Gordon Whitlock's C&O Boyertown Division

Construct a Yard Tower Part 2

Build a PRR-E1...
John Sauers tells you how

Just a Plain Switcher
Roland Marx is doin’ more magic

Building a Rock Island Fowler Clone Boxcar

MetroWest O Scale Modular Railroad Part 1

New column: O Scale DCC
Announcing The 1947 GREAT NORTHERN EMPIRE BUILDER in O Scale

Prototype collection of Paul C. Winters. Similar to PSC #17365-4 lettered Empire Builder.

#17365 1947 Great Northern Empire Builder 8 car set, factory painted and lettered EMPIRE BUILDER:
(1) RPO/Baggage painted #1100, (1) 60-Seat Coach painted #1110, (1) 48-Seat Coach #1120,
(1) Coffee Shop/Dormitory painted #1140, (1) Dining Car painted #1150, (1) 8-4-4 Sleeper #1160,
(1) 16-4 Sleeper painted #1170 and (1) 2-1 Buffet/Lounge/Observation painted #1190.
#17365-1 RPO/Baggage car painted Empire Builder colors, #1101, #1102 and #1104.
#17365-2 48-Seat Coach painted Empire Builder colors, #1121 thru #1131.
#17365-3 60-Seat Coach painted Empire Builder colors #1111, #1112, and #1113.
#17365-4 Coffee Shop/Dormitory car painted Empire Builder colors #1141, #1142 and #1143.
#17365-5 Dining car painted Empire Builder colors #1151, #1152 and #1153.
#17365-6 Sleeper 8-4-4 painted Empire Builder colors #1161 thru #1166.
#17365-7 Sleeper 16-4 painted Empire Builder colors #1171 thru #1177.
#17365-8 Buffet/Lounge/Observation 2-1 painted Empire Builder colors #1191, #1192 and #1193.

Precisely handcrafted brass models, painted and lettered EMPIRE BUILDER.
*Full Interiors with all new PSC tooling  *Interior Shades  *Complete Detailed Underbodies
*Lighting System  *Sprung and Equalized Trucks  *Working Doors and Vestibule

O Scale SOUTHERN PACIFIC 4-8-4 GS-4 and GS-5

Prototype photo by Richard H. Kindig. Similar to PSC #17345-1

#17345  S.P. 4-8-4 GS-4 with skyline casing and skirts. No paint.
#17345-1 Same, painted #4444 Daylight with large SP lettering.
#17345-2 Same, painted #4449 Daylight as running today.
#17347  S.P. 4-8-4 GS-4 with skyline casing, no skirts. No paint.
#17347-1 Same, painted #4436 black and graphite with large SP.
#17347-2 Same, painted #4439 Daylight cab and tender with large SP.

#17349  S.P. 4-8-4 GS-5, skyline casing & skirts. No paint.
#17349-1 Same, painted #4458 Daylight with small SP Lines.
#17349-2 Same, painted #4458 Daylight with large SP lettering.
#17351  S.P. 4-8-4 GS-5, skyline casing, no skirts. No paint.
#17351-1 Same, painted #4459 black & graphite w/large SP.

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Gordon Whitlock’s C&O Boyertown Division

How It Started

Gordon Whitlock has been in O scale since before World War II and not too many people can still claim that today. It all started when Gordon received a Lionel scale Hudson and some Walthers kits as Christmas presents.

Why The C&O

All Gordon’s previous railroads were generic. He made the decision that this one would be either B&O or C&O because of the Vanderbuilt tenders used by those roads. He fell in love with those tenders when he was a little boy. The B&O was at Gimbels (a department store in Philadelphia) at Christmastime with a modular layout. He used to go down there every Saturday and just stay there to watch the trains. (Ed. note: The B&O layout still exists and is assembled every year in Cincinnati, Ohio. See the ad on page 48 for a video of the layout.) But he finally decided on modeling the C&O.

Overview

Gordon’s layout is more for display than operations. It really doesn’t have the room for industries and switching. It’s mostly scenery and he likes it that way.

Construction

The layout was built using 1 x 4’s to create a grid. This was covered with 1/2 inch plywood and opened up “cookie cutter” style for the grades. The roadbed is made from Homasote.

Trackage

Track is Atlas code 148 flextrack. All switches were hand-made and built in place by Gordon and many of the switches are curved. The minimum radius is 64 inches and 76 is the max. This allows for the operation of just about everything from an SW8 switcher to an H8 Allegheny. The layout has about 400 feet of track. The maximum grade is two percent. One thing Gordon did is place most of his switch machines above the layout for easy access and maintenance. They are disguised under buildings and other scenery.

Control System

Gordon uses North Coast Engineering’s DCC system. He recommends it as most user friendly and has been using it for 5 years. The layout is sectioned for signalling and can also be run on conventional straight DC. Gordon’s signaling system uses Dallee detectors specially modified for use with DCC. Some cars have a resistor load across the wheels to keep the signals tripped while the train is still in the block. The resistors don’t present any significant load to the system.

Scenery

Gordon’s good friend Lee Hart did most of the scenery on the layout. (We will show you Lee’s layout later this year.) Most of the scenery is closed cell Styrofoam® carved with a rotary rasp. Two coats of latex texture paint with earth tones cover the foam. The latex paint acts like a barrier for later painting with spray paints, otherwise they’d dissolve the foam. There are some rock castings but most are carved foam.

Trees are made from a weed local to this area. Gordon and friends harvest it in late August, dry it and then spray it with
green spray paint. When they’re ready to “plant” trees, they take individual branches and wrap them with floral tape which then becomes the trunk. The trees are painted as required for the scene and put in place.

The roundhouse is made from Korber kit sides and rest is scratchbuilt from wood and plastic. The turntable was built by Walter Mensch and is driven by an antenna rotor motor. A solenoid provides positive lock and alignment of the tracks. The diesel facility is scratchbuilt using Pecos River Brass’s building walls and windows. The roof is plywood coated with polyurethane varnish and sandpaper to simulate a tarred roof.

The concrete coaling station is a plastic Lionel item that will get more work done to it at a later date. The water tank is a Walthers kit.

All locations on the layout are named after Gordon’s granddaughters: Julie, Jordan, Alexandria, and Nicole. Julie Junction is all switching. That Allegheny is posed over Jordan Gorge and the C&O station is at Nicole.

The town on the hill is Alexandria. Most of the buildings are AmeriTown storefronts with some other kits sprinkled in. The streetlights are made from Plastruct tubing and brass wire.

The layout has strings of Christmas tree lights behind valances in addition to the main fluorescent lights. The intensity of these incandescents can be controlled to look like a sunrise or a sunset.

**Video System:**

Gordon had a common problem; an out of view storage yard, and solved it in a unique way. He says, “I did it because of storage. I have a ton of hopper cars back there stored on three tracks. Also the up-grade is back there. The video system is just an off-the-shelf home security system. You can get them for about $100 these days.”

Using the video system, Gordon can run the entire layout from his main control panel. He can take a switcher into the hidden yard and watch it on the monitor while he couples up two strings of hoppers. The he adds a caboose and brings the train out to the yard area where he can couple on any number of locomotives. Then it’s “Away we go!”

**Motive Power & Equipment:**

**Steam**
- USH USRA 0-8-0
- PSC C&O 0-8-0
- USH C&O K4 2-8-4
- Sunset USRA 2-10-2 rebuilt into a C&O B1
- Sunset C&O T1 2-10-4
- OVL C&O F19 4-6-2
- 2 OVL C&O 4-6-4 w/poppet valves
- Sunset C&O J2 4-8-2
- C&O H7 2-8-8-2
- C&O H4 2-6-6-2
- 2 3rd Rail C&O H8s 2-6-6-6

**Diesel**
- Lionel UP M10,000
- Division Point RDCs
- Atlas SW8
- Atlas SD45
- Atlas GP9
- OVL RS-12 w/CLW drive
- CB GP-30 w/CLW drive
- Weaver GP-38s (redetailed)
- Cabooses: Max Gray, Overland and one Quality Craft kit
- Lots and lots of hopper cars

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**One of several Alleghenies.**

An 0-8-0 switcher sits on the turntable.

The roundhouse at dusk.
An Allegheny passes over Jordan Gorge the main feature one sees when entering the layout room.

A pair of Division Point RDCs leave the main yard.

A typical C&O station (scratchbuilt) at Nicole.

The diesel service facility.

Gordon Whitlock

A view across the yard.
**C&O Boyertown Division**

**Shop Area**

- Name: C&O Boyertown Division
- Type: Loop with yard
- Period: 1940's to 1960's
- Size: 25 x 24 with extra hidden trackage
- Benchwork: 1 x 4 grid with Styrofoam cookie cutter.
- Roadbed: homasote
- Track: Atlas Code 148
- Switches: All custom made in place, many curved.
- Min. Radius: 64 inches
- Control: DCC, and traditional DC
- 1 square = 1 foot

The town of Alexandria overlooks the yard leads. Another view across the yard.
Construct a Yard Tower

by David Stewart

Part 2

I made a 3” x 6” base using 3/16” acrylic (Plexiglas) for rigidity (Fig. 5) and drilled a pair of 1/4” holes 4” apart using a drill press. The support I-beams are Plastruct ABS. I chose the ABS over styrene for this application because of its rigidity. The main verticals and horizontals are 1/8” x 5/16” (part H-10) while the diagonal supports are 1/8” x 1/4” (B-8). The lower end of each vertical was filed, removing some of the web, to enable the I-beam to fit into the 1/4” base hole. Gusset plates were made from .020” styrene with rivets embossed from the backside using a light tap from a hammer on a tapered nail (see photos). The sub-floor section has four 1/8” x 5/16” (B-6) I-beams equally spaced and avoiding the stairway opening. It is important to use Plastruct’s ABS cement when gluing this material. I drilled a pair of 3/32” holes through one horizontal beam directly above the vertical. I then fed two 3/32” styrene tubes behind the gussets, within the web of the verticals, and through the base for light wire tubes. The shorter tube just cleared the I-beam, while the longer tube was made 11’ in order to carry the wires into the ceiling. (I forgot to do this until after the next step.) All parts were sprayed Floquil’s Grimy Black.

Next, I glued the support posts in place using 5 Minute Epoxy. A machinist square and clamps were used to insure verticality and the sub-floor accurate cross-distance. (Fig. 6)

I made concrete bases for each vertical support using a small amount of Sculptamold shaped with a knife and screwdriver blade. (fig.7)

The floor was then glued within the walls, using the interior corner posts as stops. Next, the pre-painted .030” x .060” corner trim strips were cut to length, cemented in place, and the paint touched up. I made a pair of tower signs, in this case “Ricksburg” (named for A&O crew member Rick Bacon), using dry transfer letters on .020” styrene. A black marking pen provided sign edge trim.
Bracing the roof ensures against future sagging so .040" triangular pieces were added. Once again several triangle shaped cardstock pieces were cut and shifted until accurately representing the proper fit inside the roof. Taping these together created a template for cutting the styrene braces. This is a technique that makes easy many otherwise difficult tasks. (Fig.9)

I bored a hole with a twisting motion of the knife blade for a smoke jack above the stove area. Four hundred grit sandpaper cut in scale 3" wide strips simulated a tarpaper roof. Contact cement held the strips to the roof, starting at the eaves and overlapping as I worked toward the peak. After completing each roof pitch, I trimmed the strips with scissors along the sloping ridges. The hole for the smoke jack was located and opened.

Trim strips for the peak and ridges were made from strips 2' and 1', respectively. To fit these over the ridges, a line was lightly scored on the backside and the strip pre-folded. This step required a lighter glue so I used rubber cement. A small square of .015" styrene representing roof flashing, bored and fit around an American Model Builders smoke jack, was then attached with contact cement. (Figures 10 & 11)

Next I added the tower ceiling, inset scale 1' from the eaves. Before gluing the ceiling in place, a light with shade was added and a hole bored for the 3/32" tube. .080" x .080" styrene strips added to the ceiling enable the roof to be held and centered on the tower. This makes the roof removable while also providing a light dam along the wall-roof joint.

To simulate rafters, I used the NWSL Chopper to cut .030" x .125" styrene strips to the proper angle on one end. These strips were cut to run long, just past the eve of the roof. These were then trimmed to proper length and angle using the flush cutting edge of a rail nipper. Finally, I masked off the ceiling portion and sprayed the underside A&O gray and the tarpaper roof Grimy Black. I touched up the smoke jack flashing with Floquil’s Old Silver. (Figures 12 & 13)

The sub-floor was now glued to the floor, aligning the stairway openings. Then I used ABS cement to glue the structures sub-floor I-beams to the main horizontal I-beams. A second stairway light was added to the underside of the tower feeding its wires down the shorter 3/32" tube.
Construct a Yard Tower

I made the stairway using a wood jig cut on my table saw. A series of opposite 45 degree cuts on a piece of 1" x 2" pine enable 3' wide steps (.040" x .250") to be glued to .040" x .250" stringers. Two sets of stairs lead to a landing made from a single .080" block of styrene scribed to look like four parallel 1' x 6' planks. The landing is supported by 2" x 4" posts (.040" x .080") using the same material for all the bracing. The hand railing is .030" x .100"/.4". Once the stairway was accurately fitted, I removed it and sprayed it A&O gray. (Fig. 14)

The Sculptamold bases were painted Floquil’s Aged Concrete. I then placed low-tack masking tape inside of each window, effectively sealing the interior of the structure. Then I lightly weathered the entire structure and stairway using thinned sprays of Griny Black and Grime. A coat of Micro Flat followed this weathering. Additional weathering with chalks completed the exterior.

Finally, I removed the interior window masking so that the window glazing could be done. Micro Krystal Kleer applied with a toothpick along each edge of clear acetate was used to hold the glazing in place. Window shades made from green colored paper, and similarly painted styrene rod, were glued along the top edge for the shade roll. A trap door with bracing was made for the stair opening and set in the upright position. A coal stove and coal bin at the foot of the stairs was made from scrap styrene. The stovepipe encases, and thus effectively hides, the ceiling light tube. Similarly I made a small CTC panel with speaker, microphone, and trainsheet. Other furnishings by various O scale manufacturers complete the scene. The seated figure is by Fun and Games. (Figures 15 & 16) After the pictures were taken, an interior safety railing was added to protect the stairway and telephone/power wires connect the tower to a nearby pole.

The Ricksburg Tower is an attention-getter and serves its function well at this busy valley yard.
Reader Feedback

Back Issues and N&W Info
I want to express my appreciation and encouragement for your quality publication. As I am new to O Scale, I would like to request that during the product reviews, the years of prototype manufacture and the railroads and years they operated on be included. I, too, would like to have a reprint copy of issue #1. Lastly, where can I obtain scale drawings of the Norfolk and Western’s station and other railroad structures in Waverly, Virginia. I will be modeling a portion of the town circa the 1940’s.

Thanks again for a great publication.
Very truly yours,
Edward S. Tochterman, Jr.

Joe Replies: Thanks for the comments Ed. We try to include as much prototype info in our reviews as possible. Sometimes we’re limited by space, but we’ll try to do better in the future. As for Issue #1 (and #2, now) the only way to get those is off our website and then print them yourself. Go to the “Downloads” section of the site and just follow the instructions. The files are free. And finally, if you are interested in anything to do with the N&W, I strongly recommend you join the N&W Historical Society. As historical societies go, the N&W is one of the best with its own library building. Once you join you have access to many drawings from the library’s archives. Contact the Norfolk & Western Historical Society, PO Box 13908, Roanoke VA 24038-3908.

About Issue #4
Hi, hope everything is going fine on your end. Sorry it took me so long to send this but I’ve been busy on various projects plus issue #4 got buried deep in that big stack of magazines by my chair and I had to go fish it out.

The article on Lou Ertz’s West Tennessee Central was really great. It was nice to see an O Scale model railroad that had plenty of switching operations built into it as opposed to some high speed oval. The entire layout was nicely done with lots of attention to detail in both the trackwork and the scenery. This is the type of layout that should appeal to almost everyone since it has a provision for continuous running and yet you can also run a branchline local and do plenty of switching plus you can keep a couple of yard switchers busy as well.

Also really enjoyed the article about Reed Artim. This guy has some real talent and it is refreshing to see someone do this type of modeling and not just do the high end stuff. You cannot disagree with his statement, nothing looks more like real wood than real wood!

A big thank you to Harry Hieke with his continuing series of articles on detailing brass locomotives. Although I would probably not attempt to duplicate some of his efforts, I do appreciate his willingness to share with us his tips on soldering and fabrication of small brass components. Other builders would consider these as trade secrets but Harry does not mind helping other modelers to build their own and that is rare today.

Those three were my favorites although all the article were good this issue and of course, kudos to you and your staff for putting out another great issue and getting it out on time as usual.

About Issue #5
I really enjoyed reading OST issue #5 as you keep raising the bar on what a model railroad magazine should be all about.

Moving right along to the feature articles let’s start out with Woody’s thoughts about upgrading InterMountain boxcars. This was a very good article and the pictures went a long way to illustrate how the various modifications were done which make it easy for anyone to duplicate those efforts. Although I have built around ten of these cars myself, I did not bother to do the door modifications or paint the interior since I add two strips of lead rod to the car floor and I did not want that to show so I just glued the doors shut. Since reading the article I may build the next one with the doors “ajar” since I am now using steel mending plates as car weights attached to the car floor in the vicinity of the bolsters so they are fairly well concealed being so close to the ends.

David Stewart’s article on building a yard tower was also good and the photo’s struck close to home as the NWSL Chopper and the Radio Shack Nibbler are two of my favorite modeling tools when scratchbuilding structures.

The article by Brian Scace (Ease-Tems for the Learning Curve) should be an inspiration for novice modelers who want to get to the next step and I think this is something that should be encouraged especially in O Scale as it will inspire more confidence in modelers wanting to get their “feet wet” as it applies to kitbashing or scratchbuilding.

Narrow Minded by Bobber as well as the P-48 article by Gene are both necessary for OST to serve all of the O Scale Community although I have no narrow gauge equipment nor will I ever convert to P48, both have a place in the O Scale world and you do give them fair coverage in every one of your issues.

Kudo’s to you and AtlasO for co-sponsoring the layout contest which should see a lot of interest from the readers.

Although I am a subscriber, it is nice to see that you are printing a dealer’s list where OST can be purchased and I am sure that list will grow in the future.

The auction data was very interesting and it would be nice if you would repeat it maybe twice a year.

Product News & Reviews is one department I always enjoy reading and it also prompts me to make some impulse purchases based on the reviews like this months review on the InterMountain USRA composite gondola kit.
Reader Feedback

The photo sections rank right up there as being my favorite features and this issue was even better with the large photo spread by Ted Leach on that Texaco Service Station module, that super center spread on that scratchbuilt Erie 2-8-4 Berkshire and the extensive photo spread on the Central Jersey “O” Scalers.

John Fryant’s article on building a “critter” was also enjoyable and one could build a similar model by kitting an older Atlas O scale industrial diesel which I think still turn up at swap meets for a reasonable price. This is just the ticket for anyone who has a shelf layout and needs a small switcher.

The Kingsbury Terminal Railroad layout is very nicely done and shows that it is possible to build 2rail O scale in a small space and still have plenty of switching operation to boot.

The letters in the Reader Feedback section were an interesting mix to say the least and I applaud you for revealing both negative and positive views of the O Scale community. I am sure you will get plenty of replies to the letter from William J. Lubert (he even surpasses me for spreading discontent) and although he is very frustrated by what he perceives is lousy service and indifference from hobby shop owners with regards to O Scale (hey, I’ve been there more than once) I really don’t think he meant to insult the entire O Scale Community, so try not to take him personally. In my opinion, a lot of the lousy service among the O scale vendors is a result of a customer base that has become so numb towards delays and price increases, poor quality and an almost complete lack of customer service that they perceive that level of service as normal and they never complain which takes away any incentive for the dealers and importers to make improvements along the way.

While I realize that you cannot devote articles on this sorry state of affairs because some of these people are advertisers and as such pay your bills, you do know what I am talking about since you have been there as well. The living proof is this magazine since you (and a whole lot of others) were not satisfied with what was out there passing itself off as an O scale magazine so you then made the decision to publish a better magazine devoted to the O Scaler and to get it out on time which to your credit, you have done.

The Observations editorial is always one I enjoy reading as you continually manage to make each and every reader feel that you really do care what we think and that you want the magazine to be what the readers want it to be.

Thanks again for a quality product and have a great day.

Pete Klick

Conversion Help

I have been trying to find someone who can tell me in a reasonably succinct manner the process and/or what is necessary to convert 3-rail engines to 2 rail. K-Line, for instance, indicates they can provide a kit to do it with some of their engines but on others they flatly reject the idea of any conversion at all. Why? Also, why is some rolling stock listed as 3 rail. Unless they are lighted or require electrical pickup what is the difference? Is the gauge different? How about a “how to” feature or article on this subject in the mag.

Regards, Bob Ray

Joe responds: Bob, Locomotive conversion from 3 rail to 2 rail ranges from simple to horrendously complex and expensive. We will be running a 3 rail to 2 rail diesel conversion article in a future issue, but boiled down it is a matter of swapping our the uninsulated 3 rail wheelsets for insulated 2 rail wheelsets and rewiring the pickup. Two-railing a 3 rail steam engine, while not impossible is not easy (nor fun). Most 3 rail steam engines do not have a cover plate over the axles like brass 2 rail steam engines do. The wheels are pressed on the axles sticking through holes in a cast frame. Swapping out 3 rail steam engine drivers means disassembling the locomotive axles completely. If you can find the correct scale insulated drivers, you have to disassemble those to install in the old frame and requarter them in place. If you can’t find the correct drivers, then you have to use the original drivers which must have the flanges turned down and one side of the driver rim insulated. This turns out to be very expensive and requires the use of machine shop quality tools. Then the drivers must be reassembled and requartered in place.

So, I’ll bet that K-Line offers 2 railing kits for some diesels but not steam. So-called “hi rail” freight cars, while scale in almost every other aspect, have wheels with deep flanges to keep the cars on the sharp curves found on many 3 rail layouts and oversize electromagnetic couplers. These “semi-scale” cars can often be converted to beautiful 2 rail scale models with a change of trucks and by adding Kadee couplers. We will try to get an article showing how to do this.

A Great Idea

In reading your latest issue of O Scale Trains (#4) I read the review by Richard Madonna of the new Weaver 57’ mechanical reefer cars. You might be interested to know that a couple of years ago a representative from Weaver (whose name escapes me now) came to the San Diego Model RR Museum to visit and asked if anyone had an idea for any future cars. It just so happened I had just received back from the developer several detailed photos of mechanical reefer cars. I gave them to to him and said nobody models this car in O scale. He was very happy to express interest in this and said he would take them back to Pennsylvania and see if they would be interested.

Lo and behold! Out comes the cars from Weaver. I am proud to have been maybe the spark to get them started on the project. I own four of them. The sound system is a plus and great for realism.

You see these cars out here a lot and
the UP has now rebuilt some with trucktype refrigeration until mounted on the ends inside the former diesel compartment (UP owns about 300 of these cars). Fuel savings alone is huge compared to the old units and they are more efficient. The new cars are painted white with a blue logo “Union Pacific Chill Car.” I'll send a photo later.

Roger F. Jenkins, San Diego

Speed Demons

Regarding Woody Mathew’s comments of the SGL Lines RDG G-3 Pacific Review: I was only able to obtain a 3 rail loco for test at time of the review. I have since received a 2 rail version to test. I could not use Woody’s suggested test track because I don’t have eleven feet of straight track. What I did use was a stationary tester (Much like the PRR did) and calculated the distance per revolution using a nominal 80 inch driver. Using this data I obtained these test results:

- 3 volts 0.8amps 8.9 smph
- 6 volts 1.0 amps 30 smph
- 9 volts 1.0 amps 49 smph
- 12 volts 1.0 amps 84 smph

A loaded flatcar was coupled to the engine and the power notched up until the drivers slipped at the weight shown:
- 2%—21 lbs
- 4%—7.4 lbs
- 6%—4 lbs

But, this was not good enough for me. I had burning questions. How fast could these things really go? What would it take to make one go ballistic? I had to know. Armed with a surplus NASA theodolite and a pair of welder goggles, I experimented. At 220 VAC there was a blinding flash, realistic firebox glow and ashpan discharge, accompanied by a sonic boom - wow! After installing a new motor and wiring, using the Franklin/Frankenstein kite and key technique, a massive lightning flash put the locomotive into warp drive (I kenna the technique, a massive lightning flash put the Franklin/Frankenstein kite and key into warp drive (I kenna the technique, a massive lightning flash put the Franklin/Frankenstein kite and key into warp drive (I kenna the technique, a massive lightning flash put the Franklin/Frankenstein kite and key into warp drive (I kenna the technique, a massive lightning flash put the Franklin/Frankenstein kite and key into warp drive). Under a full head of steam (so to speak) she took a 100% grade at 30,000 feet per second and entered low earth orbit. I calculated she will reenter sometime next February near Korea where she will be repainted and sold.

However, there was one glaring error in the original review which slipped by everyone. The Reading had 10 of these engines (200-209=10, not 9). This was one of those tricky things where one has to use fingers and if one digit is occupied elsewhere then mistakes get made.

Best Regards, Harry Heike

No DC Power?

Many people have asked me what to use for DC power to run an O scale two rail layout. I have never had an answer for that and inquiries of others has always meant a multitude of answers as it seems there is no one answer! Each person seems to have their own method and the problem lies in that of ALL the products advertised in the various mags, NO ONE advertises a specific power supply totally designed for O scale two rail use! NO ONE.

In all the years I've been building models for others and reading the mags, NO ONE has ever done an article on HOW to power a DC two rail layout.

There MUST be an available power supply rated at maybe 18 volts with a minimum of 6 amps output. One could convert the AC to DC using some sort of solid state rectifier IF one only has some feedback from those who KNOW! With all the modelers, electronic wizards out there, why has powering a DC layout been such a mystery all these years?

Maybe the best solution is do what [the three rail manufacturers do]. Put something in each engine with a DC motor that converts AC to DC and use AC to power a DC layout? Most of the AC models have DC motors and something on the circuit board inside the engine converts the AC to DC while most everything else remains AC. That seems the most likely route IF there is something one could install in DC can motored models and simply use any available AC power supply already on the market?

Perhaps someone with a viable system should patent it, have it made, share it with the rest of the O scalers just becoming interested in 2 rail DC...

Sincerely,

Carl Phillips, Ore.

Joe replies: Carl, what rock you been hiding under, buddy? For years now Model Rectifier Corp. (80 Newfield Ave, Edison NJ 08837, www.modelrec.com, 732-225-6360) has taken the back cover of Model Railroader to advertise their line of power controllers. I'll bet their larger units would run your trains. Now it doesn't require 110 Watts of power to run modern O scale locos with can motors but, if welding power is what you are looking for then Dallee Electronics (246 West Main Street, Leola, Pennsylvania 17540 (717) 661-7041 info@dallee.com) makes the Engineer, an electronic throttle that puts out 8 amps at 18 volts DC or 10 amps at 12 volts. Either version is $549. Still not satisfied? Try North Coast Engineering’s DCC system. Their ad is on page 47 this issue. You can add as many power boosters as you want to get whatever amperage you need. Want to use AC on the rails? Then get a Lionel TMCC throttle set up and buy some decoders from Train America Studios (137 Boardman-Canfield Rd Suite LL02 Canfield, OH 44406 330-533-7181). Their Scale Command DC Driver handles 8 amps just like you want and costs about $25. The Lionel TMCC starter set will cost you less than $150.

And, last, but not least, you can build your own throttle to any Wattage you like. There are several books available from both Kalmbach or Carstens on how to wire a model railroad and build your own power controller. And the best part is that all the parts are available at Radio Shack.
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Easements for the Learning Curve

Brian Scace

The Big Lesson

Scace has a confession to make. I have always hated laying track. I can already hear the ugly crowd gathering now for the torchlight parade to the gallows! Probably the biggest advantage that HO folks have is the availability of ready-to-slap track and switches (at my “age”, I call ‘em “switches” or “turnouts” indiscriminately, so don’t bother writing). I’ll also risk the ensuing flap by saying I believe the existence of Hi-rail O is predominantly because of the non-availability of a 2 rail ready-made track system. If we had had it twenty years ago, we may not have seen Hi-rail (scale sized equipment on 3 rail track) evolve at all. Who knows?

Well, Atlas is coming out with a complete track system in 2 rail, and I, for one, applaud it. I hope this system will be constantly available, as is the Snap-Track line in HO and N. Then, we can induce new folks to join our happy band, without the daunting task of learning how to hand lay switches as an initiation rite. Hand laying can come later, as comfort level increases. Of course, those of us old-timers who loathe laying switches will be using this stuff, too. I can’t wait!

There are now many choices in O Scale, much like the smaller scales. If a less restrictive track geometry is where you want to go, there are a couple of lines of flex-track. Flex is available in nominal three-foot lengths, and is bent to fit your desires. You ex-HO types will find our flex-track a familiar medium, used in the same way as in HO (or N). The older Atlas flex was made by Roco, and is very robust. The newer flex made for Old Pullman & Duddy, for example, has nicer detail and is a little more delicate to work with. With care, this newer generation flex is magnificent.

As far as switches are concerned, Old Pullman makes “ready-to-lay” switches in an incredible variety. These require a little more care than the “snap” type switches to lay, as electrical gapping and final gauging are left to the user. When you get into this stage of track design, an NMRA track gauge is a must.

At the far end of the flexibility spectrum is hand-laid track. Again, the HO converts have seen, and potentially done, this. With hand-laid track, you spike rails down on the ties with separate spikes and tieplates into whatever route you want, with no limitations as to geometry at all. Switches are also hand-laid into an infinite variety.

The end result is a trade-off between easy and flexible. It’s your choice, and many folks find they enjoy scratch-building track as a major part of their hobby. A fine railroad can be built using ready to lay track, too. You get to find your comfort level, which you can expect to shift as time goes on. I recommend any of the books out there about track laying from folks like Kalmbach. Our stuff is pretty much like any scale’s 2 rail track and is wired the same way. It’s just bigger.

Here are a few terms and concepts useful to our converts from the Hi-rail/3 rail world:

1) Radius vs. Diameter- The radius of a circle is half the diameter of a circle. In the Scale World, whether HO, N, S, or O, we speak of curves in terms of the radius of the circle created rather than the diameter, as in 3-rail practice. O-72, therefore, becomes a 36” curve, for example.

2) Rail Material- You’ll see rail in three different materials, brass, nickel silver, and steel. Brass rail is pretty obsolete, but still available at shows from time to time. It solders nicely, however. Brass oxide isn’t a great conductor of electricity and yellow railheads tend to upset our visual sensibilities, so I consider brass as something to avoid. Be aware that some of the earliest Roco flex-track had brass rail plated over with a thin coat of nickel. When it wears, it will be brass with all the disadvantages. Look at the ends of old Roco flex before buying it at a show to make sure that it isn’t the early stuff.

“Nickel Silver” is a misnomer for a white brass alloy. It is my favorite. Most flex and ready made track components are nickel silver. It has all the good soldering qualities of yellow brass, a conductive oxide greatly reducing the cleaning chores, and a pleasing shiny silver railhead. The solder-ability is important to me because I solder all my rail-joints together for electrical reliability and to help keep my curves in alignment. I heartily recommend the practice.

Steel is vehemently defended by its adherents. “Real railroads use steel” is the rallying cry. Many of my friends have actually pulled the nickel-silver rail from Roco flex and replaced it with steel rail, just so they could work with flex track and still use steel. I find steel harder to solder reliably so I don’t care for it. Steel is less slippery than nickel silver, though, so you can haul more up a grade.
Easements for the Learning Curve

laid in steel than with nickel.

3) Rail Size- Rail comes in different sizes. The height of the rail is measured in inches, for example .148” high rail would be called “code 148”. The same applies for the other scales, so the HO converts are already familiar with this system of describing rail size. You need to be aware of this when buying switch uh turnout kits to match your other trackage, for instance.

4) Switch numbers- The sharpness of switches or turnouts is described as a #6 or a #8, for example. What we mean is simplistically this. If you draw a line along the straight (“normal”) route and another along the diverging (“reverse”) route, these lines make an angle. If you measure this angle as 1 inch across at 6 inches out from the intersection of the two lines, you have a #6 switch. If you have to go out 8” before you have 1” across the angle, you have a #8 switch and so on. The lower the number, the sharper the angle of the diverging route from the straight route.

Hopefully, this short explanation of some of the terms used will help you when it sounds like your buddies are speaking in tongues. Don’t get too befuddled by all this, as there are plenty of folks out there who can help you. Don’t forget to get out of the chair and visit the next show you can take in and continue to read. Start with what you’re comfortable with now, whether it’s sectional trackage, flex, or whatever. The rest will come as time goes on. That’s what keeps this interesting.

Really Obvious Tips

How many times have you heard some really simplistic fix to a problem, yet only after you’ve invested vast amounts of time and treasure in an only borderline solution? I can see the entire congregation nodding on this one, so we’re going to start another ongoing feature of this column, called “Really Obvious Tips”. The rules are simple. Send your Really Obvious Tip to me at or to this magazine marked to my attention on the envelope. The tip probably needs to be useful. It should apply to O Scalers, but not necessarily be limited to O Scalers. It should have a wide appeal; how to center a piece of platinum-iridium in a four-jaw chuck is not really where we are going with this. Judging suitability for print is purely up to me and my mood swings. If you get your tip printed, you’ll get the satisfaction of knowing you’ve contributed to the greater good and saved some poor schmuck from hanging himself in the basement because he lost his last Kadee knuckle spring. I’ll start this with one I first posted on one of the manufacturer web sites and bears shameless repetition here.

Without going into a lot of whys, many diecast vehicles are advertised as ½₃ scale. However the diecast vehicle collectors are not very neurotic about the scale of these things, so the manufacturers aren’t, either. That’s good for us. Many of these beautiful models are undersized! That’s even better for us. So…

Really Obvious Tip#1: Go to the diecast vehicle collector shows and TCA-type meets to look for vehicles for your railroad. Take a standing and sitting figure (I use Arttista figures for this, as they seem to be very consistent and I have a lot of them) so you can compare them for proportion next to a prospective automobile purchase. You’ll find that the ½₃ vehicles vary in scale, and you can judge whether the one you are looking at looks right for O Scale if your pocket people look in proportion with it.

Meanwhile, the mentoring idea in issue #5 has not hit the streets as I write this, so fear not! When we start getting responses, we’ll print ’em. Meanwhile, get off your [anatomical term] and Let’s go Exploring!
Narrow Minded

Bobber Gibbs

In Issue #5, WJL, a fellow who has been “in O Scale for more than 30 years” wrote in the Reader Feedback section how he heard that a new O scale magazine was coming to his local hobby shop after a man from out-of-town had asked if they had it in stock and they did not. WJL expected it would be the first issue. When it arrived, he was shocked to find that it was actually Issue #4 of O Scale Trains. That would have been around the first of September and he might have been surprised to learn that Issue #1 was printed in March 2002 and a new issue has come out, on time, every 8 weeks since. In my opinion, Editor/Publisher Joe Giannovario is to be commended for sticking to his publishing schedule and the size, quality and color content of O Scale Trains has improved with each issue.

WJL also stated that he had tried to buy an Atlas SW-8/9 switcher since it was first announced and was initially told it was not available yet, then told it was no longer available.

He stated he had his local hobby shop try to order 2-rail passenger car trucks from K-Line and was told it would be June when the trucks arrive. They have still not arrived and he was some ticked off with K-Line after he asked them by telephone.

WJL sounds like a frustrated O Scale modeler and it’s easy to see why - he did not receive current information from the source. If you find you cannot get certain information that you require, you may be frustrated too.

Enter the Internet, stage left...

The cost of a modern computer and an internet connection has dropped significantly to the point where it has become almost as convenient and necessary as the telephone, and it is so much more versatile. There is so much information available at the stroke of a few keys that it’s like sitting in the world’s biggest library where trucks of new books are arriving every hour and it is certainly more comfortable and convenient to be in your own home or office.

If you have resisted the computer and the internet to this point, I sincerely suggest that you get “online” as soon as you can. You do not need to understand anything about electronics to start working with a computer. Although typing may not be easy for you, you might find that you will improve with practice and you will maintain a precise record of every inquiry you make and a record of any response. I assure you that any other members of your family will welcome your move into the modern era. In a short while, you may wonder how you ever got by without a computer and the internet.

Besides being able to contact almost every major manufacturer directly, you can research any subject, download photos from old archives, make or examine computer-assisted drawings (CAD), contact any museum or library, and join any of literally thousands of special interest groups all around the world where members discuss your favorite railroad, your favorite locomotive, your favorite scale/gauge combination or almost any subject you can imagine.

In O Scale alone, there are special interest groups (mailing lists) for O scale trains, Proto48, highrail, On3, On30, On2 and On18/20, including other O scales in different parts of the world where metric measure is used.

You can monitor and participate in any public mailing list and you may choose to join some private mailing lists or make up one of your own with your own circles of friends to discuss the rise and fall of canal boats or stagecoaches or...?

If you have any question about any railroad subject in 1:48 scale, many of the most knowledgeable and modern-thinking O Scale modelers in the world read their mail when it’s convenient and respond only if they wish to. It is so simple to email someone directly and attach an information file, drawing or photo that appears almost instantly at the other end and can be printed for a hard copy. The new combination fax-scanner-printer machines are superb, inexpensive and really easy to operate.

With a $10 microphone, you can now participate in a free Messenger program where you can talk directly back and forth in real time and brilliant clarity with anyone so-equipped anywhere in this world. With a tiny and cheap camera that sits on your monitor screen, you can talk to and see your contact with amazing clarity, showing each other your latest models as if you were three feet apart. New digital cameras that do not require film can be instantly connected to your computer and your photos will appear on the screen for monitoring, brightness and color corrections and storage or you can send them instantly to anyone on the internet or print them with photographic quality.

You can learn about train shows, special meets and conventions and soon, you will be able to see what’s going on at the get-togethers from the comfort of your own office chair.

There is so much more that is happening in the computer and internet field that, with a small investment of money, time and orientation, you can become another passenger on the information highway, not a frustrated stay-at-home.

Don’t delay for one more second if you have the opportunity to get online. This planet and the world of O Scale is at your fingertips and on your monitor screen. Someday, you’ll be thankful you did.

BTW, (code for “By the way”), within a few seconds, I learned a couple of interesting things at the following websites:

At http://www.k-linetrains.com/stocklist.cfm, I learned that the Release Date for the K-4600SP Scale Streamliner Passenger Truck w/pickups is now Spring 03.

At http://www.atlasr.com, I found:

1. The Atlas SW-8/9 Switcher is available in undecorated and 9 color schemes. 2. Atlas also has the SW-1200 Switcher in undecorated and 9 schemes. 3. You can buy direct, pay securely by credit card and have it shipped to you or 4. You can ascertain every official Atlas Dealer within 100 miles of your postal code. 5. You can arrange for Atlas to send you a News Alert whenever a new O Scale product is introduced.

At http://www.oscallemag.com, you can contact the editor or subscribe to O Scale Trains magazine.

At all three websites, there is a simple way to contact the company directly by email.

And any O Scaler who is online can contact me at: [bobber@sympatico.ca] to learn how to join Otrains, Proto48, The On30conspiracy, the Critterslist or any other model railroading special interest group/mailing list.

I hope you will open your mind to new horizons and remain narrow-minded only in your choice of O scale trains.

◆
The Rules

1. The contest will run over three issues: 5, 6 & 7. Contest closes on March 31st 2003. The winner will be chosen and announced in the July 2003 issue. A panel of three judges will decide the winner.

2. The layout must fit in the room shown at left. The max dimensions are 11 feet wide and 14 feet long. Use only the area of the grid. Assume the ceiling is 8 feet off the floor.

3. The layout may be any style: loop, point-to-point, point-to-loop, whatever. Benchwork may be any style and any height.

4. There are two categories.
   Category 1: Track must be 2 rail code 148, standard gauge O (i.e., a scale 5 feet wide). Minimum radius is 36 inches. All switches must be either #5 or #7 1/2. The Grand Prizes go to the Category 1 winner.
   Category 2: Track gauge is anything you want, i.e., P:48, On3, On30, On2, three rail, whatever. No minimum restrictions. Category 2 winner receives $250 cash from O Scale Trains Magazine.

5. All subscribers to O Scale Trains Magazine may enter for FREE. Non-subscribers must include a $10 entry fee.

6. Track plans may be drawn/printed on paper or submitted in one of the following electronic formats: PDF, TIFF, or EPS on floppy disk or CD-ROM. Description of the layout should be typed double spaced on unlined paper or sent as an ASCII file. Every page of a submission should have the author’s name or other form of unique identification on it.

7. Submissions must be mailed to O Scale Trains Magazine, PO Box 238, Lionville, PA 19353-0238 no later than March 31, 2003.

8. All submissions become the property of O Scale Trains Magazine and cannot be returned.

Hey! If you can’t draw a straight line without a ruler or holding down the SHIFT key, consider using track planning software. Atlas’ Right Track software is free. Visit: http://www.atlasrr.com/software/welcome.asp
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<td>Switzerland</td>
<td>Trainmaster</td>
<td>3 Hochweidstr. Kilchberg</td>
<td>CH-8802 011-411-715-3666</td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
<td>Quince Valley Designs</td>
<td>17 West Street</td>
<td>044-132-734-1374</td>
</tr>
</tbody>
</table>
Bachmann Industries, Inc.
1400 E Erie Ave
Philadelphia PA 19124
215-533-1600

NEWS...

Bachmann adds a T-Boiler two-truck Shay to their On30 roster. Commonly used on mid- to late-nineteenth century logging railroads, Shays were as unique as the lines on which they served. Built and customized with “backwoods ingenuity” to meet the specific needs of the individual railroads, these impressive powerhouses were among the most popular locomotives for industrial applications in remote forests or mining areas.

Inspired by award-winning Shays in HO and G Scale, Bachmann proudly introduces this unique style of locomotive to the On30 world with the Spectrum® T-Boiler Two-Truck Shay. Bachmann’s DCC-ready On30 Shay features a die-cast boiler and frame, operating Stephenson valve gear with all-metal cylinders, and many separate detail parts. Offered at a suggested retail price of $275.00, the On30 Shay will be available in the following roadnames: Greenbrier & Big Run Lumber (Item No. 25657), Pocahontas Lumber Co. (Item No. 25660), Midwest Quarry & Mining Co. (Item No. 25661), Colorado Mining Co. (Item No. 25662), Little River Logging Co. (Item No. 25663), Painted Unlettered Black (Item No. 25699). The On30 Shay is expected to ship during winter 2002.

Ultra Scale II announces a super detail kits for Intermountain AAr boxcars. Kit #610 comes with enough scale ladders, grab irons and end brake components to detail 4 cars. The parts are molded in Delrin acetal plastic. The kit sells for $20 plus $5.95 shipping direct from Chooch and is also available from Chooch Key Store Dealers. Also available from Ultra Scale II is a Class B-1 Norfolk & Western 40’ round roof boxcar. The car is cast in a super-detailed one-piece resin body and comes complete with all details (less trucks), including San Juan couplers. Production is very limited. Suggested retail Price is $120 plus $8.95 s&h.

Coming is 2003, O scale, brass GE 45 ton side rod diesel “critter.” Price is TBA but based on previous offerings it should be about $300.

Ultra Scale II Models
a division of Chooch Enterprises
PO Box 1200

Ultra Scale II Models
a division of Chooch Enterprises
www.ChoochEnterprises.com

NEWS...

The Underground Railway Press has released its 2003 Catalog of over 2000 scale plans. This is truly unique collection of plans drawn by such names and Alan Armitage and Tom Yorke. The items covered include Interurban, logging, mining, narrow gauge, short line and traction railways. Send $2 to the address above.

Third Rail
37 S Fourth St
Campbell CA 95008
800-373-7245
www.3rdrail.com

NEWS...

Slated for a Spring 2003 release, 3rd Rail is producing the PRR Q1 in both skirted and unskirted versions. If you liked the 3rd Rail Q-2, you’ll love the Q-1. Also coming in late 2003 is the Boston & Maine 2-8-4. These locomotives were sold to both the SP and AT&SF during WWII, so all three versions will be produced. Reserve yours at your local Sunset/3rdRail dealer.

Rich Yoder Models
7 Edgedale Ct
Wyomissing PA 19610
610-678-2834
www.richyodermodels.com

NEWS...

Highlands Station, Inc., the Publisher of Model Railroading magazine, has announced the release of Trackside on the Pennsylvania, Standard Plans of the Standard Railroad of the World. Printed on glossy stock with a beautiful full color heavy cover, this saddle stitched soft cover book features newly redrawn PRR standard plans of trackside structures, bridges, signals and signs. This is a “must have” for every fan of the Pennsy. The author Jeff Scherb (who also created the all-time magazine index

Highlands Stations Inc.
2600 S Parker Rd Ste 1-211
Aurora CO 80015
888-338-1700

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now residing at www.trains.com) redrew every plan using computer CAD. The result is a book of prototypical plans of significant interest to both modelers and historians. The 96 page book sells for $16.95 and is available now at hobby shops or can be ordered direct via the phone number above.

REVIEW: Atlas O Pratt Truss Bridge
Atlas O

378 Florence Ave. 
Hillside, NJ 07205
www.atlasO.com

Reviewed by Rich Madonna

40” in length, Overall height of 9.5” (from the bottom of the deck to top pf bridge) . Clearance for any piece of rolling stock currently available, including scale double-stack container cars and double deck autoracks, Full details on all bridge girders and deck members, Choice of single or double track versions, Available in 3-rail and 2-rail. Single Track Pratt Truss Bridge Kit MSRP $114.95, Double Track Pratt Truss Bridge Kit $149.95, Bridge Add-On Kit $49.95.

The much anticipated extension of the Atlas Product Line has now begun. The Pratt Truss Bridge Kit’s are now arriving in the U.S., and should be at your door-step or hobby shop shortly. Announced on the Atlas Web Site on October 19, 2001, the bridge stirred much conversation early on, and the question in need of answers is, does it live up to the usual Atlas O standards? The version received for this review was the 2 rail sing track version. The first thing you will notice is the size of the box. The delivery man dropped it off while I was at work, and my phone rang immediately. My son knew there had to be a train related item in that box, and with the massive size of the box, he was waiting anxiously for my arrival. Lifting the box to bring to the workshop, you will realize how heavy this bridge really is. For a plastic bridge, I expected a much lighter box. Opening the shipping carton, you will find a well packed bridge, with a box that incorporates a plastic handle for carrying.

The instructions were good, but I am one who prefers to look at the pictures of the finished product, and work from that, so I used the box for most of my construction. Although, I did follow the steps in the instruction booklet. This bridge does take time to assemble, at least an hour, maybe more, but is pretty straightforward.

The bridge consists of three main parts (two sides and deck), and about a dozen smaller structural braces. The deck is rather heavy. My first observations were that the deck girders looked much like the Atlas HO steel girders. I compared to a set I had around and found the height to be the same, but the appearance much different. The HO girders had braces closer together, but more rivet detail. Not being a structural engineer, I’m not sure which is more prototypical, and in fact, they both look good. The track is the new Atlas 2 rail, and I thought it looked very prototypical with a low rail height (for a converted three railer that is). Tie spacing was rather close, but for a mainline bridge, one would expect this. What I found missing, and rather obviously, was guard rails. You could easily add these, with some stock rail, but I was surprised Atlas didn’t include this detail. The bridge deck appears to be six sections attached together, and it should be easy to add on more sections. Another observation is the lack of ties under the five joints. These joints are where the bridge sections are joined at the factory, and you could easily slide some ties in, or just paint the structural steel under the rails brown in those sections.

I did notice that the track can easily be removed from the bridge, screws hold it from underneath, so if you want to hand-lay track, you could use the...
bridge and add your own track, or another manufacturer’s track.

Moving on to the sides, the detailing of the rivets and structural steel was rather impressive and well done. I have visions of taking this bridge apart just to use the structural plastic supports for other bridge projects. The entire bridge is done in sections, but rather sturdy. I attached the sides with no glue, just used the 14 plastic pins that snap in. It held pretty well, my concern for this review was the fact that the bridge had to go back, so I couldn’t use any strong glue. Eighty percent of the bridge worked well without glue, but the top braces will require glue.

The top braces snap into the sides and have little dimples to snap into on each side, ingeniously on opposite sides. One problem did arise due to my inability to use glue. When assembling the top braces, I applied to much pressure to the sides when trying to snap them in, and found two braces snap in half and fly through the air. After a major expletive, my son attempted to catch the flying parts, and didn’t appear to hear my chosen words. Out with a little glue, the parts went back together. All the braces held together well, and the bridge appears to be rather sturdy. I would recommend a coat of dullcote upon completion, and some weathering would really bring this bridge to life.

I always find my wife to be an objective observer. With no interest in trains, she will tell me if its realistic or toy-ish. I want my layout to be as prototypical as possible, so I find her input very helpful. Her first observation was that the bridge was rather plain. I was rather impressed with the details, but noticed why she made the comment. She was looking at the bridge from a direct side view, and this hides the structural supports, and caused her to see just the plain steel beams. I’d recommend installing this on a slight angle to the viewer so they get a view of the open steel, possibly a 30 degree angle.

In New Haven, we have many roadway bridges that were constructed in a manner similar to this bridge, and in fact they span the railway tracks. I viewed one, and although much smaller and only 3 traffic lanes wide, found the atlas bridge to be on the mark with supports, details, etc. Jim Weaver has done his homework once again.

Overall, the bridge is a very well done piece at a terrific price. I am sure the double track is more impressive, and a string of these would make your layout a real conversation piece. I would recommend this bridge to all modelers. Even if you don’t have room for a bridge, you can use the steel braces for a multitude of projects. Atlas has once again raised the bar once again, and at a reasonable price. Get out your sextant, do a little surveying, and find some room on your layout for a real eye catcher.

While wrapping up of this review, several online comments were posted about this not being a Pratt Truss bridge. Jim Weaver, of Atlas O, responded directly with the following comment:

“The Atlas O bridge was based upon a prototype that was built for the Missouri Pacific Railroad. The bridge was clearly labeled as a Pratt Truss Bridge. Our designer is Chuck Yungkurth, who is well-known for his modeling and design work for the past 40 years. He is quite knowledgeable of the prototype and followed the prototype drawings closely. This particular bridge did not have the gussets that several modelers say are missing. Take a look at the Central Valley HO scale Pratt Truss. It does not have the gussets either and it follows a different prototype. Therefore, there is much variation in the prototypes. The great thing about our bridge is that a modeler can personalize it very easily and if they want to add the gussets it can readily be done with Plastruct. Let me know if you have other questions. Sincerely, Jim Weaver Atlas O.”

I reviewed a great bridge website, www.pghbridges.com, the bridges of Allegheny County, and looked at several pictures of Pratt, Warren, and Howe Truss bridges. They appeared very similar in the drawings, and were modified by each engineer, so there are many variations of the basic design. In my opinion, the Atlas bridge appears to match the Pratt Truss, but not being an engineer, I maybe off. See the following comments on each bridge.

**Truss - Pratt variations**

The Pratt truss is a very common type, but has many variations. Originally designed by Thomas and Caleb Pratt in 1844, the Pratt truss successfully made the transition from wood designs to metal. The basic identifying features are the diagonal web members which form a V-shape. The center section commonly has crossing diagonal members. Additional counter braces may be used and can make identification more difficult, however the Pratt and its variations are the most common type of all trusses.

A Howe truss at first appears similar to a Pratt truss, but the Howe diagonal web members are inclined toward the center of the span to form A-shapes. The vertical members are in tension while the diagonal members are in compression, exactly opposite the structure of a Pratt truss. Patented in 1840 by William Howe, this design was common on early railroads. The three drawings show various levels of detail. The thicker lines represent wood braces; the thinner lines are iron tension rods. The Howe truss...
A Warren truss, patented by James Warren and Willoughby Monzoni of Great Britain in 1848, can be identified by the presence of many equilateral or isosceles triangles formed by the web members which connect the top and bottom chords. These triangles may also be further subdivided. Warren truss may also be found in covered bridge designs.

Long truss which is discussed with covered bridge types.

The wires from the power pole should enter the side of the column cap. When drilling out the column for this modification, drill very slowly, use a light cutting oil (I use WD40) and keep backing out the drill bit to clear the chips. Do not use a power drill, but rather a hand egg beater type. Start small and work up in increments until you reach a hole of 1/8 inch diameter. If you are using standard length bolts you will find it necessary to drill from both ends. I completed my drilling by opening up the bottom hole to 5/32 diameter and left just the top end as a bearing for the 1/8 tube. If all of this sounds like a lot, then ignore this step. The crane looks fine without power wiring.

Another modification, which I chose, is to cut out the cab door and make a styrene replacement so that I could have the door open. I then used a trolley control stand for the motor controls which now can be seen through the open doorway.

Opening the kit you will find the parts separated into sealed poly bags. This keeps any damage to a minimum. However, if you encounter a damaged part, the company will gladly replace it. If you open up the bags to examine the parts, this is a good time to clean up flash. I found my pewter parts to be quite clean, requiring little clean up. As the instructions mention, study the drawings to note the joining surfaces and make sure these are clean and flat prior to assembly. The resin parts are cast with the flash remaining. To remove the flash you can sand it off by sliding the part back and forth on 150 grit sandpaper. I tape a full sheet to a flat work surface for this step. You may also trim around the part with a knife and then sand flat. I seem to have more control with the former step. Just make sure you remove the thickness of the resin flash for best results. A note on joining resin parts: The sanding with 150 grit paper leaves a nice surface for good bonding. The instructions recommend using GOO for initial bonding which allows adjustment and then apply ACC to the inside of the joint when satisfied with the alignment. This is a very good method which reduces the amount of gap and results in a very strong bond. My own preference is to apply a thin layer of GOO using a micro tip and then apply a layer of ACC on top of it. This method is faster and just as strong, but less forgiving. Practice on scrap if you have never tried it.

My major deviation from the kit was to use another loading dock because I already had a large one installed on my waterfront which I cut a hole in to mount my crane. Other than the above comments based on personal preference, I followed the kit instructions. This is a carefully engineered kit and I encountered no problems. It was a perfect solution to my boatyard needs and the timing couldn’t have been better. If you are looking for an exceptional detailed piece for your layout, try one.

Read more on the next page
REVIEW: Trout Creek Engineering
12874 County Road 314B
Buena Vista CO 81211
719-395-8076
www.troutcreekeng.com

Reviewed by David Deinard

Coal burning steamers on my railroad are well fed by a “Model Structures” Coal elevator. At least they seem to be since the tender coal bunkers are always visibly full no matter how far they have run. I know the hostlers are availing their iron steeds with coal because stray coal litters the ground under and around the elevator.

But for the lowly diesel yard switcher and other oil burning apparatus, fuel is another matter. Although their remaining fuel level isn’t apparent, they cry out for some sort of replenishing facility. I had a small piece of unclaimed real estate in the engine yard, perfect for the Tarus Products 0 scale “Branchline Oil Facility”, kit #4205 - now sold by Trout Creek Engineering, Buena Vista, Colo. I ordered mine from Valley Model Trains shown on their online catalog under their number 78926, at a discounted price of $37.40.

As you can see from the photo, the structure is basically a tank car removed from its chassis and raised up on wooden bents with a fill pipe and counterbalanced dispensing spout, appropriate for secondary yards or any cash shy railroad company.

As with all kits, it’s a good idea to use the instruction sheet to familiarize yourself with all the components and their intended locations before starting. The instructions are well written, logical and include full size illustrative templates. They call for staining all the wood parts before assembly, but I chose not to do this as it makes gluing difficult and it is very easy to stain the support structure after completion. Recalling model airplane assembly from my youth, I taped kitchen wax paper over the template sheets so the cement doesn’t stick to the paper. The template drawing thoughtfully provides two drawings of the bents cutting assembly time in half. Because the timbers are splayed out at the bottom the tops and bottoms of the verticals need to be on a slight angle to fit against the horizontal pieces. The instructions call for cutting and sanding, but I found that with all pieces precut to length any cutting was superfluous, and all that was required was a quick one-time pass with a file.

The spout and piping assembly is a little tricky and time taken to understand the fit of these items to each other and to locate holes to be drilled in the cast resin tank is well spent. I used ACC adhesive in addition to press fitting to fasten the metal parts together.

One difficulty I encountered was with the plastic pulleys for the counterweight chains. The instructions call for drilling these out until the chain will fit through. I found that even with careful use of increasing size drill bits in a pin vise the required size hole severs the pulley which then needed to be glued back together. Plastic nut and bolt castings are included and I painted these a rusty color before adding them to the support assembly where shown on the drawings. When staining the wood, I varied the tone on individual members just enough to lend a bit of weathered realism. I used a glossy black paint to simulate spilled oil around the dome and spout.

This is an enjoyable kit to build, and in several evenings I created a first rate structure, whose uniqueness adds interest to any yard scene. Its height lends it an importance belying its small footprint. I positioned a couple of metal oil drums nearby, and when time permits, I intend to electrify the dummy lamp for night operations.

REVIEW: The Red Caboose R30-12-9
Wooden Refrigerator/Steel Underside – Ready to Run models.
ART (2 Versions) – PFE (Western Pacific)
Red Caboose $52.95 MSRP
www.red-caboose.com

Part II – by Duck Dean

Red Caboose continues to fill the pipeline with more and more refrigerator cars so, unplanned, but as a welcome diversion, I am able to present this “Part 2” of what I started in an earlier issue of OST (OST#3) about Red Caboose and the variety of refrigerator car models becoming available. The model now speaks for itself. Aside from some minor comments later on about details, most everyone recognizes the commitment to a quality product that Red Caboose offers the O Scale modeler. That being said, the opportunity to expound more upon refrigerator cars will be well taken.

No seasoned modeler (whether O, HO, S or otherwise) is so sheltered that they have not encountered, somewhere, the famous “Double Herald” reefer operated by American Refrigerator Transit Company. In fact, not only Red Caboose, but also Chooch Ultra Scale II, produced an outstanding O scale model of this commonly known car, both in the same year. We won’t try to compare one to another except to say that there are some noticeable differences mostly due to the fact that the Chooch kit is actually an ART reefer, and the Red Caboose car is a PFE R30-12-9 in disguise. That being said, plus the fact that Chooch has sold out (or has a very limited supply) of the ART kit, the Red Caboose car is a great replacement or addition to anyone’s O scale collection.
Of course, no stone is being left unturned because Red Caboose also offers the newest of the PFE family, Western Pacific, in anticipation of the next batch of PFE double “heralds” arriving. WP cars were unique to PFE as you will read further into the article.

**Refrigerators and the USRA**

It’s a fact that mass freight car design and production changed radically as a result of the 1917 intervention of the United States Railroad Administration (USRA). I felt that a retro-discussion of refrigerator cars and the USRA might be useful. I asked the question, “Did the USRA ever build and distribute, sell or lease refrigerator cars?” Why? I was looking for a USRA influence behind “1920’s” era wooden refrigerator construction design that carried the characteristic USRA underbody framing system and overall dimensions similar to the cars typified by the Red Caboose model. USRA did carry a design for a refrigerator car and plans were published in the 1919 Car Builders Cyclopedia; but none were ever built by the USRA. However, apparently that design was utilized as the basis for equipment built for Santa Fe Refrigerator Despatch. After USRA control ended the Santa Fe acquired a large fleet of reefers that followed the USRA design. There were 10,500 USRA-design cars built for SFRD between 1920 and 1926. In 1935 the Santa Fe began a program of rebuilding the USRA reefers with steel bodies on the original fishbelly underframes. The rebuilt cars remained in service for a lengthy time, many receiving upgrades such as air circulating fans and 6-foot sliding plug doors, and were among the last ice-bunker reefers used on the AT&SF. The USRA refrigerator car had no immediate ancestors so all work was original. Most reefers of the prewar period had truss rod underframes, wood sheathed roofs, and inadequate insulation. The USRA, and subsequent cars built for PFE, ART, BREX, FGEX and others profited from extensive testing carried out by the railroads in cooperation with the US Dept. of Agriculture. They had more effective insulation than most of their predecessors, their underframes were essentially the same as those used on the USRA forty-ton wood sheathed boxcars, and their overall dimensions followed tightly to predetermined standardized dimensions and capacities.

Between the wars, the wooden reefers saw millions of miles of service, wear and tear. Commencing around 1937, concerted rebuilding programs were undertaken and by 1941, the 10 top private (refrigerator and other) car operators in the country were, in the following order (along with the total number of cars operated) -

<table>
<thead>
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<th>Operator</th>
<th>Number of Cars</th>
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<tr>
<td>General American Transportation Corp*</td>
<td>55,000</td>
</tr>
<tr>
<td>Union Tank Car Co *</td>
<td>39,000</td>
</tr>
<tr>
<td>Pacific Fruit Express Co</td>
<td>36,030</td>
</tr>
<tr>
<td>Fruit Growers Express Co</td>
<td>15,616</td>
</tr>
</tbody>
</table>

*continued on page 41...
Enclosed are the Module Specs being used by the Metrowest O Scalers and other O scale clubs in the Northeast. The following pages are copies from our notes and drawings we accumulated during our research.

A Little History

“...In the beginning...” there were two popular sets of specifications for modules; CHAOS (Chicago Area O-Scaler’s) and the NMRA specs. The Southern New England O-Scalers (SNE) combined both of these specifications and refined them into their own set. Richard Godrey, a member of SNE, wrote up detailed ‘reasons’ why they selected one spec over another. Our club, the Metrowest O Scalers, also looked over these specs and with a scrutinizing eye agreed the Southern New England specs were very good. With a few exceptions, we stuck to the SNE specs.

The standard module size is 30 inches wide by six feet long. The SNE club members use a module width of 24 inches. (This was one of the only differences between our final specs and the Southern New England spec.) We settled on 30 inches since this allows for more scenery and an optional track for narrow gauge, trolley, or standard gauge. Besides, it looks better. Hint: To eliminate waste during construction, use the usual 2’ x 6’ luan and add a 6”x 6’ strip beside the 2 footer.

Six feet is our standard length. Some people may want a shorter module for convenience and that’s okay. It just has to be noted that a two foot gap-bridge needs to be added somewhere to make up the missing two feet. The track height is 48” off the floor. Although there were criticisms that kids can’t see the trains, it was figured we’d be working on the track more often than kids would be watching the trains. So 48” stuck. (NMRA suggests 42” and CHAOS suggests 51 7/16”.)

By the way, the estimated cost of a module with all the hardware, glue, and wood (including legs) came to about $50 per 6-foot module. A module of 4 feet in length or 8 feet in length is not going to change much in cost. When the track and Homabed are added the cost goes up to nearly $90.

You will notice in the drawings a 1/4” slot that runs vertically at the end of each fascia of the module. When each module is butted together these slots line up to make a 1/4” x 1/4” x 4” slot. To add to the rigidity of the modules slide a 1/4” x 1/4” x 4” piece of wood into this slot. Make these a tight fit. These little pieces add a lot to the rigidity of the assembly. If it’s too tight, rub a bar of soap on the insert to make it a bit more slippery. I prefer Irish Spring. It smells nice.

The distance between rail centers on the straights is 31/4”. This is realistic enough to look prototypical (13” which equals 31/4” ) with enough room for us humans to get our fingers between the cars on adjoining tracks. The NMRA suggests rail centers at 4”, which looks a bit wide.

... to be continued
Module Front Edge

Construction Details

- Mainline track limit
- Outside mainline centerline
- 2" Thick foam
- 1/4" luan plywood
- Horizontal brace
- 1/4" Support cleat
- 3/4" Laminated luan or high grade plywood
- 2 x 4 Clamping surface

Module Left End

Construction Details

- 2" Thick foam
- 1/4" luan plywood
- 1/4" Support cleat
- 3/4" Laminated luan or high grade plywood
- 2 x 4 Clamping surface
- Horizontal brace
- *Shown at this location for clarity
- 1/4" luan plywood end facia

2 1/2' x 6' Module

Front of module

- This area represents where the two mainline tracks will be no additional construction or bracing under the tracks
- 2 x 4" clamping surface
- Horizontal Braces
- Proposed location of optional 3rd track. Standard gauge, On3 or trolley line.

-This is a top view showing the construction details of the frame with the 1/4" luan and foam removed
- Leg design and construction is left to the owner and not shown in these drawings

all drawings in this article by Jimi Smith
Over a long rainy weekend I finally realized what is missing from my small fleet of modern diesels—a modern switcher. My choice was an MP 15, impressed with the handy size but riding on Blomberg trucks. You readers know that I like to do conversions of plastic 3 rail engines into 2 rail. My first thought was to use a MTH Railking Scale SW 1500 as a foundation for the MP 15. After a short discussion at the Yahoo O gauge group, the members told me that K-Line has a MP 15 in their program which has scale dimensions. So I took this for my project.

At first look I noticed this is an older casting which doesn’t show all the crisp details, like the door latches, which are usual on today’s modern designs. On the other hand, the door vents and screens are perfect. In short, the model is worth spending some hours on a conversion.

The first step was to dismantle the model and remove the window glass. The only part which I wanted to use was the body shell. For modelers who may be intimidated at the idea of building a new brass chassis, the K-Line stamped sheet metal floor with the side stanchions is perfectly usable. But, I wanted a new chassis with more details. Stripping the paint was necessary for the extensive shell modifications.

The inspiration to build the MP15 as a leasing unit (a former Conrail) I got from an article in the book “Diesel Detailing Projects” by Kalmbach Publishing. Why a leasing unit? They have a big advantage—in this case a simple paint scheme and lettering. But it is also possible to run them on any modern layout regardless of your favourite road.

There are some noticeable differences between a standard MP 15DC which the K-Line model represents and the leasing unit I modeled. I had to build an air filter box, front sandbox extensions, close off some cab windows and add new steps which are missing on the front of the cab. Also the grab irons, the brake ratchet and sand fillers are missing. And, important for a prototype looking model, the size of the cab side windows needed to be corrected. The plastic of the shell was very user friendly, every common plastic cement worked perfectly. So, the modification should be easy.

The main work was to create the new chassis of brass. For the floor I used brass sheet (.0395” thick) and simulated the frame with brass U channels. Using the K-Line chassis as a template, I cut and filed all parts to the proper size, including my own step castings*. The next step was soldering all the parts together. To make this easier and to hold all parts at the right place, I used small brass rivets. The parts are riveted on the brass sheet. Then I carefully heated the whole with a big blow torch until the solder melted. Slow heating prevents the twisting of the long plate and channels. Cleaning the new frame of unnecessary solder and removing the heads of the rivets with a rotating sanding pad was the next step. The brass stanchions were attached with solder next.
Then I add the smaller parts like coupler pockets (again, my own castings**), the M.U. hoses and uncoupling brackets with cyanoacrylate cement (CA). The uncoupling lever is like the handrails and the grab irons bent from a .0315” brass wire.

A new fuel tank was needed too. I chose to make one out of tin. First I built a pattern made of several layers of Evergreen plastic plates, filing it to the right contours. This pattern was used for making a two part plaster mold, which is cheaper than heat resistant RTV-rubber, and works well for a limited number of shots. The mold must be fully dried in an oven or there is the potential for the mold to burst when the hot tin is poured. The mold was filled with tin and the first shot was successful! By this method, I get a nice fuel tank, which weights about 12 ounces.

A German Faulhaber motor combined with a single chain driven gear tower gives excellent slow speed performance. The Faulhaber motor is the motor of choice over here from Z to G. The chassis sits on P&D plastic Blomberg trucks upgraded with NWSL wheel sets with P&D Weaver style gearboxes. To prevent wearing out the plastic trucks and for smoother running I always install NWSL flanged brass bearings.

The model is painted with Badger Accuflex Conrail blue and weathered black. The GATX lettering are HO size Microscale decals, the cab numbers Woodland Scenics dry transfers. After applying the decals the whole model gets a protecting coat of Accuflex clear satin.

For the new window glasses I used a Plastruct clear sheet carefully set into the frames, not behind them, with the help of Microscale Krystal Kleer. I never got such clear windows before. *(See next page for window detail.)*

For a cab with lots of big windows a cab interior is necessary. This is simple work, mount the chairs and engineer’s control stand on a sheet of plastic to get the right height for the floor inside of the cab. Add some painted figures and you have an eye-catcher!
A view of the (paper) air filter box. The grabs of the hatches are made from staples.

The main work, building a new brass chassis, here you can see the new steps (my own castings).

The fuel tank made of tin (casting), the air tanks (.2797" brass rod) and the Faulhaber DC-motor.

* Roland described making step castings in O Scale Trains #2, which is out of print but available as a download at our website [www.oscalemag.com].

**Contact your local dental technician. They are able to make smaller brass castings if you bring them your own patterns made of wood, brass, or plastic.
Making the windows is its own story. Everybody will notice your failures, and it is the easiest way to ruin your model. If you have a brass model it is easy to glue a thin sheet of glass or clear plastic from inside and it looks good. But if you do this on a plastic shell everybody will notice the thickness of the plastic walls.

To prevent this it is necessary to install the clear plastic in the window frames, plastic is used because it is thicker. A little trick helps – filing the glass in the manner that it fits gapless at the outside and with a small gap inside (i.e., taper the edges). In this gap I fill in the Microscale Kristal Clear with the help of a thin wire and wearing a head band magnifier! This is a time consumption work but the result... invisible side walls!
Using the NCE D408SR Decoder

This is the beginning of a series about O Scale Digital Command Control (DCC), the computerized way of controlling trains that was standardized by the National Model Railroad Association (NMRA). How often this feature appears and how extensive it is, will depend on reader interest. We plan to emphasize the challenges and opportunities of O Scale, and we welcome your feedback. If you’re not accustomed to seeing “O Scale” and “DCC” in the same sentence, climb aboard. The scale that invites the most realistic modeling also invites the most realistic operation.

No doubt you have already read about DCC and the good news is that almost all of it is applicable to O scale. See the sidebar for a refresher course.

At this time, I want to say a few words about DCC decoders because they tend to be scale dependent, and in particular, the D408SR decoder made by North Coast Engineering (NCE). Many O scalers use this decoder in their locomotives because it can control up to 4 amperes. I use them successfully and I have not heard anything negative about them from others. Figure 1 shows this decoder.

The decoder is 1.2 inches wide, 2.25 inches long and 3/8” thick, just right for an O scale locomotive. It has a connector for the usual 2 wires from the wheel pickups, and 2 wires to the motor. It also supplies 7 other controllable functions, including some extended, i.e. smart, functions, like turning on the headlight only when the locomotive is going forward.

DCC decoders send pulses of the incoming full power to the locomotive motor and control the locomotive speed by varying the width of these pulses. It is called pulse width modulation and is an extension of the old pulse power that we used years ago. The original D408 decoders switched at a 72 cycle per second rate and caused a noticeable buzzing in the locomotive motor. If you weren’t very particular you could say it approximated a diesel engine sound, but not very well.

If you don’t want that noise or if it interferes with the sound you do want, there are two options. NCE originally recommended a filter between the decoder and the motor. Now, however, they recommend their newer D408SR decoder, a “silent” version because it switches much faster. I decided to try out and compare all three options. The results are as follows.

First I put a D408 and a D408SR decoder in two identical Weaver Alco RS3 locomotives and compared their performance. NCE warns that the silent running decoder may not start the locomotive as smoothly because the power is smoother (the same argument as for pulse power. Of course, DCC decoders can be programmed to get around this but that is another story). I put the locomotives on two parallel tracks (A race! Grandpa’s finally doing something cool with his trains.) and compared their performance. I found that the two locomotives kept the same speed quite well; certainly within the range of bearing and gear friction. Even when I put them into a double-headed consist and walked along watching the coupler between them, I detected no incompatibility.

Then I put the filter on the older D408 unit. The filter is composed of two diodes, two capacitors and two resistors as shown in Figure 2. The combination turns out to be about as big as the decoder itself. It did get rid of the buzz but, as you might expect with resistors in series with the locomotive motor and capacitors across the motor, the motor ran slightly slower and the pulse currents were higher. So it stresses the decoder more. By the way, if you use this filter, be sure to get the correct polarity on the diodes and capacitors.

NCE does not recommend the filter any longer because they found the capacitors stored electrical energy and so tries to counteract the power pulses. I have not detected any problem but I never have occasion to run freight diesels at a speed that would require full power.

O scalers always need to remember: if more power goes in, more heat comes...
out. So how much power is the decoder turning into heat? An advantage of this decoder is that it is quite efficient. It consumes about 0.5 watts in series with the motor power, so you might guess 0.4 volts times 4 amperes, times the percentage of time that the current is turned on. Presumably, at full power, the current would be on continuously and the power would be 1.6 watts. But, as I said, I never need to run full power and my motor does not use 4 amperes. The entire bottom of the decoder is a metal plate that serves as a heat sink. It is isolated electrically from the decoder electronics and so I mounted the decoder on the flat top of the locomotive. You do need to be careful of overloading electronics. If your motor or motor leads short out, kiss your decoder goodbye (It makes a nice belt buckle or paper weight). Short circuits across the rails are not fatal as the main power controller detects them and shuts down.

You might prefer other decoders. For converting locomotives with AC universal motors (i.e. 3-rail) to DCC, Lenz offers the LE122 (1.2 amp) and Digitrax offers the DG380L (3.5 amp) and DG580L (5 amp). For converting locomotives with DC motors, Lenz offers the DG580L (5 amp). For converting loco-...
Lehigh Valley Alco C-628: Scratchbuilt by Paul Yanosik (Landing, New Jersey) from styrene sheet and tube, a Russel Stover candy box, imitation pearl buttons, fish tank tubing, cassette tape holders and auto body putty. Trucks are from Locomotive Workshop. These locos took 3rd place Diesels at the 98 O Scale National in Boston.

Paul Larson’s article in the June 1955 Model Railroader was the inspiration for this model. The model was scratch built using scale basswood, pieces of brass and plastic. The wood was stained and distressed using techniques described in Bob Brown’s Fine Lines magazine. The basic staining technique involves using Floquil oil-based paints.

All of the heavy “timbers” were cut with a table saw to insure a tight fit. The air lift cylinder was made from brass using the article as a guide. The model was built 30 years ago.

Model and photo by Gene Deimling.

A friend of Stuart Ramsey installed a beefed up version of an MTH smoke unit in Stuart’s Williams N&W J. Just look at that smoke!

Southern Crosse engine facility
Photo by Stuart Ramsey
O Scale Trains • 37

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Central Locomotive Works, Southern Ps4, built by Sammy Hill (S. Carolina). Sammy added many extra details to the kit including, constant lighting, a full cab interior with gauges and the eagle on the smokebox (custom made for Sammy). Sammy painted the loco with Floquil paint.

Pennsylvania-Reading Seashore Lines scratchbuilt coaling tower. Built by an unknown person from the East Coast in the early 1950’s. Prototype photo is in Don Wood’s “I Remember Pensy.” Model now belongs to Sam Shumaker in Ohio.
The Boston & Maine sold some of their 2-8-4’s to SP and Santa Fe during WWII. Each road added a unique tender. The SP has the custom Whale Back tender. All models have Coffin feed water heaters.

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American Refrigerator Transit – The Other Great Yellow Fleet

Little is known or published about American Refrigerator Transit; that is, in the grander scheme of reefer lore, apparently any in-depth research and history of private refrigerator car lines outside of PFE seems non-existent. However, before PFE – before FGEX and possibly before MDT, there was ART. Incorporated in Illinois March 23, 1881 with offices in East St. Louis, ART was the sponsored child of several railroads of Jay Gould’s empire. The Wabash, St. Louis and Pacific (Wabash); Missouri Pacific; and St. Louis Iron Mountain and Southern (Missouri Pacific Lines). Because there is so little known about ART, it’s timely that this article can occasion itself to that task.

ART moved their offices to St. Louis, Missouri, sometime after WW1 and continued to service markets established by the Gould empire toward the end of the 19th century. From the 1920’s until just after WW2, ART’s cars were basically “refrigerator yellow” and featured A.R.T. (with the periods) as reporting marks on the left, with AMERICAN REFRIGERATOR, the colorful red-white-blue “shield of Columbia”, TRANSIT CO. on the right hand side and it wasn’t until 1946 or 1947 until the disclosure of ownership was actually placed on the side of the car. At first the Missouri Pacific “buzzsaw” was placed on the left hand side, above the ART reporting marks, and the Wabash, “Follow The Flag”, emblem to the left. In 1950, both heralds appear together at the same end of the car, allegedly with the Missouri Pacific herald always closest to the “B” end.

This is the paint scheme most commonly represented by modelers and manufacturers alike; truly it’s the most colorful and probably the most notable reason that anyone remembers A.R.T. at all. For some, the fact that Red Caboose placed this paint scheme on an incorrect car body might be bothersome but not for me. The other paint scheme, also offered by Red Caboose, is the ART “shield only” and was, truthfully, more commonly operated by the company reminding all of us that like the famous “red-white-blue” MDT scheme, the one less used seems to be the one most remembered.

If you compare model to model to prototype you quickly realized that these are still (and by Red Caboose’s own admission) PFE cars painted ART. ART never modernized the underframes and these cars probably went to the junkyard still sporting the 1919 “Fishbelly” riveted center sill. Of course, since Red Caboose is not going to be hustled into spending zillions on new dies just so the underframes can be correct, the car looks good and since we seem to be the last of the craftbuilder scales, it should be no trouble at all for a dedicated hobbyist to replace the details as they see fit.◆
The Year is 1899. Those gasoline powered horseless carriages are beginning to appear everywhere. Some of them are claiming they can go over 20 miles per hour! All of a sudden, out of the early morning mist of New Jersey comes a PRR crack passenger train traveling in excess of 60 miles an hour loaded with vacationers headed for Atlantic City. Pulling this train is the pride of the Pennsy, a brand spanking new E-1 class locomotive. A “Mother Hubbard,” this class would be the only Camelbacks on the PRR (totalling 3 in all). Engine number 820 hauled seven cars from West Haddonfield, New Jersey, to Atlantic City, a distance of 51.5 miles at 65.7 miles an hour. The distance from Hammonton, New Jersey, to Atlantic City, 27.4 miles, was covered at the rate of 74.7 miles an hour. Imagine how many horses were scared by this?

During the latter part of 1898 Pennsylvania watched the Reading take away their business from Camden, New Jersey, to Atlantic City, with their high stepping 84½” driven Camelbacks. Not to be outdone the Pennsylvania decided to build three engines to compete. The three engines were designed and built at Juniata, Pennsylvania. I’m not sure why Pennsylvania selected the particular design but they had Belpaire boilers with Wootten fireboxes, the only Wootten fireboxes I am aware of on the Pennsylvania. These 80” driven engines performed very well, however due to the PRR not wanting the Engineer and Fireman to be separated they were never duplicated and in 1902 were sold to the Long Island RR where they joined their fleet of Camelbacks. And it looks the tender is of English design. Scary, no?

Getting Started

Let’s begin by gathering the necessary parts. Frame, drivers trailing wheel, tender frames, and wheels are all from Locomotive Workshop. The remainder must be scratchbuilt. Don’t give up now! We will all get through this together.

Engine Frame

The engine frame requires some work prior to assembly. First you will need to make the links that connect the springs to the fulcrum equalizers below.
the frame. In order to make sure all the bars come out the same length I scribe a line a couple of inches long on a piece of .040 brass sheet. I scribe a second line parallel to the first the necessary distance away to match the length needed. I then mark the number of links needed, six in this case. Drill holes where the scribe marks cross, six across the top, six across the bottom. Now cut the brass into strips representing each link with a hole at the top and one at the bottom. File the link to shape. Make another pair of links for the final rear spring setup.

Now make the fulcrums (4) that go below the frame.

Take the cast springs that go above the driver slots and using a cut off wheel slot the end of each spring. Take the frame half making sure you pay attention to the side that has the holes countersunk and lay the frame on an asbestos soldering pad or piece of wood (careful, don’t set the wood on fire). Solder the springs to the top of the frame and the fulcrums to the bottom. Attach the rear spring to the lower rear of the frame.

Now attach the links we made earlier to the same ends of the lower pieces. The rods may need to be bent a little to clear the frame. Make them snug against the side of the frame to avoid interference with the insulated drivers. Slide the top of the link into the slot in the spring and carefully solder in place.

After all this cools we are ready to assemble the frame. Using fig. 1 to guide you assemble the frame pieces with screws. Make sure the frame is square. The journal springs should be placed in the frame using super glue. I always glue them in and allow the frame to sit overnight. Later if you need to disassemble the frame you don’t have to worry about the journal springs popping
out. After assembly is completed you should fill the screw heads with solder on both sides and then file smooth.

**Driver Installation**

Carefully install the drivers and trailing wheel. Remember the insulated side is the fireman’s side and remember, you are working with the frame upside down. Admire your work and put the frame aside for now.

*End Part 1... to be continued.*
All photo and sketches by John Sauers. Drawings provided by John Sauers.

Locomotive Workshop, 9 Route 520, Englishtown NJ 07726, 732-536-6873.

Above: Dimensioned drawing is not to scale.

At left: Front three quarter view of the finished locomotive.

At left below: Side view of finished locomotive. Note the highly unusual pedestal truck on the tender.

Below: Wheels and Drivers from Locomotive Workshop. Pilot is from Precision Scale Co.
Crapola from the Cupola

John C. Smith
Pecos River Brass

My first trip to Korea was in 1987. I didn’t want to go. Frankly, I was scared to death. I was a small town Iowa boy who had never been out of North America and just didn’t want to go to a strange place. Korea is a strange place. Besides, I was a meat and potatoes man. I don’t even like Italian, Mexican, French, Chinese, or anything exotic. The thought of eating Korean food still makes me gag. I didn’t want to insult my host. I didn’t think of eating Korean food still makes me French, Chinese, or anything exotic. The toes man. I don’t even like Italian, Mexican, or anything exotic. The strange place. Besides, I was a meat and potatoes man. I don’t even like Italian, Mexican, French, Chinese, or anything exotic. The thought of eating Korean food still makes me gag. I didn’t want to insult my host.

The next morning, Jun’s driver picked me up after my “American breakfast” in the hotel restaurant. It should have been called, “a Korean chef’s idea of an American breakfast.” It was close but remember, I was afraid to eat anything. I was introduced to every one of the 50 employees at the factory and they were very impressed by my size. At about 275 pounds and 6’4”, they had never seen anyone my size before. I got the grand tour, and was invited to go anywhere I wanted on my own. We soon went into a meeting room with Jun, the two designers, Lee and Park, and the head of the assembly line, Ahn. Only Jun spoke English well, but Lee could speak and some communication was possible.

We went over current production and checked samples, castings and drawings, and that took a couple of hours. We went out to lunch and then started the negotiations for future projects. I remember that session very well. I remember negotiating the Bx-3 box car project in HO Scale, in 4 versions, with another 7 work car versions, and an ice car…800 models total production. Rumor had it that Asians were masters at negotiation and I found that out. They would ask me to make an offer, and then they would counter offer. Then they would sit and stare at the floor, while I talked myself into their price and I knew the game and still could not win. I remember discussing the project at $38 each or $39 each. I insisted that $39 builders price was too much and the retail customer would not pay more. Jun pointed out to me that only $1 per model would mean nothing to my “rich” American customer, and that extra $800 would feed his entire factory for a month. How could I argue with that logic?

I was wined and dined for a week. They took me to the American shopping district, Itaewon, and I bought my first Korean custom suit for $150. They took me looking for presents for my friends back home. They took me train chasing at Seoul Station. They thought that was real strange. They took me to where I wanted to eat.

They took me to the Korean Folk Village to see a living history of Korea. I remember very well this day because Jun did not host me, but his design staff took me there. I tried green bean pancakes dipped in soy sauce. It wasn’t as bad as it sounds. I later found out that Mort Mann of Sunset models was visiting that day and Jun wanted me out of the factory and out of sight while he did business with another company. It seemed rather silly then.

Jun, his wife and son took me to a Korean restaurant that was very expensive. They wanted to show off, and that made me somewhat uncomfortable. After we had discussed $800 feeding the factory for a month, spending $200 on an evening meal seemed absurd. I did have the best fried shrimp in my life there. I also remember entering the room with the men, Jun and his 7 year old son, while his wife quietly entered the room later. My wife’s eyes rolled when I told her that.

I was treated with royal favor. Even offered a woman, and had to decline twice, but that is another story. All in all, I lost 15 pounds that week. I probably should welcome more trips, but in subsequent trips, I located the KFCs and other dishes to my liking and weight loss became a thing of the past. I returned home with an education. I wish I could take every one of my dealers and customers with me, one at a time, on every trip. I assure you that you would understand more about your toys and have a real appreciation for what goes into producing them.
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WANTED: Red Caboose geep drive made by P&D Hobby, P/N 2200K
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FOR SALE: O scale items - Red Caboose RTR & kits; IM kits & RTR.
Lots of cars. Code 125 flex. SAE for list. Chuck Burns Ph: 254-547-3932, Miniature Locomotive & Car Shop, 803 Beaver Lane, Copperas Cove, TX 76522-7601

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WANTED: Looking for book: “Head-end Cars of the Santa Fe” in 3/16 scale drawings by Joseph Fine. Email: evelyn1958@earthlink.net or mail to Joseph Carlson, 3411 Kendall Circle, Cuyahoga Falls, OH 44221-1123

WANTED: MTH, Atlas, Weaver 2-rail diesels. Working or not. Go to www.bsrrscale.com and email me specs and price. Carey Hinch, 1205 16th St, Pleasant Grove, AL 35127-2529

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WANTED: Midland Reproductions passenger car kits. US Hobbies/Max Gray steam loco mechanisms or parts. CLW Alco PA and EMD E or F unit parts/kits. Jerold Townsend, 985 Abbey Dr, Madison OH 44057, 440-417-1892.

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John Armstrong is a unique member of the O Scale Hall of Fame, as his fame extends far beyond the borders of the O scale community. He is respected in the model railroading world as the “Dean of Track Planning,” as well as in the railroad industry for such works as his introductory text, “The Railroad: What It Is, What It Does,” published by Simmons Boardman. Many of his other writings dealing with 12 inches to the foot scale, the only scale he considers superior to O, have been featured in Railway Age, and Trains.

John is probably the foremost advocate of the thesis that layout design should reflect actual railroad operations. Although he gently demurs when the word “inventor” is used, such concepts as walk-around control, staging, and multiple level construction were and are popularized by his writings, all in support of the original thesis.

He has the ability to connect, not only with the advanced modeler, but with the beginner. With Thaddeus Stepek (my personal pick for the next Hall of Fame nomination; vote early and vote often!), he created the little Atlas trackplan pamphlets that many of us started with. For intermediate and advanced modelers, his several Kalmbach books, such as Track Planning for Realistic Operation, and numerous articles in Model Railroader over the years, are real treasures of ideas and techniques. For those who want to avail themselves of his services, he has created some 200 custom layout designs, based on the individual’s “givens and druthers,” and available space.

John is one of the founders of our O Scale group in the DC area, has been very active with the NMRA for some 50 years, especially with the Layout Design Special Interest Group, and his clinics pack ’em in for miles. He taught me that association with your peers makes you a better modeler. The social aspects of the modeling community allow people to share ideas, results, and many stories ending with the oft used phrase, “...and I never tried THAT again!”

Through it all, John maintains a lively sense of humor and (running the risk of embarrassing him with this flowery prose) is that rarest of humans, a true gentleman. If you want to know the definitions of some of the popular Armstrong-isms, such as a “blob,” a “reverted loop,” or whether something is “sincere,” read one of his books or take in one of his clinics. Don’t forget to come to DC for the National in 2004 (a shameless plug!) and visit his Canandaigua Southern, justifiably famed as the only model railroad featured in a painting by the late Ted Rose. You won’t wonder why he’s a member of the O Scale Hall of Fame.

Photo & Text By Brian Scace

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**Events**

**January 2003**

10, Illinois, Villa Park

Scale Model Railroad Swap Meet Friday, 6:30 PM - 9:30 PM (Doors open at 5:30 PM for seller setup) Villa Park VFW Hall - 39 E. St. Charles Rd. Villa Park, IL 60181 (Located 1 mile west of IL Rt. 83 on St. Charles Rd.) Sponsored by: Prairie Scale Model Railroaders (An HO & 2-Rail O Scale Model Railroad Club - Located in Lombard, IL) Admission: $4.00 (Spouses & Kids under 12 free with paying adult) Tables: $10.00 (One admission included with table purchase) Please limit items for sale to scale model railroad and railroad related items (NO LIONEL/TINPLATE) For more information or to reserve a table Call: 847-702-0811 (leave message). E-mail: info@psmr.org, Snail Mail: Prairie Scale Model Railroaders, PO Box 5962, Vernon Hills, IL 60061

February 2003

1st & 2nd, Massachusetts, West Springfield

Big Railroad Hobby Show, 9 am to 5 pm, Eastern States Exposition Grounds, 1305 Memorial Ave. 35 operating layouts (including the Southern New England O Scalers modular layout). Nearly 5.5 acres of model railroading. Admission $7 adults. For details call Robert A Buck, show director, 413-436-0242, noon to 6 pm.

14th & 15th, California, Santa Clara

O Scale West 2003 will be held in the Westin Hotel Santa Clara in Santa Clara, CA. There are some meet activities on Thursday, February 13. Layouts are also open before and after the meet, in addition to during the meet. Info: call 650-329-0424 or visit www.trainweb.org/metrowest

11, Illinois, Villa Park

Scale Model Railroad Swap Meet Friday, 6:30 PM - 9:30 PM (Doors open at 5:30 PM for seller setup) Villa Park VFW Hall - 39 E. St. Charles Rd. Villa Park, IL 60181 (Located 1 mile west of IL Rt. 83 on St. Charles Rd.) Sponsored by: Prairie Scale Model Railroaders (An HO & 2-Rail O Scale Model Railroad Club - Located in Lombard, IL) Admission: $4.00 (Spouses & Kids under 12 free with paying adult) Tables: $10.00 (One admission included with table purchase) Please limit items for sale to scale model railroad and railroad related items (NO LIONEL/TINPLATE) For more information or to reserve a table Call: 847-702-0811 (leave message). E-mail: info@psmr.org, Snail Mail: Prairie Scale Model Railroaders, PO Box 5962, Vernon Hills, IL 60061

April 2003

6, Massachusetts, Hudson

New England O Scale Train Show by Metrowest Model RR Society, O Scale 2 & 3 Rail (no tinplate), Hudson Elks Hall, 99 Park Street – 10 am - 4 pm, $4 adults, $1 children 5-12 yr., kids under 5 yrs. free with adult. White Elephant table, sales & exhibits, operating layouts, model display area, door prizes, food on site, 6 ft. vendor tables $15 before 3/1 and $20 after (helpers must be registered), setup 6:30-10 am. Info: Bill Pirtle, 196 Lincoln Street, Hudson, MA 01749; (978) 562-6879; E-mail: leebill196@aol.com, Club website: www.trainweb.org/metrowest

11, Illinois, Villa Park

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August 2003

2, Pennsylvania, Denver

Eastern “O” Scalers - Denver Fire Hall, 4th & Locust Sts. - 9:00 a.m. - 1:00 p.m. Adm. $5; (spouses & children under 14 are free), tables are $16.00 for the first table (includes one admission) and $12.00 for each additional table. Info. or reservations, SASE - EOS, PO Box 1781, Bensalem PA 19020; (215) 639-3864, eostrains@att.net Bring an index card with your name and address etc., for a $1.00 off your admission. In conjunction with the Denver Meet the Reading Society of Model Engineers, will be holding an “OPEN HOUSE” make plans to do both that Saturday. I am told that they have a 40’ x 80’ O scale layout on the 2nd floor. www.rsme.org Lets support and enjoy another club in O Scale. They also have a 15” gauge railroad and a trip on that could also be arranged for the show day if you are interested.

November 2003

1, Pennsylvania, Wind Gap

Eastern “O” Scalers - Plainfield Fire Hall, 6480 Sullivan Trail - 9:00 a.m. - 1:00 p.m. Adm. $5; (spouses & children under 14 are free), tables are $16.00 for the first table (includes one admission) and $12.00 for each additional table. Info. or reservations, SASE - EOS, PO Box 1781, Bensalem PA 19020; (215) 639-3864, eostrains@att.net Bring an index card with your name and address etc., for a $1.00 off your admission.

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<td>CB RS-1 unpainted, like new, TRO</td>
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2003 O Scale National Convention
Sheraton Grand at DFW Airport • Sunday, June 8 thru Wed, June 11
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Contact the hotel at 972-929-8400. Ask for the O Scale national room rate of $92 sgl/dbl.
NO parking charges. Room rates good for 3 days either side of the convention.

Rates – Full fare (spouse & children under 16 free): $45 • Sale tables: $40 • Banquet: $45
Activities – Trade Show/Flea Markets • Clinics • Model Contest • Layouts • Tours
For more information contact John C. Smith, Pecos River Brass, 560 E Church St,
Lewisville TX 75057 USA • 972-219-0202 • john@pecosriverbrass.com
June 9, 2003 - Day 2

There is no doubt that the biggest draw, and the most anticipation at one of our conventions, no matter where it is held, is the trade show and flea market. I can tell you from the point of view of a consumer, a vendor and a manufacturer, it is why we get together for our “round robin” event every year. There are two major swap meets every year and several minor events, but the O Scale National is the most fun to me because it’s in a different city every year. It gives O Scale a chance to be seen by people that never go to conventions, and, yes, there are many of those people. It gives us a chance to see different layouts, and different related and non-related attractions. But the show is all about buying and selling treasures.

Granted, for many of us who do three to 10 or more trade shows a year, there is a tendency to see the same vendors with the same stuff at every show. It makes it sort of a big traveling hobby shop. But it is important on several levels.

It gives a chance for many modelers to unload that closet of unbuilt kits that they have discovered for some reason that they will never build. They can get a table or two and unload them for a little extra train cash. Or they can just trade their treasures with the fellow at the table next to them and go home with different junk... er... treasures.

Then, of course, in the mix are a gaggle of dealers, some with shops and some without, but who bring everything from decals, couplers, parts, structures, car kits, locomotives and all kinds of things to buy, for those of you that live in an area where there is NO local hobby shop, or at least none that carries O Scale models. This, too, is a very important part of the trade show.

There are always specialty dealers. Some of these are the manufacturers that sell direct because there is little markup for their product, and it is very hard to get the wholesale houses to carry any product other than the large manufacturers. There are book and video dealers, there are photographers that sell photos that you can’t take anymore. There are dealers who specialize in castings, track products, tools, tee shirts, nostalgia, roadbed, backdrops, trees and other scenery products. You name it, this is the show that they attend. And, yes, the press is there, too, to report, review, promote, and play trains themselves.

In addition to the small manufacturers that need these shows to get their product sold, there are usually many of the brass importers, plastic manufacturers, and multi-item manufacturers showing off their new samples of upcoming product, and getting feedback from the consumer on their product and possible suggestions for future products that individuals might like to see. This is a very important communication process in our small segment of the model railroad industry.

Now, at this time, I can’t promise who will be at the 2003 national. Some of the people you want to talk to, will be there, and probably some will not be there, to all of our disappointment. But there usually is a very good mix of all types of people, and you will not be too disappointed.

Giving vendors all day Sunday to set up, undisturbed by anxious lurkers, and a short last minute “tidy up” session on Monday morning, the trade show will open bright and early at 9:00 am. The anticipation of the show opening on day 1 is always an anxious moment to many of us buyers and sellers, as many vendors depend on these shows for their investment capital, and the first few hours of the trade show are always the busiest and most hectic. The show will continue all day long until 5:00 pm. The show will be closed on Monday evening to give all the vendors a rest. But don’t worry, there will be 20 hours of trade show time in 3 days, plenty of time to circle the floor at least 20 times.

There will be a Monday night program for all that have registered at the convention. At this time, I have not locked in the program but there will be something for you to do to stay busy. All three days of the convention, there will be a host of clinics to attend. There are 4 clinic rooms and each room will have something going on all day long. Each clinic will be given twice. There will be a wide variety of clinic topics and we are taking special care to invite clinicians that not only are experts in their field, but are excellent clinicians. Hopefully, we will have some hands-on clinics as well.

I was going to have my Korean builder give a clinic on the brass building process in Korea, but partially because of 9/11 and security measures, I am not able to secure him a travel visa. So, he is preparing a video for me and we hope to show this video several times for those of you interested in the mystique of the model business in Korea and I will be there to answer questions.

Because our “round robin” style of convention takes us to a new part of the country every year we will take advantage of that and make use of much of our local talent in clinicians and slide shows. Yes, this year you will see a lot of Southwest roads; railroading you won’t see at most other shows.

On each day, there will be prototype tours of Dallas and Ft. Worth. Again 9/11 has really caused us some problems with security in relationship to some tours planned, like BNSF headquarters, and Trinity Industries. We are still trying to work out the details here.

However, on one of the convention days, we will do a tour of Dallas, including the Age of Steam Museum, and the McKinney Avenue Trolley with free rides and a visit to the car barn. The tour bus will also stop at the Kennedy Museum and the School Book Depository.

We will have the annual model and photography contest. Prizes will be well worth the effort to win, so start building your contest entry right now. In May, 2003, all pre-registered guests will get a welcome package in the mail, along with contest rules and categories, but expect there to be a place for your model.

Well that is day 2, Monday, and I certainly hope you have enjoyed the tour. I’ve seen it all before and can’t wait to share it with you. Whether your interest is in the trade show, clinics, tours, or just sitting around telling lies about our modeling skills, day 2 should be worth the trip. Next issue, I’ll talk about day 3, and other points of interest in the DFW area for those of you who wish to stay the week and bring your family.
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<td>Canadian National Railway (Del Grosso)</td>
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<td>Pennsy Electric Years in Color Vol 2</td>
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<td>Fageol &amp; Twin Coach Buses</td>
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Building a viaduct with Styrofoam® is easy, fast and produces a very attractive and functional addition to your layout. Construction begins by laying out the radius and the elevations of the individual sections. The elevations are controlled by the height of the pier sections. The upper dimensions remain the same.

I prefer the closed-cell type foam that is used for wall insulation. It comes in different colors depending on the manufacturer. It can be purchased in building supply stores in 2' x 8' sheets, one inch thick. The white beaded styrene foam board is not a good because it does not have the structural strength of the closed cell foam.

The upper section is made by glueing three 1-inch thick pieces together to form the upper box. The width may be varied to incorporate multiple tracks if necessary. The glue I used for the entire project is the brown wood glue called “Tight Bond.” The only disadvantage of this glue is it is very slow drying, therefore, the joints must be held tight until they cure. I do this on the large pieces by weighting them down until the glue cures. The small pieces can be held with “t” pins or nails. Once dried, the bond will last years.

I have a large band saw which makes it easy to rip the pieces into the required shapes and it also produces a stone-like finish. If a band saw is not available, a hand saw can be used. I do not recommend scoring and breaking the styrofoam or cutting it with a hot wire since this melts the foam and causes a shiny surface. All pieces are ripped on the band saw to the sizes required, then glued to the main block. After all the pieces are glued together and cured, the stone designs are cut into the foam. This is done with a wood burning iron or a soldering iron. I recommend you practice on scrap before proceeding on the viaduct to master the “stone” surface. I used the pattern of square uniformly cut stone which was a common method of building these old structures.

Once the stone pattern is cut I give the entire viaduct one coat of medium grey exterior latex house paint. The foam is rough enough to give the texture of stone. After this coat dries I apply a weathering coat of charcoal exterior latex paint by wiping it on with a very dry brush. I added a light tan piece along the top edges to represent a concrete curb.

The viaduct can be installed by driving nails without heads into the layout and pushing the viaduct down on them. Track can be installed with double faced tape or with spikes into the foam. When completed the viaduct can support a considerable load and gives a very realistic appearance.
I will admit it. Outside braced composite construction freight cars are a favorite of mine. My choice of modeling era is the late 1940s to early 1950s. If you study photos of freight trains of that time, it is apparent that a high percentage the cars in a train were still of composite construction or at least former composite cars rebuilt with steel sheet replacing the wood. I had already built a couple of the San Juan D&RGW single sheath boxcars and liked the kit. I wanted to build more of these kits to increase the percentage of single sheath cars on my layout, but with other road names and some detail differences to add variety.

In the years 1913 to 1915, the CRI&P (Rock Island) had some 5500 single sheath boxcars built by four car builders to designs very similar to the Fowler Patent design. These cars had steel framed wood ends and T-section trucks. One of the four builders, Pullman, built RI car numbers 42200 to 44699. These cars lasted on the Rock Island into the 1950s without much modification including keeping the K brake. As of 1950, 474 of the Pullman built series of cars were still in revenue service. Pullman had also built 1500 cars of essentially the same design for the D&RGW in 1916. These later cars are the basis for the San Juan D&RGW Fowler boxcar kit.

The differences between the Pullman RI boxcar and the Pullman D&RGW boxcar are principally the number of mullions on the roof, truck type, a door brace, and the number of cross bearers on the underframe. In addition, the San Juan kit boxcar is the modernized version with AB brakes while the RI still retained the original K brake. This makes the work to kitbash the San Juan car kit into this class of RI boxcar relatively easy.

I prefer to build kits like this as a series of sub-assemblies. As much as possible, all drilling and assembly is done on each “side” while it is flat on the workbench. This makes installing grab irons, Z braces, ladders, and brake equipment much easier. Parts, which connect or attach to two sub-assemblies such as the corner angle irons, doors, and cross bearer “Z” must wait for assembly of the body to install. Otherwise, the basic assembly instructions of the San Juan kit were followed except for the modifications necessary for the RI car.

I used Testors (MEK) plastic cement applied with a small paint brush and Testers Liquid Cement to assemble the styrene parts. Metal to styrene attachments were made with thin CA.

**Trucks**

Assemble the trucks first. They will be needed in the next step. I prefer metal wheels, which show polished steel treads and so substituted metal wheel sets from NWSL for the San Juan plastic wheel sets.

**Floor and Underbody**

Drill and tap the truck bolster stumps on the floor casting for 0-80 screws. Assemble the center sill and the center bolster to the floor. Be sure and install the air brake line with the bolster parts. Do not build the body truck bolsters yet.
To insure the floor is flat, weight or clamp the floor and center sill assembly to a flat surface and let the glue joints harden overnight.

For the next step you need to temporarily attach the trucks to the floor sub-assembly with the bolster plates loose on top of the trucks. Measure for coupler and floor height. I found a height problem with my model after it was too late in the assembly to do a neater modification. The top of the floor should be a scale 3' 8" from the railhead. I had already completed this stage on my model when I discovered that the floor assembly was about 1/16" too high for both the floor height and the coupler height. To reduce the height, I had to cut off the bearing rings from the truck and body bolsters. I also had to scrape the rivets off the bolster plates where the truck side frames hit. Knowing about this problem in advance, you may want to consider reducing the bolster stump height and reshaping the body truck bolster parts to move them further up into the center sill to get the proper height and truck side frame clearance. Note that the outer end of the body bolsters must remain at the original height to fit the end caps on the side sill.

If you are using Kadee couplers, you should also make the necessary modifications to the floor and frame at this time.

The cross bearer “Zs” should not be attached until after the car body is assembled. The K brake cylinder, piping, and brake rigging is installed next on the floor sub-assembly. The brake cylinder attaches to the same support used for the AB brake cylinder. I cut a thin piece from an extra brake cylinder support in the kit to make the support for the end of the K brake air reservoir. The air pipe “T” fitting and the cut off valve are in the kit. However, the K brake type dirt collector was made from a T shaped piece of small sprue.

### Sides and Ends

Drill all the holes for the ladders and grab irons in the side and end castings. The Z braces fit in channels cast into the sides and ends. To glue on the Z braces, I touched one end of the channel with the brush dipped in Testor’s MEK. Holding the brace with tweezers and placing it in position, I then applied a drop of MEK with the brush near the other end of the joint.

A bending jig is supplied in the kit to aid in making the grab irons. These and the ladders were installed next. Apply the glue from the back side. Note that the grab iron under the ladder is a drop type. The door stops can also be attached at this point.

### Doors

The RI doors had a second angle iron brace about midway between the brace on the kit door and the top of the door. I made the brace from the HO 1x2 and 1x3 styrene strips.

### Roof and Roofwalk

The RI Murphy car roof has 18 Mullions versus the 15 on the San Juan kit. Also, the first mullion on the RI roof is not at the end of the roof. Using the kit roof as a pattern and the sketch, lay out the roof on .040” styrene sheet. Cut the width of the roof material 2 5/16” wide and scribe a bend line down the center. Glue the .020” x .080” styrene mullions in place per the sketch and use a small square to keep them perpendicular to the sides. After the glue has dried, cut the mullions at the center scribe line and bend the roof to the same angle as the kit roof. The Murphy roof also had mullions at the crest of the roof. Cut and glue pieces of the .020” x .080” strip to fit between the 18 mullions and at the ends.

Lightly sand the edge of the roof side so that the edge will be perpendicular when installed on the car body. Using the kit roof for the pattern, glue on strips of .030” x .060” braces to the bottom side of the new roof for fitting up against the sides and ends. Glue the Murphy roof walk supports onto the mullions. The roof walk boards (.030” x .125”) were given some “wood grain” by pulling the strips over rough sandpaper. Cut the end walks off the kit roof walk
and attach them to the new walk and roof. Drill the grab iron holes and attach the grab irons.

**Body Assembly**

Glue the sides to the ends and then to the floor sub-assembly per the kit instructions. Now the cross bearer “Zs” can be glued to the locators on center sill and sides. The RI car does not have a cross bearer “Z” in the center under the door. Fill in the notch on the stringers with a scrap of styrene. I had to trim the edges of the “Z” locators, as they did not line up exactly so that the cross bearings would be perpendicular to the center sill. Complete the rest of the body assembly per the kit instructions. Be sure and attach weight to the inside of the car before gluing on the roof. Add a .030” styrene strip to the left side of the doorway. This forms the rabbet that the door fits against when closed.

When assembling the hand brake, the top of the brake wheel should be a scale 13’ 8” from the railhead or 9” above the roof walk. One other small detail change from the kit is the cut lever, which is a top lift bent iron rod rather than the curved stamping type provided in the kit.

I substituted the Back Shop flexible air hose for the San Juan plastic casting as operation on the trackage on my layout eventually breaks off ridged air hoses.

**Painting and Lettering**

The prototype’s roof on this car was covered with galvanized steel sheet. Often the paint did not stick well to this surface. I simulated the galvanized sheet by first spraying the roof with Floquil gray primer with a few drops of platinum mist added. Then I dry brushed a little Floquil brown roof brown in streaks on the roof panels. A little rubber cement was then dabbed on the roof where I wanted the paint to be gone. After spraying the body color, the cement and topcoat are rubbed and peeled off.

The underbody and trucks were spray painted with a mixture of Floquil white and roof brown to give a dried mud color. The upper part of the car and the truck sides were sprayed with a 50/50 mix of Floquil boxcar red and oxide red. Areas where decals were to be applied were sealed with Walthers DDV flat varnish.

The scale 9” letters from the letter and number decal sheet were used for the road name and side reporting marks. The end reporting marks are 4” letters. Numbers from the same sheet were used to modify the date, weight, and dimension data from the D&RGW decal sheet. The D&RGW decals also provided the 7” car number.

**CAR DATA**

Built. 1915
LT. WT. 40700
EXW 10-0 H 11-8
EW 8-9 H 12-6
IL 40-0
IW 8-6
IH 8-1
CU. FT. 2747

**Weathering**

The amount and methods of “weathering” freight car models is mostly personal opinion and obviously influenced by the apparent age desired. Therefore, I’m only describing what I did and am not saying that you would necessarily be pleased with the results.

After finishing the lettering and sealing the decals, I wanted to give more of a relief to the “wood” portions of the car model. The roof walk and end walks were scraped with the point of a #11 blade in the direction of wood grain until the gray paint underneath began to show through. A few random boards on the sides and ends were also scored with the blade point in a similar manner.

The next step always reminds me of the old Model Railroader magazine Silver Plate Road cartoon where they discover the perfect weathering for reefers when one derails into the laundry tub. I use a stain for my wood ties made from a dilute solution of india ink, water, and a wetting agent like alcohol. I brush this stain into all the nooks and crannies on the sides, ends, and roof. The result, if not overdone, will give shadow to the shapes making up the car and dingy down the bright paint and white lettering.

The car is now very dark, so to lighten it up and bring out detail, I dry brush very small amounts of light browns and oxide colors onto the “metal” parts. Similarly, a small amount of light gray and earth was dry brushed onto the “wood” areas — heavier on areas that would be most exposed to weather action. Wheels and truck side frames get some black and dark brown color to represent the effects of journal oil soaked dirt.

**More Variations**

Haskell & Barker built the series 45700 to 46199 cars also in 1915. These cars appear identical to the Pullman built cars except for the roof. The H&B supplied roof is a 13 rib Hutchins design. The main ribs on the Hutchins roof look very much like the ribs on the panel roofs of later all steel cars. However, each flat Hutchins panel has a very small stamped rib in the center. More difficult to fabricate out of styrene than the Murphy roof, but worth the effort as car roofs are very visible on the layout. A future project maybe. And if someone produces Murphy corrugated or Dreadnaught ends that would fit this size car, there are also the RI Fowler clones of the 1920s to build.

My thanks to Steve Hile for the tremendous amount of helpful data that he provided as a result of my query to the Steam Era Freight Car List on Yahoo. And to Al Westerfield for the prototype information on these cars he provides with his HO kits.
MATERIALS LIST:

San Juan Car Co.
#119  D&RGW Standard Gauge Box Car kit
#5108 Standard Gauge K Brake Cylinder
#213  T Section Bettendorf trucks (optional: substitute NWSL metal wheel sets)

Grandt Line
#144  Roofwalk Supports for Murphy Roof

The Back Shop
#AH-305  Air Hose with Glad Hands (optional)

MicroScale Decals
#90001  Railroad Roman Letters & Numbers, White
#48-526  Rio Grande 40' Fowler Box Cars
(D&RGW decals are included in new San Juan kits)

Evergreen Scale Models Styrene
#9040  Plain .040" Thick Sheet
#136  .030" x .125" strips
#8208  HO 2x8 strips
#8103  HO 1x3 strips
#8102  HO 1x2 strips
#133  .030" x .060" strips

Miscellaneous
Screws 0-80 x 3/8"
Weight material approximately 8+ oz.
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This engine facility is on Tony Ambrose's Southern Crosse RR. It was built by Ray Priester. Eng. #1846 is a NP 2-8-2 by Overland. The other engine #4269 is a SP AC-11 by Max Gray.

Eng. #1916 is a MoPac Berkshire custom built by Ron Dettmer. Eng. #9746 is a MoPac 0-8-0 by Max Gray.
Observations

Joe Giannovario, Editor/Publisher

Well, here we are with issue #6 and on time again. It’s been a great year. We’ve met a lot of people at shows and made many new friends. The support and encouragement from the 2 rail O scale community has been overwhelming. From myself and the entire staff of O Scale Trains, we thank you for making us an unqualified success. We will continue to grow and improve OST as we move forward into our second year.

As this is issue #6, many of you subscribers are up for renewal. So, let me explain how this works. We mailed out renewal notices about 6 weeks before you received this, your last issue, in the mail. You can call us and use a credit card to renew, or you can go to our website and renew (which many of you have chosen to do already), or you can mail us a check if that suits you. If we have not received your renewal after this issue has shipped, then you will receive a reminder about 6 weeks before the next issue ships. After that, we figure you are no longer interested in O Scale and will stop bothering you.

One last note about this issue, we’ve decided to call this issue Vol. 2 No.1. So, Volume 1 consists of issues 1-5.

Before I get into anything else, let me mention our Layout Contest rules have been changed slightly. After consultation with our co-sponsor, AtlasO, we’ve decided that the minimum radius for the Category 1 entries should be 36 inches and not 48 as originally stated. Also, anyone can enter in Category 2, including 3 railers. Only if you are going after the Grand Prizes do you have to stick to the rules for Category 1. Initial response to the contest has been fabulous. We should have many great layout designs to share with you over the next couple of years. If you haven’t started designing yet, better hurry. The contest closes March 31, 2003.

I’d like to welcome Ted Byrne to the magazine. Ted will be doing a series of articles on O Scale DCC, starting in this issue. The future of his column depends on your response. If you have questions, please write to him care of this magazine.

Your response to the Auction Data in the last issue was like some feedback on this.

You will find that Gene Deimling’s Proto 48 column is missing from this issue. Gene’s work schedule got in the way of our production schedule but Proto 48 will be back next issue, we promise.

As I promised last issue, we have more modular O scale in this issue. My thanks to Jimi Smith, president of the MetroWest O Scalers for providing us with the text and drawings of their modules. If you are part of a modular club, send us your info so we can share it with other O scalers.

As always, we’re open to your suggestions and welcome your input on the magazine’s content. You can call us, write or email us (see the contact info on page 3). Our mantra is Customer Service and that is as important to us as putting out the magazine on time.

Return of the Service Hero: This issue’s Service Hero is Jim Christiansen of T-Bone Models and an OST advertiser. Here’s why according to an OST subscriber: “... every single model I have ever purchase from T Bone Models regardless if it was a $30 Weaver freight car or a locomotive, it was thoroughly checked out by Jimmy who always makes sure that all the wheelsets are in gauge and makes any corrections that are necessary in addition to installing Kadee 804 or 805 couplers at no extra charge. Now that’s my idea of customer service! Most other dealers refuse to even check a model for damage before presenting it to a customer and then balk about having to make repairs. Their defense seems to be that some modelers are so picky that they will not purchase any locomotives if any of the packaging has been opened.” Good job, Jim!

Okay, allow me to wax philosophical for a moment. What this hobby needs is a good nickel cigar! No, what I mean is... What the O scale 2 rail hobby needs is a good starter set. In any other scale, you can walk into a hobby shop and buy a set of trains in N, HO, S and G scales that includes a locomotive, cars, track, and a power controller. You can also buy such sets in 3 rail O scale/gauge. But there is no 2 rail set. Why? Because until just recently there has not been a consistently available set of “snap track,” if you will, in 2 rail. Well, now there is and AtlasO has an opportunity to make a huge impact on the 2 rail side of the hobby. I don’t claim to be prescient but I will not be surprised to see AtlasO trains sets by next Christmas. Look at what Bachmann has done with On30 sets. There’s no reason why AtlasO can’t do the same in O 2 rail. Or maybe Lionel will license the AtlasO track and put out a 2 rail starter set. MTH? Weaver? Anyone?

Another thing we need in O scale is a small, relatively inexpensive (less than $500) steam engine. It seems like forever since Weaver announced their 2-8-0. If they wait too much longer someone else is going to come along and steal their thunder. Like, Bill’s Train Shop (BTS) with an early 1900’s Baldwin 2-8-0 that can be bash into almost any road. If you would be interested in such a steamer contact BTS and let them know. See their ad this issue. Keep high ballin’!
With superior craftsmanship and exquisite details, Atlas O's 36' Wood Reefer features a highly detailed ABS body, separately-applied grab irons, ladders and stirrups, hatch styles and truss rods appropriate per road name, separately-applied door hardware, opening hatches and doors, a die-cast chassis, detailed braking system, 40-ton Bettendorf-style die-cast sprung trucks, as well as magnificent painting and printing.

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