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The Aspen and Western RY

Red Wittman

Background

The Crystal River Pictorial by Dell McCoy, produced by Sundance Publications Limited was the starting point for my On30 version of the Aspen and Western Ry. The short 13 mile long A&W that ran up Thompson Creek caught my eye for two reasons: coal mines and coke ovens. However, the A&W lasted for only about six years from 1887 – 1892, because the coal seam ran out and the coke ovens were not built. On my version, more coal was found and the coke ovens were constructed.

A one commodity railroad does not offer many on line customers. So we poked around in some side canyons off Thompson and found some oil seepage. Conoco Oil Co. sent in people to test drill and found enough oil to supply a small oil terminal on my only passing siding (Photo 1). The Conoco Oil Co. is a three car loading facility with three large storage tanks, a pump house, and office. There is an off-loading area with an overhead crane, and an operating oil well from Walthers. The balance of the pumps are further afield and out of sight.

We needed more industry to prosper and we went up higher on the mountain side and located a source of high quality limestone, which along with the processed coke, would be used by the iron industry at Sopris, Colorado, located on the Denver & Rio Grande R.R. Photo 2 shows Fraser Limestone, located above the town of Ellen on the mountain branch of the A & W RY. The crusher and tipple here are loosely modeled after the Denver & Rio Grande’s Monarch Branch in central Colorado.

The tipple complex is a cedar wood timber frame, covered with sheet plastic and Grandt Line windows. The whole structure is covered with Paper Creek Model Works corrugated metal roofing and siding sheets. The two dump trucks...
or motorized wheel barrows are kitbashed HO quarry trucks from Walthers.

While we were prospecting around we decided to continue up to a level area called Kettle Flats. What did we find? Timber and lots of it, a perfect location for sawmill, and a three track yard and later on, a retort for railroad ties. There wasn’t any water available for business so we would have to bring it in by rail, in water cars like The Uintah RY used not far from there in Mack, Colorado.

The Thompson Creek Tie and Timber Saw Mill shown in Photo 3 are very small as saw mills go. It is the only kit out of sixty plus structures on the layout. The kit is over ten years old and I don’t remember the manufacturer. I kitbashed it by putting an office on the roof. This type of mill has no need for a logging pond as the mill manufactures heavy timbers for tunnels, mines and railroad ties. Sawdust is either burned in the boiler that powers the big saw, or in the thirty-five foot sawdust burner at the rear of the building.

The pressure treating vessel (retort) is fifty foot long, eight foot wide steel tube fitted with a two foot gauge track inside (Photos 4-5). This receives several cars loaded with untreated ties. After treatment the ties are removed and stacked under the gantry crane for loading on special scratchbuilt bulkhead flat cars. The boiler for the retort is used to heat the water for steam that operates the small turbine used for lighting throughout the complex. It also operates the pump house used to pump creosote to the storage tanks. Water is pumped from the cistern to the elevated tank for use in the saw mill and retort boilers.

The real Aspen & Western didn’t have a town or village along its right-of-way, but my version does. A lady friend of ours was instrumental in tracking a pail full of gilsonite from a mine in Utah for me. I had modeled the Uintah RY for some years in HO, and having some of the ore from the original area was like having a pot of gold. In appreciation, I just had to have a village named after Ellen.

The town of Ellen measures four feet by eighteen inches, with the railway running behind the village, and a walkway in front. This was a large challenge for me. Ten structures, all commercial, were scratchbuilt from Evergreen styrene, with Grandt Line windows. Handmade interiors and lighting were installed in each building. Photo 6 portrays only the commercial part of town, the residential part being off layout.

Horse Shoe Bend on Thompson Creek is a very small piece of real estate that the Aspen and Western crosses leading to Willow Park (Photo 7). Originally a house occupied the spot. One of the two structures there now is the P. Meyer Drayage and Storage building named for a departed neighbor I thought very highly of. Parked in front is a dray wagon I built from plans provided by Precision Scale Company’s plan book #5 Wagons by Al Armitage. Next to the drayage building is an assay office that also sells different mineral specimens which are scattered about outside the structure.

Willow Park Engine Terminal has a 56 foot turntable, a two stall enginehouse and an attached boiler house and machine shop. The engine terminal buildings are constructed of styrene and covered with brick paper. (Photos 8-9.)
A look at the bones of the operation shows the thirty odd feet of main line with 20 switches. Switches are operated by ground throws where reachable and Tortoise machines elsewhere. The layout is DCC controlled (North Coast Engineering) with sound being added at this time.

The layout is level from the coke ovens to the staging yard. From there it rises on a 2% grade as it winds its way past the limestone mine, the saw mill and RR tie retort where it ends. It is point to point, which makes for some very interesting operating sessions (See Figure 1).

Scenery

The scenery is put together from woven cardboard strips and wire screen. On top of that I applied paper shop towels by Scott, soaked in molding plaster. I finished it with a top coat of Structo-Lite plaster which gave everything a rough finish.

I painted the scenery with my own tan paint mixture, covered with various shades of ground foam by Woodland Scenics. The finishing touch was Static Grass Flock by Woodland Scenics and Noch. I used their Grass Master Machine which works very well.

My bushes and shrubs are made from lichen. The deciduous trees are from Super Trees, while my firs and pines are homemade, using florist wire and manila rope, coated with paint and ground foam. The water in Thompson Creek is made from a no odor two part mix by Magic Water. This looks very realistic and cleans with a soft cloth and a good plastic or glass cleaner.

My structures vary in materials used. Three structures were built from redwood and cedar, with the balance scratchbuilt from Evergreen Styrene and Grandt Line windows. I build my own doors. Some roofs are from Micro Mark, Evergreen and Paper Creek, with hundreds of hand cut styrene shingles for the water tanks roofs.

Operations

With the exception of nine tank cars by Bachmann, the majority of rolling stock is scratchbuilt from styrene. The 50 pieces all have Bachmann On30 trucks and Kadee® couplers. All cars have live removable loads except for enclosed cars like box and tank cars. The ash, sand, coke and limestone loads are cast from rubber molds and resin from Micro-Mark.

The A&W uses a car forwarding system for operations. In the early days I shied away from waybills, bad wheel and coupler reports. I tried car tabs and color dots on the ends of rolling stock but, all these things looked kind of odd and funny. Some people were starting to use computers to run trains and generate switch lists. Not here, not me. In the end I wanted to run and operate my railroad not a machine. One day I was watching some children playing a board game that used a spinner on a dial that illustrates what happens next on the board. Over the years I have tweaked the idea several times, till it came out right. I cut a six inch square of one sixteenth white styrene and drew a six inch circle inside and marked off sixteen spaces. Inside, each space is numbered starting with 9-11-13-14 repeated three times.

The fourth set of numbers start with 9-12-14-16. Wherever the spinner stops, you turn to the car card box and count off the indicated amount of cards. The cards are cut from large sheets of heavy mat paper and measure two and one quarter by three and one quarter inches. They are hand stamped with a car number, what it is used for (lumber, etc) and its destination and return full to Carbondale (staging area). I constructed card holders from styrene to place around the layout with “in” and “out” slots on each. Once a month or so I reshuffle the cards to break up solid strings of one type of car.
Figure 1: Aspen & Western Railway

Aspen and Western
Overall Layout Size 19 x 14
Drawn for O Scale Trains by Carey Hinch
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**C&NW H-1 4-8-4**
The Chicago & North Western needed more motive power for its main line operations and in 1929 received 35 very large 4-8-4s from the Baldwin Locomotive Works. In the late 1940s, 24 of them underwent another rebuild and were given new nickel - steel frames, new cylinders, pilot beams and air reservoirs, new fireboxes and many other minor improvements. These were reclassified as Class H-1.

**AT&SF 2900 CLASS 4-8-4**
The Atchison, Topeka & Santa Fe bought a total of 65 Northerns, in four batches, all from the Baldwin Locomotive Works. The AT&SF used its 4-8-4s for passenger service. Since its main line stretching over 2200 miles (Chicago to California). The last group of 30 were built in 1943 and 1944. Due to wartime shortages of material, light weight metals were not available, resulting in a 2000lb. increase in weight. This group was known as Class 2900 and included road numbers 2900 through 2929.
Modeling from the prototype

When I worked as an artist, I learned the value of looking directly to the subject matter for the answers to any questions. One thing a beginning artist has to overcome is their own preconceived ideas about what an object looks like. Ask someone to draw a tree, for example, and they will likely draw a squiggly circle or blob on a stick, or whatever they think a tree is supposed to look like instead of looking to an actual tree and drawing it. I think the same thing can happen in modeling. We all know what a boxcar looks like right? Oh really?

In modeling I've come to appreciate the value of good information, especially photos. I recently read an article in the December 1983 issue of Mainline Modeler that got me thinking about how to improve my current skill level. In the article, author Robert Zenk outlined how he compared his efforts in upgrading the details on an HO Scale Life-Like F40PH to photos of the actual locomotive. By looking at photos of the prototype and photos of the model taken from similar angles, he was able to see where he was successful and what needed more work or refinement. Additionally, he was able to see where the model fell short in terms of what the manufacturer had done with the original tooling. Some things he couldn't live with and some weren't worth doing because the gains didn't outweigh the bother.

I was intrigued by this because I want to improve my modeling skills. The layout is essentially done and I really don't have any plans for expanding or modifying it; so I have the time to spend on projects like freight cars, structures and maybe redoing some of the first scenery efforts. Photo 1 shows a section of a fish-bellied underframe from a single-sheathed boxcar and my rendition of it in styrene. At first I was pretty satisfied with how this part turned out, but after a closer comparison between the model and the real one, I could see room for improvement and so made the second one seen at the bottom. Without the prototype photos or a closer look at them, I might have settled for the quality of the first part. It worked and was close enough; however, why guess at how something looked when you can verify it with photos if you have them? Doing a side-by-side comparison like this clearly shows where my modeling is lacking and how I might improve it. I've mentioned previously I was able to thoroughly document this car before it disappeared forever (something I wish I could do for every project), and therefore I feel like I have enough material to do a fairly complete modeling job.

Not everyone will go to the effort that I am on this project, nor am I saying you should; but if you have the chance to thoroughly document a prototype car or building for a future project, I encourage you to do so. You won't regret the time spent and your modeling may move to a whole new level as a result.

Best regards,

Mike

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Metal Fatigue?

If you work around a place like the railroad for a number of years, then occasionally you see something very unusual occur. I can recall a similar situation happening only three times, one of which I was involved in but that’s a different story. This will be told from the Conductor’s point of view, so I’ll swap hats since it’s been twenty years of jerking the throttle for me, instead of patting the chat.

It’s 3 a.m. in the morning, dark and cool, as we settle in to our routine on train M-BIRMEM, a mixed freight from Birmingham to Memphis with a stop at Amory, MS for a setout/pick-up and crew change. Going to work at 00:01 a.m. we’re now 20 miles north of town and down to a crawl as we climb Quinton Hill. We’ve got three working motors with four more being deadheaded to Memphis. This mixed freight is a bit heavier than usual, but the power is working well and the engineer is one of the best around.

We top the hill at Quinton and the engineer notches down to run 7. About 15 seconds later he notches down to run 6 as the speed begins to increase. I think to myself: “Just like you’re supposed to.” I start to relax when without warning, Ka-chow; the air goes down and we grind to a halt as the train stops in emergency.

“What did you do?” was my question to the engineer, along with a hard look. “Nothing” was his reply as I thought about what just happened. I guess I’ll have to agree since I didn’t feel anything unusual prior to the air going down. After resetting the P.C. switch and getting air back into the train line, it takes only a few minutes to determine that air is not getting to the F.R.E.D. on the rear end; so we’re in-two somewhere. I put on my coat, get my radio and lantern and as I start out the cab door, I tell the engineer to let the dispatcher know what’s going on. After rummaging around in the tool compartment on the long hood of the lead unit, I find an air hose and wrench. Climbing down from the lead engine I start my walk back to the rear of the train, 6200’ away or the problem, whichever I encounter first.

Walking back on the outside of a curve, 20 cars from the motors, I can hear air blowing; “At least it’s not too deep,” I’m thinking. Walking another five cars, I find a 200’+ gap in the train and the problem. I drop the air hose and wrench, which I’ve been lugging along and begin a radio conversation with the engineer.

Engineer: “Air hose? Over.”
Me: “No, guess again. Over”
Engineer: “Knuckle? Over.”
Me: “Not even close. Over.”
Me: “No, but you’ll have to see this to believe it. Over.”
Engineer: “Don’t tell me we’ve derailed? Over.”
Me: “No, not that I can see. Over.”
Engineer: “Well what then? Over.”
Me: “You’ve pulled a covered hopper apart. The north end is coupled to the head end and the south end of the car is down on the rail still coupled to the rear of the train with about a 200’ gap. Over.”
Engineer: “You’re kidding? Over.”

I give the engineer the car number and we determine from the train’s wheel report it’s a load of potash, a non-hazardous bulk material. The dispatcher is advised of our findings and assistance is requested since it will take more than an air hose wrench to fix this.

Once the company officials arrived, it was determined that the car came apart due to metal fatigue at the welded and bolted assembly points on the end of the car. A crane was called that was capable of lifting the loaded car and it was moved off the main line to a location beside the track where vehicles could access and unload the car.

After removal of the car and inspection of the track, the train was put back together and continued on its way with another crew since we were out of time to work. While not an everyday event, the strange and unusual does happen on the railroad. As the photos show, this Conrail 3-bay covered hopper is awaiting its final fate: the scrapper’s torch. Being too old and badly damaged for repair, the car will be cut up and its steel re-cycled. Who knows? It may see the rails again as a new freight car.

If you have been modeling for any length of time and are like me, a “Pack-Rat,” then you have a derelict car hiding somewhere around or under the layout that regardless of what you do, it just will not operate well. Give it new life as a causality mini-scene on the layout awaiting its destiny. As for me, it’s nights like this that make you feel: “It’s good to be the Hog-Head.”
More 2009 Chicago March Meet Contest Photos

First Place Freight Cars: Monon #3599 woodside gon scratchbuilt from tin cans and oak flooring by Robert Schultz.

Second Place Freight Cars: Monon 42' gon scratchbuilt by Robert Schultz using tin cans and copper sheeting.

First Place Passenger Cars: UP Business car scratchbuilt by Leo Vilstrum, owned by Larry Sokol. Only the chairs inside the car were not scratchbuilt.

Second Place Passenger Cars: Monon baggage car scratchbuilt from tin cans by Robert Schultz.
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By mid 1923 The Toledo, St. Louis & Western (The Clover Leaf Route) was merged into the New York, Chicago & St. Louis Railroad (The Nickel Plate Road). It is the east end, or the first subdivision of the railroad now known as The Clover Leaf District of the NKP that I am modeling.

I built a roundhouse (mostly from memory) based on one from a small southern Michigan town. Probably built around the turn of the 20th Century, the prototype was a six stall, brick building with an attached machine shop, stores, crew registry and locker room, and enginehouse foreman’s office. As a roundhouse rat, I would call it Lake Shore & Michigan Southern generic. It was served by an Armstrong turntable, which could easily accommodate Mikados of most classes.

Because of space constraints, I modeled only three stalls. Not counting the attached structures, my roundhouse is 24¾” deep, 12” wide at the front and 23” wide at the rear. My boiler room is 2¾” wide by 4½” and the machine shop, stores and crew area is 23¾” by 4 ¼”. Each stall will house a locomotive about 23” long. The stall tracks are laid on a 9 degree orientation from each other. The front of the roundhouse is 10½” from the turntable pit (Photo 1).

All the load bearing walls and doorposts sit on a random cut stone foundation made from ¼” x ½” basswood strips that have Plastruct stone sheets laminated to one side with water-based wood filler trowelled on top, painted a limestone color and highlighted with an India ink wash.

I laid code 125 rails throughout my terminal and used 9” x 9” ties inside the roundhouse. The rail on the linear ties bordering the sides of the inspection/service pits in each stall is secured with CA. I painted all rail, ties, stairs and service pits with Floquil’s Grimy Black paint. I also ran a little super glue down the pit sides to give the appearance of oil and water stains. Drybrushing the stairs with white paint brought out their detail. The Clover Leaf’s Assoc. Vice President of Grunge, Rich Bourgerie, helped me in this regard.

The roundhouse walls are made from a Gatorfoam board core and American Builders’ Supply styrene brick laminate. I used polyurethane glue like Gorilla Glue to laminate the brick sheets since it will not attack the polystyrene core of the Gatorfoam. I laminated sheets to both sides of the wall sections. The brick arches are a nice touch to the doorways. They were cut and glued on the walls after cutting the doorways. The exterior pilasters are 1/2” x 3/32” styrene strip, and the inside columns are 1/8” x 5/16” styrene strip. I laminated the brick to the vertical columns using Neville Rossitier’s method.
from page 33 of OST #38. I also cut several feet of vertical brick strip 3/16” wide to cover the exposed edges of the Gatorfoam in the windows and doorways and the stepped wall between capstones.

Several Design Preservation Module (DPM) wall sections were modified to build the attached crew lockers, stores area and machine shop (Photo 2). The front had two entry doors.

The one on the left was for the engine crews to register for work and to turn in their time slips and engine defect cards. The door to the right leads to enginehouse foreman’s office. Behind these two areas were the lockers and restroom. Then, separated by a brick wall was a stores room containing lube oils, grease sticks, bearing brasses, cotton wastes, and all the other things locomotives and machine shops need. A doorway leads into the machine shop. Once having an overhead drive shaft and belt system, the shop has recently seen most of its machines converted to 2-phase electric. A wide doorway leads into the roundhouse from the shop. The second attachment is a small boiler room that still produces steam for cleaning and occasional heat. It is made from two DPM wall units and Gatorfoam/brick laminate wall unit. The chimney is from Ardvark and serves a vertical flash steam boiler.

The front clerestory windows and smoke louvers are 7 feet high and 10 or 11 feet wide and about 24 scale feet behind the front doors. In the center of each stall’s clerestory is a scale three foot wide smoke louver surrounded by 30 pane window units. The smoke louvers are made from HO gauge stair stringers from Micro-Mark glued to oversized tread/louvers (Photo 3). The window units are Korber 40 pane units that I reduced to 30 panes and mounted on their sides. I replaced the sash trim with a 0.080” styrene angle that also becomes a side frame for the smoke louver. The framework for the entire unit is made up of 1/4” wood strips.

The front roof, below the clerestory, has been permanently glued to the side walls and roof support posts. The roof sections are comprised of three pieces of Gatorfoam board glued with Gorilla glue for greater structural integrity (Photo 4). The rear roof is removable for us gawkers (Photo 5).

For roofing, I used “rolled tar paper” cut into scale four by forty-four foot strips from printer paper and glued with a 1/4” overlap, thereby exposing 3 scale feet of rolled roofing (Photo 6). It is painted Grimy Black and sprayed with Dullcote.

Grandt Line makes enginehouse smokestacks, but I didn’t want to wait for the back order to arrive, so I fashioned my own from 1/2” round styrene tubing cut about 7 scale feet high and topped with McFeely snap caps made for flathead screws. I used a ladder set from PSC for the steel ladders required to
reach the upper roofs, soldering a lower brace on to them so that the shop roof can be removed. Also, from PSC is a 60 mil wire mesh, fashioned into rainwater collectors at the low end of the roof eves. The eave dam is fashioned from 1/32” x 5/16” wood strip. Conventional eave troughs were a labor intensive maintenance burden that blue collar labor didn’t warrant. Roofs over front doors had no rainwater collection systems of any kind.

I made my own enginehouse doors from 1/32” thick stripwood of various widths. I anchored only the top and the bottom hinges, leaving the middle two hinges for show. As the doors will be left open (Photo 7), the hinges will not be all that visible. I also mounted the window glazing behind the panes before they became part of the door (Photo 8). The rear enginehouse opening is protected by a pair of sliding doors which have simulated corrugated iron material rather than wood sheathing. The doors each have a 24 pane window unit hung under a 1/16” styrene channel for a rail with 0.015” x 0.060” flat wire trolleys bent into a question mark shaped bracket. As with the brick and window sections, I used copious amounts of Testors plastic putty to fill the cracks and joints.

Colors are a personal matter. I mixed a brick color using a bottle of Tuscan Red, 8/10ths of a bottle of Rust and half a bottle of Thinner and airbrushed it on the walls. Mortar lines were added using interior water based house paint thinned out about 10 parts wet water to 1 part paint. The interior walls were painted in a grungy antiqued white with a grimy black wainscot that is thirty scale inches high. I used an India ink wash to tone down some of the brick. Richard Bourgerie applied some weathering chalks to bring up the grunge factor. Pieces subject to handling were sprayed with Dullcote.

Sept. 18 & 19, 2009

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The trapezoid shape, exterior staircase, loading dock, rooftop billboard & water tank, positionable windows and doors, and brass & pewter detail castings make this laser-cut craftsman kit a ‘must have’ for any layout. *Figures, signs, interior floors and walls, and grade crossing components are all included as well as a removable roof.*

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McCabe Planing Shed

The McCabe Lumber Co. Planing Shed complex consists of the transfer shed, two planing buildings, boiler house, water tank, and loads of details, and is a key part of the Slatyfork Sawmill Complex. The Planing Shed can also be used as a stand-alone manufacturing industry such as a box factory.

This kit consists of laser-cut basswood, plywood, and cardstock, tarpaper roofing, brass, urethane, and white-metal detail castings, and loads of character. The tabbed, well-engineered construction provides fast and easy assembly. The footprint is about 70' x 90'.

#18225      $449.95

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**New in O Scale!**

The Evans Gondola

In 1975, the Southern Iron and Equipment Co. started building a 52'-6'', 100-ton gondola. Evans took over SIECO and continued building the cars through December 1981. A total of 1,730 cars were built with three minor body variations. This model represents the second, and most common, version of the car.

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What's With the Holes?

I have to ask whether a peculiarity in the design of some of the MTH steam locomotives bothers 2-Railers as much as it does some 3-Railers like me.

If you look at NP Z-6 4-6-6-4, for example, you will see that the piston rod holes are drilled way toward the put side of the casting on all four cylinders instead of being centered. I see no reason for this other than perhaps reducing overhang if the cylinders were mounted correctly wider. Is this acceptable? Also, many of the MTH locomotives, such as the 19th century 2-8-0 have the steam chest mounted above the centerline of the drivers. Just asking.

Sincerely,

Gene Hersch, Spokane WA

Joe answers - If you will look at my PRR H3 to N&W G1 conversion from last issue (OST#44) I noted that the cylinders were above the centerline of the drivers. I can see no good engineering reason to do this as the lowered cylinders work perfectly. As for the piston rod hole being outboard, I would guess that this was done for clearance purposes, especially if the cylinders were made to scale. Remember, O Scale track (whether 2- or 3-rail) is 0.073" too wide. Usually, manufacturers widen the cylinders to keep the rods all centered, but if they kept the cylinders at scale width then the rods have to be pushed outboard because of the over-width of the drivers, side rods, etc. That would be my guess. I am not as bothered by the outboard piston rods as I am by the cylinders being too high. MTH is aware of the cylinder issue and has said they will correct it on future models.

Who Made That?

I would like to see manufacturer's names on the equipment photos in OST. I think it is a disservice. When an item looks good, we readers might like to purchase it. Your weathering article on the covered hopper (OST #40) had no manufacturer name.

Dorian Nakamoto, Calif.

Joe responds - You are correct. We did not identify Atlas O as the manufacturer of the cylindrical hopper used in that article. We often are not given manufacturer information on items that appear in photos submitted for articles unless it's self-evident. However, we will strive to identify items more clearly in future articles.

Another Take On Street Trackage

Being in the midst of completing the interurban loop around my downtown business block, I was quite interested in the recent feature by Don Smith (Issue #42). I found myself in agreement with Don until I got to cutting flangeways with a (gasping) saw blade. If he says he can do it, fine, nolo contendere, but consider my technique.

Using your Dremel with an abrasive cutoff disc, cut away the tip of a common screwdriver blade until you are left with a projection equal in width and depth to your flangeway. Apply this tool to the street surface at a very low angle of attack and low pressure. You must go easy to prevent it wandering off like Don Quixote. After your flangeway is started, increase the angle of attack until you reach the full depth. It's best to use four or five passes to prevent chipping and splintering. After your street is complete, you can use this same tool to scrape paint from the rail heads. It's safe and easy to use for this purpose since it's self-guiding. Also, I think it's a good idea to keep the street surface a few mils below the rail heads. If you don't, you'll find out why you should have the first time you try to clean the track.

Ralph E Yoder via e-mail

Wishing For O Scale

This is a fan letter to say how much I enjoy your magazine O Scale Trains; and how it has really got me wishing and thinking, about my old O Scale layout that I used to have and how I miss it and O Scale. I spent 30+ years in the US Navy, mostly with the Marines as a Corporman; I moved around a lot and built and sold various layouts each time I was sent to a new duty station. In my lifetime you might say I was a rubber gauger: American Flyer S scale as a youngster, then HO, HOn3, On3, N, next a 7½" gauge in 1-½" scale backyard RR in Guantanamo Bay Cuba, On30 and O Scale standard gauge.

I went full size next and owned 3 different 12"= 1' Standard Gauge Fairmont and Kalamazoo MOW Speeders as a member of North American Rail Car Owners Association (NARCOA). Then some 3’ gauge equipment.

All this is past tense. Now it is 7/8n2 or 7/8” = 1’ with one SR&RL #6 0-4-4 Forney live steam (see photo) and one Eagles Creek Railway #5, a 7/8n2 model of a Bridgeton & Harrison RR 2-4-4 Forney with battery power, sound & RC, plus rolling stock. All motive power and rolling stock is scratchbuilt. Only parts available are trucks, brake wheels grab irons etc. So you might say I am a bit of a railroad enthusiast (nut).

Now that I am settled down with just my 7/8n2 equipment, some times I just want to RR no matter what the weather and I like to be a total model railroader and dioramist (buildings and scenery). That is where Mike comes in. I have been reading his articles on his layout that he is building & writing about in O Scale Trains and they make me wish I would have figured out how to keep my old O Scale standard gauge layout. It appears that we have much the same ideas. Although it seems that you have refined them a bit more. I have a room about 20’ X 7’ which would give me 47” in a “U” shape with shelves 24” to 30” in depth. I envision a little coal hauler, with a GE 44 ton and a Climax 50 ton, with a few hopper cars, box cars etc. on Code 100 handlaid track, maybe 12 to 15 turnouts, and point to point with a 5’ long traverser plate offset to interchange cars. “The Junction” done in the speed and style of your articles. This letter is to thank you both for the magazine and the inspiration. Scratchbuilding and kitbashing is where it’s at. Promise to keep you posted.

Tom (7/8n2) Eagles via e-mail

Mike replies: Tom, I think you’ll discover that a small layout can be just as much fun as a larger one.
This O Scale model of the Gladys Inn YMCA was scratchbuilt by Don Eastman (OST #35, Cabin Creek) for the operating layout at the Chesapeake & Ohio Railway Heritage Center at Clifton Forge, Va. The model of the building that once stood at Clifton Forge measures 40" L by 18" W by 20" H. It is made with laser cut windows and roofing on lap siding. It took Don about 3 months to build the structure. Don resides in Ontario, Canada.
I am saddened to report the death of Greg Heier, editor of O Scale News. I just saw Greg at the March Meet on March 20th so it was a shock to learn he had passed away April 17th.

Greg had been the Managing Editor of OSN since 1987. He was also a writer and a professional photographer. Greg built his first 2-Rail O Scale model in 1955. Over the years Greg was a member of various clubs but his greatest love was volunteering at the Illinois Railway Museum (IRM). Not too long ago, Greg had become an NMRA Life Member and he was elected to the O Scale Hall of Fame in September 2007. He was also a great font of O Scale knowledge which will be missed.

While many thought there was animosity between OST and OSN, Greg was always cordial and collegial toward us.

Our condolences to Joy, his wife, and to all of Greg’s friends in the hobby.

A memorial fund has been set up in Greg’s name at the IRM. The nicest way to honor Greg’s contributions to our hobby would be to make a donation to the IRM in his name.

Joe Giannovario, Publisher
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In the last issue (#44) of OST, I began work on converting an MTH Pennsylvania Railroad H3 2-8-0 into a Norfolk and Western Class G1. Part One covered the work on a new cab, making and mounting new running boards, an N&W style pilot and boiler details. Part Two wraps up the project with making changes to the original die-cast tender. Initially, I planned to just build up the coal boards, per N&W practice, and change the tender steps. You’ll see where that led later.

New Coal Boards

The tender on the N&W prototype had a longer, higher coal bunker and I wanted to simulate this so I cut some K&S brass strip stock (0.25” wide by 0.032” thick) with a rotary tool and cut off wheel. Without plans I “guesstimated” a length that looked right to me. I made crosspieces from K&S stock 0.5” wide by 0.032” thick shaped with a file to fit between the side boards. I clamped these in place on the tender (Photo 1) and soldered the four pieces together. Next I made some brackets out of 0.096” wide by 0.032” thick strip and soldered these to the inside of the new coal boards, front and back on both sides. I then drilled through the brackets into the tender deck with a #60 drill. I redrilled the brackets to clear a 00-90 screw, tapped the tender deck holes accordingly and attached the boards (Photo 2).

Tender Steps

While perusing the Precision Scale Co. catalog for engine detail parts I noticed they had tender steps from their N&W S1a 0-8-0 project, PSC#41069. I compared these parts to the photos of the G1 and they looked similar so I ordered a set.

I removed the cast-on tender steps and filed the castings clean. I then CA’d the new front steps to the tender body. They stuck but not well. I kept breaking them off as I tried to do other work on the shell. So, I made a bracket (0.096” x 0.032”), screwed it to the tender and soldered the front steps in place (Photo 3). I made new rear steps from the same material as the bracket. To attach these I drilled 0.031” holes (#68) into the tender side walls and CA’d 0.030” wire into the holes. I then
drilled the new steps with the #68 bit and soldered them to the wires (Photo 4).

While I was working at the back of the tender, I filled in the rear tender beam with styrene strips (Photo 5).

**New Sides**

I had intended to stop at this point. The PRR tender looked like a pretty good facsimile of the N&W tender behind the G1 (Photo 6). However, I noticed the PRR tender had a line of double rivets running horizontally along the side while the G1 had several rows of vertical rivets. I decided new sides were needed.

I considered making new sides from 0.002” shim brass (I’d done this in HO) and gluing it in place. I don’t have the tools to deal with brass any thicker than that, so I even considered 0.005” styrene.

I solicited opinions from some online friends and Bob Turner (yes, *OSN*’s Bob Turner) offered to make me new sides if I provided him with the sheet brass and a template. I wrapped the tender with a sheet of paper and traced the outline. I put this on my scanner and imported the scan into a drawing program. I then drew the outline and placed rivet lines in appropriate places. (I used a low-res photo of a real N&W tender I found online to help me place the lines.) The result is shown in Figure 1 full size for O Scale. I sent this with a sheet of 0.010” brass to Bob and he sent me back trimmed and riveted sides which I gently bent around the tender body (Photo 7).

Next I needed to figure out how to keep the wrappers attached to the tender body. The PRR tender has a slight flare at the top of the body and the wrappers would not fit tightly. I filed and ground the flare off so the sides were straight and this made the wrappers fit nice and tight.

I made a clamp from brass angle to hold the wrapper sides at the coal doors in the front of the tender and I also drilled through the wrappers at the handrail holes. I held the angle...
clamp and the wrappers in place with 00-90 screws temporarily (Photo 8). Photo 9 shows a side view of one wrapper in place with 00-90 screws in the handrail holes.

With the screws holding the wrappers in place I was able to bend the ends around to the rear (Photo 10), then trim and solder the two wrappers together. I cheated in that I soldered a piece of strip brass over the seam in the center rather than underneath the seam as Bob had suggested (Photo 11).

Back at the front I cut strips of 0.5" and 0.25" wide 0.032" thick brass to fit tightly between the angle clamps holding the wrapper ends around the tender's water legs. I removed the 00-90 screws at the bottom and soldered a strip in place and then worked my way up the front removing screws and soldering as I went. Once I had all the horizontal strips in place I ran some solder between the wrapper and the angles for good measure (Photo 12).

The last bit of wrapper work was to solder a bead on the top edge of the wrapper and install the handrails. I made the beading using 0.020" straight brass wire and my makeshift resistance soldering gun using soldering paste. The trick is to get the wire attached straight to the inside edge of the water leg and then work your way around the lip slowly. Once the beading was done and joined at the back, I removed the 00-90 screws from the handrail holes and reinstalled the factory handrails (Photo 13).

The final details were installing a small water hatch and making a backup light and bracket which the PRR tender did not have.

Paint and Decals
I primed both the engine and tender with grey auto primer from an aerosol can. After this was dry to the touch I airbrushed everything with a mixture of 50% Floquil Grimy
### Deichman’s Depot
**Deichman’s Depot**

**ATLAS O Scale 2-Rail**

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### Black and 50% Engine Black
Black and 50% Engine Black. I gave both engine and tender several light coats. Since the chassis cannot be disassembled, I painted the cylinders and drivers in place with the motor and other electronic pieces masked off. After the paint was dry, I removed the paint from the driver treads with a cotton swab and lacquer thinner.

I allowed the paint to thoroughly air dry for a day and then 1 airbrushed a gloss coat for decals. Once the gloss coat was dry, I used a Microscale N&W Steam locomotive set #48-78 to letter/number the locomotive and tender. With the decals set and dry I airbrushed on a coat of Testors Dullcote to kill the decal shine. This was followed with a light weathering using oil-based chalks, my preferred method. Photo 14 gives you a close up of the finished tender.

### Acknowledgements
I neglected to mention in Part One that Frank Miller mounted the spoked wheels in the lead truck for me. Thanks Frank, and thanks to Ed Reutling (resin cab castings), Bob Turner (brass tender wrapper), Brian Scace (who encouraged me to grind off the running boards in the first place), and all the guys on the **Model Train Journal BBS** [modeltrainjournal.com/phpBB3/index.php] who encouraged me.
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<td>33K..7 roads..$40-55.</td>
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<tr>
<td>Tank Cars</td>
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<tr>
<td>Weaver PS-2 &amp; AC-2, old &amp; new, 30+ roads..$25-$40</td>
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<tr>
<td>Centerofrail or Grain..old and new, 25 roads..$25-$40</td>
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<tr>
<td>Atlas..3 bay, PLE, NW, UP, BN, CBO..$30-$35</td>
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<tr>
<td>Refrigerator Cars</td>
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<tr>
<td>Weaver/Crown..30+ roadnames in stock..$25-$40</td>
<td></td>
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<tr>
<td>5' Mechanical..15+ roads.no sound..$35, sound..$45</td>
<td></td>
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<tr>
<td>Atlantic..40 Woodside..30+ roads!!..$45-$85</td>
<td></td>
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<tr>
<td>40' Steel. Rebuilds, or AAR..20+ roads..$45-$85</td>
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<tr>
<td>40' Trainman..1970's (refurbished)..$30-$35</td>
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<tr>
<td>WP 40' &quot;Rides Like a Feather&quot; box car..reserve</td>
<td></td>
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<tr>
<td>WP 52' mill gondola, feather logo..reserve</td>
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<tr>
<td>SP 8K company service tank car..reserve</td>
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<tr>
<td>WP 2 bay hopper car, early scheme..reserve</td>
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<tr>
<td>&quot;SINCLAIR&quot; 8k tank car...</td>
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<td>8K trying, oldies, newies, custom..$50-$125</td>
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<tr>
<td>All-American Gas Station Kit O (4 x 6.25&quot;)</td>
<td>$59.50</td>
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<tr>
<td>58'..60'..$55-$62.</td>
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<td>17K..10 roads..$50-$65</td>
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Train Indicators

The Southern Pacific and the Union Pacific used lighted number boards in the steam and early Diesel eras to indicate the train’s identifying number per the timetable and train order designation. The numbers were metal stencils and later painted clear plastic that the fireman would install in slotted holders on the front of the locomotive prior to leaving the terminal. The illustration from the SP rule book (Fig. 1) shows the manner in which the numbers were displayed. Scheduled trains and trains running as sections of a scheduled train were identified by the timetable number. Unscheduled trains operated as extras and were identified by the locomotive number and the letter X in the train indicators.

PFM SP C-9

The SP class C-9 locomotive imported by Pacific Fast Mail in the 1980s was and still is an exquisitely detailed model. But the indicators were unlit solid brass castings with decals for the number. This has bugged me for a couple decades, but I did not want to take the loco out of service and mess up the paint job and commit no telling what other damage to an otherwise perfect running locomotive.

The decision to convert the model to DCC with sound and move the speaker from the tender to the locomotive smoke box provided the stimulus to also add lights to the train indicators. Unfortunately, this decision opened a can of worms since the interior of the smoke box was filled with such items as a flue sheet, stack funnel, and exhaust nozzle. In addition, the indicator castings were secured with brass pegs and enough solder that removal without damage did not seem possible.

FIG. 1

No. 2, or Last section No. 2
1-4
First 4
Extra 2795, or Work Extra 2795
**DCC & Speaker Installation**

The PFM C-9 has an efficient Canon motor with a low enough stall current to allow direct use of the Soundtraxx Tsunami 1 amp decoder for motor control. The decoder is also small enough to fit in the boiler cavity over the motor. The tender has lots of room, but locating the decoder there would require seven engine-to-tender wires with associated plugs and sockets.

The speaker was the next issue. I was able to remove the stack funnel by cutting the two lumps of solder holding it with a dental drill. This gave just enough room to squeeze in an 8 ohm speaker from Digi-Key (part number P12055-ND). See Photo 1.

**Installing the PSC Castings**

I decided to use the existing indicator brackets and replace just the light box with a modified indicator casting and insert from Precision Scale Co. (part number PSS-2030). It turns out that the PSC casting closely matches the PFM casting except the PSC version is hollow for lighting. I cut off the PFM indicators at the top of the support brackets. The bottom halves of the PSC brackets were cut off and the remainder filed down to form a lap joint with the rear of the bracket remaining on the smoke box. I also drilled a hole for the bulb wires at the back of each indicator casting and a hole through the smoke box behind the bracket. The lap joint gives sufficient surface area for a strong joint using epoxy. The indicator assemblies with the 1-1/2 volt bulbs (Miniatronics 18-701) installed are shown in Photos 2 and 3.

**Wiring the Lights**

Each of the three light functions on the Tsunami decoder is limited to 100 mA maximum current. The headlight and back-up headlights at 60 mA each were okay for the headlight function. The class lamps used 12 mA each so they could be wired in parallel to the second light function along with a suitable resistor in series for a current draw of 24 mA. However, the two bulbs chosen for the train indicators drew 60 mA each. I could have used the 12 mA lamps but I felt these smaller bulbs would not be bright enough to light up the numbers. To keep the current within limits, these two bulbs and a resistor would be wired in series to the third light function to keep the current draw below 100 mA. The light function voltage from the decoder is about 13 volts, so I used the following resistance values: headlights, 200 ohms; class lights, 470 ohms; and indicator boards, 220 ohms.

**Train Indicator Numbers**

Initially I had planned to use decals on plastic for the numbers. But John Houlihan at The Irish Tracklayer [irishtracklayer.com] has recently introduced the SP indicator numbers in etched brass in true 1/48 scale and also a slightly reduced size (part number S-163) to fit the cast indicator boards like these from PSC. Photo 4 shows the method I used to install the numbers. A piece of 3M brand transparent tape is fastened sticky side up to a glass surface. The plastic frame from the PSC indicator board set is slid under the tape to aid in positioning the numbers. After painting the sheet of numbers black, the desired digits are clipped out with the point of a knife and...
placed in the proper position on the tape. The frame is then removed from underneath and placed on top of the numbers and tape and then secured with CA. Trimming the tape from around the outer edges of the frame completes the subassembly. A completed number set and frame is shown at the top. A bit of epoxy around the edge of the frame attached the train indicator number set to the light box. Photo 5 shows the results of this effort.

Making train indicators or locomotive number boards with the etched brass numbers from Irish Tracklayer is a much improved method over the others that I’ve used in the past. As you can see in the photos at the beginning and end of this article, the etched number openings allow plenty of light to show through. The 12 mA lamps would have been adequate after all. Next time, I think I will try using the very small LEDs that are available now.

Strip Stock Storage
Bill Davis

Some things are just too simple! I have been keeping my Evergreen styrene in a box and have to search for what I need. Frustrating at best. We were doing some packing and so I got boxes from several places in town. One was the local liquor store. I discovered that kind of box works out really well for storing Evergreen styrene. I found that the bottle dividers were perfect storage spaces for the different strip sizes. All I had to do was cut off the box top and then simply put packs in the spaces by thickness. I folded over 2 of the dividers in the back of the box for the sheet stock. This is an inexpensive way to get better storage and requires no special skills or money. Also it makes finding the size you need quick and easy. A much more enjoyable way to model.
This article describes modifications to an Atlas Postwar AAR boxcar to make it an accurate model of a specific prototype while improving some of the details. The Atlas boxcar was first released in 1972. The prototype for the Atlas model is the Pennsylvania RR X43c boxcar. This model, with some modifications, is available again in the new Atlas O Trainman line. The model has a diagonal panel roof, an R+3/4 Improved Dreadnaught end, and an 8 foot Youngstown Steel Co. door. The R+3/4 end has one rectangular rib at the top, three more rolling pin shaped ribs in the top half, and four rolling pin shaped ribs in the bottom half.

Ed Hawkins has compiled a roster for Postwar AAR boxcars with R+3/4 ends. It should be noted that the R+3/4 ends on the Atlas model, and on the cars in the roster, were the early version end used on cars built from 1948-1954. There was a later-version R+3/4 that had the main corrugations with more taper. Altogether 47,425 boxcars were built with the early R+3/4 end. Only 4,485, or 14.35%, of the boxcars were built with 8 foot doors. The roster for cars with 8 foot doors includes the following groups:

- RDG 107000-107499 Superior doors
- NJI&I 100-149 twelve panel welded sides
- NJI&I 150-199 twelve panel welded sides
- DT&I 14300-14549 straight sill between bolsters
- WAB 6000-6299 straight sill between bolsters
- PRR 70400-71899 X43c
- GN 21940-21949 straight sill
- PRR 86901-87650 X46, overhng diagonal panel roof
- WM 4201-4450 twelve panel welded sides
- CP 55200-55524
- CP 55525-56024 Superior doors with ribs

The third column lists differences between the prototype cars and the Atlas model. The straight sills and Superior doors are relatively easy modifications. The twelve panel welded sides could be modeled by removing the rivet strips on the Atlas model and applying a styrene overlay to the sides. The overhanging diagonal panel roof on the PRR X46 could be modeled by separating the Atlas roof from the carbody. All of the cars in the table had 7 rung ladders except for the PRR and CP cars which had 8 rung ladders.

I am trying to include cars from the railroads that were the top owners of boxcars in 1950 and cars from railroads that are represented in early 1950s photos and movies of trains on the Western Maryland. I decided to model the Wabash 6000-6299 series car because I had prototype photos and because I wanted one or two Wabash boxcars on my model railroad. These cars are very similar to the Atlas model. The main visible difference is the side sill, which is straight between the bolsters rather than having tabs. Another difference, which is less noticeable, is that the Atlas model has narrower side panels next to the doors while the Wabash car has equal width side panels.

Photos 1 and 2 show the 6000-6299 series cars that were built by the Wabash in 1951. The specific built dates, courtesy of Chet French, are:

- 6000 - 6065 3-51
- 6066 - 6128 4-51
- 6129 - 6194 5-51
- 6195 - 6257 6-51
- 6258 - 6290 7-51
- 6291 - 6299 8-51

I started with a 1972 vintage undecorated Atlas kit. These kits are available on eBay and at O Scale meets. I removed the side sill tabs and made straight side sills from Evergreen 0.040" styrene strip. The roping staples at the ends of the side sills were formed from wire. I removed the 8 rung ladders, cast on hand grabs, and brake step and replaced them with parts from the Chooch Ultra Scale #610 Intermountain Box Car Super Detail Kit. The Chooch ladders have 7 rungs which are correct for the Wabash 6000 series. I removed the Atlas running board, filled in the holes in the roof, and installed running board supports made from Evergreen 0.060" styrene angles at each roof rib (Photo 3).

I removed the corner steps and replaced them with steps made from Detail Associates 0.015 x 0.060 brass strip. I installed brass running board supports from a Des Plaines Hobbies DPO
841 Apex running board (roofwalk) kit. I installed Intermountain hand brake gear with wire for the actuating rod and the retainer line on the B end of the model. Kadee couplers were installed using a 0.060 spacer between the coupler box and the car body to get the correct coupler height. I used Intermountain cast steel AAR (Bettendorf) trucks with Northwest Shortline wheels as shown in Photo 4.

I removed the Atlas AB brake gear and brake rods because the Atlas arrangement is different from the prototype's, and because the San Juan AB brake components and Intermountain brake rigging are much nicer. (Photo 5). Photo 6 shows the new brake components installed on the model. The brake piping is brass wire. I fabricated supports for the brake gear from styrene. I also used styrene to make a new floor stringer to fill in the gap where the Atlas AB reservoir support was removed and a new section of train line to fill in the gap where the cast-on AB valve was removed.

I installed the Des Plaines running boards using a 50-50 mix of Barge Cement and MEK. The corner hand grabs on the lateral running boards were made from 0.020 brass wire. The corner grabs go through holes in the Des Plaines lateral running boards, running board supports and into holes drilled in the roof.
I painted the model with Scalecoat II Oxide Red. The large Wabash lettering, flag emblem, reporting marks and the car numbers are from a Champ Wabash N-2 road name set. The dimensional data is from a CDS O-631 set for WABASH 7000-7299 boxcars which are similar to the 6000-6299 series. I made the CDS dry transfers into decals by transferring them to decal paper. Unfortunately, the CDS set is no longer available. Rails Unlimited has a Rick Leach custom decal set for their Wabash auto cars which can be used as a source of dimensional data. I used a few Sunshine Models chalk marks. I lightly weathered the finished model since it represents a two year old car on my circa 1953 model railroad.
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DPT #01457 D&RGW Ovrl Rivet Steel Car FP LN, w/Amnt., Blk w/Ylw Stripes ........$255

PSC DM&IR Wood Caboose FP LN, No Paint, Grn & Black, #6262 .....................$475

SS3rd 70’ Harriman Pass. Cars FP LN, SP Bag & Coach - TT GP Gray Baggage ....$295

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**Running Engines**

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Kohs & Co. H8 Allen 2-6-6-6 FP New, Weathered, Road #1628 .....................$5,995

Sunset C&O J2 4-8-2 CP Ex, Pr Paint, Can Motor, New Drive, Road #549 ........$1,395

PSC CB&Q S4a 4-6-4 FP Mint, PSC 17161-1, Road #4022, Updated ..................$2,795

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Overland UP Standard Turbine UP Mint, OMI #0354, Round Tender ..................$2,995

Overland UP Veranda Turbine UP LN, OMI #0218, Round Tender ......................$2,795

Atlas O F3 Ph1 A/B, CP WM Fireball LN, 2 Rail DCC/Sound, Nos. 51A/B ................$850

Kohs & Co. PRR GG1 Electric - Brunswick 5 Stripe FP New, Clarendon, Fixed Pilot, Road #4840, 1 of 4 ..................................................$49,995
I love to scratchbuild. It is one of the few things that give me the freedom to employ my imagination and ingenuity. There are no instructions to follow or get in the way of my creativity. I can just let my imagination race ahead and show me the way. Recently, one of the challenges that I set before myself was to build a semi-scale Gloucester drawbridge for my layout out of styrene (Photo 1).

Having no experience with a project like this, I did what I always do — made what I needed to get the project done! In this case, I needed a way to make a lot of rivets. Embossing them seemed the easiest way to go about it. And, while there are commercial tools for this, it just seemed a waste of time to invest in something that I was sure that I could create for my own use. I did not want to make this a complicated thing, but I did want the rivets to be relatively accurate in both dimension and alignment.

I wanted my tooling for this project to also be versatile and as fast as possible to use. With that in mind, I settled for a simple design. The old KISS principle that includes a pull handle that actuates a pin that makes the rivet, a fence or guide to slide strips of styrene along, and a gauge to mark how far to advance the strips for proper spacing. And on top of all that, I wanted this tool it to be easy for anyone to make. The following unit allowed me to go ahead with my project.

I started with the most technical part of the unit, the pin, which is nothing more than a 6" long 1/4" thick piece of piano wire (Photo 2). The pin will slide through a hole lined with a
piece of brass tubing. The piano wire comes in 3’ lengths and the brass tubing comes in 12” lengths. Both should be available at your local hobby shop. The tubing is also be used as a liner for the handle. I first cut the piano wire to about a 6 ¼” length on the grinder. The extra ¼” of length leaves some room for grinding. Just a note here, don’t try to file this stuff; you’ll ruin the file. It’s very hard and tempered. I put the soon-to-be pin in my hand drill and spun it against a running grinder to taper the end to a point (rather like sharpening a pencil). Besides doing this to make the shape, try to keep the point as centered as possible. Now, with the pin still in the hand drill and running, work the point against a sharpening stone or a piece of wet/dry sandpaper to SLIGHTLY round the point. The shape of this point will determine the shape of the rivets so take some care here.

I finished up by cleaning the surface with a piece of wet-dry paper. I made two of these pins, one with a larger point than the other (Photo 3). This allowed me to make different sized rivets. Next, I needed a good, solid base. Using some 3/4” plywood and a small piece of hardwood I had lying around the shop, I cut all the pieces that made up the base (see the materials list). Now it was time to drill the hole for the pin. You will need two drill bits, 9/32” and ¼”, and a counter sink for this project. Using the 9/32” bit, I set the upright on my drill-press and clamped it to keep it perpendicular, then drilled through the upright support block (Photo 4). Remove this block and then drill the hole in the handle with the same bit in the location indicated on the plans (see Figure 1). Now it is time to add the brass liners. Cut two pieces of the tubing, one 3 ½” long and one ¾” long. I used the edge of a file to score the tube all the way around and then just snapped it off (Photo 5). You could use a Dremel rotary tool with a cut-off wheel or a small pipe/tubing cutter.

File the ends square and clean off all of the burs. Take the 3½” piece and insert it into the hole in the upright support block you just drilled through until the tube is even with the top edge (Photo 6). It should fit snugly. If the fit is loose, use...
a little CA glue to firm it up. Insert the other piece into the handle and file it flush with the face if necessary. Clamping the handle supports together, drill a 1/4" hole at the position noted (Photo 7). Also enlarge the hole in the knob with the same drill bit. Since I used a “T” nut on the handle, I had to enlarge one of the holes to the 9/32” size. I also had to countersink around the holes to get the 2¼” bolt to reach though completely. Insert the “T” nut into the larger hole by threading the bolt into it and tapping with a hammer (Photo 8). With all the pieces cut and drilled, it is time for the assembly (Photo 9). Assemble everything using glue and screws, but do not push the knob onto the end of the pin, and also leave the hardwood fence, aluminum plate and spacer off for the moment. We will take care of that in the next step.

Now it is time to set the embossing plate. As you can see, the fence is rather tall. It supports the different size of spacers used to set the distance that the row of rivets will be from the edge of your material, i.e. the wider the spacer used, the closer to the edge the row of rivets will be located. When I needed the ability to emboss things like the large fish plates on my bridge, I replaced the large fence with a thinner fence that was flush with the plate’s surface. That is why I suggest that the large fence to be screwed in place and not glued. This allows one to take advantage of the full depth of the throat on the upright.

The plate is a piece of 1” wide x 1/8” thick aluminum purchased at the local Ace hardware store in 4’ lengths. After cutting to length (9” to match the base), hold the plate, spacer and fence in place. Insert the pin and let it rest on the plate (Photo 10). You are trying to get the center of the pin to end up about 1/16” from the edge. Trim the fence until this is achieved. Take your time here. It needs to be close to the edge so that small angle shaped styrene can be embossed. Once set, mount the plate and spacer to the base using flat head screws with countersinks. Make sure to drill the mounting holes 3/4” from one end and 1-1/4” from the other and both in the center. This will allow you to flip the plate to make different size rivets without going into the same holes.

With the plate and shim mounted, insert the pin into its hole, point down, and let the point rest on the plate. The end of the pin is struck hard enough to make a dimple in the plate (Photo 11). This dimple forms the exposed face of the rivet,
so take care to make it the desired depth. I ran a file over the raised edges of the dimple to better define the base of the rivet (Photo 12). Put the knob on the end of the pin. Label the knob and the plate #1. Now rotate the plate, end for end with the same face up. Screw it down and repeat the dimple process with the other pin and label them #2 (Photo 13). I have some number dies so I stamped my numbers into the plate (Photos 14). After assembly, the embosser is just about done. I, like so many of us, struggle with my eyesight. So, to make things easier I added a magnifying glass to see what I was doing. I made sure to angle it so I could view what is going on. It just took a bit of tweaking and fiddling to get it right (Photo 15).

Now I needed to add something as a spacing guide. This was nothing more than a relief filed into the edge of the plate. This is positioned so the distance from the dimple to the start of the relief sets the spacing of the rivet (Photo 16). With this in place, all I had to do was move the first rivet made over to the relief mark and pull it tight against the edge of the relief and emboss the next rivet in the line. That is all there is to it!

I also made various spacers out of 1/8” plexi that can be set on top of the plate and against the fence. They allowed me to set how close to the edge of my flat material the row of rivets would be made. Use the proper pin and plate combo and you’re off making rivets! I was very happy with this little project. It has done wonderful work for me. And, while it is a bit tedious making all those rivets for the bridge, the results are well worth it.

I’d like to thank Martin Brechbiel for his assistance in writing this article. Also, if you’d like me to build you an embosser, contact me by email at [jgizzmo@verizon.net].

**Ed. note:** Parts List is on the next page.
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<td>Upright</td>
<td>4 1/4 x 5</td>
<td>Cut to Pattern</td>
</tr>
<tr>
<td>Blocks</td>
<td>4 1/8 x 2</td>
<td></td>
</tr>
<tr>
<td>Fence</td>
<td>9 x 7/8</td>
<td>Hardwood</td>
</tr>
<tr>
<td>Plate shim</td>
<td>9 x 1</td>
<td>Hardwood</td>
</tr>
<tr>
<td>Arm Supports</td>
<td>7 x 2</td>
<td>Cut to Pattern</td>
</tr>
<tr>
<td>Arm</td>
<td>8 1/2 x 1 1/2</td>
<td>Cut to Pattern</td>
</tr>
<tr>
<td>Plate</td>
<td>9 x 1</td>
<td>Aluminum</td>
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<table>
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<tr>
<th>Hardware</th>
<th>size</th>
<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>Pins</td>
<td>6 x 1/4</td>
<td>1/4&quot; Piano Wire</td>
</tr>
<tr>
<td>Guide liner</td>
<td>3 1/2</td>
<td>1/4&quot; inside dia brass tube</td>
</tr>
<tr>
<td>Arm liner</td>
<td>3/4</td>
<td>1/4&quot; inside dia brass tube</td>
</tr>
<tr>
<td>bolt</td>
<td>1/4-20 x 2 1/4</td>
<td>Available at Home</td>
</tr>
<tr>
<td>Tee Nut</td>
<td>1/4-20</td>
<td>Depot-Hardware aisle</td>
</tr>
<tr>
<td>Return spring</td>
<td>1 3/8 long</td>
<td></td>
</tr>
<tr>
<td>3/4&quot; flat head screws</td>
<td></td>
<td>2 Depots Hardware aisle</td>
</tr>
<tr>
<td>1 1/4 drywall screws</td>
<td></td>
<td>10 or so</td>
</tr>
<tr>
<td>Wood Cabinet Knob</td>
<td></td>
<td>2 one for each pin</td>
</tr>
</tbody>
</table>

ERRATA: Chicago Contest Models in OST#44
I must apologize to Boyd “Sammy” Hill. As pointed out to me by several folks, Mr. Hill is not deceased as I asserted in the caption under the SD-45 on page 34. Also, New Dorp station is located on Staten Island, not Long Island as indicated in the caption on the same page. The error is ours not the model builder’s.
Corn Belt Series:

New SceniKing backdrop kit F041 creates the feel of the Midwest corn belt with an O scale kit 93.25 inches long after assembly. Corn Belt represents mature corn fields with stalks over 7 scale feet high and like Treeline kit R017, is designed to connect to itself, allowing continuation of the scene to infinite lengths using additional kits. The top edge of the scene is a constant sky blue, enabling upward extension using matching paint.

Green Valley Series:

Three new SceniKing photo backdrop kits create the feel of a quiet eastern valley stretching almost 24 feet. New SceniKing backdrop kits R033, R034 and R035 each cover 93.25 inches, and connect to take a railroader past a quiet country “Church in the Valley,” a pretty “Mountain Lake,” and out into lush green forest backed by “Distant Hills.” The top edge of the full scene is a constant sky blue, enabling upward extension using matching paint.

SceniKing photo backdrop kits are printed as individual panels on 6 1/2” x 14” 24-pound paper. Careful assembly using the manufacturer’s instructions can create a seamless image. Suggested retail prices for these kits are $39.95 through authorized dealers or direct from BPH Enterprises.
**NEWS: Harriman 40’ Baggage/Postal car, Kit #101.**
Southern Car & Foundry, 970 Sunshine Lane, Suite D, Altamonte Springs, Florida 32714
407-389-3100 • www.southerncarandfoundry.com

Southern Car & Foundry, a Central Florida based manufacturing firm, is pleased to announce its latest O Scale resin kit, the 40’ Baggage/Postal Harriman Head End Car, Kit #101. The kit includes a one piece cast resin body, one piece cast underframe, laser cut acrylic windows, complete brake detail and cast brass steps. The kit retails at $125, with a $10 shipping cost for each kit.

SC&F is also pleased to announce the availability of a Two Tank Detail Set, Kit #O-2001, in O Scale. The kit’s instructions provide color images and tank assembly directions. Components of the kit includes cast resin parts of the round tank, square tank, filler hatches, timber and metal support pieces, and a tool box. This kit retails at $35, with a shipping cost of $6 for up to six kits.

**NEWS: Plans by Tom Yorke**
Underground Railway Press, PO Box 8140S, Brevard NC 28712-0814

The Underground Railway Press has released a number of plans drawn by Tom Yorke. They include: TY-01 Corner Store, TY-02 Gas Station, TY-3A Railroad Open Air Repair Shed, TY-04 Wood Storefront, TY-05 Wood Church, TY-07 Brick Storefront Texas, and TY-08 Brick Storefront St. Louis. Each plan set is $4 plus $2.50 p&h per order. A URP catalog is sent with every new order.

**REVIEW: Clever Models Two stall enginehouse; MSRP:** $39.95
www.clevermodels.com • generalinfo@clevermodels.com

Reviewed by Al Askerberg

Clever Models has released a CD-based paper model inspired by the legendary engine house at Gorre on John Allen’s Gorre and Daphetid. A water tank model is also included on the disk as a bonus. Modelers unfamiliar with John’s masterpiece can find his own photographs of these two models on a website commemorating this great modeler and his works. [http://www.gdlines.com/].

The CD contains a folder for the enginehouse drawings and another folder for the water tank drawings. The drawings are in PDF format and can be printed directly from the Adobe PDF toolbar. An Adobe PDF reader is included on the disk for those who might not have it already loaded on their machine. The current version can also be downloaded for free at Adobe.com. There is a Microsoft Word document that contains general instructions on constructing paper models. This document should be read first before proceeding with the model. A second Word document contains detailed and illustrated instructions for building the enginehouse. There were no instructions on the disk for building the water tank and, consequently, no illustrations to guide the modeler. Fortunately, there is a photo of an assembled model on the Clever Models website. The water tank kit would benefit from instructions comparable to those provided for the enginehouse.

Once you have printed out the parts, you have created
a kit not unlike other pre-printed Clever kits. If you have assembled one of their kits, this kit should look familiar in the nature of its construction. However, the enginehouse is a complex kit with many parts, and the manufacturer makes this clear by calling it their “most challenging kit ever…a true craftsman level building experience.” This kit will require patience, as there is a lot of intricate cutting to perform.

I loaded the disk on a Windows-based PC without incident. The disk label does not indicate whether the disk is Mac compatible. I presume it is; but I was unable to verify this, as I have no access to a Mac machine. Those using a Mac might want to check with the manufacturer for compatibility before purchasing the disk.

I noted that some of the drawings, notably the multi-paned windows and the triangular ornaments on the enginehouse exterior front have a light shadow surrounding the parts. I’m not sure of the purpose for these shadows, but they add to the challenge of determining the precise edge for cutting, at least for my tired eyes.

For printing the drawings, the manufacturer recommends obtaining 100 pound card or cover stock, also sometimes referred to as index paper. I located 8-1/2” x 11” 90 lb. and 110 lb. index stock at Office Max in packages of 250 sheets for about $10. The manufacturer also recommends Epson printers or any other printer that offers a straight-through paper path.

I did not have index stock available for this review, but I was able to print out a sample on my Epson Stylus Photo 1400 on Epson 44 lb. matte paper. After setting for my paper type, I used the default printer settings. I found the resulting color to be a close match to my monitor and quite satisfactory. The print was sharp and the wood grain detail was rendered very well. When using index or cover stock, you might have to experiment with printer settings to obtain proper inking and color matching. I recommend reducing the printing size substantially; say no more than 25%, while experimenting with printer settings to conserve ink. You should be able to make this adjustment in your printer settings menu. I would have liked to see “real world” dimensions accompany the drawings together with a graphic scale. This would allow one to check that the printer is set properly to the desired scale.

There are 37 separate 8-1/2” x 11” pages to print for the enginehouse and another 10 pages to print for the water tank. I have previously estimated that it costs something more that one dollar for ink to print a full 8-1/2” x 11” page on my Epson printer. Some of the sheets in these models have relatively low image coverage, so the actual ink usage should be somewhat lower than when printing a full page photograph. The total cost of the resulting models will include the cost of the CD, paper stock, and printer ink.

Although the cost of producing your own model from a CD might be higher than purchasing a pre-printed kit from the manufacturer, there are certain advantages from using a CD. In this case, Clever Models generously allows the owner of the CD to share it with friends and fellow club members, so multiple models may be built from the single CD. The CD is protected by copyright, however, so copies of the drawings may not be sold nor can the CD be copied. This is detailed in the general instructions provided.

Another advantage of being able to make multiple copies is that accidently ruined parts can be reprinted immediately. The manufacturer offers to replace ruined parts on their regular kits, but reprinting your own certainly speeds up the process. Given the considerable amount of intricate cutting that is necessary, particularly if the window glazing is to be cut out between the mullions, there will be plenty of opportunities for parts to be damaged.

For me, the most interesting advantage of printing your own models from a CD is that you are not limited to the primary scale. You can print at any scale smaller than the scale of the model offered on the CD by altering the print size setting in your printer’s menu. Why should this matter? Consider off-line structures such as stores, houses, and sheds that might populate the background areas of your layout. They can be printed at reduced scale to create forced perspective. This would not be appropriate for this kit which must be necessarily made to the modeling scale, but I think this it offers a real significant opportunity for future off-line models on CD.

Clever Models has set an interesting precedent here with this innovative kit. I look forward to future offerings of their structures on CD.
BOOK REVIEW: Sacramento Northern by Harre W. Demoro; MSRP: $70, plus shipping. Signature Press, 11508 Green Road, Wilton, CA 95693 800) 305-7942 • www.signaturepress.com

Reviewed by Roger C. Parker

For several years now, I've been waiting for Signature Press to release their Sacramento Northern book, originally written by Harre W. Demoro. There's quite a story behind the book, but, in short, the wait has been worthwhile. It's a spectacularly good book.

Harre W. Demoro, the “dean” of Bay Area electric railway authors, completed the original manuscript for the Sacramento Northern book in 1991, but he died before the book appeared. What Signature Press's co-owners Bob Church and Tony Thompson did was to not only publish Demoro’s original manuscript, but publish an even better book that goes far beyond what Demoro had envisioned.

Signature Press added new text, including Chapter Six, “A Ride on the Sacramento Northern,” commissioned maps, and researched never-before-seen photographs to create a new standard in quality. The result is a truly significant book, one that traction fans and modelers should own.

The Sacramento Northern is a finely-printed, large-format book, with 350-pages of beautiful photographs, maps, and detailed information about the rise, peak operations, and decline of one of America’s most interesting interurban lines.

There are several reasons for the widespread popularity of the Sacramento Northern Railway. One is the variety of environments through which it operated. The line extended from the San Francisco Bay Area to Chico, Calif., operating the longest interurban passenger route in the United States. In the Bay Area, the Sacramento Northern was a high-density urban line that originally terminated at the Key System’s Oakland Mole ferry terminal, then moved to downtown San Francisco reached by trackage rights over the San Francisco-Oakland Bay Bridge. Outside the Bay Area, it operated through the streets of several cities before serving a predominately agricultural rural area.

An amalgam of several lines, the Sacramento Northern Railway operated a wide variety of passenger and freight equipment, at both 600 volts and 1200 volts. Power was delivered through, at different points on the line, trolley poles, pantographs, and outside third rail.

The line’s signature characteristics included its long, multi-car passenger cars, complete with the line’s distinctive open-ended observation cars. Passenger trains regularly contained six cars, although some were cut off at Sacramento. One of the line’s most interesting features was its unique car ferry, the Ramon, which bridged Suisan Bay. Because of the line’s extensive agricultural freight business, the line owned a variety of steeplecab and boxcab freight engines, plus several styles of cabooses.

The line included numerous wooden trestles, one of which is a 4,000 foot trestle that collapsed under the weight of a steeplecab propelled freight train. Many of the photos of the collapsed trestle and train have been frequently reprinted.

Many of the Sacramento Northern’s structures were as distinctive as its rolling stock. There were numerous Spanish-influenced, Alamo-style stations, such as the unique through-style one at Woodland. There was also a busy 4-track station in Sacramento, accessed over street trackage.

Reasons why every traction modeler will want this book include the breadth of its photo coverage, the high-quality of the photographic reproduction, the informative and carefully edited text, and the 20 maps which trace the line, mile by mile, and detail the most important stations.

Although I own many books covering electric railway operations in the Bay Area, I had never seen many of the photographs of the line’s 40th and Shafter private right-of-way facilities in Oakland, the exterior of the ivy-covered Woodland station, and the exterior and street side of the Sacramento terminal.

I especially appreciated the descriptions of the numerous operating details, including the procedures to switch from 600 to 1200 volt power or from overhead wire to outside third rail. There are some great photos of the transitions taking place, including close-ups of the line’s unique removable third rail shoes.

Signature Press's Sacramento Northern is a hefty book, one which will provide its owner with renewed appreciation for the Sacramento Northern and interurban electric railways in general. It's a fitting memorial to both a great traction author as well as the country's premier interurban. The Sacramento Northern was worth the wait.
REVIEW: EMD GP7 Ph2 Gold Series; MSRP: $469.95
Atlas O, 378 Florence Ave, Hillside NJ 07205
908-687-0880 • www.atlaso.com

Reviewed by Joe Giannovario

The Prototype

The General Motors Electromotive Division's GP7 Diesel was a four-axle unit (B-B) built from 1949 to 1954 when it was replaced by the GP9. The unit was powered by an EMD 16 cylinder Diesel prime mover producing 1500 horsepower. The "GP" designation stood for General Purpose and the GP7s, like their GP9 successors, were used in every assignment from switching service to passenger duty. Over 2700 units were built.

The GP7 carbody generally had three sets of ventilation grilles under the cab and two pair at the end of the long hood. Some late GP7s were built with carbodies that were identical to early GP9s. Early GP7s had a solid skirt above the fuel tank, while late GP7s had access holes in the skirt. Many railroads removed most of the skirt to improve maintenance.

Geeps could be built with the engineer's control stand installed for either the long hood, or the short hood designated as the front. The GP7 was also available with or without dynamic brakes. Early (Phase 1) GP7s had 36" radiator fans including the one in the dynamic brake blister. A later Phase 2 GP7 with dynamic brakes will have a 48" fan in the blister. A steam generator could also be installed in the short hood as an option. If so equipped, the 1,600 US gallons fuel tank was divided, with half for diesel fuel, and half for boiler water. Another option available for Geeps without dynamic brakes was to remove the two air reservoirs from under the frame, and replace them with four tanks on the roof. Units thus equipped became known as "torpedo tube" Geeps.

There are myriad other minor differences and if you are a Diesel aficionado you will delight in finding them among the prototypes. (For further information about the various differences between prototype production models, see pages 32-41 of the March 1984 issue of Mainline Modeler.-Editor)

The Model

The Atlas O GP7 Phase 2 is made with a highly detailed injection molded plastic carbody mounted on a die-cast chassis, with die-cast fuel tank and pilots. The model weighs in at 4 pounds 4 ounces. The test sample was painted in Reading livery. The paint finish was excellent and the lettering crisp. The model tested has a dynamic brake blister although other versions come without the blister. Check with Atlas for availability.

The Gold Series designation means that the engine is equipped with a QSI dual-mode DCC sound decoder. Dual-mode means the engine will run on straight DC as well as in command control mode.

The engine is powered by two medium sized can motors with flywheels, one mounted in each truck in the so-called "China drive" arrangement.

Fidelity

The model was compared to published plans and found to be a near-perfect reproduction of an EMD GP7. No significant deviations were found in any major dimension. There may be some detail inaccuracies but one would have to be expert in the particular railroad modeled to spot them and I am no expert on Diesels for any railroad

Compatibility

The wheelsets all checked out with the NMRA Standards gage. The model is equipped with Atlas' own O Scale coupler which does mate with Kadees and other O Scale couplers. However, the operational reliability of Atlas O couplers is somewhat spotty

Performance

The locomotive was operated in both DC and DCC modes. In DC mode the starting voltage was 8.8 volts drawing 400mA. Pulling a train of 8 standard O Scale freight cars the engine drew 800mA. On stall the engine drew about 2.1 Amps. The slowest smooth speed was 1.2 smph. In DCC mode the slowest smooth speed was also 1.2 smph. This is the first time I have ever observed the same slow speed performance in both DC and DCC modes.

Conclusions

The Atlas O GP7 is an excellent model that crosses the steam-Diesel timeline and thus may fit nearly any operating scheme. The model is dimensionally accurate and performs admirably. It will be a nice addition to the OST roster of motive power.

References

EMD GP7 drawing, Model Railroader, February 1954
REVIEW: Chapelon 231E Pacific; MSRP: $999
MTH Electric Trains, 7020 Columbia Gateway Drive, Columbia MD 21046
410-381-2580 • www.railking.com

Reviewed by J. W. (“Woody”) Mathews and Joe Giannovario

The Prototype

France’s Andre Chapelon (1892-1978) was perhaps one of the greatest steam locomotive designers who ever lived. Chapelon graduated as a mechanical engineer in 1921 and began his railroad career with the Paris-Lyon-Mediterranean (PLM) Railway. After working for the PLM for about three years, he left railroad work for a few months. Unhappy away from locomotive work, he joined the Paris-Orleans (PO) Railway in January 1925.

The PO had two classes of Pacifics. The 4500 class (100 locos) with 73” drivers and the 3500 class (89 locos) with 77” drivers. Both classes were four-cylinder compounds and very similar with the exception of the driver diameters. These locomotives were not capable of maintaining the faster schedules with heavier trains needed following the war. Even with superheating, they developed only about 2000 indicated horsepower (ihp).

In 1926, Chapelon proposed a design to rebuild these locomotives. The selected locomotive, #3566, was the worst of the lot in the opinion of the engine crews. After rebuilding, it was renumbered to 3701. The results were as Chapelon predicted: 3000 ihp pulling a heavy train at speeds of 75-80 mph with a 25% increase in fuel economy! The PO rebuilt more of these locos with additional improvements, renumbering them into the 3700 series. The Chief Engineer of the Nord (North) Railway ordered the purchase of 20 such rebuilt engines from the PO. These locos were completed in 1934; 28 more were built for the Nord by commercial builders during 1936-37.

A total of 102 such locomotives were eventually constructed: 31 rebuilt for the PO, 23 rebuilt by the PO for the Est (East) and the 48 obtained by the Nord. After nationalization of the various railway companies into the SNCF (Societe National Chemins-de-Fer Francais/French National Railways.) in 1938, these were reclassified into the new unified classification scheme. This used the number of axles as a prefix to identify the wheel arrangement (similar to the Whyte system) and a class letter, followed by the serial number of the locomotive. The PO locos became 231F (21) and 231H (10). The Est engines became the 231C class and the Nord locos became the 231E class.

Two locomotives remain from the 231E class. No. 22, painted in the original Nord chocolate brown color, is at the French Railway Museum in Mulouse, Alsace. The 41 painted in SNCF green is displayed outside the station at St. Pierre des Corps.

A side note: Many French railways were planned by British civil engineers, using left-hand running. Therefore, many if not most French locomotives were built with the driver’s controls located on the left side of the cab and the fireman positioned on the right. The reverse rod and/or power reverse gear were thus on the left side. Also, as in the UK, seats for the engine crew were not provided; the men worked while standing.

The Model

The MTH Chapelon 231 is built to a 1:43.5 ratio, i.e. 7mm European O Scale. It has a die-cast boiler, chassis and tender. These major die-cast components are supplemented with additional brass investment castings giving the model the appearance of an all brass import. MTH offers the Pacific in three colors: SNCF Black, SNCF Green and Nord Brown. Paint and lettering are excellent.

The model is available in both 2- and 3-Rail. We tested the 2-Rail scale wheel version. The model is equipped with MTH’s DCS command control system which allows operation in DC mode as well as DCS mode.

MTH also provides a number of additional components that the modeler may add himself. These include smoke lifters which snap into place, a Fleche d’Or medallion that snaps over the number board on the smokebox front and a number of options for couplers, one of which allows the installation of Kadees if desired.

Fidelity

Rather than spend a lot of time converting prototype dimensions to inches, the model was measured using a 12” ruler with metric dimensions on one side. Most dimensions of the model, compared to the prototype plan, using the 1:43.5 ratio were within 2mm (2-3 scale inches), and many were even closer. The locomotive itself appears to have been stretched about seven scale inches to allow for flange clearances between the drivers and between the front drivers and the leading truck. Both these practices are common in model locomotive design. The wheel diameters are close to scale. The proportions look very nice, compared to the plan and prototype photos.

Compatibility

Although this is a 1:43.5 scale model it operates on standard O gauge track (1.25”). As British and European locomotives and cars are generally smaller than those used in America, this difference in scales is not greatly noticeable when placed near American O Scale equipment.

The model comes equipped with a scale European link and pin coupler on the locomotive and tender. These can be changed to accommodate other equipment. All wheels and drivers passed the NMRA Standards gage check.

The DCS control system permits operation with AC, DC or in command control mode. Because of the higher voltages required to operate dual-mode locomotives they
are generally only compatible with other locomotives from the same manufacturer.

**Performance**

The locomotive was operated in both DC and DCS modes. In DC mode the starting voltage was 9 volts drawing 400mA. With no load the engine drew 400mA moving forward and 700mA moving in reverse. Pulling a train of 8 standard O Scale freight cars the engine drew 800mA forward and 1100mA in reverse. The difference in forward and reverse current draw may even out with operating time on the chassis. The slowest smooth speed was 3.25 smph. As this is a mainline passenger locomotive, this is an excellent slow speed. In DCS mode the slowest scale speed was clocked at 2.5 smph.

**Conclusions**

The Chapelon 231 is a unique O Scale model. If European steam engines are your thing, then this might be a model you want to own. MTH also makes a 5 car Orient Express set to go behind this locomotive. We would like to thank MTH for providing a dimensioned drawing for this review.

**References**


http://www.martynbane.co.uk/2003Trips/AlsaceLorraine/museum.htm

http://www.railfaneurope.net/pix/fr/steam/231_E/pix.html

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**Review: On3 #6 Code 100 switches; MSRP: $24.95**

San Juan Car Co., P.O. Box 1028 Durango, CO 81302
970-385-5256 • www.sanjuancarco.com

**Reviewed by Michael Hobbs**

The new San Juan Car Co. On3 code 100 #6 turnouts are billed as ready-to-run by San Juan and I believe they have almost fulfilled that claim. I have four of them for a small layout that I’m building and the first thing that I did was check them with my NMRA Standards gage. All four had the correct track gauge and the flangeways were spot on. As to appearance, they checked out fine against the numerous photos that I looked at online and in my reference books.

As the turnouts are code 100 rail, they are appropriate for a latter day narrow gauge railroad that had upgraded their track, such as OR&L, EBT, and D&RGW. If modeling an earlier timeframe or a railroad that had not upgraded its track then these probably are not appropriate.

One of the things that I really liked about them was that the ties are flash free and do not have to be cleaned up. A nice feature of the turnouts is that the end ties are cut back so that the rail joiner slides on easily. (I wish that my HOn3 turnouts had this feature when I was modeling in HOn3.) There are rail joiners included with the turnouts but there are only three in each package, a very minor issue.

I haven’t moved over to DCC yet so the following comments relate to DC control only. My converted Bachmann Climax and Rich Yoder GE 25 Tonner sailed right through without so much as a hiccup. My Mountain Model Imports K-27 2-8-2 wobbled as the point rail stuck out and was not flush against the stock rail. A jeweler’s file will fix this issue later. One turnout had a problem at the hinge between the moveable portion of the points and the stationary portion. It had some slop and would move up and down. A small screwdriver and needle nose pliers was all that were needed to fix it.

There have been some issues with these turnouts posted on the Yahoo groups for On3 modelers that use DCC. Fred Folk posted a fix and gave his permission to include it here: “I noticed a quick short when throwing the turnout. It shorted then came back on. I took a closer look and found that the brass extensions on the outside of each point (used for better contact) touched both sides for a split second while it was being thrown. I put it on the bench and carefully, with the Dremel, took just a slight cut off one of the brass tabs only on one side. Then reinstalled it and tried it again with no shorting.” This fix was sent to John Parker at San Juan who said he will make the change to the tabs on the next run of turnouts.

For $24.95 you get a well-engineered turnout. There are some minor issues with them but nothing that a modeler shouldn’t be able to handle. This is a very nice addition to San Juan’s product line and is an item that On3 modelers have been asking someone to produce for a long time.
Review: Bullfrog Snot Liquid Traction Tires; MSRP: $24.95/oz. www.bullfrogsnot.com

Reviewed by Chris Smith

The Product

After reading a post on the Internet about Bullfrog Snot Liquid Traction, I was very interested to see how it would improve the traction on one of my engines. Some of the claims by the manufacturer are that it is easily applied, and removed, ready to apply straight from the bottle and cures at room temperature. Further claims are it provides a thin, tough coating and leaves no residue on the track or engine and can be used on any locomotive.

The Test

I would not consider this to be a scientific review, but rather some observations about how this product works for my own needs on my own layout, and therefore your results may vary. One important note about this product is that Bullfrog Snot is non-conductive. The engine I tested is a stock 2-Rail MTH 4-8-4 N&W J that picks up power from its trailing wheels, so this review will not address any concerns about conductivity from the drivers. There are no rubber band style traction tires on the wheels of this engine and therefore the wheels have no grooves.

Applying the product is simple. I put the engine in a cradle upside down and I removed the brake shoes. I did not prepare the wheels in any way. Using a toothpick as suggested in the instructions, I put a dot of Snot on each of the rear drivers. I then put the power to the engine using alligator clips. The instructions say to use the toothpick to smooth out the Snot while the drivers are rotating but I found a screwdriver works better than a toothpick for spreading on O Scale wheels. I used the edge of the screwdriver flat against the edge of the wheel to cut off the Snot there, while lifting slightly toward the flange to allow the Snot to build up some.

I applied two coats to the rear drivers in about 10 minutes. I'd suggest applying to one wheel at a time until you get the hang of it. If you mess up, it is easily removed with a razor knife. Within 10 minutes or so, the green color of the Snot started to disappear and eventually dried to a very faint greenish color. I then moved to the front drivers and applied a single thinner coat to those. As claimed in the product literature, the Bullfrog Snot formed a thin, very grippy plastic traction tire, virtually invisible after it cured. The instructions say to let the Snot cure overnight. I let it dry for six hours before I put the brake shoes back on the engine, placed the engine on the track and put some cars behind the engine.

Each of the cars in the Overland N&W Powhatan Arrow set weighs about 4 pounds. For some reference, I weighed a Golden Gate Depot plastic heavyweight Pullman at about 2.2 pounds. I weighed a Sunset brass heavyweight Pullman at about 3.4 pounds and an American Lightweight Car Co. built-up kit at a little less than 2 pounds.

Initially I put seven cars behind the engine since this is most likely the longest I’d ever want to make the Arrow train on my layout. The engine pulled away without any problem, and continued up the grade without slipping at all. Several times around the track and it continued without a hitch. I then stopped the engine on the hill, and then started the engine and cars up the grade without a slip.

For my purposes it exceeds what I expected and I typically would not run 100+ laps in such a short amount of time on my layout. I expect it would take many months for me to wear away the Snot under normal circumstances.
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A Small Railroad Shanty
Harold Russell

Sylvan Beach is located at the eastern tip of Oneida Lake at an entrance to the Erie Canal in central New York State north of Syracuse. With the exception of some of the older local residents, few people today are aware that it was once the Coney Island of the area. During the first part of the twentieth century this was the place to go for fun seekers from Albany, Scranton, Rochester and Buffalo. For them to get there the railroads were only too eager to fulfill this need. The resort had a sandy beach, shaded picnic grounds and rides such as a Ferris wheel, carousel and roller coaster. There were several hotels that featured variety shows. Both the New York Ontario and Western and the Lehigh Valley railroads were nearby and each ran branches to serve the resort. Each built a large depot and each had wyes to turn their trains. The Lehigh connected to the O&W at Sylvan Junction and the small community of Fish Creek on the O&W was south of this junction. Both railroads connected with the New York Central and the New York, Westshore and Buffalo's mainlines thirty miles to the south at Oneida, NY.

Today, with the exception of one small building depicted here, little remains of the railroads and the once extensive recreational facilities.

You will find this neat little shanty outside the Medina, NY Railroad Museum. Originally, it was thought to be of NYO&W heritage but correspondence with Joe Bux, their historian, confirmed it was not. Marty Phelps curator of the museum believes it is Lehigh Valley and came from Fish Creek, NY. No matter where it is, it’s a small structure that needs to be modeled.

I know from inspecting the building that it contained a toilet - basically a privy and no sink. The remaining space in the building could have been for storage and/or a crew shelter during inclement weather. The stack shown on the photographs is new as evidenced by sheet metal parts found inside. The windows were boarded up when I visited but an inside inspection revealed their dimensions. Noteworthy is the one high frame that contains a door with vertical boards, strap hinges and a hasp. Could this have been for the transfer of long materials that would not conveniently fit through a door?

You can easily build your model from commercially available basswood or styrene siding and roofing stock. Grandt Line [www.grandtline.com/] has windows and doors that are good approximations of the prototype’s. Note that the building’s ‘main’ door is narrower than the toilet’s.

This building will provide a neat little addition to your model railroad. The prototype is painted dark green with lighter green doors. The window trim appears to be a faded red. You can paint your model similarly or your railroad’s standard structure colors.

To learn more read: When the Railroads Went to the Beach, by John Taibi and A. Bruce Tracy, Depot Square Publishing, Loveland, Ohio.

(Drawings on pgs. 54 & 55)
The north side of the shanty contained the door to the toilet room plus a full size window and a smaller one that served as an access door for awkward materials.

The west side of the building contains only one off-center window. The roof's distinctive curvature is plainly evident. The stack is apparently a recent addition.

The window for the toilet room is of necessity small and elevated.

The east end of the building contained the door for the storage or crew area and small window for the toilet room.

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- **UP FEW P/ Legacy Grey only 199**

- **NYC F-12e 4-6-0 Ten Wheeler 575**
<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Price</th>
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<tr>
<td>302</td>
<td>One Stall Diesel Shed w/Shop</td>
<td>69</td>
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<tr>
<td>304</td>
<td>3-Stall Roundhouse, 30&quot;D</td>
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<tr>
<td>304A</td>
<td>Xtra Stall or 304B Extender</td>
<td>45</td>
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<tr>
<td>305</td>
<td>Sandhouse, 16 x 6</td>
<td>45</td>
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<tr>
<td>306</td>
<td>2-Stall Diesel Shed 25 x 11</td>
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<tr>
<td>306A</td>
<td>Extender 12.5 x 11</td>
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<td>307</td>
<td>3-Stall Trolley Barn 23 x 11</td>
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<td>308</td>
<td>Quincy Mining Co.</td>
<td>47</td>
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<td>310</td>
<td>Mitchell Textile Co.</td>
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<td>315</td>
<td>Grain Silo, 7 x 34 x 22 H</td>
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<td>320</td>
<td>3-Stall Roundhouse 26&quot; Deep</td>
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<td>901</td>
<td>Action Machinery 6 x 8</td>
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<td>902</td>
<td>Jaybar Company 6 x 8</td>
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<td>903</td>
<td>Skyline Steel 6 x 8</td>
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<td>Blackshear Refrig. Transport</td>
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<td>Quincy Mining Co.</td>
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<td>908</td>
<td>Shanahan Freight 20 x 8 x 9H</td>
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<td>910</td>
<td>Perfect Tool Co. 8 x 16</td>
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<td>912</td>
<td>Roller Bearing Co. 9 x 28</td>
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<td>915</td>
<td>Quaker Foods 9 x 12</td>
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<td>916</td>
<td>General Light &amp; Power 48&quot;L</td>
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<td>917</td>
<td>Gen Lt &amp; Power Sub Station</td>
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<td>918</td>
<td>JLC Manufacturing</td>
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<td>920</td>
<td>Midland Supply 8 x 6</td>
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<td>John's Cutlery 6 x 8</td>
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<td>Lehigh Engineering 6 x 8</td>
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<td>923</td>
<td>Joe's Pickle Factory 14 x 9</td>
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<td>924</td>
<td>Freight Terminal 8 x 15</td>
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<td>Freight Terminal 8 x 15</td>
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<tr>
<td>926</td>
<td>Gen Lt &amp; Pwr Office 6x13x12</td>
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<td>927</td>
<td>Cut Stone P81 Random Stone 10</td>
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<td>929</td>
<td>Concrete P83 Random Stone 10</td>
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<td>930</td>
<td>Double P57 Double 13</td>
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<td>931</td>
<td>Roof Top Water Tank D30 12</td>
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8: Strasburg, PA
O Scale Train Show at the Strasburg, Pa. Fire Co.#1, 203 W.Franklin St. Strasburg PA 17579. Show Time: 9 AM to 1 PM. Dealer setup Friday night, 6 - 8:30 PM and Saturday,7 AM to 9 AM. Admission: $5 (wives, children, and active military w/ID free). Table and frame space available. Sponsored by ScaleTwoRail Promotions, [www.scaletworail.com]. This is a smoke free property! Contact [jdunn888@hotmail.com].

September 2009

12: Merchantville, NJ
Cherry Valley Fall Swap Meet/Open House, 7 East Maple Avenue, Merchantville, NJ. 9am-12 noon. Admission: $6 (spouse/children free). Table and frame space available. Sponsored by ScaleTwoRail Promotions, [www.scaletworail.com]. This is a smoke free property! Contact [jdunn888@hotmail.com].

18-19: Indianapolis, IN
Indianapolis O Scale Fall Meet: Two day O scale swap meet with over 180 tables. New location: Ramada Inn Indianapolis, 7701 East 42nd St., 317-897-4000. Rooms $78/night. Reduced admission for 2009; $15 for both days. Tables $45 until August 1st, then $55. Contact James Canter, 1203 Rotherham Ln, Beech Grove IN 46107, 317-782-3322 or email jcanternkp@att.net.

October 2009

3: Gardner, MA
Southern New England Model RR O Scale Train Show, 9:30 AM to 4 PM. Admission: $5 Adults, $8 Family maximum. Dealers, displays, 2-and 3-Rail O Scale trains, Southern New England O scale layout, white elephant table, ample free parking, food and beverages. Contact Larry Grant 508-337-6661 Evenings or BigBrotherLa@netzero.com.

10: Strasburg, PA
O Scale Train Show at the Strasburg, Pa. Fire Co.#1, 203 W.Franklin St. Strasburg, PA 17579. Show Time: 9 AM to 1 PM. Dealer setup Friday night, 6 - 8:30 PM and Saturday,7 AM to 9 AM. Admission: $5 (wives, children, and active military w/ID free). Table and frame space available. Sponsored by ScaleTwoRail Promotions, [www.scaletworail.com]. This is a smoke free property! Contact [jdunn888@hotmail.com].

November 2009

7: Kirtland, OH
Cleveland 2-Rail O Scale Train Show at the Lakeland Community College, 7700 Clocktower Dr., Kirtland OH 44094. 2-Rail scale only, no tinplate, hi-rail or other scales allowed. Admission: $6, children under 12 free. Vendor tables $37. For more information contact Bob Frieden, 440-256-8141, or visit the website [www.clevelandshows.com].
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Another Take on Standards

I posted the beginnings of these thoughts online and several people thought it deserved a wider exposure so I’m developing them further here.

The genesis of these comments is a thread about an expensive brass import that required some major rework to operate properly on the owner’s layout. As many threads do, the discussion devolved into who makes better brass models.

I saw the issue as one of standards and transparency. When one buys a locomotive (whether it’s $50 at a swap meet or $5000 from an importer), there is an expectation that it was built to certain standards and will operate on O Scale track designed to NMRA Standards. The “bible” of track planning by John Armstrong (Track Planning for Realistic Operation, published by Kalmbach) states that 58” radius curves are considered broad for O Scale and should accommodate anything from scale length passenger cars to articulateds “with a little bit of tinkering”.

On the OST layout with 56” radius curves a Max Gray N&W J (4-8-4 with 70” drivers) would not operate reliably on those curves, yet a Sunset J and an Overland J had no trouble at all. A Max Gray Y6b (56” d rivere 2-8-8-2) as well as two Kohs Y6s required “tinkering” while a Sunset Y3 (same wheelbase) runs just fine out of the box.

It seems to me that hardly any manufacturer pays attention to the NMRA Standards anymore. I can’t recall the last time I saw an NMRA warrant sticker on an O Scale box so I went to the NMRA website where they list the warrants issued on a yearly basis. In the last 5 years the only O Scale warrants issued have been to Bachmann for On30 products.

Then I checked NMRA Recommended Practices #11 (RP11) for curvature and rolling stock. An N&W J with an 18’9” rigid wheelbase should operate reliably on 48” radius curves. The N&W Y classes with a 15’9” wheelbase, but articulated, should run on curves between 48” and 58”. The NMRA has gone to great lengths to develop these Standards and Recommended Practices so that we can enjoy running trains instead of fighting with them on our layouts.

No one can force a manufacturer or importer to adhere to NMRA Standards and RPs. Those that do should state they do. They don’t need to get a Conformance Warrant but tell us it was built to the NMRA Standards and RPs.

If, however, a manufacturer does not use the NMRA standards when building a model, then that should be stated up front too. That’s what I mean by transparency. Whatever standards were used should be clearly stated. For example, every locomotive should clearly have a minimum radius requirement printed and published so it’s known before purchase. Then we would not have an issue of buying a locomotive that requires a 54” minimum radius on a layout built to 48”.

As of this writing, the only manufacturers/importers that print the minimum radius requirement on the box are MTH and Weaver. Sunset/3rd Rail lists the minimum radius on their website and in the box literature. Atlas O lists minimum radius on their website only. As I said, we need more transparency.

Another one of my “soapbox” issues is the paradox of ultra-realism in locomotive building. Building a chassis with all of the springing and equalization of the prototype (needed to operate effectively on imperfect prototype track) results in a model that typically does not operate properly on model track. The reasons are many. Springing a steam engine model can lead to an improvement in traction if the springing is done properly. Usually it isn’t. The springs typically used are too weak, or they’re too rigid, and, in either case, the springing is ineffective. Equalization implemented in a very simple fashion can improve traction, sometimes even better than springing. However, equalization schemes that follow prototype practice rarely improve model traction because the loads required to make it work properly are not scaled down from the prototype. What happens is the equalization just increases friction in the mechanism degrading performance or restricting track curvature.

On top of all of this, the additional complexities required to manufacture and assemble the equalization components drives up the cost of the model considerably, and to what end? If it doesn’t run better than a simplified version and you can’t see all of the widgets and levers, why pay for it in the first place?

Manufacturers must keep in mind that a model locomotive must operate on model track. If it can’t or doesn’t then there’s something fundamentally wrong with the design or it was assembled poorly. Either way, modelers should not be the guinea pigs to ferret out bad design or quality control issues. Nor should trackwork be required to be perfect.

In this down economy modelers are going to be tight with their money. The manufacturers/importers that can show their products provide a better value for the dollar spent will be best able to get those modelers to part with their money.

My final gripe is that some O Scale steam fans are held hostage to big buck collectors who only want importers to make more Alleghenys and Big Boys (the two most produced models in O Scale). My hat is off to Jimmy Booth of Glacier Park Models whose goal is to produce every small SP steam locomotive. Take a look at the Rock Island and Northern Pacific ten-wheelers in his ad last issue. Couldn’t you use one of those on your layout instead of another Big Boy sitting in a display case? Or what about Sunset’s SP Mogul? Wouldn’t that suit you better than a 2-6-6-6?

As for me, I’m going strictly small steam from here on out even if it means I have to have it custom built. Hey Sunset, where’s that N&W 4-8-0 you promised?

Next issue — wheel standards revisited.

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