks will be connected to positions 1 through 6.

The power supply kit was purchased from the Hobbytron.com website. It has a 1.2 through 35 volt DC output, and is rated at 1.5 amperes. It includes a 2” x 2” printed circuit board and the components. The completed board was mounted in the box with four screws on short spacers. A heatsink was improvised using two brass strips and two thick brass washers. The original one-turn 47K potentiometer was replaced with a ten-turn 2K pot to achieve finer voltage adjustment.

The installation of the turntable requires a 28” diameter hole cut through the layout base. This was accomplished with a router mounted on a radius arm. The four mounting bolt hole locations were transferred from the turntable.

When the six stall Atlas roundhouse and the other tracks and wiring are installed, the turntable will be ready for use. We'll send some photos of the completed engine terminal to OST.
Figure 2
TURNTABLE TRACK WIRING

Figure 3
PIT EDGE: 0.040 X 1/4" STYRENE
1/2 HO CODE 100 FLEXTRACK
1/2 HO CORK ROADBED
SPACKLING COMPOUND
TOP - DRIVE BOX

PIT WALL: 1/8" STYRENE
ADHESIVE CHALK
**Figure 1**

**Figure 4**

**Figure 5**

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**1.5 VDC POWER SUPPLY**

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<table>
<thead>
<tr>
<th>Qty</th>
<th>Drive Box &amp; Pit Parts</th>
<th>Description</th>
<th>Supplier/Part Number</th>
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<td>Base &amp; Four Sides</td>
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<td>Pit Floor (4’ x 4’ x 1/4&quot; Plywood)</td>
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<td>5PST</td>
<td>Electronics Surplus Store</td>
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<tr>
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<td>Evergreen 9006</td>
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</table>
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Back On Track...

In my last column this hobo mentioned his frustration with laying two-rail flex track. It was easy to decide to switch over to scale track: the tough part was actually doing it. Try as hard as I could, the track would just not come out right. Either slight kinks raised their ugly heads, some little gaps showed up, or the track would not install the way I wanted. A few authorities on the subject wrote in to the editor and submitted their suggestions, tips, and encouraging words. This was much appreciated. Suggestions were offered that varied with everything from keeping the three-rail track and adding an outside pick-up rail; to soldering all of the rail ends together for 25 to 30 sections of “welded” rail. The latter suggestion seemed the best, but I was not sure about the permanent idea of soldering at this point in my track laying experience. Hobo believes in flexibility.

Flexibility is still needed for I am not yet ready to be called Hobo D. Tracklayer! All of the suggestions did get me thinking and, after a lot of reading and re-reading of the notes, talking to “those who have gone before”, and searching ideas on the Internet, I at least did the next best thing. I got started. Work is now progressing on the layout: at least track is being laid. Trains are running, but not on schedule and only in a point to point arrangement (from the point of where the track work starts to where the track work ends).

This is an individualist hobby and everybody does it his way. You have to experiment and adapt methods and ideas to fit your own pattern. Hobo is no different. What I found works best for me is to choose a starting track. Lay that starting track out on the roadbed and tack it in. Place a mark on the inside rail at the halfway point. Then cut the track and pull it out of the ties and spikes. File the cut end smooth, line up the track connector, and use a Dremel tool to burnish a slight depression in the plastic tie where the track connector will fit.

Next, line up the next complete section of flex track and pull out the inside rail and insert it into the section that you just laid. Line up the rail at the junction where the joiner is. The next step is to line up the outside rail at its junction. Check for a smooth transition and tack into place. The key word here is “tack”, as I find it best not to nail the track into permanence at this time. Tack the nails in so that they are just below the top of the rails, but not nailed into the ties. This clearance is important for the track testing that is soon to come.

Check everything at least three times. Like my old, wise carpenter friend says, “Measure twice, cut once.” Continue laying sections in this manner, being careful to line up the ends at the midway point and slide the next half section of track into each connector.

After I get 10-12 sections of track laid at this point I like to stop, check, and re-check everything in preparation for the testing.

The true test is actually running a locomotive through the track, for that is the whole purpose of this task. The track might look beautiful at this point, but it has to support the trains.

Test #1 is to take a small loco like a 2-8-0, for example. Put it on the track, put some power to it, and see if it goes through the curves. Is everything smooth? Are there any kinks? Is the gauge true? Run forward, then in reverse. Watch out for old D. Railer. If D. Railer shows up and the locomotive jumps the track, note the sections and realign, re-tack, re-check and re-test. Repeat this until everything is smooth.

Test #2 is to choose the biggest and heaviest locomotive in your roundhouse. Take this beast out and onto this new track work and take it for a run. My loco of choice for this is a big 2-10-4. If something is not right with the track, that loco will find it! Proceed slowly at first. Let the drive wheels find the rail. Since the track is still not nailed tightly at this point, you will notice that the big loco will help smooth out the track. Run again in forward and then in reverse. Again, look out for D. Railer. Realign, re-tack, re-check, and re-test until you are pleased with the results.

At this point it is perfectly normal to add some freight cars to the train. Try five or six cars behind the loco. When you are satisfied with the results, go ahead and let the train pull some passenger equipment on the new track as well. Now you can tighten the track nails. Don’t get carried away, however; you still have a lot more track to lay.

Although there are many ways to lay track, I have learned that it just works better to lay the track in groups or sections like the real “section crews” and this method allows for quality control for a smooth running railroad.

That’s all for now... this hobo has a train to catch.
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- #9002 EMD F9, 36” fans, 48” dynamic brake, 2 portholes, Farr (vert) grilles

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RC-0380 Warren* silver Type 103 W, Jan
RC-0369 Richfield* black Type 103 W, Jan

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RC-0273 U. S. Army (OD green) Sept.
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RC-0269 PRR (oxide) Nov.
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Reader Feedback

NMRA & O Scale Convention

I just finished reading your thoughts on the O Scale National Convention being absorbed into future NMRA annual conventions. I have just returned from Parsippany and this year's convention (where I purchased Issue #27) and, as in previous years, have found it to be well organized, to the credit of the NYSME. Your editorial makes very good points pro and con, many the same I thought of as I was reading.

If the folks at the NMRA can make a convincing argument that the close, friendly atmosphere of a typical O Scale Convention can be maintained, and not get lost in the huge sea of combined scales at the NMRA convention, then at the very least it is worth pursuing a dialog.

On the other hand, a partnership with the NMRA may bring more attention to increased use of standards in O Scale, which to me surely needs improvement. I think the NMRA has stayed away from encouraging its own increased participation in O Scale because of the fractured nature of O Gauge in general.

I am aware it has been difficult at times to garner support and effectively run an O National. In fact, the thought of asking my cohorts at Cherry Valley whether we want to step up has crossed my mind. Though, upon further examination, we may just be too small a group to effectively manage a National.

In closing, the answer to your request would be the NMRA needs to assure that the integration would not drown O Scale in a sea of HO and N, but rather broaden its exposure and appeal. For that, substantive proposals need to be presented.

Chris Crane (via email)

Keep on Truckin’

Hi. I am not only enjoying O Scale Trains, I am becoming a better modeler. (You have) good articles that “get me moving.” I have two O Scale layouts. One is O Scale switching, 40’ x 2’, and the other is On30, 2’ x 17’. The On30 uses all LaBelle old-time cars. It all keeps me busy at age 72!

Milt Johnson, Calif.

Help for Hobo

I received the Sept/Oct issue of O Scale Trains yesterday and read [Hobo’s] column with interest. I detect a high level of frustration with two-rail flextrack and, as one who has laid over 3,000 feet of the stuff on my layout, I want to help relieve your frustration. The items you need are simple: flextrack of your choice (but NOT weathered rail), metal rail joiners, a bottle of liquid rosin flux, rosin core solder, a heavy soldering iron or gun, preferably 100-200 watts, a piece of wood about 1” by 2-3” and the same thickness as the ties on your flextrack, and two alligator clips. The rosin flux is available at electronic supply stores and weathered rail will require cleaning off the weathering chemical in order to get a good solder joint. You will eventually paint the track anyway.

As you’ve learned, rail joiners will not hold a smooth curve with O Scale rail, a kink is inevitable. Here’s the routine. Remove a tie from each end of the track sections by clipping the plastic connecter and sliding the tie off. If the track is going to be on a curve, remove about 1/8 to 1/4 inch from the inside rail. The easiest way is a cutoff disc in a motor tool. After a few pieces you’ll get a feel for the amount to cut off. We want the rail ends to be opposite each other after the track is curved. Slide the ties away from the rail ends 2-3” and hold with an alligator clip on the rail.

Align the two pieces of track in rail joiners with the track straight. Brush a liberal amount of Rosin flux on both sides of the joiner and rail. Place the block of wood under the joint to prevent a vertical kink when soldering. Apply enough heat and solder to the joiner to flow solder through the joiner to both sides of the rail and both ends of the joiner. Ties are clear of the joint so the heat will not damage them.

Now remove the alligator clips and slide the ties to the ends of the joiner. The flextrack can now be curved as necessary and the soldered joint will maintain a smooth curve with no vertical or lateral kinks. After the track is fastened down, shave the plastic spikes from a tie and deepen the rail slot to clear the rail joiner and slide the tie under the joiner to fill in the missing tie(s).

I was a little paranoid about long sections of track with soldered connections, so in about the middle of every stretch of tangent track I made a “lip joint” by soldering the joiner on only one rail end. I used a flat toothpick to maintain a little space between the rail ends until the track was fastened down. I have several areas where 25 or 30 feet of track is soldered into one long rail and I have never had a problem with kinks developing or changes in the gauge.

I hope this routine makes your tracklaying enjoyable instead of frustrating.

Regards, Jim EuDaly (via email)

“Hobo” Needs to Be Specific

This is in response to the “Hobo” column in the September/October issue. This paints a pretty grim picture of conversion from 3-Rail to 2-Rail scale. I am currently involved in doing just this, but it has been a staged process over several iterations of my rather small layout. The older Walthers catalogs from the ’70s described several routes for moving from 3-Rail to 2-Rail in steps. This included a step using scale track with a separately installed inside or outside third rail. What I had done in the last iteration of my layout (my layout is in sections and forced to iterate due to relocations for work) was use a combination of Gargraves track and handlaid code 172 rail. For the handlaid code 172 rail, I installed a third rail of code 70 rail soldered to the tops of brass flathead screws at about four inch spacings. The code 172 rail clears Lionel flanges and the flanges of all of the “scale-plate” locomotives when I used a combination of small spikes and Pliobond cement. This time I was going to use outside third rail since I had managed to acquire a few more scale locomotives of small size.

However, I am taking the plunge into 2-Rail, as these locos are 2-Rail. I think that the Gargraves should be temporarily usable, except the switches, since the outer rails are isolated from one another by wood ties. The handlaid track should be usable since the outer rails are isolated from each other. Now I don’t know if this approach would work with the code 148 rail which is currently available. That is just one example of the particular importance of information on transitional use of the use of the modern materials that are available.

For example I found that the Gargraves switches with the plastic frogs had flangeways that were wide, even for Lionel, so it was pretty easy to get a truck sideways when backing a cut of cars through them. The older “frogless” design worked better with scale cars and I “improved” the modern switches by epoxying in shim stock to narrow the flangeways to the minimum that Lionel flanges would tolerate. However, such issues as how scale wheels perform on “Atlas O” three-rail tracks, and what rail code does that track correspond to anyway, probably should be addressed.

I would like to see the exploration of specific transition steps in a positive, technical “how-to” article or articles about what actually can work and test results with various approaches.

This might be a useful service for the
reality Check
get more young people into O Scale in
on one principle: IT IS NECESSARY to
topic. Even though each of them had vari-
found to be very interesting. An evening
centered on the future of O Scale. This I
and well.

Certainly the New York Society of Model
Jersey, I have come away with lots of new

tics.

K. Jeb Kriigel, Charlottesville, Va.

By the way, all of the acrimony about
non-prototypical outside third rail should
be tempered a bit. In addition to outside
third rail power distribution on electric
lines, some steam lines used outside third
car on their locomotives to actuate
a signal system. Now, I will readily admit
that a third rail shoe on a tender truck
sideframe is not a bunch of “cat whiskers”
under from every corner of the loco-
motive, and these signal actuating third
rails were unlikely to be other than short
lengths located strategically to actuate
block signals, but still there were outside
third rail shoes on some steam locomo-
tives.

Von Richards (via email)

Reality Check

Having just returned from the O Scale
National Convention in Parsippany, New
Jersey, I have come away with lots of new
modeling ideas and plenty of inspiration.
Certainly the New York Society of Model
Railroad Engineers did a fantastic job of
organizing and hosting this great event.
The seminars, tours, and trading halls were
very well attended. Everyone came away
with the idea that O Scale is certainly alive
and well.

One central theme at the convention
centered on the future of O Scale. This I
found to be very interesting. An evening
panel consisting of all of the traditional
manufacturers attempted to tackle the
topic. Even though each of them had vari-
ous views and opinions, all of them agreed
on one principle: IT IS NECESSARY to
grow the hobby. But the ques-
tion remained, “How do we do it?” Most
expressed nervousness, fears, and con-
erns about competition from new manu-
facturers; and the question at hand was
never really answered. It seems as though
O Scale traditionally has operated like a
private country club where brass was king
and only those with means could belong.
Competition, in my way of thinking, is
what drives the American dream.

Well-traveled throughout this hobby, I
conclude that if O Scale is to grow it will
require competition. That competition will
come not only from the traditional build-
ers of the past, but from new manufactur-
ers, some of whom we may not yet have
heard. Certainly, a young person entering
the O Scale hobby cannot afford the cost
of most brass models. The private country
club marketing strategies of the past seem
to be geared towards a closed and limited
clientele. The EXCLUSIVE ways of the past
must now be INCLUSIVE to attract more
people into O Scale.

What we need are scale models for
the common man. The future of O Scale
depends upon it. I think that we will soon
see several manufacturers who are new
to O Scale entering the market which
will offer us other choices. This is a good
thing. As a scale model railroader, I wel-
come new ideas. More choices with scale
track and turnouts, two-rail diecast locos,
two-rail starter sets, entry level locos and
rolling stock, exciting operating features,
control systems, details, and realistic
sounds will soon be announced.

Going into O Scale sometimes creates
a whirlwind of backwards marketing for
the newcomer... a juggling act of selling
off another collection very low and buying
new scale pieces very high. New manu-
facturers will bring choices. A lot of us
have financial limitations. We may never
get to the point of being able to afford cer-
tain brass pieces. THAT IS OK. What we
do look forward to is high-quality models
that are loaded with details, look like the
prototype, operate well, and are available
at an affordable price. That is truly a REAL-
ITY CHECK.

So far the traditional manufacturers
haven't met those needs. Maybe they will.
I suggest that the new manufacturers will
definitely listen. There is a whole new
market out here in O Scale. The beauty
of this is that no one has to re-invent the
wheel. It is just a matter of balance. In
order to attract new people to O Scale it
is going to have to be a cost-effective pro-
posal. Making a transition is an expensive
decision. Starting out in O Scale is also
very costly. That is where the competi-
tion comes in. Great models at affordable
prices will provide lots of model railroad-
ers the opportunity to enjoy O Scale. Old
rules of supply and demand no longer
work, for by controlling supply, some have
traditionally controlled demand. The mod-
eling monopoly is ending.

I applaud all of the traditional manufac-
turers for making the very best possible O
Scale models. There will always be a mar-
ket for brass and those who can afford the
very, very best. But I also encourage the
new manufacturers to make some locomo-
tives for the common man types like me.
After all, I am just a model railroader who
happens to love scale model trains.
K. Jeb Kriigel, Charlottesville, Va.
The Public Delivery Track

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Dash 8's..CSX, NYSW, UP, SP, BN, BNSF..$249-$309
60's..C424, C249, SD-40, GP-9, L-53...$399-$339
SW's..RR, LV, Rdg, CNJ, NYC, DL&W..$249-$239
MTH...PRR H-3,469, K-4,599 CNJ P-47...$749
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50'..MILW, OH, NYC, BAR, MTL, SAT, SF, LN, NH..$55-$65
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Weaver..AC&F, NY, DL, CSX, EL, SO, NW, WM..$40-$50

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40' steel. BAR, IC, MT, RD, ART, DLW, Barstow. $55-$65
40' plug door..NH, PRR, WM, WP, DIT, REA, FGE, CNJ, UP, ATSF, BNY, ART.....$37

Covered Hoppers - 2 rail

50' Centerflow or PS-2CD. CR, CP, LV, NYC, PRR, RJ, Rainbow: ADT, AMCO, Acro, UP, more.$22-$25
50'. CSX, OSL, CSX, EL, SO, NW, WM..$40-$50
Weaver..AC&F..Bar, DL, CSX, PR, Erie, SF, RG. $40-$50

Hopper Cars - 2 rail

Atlas....Wartime..$40-$45, H24..P&RR, F&PS, PC. $45
One cars. CN, UP, DMR. $25. Fishbilly, USRA. $40-$45
Weaver...2, 3, 4-bay. CBQ, CR, D&H, DLW, Erie, EL, IC, NH, NYC, NKP, NW, PRR, WM, NYSW, Indiana Power, CNW, UP, Reading, FEC, Chessle, MSL. more.$20-$30
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Weaver..40' & 50', new & old, 20+ roads..$25-$35
Atlas....33K. CNTX, GLNX, Union Tex. Sub Propane. $45
17X. Diamond, Hooker, Stauffer, ACFX, SHPX, $55-$60
8K. Bakelite, NE Alcohol, Phila Qtz. more. $10-$50
11K. SHPX, Hooker, UTLX, Murray, Solvay, Spencer. $55

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Gondola - 2 rail

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Wtur, C&J, NW, LV, SE, UP, NW, SD, UP. $27

Caboose - 2 rail

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K-line..Bay window. $48, MTH N6, N6C, NEM. $45-$55
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<td>401 Tower House O</td>
<td>10&quot; x 7&quot; x 12&quot;</td>
<td>179.99</td>
<td>161.98</td>
</tr>
</tbody>
</table>

480 The Creamery O

includes additional walls to increase the size of the main building. 

This kit consists of CRP 305 Sylvester Supply Co. and the 305D Barrett & Sharp Diorama Kit. 

Includes 307 Stainless Steel Industrial Smoke Stack and an Eyebrow Monitor for roof detail.

---

### Crow River Products O

**Craftsmen kits**

<table>
<thead>
<tr>
<th>Kit Name</th>
<th>Size</th>
<th>Price</th>
<th>Sale Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>405B Barrett &amp; Sharp 16&quot;x10&quot;</td>
<td>approx 205.00</td>
<td>225.00</td>
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</tbody>
</table>

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### Bar Mills Models O

**Laser Wood Kits with details**

<table>
<thead>
<tr>
<th>Kit Name</th>
<th>Size</th>
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<th>Sale Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>305B</td>
<td>934 Saulena's Tavern O</td>
<td>99.98</td>
<td>99.98</td>
</tr>
<tr>
<td></td>
<td>944 Majestic Hardware &amp; Feed O</td>
<td>169.98</td>
<td></td>
</tr>
</tbody>
</table>

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### Downtown Dioros O

**Limited Edition Hydrocal Kits**

<table>
<thead>
<tr>
<th>Kit Name</th>
<th>Size</th>
<th>Price</th>
<th>Sale Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>40 Johnny Stechino's &amp; Big Ed's O</td>
<td>89.95</td>
<td>89.95</td>
<td></td>
</tr>
</tbody>
</table>

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Add $6.00 S&H in 48 States. Others pay actual postage cost. N.Y. residents add 6.25% sales tax. Prices are subject to change w/o notice.

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In Part Eleven of this series, I talked about designing and getting together all the Design Preservation Models (DPM) wall modules required to build my new factory. In this issue, I will show you how easy it is to assemble these into wall sections. When I construct my buildings I like to leave the walls as individual units, as it is a lot easier to paint and detail them when they are lying flat on the table. After they're finished, I assemble them into the building.

The items you will need before you get started, besides the wall modules, are as follows:
1) A flat surface to work on.
2) A bottle of liquid plastic cement
3) A sprue cutter
4) A 3/4” wide flat file

With all these items at hand, we're ready to start the wall modules.

Assembling the Walls
When you first get the wall modules, you'll see that there's flash and casting sprue ends on them that will have to be cleaned off (Photo 1). I use a pair of sprue cutters and a file to clean up each section before I start. In Photo 2, you can see the wall sections are all cleaned up and ready to assemble. With this done, I line up the sections on a flat surface in the position that they will be assembled, butting them together and doing any last minute filing to ensure a good fit at the joints (Photos 3 & 4). Once the sections are all ready, I take some liquid plastic cement (I use Testors brand) and run it along the joints to bond all the parts together (Photo 5).

The liquid plastic cement will run along the joint and soften the plastic on the two sides. This joins together like a weld and, when it hardens, you will have one solid piece. Don’t forget, you should only use plastic cements in a ventilated area. While the glue is still soft, you can make any final adjustments to the alignment of the sections. Once you’re satisfied with the alignment, allow the glue to set up and dry (about five minutes). While you are letting one wall dry, go onto the next one and so on.

Once the walls have dried, the next step will be to glue on the pilasters (Photos 6 & 7). Glue these on using the same technique as the wall sections. When doing the long wall (Wall 3), I built each section by itself, then glued them together to make the full wall (Photos 8 & 9). Once the walls are assembled, the last thing to do is to glue on the cornices on the tops of the walls (Photo 10). Now the walls are...
Adding to a Wall

The one wall that had to have some extra work done to it was Wall 1, as I mentioned in Part Eleven. This wall had to be made to a width of 5-3/4”, and the wall modules are only 4-1/2” in width. There are two ways of doing this. The first would be to take a couple of wall sections and cut them down to 1-1/4” in width. I have done this on a couple of buildings in the past. The second would be to make this extension from some styrene sheet and brick material. This is the option that I decided on for this building.

I rummaged through my scrap box and found some pieces of sheet styrene in a variety of different thicknesses. Then, I laid them along the side edge of the module section, where the pilaster would go, to find out which one would match to the thickness of the wall. I found that 0.060” thick styrene would be perfect. I then found a piece, at least 7-1/2” in length and 1-1/4” wide, in my scrap box (a good reason to save leftover pieces from earlier projects).

Next I dug out a sheet of brick material that I had found at a train show, (no manufacturer’s name on it). This had the right sized bricks to work in O Scale and matched closely to the brick on the DPM modules. A piece of this was cut to the same size as the styrene sheet and glued on. This was then glued to the wall section for Wall 1. Once the glue dried, I found some scrap strips of styrene that matched closely in size to the brick rows that run along the joints in the wall sections and glued them on to match the rows. I then cut a piece of cornice to the same width, and glued it in place. In Photo 12 you can see the finished product.

The Finished Walls

With this done, all the walls are finished and ready for painting (Photo 13). Before I started painting, I temporarily assembled the four wall sections with pieces of masking tape and test fit the building into place (Photo 14). I wanted to see if there were any last minute changes to be made before I went any further. It fit like a glove, and I was already to start painting. This will be the topic of the next part of the series, painting and creating the mortar lines between the bricks. I will also show you how to do weathering to give the building that realistic aged look.

So until next time
Happy Modeling.

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Standards- Part 2

Modeling in HO for over thirty years, I took certain things for granted. Upon switching to P48, I found life to be very different in some ways.

One thing I took for granted was how trucks were mounted. The body and truck bolster were pretty much standardized, no matter whose name was on the box. Not so in P48. When I inquired about the subject to my mentor, Warner Clark, he simply replied, “Washers and shims, all thicknesses, in pairs. Lots of them.”

Warner further observed, “The one overriding truth in all rolling stock from all manufacturers, and even from the same manufacturer, is not to assume the cars are at a proper height, be it trucks, truck bolster, body bolster or draftgear box/car floor.”

Well, I’ve certainly found this to be true in my experience of fitting P48 trucks to my freight cars. I model the modern era, therefore my selection of rolling stock is already limited to a few manufacturers, most of whom primarily cater to the three-rail market. Two-rail merchandise is hard to find in my area, while 3-Rail is plentiful.

What’s more, Lionel or Atlas are the only sources (short of scratchbuilding) for some of the car types I want and need.

Somebody will tell me I could save myself a lot of grief if I’d just see the light and model the steam-era. That may be true, but I’m modeling the modern-era by choice, just as those who model the earlier eras do.

Regardless of what we choose to model, wouldn’t life be a lot easier if the various manufacturers could just get together and agree on some standards of design and dimensions? The prototype has already done all the hard head-scratching for us. Why can’t we just follow their guidelines as we’ve already done with wheel and track dimensions?

The practice of everybody doing their own thing is a holdover from the past, and is slowing the advance of P48 and O Scale in a real way. One thing the smaller scales have shown beyond a shadow of doubt is that interchangeability is the way to go. Manufacturer X’s trucks fit Manufacturer A, B, Y and Z’s rolling stock without a hitch.

Here’s my challenge to the P48 community as a whole. If we could demonstrate to one of the major players in the O Scale arena (Atlas O, for example) that we want, and would support with our dollars, properly designed and detailed rolling stock that could be retrofitted with San Juan, Protocraft, or whomever’s trucks and wheels, do you think they would listen? My hunch is they would, if we did it in a spirit of cooperation to advance the hobby for everyone and showed that there could be a real payoff for them by doing so.

Think about this. If we really emphasized how important fidelity to the prototype is in P48, how complicated would it be for Atlas O to get their feet wet by supplying prototypically accurate P48 replacement trucks as an option for their own equipment? Such trucks could be included with the cars or sold separately. With a standardized bolster design, such a product could be off to a roaring start and represent a real advance for finescale modeling. If Atcherrn can offer accurately detailed cars with semi-scale wheels in HO, what is holding O Scale manufacturers back?

It’s the 21st century, folks, and standardization is the way to go for the future of the hobby. The time to take O Scale out of the dim past is long overdue. Wouldn’t it be grand if P48 led the way?

Best regards, Mike
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Congratulations to the winners of the O Scale Trains Magazine Digital Photo Contest. Results should be posted elsewhere in this issue. I was the judge for the Narrow-Gauge Category and, in my opinion, the winning photo in the Narrow-Gauge Category was the best overall photo in the contest.

Once again, I urge readers to contribute to OST and to this column if you have a good photo that you care to share. If it’s narrow-gauge, I’ll work it into my column. If it’s steam, Diesel or traction, I’m sure that our Editor, Brian, would like to see it.

The National Narrow Gauge Convention was held in Durango, CO, a few weeks ago and, from what I’ve heard, it was another resounding success. Now, it’s time to start planning to attend the 27th annual Narrow Gauge Convention, to be held in Portland, Maine, next August 29 to September 1, 2007. See [http://www.27thinorangegaugaconvention.com/]. I will be presenting an On30 clinic and I hope to meet a lot of old and new narrow-gauge modelers. We’re going to have a howling good time.

A few days ago, we celebrated the 10th anniversary of the founding of the On30 Conspiracy on the Internet. We recently soared past 1,000 members and the On30 Conspiracy is, once again, the largest, busiest and funnest O Scale narrow-gauge forum on the Internet. If you are not a member yet, just go to the following URL and check it out at [http://groups.yahoo.com/group/On30conspiracy/].

Because of the huge influence that Bachmann Trains has had on the model railroading community with their extensive line of On30 models, I still maintain that there are currently more On30 modelers than all the other O Scale gauges combined, including On2, On3, Proto48 and O Scale.

If you model O Scale standard-gauge and read this column when no one is watching, you will appreciate that Bachmann Trains has finally made their five-amp DCC Power Booster available. I will be picking mine up at the Mid-Atlantic On30 Meet in Gardner, New York, in October and I’ll install it on my standard-gauge Northway Railroad at home. Watch for a full report in my next OST column.

Readers should remember that I am a standard-gauge modeler in O Scale, first and foremost, and I have been working in On3 for about 25 years and in On30 for about 15 years. I can feel the tremendous effect that On30 has had on our hobby and I believe that this must truly be the golden age of O Scale. There are more choices of equipment available, prices are reasonable and DCC is having a major impact on all model railroaders.

My O Scale Northway Railroad is still progressing. Construction has extended into Rockwood District where the standard-gauge and narrow-gauge interchange, so there should be a Golden Spike Celebration sometime this winter.

How about you? Do you have a narrow-gauge project underway or in mind? I’ll love to hear about it. Happy trains to you until we meet again.

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As I neared the end of a structures-building marathon for my layout, I suddenly realized I didn't have a single gas station on site to support my growing fleet of cars and trucks. Well, that most definitely had to be addressed. After thinking it over for awhile, I settled on a smallish, yet believable, free-lanced station design that would fit into my mid-1950s-era setting, without taking up a whole lot of space. It would be located on Railroad Street, just south of Main Street and its row of brick stores and shops.

I checked out the Walthers and Berkshire Valley kits. They were very nice, though I thought them to be a bit too large and perhaps too modern to suit my tastes. I cast about for other kits and ultimately didn't find anything in plan or kit form that really caught my eye. Since I'm an incurable scratchbuilder, I finally gave up the kit search and headed for the drafting table where I sketched several elevation ideas onto white poster stock. I cut out the sketches and taped the designs together to try them out on the layout. One of my sketches was a small wood-sided 1930s-era station with drop-siding, which I thought might work. When I tried the mock-up on the layout, it looked too small and just didn't seem to work with those brick structures on Main Street. So I tried a larger footprint, with a relatively tall and steeply pitched roof. It was a style reminiscent of the pagoda-roof gas stations we used to see here in Milwaukee. When all was said and done, I decided the latest mock-up looked just right in the desired location on the layout. It has a minimal footprint but, due to its height, it doesn't get lost among the Main Street brick structures.

After completing the final elevation and part pattern drawings (See pages 46 & 47), I kneeled it on down to Walthers' Terminal Hobbies to stock up on basswood and styrene supplies. As much of that material as I try to keep on hand, I still never seem to have the right sheet and strip sizes I need to launch a new structure. Don't get me wrong. I like going to Walthers. It's always fun to jaw a bit and trade a few war stories with the guys behind the Terminal Hobbies counter. They are great guys. They know their stuff and the Walthers crew has collectively built several nifty well-scenicked layouts that are on rotating display. It's never an uninspiring moment when I go there.

Once back from Walthers, I began construction by laying out the four wall elevations on 1/16” thick six-inch wide basswood scribed siding. For those who haven't scratchbuilt with basswood before, I suggest you use a 0.5mm lead drafting pencil and a cork-backed stainless steel straightedge to lay out the parts to be cut. To cut out the wall outlines, door, and window openings, I always use my old standby, an X-Acto handle and lots of #11 blades. The steel straightedge ensures I make straight clean cuts. Keep lots of blades on hand to ensure you're always working with a fresh blade. Save the old ones for scraping and chiseling. I like to make several light cutting passes through the basswood. Don't try to cut even 1/32” basswood in one cut. It can crunch the wood edges. I always cut out the door and window openings before I cut the wall outlines. This saves you from breaking walls later, resulting from trying to cut out door or window openings that are too close to the edge of a wall (Photo 1).
Whenever I can, I use Grandt Line products for my windows, doors and other architectural details. I like the quality of the line and the broad selection. For this station, being the chief cook, bottle washer, and architect, I selected Grandt Line #3720 double-hung windows (nine are required) for my large windows. These windows require 3/4" x 1-15/32" openings. For me, cutting window openings is a pain, but it's part of the scratchbuilding mystique and well worth the effort when you get those walls up and the windows are crisply displayed. Cutting out the walls and windows is when I like to slip a CD into my shop player. For me, there's nothing like the Harvard Glee Club singing a Thomas Tallis mass to slow down the X-Acto blade and improve the quality of my work. It keeps my head into the work at hand. Hey, some people like rock. Others gotta have a TV going at the bench. I like listening to the long-haired choral groups.

I used Grandt Line #3602 service doors, which require 23/32" x 1-11/16" openings. The auto bay opening is 2" high x 2-1/8" wide. These double doors are scratchcut, though you might be able to find something suitable in molded plastic or white metal. A five-section roll-up door could also be used. The eave end small upper windows are a pair of Grandt Line #2 windows I had on hand. They are meant to ventilate the cavernous attic space and require 15/32" x 5/8" openings. Other windows would work as well.

When the walls were done (but before I installed the service bay door and Grandt Line windows and doors), I laid the walls face up on a sheet of newspaper and lightly sprayed them with a spray-can of Testors Flat White paint. I lightly covered the basswood to impart a faded weathered look and to ensure the scribed board lines were readily visible. You can crank up the airbrush for this operation, but it’s not necessary as long you don’t get too close with that spraycan nozzle. If you’re not comfortable working with spraycans, practice on some old newspapers before you spray the walls. The wall trim is done next (Photo 2).

Pre-painting lengths of uncut trim boards makes life easier if you’re doing the trim in a second color. I sprayed lengths of 1/32" x 1/16", 1/32" x 3/32", 1/32 x 3/8", and 1/8" square basswood strips with a can of Testors #13080 Zinc Chromate primer. Why they call this paint “Zinc Chromate” is beyond me. True Zinc Chromate has a yellowish-green hue and this paint is a nice deep red. In any case, I liked the color, so I used it. At this same time, while I had the spraycan out, I shot the Grandt Line windows and doors with the same paint.

I glued pre-painted 1/8" square corner trim strips to the front and rear (longer) walls with the trim faces set flush with the face of the siding. The other pre-painted strips were used to trim the front triangular dormer face, the auto bay doors and door frame. The trim patterns are shown on the drawings. With the walls still in the flat, I installed the Grandt line windows and doors. Don’t do the glazing yet, as you’ll want to decal the walls and spray them with Testors Dull Cote before you add the window glazing.

The two auto service doors are simple affairs, cut from 1/16" thick 1/16" scribed basswood sheet per the drawings and then framed with pre-painted stripwood. You could leave one or both doors ajar to offer a peek into the auto bay interior. I added 1/8" square basswood reinforcing strips to the inside faces of the eave ends, as they had a tendency to bow in after they were painted. No doubt, being painted only on the outside caused this problem. These basswood strips also increase the gluing surface for the roofing yet to come (Photo 3).

I decaled my walls and service bay doors with Microscale HO and O Scale Sinclair Gas decals. I soaked them into the scribed-board siding using Walthers decal solvent. After the decals were nicely incorporated into the board siding, I over-sprayed them with Testors Dull Cote. Now you can add the windows glazing. It’s much easier to glaze the windows with the walls still unassembled. I use Aleene’s Original Tacky Glue to attach my glazing. It dries clear and won’t cloud the acetate.

The floor in my structure is 1/8" balsa sheet butt-glued with CA glue to the requisite width. I notched out the floor to accommodate the auto service and service door frames and the 1/8" square corner trim strips. That done, we can throw up the walls.

I began with an end wall. I used CA slow-setting glue here, along with a small square to ensure the end wall was square to the floor when the glue kicked. Make sure that end wall is centered between the front and back edges of the balsa floor. The end walls fit between the front and back walls.

I find using CA kicker really speeds up assembly. When the first wall was in place and trued up, I simply hit the floor-to-wall joint with a small shot of kicker and I had an instantly cured glue joint. The back wall went up next. When making these wall-to-floor glue joints, I always apply the CA glue from the inside of the structure. That way, no glue can seep through the joint to the finished wall exterior face. I reinforce the corner joints with a second application of CA glue, and then sprinkle baking soda onto the still-wet CA glue. This combination creates rock-hard corner fillets (Photo 4).

When all four walls were up, I added a ridgepole to further stiffen the end walls. The end walls are tall, and the basswood grain runs horizontally, so the end walls are prone to warping. You’ll also note, at this juncture, that the top edges of the front and rear walls need to be beveled to accommodate the steep pitch of the roof. You’ll need to cut pretty deep bevels where the two roof panels meet at the ridge. I drew pencil lines to indicate the bevel depth and then simply carved away the basswood with an X-Acto knife to the pencil lines. Work slowly and don’t try to remove all of the wood in one cut. A bit of waviness or gaps in the bevels won’t really matter as the ridge will be covered with basswood sheet and will be completely hidden. That done, I added a
couple of 1/8" thick basswood strips between the end walls, flush with the beveled front and rear walls, to create additional gluing surface for the two roof panels.

The 1/8" thick 4-13/16" x 7-1/2" roof panels are glued up from three-inch wide basswood sheets. 1/8" sheet may seem too thick for an O Scale roof, but what it actually does is mimic boxed six-inch eaves. If you like exposed rafters, use 1/16" x 18" strips and go to it. On this structure, I preferred the easier-to-do boxed eaves look. You can butt-glue sheets of basswood together easily and quickly, if you first tightly join the two sheets and hold them together with a strip of masking tape that runs with the joint. Then, open the joint on the opposite side of the masking tape just enough to run a bead of slow-setting CA glue the length of the joint. Lay the joined sheets on a flat surface and hit the glue joint with CA kicker. Presto! You have six-inch wide basswood sheets. Need wider sheets? Repeat the process to achieve nine-inch wide sheets. Only a light block-sanding is required to smooth out these joints.

After block-sanding the bevels, I glued the two roof panels in place with Aleene's Original Tacky Glue. You could also use Elmer's white glue or carpenter's yellow glue. I would not use CA glue, as you'll need time to position the panels as you apply them. Hold the panels in place overnight with masking tape. Since the glue is only on one side of the basswood, the basswood may try to curl away from the walls. Retaining the roof panels with masking tape eliminates that problem (Photo 5).

The dormer triangular roof pieces above the front door of the station are cut from 1/8" sheet. The triangular face of the dormer is 1/16" thick 1/16" scribed basswood. It's a good idea to pre-paint this dormer face with your station color, then add pre-painted trim boards before you attach the dormer to the roof. I painted my dormer face the same white as the walls and trimmed it with 1/32" x 1/16" basswood strips. The dormer roof panels require deep bevels, just like the larger roof panels. It will take a bit of cutting, sanding, and trial-fitting to get the dormer roof beveled and sitting plumb on the front roof. Too many angles! To make life easier, I included a pattern on the drawings (Photo 6).

I used Plastruct #91631 shingle sheet on my roof. Asphalt tabbed shingles, cedar shakes, or even a ribbed steel roof would also work for a building of this era. I'm not sure if the Plastruct shingles are supposed to be tabbed asphalt or slate. Given the deep relief, they sure looked like slate tiles to me, so that's how I treated them. I began by roofing the dormer. I glued the plastic roofing to the basswood with Elmer's Brush-On Contact Cement. Elmer's recommends coating both gluing surfaces with the cement, then waiting two minutes before the pieces are applied. I followed their directions and had good results. The thing to remember here is, once you have touched the underside of the roofing to the basswood (even lightly), it's going to be hard to reposition the roofing, so get it right the first time. Some people like to slide a sheet of wax paper between the roof and basswood so that only a small bit of the roof is initially contacted as you position it. This allows some movement to correct for error.

When the dormer was done, I taped two sheets of paper together on the roof so that the sheets straddled the dormer. I taped the two sheets together over the dormer to define the angle I had to cut away from the roofing to clear the dormer. When the two main roof panels were in place and the contact cement had cured, I brush-coated the shingles with a dark gray shade of Floquil, followed by brushing on an acrylic wash of black. My intent was to highlight the grooves in the shingles. With an old T-shirt in hand, I wiped away some of the black wash from the shingle faces to get that effect of 20- to 30-year-old slate roofing. A bit of moss on the north side of the roof would be a nice touch (Photo 7).

The chimney is a length of 3/8" x 1/2" balsa, covered with Holgate and Reynolds brick sheet and topped with 1/8" basswood sheet to simulate a concrete cap. I painted my brick dark red, then over-washed the brick with Delta Ceramcoat acrylic Mudstone, which I wiped off with the same old T-shirt I used on the slate shingles. Delta Ceramcoat Mudstone is the closest thing I've ever found to a true aged concrete and mortar color. To attach the chimney, I cut a suitable rectangle through the Plastruct shingling and glued the chimney in place (Photo 8). This completes the structure itself.

Now we need to build some gas pumps. I found my pumps and a matching poured-concrete pump platform in the leftover residue of a Walthers gas station kit. You can also get neat and well detailed gas pumps from Berkshire Valley. I made up the gas hoses from 22-gauge black wire. The glass domes above the pumps are 1/8" thick disks carefully Zona-sawed from Plastruct 3/8" diameter acrylic rod. Use a miter box to make sure you get clean right angle cuts. I sanded the disks smooth, then glued them with liquid plastic cement to the tops of the
pumps. I painted them red and green to indicate premium and regular. The Microscale O Scale Sinclair decal set has correctly sized logos for the globes. I shortened the Walthers pump platform to accommodate just two pumps (Regular and Premium). The pump decals are from Walthers and Microscale (Photo 9).

My station sign is 6-11/16" tall. Of course, it could be raised or lowered in height to suit your own requirements. The sign doesn't have to be round. Depending on your oil company, it could be oval or even rectangular. My sign is scratchbuilt. I began by cutting a one-inch diameter disk from 0.040" styrene sheet. I sanded and then trimmed the circumference of the disk with a strip of 0.030" x 0.100" styrene, gluing the strip in place with Weld Bond plastic glue as I went along. I used a fine brush to flow the glue into the joint. Next, I added two additional shorter staggered lengths of 0.030" x 0.100" styrene strip to the bottom of the sign disk where the post would connect. The sign light reflectors are from Grandt Line, and connected to formed 0.030" brass wire. I drilled a 0.062" hole into the bottom of the sign to accept the post.

The signpost itself is made up of 1/8" diameter styrene tubing and a length of 0.072" diameter brass rod. The brass rod runs through the tubing to both stiffen the soft styrene post and afford a way to attach the post to the sign disk and to the pump platform. The brass rod extends 3/32" above the styrene tubing at the top of the post. The exposed brass rod is glued into the hole at the bottom of the sign with slow setting CA glue. At the bottom end of the post, the rod extends to whatever length you need at the base to securely anchor the brass rod to the pump platform. The styrene tubing is accordingly trimmed away. I added a 3/4" sleeve of 3/16" tubing to the bottom end of the post to give it a heftier look (Photo 10).

I cut a base for my station from 1/8" thick Masonite, which I painted concrete with that ubiquitous Delta Ceramcoat Mudstone acrylic. Adding some tires, oil drums and other clutter around the station, plus a figure or two, completed the project. Now where in the heck are those customers I expected? Geez, maybe I need to do some advertising! (Tom, call Jeb -Ed.)

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**Bill of Materials**

- Northern Lumber Basswood
- 1/8" Scribed 1/16" Thick Sheet
- 1/32" Sheet
- 1/8" Square Strip
- 132" x 1/16" Strip
- 1/32" x 1/8" Strip
- Plastruct
- Brick sheet
- 91631 Shingle Sheet
- AR12 3/8" Diameter Acrylic Rod
- Evergreen Styrene
- 1/8" Diameter Styrene Tube
- 0.030" x 0.100" Styrene Strip
- 3/16" Styrene Tube
- 0.040" Styrene Sheet
- Grandt Line
- 3602 Five-panel Door (2)
- 3720 Windows (10)
- 2 Windows (2)
- 3510 Outdoor Lights (2)
- Miscellaneous
- 0.072" K & S Brass Rod
- 0.030" K & S Brass Wire
- Walthers or Berkshire Valley Gas Pumps
- Microscale 87-969 Sinclair Decal Set
- Microscale 48-552 Sinclair Decal Set

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    - Green w/Stripes #6689: $1250
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Highlands Station has released their first-ever CD volume of Model Railroading magazine. The CD contains all ten of the 2005 issues in PDF form (no issues were published for January or February). Issues are complete and include all editorial and advertising material. Editorial material is fully searchable using Adobe Reader® (Ver 5.0 or later required). Users can easily navigate through this electronic version of MRG by using hyperlinks to go to the first page of an article by clicking on its title on either the cover or the table of contents of an issue. To go to a specific ad just click on the advertiser’s name in the Advertiser Index. Adobe Reader’s® commands can be used to search for words or phrases, to zoom in for better viewing and to quickly navigate throughout the entire year of issues. Purchasers may print pages for their personal use, but duplication of the CD is prohibited, and no materials may be extracted, copied or shared with a third party, either in a printed or electronic version. For best results they recommend downloading the latest free version of Adobe Reader® from the Adobe® website.

**NEWS: Transfer Table, Ross Custom Switches, MSRP: from $749.95 and up**
Ross Custom Switches, 45 Church Street, Norwich, CT 06360
1-800-331-1395 • www.rossswitches.com

Steve Brenneisen announces that Ross Custom Switches has begun shipping their latest product: a fully automatic and indexed transfer table. Currently available with an 18” bridge it is available with 5, 10 and 15 stops. Future plans call for a 27” bridge and a 33” bridge which will also give customers the option of having 5, 10, or 15 stops.

Ross Custom Switches is famous for its high-quality O-gauge turnouts which it has been producing since 1972. Today RCS produces over 45 different turnouts, crossings, and 18 different sizes of track. Primarily a manufacturer for the 3-Rail and HiRail customer, Ross is happy to announce that these new transfer tables can be easily converted to 2-Rail. Watch for more exciting new products soon to be released for HiRailers and O Scalers alike.

**NEWS: AAA Precision Turntables**
141 Summer Street, Plantsville, CT 06479
860-621-6816 • www.aaaturntables.com

AAA Precision Turntables, a division of National Magnetic Sensors, Inc., is pleased to offer precision turntables for all scales from Z to G. The custom made turntables are machined to rigid specifications and are precision-crafted to last a lifetime. The tables feature twin bridge-mounted drive motors that move the bridge at a slow, smooth speed and AAA’s EZ DEX indexing system which utilizes an infra-red sensor allowing for perfect indexing and alignment with every turn. National Magnetic Sensors Inc., the parent company, has over 35 years of engineering excellence with its product lines that service NASA, GE, Westinghouse and a host of others. With that background and capability, AAA intends to become the premier turntable manufacturer and set the standard for quality and realistic operation. AAA’s turntables are made by model railroaders with pride in the U.S.A. Contact: Mr. Bob Badoorian, President.
REVIEW: Alco Century 628 Diesel, MSRP $439.95 (2-Rail DCC Ready), $479.95 (3-Rail TMCC), or $229.95 (Unpowered, both 2- and 3-Rail).

Atlas-O, 378 Florence Avenue, Hillside, NJ 07205
www.atlaso.com

reviewed by Brian Scace

Oh, I remember these things! Back when I was going to school in Upstate New York, the Alco C628s were not the most common units to see, but there were four groups of them that weren't too hard to find. Of course, the Delaware & Hudson roster of handsome grey, blue, and yellow units could be found just by heading south to Binghamton, or east toward Albany. Lehigh Valley had two groups, the original “Snowbirds” and the ex-Monon units painted in Cornell Red. They could be seen from time to time on the line through Geneva. Finally, the ex-Pennsy units would get out on the main from time to time, passing through Syracuse paired up with the later C630s and C636s. They made the more common SD40s and SD45s look small; these were long units for their day. I was a confirmed Alco-phile then, learned to respect them when I worked with 'em, and I still like them today.

The C628 was one of the early players in the mid-60s horsepower race between Alco, GE, and EMD. This was the era that saw horsepower jump from a pretty standard 450HP/axle up to 600HP/axle, and is usually associated with the coming of the second generation of Diesel locomotives in the US. It was a highly competitive period; no sooner than GE introduced a 2500HP catalog model, then EMD would match it, Alco would best it, and GE would top that. In an interval of two years, it wasn’t uncommon for a builder to completely junk its catalog and issue an entirely new line, just to do it again two years after that. This was also the time when the six-axle unit became accepted as true road power, rather than the specialized drag engine it had been.

Atlas has a nice model, here. The model scales out nicely (Don’t use Alco general arrangement drawings as a reference; they are notorious!) using class book dimensions. By the way, although not really detailed enough to build models from, railroad classification books are a great reference for checking basic dimensions. The various dimensions given, because the operating and engineering folks depended on the class book for their work, are pretty reliable for units as they actually existed on the property.

Anyway, fit, finish, and detailing level are all up to Atlas’ standards, with one exception. We received one of the LV “Snowbirds” for review. This is a difficult scheme to pad-print. The black lettering has to be thick enough to go on the white carbody in one swat and come out opaque. On the other hand, thick isn’t very forgiving about flow into crevasses and reliefs. Such is the case here. The printing doesn’t fill into all the contours on the hood sides, such as in the door post areas. Spend a few minutes with a good brush and some Scalecoat to fix it up.

In operation, the performance of our 2-Rail DC version was, again, as expected from Atlas. The unit MU’s well with it’s older brethren, pulls nicely, and behaves like any other of the recent Atlas twin-motor vertical drive power. Behavior is best using a relatively sophisticated throttle, such as an MRC Controlmaster. Marno-stats or Variacs won’t control these guys very well.

And what’s this?! The Scace-switch is finally a reality? For those of you recently joining the faithful followers of Scace’s tiltings-at-windmills, one of my all time pet peeves about the modern crop of “cross-cultural” (meaning intended for both the three- and two-rail marketplace) offerings are the class lights. Everyone loves those pretty green class lights. I’ve been pushing for a switch somewhere on the two-rail DC versions of Diesel models, such that the green (Green classification lights showing indicate that another section of this scheduled train is following this one.) can be switched to white (White class lights indicate that the train is an “extra”, not a scheduled train.) Finally, someone has listened and delivered. All you do is pop off the radiator louvers, flip the switch, and the class lights change color. No more green for us non-carrier control Ludite neurotics! Now, who is going to be the first to have a Scace-switch that turns off the class lights on steam power? Atlas has thrown down the gauntlet! Thanks, Jim. I needed that.

All in all, a nice model of an impressive prototype. This time ‘round, they’re in Phase 1 configuration lettered in SP, Atlantic Coast Line, Lehigh Valley, Delaware & Hudson, and Louisville & Nashville. It’s also very nice to see that someone is listening to suggestions (I didn’t whine. They were just, well... suggestions,) and putting them to good use.

Atlas has also announced a new model of the C-630 similarly equipped and priced. Roadnames include Conrail, PRR, Reading and UP, all with two road number choices, and an undecorated unit as well.
REVIEW: “Trainman” EMD GP15-1 & T
2-Rail/3-Rail MSRP $ 239.95
3-Rail TMCC MSRP $ 389.95
“Master” Coalveyor Bathtub Gondola
2-Rail MSRP $64.95
3-Rail MSRP $59.95
New “Double Rotary End Version”
2-Rail MSRP $69.95
3-Rail MSRP $64.95

Atlas O, LLC, 378 Florence Avenue, Hillside, NJ 07205
www.atlaso.com

Reviewed by Gene Clemens

This being my first review, let’s start with a little history on this locomotive and transition to a modeler’s evaluation.

The Prototype
Produced by General Motors’ Electro-Motive Division (EMD) during the latter part of the 1970s, the GP15 is actually a road unit version of the MP15, having a larger fuel tank and the typical road body and cab configuration. Most railroads, including the Frisco, ordered these units to replace older GP7s and GP9s that were being retired. I remember the last of these locomotives being delivered to the Frisco painted in Frisco colors with black BN initials and numbers under the cab windows. Working these engines in times past, they were usually assigned to road-switchers, local freight service, and sometimes yard transfer service.

The Model

The GP15-1 model being reviewed is Atlas O item # 0355-1, painted for the Norfolk Southern with road number 1409. Other roadnames available include Conrail and Union Pacific, as well as a Chessie System GP15-T. The main difference between the two versions is that the GP15-T is equipped with dynamic brakes, while the GP15-1 is not. Produced as a conventional DC locomotive, the unit can be upgraded to DCC operation by using the included NMRA decoder plug and instruction sheet supplied. The owner provides the decoder of choice and performs the installation. Since this unit is available in 3-Rail TMCC from the factory, installation of 2-Rail TMCC by the owner should not be a problem.

This loco being the first Trainman engine on the property, I was not sure of what to expect. Some, not all, of the factory added details we have come to expect from the (now) Master line were in place. Installed details include grabirons, pilot plows, horn, bell, lift-levers, and brake cylinders with air lines on the nicely done truck sideframes.

The detail cast into the molded body is clean and well done, especially the see-through radiator grills. The paintwork and lettering is as sharp as anything previously released by Atlas. The unit comes equipped with the Atlas brand of scale couplers, which check out at the correct height on the Kadee gage.

Performance

The GP15 was ran in multiple unit sets with various other DC engines on the layout including Atlas, Weaver, U.S. Hobbies, C.L.W. and a converted Williams unit. I observed no problems with m.u. operations. On it’s own, the GP-15 was a bit “jerky” at crawl speed. In all fairness, this engine was run straight out of the box. Once it has a chance to break-in, this should improve. Medium range speed was smooth and quiet. Top end speed is high, but this is common with other engines with similar drive systems. This engine is lighter than the Master line units, weighing in at approximately four pounds, one reason being the use of a stamped sheet metal frame instead of a cast metal deck. The twin vertical motors and truck assemblies appear to be the same as used in previous models. The engine produced a traction effort of 1-1/2 pounds prior to wheel slip which, on my layout, translates into 18 weighted cars on level track, and ten cars on the 2% plus grades.

Headlights on this engine are single yellowish-tint LED’s. They illuminate at the starting voltage and remain constant throughout the operating range. Also included are Red LED classification lights that...
The minimum radius rating of this engine, according to Atlas, is 36 inches. The tightest I could do here are 42-inch radius curves and #5 turnouts in the industrial areas. Negotiating 60” mainline curves with #6 and #8 turnouts presented no problem for the GP15.

**Summary**

Straight out of the box, a good rating and price for a 1980s through the current era general purpose locomotive. I would consider one for my layout, with the intent of adding aftermarket detail parts, a command and sound system, custom paint and lettering for one of my favorite prototypes. My only negatives with this engine were the cast on details, such as the lift rings on the long hood, the pilot’s m.u. hoses and the windshield wipers cast into the window glass. My preference would be an unobstructed area to add aftermarket parts to bring the unit up to the detail level of the Master line engines.

**The Latest Coalveyor**

The Coalveyor was originally reviewed in OST #20, May/June 2005, so we will not repeat the technical data. The Coalveyor model being reviewed is Atlas O # 9611. This is the new version for the double rotary-coupler car painted and lettered for Iowa Southern Utilities # 1. This car is also offered as Nebraska Public Power, with two road numbers available for each company. A very impressive ready-to-run model, the Atlas quality of detail, paintwork and lettering is evident on this car. The difference in this model and the standard Coalveyor is that both the A and B ends of the car are painted and designated to have rotary couplers as does the prototype. Complementing the car are 36” wheels in roller-bearing trucks with rotating bearing caps, a nice detail. Standard Atlas scale couplers are mounted which DO NOT rotate. The three-rail version is shown to have one rotating coupler.

Couple a string of these cars behind a multiple engine consist, add a caboose or F.R.E.D. (depending on the era you model from the 1980s until present time), to model of one of the unit coal trains that service the coal fired steam plants located across this country. Removing the simulated load creates an empty unit train headed back to the mine for loading.

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**Product News & Reviews**

**Review: Track and Signal Components, Contact for Pricing, Irish Tracklayer, 2682 W. Palo Alto Avenue, Fresno, CA 93771, 559-435-2814 • www.irishtracklayer.com**

Reviewed by Brian Scace

John Houlihan, at Irish Tracklayer, sent us all kinds of neat castings and etchings to peruse. First, let’s look at some of the signal kits he’s working on. The photo of the brass castings and etchings shows the components of one of the signal kits he offers, in this case a Union Switch and Signal H-series target signal. Components consist of several clean lost-wax brass castings, tubing for the mast, and etchings for the flat components such as the target and ladders. The etchings are undercut for easy part removal, and the assembly is pretty straightforward, with extra parts for your choice of ladder, target, and platform configurations. These signals are engineered for LED’s, and can be ordered as a kit or pre-assembled.

He’s working on an upper-quadrant semaphore as you read this, with an operating mechanism. Currently, the signal kits will run in the $80 range, and assembled signals will run in the $120-150 range. Contact Irish Tracklayer for specific pricing.

Also shown in the photo (the one with all the parts) is a sheet of rail anchors. These are very clever, as they slide under the rail for solid installation. Also included in the sheet are several rail anchors designed to leave lying around in little piles of unneatness next to your trackage to trip up the railfans. By the way, rail anchors aren’t as modern as you might think. I looked in the Railway Engineering and Maintenance Cyclopedia for 1939 and, sure enough, you steam guys can use these, too. They were called “anti-creepers” then, but they’re the same critter.

It’s good to see more choices available for the track modeler (O Scale tends to attract them!), and these components are worth a look.
How’d you like to have a railroad with NO control wiring? Now it’s possible. All it takes are locomotives equipped with Remote Control Systems’ (RCS) components consisting of a Nickel Metal Hydride (NiMH) battery, a control unit and a small hand-held controller. No wires to the track and no power supplies.

Battery chargers (that either come with the units or can be purchased separately) plug into any wall socket in the house. The NiMH batteries will last throughout most operating sessions. I ran Weaver FA dummy and FB powered units, pulling 30 freight cars of various origins and weights, around my railroad with its 1-1/2 percent grades for 2 hours and 15 minutes before it would no longer move. I use a Weaver RS3 equipped with the RCS unit. It’s great for operating on the same track and in the same electrical block as conventionally powered units. I recharge the batteries about once a month.

The NiMH batteries do not develop a memory and come in various sizes and shapes depending on the space available. The manufacturer states that the batteries can be recharged at least 500 times. The batteries in my RS3 fit in the short hood and the control unit fits in the cab.

The system can include both sound and direction control. Unfortunately, the sound is quite loud and not adjustable, thus it can be heard 40’ away. I, like our esteemed Editor, would like to have a Doppler effect so that it arrives just prior to the locomotive and fades as the loco passes. The sound is a good representation of EMD (GM) locomotives. Sound for steam locomotives is also available, although I have not heard it.

The controller (TX8) is small, has four buttons, and is easy to use. There is one button for forward and one for reverse, as well as a button for emergency stop (but not so quick so as to break couplers or cause derailments). There is a button for use with magnetic couplers, allowing stops directly over the uncoupling magnet.

Were I starting anew or had a small layout with a half dozen locomotives instead of nearly two dozen, this is the way I’d wire the railroad—NO WIRES!
Erie Lackawanna train NY-99 creeps down the yard lead as it eases its merchandise under the Lehigh Valley’s National Docks branch and out of the EL’s Croxton, NJ, departure yard. Soon, the train will be heading west to Marion, OH, where it will pick up some more loads and depart for its final destination, St. Paul, MN, and the CB&Q. This shot was provided by Don Smith and taken on his Port Newark Terminal Railroad.

Don McFall was building log flats and, he says, they cried out for a log loader. So, he built one and sent us this photo. We’re expecting articles on both the flats and this loader.
Cultivating the Next Generation of Traction Modelers

Three recent events made me want to step back from my series of traction terminal columns and address the future of O Scale trolley modeling.

One was a great photo on the website of the East Penn Traction Club [www.eastpenn.org]. The photograph, taken during the 2002 Railroad Days at Cold Spring Village, showed a youngster enjoying a training session on a simple loop on Ed Torpey’s Port-a-Pike. The youngster’s obvious joy while operating the trolley will probably pay big dividends in coming years, and perhaps spark a lifelong interest in trolley modeling.

The second was a brief mention in Monday’s USA Today describing how an O Scale layout that had been on display at Atlanta’s Hartsfield International Airport was being dismantled.

Both of the above are worthy of note because both events have the potential of introducing the new blood which is desperately needed to continue the hobby we all enjoy so much. We all benefit when more people are exposed to model railroading while passing through high-traffic areas in airports. Seeing the trains in action can spark a memory which will be recalled, say at Christmas time, giving birth to a new generation of models down the road.

Likewise, who knows what thoughts were going through the young trolley operator’s mind at the Cold Spring Village Railroad Days? Perhaps the youngster has already purchased his first kit, or started picking up model railroad magazines (perhaps this one) at a local hobby shop.

Learning From the Web

Perhaps there is a message in the techniques that Internet marketers use to measure website effectiveness. Internet marketers strive to increase “conversions” (for example, encouraging casual website visitors to sign up for a free newsletter), which can lead to the future purchases of the firm’s products and services.

Successful web marketers realize that the vast majority of visitors to their website are not going to purchase on the first visit. Rather, they try to obtain the visitor’s e-mail address in order to build up a relationship with them in the future.

That’s what Internet marketers do, but what do we do, as participants, manufacturers, club members, or journalists, in our area of the great model railroading hobby? Are we doing our part to attract younger blood hobbyists to the hobby? Do we make visitors to our public events feel welcome? Do we attempt to re-contact our younger visitors in the future? Do we send them postcard invitations to future events? Do publications in our field offer special “welcome to the hobby” subscription offers? Do we treat those asking “stupid” questions with the respect they deserve?

What Not to Do

The final event came to me as I was writing the above words. I remembered witnessing an awful incident at a large public model railroad event in the Northeast. An exhibitor had placed an extremely large, intricately detailed brass steam locomotive right next to the front edge of his table. The engine was located about three-quarters of an inch from the edge of the table, leading to a three-foot drop to the concrete floor.

As I watched, a curious youngster came along and attempted to touch the engine. The modeler, justifiably concerned about the safety of his engine, impatiently reacted with a shout not to touch the engine. This was such a traumatic event because the potential tragedy was everybody’s fault, or nobody’s fault. The child, rightfully, should not have attempted to touch the engine. Where was his father? Why wasn’t he better supervised?

But, why did the modeler place the engine in such obvious jeopardy? Where was the modeler’s common sense? Didn’t he expect a shiny brass engine at near eye-level would attract curious fingers? Didn’t the group sponsoring the event describe the importance of keeping valuable engines from the edge of the table? Most important, however, where was the “petting zoo” section of the event? Why was the child walking through the “advanced models” area, instead of gaining hands-on experience with Brio wooden train models or getting to know some rugged tinplate models?

And, finally, what role did the “rareness” of model railroad public events play in encouraging a near-capacity crowd at the event? Why is there only one yearly model railroad event in one of the most highly-populated areas of the country, which creates an atmosphere conducive to inappropriate behavior on the part of both exhibitors and visitors?

Conclusion

So, here are three examples; one really good, one really bad, and one that potentially planted seeds of model railroading in the minds of travelers. How are we, as trolley modeling fans, doing our part to cultivate future modelers? How are we converting first-time encounters into a nurturing relationship that will grow tomorrow’s contest-winning traction modelers? As O Scale traction modelers, we have the ability to display a lot in a limited amount of space. Portable O Scale loop layouts can be created in very small areas. Are we taking full advantage of our ability to take our hobby on the road and introduce it to newcomers? If we don’t cultivate the next generation, we may be the last generation of traction modelers! ✦
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Running O-Scale 2-Rail Trains from a 3-Rail Controller

In the Nov/Dec 2005 (#23) and Jan/Feb 2006 (#24) issues of O Scale Trains, I described the construction of an AC power supply to use with various command control systems. Basically it was just a transformer, but in a form safer and sturdier than the naked transformer that command control systems vendors sometimes recommend. In the Mar/Apr 2006 (#25) issue, reader Gordon Hall correctly pointed out that a three-rail power unit, the Lionel Powerhouse 180, could be used instead. The current Lionel catalog lists it as 6-22983, for $99.99.

Now, I would like to put the shoe on the other foot. Any 3-Rail modelers, who want to convert to 2-Rail (or just try it out) without also jumping into command control, have a simple job of providing power for their two-rail layout. Your present variable voltage train controller, such as a Lionel ZW, is plenty powerful; it ran three-rail trains with those smoke units and lighted passenger cars. However, it generates alternating current (AC), so it will not work for two-rail direct current (DC) applications without modification.

Fortunately, it is relatively easy to add a rectifier to turn the AC into DC, and a reversal switch to exchange the two output wires (thus reversing the DC polarity and the locomotive direction). When you're done, the old controller speed lever is still used to control speed, while the new switch is used to select direction.

A few additional parts would also be nice. You'll need a metal box to protect the wiring and present a neat appearance. This box will also be a heat sink for the rectifier, and house a capacitor (to smooth the DC and so reduce the chance of the locomotive motor buzzing), a circuit breaker to protect against a short circuit, and input and output connectors or terminal blocks to ease the hookup. The rectifier will use up about 1.8 volts, which generates nine watts of heat at five amperes of current, about the same heat as an old-style Christmas tree bulb. The input wires connect to a ZW track output and the output wires actually connect to the track.

Of course, you also need a two-rail locomotive with insulated wheels and no center rail electrical pickup or E-unit. This is the standard locomotive arrangement in 2-Rail so you can purchase one from any of several vendors. You could also get one of the new MTH 2-Rail/3-Rail convertible locomotives, or you can convert or have converted one of your three-rail locomotives. Joe Foehrkolb, trading as Baldwin Forge and Machine (see Joe's ad on page 30), specializes in 3-Rail to 2-Rail conversions. By the way, your three-rail cars will also need to be changed to insulated wheels. That's not so bad, because you want to change out the oversize three-rail wheels anyway.

The power conversion unit is quite simple and, while I show one implementation in Photo 1, you should feel free to do it your way. A rectifier (more properly a bridge rectifier) has four leads. One is marked “+” for the positive output wire. The one opposite to this is for the negative output wire and sometimes marked “−”. The other two, in between, are leads for the AC input wires, connected either way. A double-pole/double-throw toggle switch is used to reverse the output. It has six terminals for connecting wires, four at the corners and two in the middle. When the switch is actuated, each middle terminal is connected to the end (corner) terminal at one end or the other. In this application, the diagonally opposite terminals are connected together and then to the track outputs. The input wires (from the rectifier output) are connected to the two middle terminals (Photo 2).

An optional capacitor can be added to smooth out the DC voltage. It should be sized to withstand a voltage greater than the maximum that could be applied. A 50V rating is sufficient. The capacitance value is not critical. 30 microfarads is sufficient. Remember that a capacitor is polarized; the wire marked “+” should go to the positive lead and the “−” wire to the negative lead.

Typical Parts List:
1 Ten-ampere Bridge Rectifier (Radio Shack # 276-1185)
1 Ten-ampere Double-pole/Double-throw Toggle Switch (Radio Shack # 275-709)
1 Box with Metal Top (Radio Shack # 270-1805)
Optional: 30-microfarad (50V or more) Filter Capacitor.

You’ll find circuit breaker and terminal options discussed in the previous series of articles (in OST #23 and #24).

We'll close with a final thought. If you used TMCC for your three-rail layout, you might want to convert directly to two-rail TMCC. Train America Studios (4137 Boardman-Canfield Road, Suite LL02, Canfield, Ohio, 44406, (330) 533-7181 [www.scale-command.com] can provide this conversion for you.

![Photo 1](image1.png)

![Photo 2](image2.png)
Steam - 1st Place
Robert Meyer of Ridgway, CO, took this photo on a 3’ x 5.5’ module built for photo purposes and to test a few techniques for his future basement layout. The loco is D&RGW C-48 2-8-0 No.1176 (an upgraded PFM model) with a very short local freight. Robert won an MTH two-rail WM H9 2-8-0 in IC paint.

Steam Honorable Mention
Ted Doyle,
Humble, TX
Diesel - 1st Place

Dan Rowsell, up in Victoria, B.C., took this photo on a module that is part of a larger layout, the “Cascade Pacific.” Dan says his group is working on an article about the modular layout. Dan won a Weaver two-rail VO1000 Diesel.

Diesel Honorable Mention

Wade Schlinger, Frankfort, IL

Mike Culham, Toronto, Ontario
Narrow Gauge 1st Place
Bill Davis. Bill hails from Viola, AR. He sent this description of the scene: “As the sun sets on Tuphar, the crew of switcher #11 complete their assigned chores before dinner and a night's rest.” Bill won a Bachmann On30 2-8-0.

Narrow Gauge Honorable Mention

Mark Gardner, Edmond, OK

Paul Staley, Buffalo, NY
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4-4-2 Atlantic Steam PRR x2, B&O, LI 635

4-8-4 T-1 Steam 1015
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2-10-0 Decapod Steam PRR 2 Versions 1015

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20-3167-2 Union Pacific 4-6-6-4 Challenger $1250

2-8-0 19th Century Steam WM, RG, GN 2-R $635

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NYC Dreyfuss 3 versions 2 or 3-Rail $919

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20-3132-4 P47 Baldwin 4-6-2 JC Green, NPR 2-R $709

20-3150-2 Virginian 0-8-0 PS 2.0 2-R $525

K-Line 2-R Shay PLC, Lack, Undec $499

Weaver Wartime Gondola w/Die-Cast Trucks 2 or 3-Rail $25 each or 4/$99 delivered
N&W, NYC, ATSF, MEC, CNJ, LV, NPR, UP, Sou, L&N, C&S, B&M

Check Website for latest Specials
November 2006

4: Kirkland, Ohio
2-Rail Train Meet of the Western Reserve. Dedicated to the memory of Gil Stovieck. Two-Rail only meet (no tinplate, Hi-Rail or other scales allowed). Admission $5, under 12 free. Show hours from 9:30 AM to 2:30 PM. Six foot vendor tables are $35. Vendor entry Friday 1:00 PM and Saturday 7:00 AM. Not affiliated with the former Western Reserve O Scale Committee. Contact Bob Frieden, 440-256-8141. NO PASSES ACCPTED AT THIS MEET. Note: Out of towners call for special room rates!

4: Phoenix, AZ, USA
"In The Heat" Swap Meet. Open 9:00 AM to 2:00 PM. Admission $5 at the door. Located at the Fellowship Center, North Phoenix Baptist Church, 5757 North Central Ave. Phoenix, AZ. All gauges, books, tapes, train railmemorabilia and accessories. New and used items, modelers, collectors, dealers. Ampile parking, handicap accessible, easy to unload, good food on premises. Tables $20 each (8 foot tables). Sellers admitted at 7:00 AM. EVERYONE WELCOME! Contact: David Jerry 602-336-0973 (Please leave message). Email: grmarcin@hotmail.com

11-12: Ft Worth, Texas
22nd Annual Ft. Worth Train Show. Sat. 10:00 AM to 5:00 PM, Sun. 10:00 AM to 4:00 PM. Admission $7 per person, children under 12 free. Featuring O Scale modular layouts, Lionel, MTH, and other O Scale and Hi-Rail vendors, literature, tools, modeling supplies and more. Held in the Amon G Carter Exhibits building, Will Rogers Memorial Center, 1 Amon Sqr., Ft. Worth, TX 76107. Contact Bart Bartholomew, 972-733-4998. Email: bbbart@sbcglobal.net

March 2007

18: Pullman, Washington, U.S.A.
11th Annual Palouse Empire Railroad Show & Swap. Adult admission: $3, under 12 free with paid adult. Eight foot dealer tables $10 each (no limit). Free parking on site, food service available. Held at the Beasley Performing Arts Coliseum, Washington State University Campus, Pullman, WA. Buy sell or swap anything railroad related, including: Railroadiana, Scale Model Trains, Vintage Toy Trains, Railroad Antiques and Collectibles, Vintage Post Cards, Art, Videos, Photographs, Books (a group of authors will be selling and autographing their latest railroad books) Operating Model Railroads, Historical Displays and much more. Contact: Ken Vogel, NW 237 Sunrise Dr., Pullman, WA 99163 PHONE: (509)332-4916 or contact: Noel Randall, 805 Panorama, Moscow, ID 83843 PHONE: (208)882-3773. Email: busdriver39916@yahoo.com

September 2007

20-22: Indianapolis, Indiana
2007 O Scale National Convention Sponsored by the Indy “O” Scale Meet and O Scale Trains Magazine. Held at the Indianapolis Marriott East, 7202 East 21st St, Indianapolis. Rooms are $59 to $79 per night with FREE parking. Three-day admission is $30. Tables are $40. We will have 20,000 sq. ft of selling and display space for nothing but O Scale trains! For more details contact Jim Canter, 317-782-3322. Held at the Indianapolis Marriott East, 7202 East 21st St, Indianapolis, IN 46219, Ph: 317-322-3716. Email: jcanternkp@sbcglobal.com
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**Advertisers Index**
**Turn, Turn, Turn**

We are ever evolving. This issue we say “see you soon” to two of our regular contributors, Neville Rossiter and Carey Hinch. Neville is taking a much needed break from writing his “Workshop” series and Carey has started grad school, giving up the “Modern Image” helm. Not to worry, however, Carey will still be doing his superb drawings for the mag, as well as some writing, and Neville promises feature length articles about Bay Ridge Harbor RR projects.

Replacing Carey as the “Modern Image” columnist is one of Carey’s good friends, Gene Clemens. We don’t think we could have found a better replacement for Carey, as Gene is a real-life locomotive engineer and an O Scale modeler! Who better to write a column about modeling modern-day railroading. Gene debuts this issue with a great piece about creating an MoW scene. Welcome to the OST family, Gene.

**2K6 Digital Photo Contest Winners**

For a while, I wasn’t sure we were going to have any submissions to the photo contest and then, wham! We were flooded at the eleventh hour with 23 submissions from 12 photographers. The winning photos and Honorable Mentions are in this issue. Congratulations to Robert Meyer (Steam), Dan Rowssell (Diesel) and Bill Davis (Narrow Gauge). Your photos were judged as the best of the bunch.

I was very disappointed there were no entries in the new Traction category this year. Roger was all set to do his best judging and no one showed up! Maybe next year. C’mon, I know there are traction modelers who read OST. Let’s see some of your best work.

**Serious HiRail**

Maybe HiRailers have finally earned some measure of respect from 2-Rail modelers. OST featured Gary Patterson’s Cheryl Valley three-rail layout (Sept ’04) and no one asked for my head. So, when I first saw Norm Charbonneau’s layout I knew it should be shared with all O Scale modelers. We ran a sneak-peek last issue and, again, no one asked for my head. I am confident that you will enjoy Norm’s modeling. In fact, I am so confident that I have asked him to do a couple articles for us. Based on what I’ve seen, we could all learn a few tricks from this excellent modeler. Best of all, Norm is a younger guy who can inspire other younger guys.

**Industry Tidbits**

One reader called and asked me to give more industry news in this space. I’ll try to do that on occasion, like now.

Scott Mann is well known as the president of Sunset/3rd Rail which produces some fine brass in O Scale, but he is also the owner of Golden Gate Depot. GGD is producing a line of ABS plastic heavy-weight passenger cars in O Scale. This is one of the “missing links” in modern O Scale. I think GGD has a sell-out product there.

DCC continues to make inroads into O Scale and I think it will become the “de facto” standard as it has in HO and N Scales. Why? Because the entry price-point has dropped to within every modeler’s reach.

Bachmann’s E-Z DCC basic system lists retail for $106, probably around $75 at discount. Bachmann has also announced a 5 amp power booster, price TBA.

Another entry DCC system is the MRC Prodigy Advance, listing at $330 but selling at discount for about $250. MRC has also announced a 3.5 amp booster and there is a rumored 8 amp booster, both in the $150-$175 range.

What is nice about both Bachmann’s and MRC’s systems is there is nothing else to buy (assuming you have a DCC-equipped locomotive on hand). All of Bachmann’s On30 offerings now come DCC-equipped.

If and when you need more power or more sophisticated controls, there is always the front-line DCC manufacturers like North Coast Engineering.

**Signal-to-Noise**

In any communication system where information is to be transferred, designers must always be concerned with the Signal-to-Noise ratio (SNR). The more noise in a system, the harder it is to distinguish the information from the background.

The Internet is a communication system designed to transfer information. Back in the early days of the Net (early 90s), the SNR was high. If you were connected to the Net back then, you were often charged by the byte transferred. My first website on the Net in 1994 cost $650 a month! The downside of being “wired” then was that it was costly. The upside was that most of what you sent and/or received was useful information.

Not so these days. My email inbox is about 98% junk mail. I spend about an hour every day deleting SPAM and that’s after my SPAM filter has done its job. (Maybe I need a better filter.)

But it is not just SPAM that has my hackles up. I monitor several “boards” that serve the O Scale community, and I would say the SNR on these boards is very, very low. In fact, it is so bad that I don’t really read anything; I just skim. Here’s an example. Someone posted a query on a software issue. The very first responder suggested abandoning the software in favor of paper and pencil. This is akin to me asking a question about the software I use to create this magazine and being told to go back to layout boards and wax, a step backwards about 20 years. The response is just not useful information. It neither answers the question nor suggests a meaningful alternative.

I see examples of this every day. That is why OST does not host a traditional bulletin board system. Instead, we have the OST Interactive Forum, our blog. Here you can talk back directly to OST authors in a structured way that, hopefully, keeps on topic. Many people have signed up but I would really like to see more comments posted on the blog. There are two letters in this issue directed at Hobo D. HiRailer that were emailed to us. They could have been posted at the blog where they could have started a dialogue.

In the coming months, I am going to start a new blog page called “Projects”. I’ll start by creating project pages for myself and Brian. We can discuss our projects in a lot more detail online than in print. If it garners some interest, I will encourage all the OST contributors to start a Projects page as well. It will be an interesting experiment.

One last item. If you would be interested in the Guide to Modern O Scale in PDF format, say for $10, let me know. If enough of you are interested, ‘ll make it happen.

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