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Vol. XII No. 1

DISPATCH

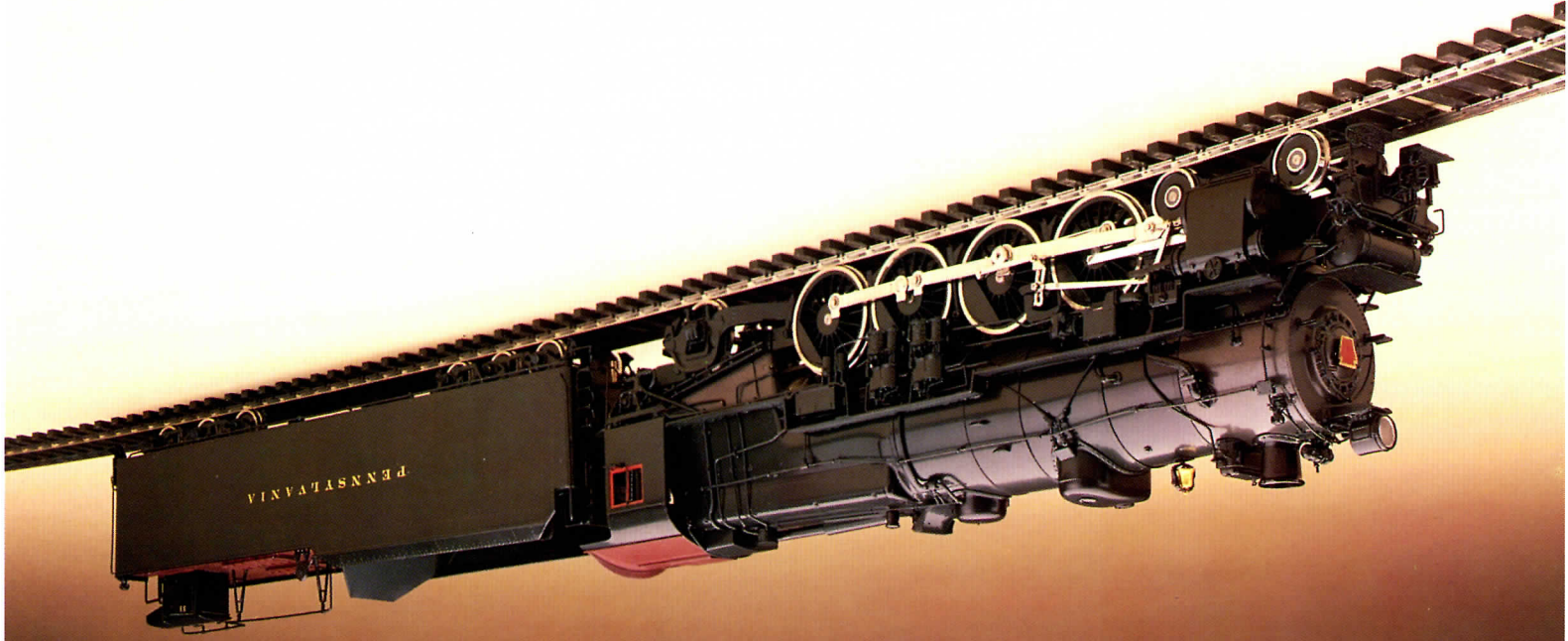


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DISPATCH

Official Publication of the
NATIONAL ASSOCIATION
of S GAUGERS

The DISPATCH, published bi-monthly, welcomes art, photographs, letters, cartoons, articles, and other S-gauge-related materials contributed by the membership. Send them to the Editor:

Dick Karnes
4323 86th Ave. SE
Mercer Island, WA 98040

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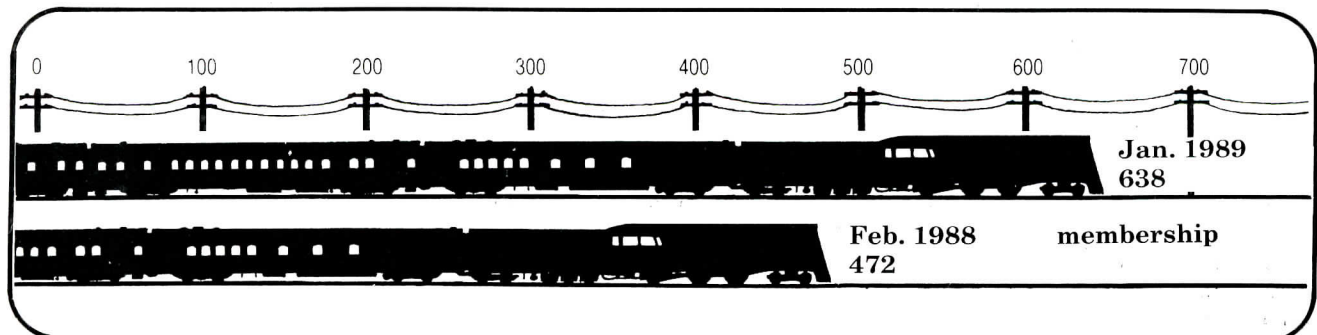
STAFF

Dick Karnes	Editor
Bob Jackson	Associate Editor
Silas Kayle	Club News
Tom Nimelli	AF Editor
Kent Singer	Contributing Editor
Jerry Perkins	Artist
Bob Werre	Photography
Pete Mihelich	Publisher

The deadlines for articles are the 15th of Feb., Apr., June, Aug., Oct., and Dec. for issues dated Apr., June, Aug., Oct., Dec., and Feb. respectively.

COVER

This beautiful S gauge layout was on display throughout this past holiday season in the Famous-Barr Department Store window at 7th and Locust in downtown St. Louis, Missouri. The American Flyer S Gaugers of the St. Louis Area (AFSGSLA) and Famous-Barr craftsmen built the layout. *Photo by Gary Bohn* - St. Louis Post Dispatch Photographer and member of AFSGSLA.



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EDITORIAL

WRITER'S BLOCK

Well, I've been sitting here off and on for a few days, trying to come up with something for this column while my mind wanders repeatedly to other things I'd rather be doing. Like modifying my RAILSTAR dispatching program to allow simple things — like making up a train and sending it nowhere. The program always makes me take the train somewhere, even when I just want to let it run round and round. Oh well, maybe sometime I'll make the necessary program modifications ...

And I've noticed that my yard facilities are too small for the rolling stock I have. While I don't yet have gridlock, it sure can get tedious making up trains when only one track (or none!) in a yard is vacant. My solution, of course, is simple and unsurprising. I just need to add some

on-line industries which hold a few cars each. I don't have any yet — just three yards, a major interchange, and a double-track main line.

But wait — other things have to be done first. Like finishing the RC modifications to my CTC-16 system so I can follow my train around to do switching in the first place. What's the point of switching if you have to do it from 15 feet away? I want to do it with my trains.

And then there's my catenary project. I have four juice jacks, and they sure look silly cruising around with their pantographs locked down. But I can't put the overhead up until I finish (finish??) the scenery underneath — like ballast, rail-painting, platforms, retaining walls, etc. And I can't do these things until I finish "tuning" the positioning of my uncoupling ramps, and until I replace my hand-throws with switch machines. (Imagine poking a giant hand through the wires to uncouple cars or

throw turnouts by hand!) And then there are those industry turnouts that must be installed first ...

There's also the great mainline compromise, where I relocated part of the main line to provide mother-in-law access to the bathroom. Well, she doesn't use this bathroom any more, and I need to restore the mainline route to its original alignment to eliminate the only two headbanging duckunders.

What to do? Egad, there's so much to do it's downright burdensome just thinking about it! In fact, I think I'll ignore all these problems for now, contenting myself instead with working on those four unfinished locomotives on my workbench ...



PRESIDENT'S MESSAGE

How Not to Get What You Want

I recently received a letter from an angry member severely criticizing my efforts to promote an imported brass NYC Mohawk. One of the underlying themes of his letter was that S has enough NYC and Pennsy equipment and therefore my efforts should be made only on behalf of other road names. As President, he stated, I should be more attentive to pushing other road names so that our favorite scale can enjoy a wider variety of motive power instead of merely adding to the alleged proliferation of NYC and Pennsy equipment.

Similarly, recent letters to 'the DISPATCH repeat the familiar theme of too much equipment for these same railroads, and I suspect that other S gaugers have similar thoughts, but have not taken the time to write complaints.

A review of the past several years' brass locomotive production shows that road-specific models have been produced for the following railroads: UP, Pennsy, SP, N&W, Erie, NYC, and MP. Various USRA steamers and generic diesels are not counted

in my survey because they were commonly used on numerous roads. Interestingly, UP fans have had a Big Boy, a Challenger, and FEF-3 Northern. In addition, the 4-8-4 is available in two versions and custom-painted as well. Two SP locos — the Daylight and SD40T-2 Tunnel Motor were produced. NYC fans have only the Hudson. Three for UP, two for SP, and only one for NYC. Why then does NYC get all the criticism for hogging the market?

Consider the phrase "hogging the market" and think about the underlying assumption. Did you get it? "If they didn't produce the NYC or Pennsy stuff, then they would have made something that might have been from my favorite road. Therefore, I need to stop the NYC stuff in order to get what I really want." That train of thought (pun intended), probably common, is seriously defective.

Let me submit instead that there is little or no cause — and — effect relationship between the proliferation of models for specific railroads and the absence of models for other railroads. If the manufacturers were genuinely convinced that a Southern or a Florida East Coast or a Santa Fe steam locomotive would sell, it would be produced —

regardless of how many NYC or Pennsy models were already being made. After all, they want to make more money if they can! The problem isn't too much NYC and Pennsy and too little of anything else. This is only the symptom. The real problem is lousy communication of desire and commitment to manufacturers from the S consumers.

It's time to focus on a solution to the real problem — not to gripe about some unrelated activity. Organization, communication, and commitment (read "deposits") are what are required to get the model of your choice. Hard work, dedication, and perseverance are all needed. Sitting on one's duff and throwing darts guarantees failure.

Can NASG help? Perhaps. I'd like to hear some suggestions on how we could assist. Any ideas out there?



MANUFACTURER NEWS

CVP Products (P.O. Box 835772, Richardson, TX 75083) is designing an electronic kit for a diesel sound generator (Model SDX) which will work on both AC and DC. A kit will be available shortly.

Imagine your locomotive sitting idling in the yard, ready for the morning run. You feel the low-frequency power ready to go. With two long toots of the horn, the engineer releases the brake and proceeds to pull out of the yard. You can feel the engine and turbos roar under the strain of the heavy load. The train gains speed pulling out of the yard. Highballing down the road, the high pitch of the radiator fans can be heard as the engine heats up. As we near our destination, the dynamic brake grids heat up and fans come on to cool them down. Finally, we pull into our destination and you can hear the fans cooling down the engine after a good workout.

CVP's diesel sound generator circuit was developed by going to the source. With tape-recorder, microphones, and spectrum analyzer in hand, the designer went to the UP shops in Salt Lake City. There he was able to capture the diesels in action on the road and in the stationary test stands. The spectrum analyzer enabled him to analyze the frequencies and amplitudes that made up that diesel

roar. The result is that the sound produced by the electronic generator is an exact match to the actual recorded sound. I want to point out that this sound generator uses NO tapes.

The circuitry incorporates a transient voltage controlled amplifier which emulates real-world sounds that have a clear attack when they start, and then die away slowly. The basic circuit allows a great deal of flexibility, so if you don't want turbos on your engine you can turn them down or off. Likewise, the other effects can be customized to your own personal tastes. The sound generator has separate controls for the following diesel functions:

- Engine volume (loudness)
- Turbocharger volume
- Radiator and dynamic brake fans
- Load-effect — low-frequency power you feel
- Tone — bass and treble
- Master volume
- Mixing bus — for external sound sources
- Track-voltage sensor to determine speed

I have heard the engineering prototype for this sound generator, and it is excellent.

— Stewart De Journett

REVIEWER'S WORKBENCH

Diesel Horn Sound Generator (Model PDH, mfd. by CVP Products, P.O. Box 835772, Richardson, TX 75083; \$45 postpaid in the US and Canada.)

The instructions for this unit, written by Keith Gutierrez, appear in the Feb. 1989 issue of Model Railroader. The kit contains a double-sided silk-screened fiberglass PC board with holes plated through, plus all the electronic components which mount on the board. The kit includes a complete list of the additional Radio Shack parts (e.g., terminal strips, switches, transformer, case) required to complete construction. The horn will work from either AC or DC. You can use the accessory taps on your power pack or AF transformer to provide horn power if you desire.

The electronics include a built-in audio amplifier which can drive a small under-layout speaker directly, or you can use the auxiliary output to your own sound system. An auxiliary input is also furnished so you can mix in your own sound source (e.g., your favorite bell).

I actually had my wife build the horn kit because she has no experience in electronics. (I have a masters' degree in electrical engineering and 15 years experience, so it would not have been fair for me to personally build the kit to review the instructions myself.) The kit went together smoothly and it worked right away.

My first-hand reaction was that the sound was very good — certainly better than what you get with AF equipment, and I had a lot of fun playing with it. The horn circuit is programmable to provide from one to five simultaneous chimes with ten different tones possible for each chime. This provides 637 different combinations. The instructions include a chart that shows the tone combinations used by the major railroads. An external reverb can be added to give the horn a fuller sound. I recommend a spring

reverb, which has longer delays than some solid-state units, and none of the sampling effects that some digital delays exhibit.

This is one of the few electronic products I have seen that will work well with either scale or tinplate. I have seen the schematics, and verified with the designer that both AC and DC operation are supported.

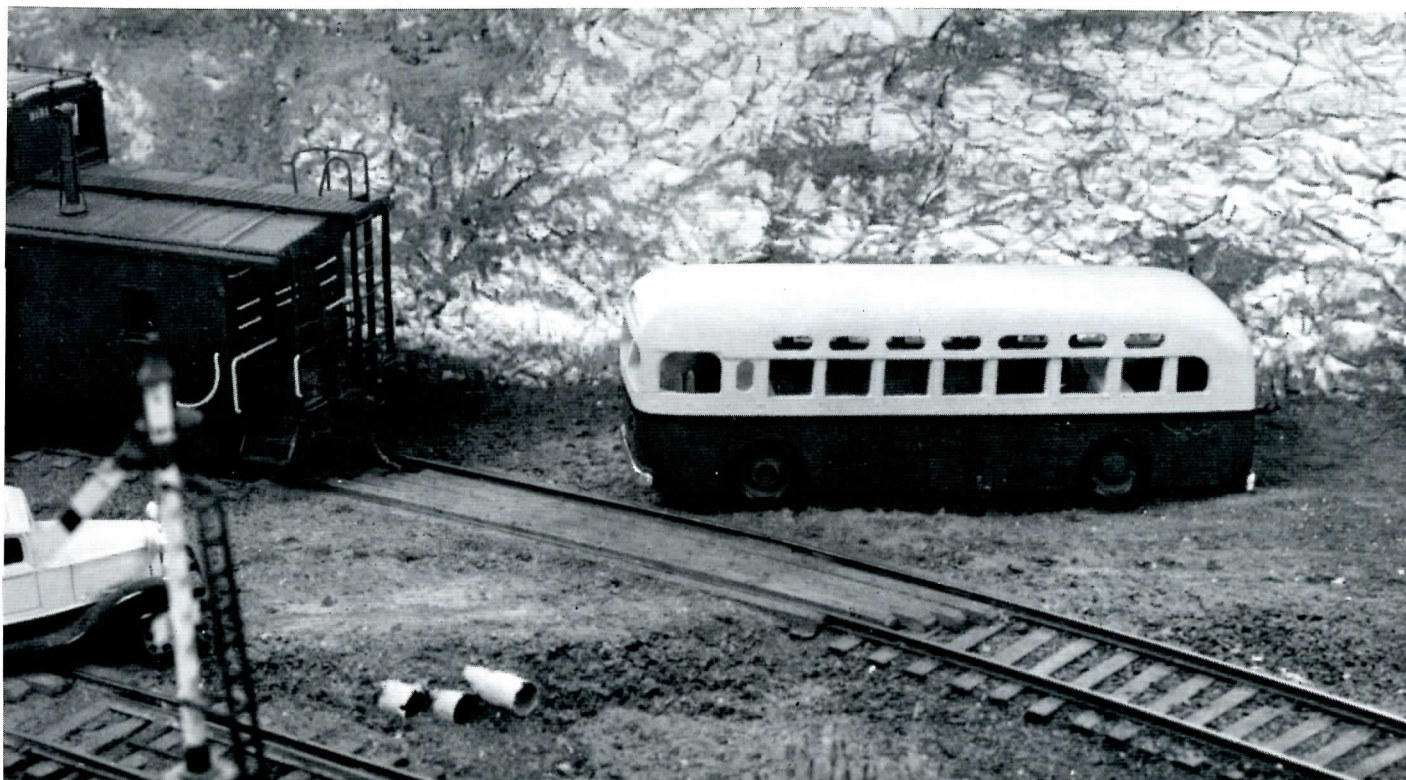
Sample Defects: None.

— Stewart De Journett

General Motors 1950s Bus (Hoquat Hobbies, P.O. Box 253, Dunellen, NJ 08812; \$10.00 for the regular kit; \$12.50 deluxe.) Add \$2.00 per order for postage and handling.

We got the deluxe kit, which has chrome-plated bumpers. Otherwise, the kits are identical. The kit consists of a one-piece grey bus body which appears to be cast from a flexible epoxy resin, plus an envelope of small parts: six cast plastic wheels, six rubber tires, two clear headlight inserts, a 5/16" wood dowel for axles, two plastic doors, two plastic bumpers, and two axle mounting brackets.

The body and parts are well-proportioned and represent typical "Jimmie" buses of the 1950 era. The Instructions are brief but adequate, the parts fit together well for the most part, and construction is straight-forward. We started by removing the profuse casting flash from the bus body windows (the rest of the body was flash-free). This took a full two evenings. The main side windows were not precisely rectangular, so great care had to be taken to true them up while maintaining uniformity. In addition, the epoxy material tends to form a fuzz on filed edges, which must be removed with a small knife blade. The front and back windows were easier because the uniformity requirement is largely absent.



The Hoquat GMC bus fills a much-needed void in 1950s motor transit vehicles.

The oval-shaped clerestory windows were so non-uniformly cast that we had to use a round jeweler's file to define both the length and the end curves of each one. The flat sides of these small windows were then trued with a one-sided flat jeweler's file.

There are some problems with the body casting. The interior surfaces are non-uniform on the sides and curved on the ends, so forming and attaching clear window material (not furnished) would be difficult. But the most obvious problem is the oversized rivet detail, which additionally is not plumb on the left side. We left the rivets alone and used a dark red for the lower sides to subdue them.

Door blanks must be removed with a razor saw and a file. This was easy, as the door openings are well-defined and the blanked areas are thin. Be careful with your file pressure: once the blanks have been removed, the side is very flexible and could break if your file slips.

The headlight openings are well-defined on the casting. These must be drilled clear through and trued with a rat-tail file. This was easy. Test-fit the headlights occasionally so as to achieve a light force-fit. Then remove the lights.

The door castings have grooves in them to represent the prototype's folding joints. The tall skinny door windows (eight in the front door casting, four on the side door) are merely approximated. The best strategy is to treat them simply as starter holes. We used an X-Acto No. 11 blade and the round jeweler's file to enlarge and true up the windows. This is fragile work, as the castings are very thin.

We cemented the doors to the body as instructed with 5-minute epoxy, and moved on to the wheels. The instructions characterize the axle as 1/8" in diameter, but ours was 5/32". Five of our six wheels were cored 1/8", but the sixth was 5/32". So, we reamed the other five for the 5/32" dowel. We did this on the two axle mounts too. Two of the wheels were imperfectly cast; we used these for the inner wheels on the four-wheel rear axle.

We painted the body and wheels at this point, and then popped the tires onto the wheels.

The rest of the assembly sequence consists of cutting the dowel into two 1-1/2" axles, sliding these onto the axle mounts, cementing the wheels onto the axles, and epoxying the mounts in place inside the body. We had to shim the ends of the mounts for a close fit; scrap styrene was used for this. We pressed the headlights into place and secured them with small drops of ACC. The bumpers are epoxied on last. Finally, a dab of wheel-color paint on the axle ends finishes the bus.

The bus took three evenings to complete, not including painting. The result is very pleasing (see photo) and worth the effort. In fact, if you do the window-truing yourself, this is a great starter kit to build with your son or daughter.

Sample Defects

As noted above, two of the wheels were incompletely cast, and one was cored for a different size axle than the other five. These defects are insignificant, as two of the wheels are completely hidden once the bus is assembled, and all wheel centers had to be reamed to a larger size anyway.

... JUST AN

OLD CONCRETE BRIDGE ...

by Ernie Horr

Drawings by the author

(Reprinted from the "S-Train Rail")



Dick Karnes

The completed bridge is installed on fellow club member Ron Tilton's layout.

Many times as we traveled US 395 between Spokane and Pasco, Washington, I have been intrigued by a series of medium-small bridges over small streams and depressions in the vicinity of Eltopia. Eltopia is on the Burlington Northern (ex-NP) main line from Spokane to Pasco. These ballasted-deck bridges are very simple concrete structures with walkways on both sides of the track. I felt that a bridge of this sort could be easily and cheaply modeled — so that is what I did.

To begin with, I took no measurements, so — strictly speaking — the bridge is not a scale model. However, the sizes of the component parts are as they appeared to me. So let's build one. The following materials will be needed:

- | | |
|--------|------------------------------------|
| 2 pcs. | 1"x 2"x 6" balsa |
| 1 pc. | 1"x 2"x 17-1/2" balsa |
| 2 pcs. | 20" long 3/32" wood or brass angle |
| 4 pcs. | #20 stiff wire, 17-3/4" long |
| 2 pcs. | 3/16"x 1/4" stripwood, 20" long |
| 3 pcs. | 1/16"x 3/16" stripwood, 20" long |
| 1 pc. | 3/8"x 1/2"x 4" wood |
| 1 pc. | 3/32"x 4"x 6" wood sheet |
| 1 pkg. | large plastic bolt/washer castings |
| 1 pkg. | small plastic bolt/washer castings |
| | paint, glue, and patience |

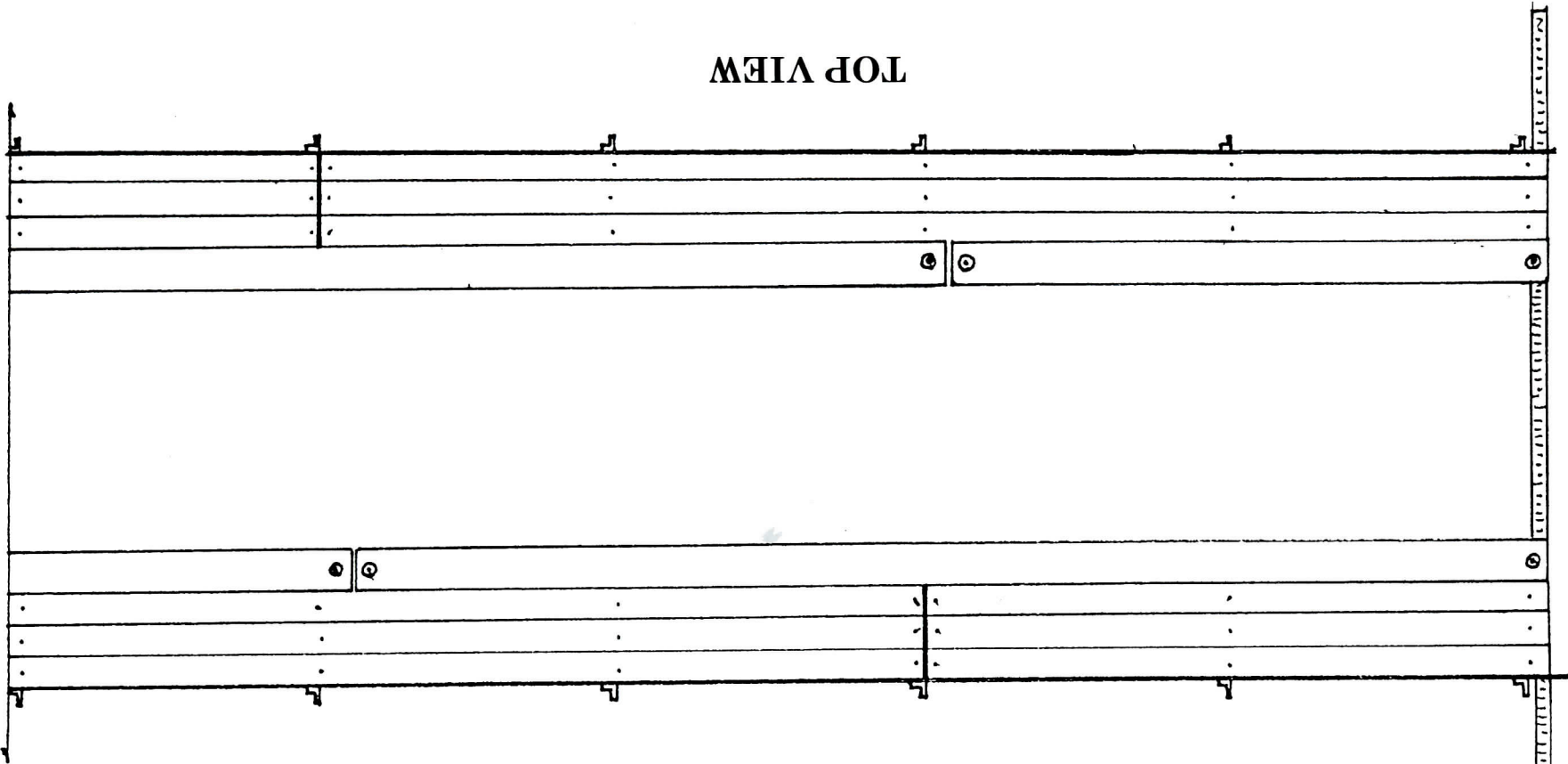
Unspecified wood may be either basswood or balsa.

The bridge height and abutment size can be whatever you desire. In fact, you could even change the length. For the bridge I built, I cut the 1"x 2"x 6" blocks in two, giving me four 3" bridge pillars. I used one 1"x 2" piece of balsa 17-1/2" long for the deck. If you can't find 1"x 2" this long, any 1" stock will do, but you'll have to laminate it to 2" wide.

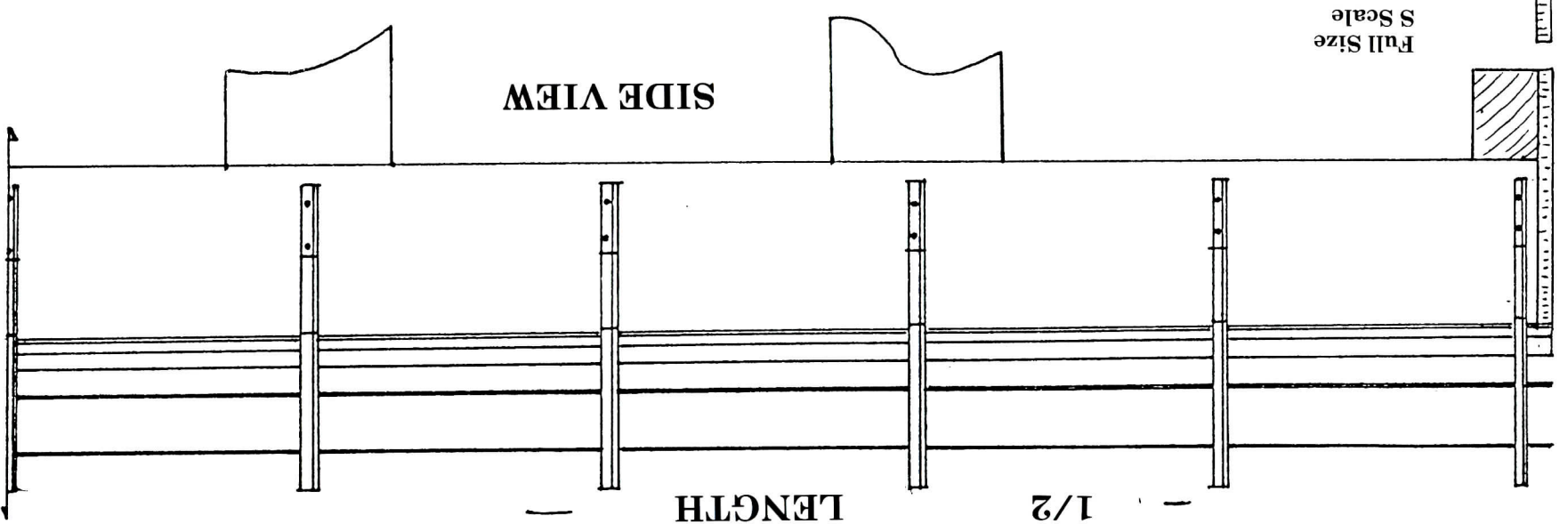
Glue the four uprights to the deck. The plan can be used to get the spacing. Now we'll make the ballast-stop timbers. From the 3/16"x 1/4" stock, cut four pieces 7-1/4" long and two pieces 3-1/4" long. Fasten these to the edges of the top of the bridge deck so they overhang the sides by 1/16", as shown on the cross-section drawing. (This will leave 1-5/8" clear for your track ties.) The timbers should also overhang each end by 1/8". Alternate the short piece from one side to the other as shown on the plan drawing.

From the 1/32"x 1/16" stock, cut 22 walkway braces 5/8" long. Fasten these as shown on the cross-section drawing, locating them at the position of each guard railing post as shown on the side view.

Now, from our 1/16"x 3/16" stock, cut 12 deck walkway planks 7-1/8" long and six planks 3-1/2" long. With a sharp pencil, make a dimple in each plank where a walkway brace would be. These dimples represent bolts



TOP VIEW



SIDE VIEW

LENGTH

1/2

Full Size
S Scale

or large nails. Fasten the planks to the walkway braces next to the 3/16"x 1/4" ballast-stop timbers already installed. Be very careful, as the walkway braces have very little to hold themselves to the bridge deck. The plank joints should alternate with the timber joints as shown on the plan view.

Now comes the only hard part of the operation — making and installing the guard railing posts. I used wood angle, but you probably should use brass angle instead. Make these posts according to the end view, making sure they fit. The post angles are made by notching the posts as shown in the detail drawing and bending them to the proper shape. It takes a little trial and error. It would probably work easier with metal angle, because the wood has a tendency to break at the bends, which necessitates gluing the post parts together at the bends. This is rather tedious, but once you get started it isn't that bad.

Using the side view for locations, fasten these posts to the bridge deck and to the walkway and walkway braces. Make sure all posts are vertical.

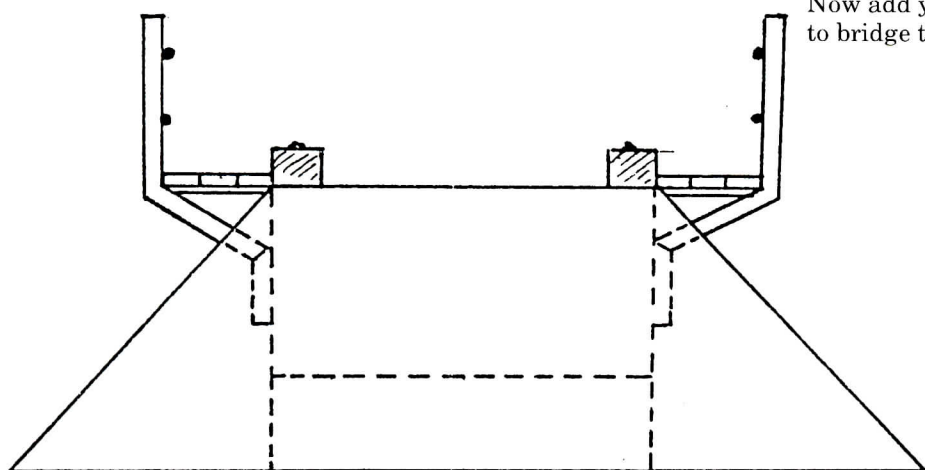
When the glue is dry, place the bridge on its side, shimming with a wood block so the railing posts are flush on the work table surface. Fasten stiff wire handrails to the posts as shown in the side view. I used Elmer's "Wonder Bond" for this, as I find it bonds wood to metal much better than any of the other super glues. Repeat the process for the opposite-side handrails.

Next, cut the two abutment wings from the 3/32" sheet. You can use my plan or fit your own location. I fastened the abutments to the bridge deck ends, and cemented a 3/8"x 1/2" piece of wood in the corner formed by the bottom of the deck and the inside surface of each abutment as shown in the side view.

For added detail I drilled small holes in the 3/16"x 1/4" ballast-stop timbers and attached the large bolt-washer castings as shown on the plan view. Drill tiny holes through the bottom ends of the guard railing posts and install the small bolt-washer castings as shown on the side view.

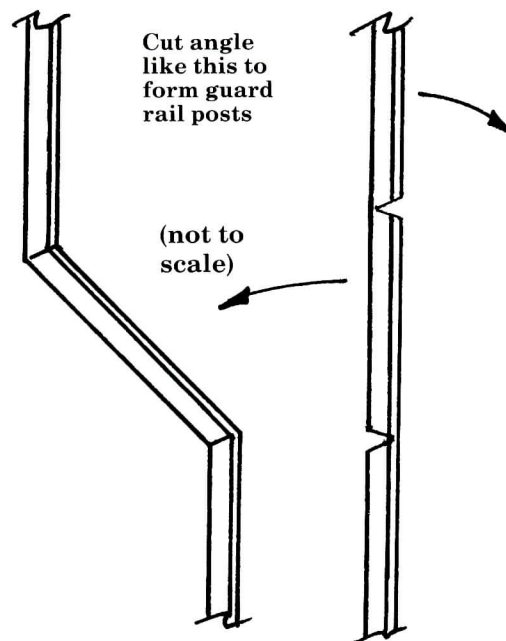
Well, if you got this far, you're ready to paint your bridge. The bridge deck and pillars should be painted concrete color. The walkway and all parts representing wood should be painted with a light wash of tuscan red. The guard railing and posts should be painted white or silver.

Now add your favorite track, ballast it, and you are ready to bridge that small stream. Enjoy!

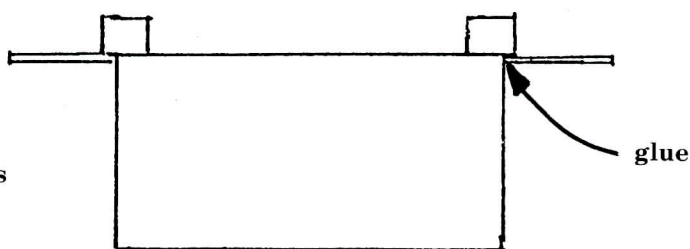


END VIEW

**Full Size
S Scale**



**How to fasten
walkway braces
to bridge deck**



MAKING STEAMERS PERFORM — Part 1

by Joe Scales

Photos by the Author



Figure 1. The popular Rex Mogul is an excellent subject for this primer on steam locomotive tune-up.

[NOTE: This article is not intended to condemn or praise any particular manufacturer's product. My intention is to provide some hints which can be used to make any steam locomotive perform well.]

"Hey, that's a fine looking steamer you've got there! Just look at all that detail. You don't see that kind of detail that often, and it's so neatly done! Did you build it, or did you buy it? How does it run?"

You were aglow with pride until that last question. That was the killer. You look away with a sigh and mutter something like "I paid big money for this thing and it looks good, but I can't get it to run well." Or "It was a kit. But the more I fiddled with it, the worse it got."

You've all heard stories like this — I have a blue million times. Actually, you can get the kind of performance you expect from your locomotives. But first, you have to dig into your soul for the courage to tackle the job, and into your pockets for the greenbacks to fund it. Mind made up? Teeth gritted?? OK, let's go before you turn chicken!

KIT LOCO TUNE-UP

To start with, let's take one of the older kits still on the market — the Rex Mogul (Fig. 1). This is a nice little loco that most of us have had or someday will have. It also lends itself to tinplate operation, so by using this loco as an example, both segments of S gauge are covered. Remove the tender and set it aside; it won't be needed for a while. Do the same with the boiler. Now we have an exposed mechanism to look at. Thread 2-56 nuts onto the long screws which project up through the cylinder chest so the chest remains in place. Now remove the motor and the pilot truck, being sure to run the pilot truck screw back into the frame afterward.

Side Rods and Valve Gear

Hold the chassis in a manner that will allow you to roll it back and forth and watch all the movement of all parts as you gently move the frame back and forth. ANY glitches detected must be freed up. Most likely a screw is too tight. It is possible that you may have to give the Walschaert's link an extra thread, as it rotates directly on the screw threads. Sometimes playing with it, or running the screw in and out of the threaded link with a small screwdriver, will do the job. If you still find resistance to motion, you will have to run an 0-80 tap through the link after it is removed.

Then remove the main rods and side rods, and as you do, mark them L and R (left and right) on their backs for reference. Free the valve gear by removing the screw holding the link to the valve gear hanger.

Check the valve gear to make sure its parts are 100 percent free to rotate, yet not sloppy. All valve gear rivets should be checked. If they are tight, remove and replace them. Take a piece of typing paper, insert it between the two parts that you plan to rivet, put the rivet through the part, paper, and part in that order. Make sure you have not reversed anything. When you're sure that everything is correctly positioned, RECHECK! Now is the time to dig into your pocket, as I warned you. Get a jeweler's staking hammer, jeweler's anvil, and a machinist's bench block. Three weeks later, because you started this project without reading this article through, you now have these items in hand. Now things got moved out of place and your parts positioning will have to be redone. Now the new tools you bought may be used to spread the end of the rivet we described. Stop spreading the rivet when the two parts almost touch the paper. You may want to practice a time or two. Valve gear all OK now? Yes, good. Remove (tear out) the paper.

Also check the riveted joints in the side rods. If a joint tends to stick, repair it as above. You should countersink the back of one side rod to accept the flare of the rivet as it is spread (Fig. 2).

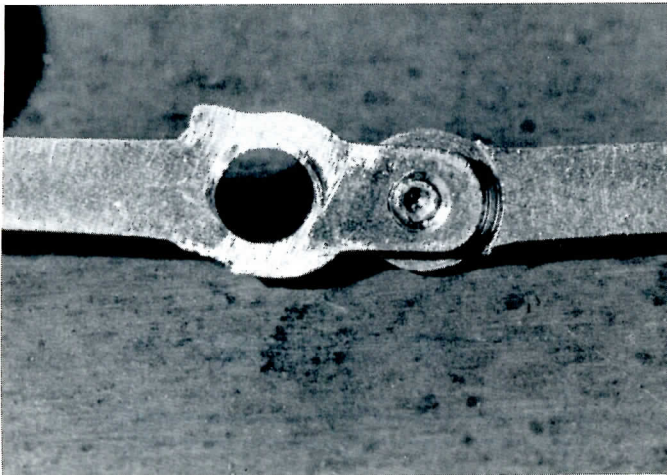


Figure 2. Note how the back of the side rod has been countersunk so the rivet won't snag on the outside of the drive wheel.

Crossheads and Guides

Now check the crosshead guides, crossheads, and associated linkages. If you built your loco in the first place, chances are you have a set of needle files. If not, get yourself a GOOD set. While I'm on the subject of tools, let me say a few more words here. Please heed what I say. **THERE IS NO WAY YOU CAN BUY A TOOL THAT IS "GOOD ENOUGH!" BUY THE BEST!** A lesser-quality tool will frustrate you, make an enjoyable project miserable, and wind up costing you more. Enough said. Let's go **FIRST CLASS**.

Check the fit of the crosshead in its guides. The guides should be truly parallel, not by sight but by accurate measurement with a dial caliper. You don't have one, you say? Well, go back to the friendly tool dealer for a 6-inch dial caliper. You should be good buddies by now. Read the directions and read them again. More than likely this is the most precise tool you have ever had and will ever need. It will measure to the thousandth of an inch (.001"). Practice — you will use it a lot. Take care of it, it's fragile. It's not a "neat li'l wrench."

Now that you have paid the machine tool dealer a visit for files, let's use one. Pick the narrow one with teeth on the narrow side. The wide side should be smooth. Remove the cylinder chest from the chassis and measure the space between the crosshead guides at various places to see if the guides are parallel. If not, adjust the guides by bending them until the caliper gives uniform readings throughout the length of the guides. While you are doing this, make sure the guides fit the crosshead yoke without being pinched in. Use the file to relieve any problem.

Next, try the crosshead to see how it fits. Remove the crossheads from the main rods. Most likely the crossheads will need a little work, even to the point where you might want to drill the piston hole in the cylinder chest very slightly larger. With the crossheads' pistons fully inserted into the cylinders, turn the cylinder chest upside down. The pistons should slip out and fall free. If not, check for more binds.

Done? Yes, slick as a greased eel! Not bad — you're doing well. No, no time to try it out, we have a long way to go yet.

Basic Axle Alignment

Remove the bottom retaining plate and the wheels from the frame, noting which side is insulated. Scribe an "I" in the frame on the insulated side, and do the same on the back of the counterweight on the insulated side of each drive-wheel set. No mix-up this way! (Note: The later Rex drive-wheel sets have plastic drive-wheel centers on the insulated side, so marking may not be necessary.)

Go to the local stationery store and get several scratch pads, pencils, and — if you're like me and can't do accurate arithmetic — a calculator. (The wife and kids will abscond with the extra pads and pencils, but by hiding some you may be able to hold onto them. Also hide the calculator when you're not using it.)

The Rex locomotives are die-cast zamac. All castings shrink and warp as they cool, so there are likely to be some dimensional errors in the frame. How much, you say? Let's find out by measuring the diameter of the geared axle hole. Measure precisely from the front edge of the axle slot in the frame to the rear edge with your dial caliper. Write down the measurement and note it as the "no. 1" axle. Divide your figure in half. Write that figure down beside the full-width figure. Do the same for the axle slot in the rear axle bearing. Record this figure for the "no. 3" axle, and divide it in half too. Now, with the rear axle bearing in place in the frame, measure the distance between the rear edge of the geared axle hole and the front edge of the rear bearing axle slot. Fig. 3 shows what we're doing here.

MORE →

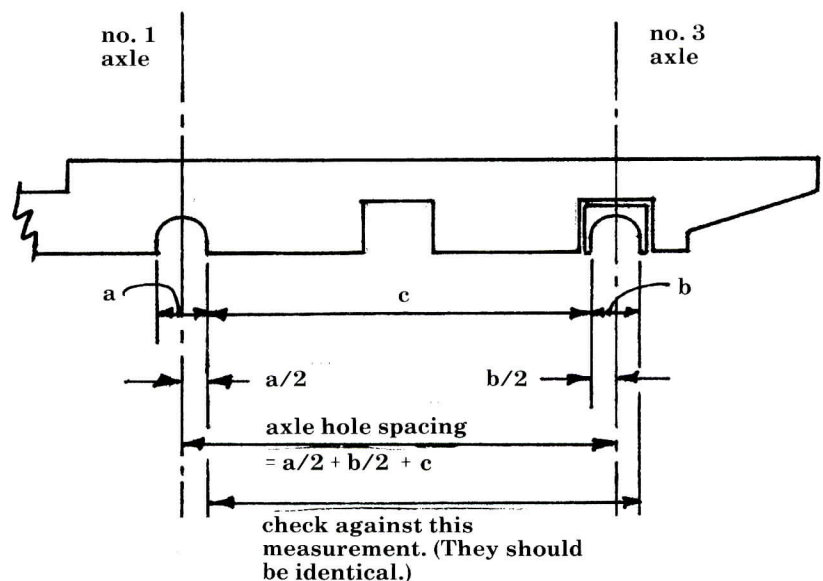


Figure 3. These are the frame measurements and calculations you need to make for the no. 1 to no. 3 axle spacing.

Now you have some math to do. Add the half-widths of the no. 1 and no. 3 axle holes, and add to this sum the distance between the no. 1 and no. 3 axles. Check yourself to see if you did it right by setting your dial caliper to the sum of the three numbers. Now lock the slide on the dial caliper so it cannot move. Hold one point at the rear edge of no. 1 axle slot. The other point should be at the rear of no 3 axle slot if you did it right (see Fig. 3). **NOTE: This is critical!** Plus or minus .002" or .003" error is all you can tolerate here. Check your work several times, as you want the results exactly right. You will have to refer to your sum several times, so write it down.

Get your side rods. Measure them the same way you measured the frame — width of front hole, width of rear hole, distance between holes. Divide the hole widths in half, add the front half to the rear half, and add to their sum the distance between the holes. See Fig. 4. IF

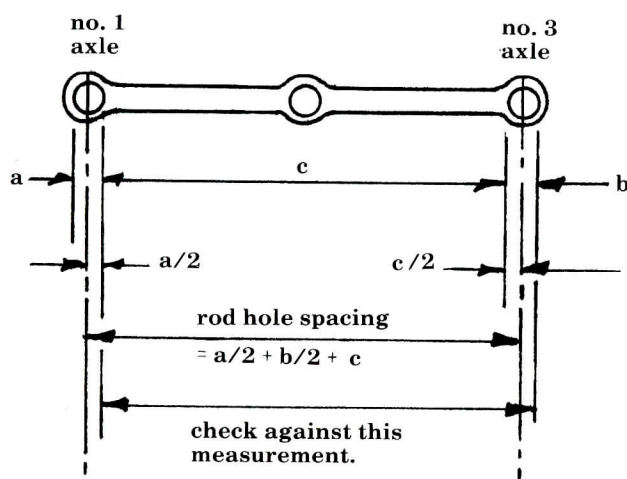


Figure 4. These are the siderod measurements and calculations you need to make for the no. 1 to no. 3 axle spacing. The procedure and calculations are similar to those for the frame (Fig. 3).

everything is perfect, the final sums for the side rods will be identical to the sum for the frame. However, nothing in this world is ever perfect, so the figures won't match. However, they should be close, say within .015" or so. Furthermore, the two side rods should be within .002" or .003" of each other. Use your round jeweler's file to make them match each other exactly. Remeasure them again. This will be the figure which you will match against the frame, so make sure you get it right. Figures 5, 6, and 7 show the measurements I got for my locomotive. Do not assume that yours will be the same. They will not!

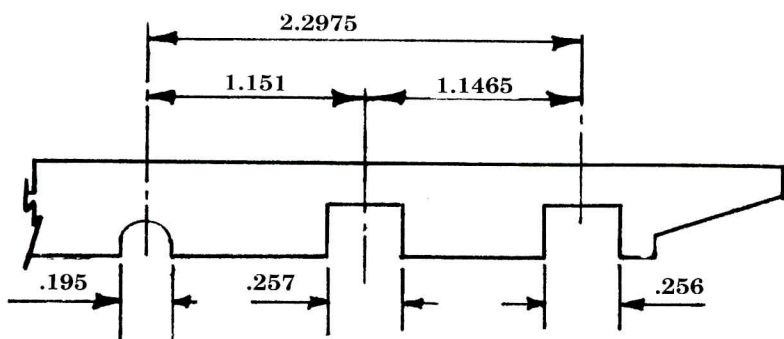


Figure 5. The author recorded these measurements for his frame. YOURS WILL DIFFER.

You've noticed that the rear axle bearing is only half a bearing, therefore it has straight sides below the top half-arc of the axle. Sure does help in this situation. Set the bearing down on your bench block so that the centering slot is up. Make a mark that you can see at one edge (front or back) of the bearing top. Now measure the thicknesses of both sides (front and back) of the half-bearing, making sure you don't get any of the curvature in the measurement. One side is thicker than the other. Make note which side is which with the mark you made on top of the bearing. Now, usually the rod measurement is a tad longer than the frame measurement, so what you are going to do is double-check all of your measurements up to this point, as we're about to get serious. Review Figs. 5, 6, and 7.

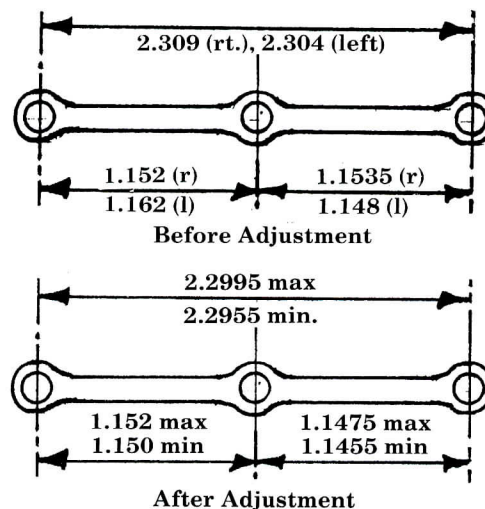


Figure 6. The author recorded these measurements for his side rods. YOURS WILL DIFFER.

Frame and side rods should be exactly the same length.

Axle no. 1 to axle no. 3:

Frame	2.2975	.0065	.0115
Rt. Rod	2.304		
Left Rod	2.309		

Axle no. 1 to axle no. 2:

Frame	1.151	.001	.011
Rt. Rod	1.152		
Left Rod	1.162		

Axle no. 2 to axle no. 3:

Frame	1.1465	.007	.015
Rt. Rod	1.1535		
Left Rod	1.148		

Differences should be + or - .002 max. for good operation.

Don't be surprised if your numbers don't exactly add up. Numerical error accumulation can occur due to slop in bearings. Your overall dimensions will be accurate to within + or - .0015.

Figure 7. Use this scheme to determine the mismatch between your frame and your rods. The actual numbers are the author's. YOURS WILL DIFFER.

If the side rod holes are spaced longer or shorter than the frame holes, take the rear bearing and, with a 6" or 8" medium-cut mill file, begin removing metal from the thin side of the half-bearing. Remove enough material so that when the bearing is in place with the filed side facing the direction toward which the axle has to be moved, the frame axle spacing is .001" beyond the point of matching the side rod spacing. (In other words, overshoot the correction by .001".) Check your work frequently, making sure the filed side of the bearing is **tight against the frame slot**. As you do this, you will notice a gap beginning to appear between the opposite side of the bearing and the frame. When your filing is done, place shim stock in the gap next to the fat side of the bearing (Fig. 8). Choose a shim thickness which allows the bearing to rock freely without twisting or moving from front to back. Notch the shim to fit over the pivot in the frame, and trim it to match the length of the bearing. Make sure the shim is deep enough to stay in place when the frame cover plate is in place. (Unless you had to remove a lot of material or your eyes are better than average, you will appreciate the little scratch you put on top of the bearing.)

Congratulations! You have now made the frame and side rod spacing the same for the front and rear driver. Of course, we've said nothing about the center (no. 2) axle yet. This axle is just going along for the ride, but you must deal with it anyway. Most of the time it's ok, but you have to check it and adjust it if necessary. (If you don't, Murphy's Law says you'll have trouble with it.) Do exactly the same as before, except determine your

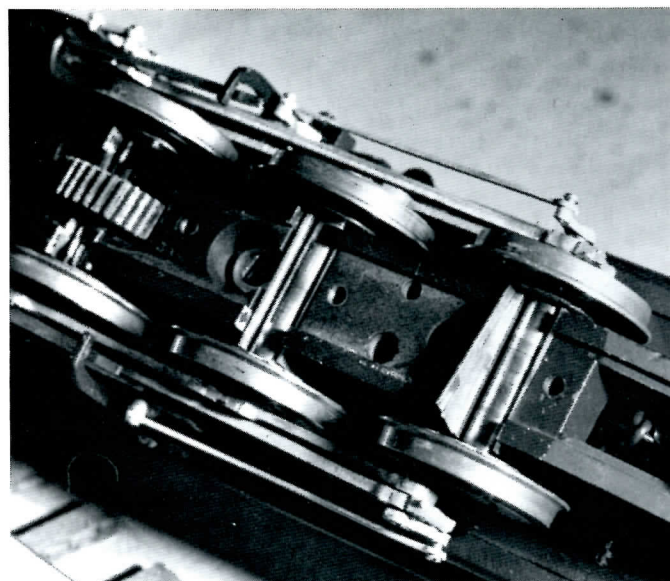


Figure 8. Here we see how the shim material is placed to lengthen the drive wheel base to match the siderods. (In actual practice, this step is done with all rods removed. See text.)

measurements between axle no. 1 and axle no. 2 this time. The no. 2 axle needs to be loose, but not really sloppy.

If you've gotten this far, I'm really proud of you! Next time we'll tackle the drive wheels. Stay tuned!

THE AMERICAN FLYER ENTHUSIAST

by Tom Nimelli

(Reprinted from the Cuyahoga Valley S Gaugers' Newsletter)

One Sunday we set up our club layout at the Trainmasters' Train Show in Mentor, Ohio. I proudly hauled out my new Illinois Central GP-20 set, added a few extra Christmas-sale boxcars, and happily watched the set, engine, six boxcars, and caboose roll around the layout. Earlier, when I check the engine for lubrication, everything looked A-OK. But after about 20 minutes the engine stopped in its tracks. The motor was working but the wheels weren't turning! To say I was unhappy was an understatement. I put my poor diesel in its box and got out the club's AF Pacific, which happily pulled the train for the rest of the day.

That night I took the diesel apart. The gear had come off the motor shaft. I discovered this through the following procedure:

1. Remove the two body screws and lift off the body.

2. Remove the "C" clip which hold the power truck to the chassis.
3. Remove the two phillips screws which hold the plastic gear cover in place.

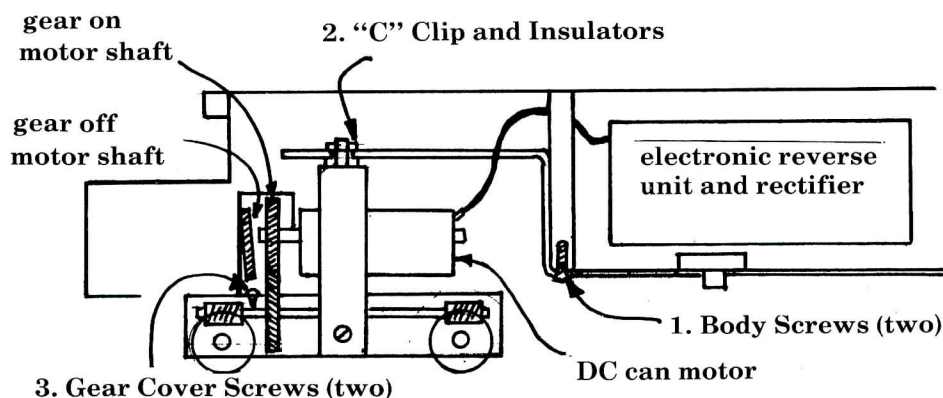
Then the loose gear fell out. It had merely been pressed onto the smooth round shaft.

After cleaning the shaft and gear hole, I reinstalled the gear, adding a drop of super glue to hold it in place (better, I hope!).

A permanent fix would be a square shaft on the motor, and a smaller gear cover with the shaft going through the cover so the gear couldn't come off.

Somebody out there might have some better ideas on how to fix this problem. But there are a couple of tricks that need to be done in the design stage to prevent this sort of thing. A unit should last longer than 20 minutes. I certainly hope that my experience is the exception and not the norm.

I expect a lot from my trains. I show them at train shows and mall shows and expect them to run for hours. I do not keep them as shelf pieces. These trains cost money, and it often takes me a while to save up for them. LGB, the big trains, run for hours or days with no trouble. I'd love AF to be that way!





A scratch-built GP-35 with a coal drag passes under Karl Goettert's scratch-built truss bridge. Deceased member Al Dawson did the GP-35 photoengravings in sheet zinc from Model Railroader plans. Hopper cars are AF "triple" bodies with Ace trucks.

THE INLAND TERMINAL MODEL RAILROAD CLUB

by Gale Irwin

Photos by Ed Loizeaux

The Inland Terminal Model Railroad Club was started in the fall of 1945 in a club room attached to a member's garage. All members worked for North American Aircraft, which later became a division of the Rockwell Corp. When the host member was abruptly transferred to North American's Columbus, Ohio division, the layout was torn up and as many sections as possible were salvaged.

The salvaged sections were stored in Karl Goettert's garage. Members continued to work on the yard sections until some permanent spot could be found. This "spot" materialized when Hansel Main's church outgrew its wartime Sunday School annex (a 20'x 40' wood building) and agreed to sell it to the club for \$1.00. All the club had to do was raise the money to buy a lot, buy the materials necessary (and find the time and energy!) to build a foundation, and hire a professional mover to relocate the building.

The ten members involved had many strained budgets and several unhappy "neglected" wives. Eventually the building was moved and the layout was restarted using the salvaged track modules. In 1959 a golden spike ceremony was held, with spouses, friends, and prospective members all invited.

Over the years the club has developed its own power supplies for the standard-gauge railroad. These include Variac (variable transformer) throttles, high-frequency lighting, and a block-occupancy system for the standard-gauge layout. A wall-mounted layout schematic of 1/4"-square plexiglass strips lights each track section when the corresponding actual track section is occupied by a train. The diagram also shows turnout position.

As is normal, the membership roster has changed as the years have gone by. However, it has become increasingly difficult to interest younger railroaders in switching to S scale, despite its many advantages. More and more quality HO and N scale rolling stock is available, and it appears that fewer and fewer people are interested in building and detailing rolling stock as opposed to building and operating a layout.

Now that "almost ready-to-operate" S scale equipment is available, we are hoping the trend will change, although the prices of the many excellent scale brass steamers and diesels at best are about twice the equivalent HO or N equipment. The new American Flyer equipment with its good operation also tends to draw off potential scalers,



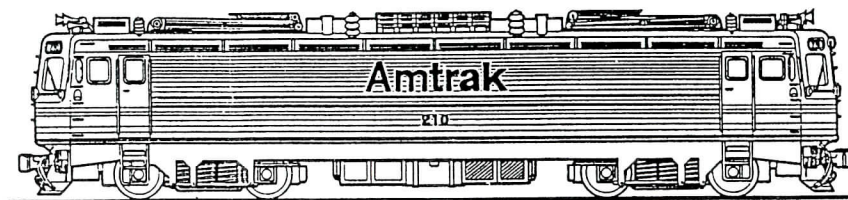
Some of the Inland Terminal members pose in front of their illuminated track diagram. Left to right are Pat Patterson, Al Aguilar, Bill "Mac" McArthur, Rick Johnson, Bill Schuh, Gale Irwin, and former member Jeff Kruger.

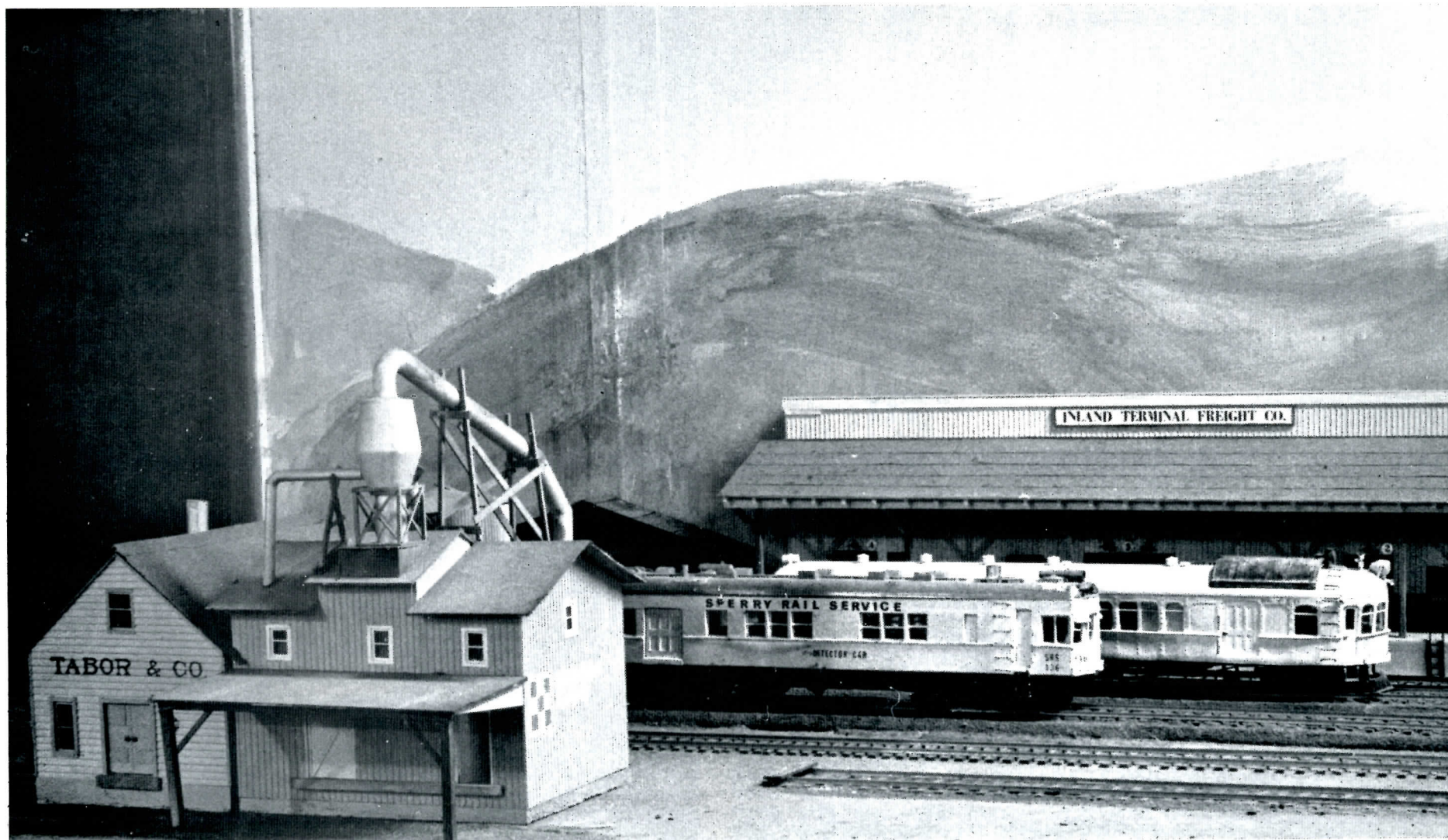
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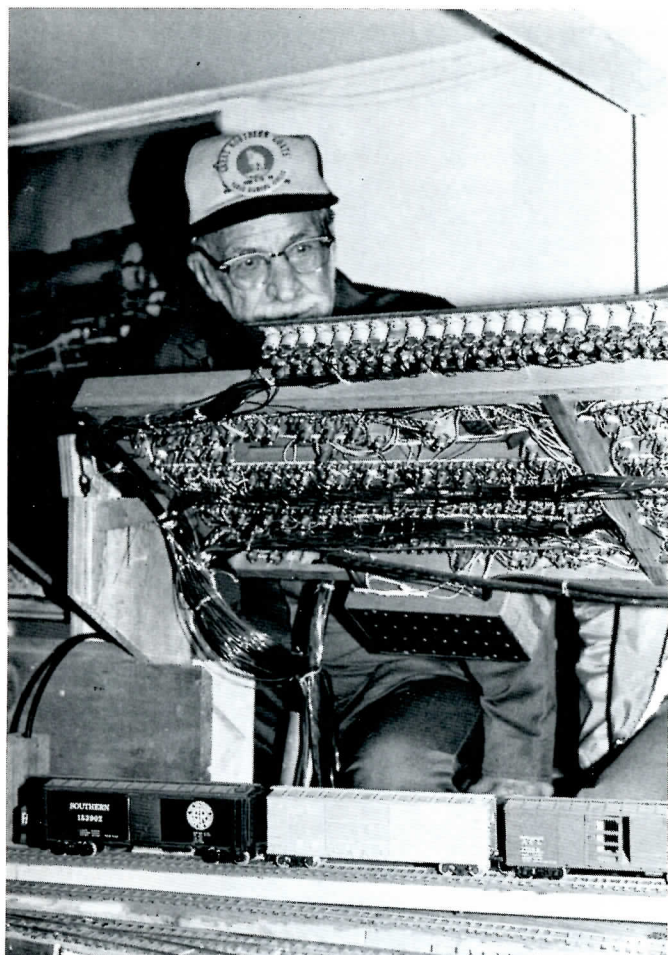
The prototype for this cute little "bicycle" 4-2-2, scratchbuilt by Mac McArthur, is Baldwin Locomotive Works No. 5000. The motor is in the tender. Mac's scratchbuilt combine also contains a motor and his own custom gear train. The combine's sides are formed from photoengraved zinc.

This composite of two shots, taken from the middle of the "river," shows the main yard area and offers several clues as to where some of the other photographs were taken. That's Rick Johnson's American Models FP-7 approaching the diamonds.





Two rail cars idle in a light commercial area. Tabor & Company's Purina Feed mill was scratch-built by HO member Fred Hill. Gale Irwin built the low-relief Inland Terminal Freight Co. warehouse. Deceased member Jerry Sternitzke's scratchbuilt Sperry Rail Service car is equipped with two motors; the second one powers the oscillating track-cleaning abrasive pads just visible behind the lead truck.



Pat Patterson mans one of the two two-cab main control panels. There are several other control panels of various sizes on the layout.

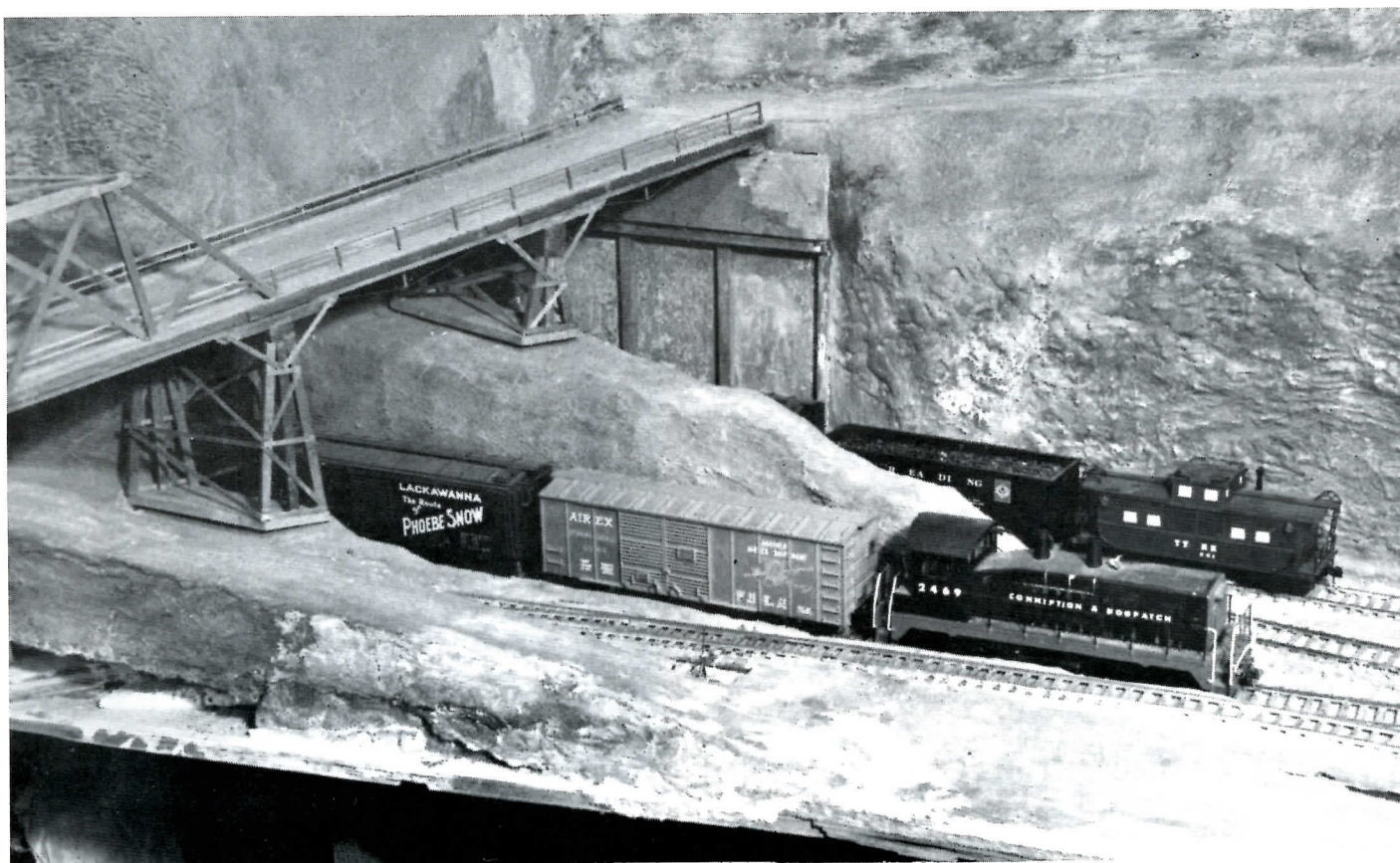
but with limited engine types (no steamers) and high prices, this effect is minimal.

Today the Inland Terminal has about 2000 feet of track. Of this, the 900-foot main line contains 200 feet of double track. Our last major trackage addition was about 140 feet of Sn3'6" (HO) flextrack. When the decision was made to go 3'-6" instead of 3', it was because it was much easier to convert HO rolling stock than to find Sn3 equipment, and far less expensive. Now there is much more Sn3 equipment available, so eventually the club may convert to Sn3 if we can entice the right members. To go with the narrow gauge, member Bill McArthur created his own electronic walk-around controls, panels, and power pack. Most of the current operation on the narrow-gauge track is with HO rolling stock. If we can entice some HO-ers to fill out our roster and expand the trackwork and scenery, it will be fine with us, although obviously S scalers are eagerly sought.

A look at the accompanying photographs will show you what the Inland Terminal is like after 43 years and many members have come and gone. The rest of my story is told in the photo captions.

Mac McArthur converted this AF Hudson to scale using S scale loco parts and a Lionel trailing truck frame. He also converted the flatcars in the background to scale. The strange-looking structures flanking the Hudson's cylinders are steam exhaust diverters designed to take exhaust cylinder steam and deflect it upward and away from the heads of waiting passengers.





Mac scratchbuilt this NW-7 from zinc photoengravings by Al Dawson. The caboose is AF member Rick Johnson's first attempt at scale building. It's a converted AF with Ace trucks. Karl Goettert scratchbuilt the overpass.



Gale Irwin converted this American Models plug-door boxcar to a mechanical reefer and finished it with Arden Goehring's "Victor" brand dry transfers. Tony Perles (deceased) did the artwork for the transfers. Note the radiator louvers, the open access screen, and the under-floor fuel tank. The building on the left is Gale's low-relief warehouse; the one on the right is Mac McArthur's partially-completed factory-warehouse with walls cast in Hydrocal.

The S-MOD System

CHECKING THE WIRING IN YOUR MODULE

by Don DeWitt

In July 1987 the NASG Board of Trustees voted to accept the S-MOD module system as the official physical, electrical, and operational approach to S module model railroading. The standards for the S-MOD system have been available since that time and have been enthusiastically accepted by most S gaugers. A number of clubs around the nation have built modules using the S-MOD system, and the ultimate S-MOD layout (up to this time) was constructed and operated at the 1988 NASG convention in New Brunswick, New Jersey (see photos). The layout was built with the modules from six S clubs and 52 individuals. A diagram of this layout was published in the October 1988 issue of the DISPATCH.

INTRODUCTION

This article is the first in a series that will describe the details of the S-MOD approach to model railroading. I have decided to write this series in a fashion similar to Steven Spielberg's approach to the Star Wars tales. In other words, I am not going to start at the beginning. I am going to start with a tale from the middle of the story. I need to do this because there are quite a few module builders out there that need some help with electrical matters NOW, rather than sometime six months from now.

This article is written with the assumption that you have built a module, laid the trackwork, and you are dealing with the electrical system. I have observed that the electrical system is the most confusing to many new module builders who may also be diving into the construction phase of model railroading for the first time. Others I have met have come from a club environment where the electrical guru did the wiring for the club. As convenient as that is for the club, it does not educate the other members very well. When the time comes that a person moves away from the club, or the guru moves away from the club, we are in "trouble city."

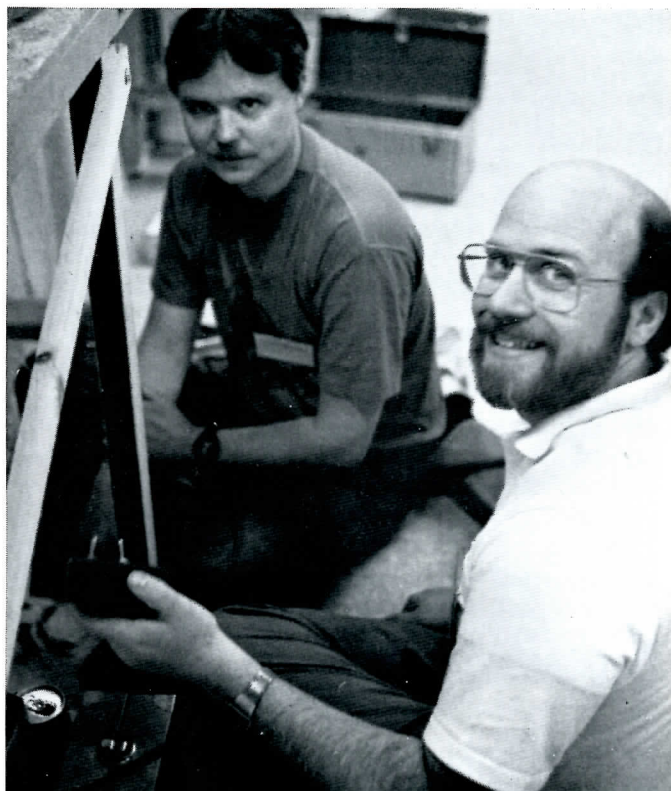
GREMLINS?

The problems first arise after you have installed all the wiring as described in the S-MOD standards. (A standards document is available through the NASG. There are at least four possible conditions that you may encounter.

When you try to run a locomotive on the module:

- 1) The loco does not run.
- 2) The electrical system shorts out.
- 3) The electrical system works ok at home but your module causes the layout at a modular get-together to short out.
- 4) The module operates fine at home and works great in modular layouts.

Hopefully, your module can be listed under category 4!! Unfortunately, about 95 percent of modules go through categories 1, 2, and 3 before arriving at 4. Category 3 is especially hard on the color and amount of hair on the head of your friendly S-MOD modular layout coordinator.



Bob Werre

Here's our intrepid author (right) with a colleague busily assembling a module at the 1988 NASG National Convention.

Anyone who has met me will now realize that I have dealt with a large number of category 3 modules.

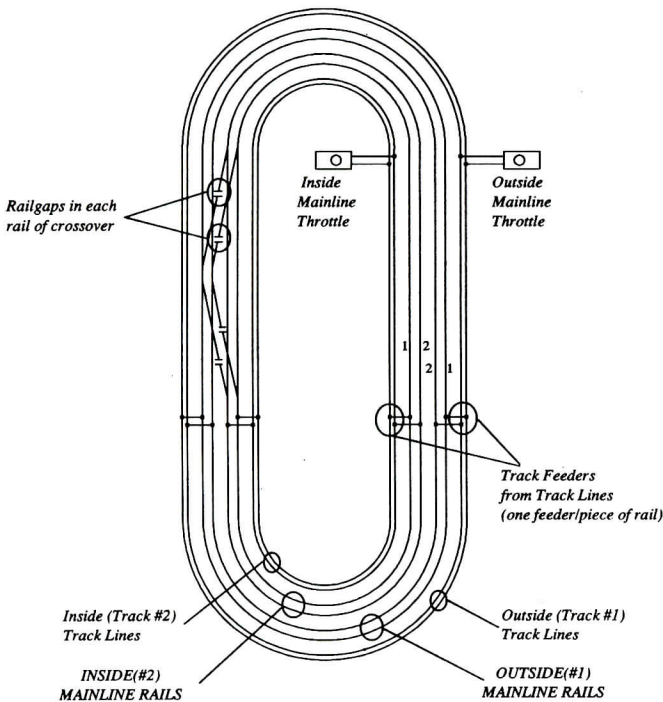
The remainder of this article deals with how you can ensure a jump from category 1 to category 4 and thus save the hairs on the head of your layout coordinator. In fact, with this information you should be able to jump directly to category 4.

BASICS

The S-MOD system allows for two types of modular layout operation. The only difference between these two types relates to the electrical system. The simpler system is called the "Wire-To-Rail" (WTR) system (Figure 1) and the more sophisticated system is called the "RailCAB" (RC) system (Figure 2). The WTR system has one throttle connected to each mainline. It is called "Wire" to "Rail" because each of the four 16 gauge wires running beneath the module (called TRACK Lines) is connected to a single rail. This is similar to the system that N-TRAK uses for its modular layouts. Because the WTR system is fairly easy to understand and implement, and because there is a large amount of N-TRAK material available, you are more likely to jump to category 4 with this type of module than with a RailCAB module. However, the WTR system is not identical to the N-TRAK system, so errors are still likely.

The RailCAB system has eight wires running beneath every module (Figure 2). Of the eight wires, the four center wires still act as TRACK Lines and are thus identical to the WTR system in that rails are still connected to these wires. The outer wires (called CAB Lines) are completely isolated from the center four wires, and therefore from the rails themselves. When these modules are used in a

S-MOD LAYOUT WIRING
Wire-To-Rail Subsystem
 (Figure 1)



RailCAB layout, throttles are connected to the CAB lines, not the TRACK Lines as they are in WTR modules. The electrical output of the throttles eventually gets to the rails after it passes through a control panel. The control panel allows the output of one throttle to be connected to either mainline or to both. This is the basic idea of a cab-control system. Each throttle is called a "cab."

In the RailCAB system, there are two types of modules: Run-Through Modules and Control Modules. A Run-Through Module is simply a WTR module with four more wires (CAB Lines) with connectors attached. An RC Run-Through Module thus can be used in either a WTR or RC layout. An RC Run-Through module is not too difficult to build and attain that wonderful category 4 condition. The more challenging type of module is the Control Module with its accompanying control panel.

CHECKING THE ELECTRICAL SYSTEM

The following procedure will show you how to check your wiring to see if it complies with the S-MOD standards. In this issue we will deal with double-track mainline WTR Modules and RC Run-Through Modules. In the next installment of the "S-MOD story" we will check out single-track modules and Control Modules.

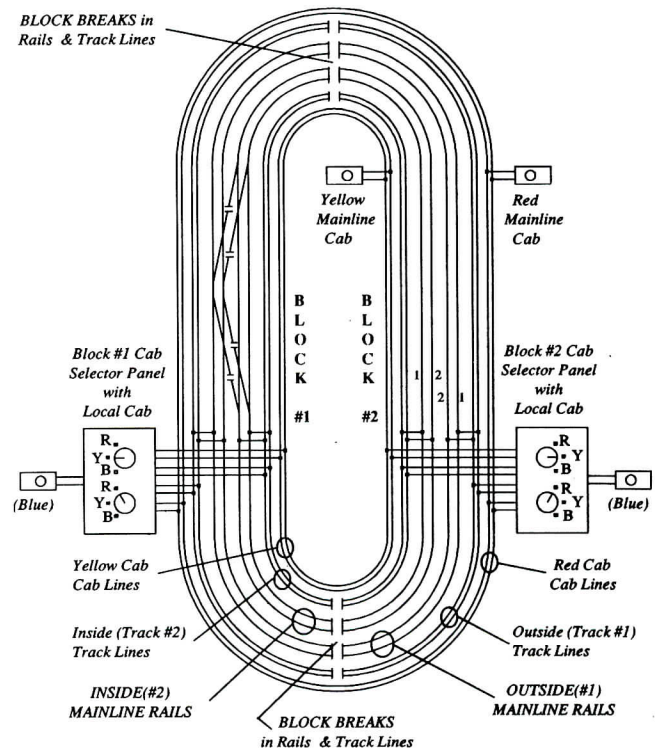
"Dropcords" are the S-MOD Interface Connectors and 16-gauge wires that hang from the ends of each module. These are used to connect to adjacent modules at an S-MOD Interface. The manner in which the dropcords are attached

to the terminal strips is critical. This is therefore a likely place for error.

Another source of error is the realization that when a module is drawn as if you were looking down through the top of the module, as it is in the S-MOD standards booklet, it will look different when you turn it over and try to wire it. If you stand on the viewer's side of a module when the module is being operated, the end of the module on the left is the WEST end (Figure 3). The right end is the EAST end. Remember that when you turn a module over, depending on which way you turn it, either the side closest to you when upright is now on the opposite side, or the east and west ends have been switched. In either case it is easy to get confused, so you should LABEL EVERYTHING ON THE BOTTOM of the module section just to keep the confusion level low. In my experience, I have found it very useful to draw a module schematic as if it has a glass top. Then I turn the drawing over, against a sunny window, and trace the diagram on the back. The traced drawing is now the view from under the module.

At the WEST terminal strip of your module attach the drop cords with plug connectors to terminal strip positions 1-2 and 3-4. In addition, the large pins on the connectors are attached to positions 1 and 3. This attachment is again critical and must be done as described. Drop cords with a receptacle are attached to positions 5-6 and 7-8. The large sockets of the receptacles are attached to positions

S-MOD LAYOUT WIRING
RAIL-CAB Subsystem
 (Figure 2)



This layout has two blocks.
 A layout with one block has **no** Block Breaks in the Rails (except in cross-overs between mainlines) and **no** Block Breaks in the Track Lines.

6 and 8. At the EAST end, receptacle connectors are attached to terminal strip positions 1 through 4 and plug connectors to positions 5 through 8. Again, large pins or sockets are attached to the positions closest to the outside of the module. When you finish, you should find at either S-MOD interface (i.e., either end), if the module is upright and you are looking down at it, that the plugs are always on the right and the receptacles are always on the left. This configuration makes the module reversible and allows for maximum flexibility in layout design.

Now . . . You Must Assume That You Have Made A Mistake Somewhere!!

The following setup should be standard procedure for every group of module owners. The equipment for a simple S-MOD electrical system checker is as follows:

1. An Ohmmeter with alligator clips attached to the red and the black test probes.
2. Two lengths of wire equal to the distance between opposite ends of the largest module that you plan to test. The gauge of the wire is not important. Eighteen-gauge zip cord (lamp cord) is convenient, however.
3. Two male S-MOD plug connectors which can be purchased at Radio Shack (274-201) or from electronics stores that sell Cinch-Jones connectors (P302-CCT).

If you examine the plug connector (Figure 3), you will find that it has a large and a small pin. You should solder one plug to one end (A) of the zip cord, and the second plug to the opposite end (B). Make sure that the large pin of connector A is soldered to the same wire that is soldered to the large pin of connector B. Next, solder the small pins to opposite ends of the second wire. The reason for this special cable (the "test cable") is to gain access to wires connected to female connector sockets and also to have a place for the alligator clips to attach.

The configuration for testing the Track and Cab Lines under each module is shown in Figure 3. For a WTR module, you use the same procedure as you use for testing wires 3, 4, 5, and 6 on RC modules.

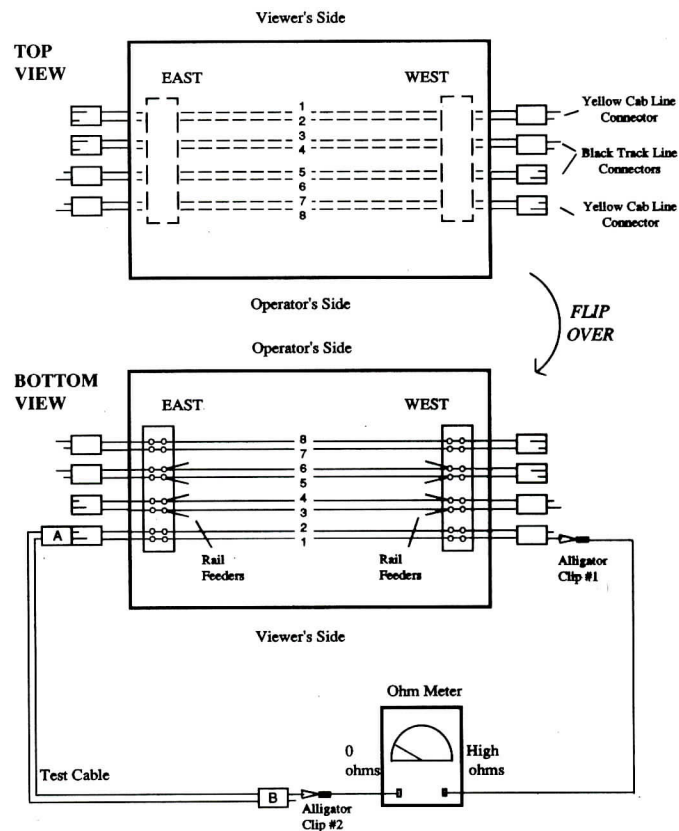
The goal of the following test procedure is to be sure that every one of the eight wires running beneath the module is completely isolated from its neighbor. In addition, each rail in a double-track mainline module should only be connected to one of the center Track lines 3, 4, 5, or 6. NEVER connect a rail to a CAB line!!

Test for Continuity

To test Cab Line 1, you want to know that you have a continuous connection from the large pin of the plug at the East End to the large socket of the receptacle at the West End.

- a. Connect the test cable End A to the East End Receptacle (the one connected to terminal strip positions 1 and 2) and attach one Ohmmeter test probe to the large pin on the opposite end of the test cable (End B).
- b. Connect the other test probe to the large pin of the plug at the West End Plug (the one connected to terminal strip positions 1 and 2).

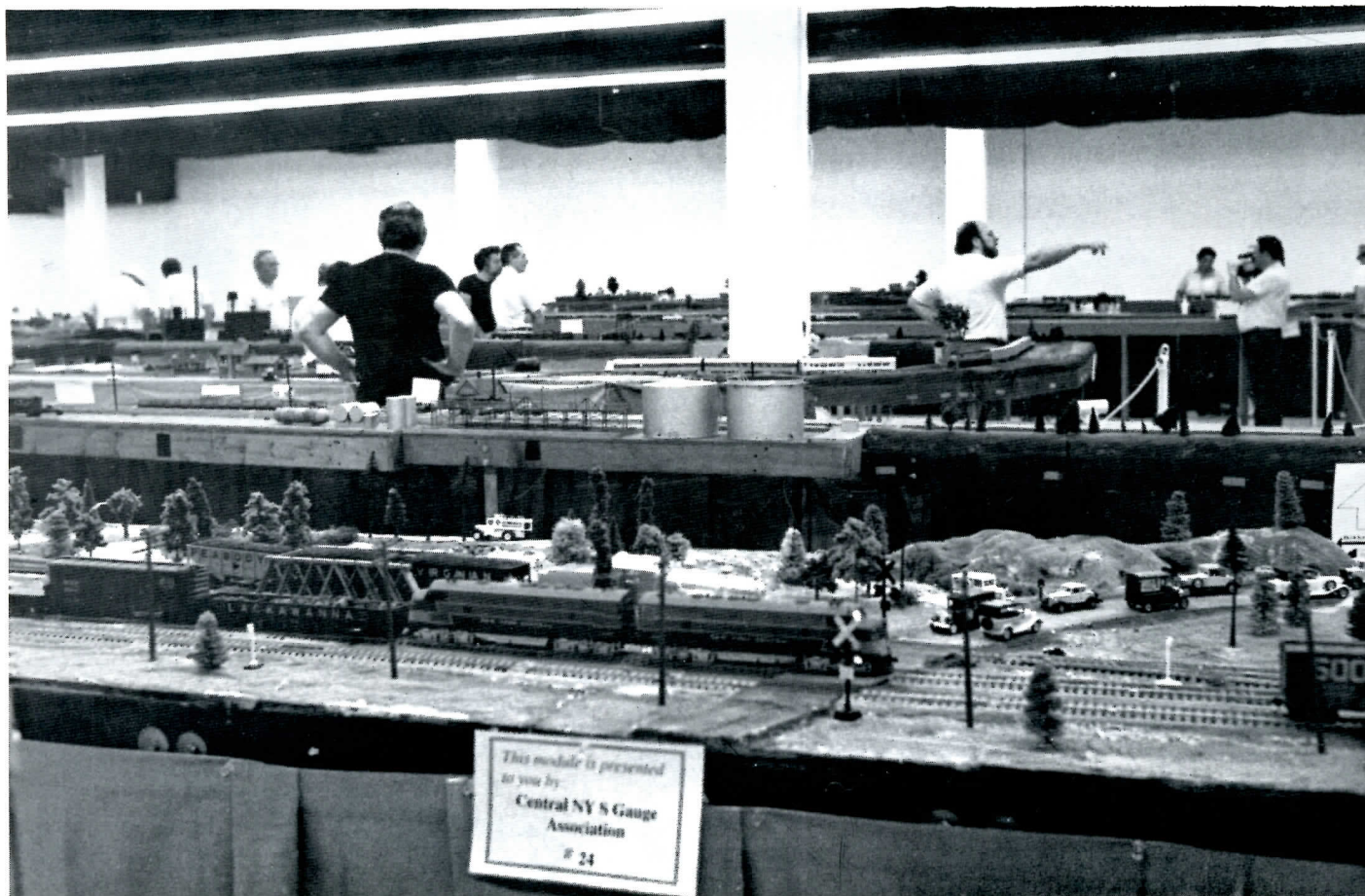
S-MOD LAYOUT WIRING
Electrical System Verification
(Figure 3)



- c. Turn the Ohmmeter to "ohms" and watch the needle. It should move to the zero position. This means that there is no resistance between test points and that you have a good test for continuity for line 1. If the needle remains at a high value, then the two test points are NOT connected and you have detected a problem. Correct it before continuing. Beware: A good test for continuity does not show whether the tested line is connected to any of the other lines. The isolation check is needed; it will follow the continuity check.
- d. To check the continuity of Cab Line 2, simply move the probes over to the small pins of the Test Cable (End B, Alligator Clip #2) and the Cab Line Connector (Alligator Clip #1).
- e. To test Track Lines 3 and 4, move the test cable to the adjacent black connectors that you believe are connected to terminal strip positions 3 and 4. Repeat the Ohmmeter test readings.
- f. To test Track Lines 5 and 6 and Cab Lines 7 and 8, the test cable must be switched to the opposite S-MOD Interface end so that you can access the receptacles at that end.

Test for Isolation

Remove the alligator clips from the Ohmmeter probes and move to one of the terminal strips. Touch one probe to position 1 and then touch every other position with the second probe. Only when you touch terminal 1 with both



Bob Werre

This view across the huge 1988 modular convention layout shows what can be done in short order by following the NASG module standards.

probes should the Ohmeter show zero ohms. In all other tests, the Ohmeter should show very high ohms. Continue testing by moving to position 2 and touch 3 through 8. Move to position 3 and touch 4 through 8, and THEN touch each rail above. Only rail 1 of the Outside Track should be connected to terminal position 3. Continue testing positions 4 through 8. Positions 4 through 6 should also be connected to one rail each. Positions 7 and 8 should not be connected to any rail.

You have now tested your S-MOD wiring. This testing process is often neglected by beginning module builders and invariably leads to problems at a later time such as when the module is brought to a layout for the first time. A thorough testing is a requirement for participating in the S-MOD way of life. If you feel that this is too much work, then buy some beer and find someone to help you. Do not bring an untested module to a modular get-together. Do not assume that you have made no mistakes. We are all human and we will continue to make mistakes, even after the 20th module you build. If you think you don't have the time to test your module, remember that the layout coordinator has even less time.

Hints

One trick that helps in the wiring process is to use different-colored 16-gauge wire for Cab Lines and Track Lines. In addition, using different color wire for each pair is useful. For instance, the following color scheme will

help to reduce errors.

Track/Cab	Wire	RAIL	TRACK	Connector
LINES	COLOR			COLOR
Cab #1	Red			Yellow
Cab #2	Yellow			
Track #3	Blue	#1	Outside	Black
Track #4	Green	#2	Outside	
Track #5	Green	#2	Inside	Black
Track #6	Blue	#1	Inside	
Cab #7	Yellow			Yellow
Cab #8	Red			

Note that to make an S-MOD module reversible so that it can be placed with either side facing the viewer, the wiring scheme is a mirror image of itself as if the mirror is placed between Track Lines 4 and 5.

Another hint for success is to make sure that you paint the Cab Line Interface Connectors yellow as indicated above. This is an S-MOD standard, but many fail to do this and disaster can follow.

In the next installment I will cover the testing of single-track modules and control modules. Until then, may your efforts be rewarded with straight rails and no shorts.



Here's AFSGSLA member Marty Glass nudging the coal mine diorama into place on the Famous-Barr display layout.

ST. LOUIS GETS AN S GAUGE DEPARTMENT-STORE CHRISTMAS LAYOUT

by Gerry Evans

Photos by Kim Gordon and Robbie Crusham

From Thanksgiving through Christmas 1988, an S gauge train display was jointly presented by the American Flyer S Gaugers of the St. Louis Area (AFSGSLA) and Famous-Barr Department Stores in Famous-Barr's downtown St. Louis location. This was the first working electric train layout in a downtown St. Louis storefront in 15 years.

Four loops of unswitched Gargraves track with a total linear length of 300 feet coursed the three levels of the display for twelve hours each day during the holiday season. The mountainous scenery, done as a snow scene, was constructed entirely from two-inch slabs of pink Styrofoam insulation board. After gluing and pinning, the slabs were sculpted into crevasses and peaks which reached seven feet from street level. The total surface occupied by the layout was about 400 square feet.

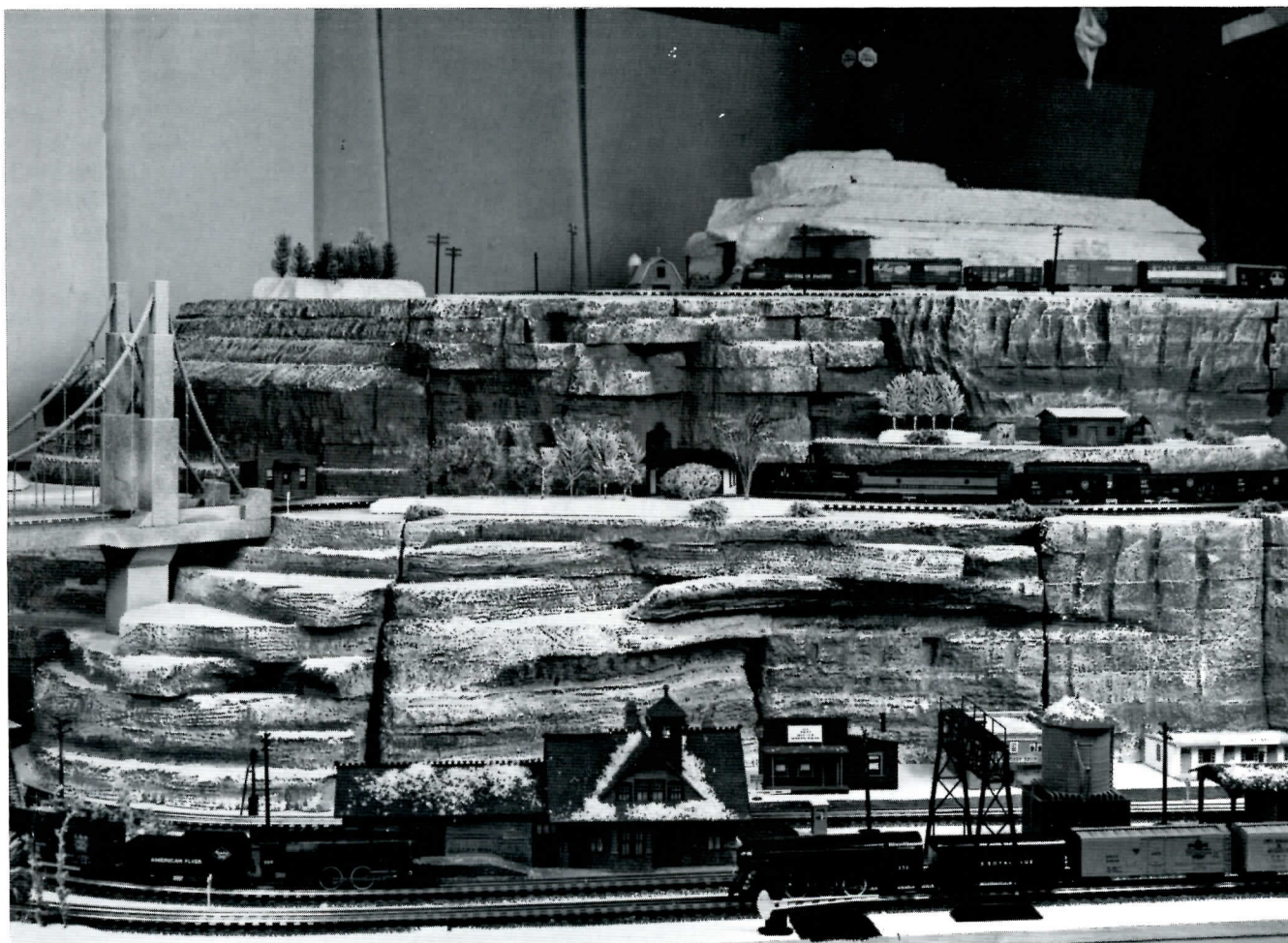
Motive power consisted of club members' American Flyer steamers which had been retrofitted with DC can motors, and American Models F units and GP units (the first in captivity). Likewise, rolling stock was made up of both old Flyer cars with American Models hi-rail trucks, and American Models boxcars, reefers, hoppers, and gons. Structures included scratch-built models, Plasticville,

FinestKind, Lehigh Valley, and Arkansas Valley Models.

Two unique features of the layout are the manner in which the roadbed was laid and the benchwork. To create a cork roadbed consistent with the gauge, the AFSGSLA-ers matched a piece of O cork roadbed with a piece of HO cork roadbed. The result was perfect for S gauge. The benchwork, which was constructed to custom-fit the display window by the Famous-Barr carpenters, had to be fitted into a "crazy-quilt" arrangement with no one section larger than four feet square. The size limitation was necessitated because the only access to the display was through a "people" door.

Work on the layout began over the Labor Day weekend, and continued through Halloween in warehouse space provided by Famous-Barr. The display was physically moved in two eighteen-wheelers from the warehouse to the display window over the weekend prior to Thanksgiving and was opened for public viewing on November 25th.

AFSGSLA members who participated in the project included Charles Albietz, Moe Berk III, Gary Bohn, Bob Bretch, Dave Daniels, Gerry Evans, Marty Glass, Bob Keith, Chris Leonhardt, Eric Leonhardt, Jim Louis, Pete Mihelich, Joe Molner, Gary Mueller, Cliff Saxon, Vern Schaeffer, Dave Stevens, Dave Svehla, Mark Wallis, and Jim Wagner. Club member Charlie Taylor conceived the project, negotiated the terms with Famous-Barr, and straw-bossed the undertaking from start to finish. Famous-Barr is a group of stores in the May Company department-store chain.



The finished display layout is really impressive. Famous-Barr is storing the layout after the holiday season is over for possible use next year.

1988 AF WABASH ALCO PA ELECTRICAL CONTACT REPAIR

as told by Pete Mihelich

It seems that the new Wabash Alcos have had their sideframes painted at the factory before the spring-loaded pick-up shoes were crimped in place on their backsides. The crimping does not always penetrate the paint, so the paint may act as an insulator on your unit. It did on mine.

There are no symptoms until you run your locomotive through a switch or crossing which has insulated running-rail material. Then the locomotive stops dead with one of its shoes directly on the insulated portion.

On the newer AF Alcos, the power unit wires are directly connected to the pickup shoes. Therefore, the wheels and trucks do not provide an alternate current pick-up path unless the pick-up shoes are grounded to

their respective trucks.

There are several ways to remedy this problem. Perhaps the simplest is to drill and tap some portion of the truck that doesn't show (truck chassis casting, back of sideframe, sheet-steel stamping which attaches the sideframes to the truck, etc., etc.) for a 2-56 machine screw. Then solder one end of an additional wire lead to the pickup shoe and the other end to the edge of a 2-56 brass washer. Then run a 2-56 machine screw into the tapped hole. Do this for each truck.

Another method is to solder a wire lead to the top of the stud which holds each truck to the body chassis — the part which is engaged by the "C" clip. Solder the other end to the pick-up shoe. The only problem with this is that the wires "handcuff" the trucks to the main chassis, so you have to unsolder them whenever you want to remove the trucks from the chassis.

Other solutions may occur to you. My main purpose is to alert you to the problem.

LETTERS . . .

Editor:

Regarding Mr. Mobley's unfortunate experiences with Sunset's articulateds, did he consider returning the locomotive and asking for a replacement? It would seem like a much easier solution than remanufacturing the running gear. In this area (Northern California), hobby stores selling S have test tracks to permit observation of running characteristics prior to purchase. The Train Shop in Santa Clara, for instance, offers to remove binds, lubricate, and/or repair models not to the customer's satisfaction. Even reputable mail order discount houses would probably attempt to exchange a defective unit with the importer. Rather than rebuilding a problem loco in order to sell it, why not simply ask for a refund?

Alan Loizeaux

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Room Rate \$59 (single or double occupancy),
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Contact hotel directly for reservations.

Mention your attendance at the convention.

IN-HOUSE LAYOUTS

A potpourri of Scale, Hi-Rail and AF operation will be offered through the display layouts which so far include the Greater St. Louis American Flyer Club, and The Heartland S Rails.

MODEL CONTEST

The traditional model contest will be featured with prizes and recognition.

EXHIBITS AND MANUFACTURERS

There is 5000' of convention floor space plus additional rooms for clinics and model contest. Meet many of the S dealers-both Flyer and Scale, S manufacturers and brass importers.

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Clinics include: How About Traction?, Collecting American Flyer, Modeling *Realistic* Water, Converting American Flyer Heavyweights to Scale, Quick Scenery, Prototype Practices for Modeling Tank Cars, Making Ground Throws for Gargraves Switches, Realistic Weathering and Painting.

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We have forty reserved tables for Dealers to sell American Flyer, S Scale, Highrail, Narrow Gauge and any other 3/16th model items.

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Ladies outside tour: Hallmark Visitor Center, Green Mill Candy factory, Missouri River Queen riverboat.

Evening activities include a microwave cooking class, and a hands-on candlewicking demonstration.

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All tours will be in air-conditioned coaches. Register early as space is **LIMITED** on some tours.

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Basic Registration Fees:

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Adult (Rail) **\$ 35.00** **\$** _____

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*Technical data provided by New York Central System Historical Society;
corrections and additions based on technical critique by Kent L. Singer.*