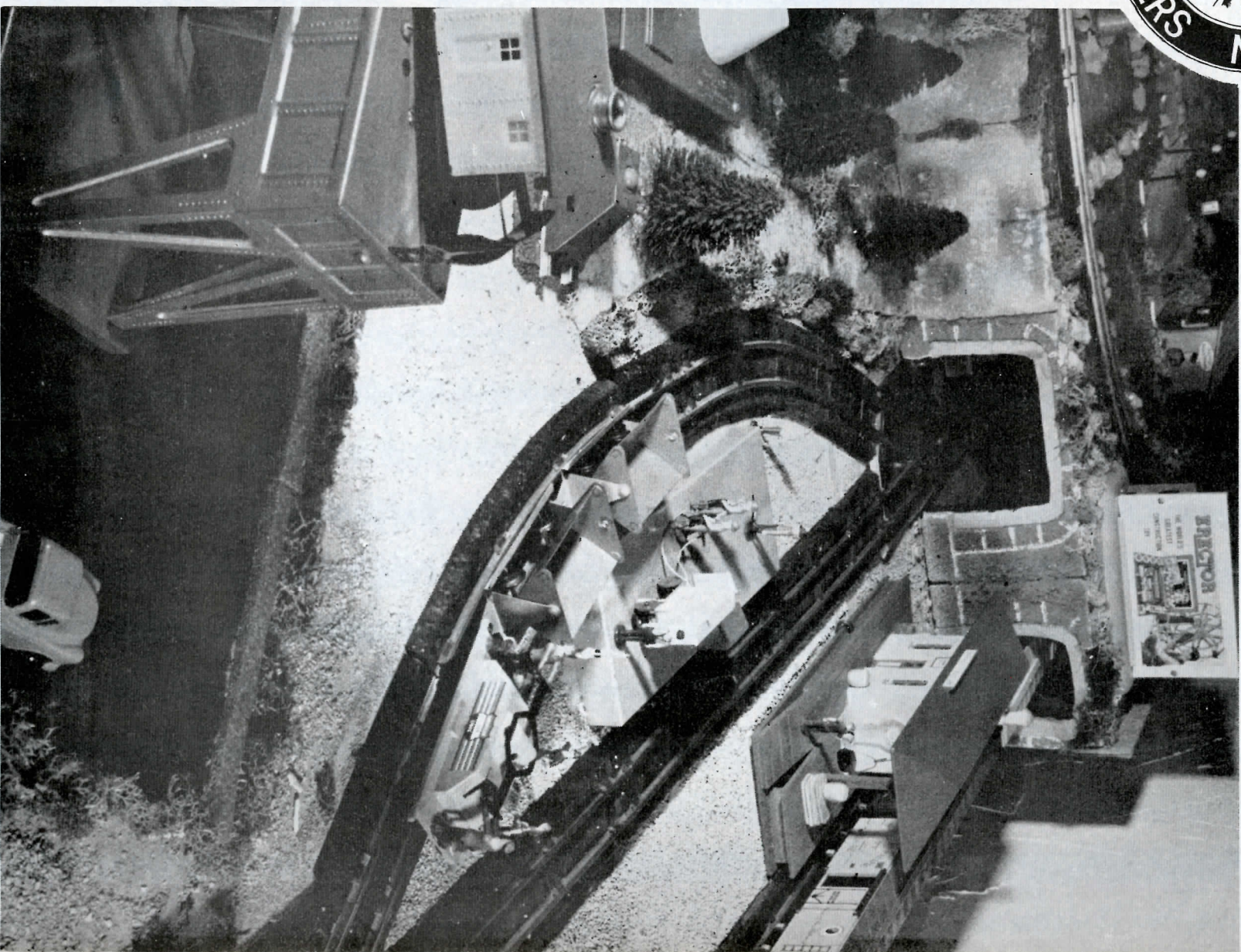




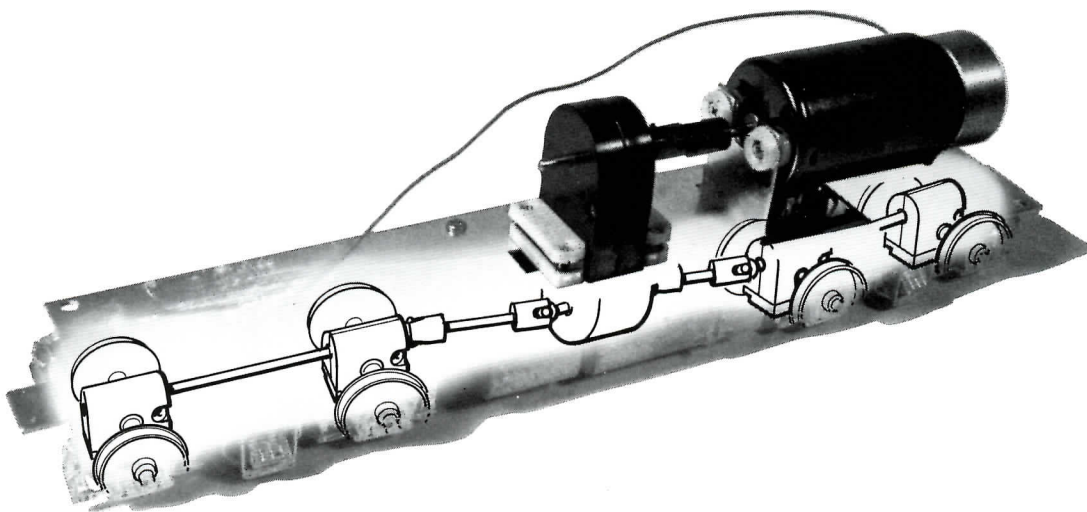
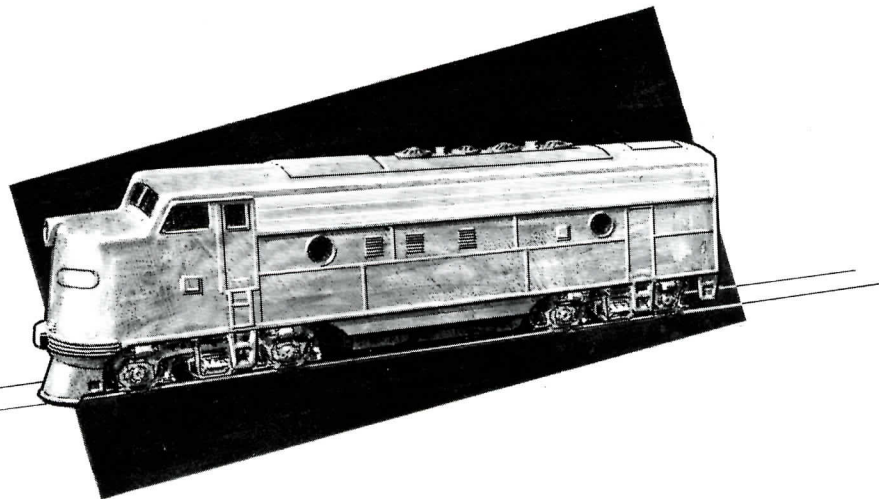
DISPATCH

August 1988
Vol. XI No. 3



OMNICON

EMD F's



Omnicon enters the manufacturing field with a fine running mechanism for Wabash Valley Models F Units. Coupler to coupler, this is the smoothest drive offered for S Gauge diesel locomotives.

The unit is completely assembled, ready for installation within the Wabash F Unit shell. It features a powerful can motor, North West Short Line gear tower and fully equalized four axle drives.

The kit contains a Wabash Valley Models F unit shell, the mechanism, Highly detailed SouthWind Models Blomberg side frames and all necessary hardware.

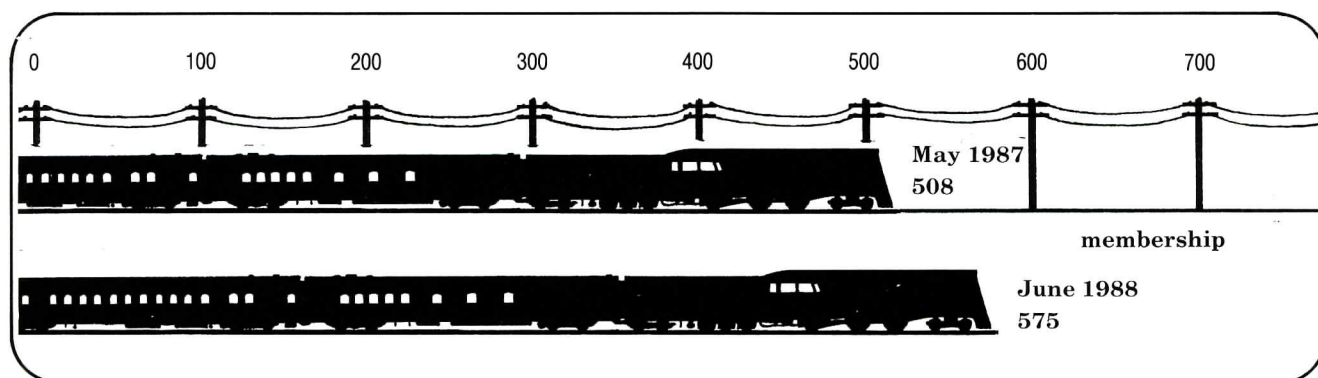
Ready for immediate shipment.....\$125.95 + \$3.00 shipping.

Remember - if its OMNICON, its DEPENDABLE!

OMNICON SCALE MODELS

50 S. LIVELY BLVD. ELK GROVE VILLAGE, IL 60007

DISPATCH	ORDER BOARD	Vol. XI	No. 3	August 1988
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 NASG dues are \$17 yearly from July through June, including all issues of the DISPATCH for the membership year irrespective of enrolment date. All applications, renewals, membership questions, and address changes should be directed to: NASG Inc. c/o Michael R. Ferraro 280 Gordon Road Matawan, NJ 07747 All rights reserved, including reproduction in whole or part, without permission of National Association of S Gaugers Inc. The deadlines for articles are the 15th of Mar., May, July, Sept., Nov., and Jan. for issues dated May, July, Sept., Nov., Jan., and Mar. respectively.	Editorial Dick Karnes 4 President's Message Ed Loizeaux 4 BOT Decisions 4 Letters 5 New Members 6 REVIEWER'S WORKBENCH 7 MANUFACTURER NEWS 9 SHORT 'n' EASY — The Six-Foot Bench Kent Singer 9 AN IDEA FOR SPLIT LEVEL Silas Kayle 10 RAIL JOINES — The State Line S Gaugers Silas Kayle 11 Announcements 12 ILLINOIS RAILROAD RELOCATES TO PACIFIC NORTHWEST Tom Hopman 13 TRACK CONSTRUCTION THE RUTLAND WAY Paul Riley 16 ELECTRIC SUBSTATION — Part 3 Steven Myers 24 Helper Service DISPATCH art staff 31			
COVER Tom Hopman's prized #594 American Flyer "Track Gang" accessory is the centerpiece of this scene on Tom "Hoppie" Hopman's layout in Rathdrum, Idaho. The #594 was produced in 1939-1941 for AF's O gauge line, and again only in 1946 for S gauge. Photo by Dick Karnes.	STAFF Dick Karnes Bob Jackson Silas Kayle Kent Singer Jerry Perkins Bob Werre Pete Mihelich Editor Associate Editor Club News Contributing Editor Artist Photography Publisher			



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EDITORIAL

We Visit Spokane

It seems that Ernie Horr, the **DISPATCH**'s first editor, puts out IESGAPN's newsletter, the **S-TRAIN RAIL**. He puts some darn good stuff in there, some of which we've wanted to reprint in the **DISPATCH** from time to time. Trouble is, there are no photos. So, deciding to remedy the situation, we drove to Spokane for a photo session. In this issue you'll find an article by Tom Hopman of Rathdrum, Idaho (a Spokane suburb) and accompanying photos of his compact, museum-quality American Flyer layout. In the future we'll present a bridge construction article by Ernie together with photos of the model, now installed on fellow clubmember Ron Tilton's layout. And we'll have enough photo material to show you Ernie's "Tinplate Road," which is scale and scratch except for wheel flanges and rail size.

* * * * *

A THEME . . . SORT OF

In this issue we're presenting a long unserialized article on a single subject — tracklaying. Master craftsman Paul Riley tells in detail how you can produce visually and operationally flawless track with both commercial and hand-fabricated components. (Of course, there are also other articles for — well, the rest of you.)



PRESIDENT'S MESSAGE

UNITED

An interesting letter crossed my desk recently. It was from John Wickland of the Badgerland S Gaugers, and it discussed the theme of their upcoming Fall S Fest. The theme of this event is to unite all S gaugers. A custom-painted refrigerator car will be offered with the NASG coupler logo surrounded by lettering which includes the words "scale," "collector," "tinplater," "hi-railer," "operator," "narrow gauger," etc., etc. A very creative idea indeed! Judging from my mail, the Fall S Fest appears to have been primarily an AF-oriented event that is now making a tremendous effort to attract scalers. I applaud these intentions and wish this regional convention the utmost of success. The "UNITE" theme is a very welcome sight to these tired old eyes, since S has frequently suffered from problems of interest-area disharmony in the past.

In addition to the Badgerland activities, there are several other signs of unification in S these days. NASG, for example, is now offering a genuine Lionel/AF freight car for sale to members only. Believe it or not, the prime mover behind this breakthrough project is a rivet-counting scale purist who complains if wheel treads are not exactly .110" wide. Don Thompson's efforts brought this project to reality at the expense of his spending time on one of his many scale activities. With a broader perspective, it can be said that every scaler who

purchased an NASG brass covered hopper or tank car helped fund the AF car project. When NASG's BOT decides to spend some of the AF project profits on a scale item, it will be easy to see how we all benefit from cooperation and unification.

Stan Stokrocki, a scratch-building, kit-bashing contest winner of national renown, wrote a **DISPATCH** article explaining how to convert the American Models FP-7 to AC operation for AF layouts. Scaler Don DeWitt has spent considerable time and effort developing modular standards that are compatible with both tinplate and scale equipment. Don has also taken special pains to integrate all types of trackwork into a single modular layout at the New Brunswick NASG national convention. Kent Singer, another scratch-building contest winner, spends much of his time revising NASG's contest rules so that AF and hi-rail members can compete on an equitable basis. As if that weren't that NASG has, in recent years, pursued a policy of togetherness that benefits everyone. To whatever extent NASG motivates the actions of others, the various clubs, manufacturers, and individuals have responded well. I'd like to encourage more togetherness in S and would appreciate any comments the membership may have pertaining to this general area.



BOARD OF TRUSTEES BUSINESS

A motion to accept the bid for the 1989 Kansas City NASG convention as submitted by the Kansas City club was approved 4-2-1 (Peck & Loizeaux, Ferraro).

CORRECTION

The photo on page 9 of the June **DISPATCH** (Vol. XI No. 2) is incorrectly captioned. The Omnicon F-3 is on the **right** in the photo, not the left. Our apologies to Omnicon and the readers.

LETTERS...

Editor:

I personally feel the [River Raisin Airslide hopper car] review is negative in tone. I'm disappointed in the fact that [you are] the editor of the **DISPATCH** and I'm afraid [your] viewpoint will be carried throughout the magazine. This may be a bad move on the future of the organization. There are only a few importers that support 'S' scale and [your] magazine; I would think [you] would appreciate our efforts.

[Your] comments are well taken, but each manufacturer must make each car in an affordable price range. I'm sure a \$250-\$300 Airslide wouldn't sell.

Thomas E. Marsh, President
Overland Models

[We stand by the facts as presented in the review. We also accept the right of others to express their views.—Ed.]

Editor:

The electric substation construction series which started in the March 1988 **DISPATCH** should be interesting. The model is eye-catching, especially with the shadow it was casting in the photograph. In the proper setting it would be very convincing.

While we're on the subject, I would like to point out that Bob Jackson's assessment that huge stationary diesel engines drove the generators prior to WWII is in error. What Bob may have been referring to were the huge stationary **steam** engines which may have been in use in those days. However, these steam engines were becoming relics of a gentler time. Although they helped usher in the age of electricity, they were slow, lunky, and obsolete even before WWI. Prior to WWII, the predominant means of driving generators were steam turbines and water turbines. Steam engines and diesel engines were limited and incapable of powering a 50,000 kw state-of-the-art generator. A 50,000 kw generator requires a 70,000 hp engine to drive it at the proper speed. This is the kind of horsepower only a turbine could deliver. A coal-fired boiler feeding a high-speed steam turbine driving a generator was the norm in the 1930s

and would not be out of place in a model railroad of that period.

Now that I think of it, my railroad could use another market for all the coal I plan to have hauled around.

Jim Futules

Editor:

The June **DISPATCH** arrived today, and I am pleased with the tremendous improvements which you have brought about thus far in your editorship.

However, there is something about NASG which concerns me. I received the questionnaire from Doug Peck with the **DISPATCH**. He expressed a preference in his introduction that only the AF/tinplate segment respond (though scalers were not denied that privilege).

I question the use of NASG monies and organization to fund and promote "the manufacture of quality [tinplate] reproduction items." I have no problem with the NASG occasionally sponsoring a scale or tinplate car for fund-raising, but I am distressed to see a potential raid on the treasury by the toy-collector segment of NASG's membership.

The main reason I came back to 3/16" scale after 30 years in HO was that finally the tinplate image was on the wane and quality scale products were coming out. It is not the proper role of the NASG to promote the manufacture, distribution, and marketing of tinplate — or scale either. That risk should be taken by private entrepreneurs. It is the role of NASG to promote quality standards for manufacture, and to encourage participation in 3/16" modeling (as opposed to other scales). It is the role of NASG to encourage 3/16" modelers to support those manufacturers whose products meet NASG standards. It is the role of NASG to point out how S modelers can utilize current products, like converting AM equipment for tinplate or highrail usage, or converting tinplate equipment for scale usage.

Let's use NASG to promote the products of those businessmen who are **now** (not 30 years ago) delivering new quality scale products, rather than allowing NASG to be used to cater to toy collectors.

Keep up the good work.

Oscar W. Kimsey Jr.

Editor:

This letter is to respectfully disagree with your review of the Omnicon F-3/F-7 diesels in the June 1988 **DISPATCH**, just received.

Contrary to the remark that there are no defects, I found several. The reviewer apparently never saw the B-unit. Whoever reworked those dies for Wabash Valley changed the B-unit sides from the prototypically-correct three porthole windows to the two-window, four-louver arrangement of the A-unit; a clear error, but one that a careful modeler can correct on the bench. If you want to get fancy, model the hinge at 9 o'clock on the center window, or maybe even make it operable.

If those dies were going to be reworked as much as we heard they were, why wasn't that oddball angle on the blind ends corrected? Enhorning wanted to represent the roof overhang of the earlier Fs, so the entire end was angled to eliminate negative relief. Ironically, later F-units lacked the overhang anyway. I don't think it is worth rebuilding the ends on the modeler's bench, but the angle is noticeable. Same goes for the number boards; only E-8s and E-9s had flush ones. I don't think casting the flat one on is that much of a problem — the brass replacement SouthWind offers does not allow for backlighting without much hand-work.

Why isn't the photo on page 9 set up to emphasize the Omnicon unit instead of putting it in the background? After all, it is the subject of the review.

I have only test-run my three units so far; they are very stiff and need work. The wheels all gauge the maximum or wider than the NASG standards gauge allows. To make it worse, my track is gauged with a gauge I have used since 1960, which is narrower, giving me more problems. But that is another can of worms.

David J. Engle

[Ed. Note: No, we didn't see the B-unit. Nor did we try to review the Wabash Valley shells per se, because they are known products reviewed elsewhere earlier. In any case, detail anomalies are not "sample defects" (explained (Continued on Page 6))

Letters...

(Continued from Page 5)

in the March 1988 issue, page 9). We did not find any stiffness and gauge problems, and so would define those situations as sample defects too. We suggest you contact Omnicon if you are dissatisfied.

Our caption was incorrect. The Omnicon unit is in the foreground (right) in the photo.]

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GOT AN IDEA? *Perhaps you've created some detail to stick along your right-of-way, set on a loading dock, dress up a building, etc., etc. We're always looking for fresh projects. If you'd like to contribute, the rules are simple: The project should be somewhat related to railroading, and it should be capable of completion in one or two evenings. You needn't worry about drawings or photos — we can do them for you. All that's necessary is a sketch of the project with some dimensions, a list of the materials, and a short description of how to build it. Submit your ideas to:*

SHORT & EASY
Kent L. Singer
105 Highland Dr.
Baldwinsville, NY 13027

WELCOME NEW MEMBERS...

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James Wolf

Welcome
Velkommen
Bienvenue
Välkomna

REVIEWER'S WORKBENCH

HOMA-BED Homasote Roadbed (BO Manufacturing, RD3 Box 357B, Kingston, NY 12401 until Sept. 30, 1988; thereafter RD 7 — Box 363B, Kingston, NY 12401, \$27.50 east, \$29.50 west, postpaid, per box of 24' curved, 36' straight, 1/4" thick. Other combinations available; prices vary. Write for informaton.)

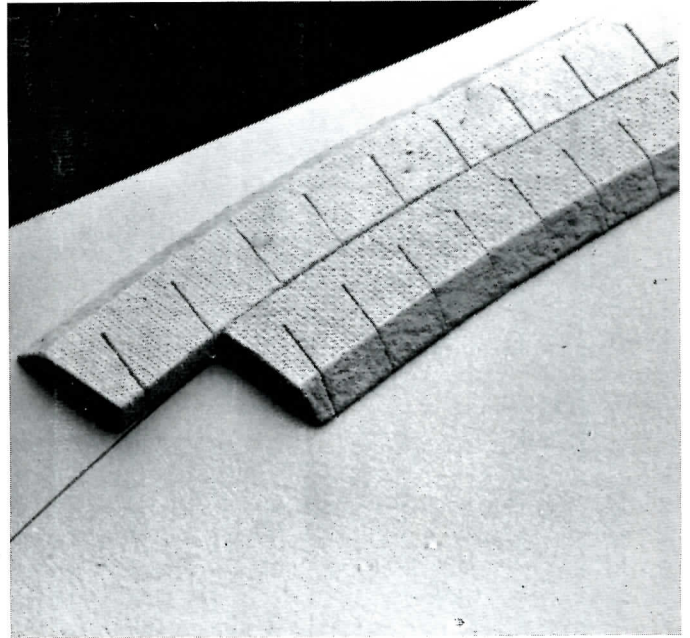
Is it a dust storm? Is it a representative sampling of typical Los Angeles freeway air? No, it's you being foolish enough to try and cut your own Homasote with a table saw or, worse yet, without one. The amount of debris that this operation kicks up into the air is phenomenal and the stuff just seems to get everywhere.

For the trains which I have in my office, I used a carbide-tipped table saw blade. By the time I was finished there was Homasote in my hair, eyes, throat, and probably a few places I'd rather not mention. Don't despair! There is a simpler and better solution to providing a great sound-deadening roadbed for your choo-choos. The product is Bill Oehler's Homa-Bed. Bill is willing to cut up the Homasote for you and, better yet, to put angled slots ("kerfs") in it so that you can bend it around your tightest curves or the face of your most critical visitor.

I have used just under 2000 feet of Bill Oehler's product and can say without hesitation it is terrific. Currently you can purchase Homa-Bed for an average price of about \$30 for a box of 60 feet. The standard size is 1/4" thickness with the top surface being 1-7/8" wide and the bottom surface being 2-3/8" wide. However, Bill can be persuaded to make it 5/16" thick, with top and bottom widths of 2" and 2-5/8". Price is slightly higher, and the minimum order without a set-up service charge is three boxes. Thickness uniformity is excellent.

A box of Homa-Bed can be purchased in straight sections (unslotted), curvable sections, or a combination of the two. Homa-Bed comes in three-foot lengths, split down the middle. The curvable variety consists of one half-strip kerfed on the centerline side, and other kerfed on the outside. This design allows you to install Homa-Bed precisely along a centerline marked on your layout, and also lets you curve the pieces so that the kerfs always close up on curves. This last advantage is a great ballast-saver!

Bill also sells boxes of unbeveled, unsplit material and instructions for turning these into turnout blocks on which to place your switchwork. Alternatively, Bill can furnish complete turnout blocks on special order.



Bob Werre

HOMA-BED is easily installed to follow a curved centerline.

Perhaps the best part of the whole deal is that Bill not only writes long and detailed instructions clear enough so anyone can understand them, but is also more than happy to answer in writing any inquiry dealing with model railroading. If you want an even quicker response, call him on the phone and he is likely to go on at great length about the various applications of his product and trains in general.

Bill strongly recommends you paint the Homa-Bed with grey latex paint prior to driving spikes in it. Since I am using hand-laid ties, I sealed the top of his product with the glue that holds the ties in place.

Usually you pay dearly for convenience, but not so here. Several of us calculated out what it would cost just to buy at retail the basic product in sheets. By the time you finish paying for transportation et cetera, it turns out that the do-it-yourself cost is only slightly less expensive than Homa-Bed. Of course, this doesn't take into account the grey nose and lung disorders which you will undoubtedly have should you choose to cut up even one sheet without proper respiratory protection.

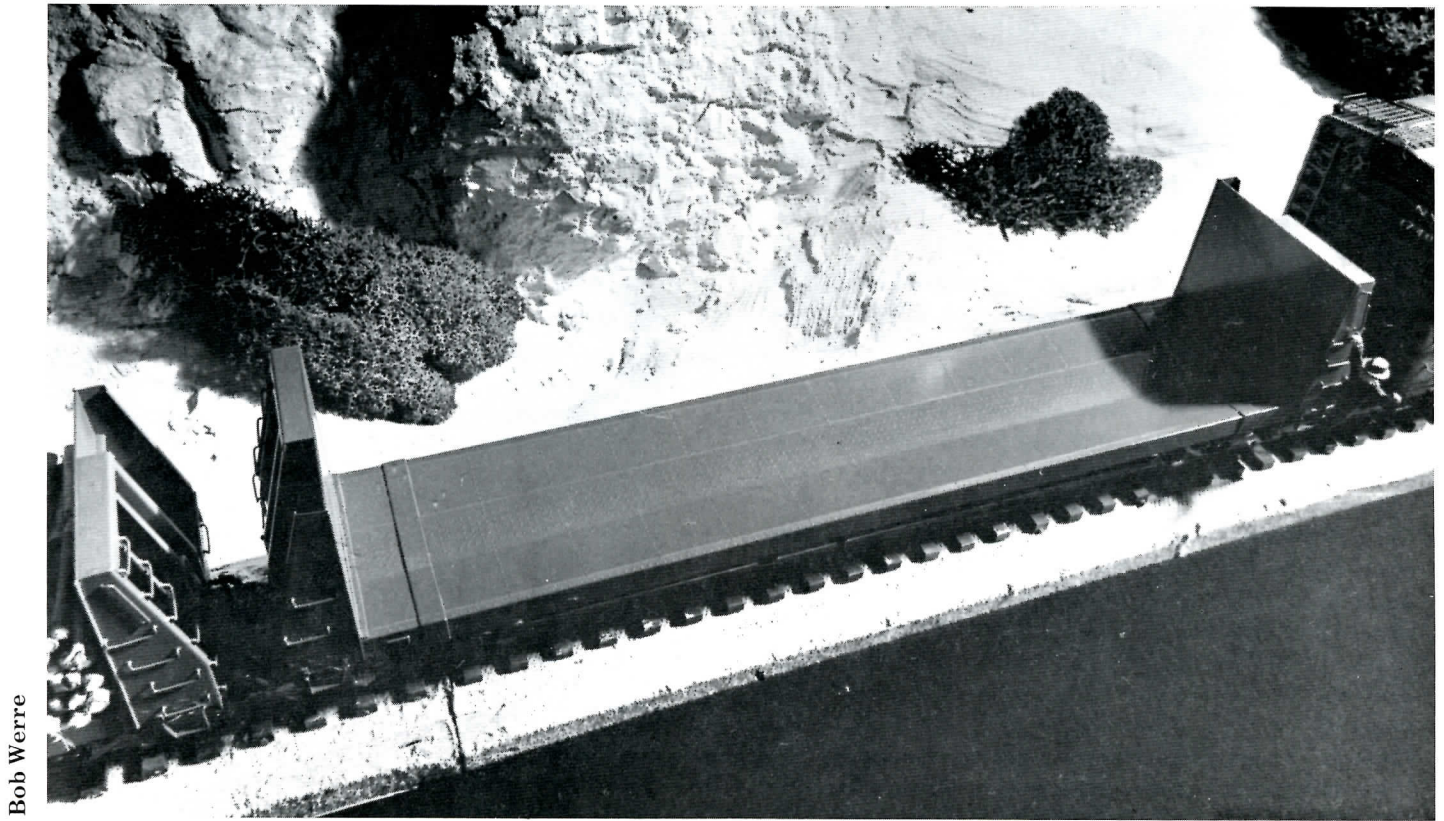
I recommend Bill, his company, and the product. It is nice to see something that makes scale model railroading easier.

Larry Sokol

(Continued on Page 8)

REVIEWER'S WORKBENCH

(Continued from Page 7)



Bob Werre

Southwind's CG/SR pulpwood car deck is loaded with rivet detail.

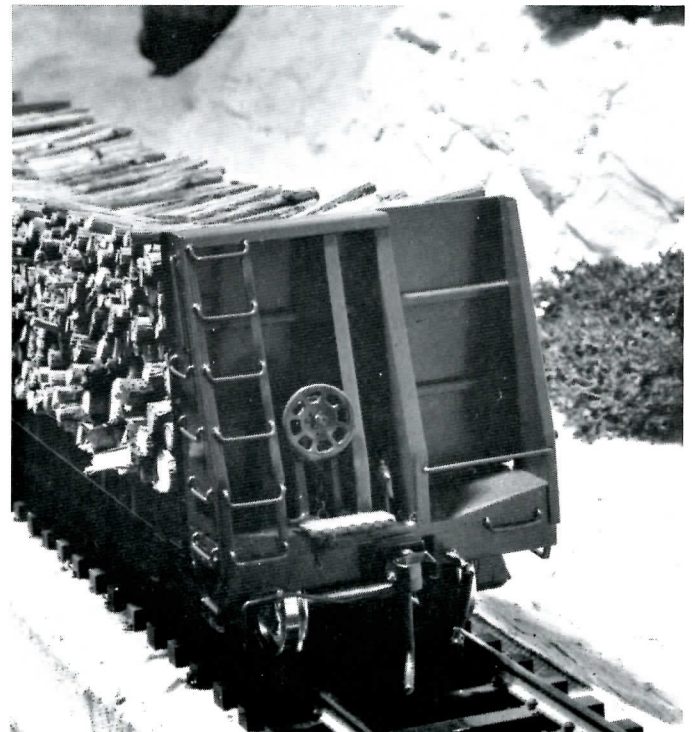
Central of Georgia/Southern Ry. FR-3 Pulpwood Car (SouthWind Models, P.O. Box 9293, Plant City, FL 33566, \$79.95 retail, painted but not lettered)

This well-detailed model is crafted primarily of stamped and formed brass. Rivet detail, which is copious, appears to be punched (rounded) rather than photoengraved (flat), thereby reproducing prototypically-rounded rivet heads. All soldering is neat. Some parts, including the brake relief valve, angle cocks, gladhands, brake cylinder, air reservoir, triple-valve, and truck bolster and sideframes are cast brass. All underbody piping and rodding is present and well-executed. Cut levers are already installed. Nickel-silver 33" wheels are gauged to NASG standards. The nicely-detailed sprung plain-bearing trucks have inside-hung brake shoes cast in place. The entire car is neatly painted a semi-gloss tuscan red (freight car brown) except the wheels, which are left unpainted.

Plans and photos of this car appear on pages 96-97 of the January 1966 **Railroad Model Craftsman**. All major dimensions scale out precisely with the plans. Detail execution is crisp and accurate, including the trucks.

Coupler pads are tapped for Kadее S scale couplers. However, the screws furnished with the car are too

short to hold the coupler box in place. The screw holes in the box may be relieved (countersunk) a bit to allow the furnished screws to be used. Kadее



Bob Werre

This view of the pulpwood car's brake-wheel end shows a Kadее HO No. 5 coupler installed. Sure looks good with a load of wood.

No. 5 HO couplers fit perfectly without modification if you use a single center screw.

The kingpin pads were not horizontal, and the kingpin springs are too stiff to allow all wheel treads to contact the track. Level the pads with a broad flat file. Omit the spring from one of the kingpin screws so the car will track well through superelevations and track irregularities.

Sample Defects

On our sample, the right half of one end sill was pushed in somewhat. A slight prying with a thumbnail corrected this. The angle cocks were bent up sideways across the coupler opening. One yielded to straightening; the other broke off. Careful!

The air reservoir was canted upward to the outside of the car; it should be level. However, straightening the reservoir mounting would require some solder work, which in turn requires paint removal. You could probably live with it as is; I can.

Three of the four truck sideframes were warped such that one or both journal boxes were skewed end-to-end out of alignment, causing axle bind. This problem must be solved for both visual and operational reasons. We chose the easy way out and exchanged the trucks for another pair from Southwind.

MANUFACTURER NEWS

Omnicon Scale Models (50 S. Lively Blvd., Elk Grove Village, IL 60007) has some good news. They are going ahead with the PRR passenger cars in plastic, and they have also signed a contract with a British firm to produce Baldwin RF-16 "sharknose" diesel bodies for their F-unit drives.

SouthWind Models (P.O. Box 9293, Plant City, FL 33566) has really been active lately. Pilot models have been received for the PRR H31-b composite and H31-c all-steel rebuild twin hopper cars. Expect a September 1988 delivery. SouthWind also has pilot models for a Reading express boxcar with steam and dual air lines and Taylor trucks, and a companion freight version with single air line and Bettendorf trucks. Estimated delivery: October. As if these weren't enough, pilot models for three flatcars are in. These are a 53' Erie car and two PRR cars — a 40' riveted flat and a 51' welded-side flat. Southwind estimates October for these also. Expect optional dual packaging and pricing of some of these.

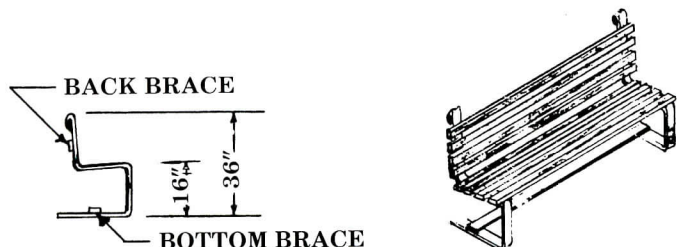
Pilot models expected soon are mill gondolas with working drop ends (63' PRR and 62' ATSF).

SHORT & EASY

by Kent L. Singer

THE SIX-FOOT BENCH

This project is the result of a late-night bull session. The workshop was over for the evening, and I was bemoaning the fact that I haven't been receiving any ideas for the column. Bob Eves suggested a bench, the type that you might see in a park, or more interestingly, on a station platform. A week later, Mark Waelder had gone out and measured one, picked out some materials, and had built up a sample model. The result is presented here.



Designed by Mark Waelder,
from a concept by Bob Eves

WOOD SLATS: 1"x3"x6' LG
BRASS BRACES: 1"x4"x5'8" LG
BRASS UPRIGHTS: 1"x4"
PAINT: PULLMAN GREEN



Bob Werre

(Continued on Page 10)

SHORT & EASY

(Continued from Page 9)

The materials are simple enough, 1/64"x 1/16" flat brass wire and .020"x 3/64" (HO 2 x 4) stripwood. The wood slats are (as you can imagine from the title) six feet long. There are four on the seat and four on the back. The brass braces are only 5'-8" long, so that the slats overhang the uprights by 2" on each end.

Start by bending the two uprights (use the drawing as a bending pattern). I found that they could be bent just about right by wrapping them around a

piece of 3/16" square keystick. Then fabricate the frame by fastening the braces to the uprights. First I tried super-glue, but I ran into difficulties in getting the frame straight, so I ended up soldering the frame (something that's quick and easy with a resistance soldering rig).

Glue the slats to the frame with Ambroid glue and paint the bench Pullman Green. After struggling with the first bench, the rest are easy and you should be able to knock out a dozen in an evening.

AN IDEA FOR SPLIT LEVEL

by Silas Kayle

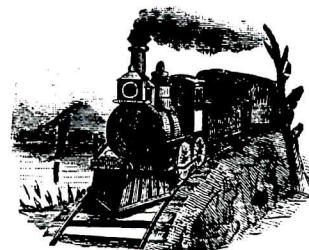
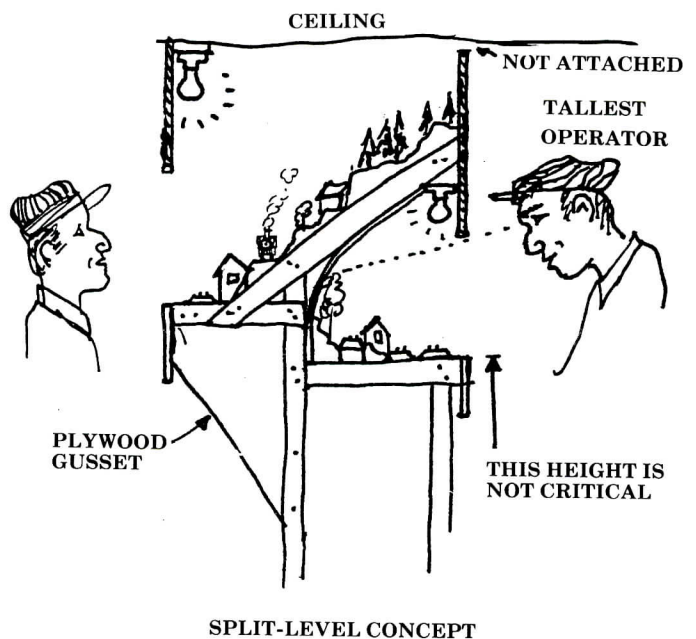
Single-level and multi-level layouts have been bandied about for years. But how about a third choice? — I'll call it "split-level." Without creating the full separation of multi-level, a lot of usable air space above the lower level can be captured. The idea is to utilize a 45-degree wedge of the space above the lower level for an upper level. This allows for a maximum opening at the front edge of the lower level with an acceptably-sloped "sky," much like many dioramas I've seen. It does mean the lower-level topography in the area must be fairly flat. However, the sky can begin curving toward the front immediately above tall trees and buildings at the rear. With proper lighting, the curve of the sky will go unnoticed. Locate the light source as low as possible to cast a uniform level of light from top to bottom (front to rear). Also use a flat paint and be sure the surface is smooth and free of brush marks.

The upper level of the split-level concept relies on the frequent occurrence of model railroad trackage in the foreground with mountainous slopes in the rear. (It should work the same way for large cityscapes.) The suggested 45-degree angle slope could be increased, depending on the topography being modeled. A dramatic mountainside is possible, rising higher and stretching further back than space would normally allow. The upper sky board can be as far back as the lower-level fascia (see drawing). Careful planning will allow reversing the relationship — a gulch on the upper level could be the innards of a mountain tunnel or mine shaft on the lower level.

The track heights and bench widths on both sides are quite flexible. The key points are to permit the tallest person to see all of the way to the "horizon" of the lower level without having to stoop. Similarly, the shortest operator should be able to see and reach

the farthest track on the upper level.

I see this as an option for a layout's center island rather than the entire entire layout — an interesting two-sided dumbbell or half- dumbbell could occupy minimal space.



RAIL JOINERS

by Silas Kayle

About a year ago your editor and I agreed that club news was adequately covered in several other magazines. We felt that a feature on each club would be an appropriate replacement. So, if your club wants to be featured, I'll need some material to write you up. Besides your club story, we'll need a clear black-and-white photo of your membership and maybe one or two photos of their efforts. Rather than current events, we need some history, some objectives, some special interests, and a humorous anecdote or two. These can be transmitted orally by a phone call if that makes it easier. Call me, Silas Kayle, at 612-944-1111 most evenings after 8:00 pm Central Time, or send your material to Silas Kayle, 8900 Birchwood Lane, Bloomington, MN 55438. The following is condensed from a nicely-done membership directory and yearbook.

STATE LINE S GAUGERS

The **State Line S Gaugers (SLSG)** are located in Illinois and Wisconsin. The club is the brain product of two American Flyer operator collectors, Nick Segalla and Dave Tanner. There are two other S gauge clubs in the region, the Badgerland S Gaugers and the Chicagoland Association of S Gaugers, but both are well over 75 miles away — too far a drive for people in the state-line area to participate on a regular basis.

Nick and Dave got things started in late 1980 after personal contact with a few of the other S gaugers in the area. With their help, word of the new organization spread. Letters were sent to all known S gaugers in the area telling them about the new club and a meeting date. Eight people attended that first meeting in January 1981. From that humble beginning, SLSG had grown to a total of 50 members as of 1987. In 1983 SLSG incorporated and registered itself with the State of Illinois as a non-profit organization — one of only a few such clubs believed to be incorporated.

Monthly meetings at members' homes give everyone a chance to get together and "talk trains." At present, American Flyer operating and collecting are the main interests of most members, although interest in and appreciation for S scale and Sn3 have grown. Members have learned from one another about collecting, operating, repairing, layout building, and other aspects of the hobby. Through the years members have shared not only their interest in trains, but many of their social activities as well, and some have made their entire

families a part of it all.

Promotional Activities

One of SLSG's purposes is to promote interest and participation in S gauge, and it has done so with displays at various model railroad and train shows throughout the area. The first club venture was a display at the 1981 Midwest Regional NMRA Convention. Since then, SLSG has displayed on a regular basis at shows in Monroe and Janesville in Wisconsin, as well as Cherry Valley, Freeport, Rockford, and Rockton in Illinois. In 1984, SLSG began sponsoring its own model railroad show in conjunction with Rockton's summer "Old Settlers' Days" celebration. Another activity is the annual August picnic, where members and their families gather for a day of fun and fellowship. 1986 saw the beginning of an annual joint meet with the Hawkeye (Iowa) S Gaugers, and the co-sponsoring and hosting of the Fall S Fest, a major convention-type meet for Midwestern S gaugers.

When members of the Hawkeye S Gaugers (HSG) and State Line S Gaugers get together for a joint meeting this April, it will be for the third year in a row, qualifying it to be called "annual." The HSG/SLSG joint meet was the idea of Rich Luchsinger, who is a member of both clubs. The Hawkeye group schedules two meets per year, in April and September. Rich felt that by staging the April meet in Dubuque, Iowa, located on the Iowa-Illinois border, members of both organizations could get together and enjoy the fellowship, trading, and camaraderie usually associated with the larger meets such as the Fall S Fest and the NASG Convention. His idea was warmly received by members of both clubs.

The Looped Layout

One of the SLSG's novel items is their "looped layout." "Even trains have their ups and downs if they're run on this track assembled from one kit." That sentence led off a two-paragraph description with a pair of photos in the Dec. 1955 issue of **Science and Mechanics** magazine. The "looped layout," as it was called, was manufactured in kit form by the Jack Built Toy Company, Los Angeles, CA. It sold for \$79.95 F.O.B. Los Angeles. The company had kits available for both O and S gauge, and stated that the basic design could be applied to any gauge. The kit could be assembled in either of two ways. In today's terminology, it would be called two three-stack helixes connected either as a loop or a figure-8. The latter is how the layout of SLSG member Don Jaeger is put together.

The builder had the option on the length, with

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Rail Joiners

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minimum being eight feet and maximum twelve feet. Material was provided for the maximum length. Assembled upright brackets have aluminum posts, and the ties are black wood. Rails are one continuous length of .062"x .375" milled steel. Diameter of the loops is about 48 inches. A block system could be built into the layout so that two trains could be run simultaneously.

Tanner and Paul Geerts discovered the looped layout kit in a barn on Larry Ralston's farm near Roscoe, Illinois. It was still in the original packing crate with postmarks from all over the United States stamped on it. Unfortunately, because of severe deterioration, the packing crate could not be saved. After purchasing the layout for \$100, Dave and Paul did some research and found that this particular layout was part of Marshall Field's 1955 Christmas

display at their Chicago store. Don's layout has been in the SLSG, so to speak, since 1982. Ownership (and with it, storage responsibility) has passed from Dave and Paul to Terry Price and now to Don Jaeger.

Because of its central location, Rockford, Illinois is considered home base for the SLSG. However, besides Rockford, SLSG members hail from Antioch, Galena, Holcomb, Lena, Monroe Center, Mt. Morris, Naperville, Ottawa, Pecatonica, Rockton, Roscoe, South Beloit, Stillman Valley, and Sycamore, Illinois; Browntown, Janesville, Oregon, and West Allis, Wisconsin; and Dubuque, Iowa.

Membership in the **State Line S Gaugers** is open to any S gauge train enthusiast, whatever his or her interest: American Flyer, S scale, Sn3, or just armchair interest. Contact Terry Price, 713 Maple St., Lena, IL 61048. Phone (815) 369-4834.

ANNOUNCEMENTS

MODULAR STANDARDS

The S-MOD standards are available to each NASG member for \$1 (\$3 for non-members). Included with each copy is a "Concept Description of the S-MOD Electrical System" and a "Handheld Throttle" article. Write to:

Don DeWitt
37 Snow Drive
Mahwah, NJ 07430

* * * * *

PROMOTIONAL BROCHURES

New NASG promotional brochures are available for handouts at shows, swapmeets, and conventions. Get them from the Promotions Committee chairman:

Don Thompson
2 Roberts Road
New Brunswick, NJ 08901

* * * * *

WHAT? NEVER SEEN A CONSTITUTION? DON'T KNOW THE RULES?

Copies of the NASG constitution,

by-laws, and contest rules are available for the asking from the NASG secretary:

James A. Kindraka
44014 S. Umlerland Circle
Canton, MI 48187

Send Jim a stamped (\$.45) addressed 9x12 manila envelope, give him your membership number, and tell him which document(s) you want.

* * * * *

DISPATCH ADVERTISING

The DISPATCH accepts commercial advertising. The rules are simple:

PRINTED in the DISPATCH:

- Advertiser supplies camera-ready ad material. See page 3 for terms and conditions.

INSERTS:

- Advertiser supplies 600 copies of 8-1/2"x 11" insert. Price: \$25 per single sheet insert per issue; \$35 if printed both sides.
- Or, advertiser supplies camera-ready ad material and we make copies. Price: \$50 per single

sheet insert per issue; \$85 if printed both sides.

The NASG reserves the right to reject any advertising. Subletting of ad space without permission is prohibited. Make checks out to NASG Inc., and send with your material to the editor.

S SCALE RAILROAD FOR SALE

10'-6"x 30' long. 450' of NASG-standard code 100 track, on both Miller tie strip and individual wood ties. Two-level, single-tracked mainline with passing sidings. Storage yard holds over 40 cars. 36" min. radius. Over 30 #6 turnouts, two-thirds electrically driven. Benchwork included. Some hard-shell scenery, only one structure — a turntable. No power pack. Can supply locos and rolling stock at additional cost. Reason for sale: Layout won't fit new house. Must be removed by Oct. 31, 1988. Buyer comes and takes it away — in whatever size pieces he/she wants. \$600.

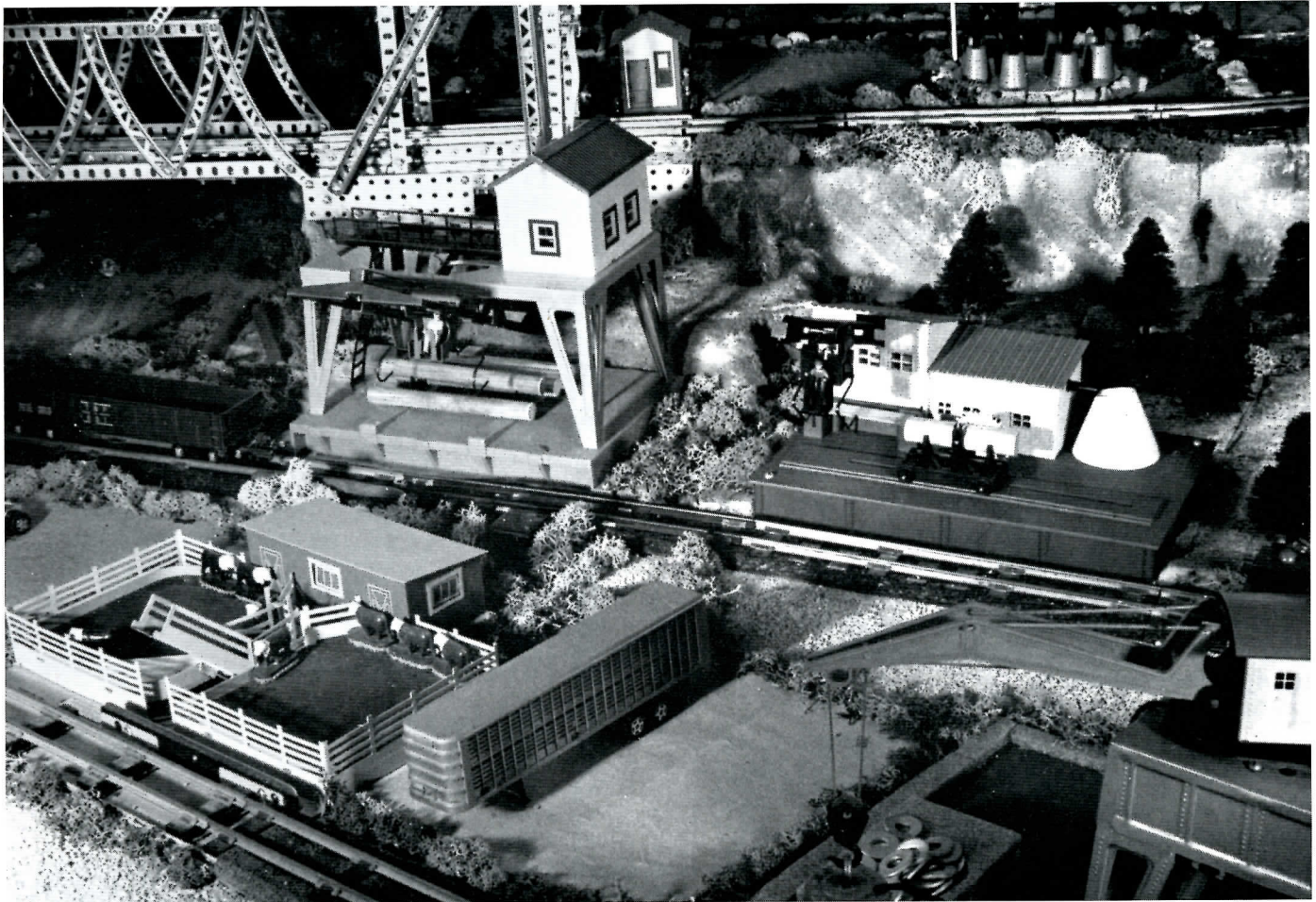
Joe Scales III
Rte. 1, Box 323a
Ridgeway, VA 24148

ILLINOIS RAILROAD RELOCATES TO PACIFIC NORTHWEST

by Tom Hopman

(Text reprinted from the *IESGAPN S-TRAIN RAIL*)

Photos by Dick Karnes



Here's the industrial area. AF accessories in the scene include a log loader, sawmill, cattle loader, and electromagnetic crane. The cattle van is Ertl.

The Chicago Consolidated Railroad, an American Flyer line, recently moved from Illinois to the Inland Empire, becoming fully operational in the tiny city of Rathdrum, Idaho. The Consolidated was designed and built with the intention of creating a small version of what once existed at the famous Gilbert Hall of Science train layouts. For me, it succeeds in bringing back the memory of that nearly forgotten era.

In the initial phases of construction, the 1950 American Flyer catalog provided the inspiration for what was to become the control panel. The catalog contained an artist's conception of a young lad operating a large tinsplate layout from a "fantasy" control panel. This concept became a reality on the Chicago Consolidated, with both transformer and directronic rectifier inset into the face of the panel, and control buttons and switches grouped in banks for both appearance and operational convenience. A plywood substructure was used for the basic unit

itself, and it was covered with wall paneling for the finishing touch. A small hand-made American Flyer logo, including tiny freight train, completes the panel.

As the design for the layout progressed, the Engineering Division was commissioned to create an Erector model to be used in conjunction with the operation of the trains. This resulted in the Chairman of the Board repurchasing an Erector bascule bridge from an old friend who had owned it for some time. Mounted with Gargraves track to facilitate tinsplate operation, this unit is remote controlled, and occupies a central location on one of the two main lines. The fruition of this project was in keeping with the theme of the Gilbert layouts of yesteryear, wherein Erector models were incorporated to show how well they blended with American Flyer trains.

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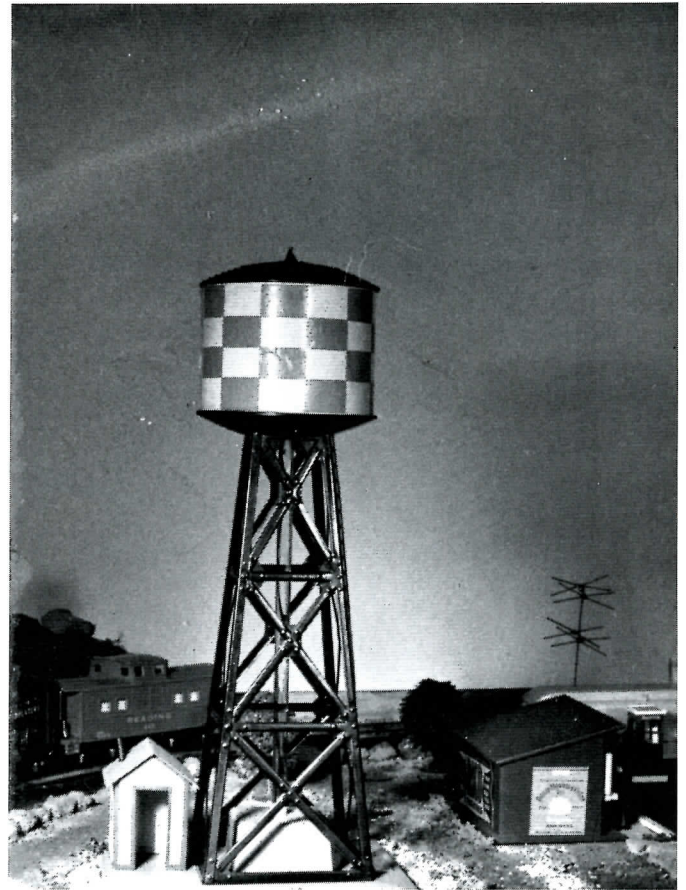
Illinois Railroad Relocates

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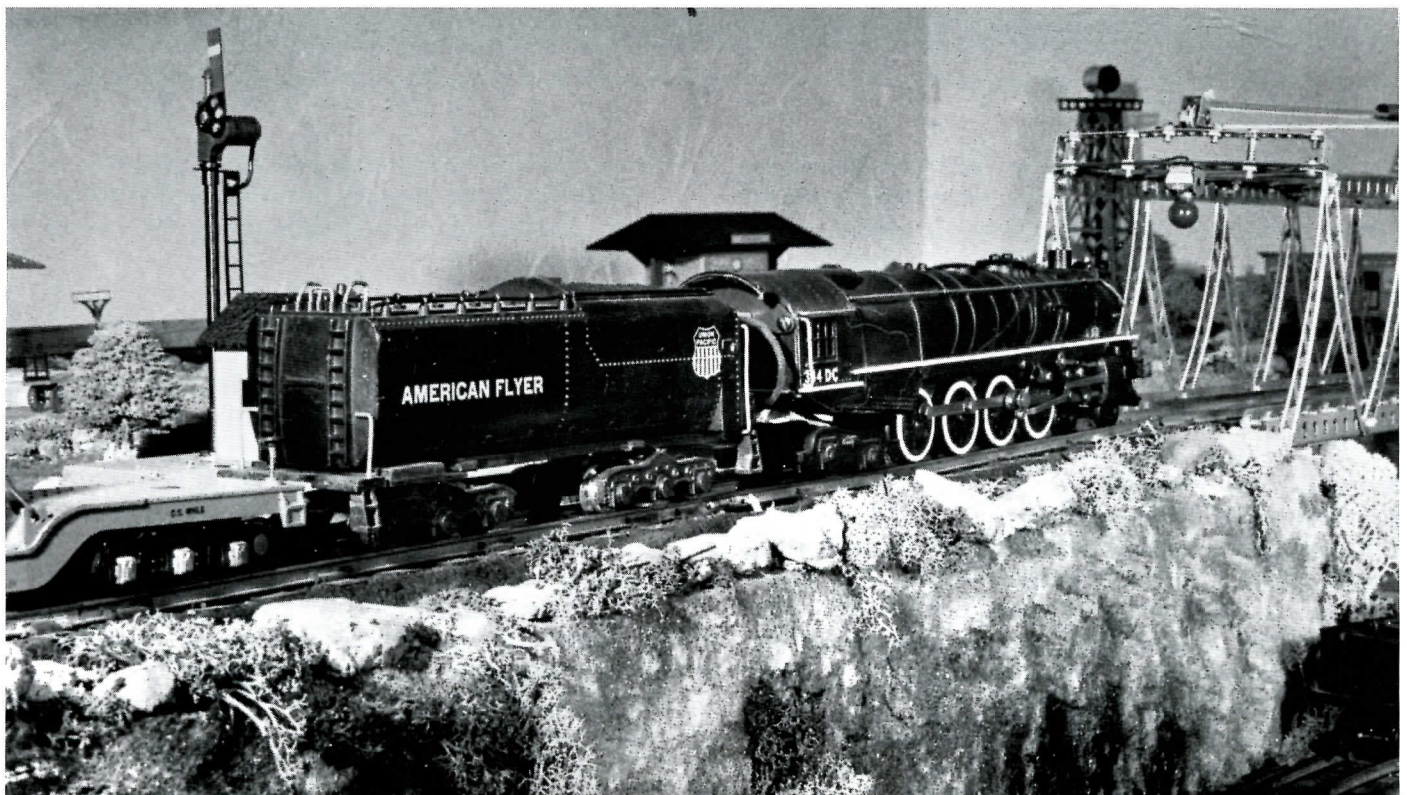
As already mentioned, the Consolidated runs two main lines, one on a raised level to accommodate the bascule bridge, and one on the lower level which also includes a switchyard. The yard's various sidings are home to the log loader, Seaboard coal loader, oil drum loader, and most of the other accessories produced by the Gilbert Company during its heyday. A selection of the unique fiberboard stations dot the main line rights-of-way, recalling the days of RKO Theatres, Chicklets Gum, etc. The scenery is constructed of lightweight styrofoam, "carved" to create various land textures ranging from bare ground to thickly wooded areas, such as those near the sawmill. Small diecast vehicles and figures complete the overall layout scene.

Because the Chicago Consolidated's construction is modular, the problems involved in moving it were not nearly so great as if it had to be disassembled "piece by piece." On most of the individual sections, the track and most of the scenery were left in place, minimizing the difficulties involved in reconstruction. Although more time-consuming and expensive, this is by far the most trouble-free method of building a tinplate layout, particularly from the standpoint of moving it.

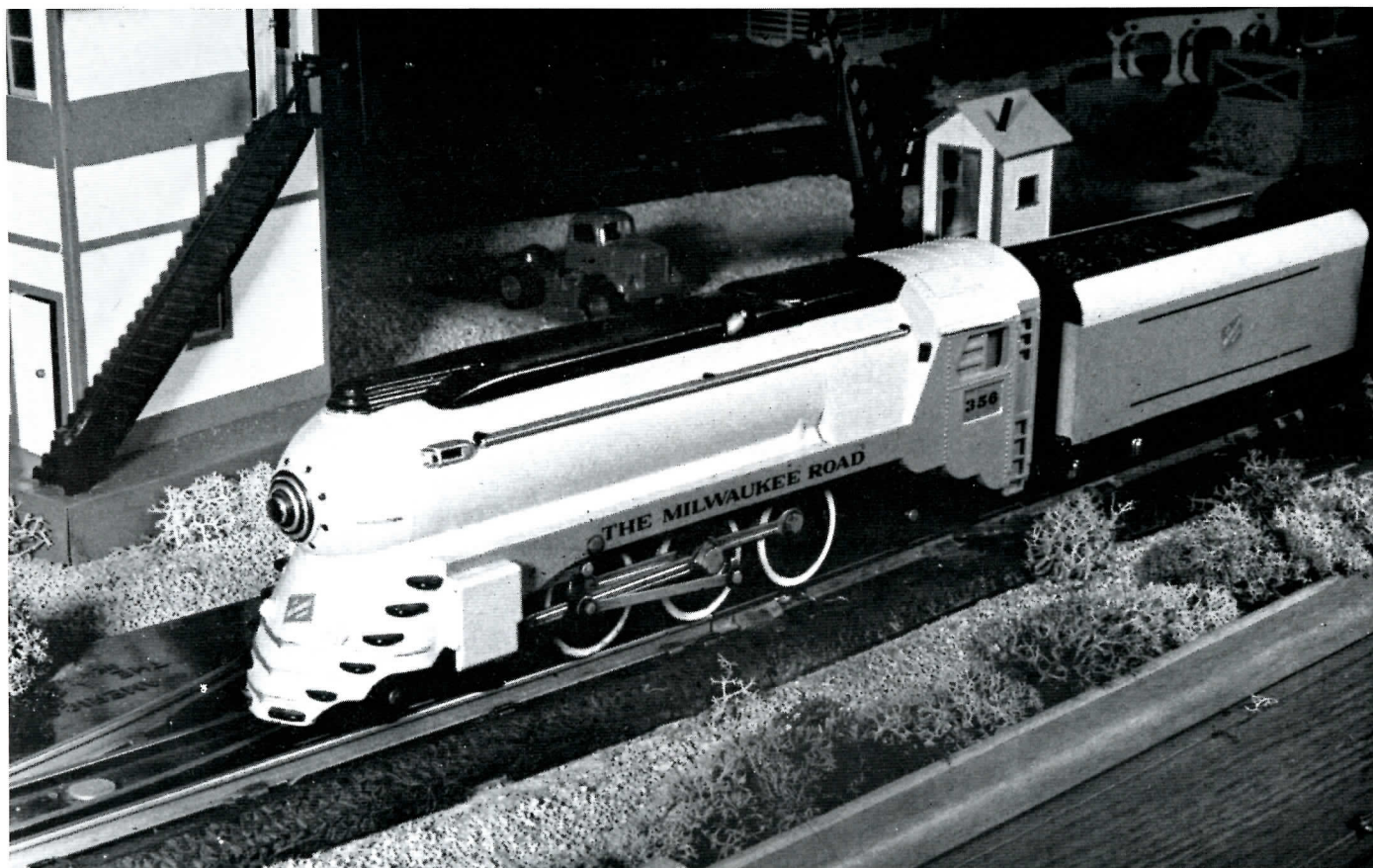
With a year-round operating schedule, the Consolidated is always available for viewing. A phone call to the Chief Operating Engineer is the only "ticket" needed to take a ride into the past.



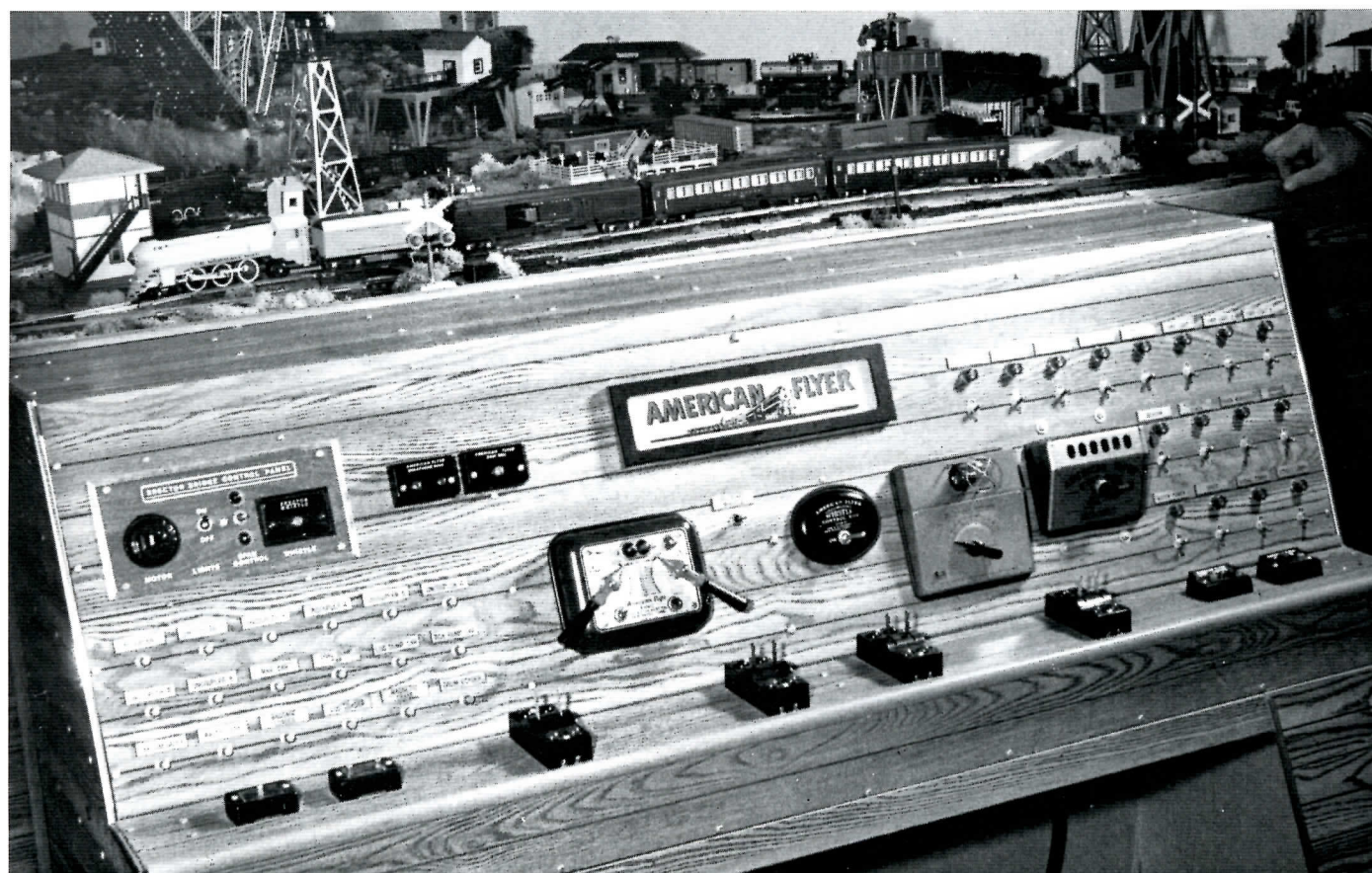
A water tower stands sentinel over a far corner of Hoppie's layout. That's a concession stand from AF's wooden building series to the right. A Branford Diner is just visible behind it.



A beautiful 334DC UP 4-8-4 approaches the Erector bascule bridge.



Hoppie refurbished a hopelessly-peeling AF "Silver Bullet" Pacific in Milwaukee Hiawatha colors and lettering.



The control panel is a work of art. Controls are clustered according to function. Each switch is labeled with its own professional-quality name plate. Bascule bridge controls are at upper left. Hoppie made the "American Flyer" sign himself.

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Illinois Railroad Relocates

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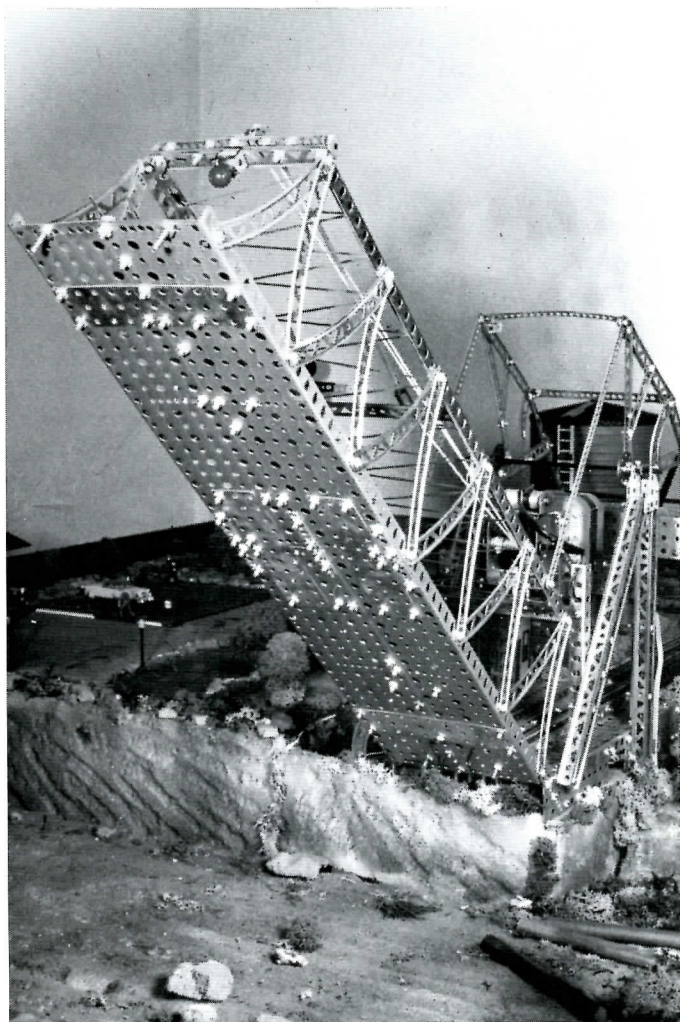
Tom "Hoppie" Hopman visited the Idaho Panhandle some years ago, fell in love with the area, bought a piece of land, and proceeded to figure out how to relocate there. In the process, he exchanged his land for a perfect house in Rathdrum at the edge of the Bitterroot Mountains. He now sells Cadillacs for a dealership in Spokane, Washington.

We pulled into Hoppie's driveway with Ernie and Harriet Horr late one Saturday afternoon. After marveling over the beautifully-restored 1950-era Chevrolet Cameo on which Hoppie was working, we went downstairs to his basement. There in a medium-size fully-carpeted room was the most immaculate AF layout we had ever seen. Hoppie had been a commercial artist for Chicago's Marshall Field department store, and his meticulous attention to every detail of his layout shows his artistry well.

Hoppie is both a collector and an operator. All his equipment is in perfect condition, yet he uses it regularly when he operates the Consolidated. He is also practical. For example, he had an AF "Silver Bullet" Pacific on which the plating eventually peeled severely. The locomotive had lost whatever collector value it might have had, and restoration seemed hopeless, so Hoppie repainted it. He lovingly — and expertly — redecorated it in Milwaukee Hiawatha colors and lettering.

Hoppie says he calls his railroad the Chicago Consolidated because most of his equipment was once "consolidated in boxes." We asked Hoppie what he prizes the most on his layout. Without hesitation, he said it is his #594 AF

Track Gang accessory. This item was produced in 1939-41 for Gilbert's S-scale, O-gauge trains, and was reintroduced in 1946 for one year only for the new AF S gauge line. Hoppie has seen only one other #594 in his entire 25 years of collecting.



Hoppie built this operating Erector bascule bridge himself. He mounted an HO switch machine atop the Erector motor gear train to actuate the reverse clutch.



TRACK CONSTRUCTION THE RUTLAND WAY

[This article takes the reader through rail, tie, and purchased track component preparation; tie, ballast, and rail installation; and track super-detailing. For the modeler who has already completed his/her track, we strongly recommend reading the last section (. . . "AND THE DETAILING"), for you may discover that your job isn't done yet!]

I'm about to describe one of my favorite parts of model railroading. I have always believed that trackwork is not only an essential priority for good trouble-free operation, but also a very important part of the scenery. Next to the trains themselves, the most noticeable detail in a model photo is the

trackwork. If the track doesn't look real, the whole scene suffers. To this end I will explain my choice of materials, quality control, and how I add the extra 10 percent for super-detailing.

GETTING PREPARED

I'm going to assume that we're at the point where we can start laying track — the roadbed is accurate, smooth, and level; all switch-point actuator holes have been drilled or cut; track centerlines have been drawn and scribed; and all ties, rail, flex-track, etc. are on hand. The choice and preparation of stock for each item is important, and now I'll explain how I prepare them for installation.

I looked long and hard for a color of paint that looks pleasing under indoor lighting (simulating dark brown rust in daylight) and is easy to apply (available in spray cans). My final choice was Rustoleum "Auto Primer," stock number 2067. The color is listed as "light brown primer" and it comes in a 13-oz. spray can for about \$4.00. As far as I know, this is a national brand and therefore should be available in local hardware or automotive stores in the reader's area.

Because of my track laying methods, I prefer to paint the rail before installation. For loose rail and switch kits this is simply a matter of laying the rail on some newspaper and spraying all exposed surfaces (even the bottom if you want) from various angles so that no nickel-silver "holidays" are evident. The quickest way is to lay the rail and switches down flat on the rail base and first spray one side and then the other. Also spray straight down on the frog and guardrails to color the insides of the flangeways. Any paint on the tops of the rails will be removed after installation is complete.

For painting flex-track, 3/4" masking tape covers the ties exactly from edge of tie-plate to edge of tie-plate. Any size tape will cover the outside edges of the ties, but you have to use a little care to line it up with the outboard edges of the tie-plates. I usually perform this masking operation while sitting in front of one of my favorite TV shows. When I have six or more lengths taped, it's time to take them all to the painting area and lightly spray them. I say lightly because you want the paint to dry within a reasonable period of time so the tape can be stripped the same day. Most types of common masking tape will leave a glue residue if left on the tiestrip for more than 12 hours.

The RTR ("ready-to-run") switches present a little more of a painting challenge. I cut out cardstock templates (masks) that are shaped to fit between the rails (with a 1/32" gap to represent the tie plates) on the various parts of the switch. Four different masks are required, and they can all be turned over

for an opposite switch. In practice a set of masks will last for about 10 to 15 switches before they are too mangled to reuse. Because I make only one set at a time, I usually mask and paint one switch every time I paint something else with the same color. For good measure I also throw in several strips of Grandt Line On3 code .070 and code .100 (for code .125 rail) plastic fishplates (rail splice-bars) for painting at the same time.

Handlaid track has always been my first choice for appearance, and all my previous layouts were done completely in this style. However, with a trackplan and layout as big as my present project (24'x 46'), it became obvious that some compromises had to be made in the interest of time and having trains running in my lifetime. Therefore, the majority of the mainline trackage and most of the mainline sidings are a combination of flex-track, RTR switches, and switch kits. The branch line (Rutland to North Bennington Jct.) and most yard tracks will still be handlaid on balsa ties and code .100, .083, and .070 rail. The Sn2 Manchester & Lake Champlain will be balsa ties and code .055 rail, but that's a story for another time.



Conventional type switch point

As just mentioned, I prefer balsa wood for ties because it has the look and feel of heavy timber and it's also a lot easier to stain than basswood. It is dense enough (if you buy good stock) to support the weight of the heaviest S gauge locomotives (even the Dayton diesels!), and with long spikes (or Kadee spiker) through 1/16" or 3/32" thick ties into Homasote roadbed, the holding power is adequate. Another bonus is that balsa is less likely to split when spiking. I used to buy balsa in precut 1/16" x 1/8" x 36" strips, but in recent times I have found it relatively easy to cut my own ties from 1/16" and 3/32" 3-inch wide x 36-inch long sheets. A hollow-ground blade in a table saw and some careful (read patient!) feeding will rip up a whole stack of these sheets into 1/8" (8 scale inches) wide strips in short order. With a little care and preparation, this is a very quick and inexpensive way to provide tie stock.

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Track Construction

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I use a small jig and a razor saw to cut strips into various lengths for track and switch ties. I keep the various lengths separated in brown lunch bags both before and after staining. My choice for stain is a color called "Jacobean" by Min-Wax. Again, I believe this is a notional brand, so it should be easy to find in several container sizes. I fill a large kitchen strainer with loosely-piled ties and dip it into a container full of stain. A quick dip is all that's really needed with balsa ties. Just be sure all the ties are submerged at least for a moment. Then dump the wet ties onto an old window screen supported on bricks over some newspaper. Don't bother to try to separate the ties since the stain will not glue them together, yet it does manage to cover all surfaces including those hidden and touching each other. You may find that some of the contact surfaces have a slightly lighter color, but this, together with the different absorption rates of various grades of balsa, tends to give a range of colors which is true to the prototype. I remember reading an article in **Model Railroader** many years ago where a system for staining ties was a complex process of mixing several shades of stain to obtain different shades. If for some reason there are some ties that look out of place, the easiest way to fix this problem or add more color variation is to use some brown and black chalks to either lighten or darken the existing ties. For best results this is done after the ties are set, but before the rail is laid.

I use the standard piano-key jig (see, for example, **DISPATCH**, Vol. IX No. 2, pp. 10-11) for stringing my ties. This is a piece of 3/4" pine 8" wide and 30" long with a continuous 1/2"x 3/4" straightedge strip permanently glued down on one side. A typical prototype tie spacing is between 20" and 22" center-to-center. In S scale this is 5/16". Subtracting the 1/8" tie, the proper spacer would be 3/16". In practice I have found that 5/32"x 3/64" basswood strips make the best spacers. The 5/32" size makes the ties a little closer together (which to me looks a little better), and I try to leave just enough play in the tie slot so the strip will lift out easily. The 3/64" thickness keeps the top of the basswood low enough so that the tape will span only the ties, but it is high enough to keep them in line. Before gluing down the spacers, I draw the outboard limit (curved side) of the various standard switches of both right- and left-hand configurations. If you are using switch kits, be sure to accurately locate the position of the point throwbar so you can leave blank spaces for the switch-stand ties. These will be added after the switch strip is placed on the layout and the proper side for switch-stand placement is determined. I use 1/2" masking tape for stringing my ties. It's wide enough to get a good grip on every tie, and narrow enough to give some flexibility for curves. It's a good

idea to put the tape off-center with one edge on the tie centerline. This will help while visually lining up the ties on the centerline of the Homasote. Unlike the residue problem mentioned earlier with masking tape on the plastic tie strips, the tape can stay on the stained balsa ties for months (hung from the ceiling or other convenient place) without leaving a trace. *[I roll them up, joining each taped length by means of the tape ends — Ed.]* This stringing operation has become another one of my easy-chair projects, which means it also is done while watching one of my favorite TV programs (or some of my collection of railroad video when not outvoted by the rest of the family).

GETTING DOWN TO BUSINESS

Now that we have our ties taped and our rail, flex-track, and switches painted, we're ready to install them. We'll need the following tools and materials:

A pointed tool (screwdriver) to scribe centerlines and edge lines on Homasote

A steel straightedge to guide the scribing

Ballast in your choice of color and texture

Slow-drying (oil base) paint of slightly darker color than ballast

Needle-nose pliers and heavy spikes

Code .100 rail joiners (for .125 and .100 rail — not Atlas)

3/4" masking tape

1"x 4"x 18" pine board (to hold down ties while stripping tape)

Cheap (disposable) 2" paint brush

Soft-bristle 2" brush (for spreading ballast)

First I'll explain my approach to handlaid track, as there are a few extra steps required with flex-track which we'll cover later. In the general area where you will be working, be sure to scribe all centerlines deep enough to see them through a thick coat of your chosen paint. Also scribe a line representing one outside edge of the ties as a further guide on straight track. You must scribe a line on the outside edge (straight side) of switches and either side of curves.

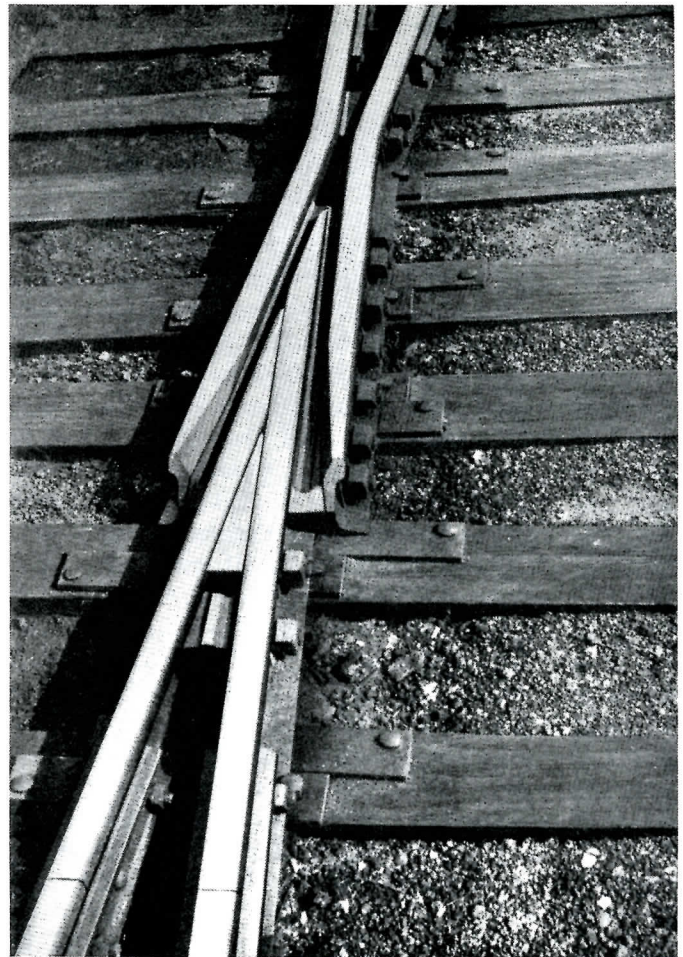
Using the tape, mask off a reasonable-sized area to be ballasted so that tie-laying and ballasting can be completed within paint-drying time (assume one hour maximum). My experience says no more than

3 switches at a time, 10 to 12 feet of single track, 6 to 8 feet of double track, or 3 feet of multiple yard tracks at one time. The tape applied across the end must be perpendicular to the centerline of the tracks. When taping parallel to the track, the ballast should be allowed to extend far enough to be blended with the scenery at a later date. If you are masking a line between two parallel tracks in a yard, cheat the edge of the tape a little closer to the first work area to provide a little more leeway when adding the second (more difficult) and succeeding areas. Be sure to leave enough space around switches to accommodate switch stand ties.

Once this "reasonable" area is masked, spread a thin coat of paint (with the cheap 2" brush) and allow five minutes for it to soak into the Homasote. Check one last time to make sure all scribed lines will remain visible. Now apply a generous coat of the same paint throughout the work area. (Be careful not to go beyond the tape, as this will complicate work in the next area.) As long as this thick coat is not so deep that it hides scribed lines or will squeeze up and over the tie tops, it's fine. You'll also be able to cheat a little and apply more paint to limited areas if it tends to dry faster than you can work.

Start laying the strips of ties, sliding them around until the centerlines and edge lines look good to the eye. Be sure switch ties are lined up with the outside straight line, and that the gap for the switchstand ties (omitted when we strung the ties) is centered over the pre-drilled hole. Place the 1"x 4" pine board on edge on top of the ties (keep it out of the paint!) and tight against the edge of the masking tape. Apply strong pressure down on the ties while peeling off the tape. It's best to peel about 12 inches at a time, and then, gently holding the loose end of the tape up and out of the way, move the board and repeat the process for another 12 inches until the tape is completely off. Be careful never to hit the free "painted-in" ties with the board or loose tape. Once the tape is removed, recheck the ties from several angles to assure that the alignment is pleasing. Now is the time to make any final adjustments and add the switchstand ties (offset to whichever side makes sense from the standpoint of prototype visibility and safety).

Now apply a generous cover of your chosen ballast over everything. You can recover the excess ballast later, so don't be stingy! Using the soft paintbrush, lightly brush the ballast piles around until all the paint is thoroughly covered. If you plan to do an adjacent area in the same work session, use the same soft brush to lightly move back excess ballast (try not to get paint on the brush!) along the taped border that you will be peeling up. You will be spreading more paint right up to the ballast match line, so you don't want any excess ballast in this area which



The Bolted rigid frog shown here follows A.R.E.A. Plan No. 320 recommendations and will carry moderately heavy traffic.

could contaminate the paint you'll apply next. If everything is OK, peel the tape from this match line and repeat the whole process for the next area.

Now peel off the tape. In practice, I have found that it's still possible to adjust the ties slightly up to six hours after installation. If you don't need to make a "late" adjustment, be sure to keep downward pressure on the ties so no ballast sneaks underneath them. If one or two ties look bad the next day, you can remove them, clean off the ballast with a flat-point screwdriver, and then use standard glue (the Homasote is already sealed and painted) to reinstall the repositioned ties and ballast.

After the area has dried for 24 hours, clean off the excess ballast by brushing or vacuuming (with an old handkerchief taped over the nozzle to save the excess ballast), and check for any "holidays." If the paint is the right color, small bare spots should be almost invisible to the eye. (But keep in mind that they will show up in a photo close-up of the area.) To this point we have accomplished two things: We have permanently glued down the ties and ballast in one homogeneous mass, and we have permanently sealed the exposed surface of the

(Continued on Page 20)

Track Construction

(Continued from Page 19)

Homasote, which eliminates any problem of moisture and longitudinal stability. If you like the results so far, you will love the finished product!

As I stated earlier, there are a few extra steps involved with laying flex-track and RTR switches. First of all, the work area will be determined in increments of the standard (or cut) lengths of flex-track. Because the rail is going to be laid at the same time, the rail ends should be cleaned with a Dremel tool or small file. Rail joiners should be added at this time. The whole work area should first be laid out dry with all switches in place, curves formed, and rail joiners fitted. When you take it apart, make sure you have some method of remembering exactly where each piece fits. (Small labels and a map work well.) Once the wet paint is down it is too late to try to assemble a jigsaw puzzle. You can obviously lay more RTR track in a paint-drying hour, but don't get carried away and try to lay the whole main line or yard in one shot. You'll still need time to make some adjustments after the track is down, so keep it reasonable. Now follow the same steps described for hand-laid ties, but add an occasional spike next to the center of a tie (so the spike head holds the tie down) to keep pressure on the tiestrip until the paint dries. You'll still be able to slide the track slightly from side to side for final alignment. Be sure to use enough spikes to prevent ballast from sneaking underneath the ties. With the RTR switches, do not add the second layer of thicker paint in the vicinity of the throw rod. Also try to keep ballast away from the moving parts at least until the whole work area has had 24 hours to dry.

AND NOW FOR THE RAIL . . .

Now it's time to lay rail. First, modify the coloring of the ties as desired. Use colored chalks of brown, yellow, and black to lighten or darken individual ties, and wipe off the excess with a Kleenex. Don't be afraid to experiment, as you can always redarken a tie with black chalk, or, if nothing else works, restrain a tie in place. If you used balsa for the ties, you should already have a good range of colors, but basswood usually could stand more variation than can be obtained by staining alone.

You'll need the following tools and materials for the rest of your work:

Previously-painted rail and switch kits

Code 70 spikes

Large (oversize) ugly spikes — Truscale or equal

Grandt Line code .070 (#9003) and code .100 (#9004)
On3 plastic fishplate castings, prepainted with your choice of rail color

Kadee spiker (if available)

Code .100 NS rail joiners

Spray can of rail color, scrap of cardstock, small paintbrush

Krazy Glue (or equal) with small-point applicator

Single-edge razor blade or X-acto knife with pointed tip

Dremel tool with cutoff discs

Needle-nose pliers

Steel straightedge, 2 or 3 feet long

3-point track gauges plus NASG clearance gauge

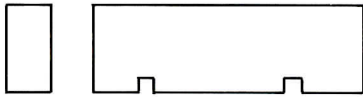
Diagonal wire cutters

Bright Boy or similar track cleaning pad

Begin by cleaning the loose ballast out of the areas where the switch throwbars will require free movement. Also clean up the throwbar hole if required. Using the Dremel tool fitted with a cut-off disc, lightly grind all rail ends on sides and bottom to allow good electrical contact with the rail joiners. Start with a key switch and work your rail out in all directions from this switch. (Note: If you have crowded your switches to get more trackwork into the available area, now is the time to lay the switches down end to end, line up the throw rod holes, and cut the rails as required. Leave enough rail beyond the frog to install a rail joiner; try not to cut closer than one inch from the start of the point rail.) After cleaning the ends of all six rails, install a good quality (Railcraft, Walthers, etc.) code .100 rail joiner on each one. Using the diagonal cutters, lightly crimp the rail joiner around the base of the rail to prevent slippage and promote positive electrical contact.

Lay the first switch down in its approximate position by aligning the throwbar over the hole and visually centering the rails on the ties (equal edge distance on each side). Using the Kadee spiker (if you have one — great tool!) or needle-nose pliers and code 70 spikes, put a few spikes along the straight stock rail of the switch. Add more rail (prepare the far end of each new rail with a joiner as described above) and/or switches to the first switch. If adding another switch, line it up as before and sight through both switches to ensure tangent or uniform curve as required. Try to maintain the same tie edge distance as before, but it is more important for appearance sake to have the rails look right than to have exact centering on the ties.

LOW-CLASS TRACK GAUGE



3/4" x 1/4" x 2" pine block.

Press wood block down on piece of flex-track and drag along as if cleaning rail.

Cut a 1/16"-deep notch at each railhead indentation exactly as wide as the mark.

If done right, the wood block should almost snap over the railheads and act as a temporary clamp.

Practice will produce several good gauges.

Figure 1.

Install straight segments of rail in pairs using at least two three-point track gauges and several homemade wood spacers (see Figure 1) to maintain approximate gauge. It sometimes helps to use a short piece of flex-track (about 3") to center the rails on the ties. Spike only one rail about 3 inches from each end and then, using a good 3-foot straightedge as a guide, add a spike to the near side of this rail about every 4". Remove the straightedge and install the corresponding spikes on the far side of this rail opposite each previous spike location. Put the 3-point track gauges back on and spike the second rail in place, working your way out from the previously-laid track. Then go back and add spikes until each rail is spiked at every fourth or fifth tie. Always spike close to the track gauge and don't force the rails out of alignment. When approximately 3' are completed (more often is better), check the sight lines again and make any final corrections needed.

Curved track is started the same way, but after the initial spikes (3" from each end) are installed, keep the track gauges in place (one at least every 6") and move the middle portion of the rails. Push this middle area until it is somewhat centered on the ties and the two rails visually maintain nearly a constant radius, and spike both rails here. (At this point, if you really don't trust yourself, a cardstock template cut to the exact radius of the inside edge of the inside rail would either confirm the radius or make you wish you hadn't checked.)

If you were careful laying out your ties to the scribed centerlines, these steps should result in a uniform radius or straight-to-curve transition.

With the ends and middle spiked down (both rails), use one of the three-point track gauges and continue to spike both rails at the quarter-points, eighth-points, etc. (i.e., at the center of each unspiked interval) until both rails are spiked at every fourth

tie or closer. You need closer spike spacing on curves because expansion and contraction will tend to create strange gauges between spike locations.

Once the work is completed up to this point, go back to the switch and begin spiking the curved stock rail, frog, and point rails. Leave approximately the first 5" of the point rail free for easy movement of the throwbar if your points are not hinged. As you spike, remove the temporary gauge wires that come with the switch by cutting them with a diagonal cutter and bending each wire half back and forth until the solder joints break. These gauge wires are not perfect, so as you remove them check and adjust the gauge as necessary. Now use your NASG gauge to check the flangeway clearances at the frog area and adjust as required. At this point it's also a good idea to check gauge and clearances with a few typical trucks of different manufacture. Be sure to include at least one truck from one of the recent brass imports (if you have one); these represent the latest manufacturing standards. If all is well in the frog area, use the 3-point track gauge to adjust and spike down the rest of the switch.

With the diagonal cutters, go back and crimp the free end of each rail joiner to ensure electrical contact. It is also time to cut any electrical gaps required. Use the Dremel tool with a cut-off disc, and try to keep the gaps in locations that will create a logical prototype length of rail (approximately 6" or 7" from a real rail joint). Also try to avoid gaps on a curve whenever possible.

... AND THE DETAILING

Once these steps have been completed, it's time to add the extra 10 percent that will give you the prototype appearance often missing in model photographs. We'll now use all the remaining items listed. We're going to create the appearance of rail joints every 39' (7-1/4 actual inches); add rail clamps to the stock rails, frogs, and guard rails; and bolt details at the points and frogs. Start by marking out the rail joints at the 39' spacing using a razor saw or sharp file to mark the railhead at each location. Always start from a true rail joint and adjust the spacing to come out fairly equal between this first real joint and the next real joint or rail end. Also try to stagger the joints from one rail to the other where possible. An occasional 3" or 4" rail length is also prototypical, and no one is going to check your accuracy. Also mark the joints to create the appearance of a cast switch frog and individual point rails (see Figure 2).

Start detailing by cutting several code .100 plastic fishplates off the stem with a single-edge razor blade or X-Acto knife. Put a small drop of Crazy Glue at a marked rail joint. Pick up the fishplate by lightly stabbing it with the point of the razor blade (or knife)

(Continued on Page 22)

Track Construction

(Continued from Page 21)

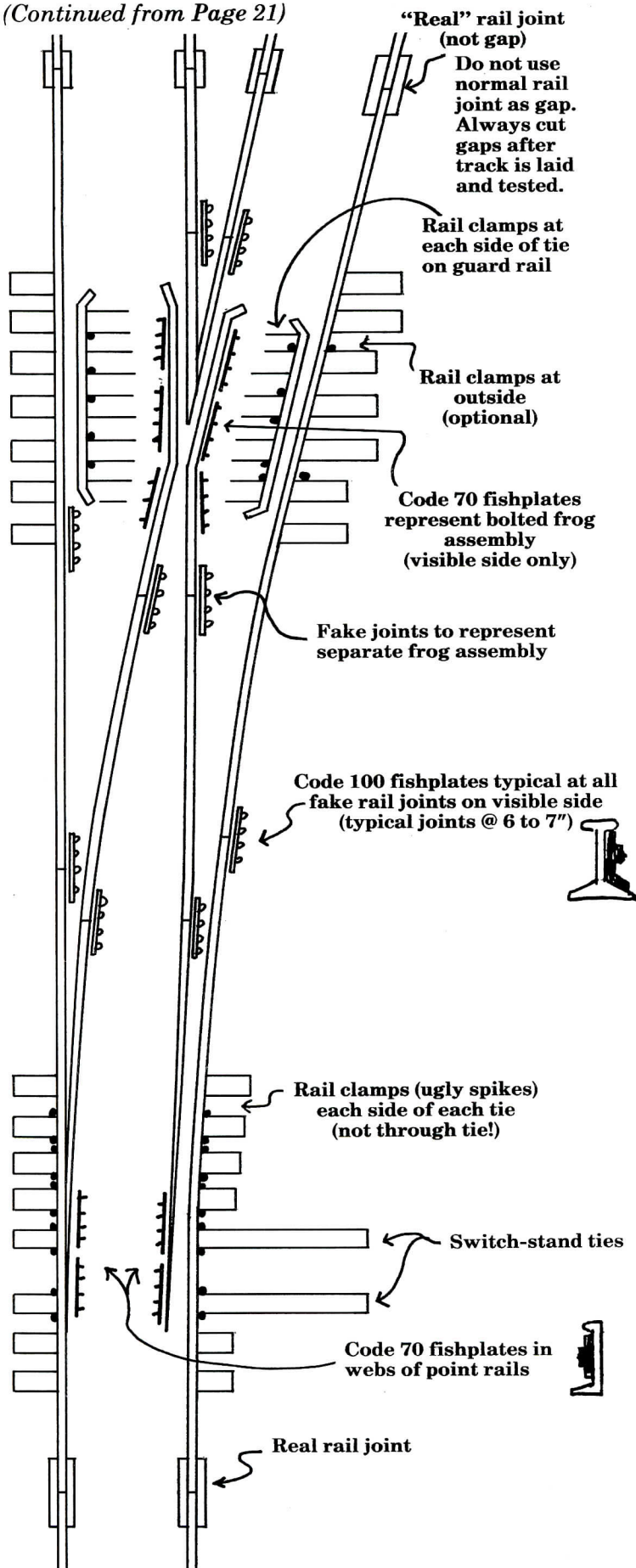


Figure 2. Switch Detailing "The Rutland Way"

and push it into the glue. You have a few seconds to adjust the position, so center it on the joint mark and make sure it is seated tight against the web of the rail. You only want to do this on the viewable side of the rail unless you feel that a later camera angle could expose the far side. Continue this operation until all fake rail joints have a fishplate. Find your gaps and, using this same procedure, add fishplates to both sides. These plastic joints plus the glue will help maintain the gap.

Next we want to add the bolt detail at the points and frogs. Use the code .070 fishplates for this detail and add them end to end (see Figure 2) using the same method as above. Finally, use the big ugly spikes to represent rail clamps, installing them on each side of the ties in the general areas shown in Figure 2.

Using the razor saw, go back and cut a light notch in the top of the railhead at each false joint. Take the scrap card stock and, holding the spray can of rail paint close to the card, spray until you have a small puddle of paint on the card. Use a small paintbrush to touch up all the bare rail joiners (the real ones), the heads of the ugly spikes (rail clamps), and any scratches as required. Continue this operation throughout the work area.

Once everything is set, use a Bright Boy or similar track-cleaning pad to remove the paint from the railheads. If done right, the light cuts at the fake rail joints will really stand out. Also be careful not to remove the paint from the tops of the guard rails and the wing rails at the frogs. In general, shiny rail should appear only where the wheels of passing trains would clean the rust off.

If this "extra 10 percent" seems like a lot of work, it really isn't. If you set up a system and do relatively large areas at one time, you will be amazed at how little "extra" effort it takes to produce trackwork which is the equal in appearance and detail to all those fine brass models that will be photographed on your layout. It also makes a lot more sense to do this type of visible work than to add full underbody detail to all your cars or interiors to all your passenger equipment. Priorities dictate that you should put the effort where it will be seen, and after that use the extra time to do whatever turns you on. (My article on adding boiler tubes to an AF Hudson will not be appearing in the near future!)

I hope you've found some information in this article whether you're a beginner or an expert. It's never too late to learn a new and sometimes easier method of doing something, and even those of you with partially-completed layouts may be able to go back and incorporate the super-detailing described above. And, while certainly difficult, it is not impossible to go back and paint rail already in place. The results are well worth the effort.

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COUPLER HEIGHT GAGE - These were made for us by American Models. They are injection molded in bright red ABS plastic. Comes complete with a Kadee® coupler and a mounting screw. Made to the 17/32" center line coupler height. The price is \$3.95 each, 2 for \$7.50

NASG S-3 & S-4 TRACK AND WHEEL CHECK GAGE - The New and Improved NASG S3 & S4 Check Gages are made of Stainless Steel and are engraved with the words Track, Flange, Points and Wheels for the appropriate side. Instructions are included. The price is \$2.95 each, 2 for \$5.00

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COUPLER HEIGHT GAGE - \$2.95								Quantity	
S-3 & S-4 CHECK GAGE - \$3.95									
AMERICAN FLYER® 1988 CAR - \$29.95									
CAPS									
SUB-TOTAL									
SHIPPING (10% of Total)									
TOTAL									

ELECTRIC SUBSTATION Part 3

(conclusion)
by Steven Myers

(Photos and drawings by the Author)

Part three deals with the details of the substation. These include insulators, disconnects, switches, fuses, regulators, oil circuit breakers (OCBs), transformers, and wiring. If you can manage it, a visit to a local substation would probably be helpful in understanding some of the details.

In assembling these details, I used Microweld, white glue, and Duco household cement at various times. Note that on the figures an encircled number refers to a part number in the parts list. I recommend that you add the detail to the steel superstructure built in Part II before locating it on its permanent site. Transformers, regulators, and OCBs are mounted in the center of their foundations and can be added at any time. Extra details not included in the parts list are equipment insulators which can be made from a small piece of 1/16" or 1/8" dowel. However, the substation is a very credible reproduction without them.

The site plan is shown in Fig. 11. The steel tower footings were omitted from the parts list in Part I, and are included here as Part no. 11.

The insulators were made by punching out disks from plastic with a Whitney or metal punch set. The source of the plastic is not important; the throw-away plastic sheet from a Polaroid film pack will work quite nicely. I used a Whitney punch because it produces a round punch-out which is peaked or

pointed in the center, which more closely resembles an insulator. The punch sizes I used were 3/32", 3/16", and 1/4". This makes slightly oversized parts, but when assembled they look acceptable.

The insulator assembly is shown in Fig. 1. There are two types as shown in Figs. 1a and 1b. Fig. 1c shows a cutaway view of insulator construction. Note that each insulator is made up of two each 3/32", one each 3/16", and one each 1/4" (or 7/32" if you prefer) disks. The insulators should be painted brown after installation.

You'll need to assemble 73 insulators as illustrated in Fig. 1a. Note carefully that the insulator point is away from the point of attachment.

Next, assemble 9 insulators like those in Fig. 1b. Note here that the point of the insulator is toward the point of attachment.

Install 4 type 1a insulators on each end of Part S47 in Assembly G.

Install 3 type 1a insulators on Part S11 in Assembly C equidistant between parts S1.

Install 3 type 1b insulators (9 total) on the underside of parts S5 and S6 of Assembly B as shown in Fig. 10, sections A-A and B-B.

The switch, disconnect, and fuse assemblies require a 3/32" channel as the base of the assembly. These

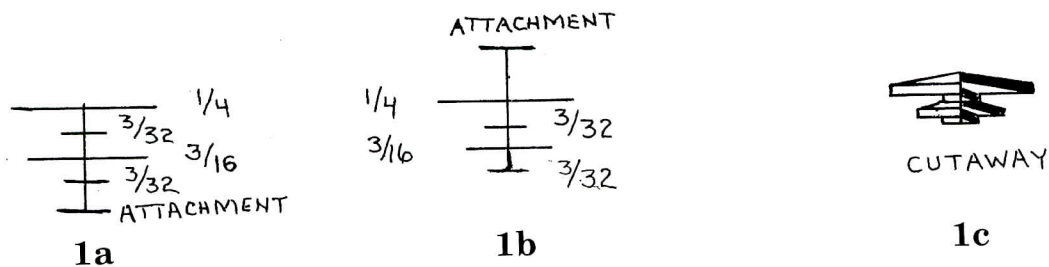


Fig. 1 (Not to Scale)

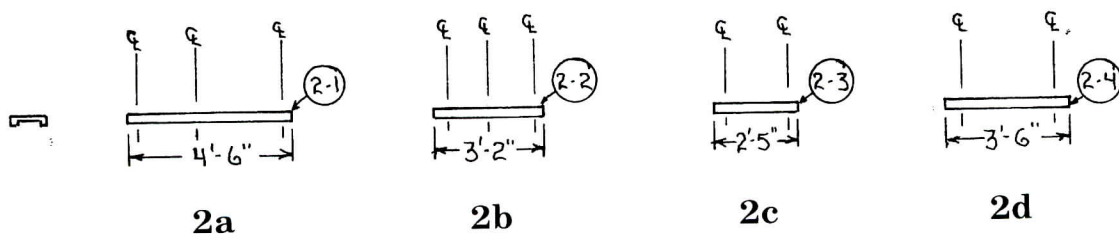


Fig. 2 (Full Size "S" Scale)

Electric Substation

are shown full size in Fig. 2. Attach type 1a insulators to the base of switches, disconnects, and fuse assemblies as illustrated in Fig. 10. These are denoted as encircled parts 2a, 2b, 2c and 2d in Fig. 10. You'll need 3 each of switch 2a and 6 each of switch 2b. You will need 12 each of disconnect 2c and 3 each of fuse 2d.

Be sure to note the installation direction of the switches. The lone insulator is to the back of the substation. That is the side where the wires enter the substation. Install switches (type 2a) on Assembly A between parts S45. Install 3 insulators (type 1a) on the front side, the Assembly F side, with the outside edge of part S3 below the switches.

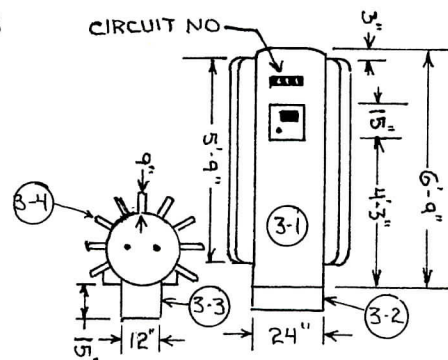
Install type 2b switches on Assembly B between parts S46. Install 6 insulators on the top of part S3 in line with the switches on Assembly B. Note that the S3 is the one between S6 and S7.

Install 3 fuses, type 2d, on Assembly F on the front side where the spacers were used.

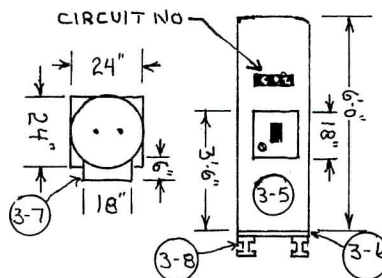
Install 6 disconnects, type 2c, on Assembly D on the back side opposite parts S44, and on Assembly E on the front side opposite parts S44.

The regulators are made from 3/8" wood dowel. You will need 3 each 1-1/8" tall and 3 each 1-1/4" tall. These correspond to Figs. 3b and 3a respectively. Slightly round the tops and drill the wire holes as shown in Fig. 3. The bases are made from 1/32" and 1/8" balsa wood. The cooling fins in Fig. 3a may be made either from wire or balsa wood. Balsa is easier and may be solid or grooved on the inside

Fig. 3



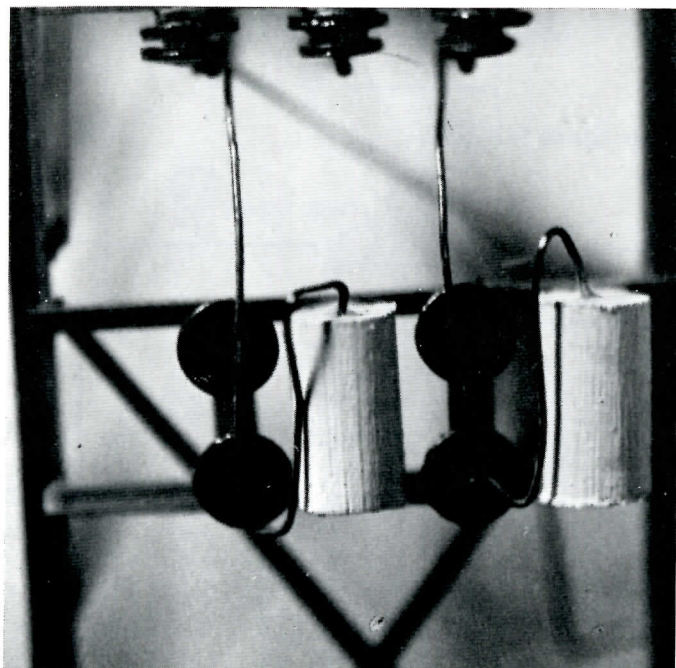
3a (Full Size "S" Scale)



3b (Full Size "S" Scale)

to resemble a tube. The control boxes are made from balsa and are sanded to fit the curve of the dowel. Glue the boxes in the positions shown on Figs. 3a and 3b.

The type 3b regulators are glued to I-beams, part 3-8. Each regulator is then glued to the one-foot channel, part 3-9, as shown in Fig. 10, section D-D. Note that the channels face out and are even with the ends of the I-beams. The regulators are



Type 1a insulators on type 2c disconnects are mounted to the left of corresponding part 5 transformers.



The two types of regulators (3a and 3b) are arranged as shown.

(Continued on Page 26)

Electric Substation

(Continued from Page 25)

painted grey and installed in the centers of their foundations as shown in Fig. 10, sections B-B and D-D.

The main transformer (see Fig. 4) is made of balsa wood. The scale dimensions are 12' high, 4' deep and 8' wide. The roof is made from 2 index cards. It has a 3-scale-inch overhang. The transformer base is also made from index card and extends 6 scale inches from the transformer body in each dimension. The main transformer is mounted on part 4-9 (there are 2) with the transformer body 1' from the edge of the base. The control panel on the front and the box on the side are made from balsa wood.

The main transformer cooler top and bottom runners (Part 4-4, Fig. 4) are made of 1/8" x 1/4" balsa cut 5-1/2 scale feet long.

The fins are index card 1/4" wide and 9-1/2 scale feet long, outside-to-outside. These are fitted into notches cut in the runners.

When the main transformer assembly has dried completely, drill holes for the wires as shown in Fig. 10. Paint the transformer grey. Install it on its foundation as shown in Fig. 10 sections B-B and C-C.

The small transformers, which are mounted on Assembly G, are 1/4" wooden dowel cut 1/2" long. Refer to Fig 5. Paint grey. Install as shown on Fig. 10 top and section A-A.

The OCBs are constructed of balsa and Plastruct. The body of each OCB is made of two parts as shown in Fig. 6a. The main body measures 7'x 3'x 3'. The top measures 7'x 3'x 1' with the corners rounded as shown in Fig. 6a. The control and connection boxes are also made of balsa. See parts list for dimensions. The wire holes are drilled in these boxes.

The legs are made from Plastruct shapes. Refer to the parts list. Paint the assembled OCBs grey. Install on foundations as shown in Fig. 10, sections B-B and E-E.

Lightning arrestors are made of small wooden dowels chosen to represent diameters of 6 and 8 scale inches respectively as shown in Fig 7. Refer to the parts list for measurements and numbers needed. Drill wire holes and paint the arrestors grey. Install as shown in Fig. 10 sections C-C and D-D.

A small grey panel box (Fig. 8) is made of balsa wood and attached on column S1 on the same side as Assembly G. The box is mounted 4 scale feet from the bottom, measured to the center of the box. See Fig. 10 sections A-A and C-C.

For the electrical conductors I used 18-gauge bell wire and telephone wire with the insulation removed. The use of copper wire enhances the model, as some of the main conductors in a real substation are copper pipe.

Fig. 9 shows the length and shape of the bell wire. NOTE: the switches are modeled in the open position.

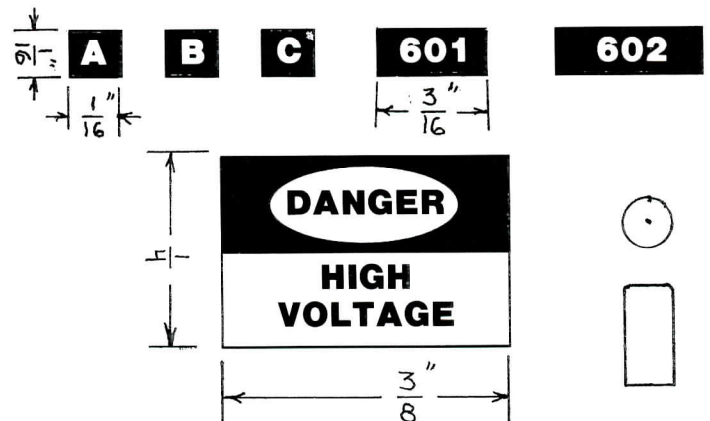


Fig. 5

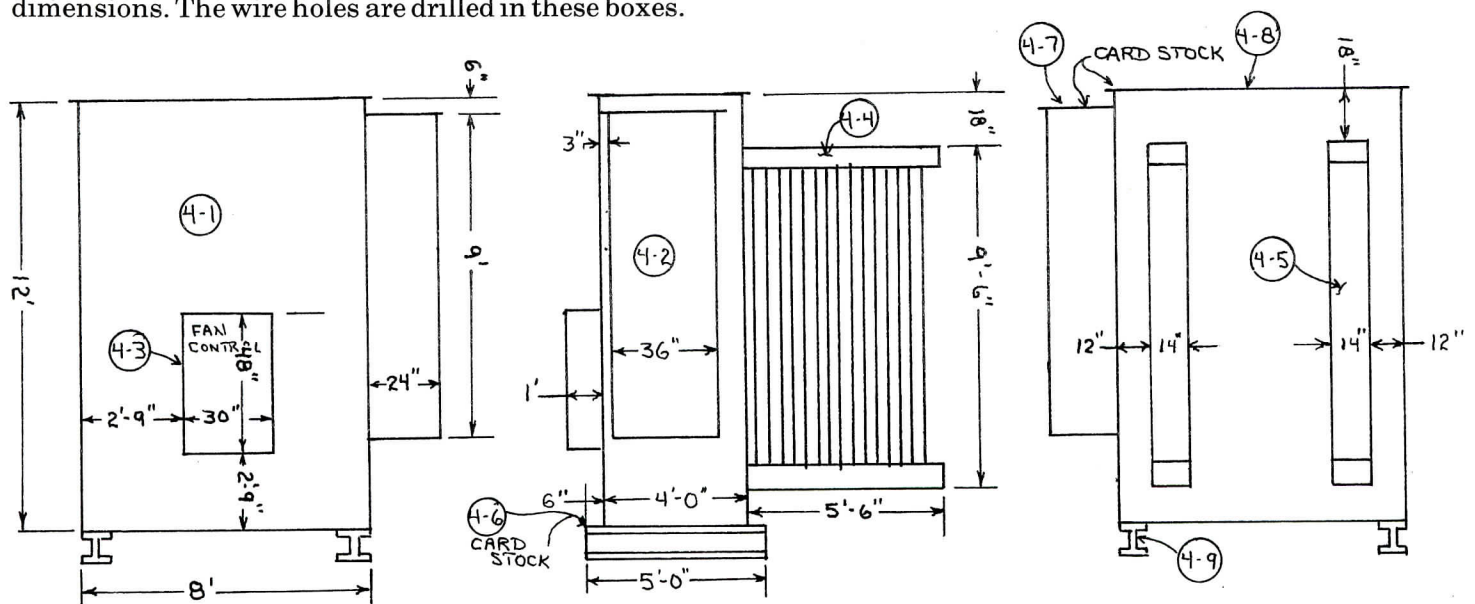
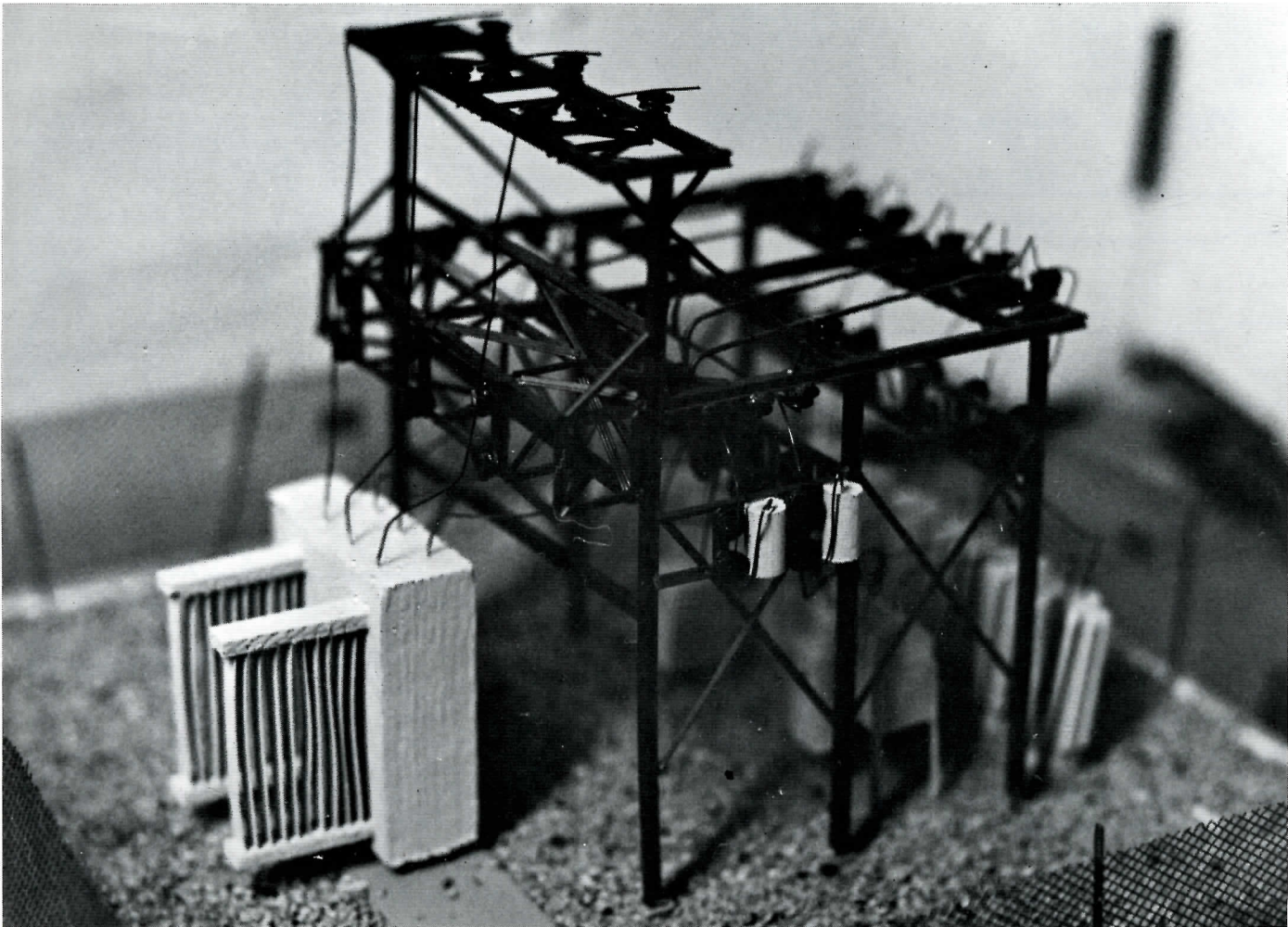
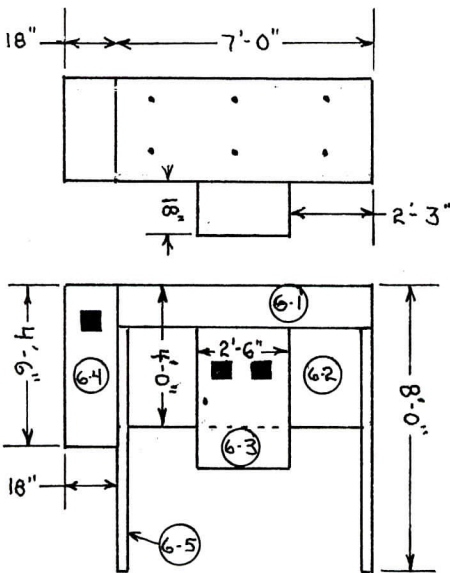


Fig. 4 (Full Size "S" Scale)

Electric Substation

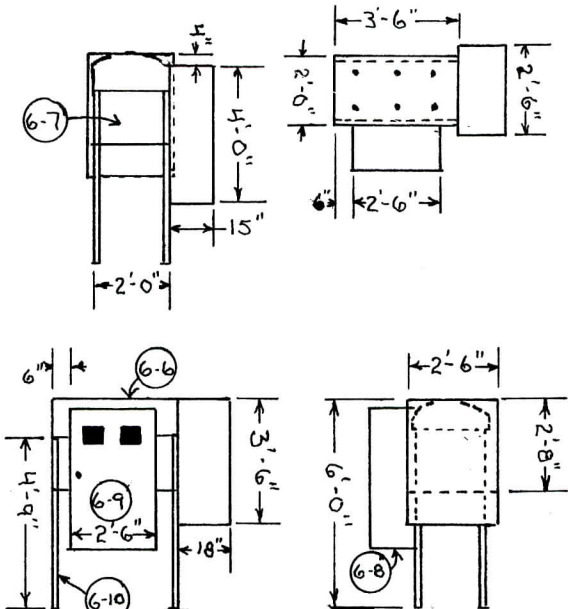


This bird's-eye view showing the transformer should help you locate the various parts and assemblies.



6a (Full Size "S" Scale)

Fig. 6



6b (Full Size "S" Scale)

(Continued on Page 28)

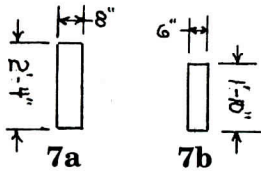


Fig. 7 (Full Size "S" Scale)

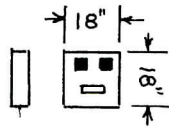


Fig. 8

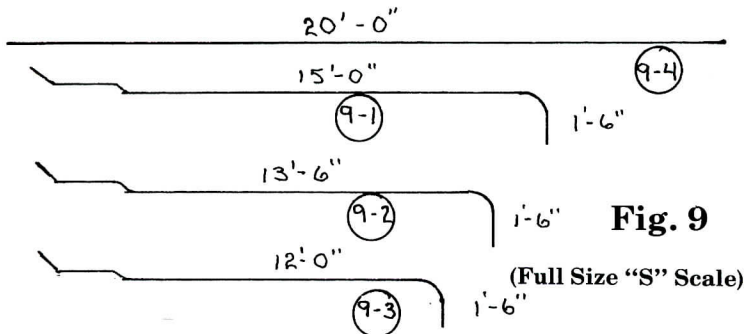


Fig. 9

(Full Size "S" Scale)

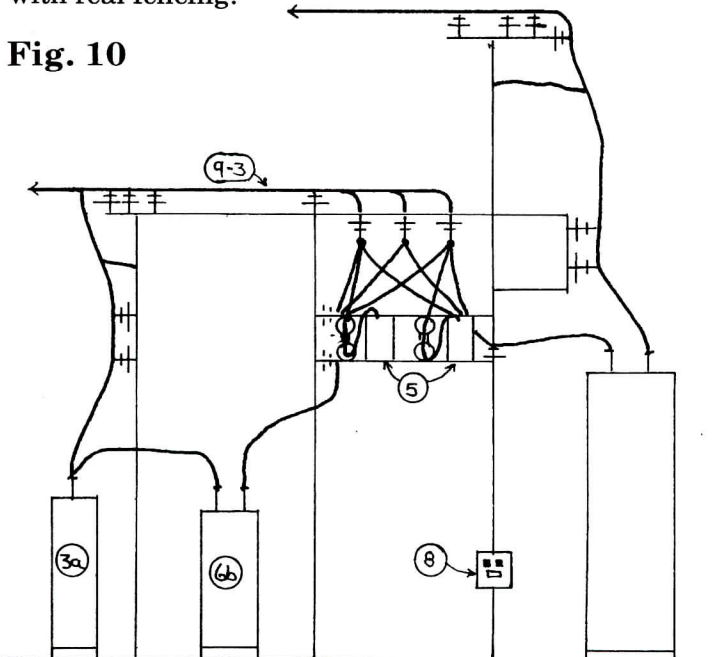
Fig. 10 top and section B-B shows the installation of the bell wire parts. The other parts of Fig. 10 show the installation of the telephone wire. Heavy thread will work for the smaller wires. NOTE: THIS IS TEDIOUS WORK SO TAKE YOUR TIME.

The remaining small details to be included are the signs, circuit markers, and control box markings. See assembly figures and Fig. 10 for type and locations.

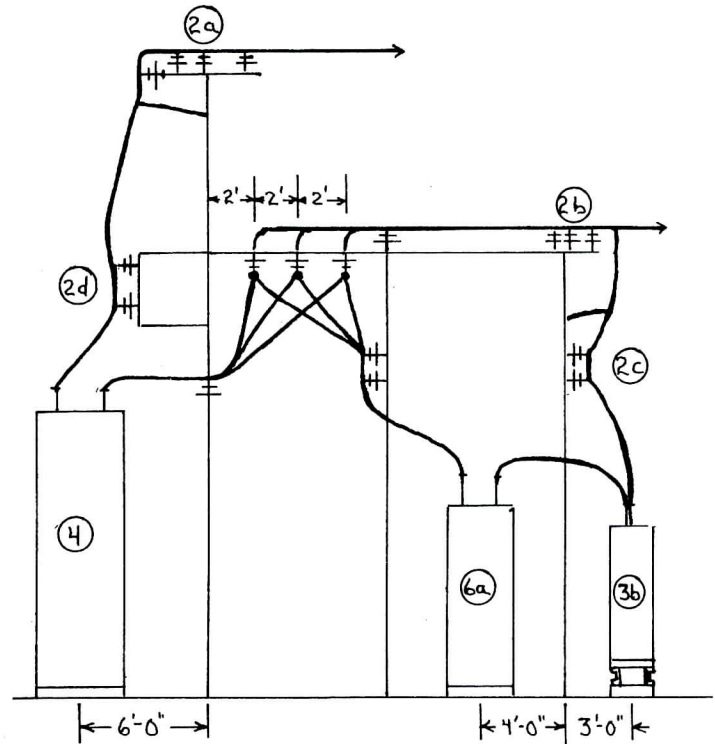
Photocopy and reduce the signs to the indicated sizes. Using a red marker, color the 'A,' 'B,' 'C,' and 'DANGER' signs.

The fence is screen wire cut so the wire mesh is at a 45-degree angle to simulate chain link fence. The fence poles are stiff steel wire. The fencing can be attached to the poles with glue or fine wire ties as with real fencing.

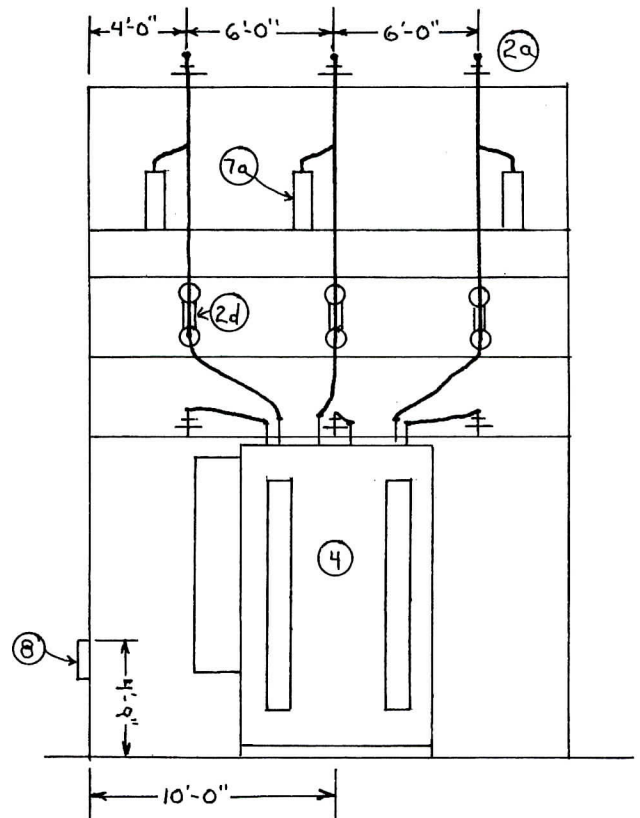
Fig. 10



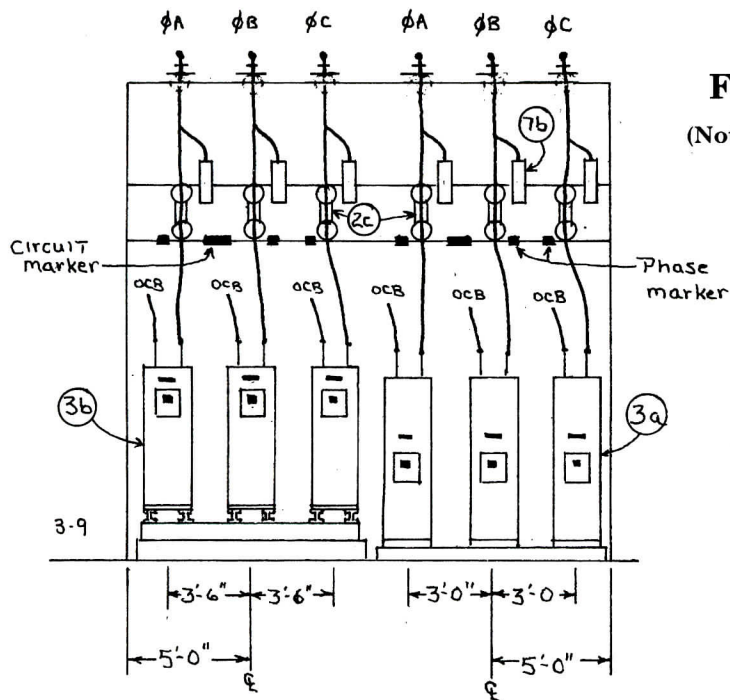
Section A-A (Not to Scale)



Section B-B (Not to Scale)

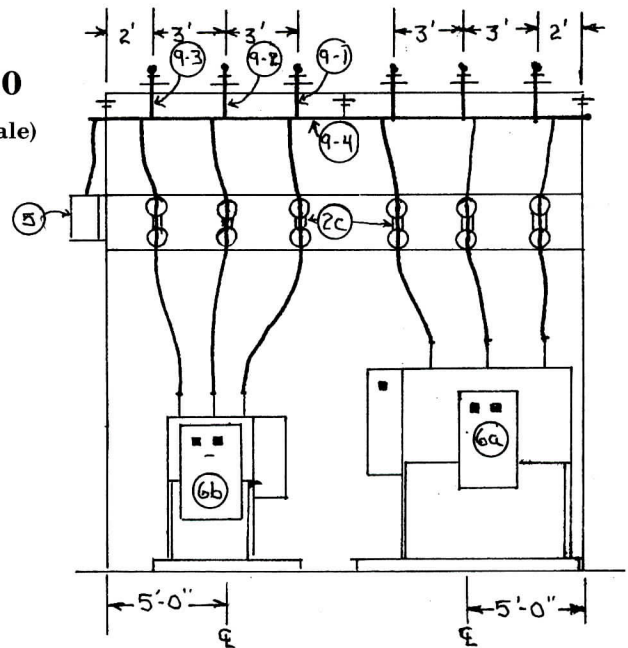


Section C-C (Not to Scale)



Section D-D

Fig. 10
(Not to Scale)



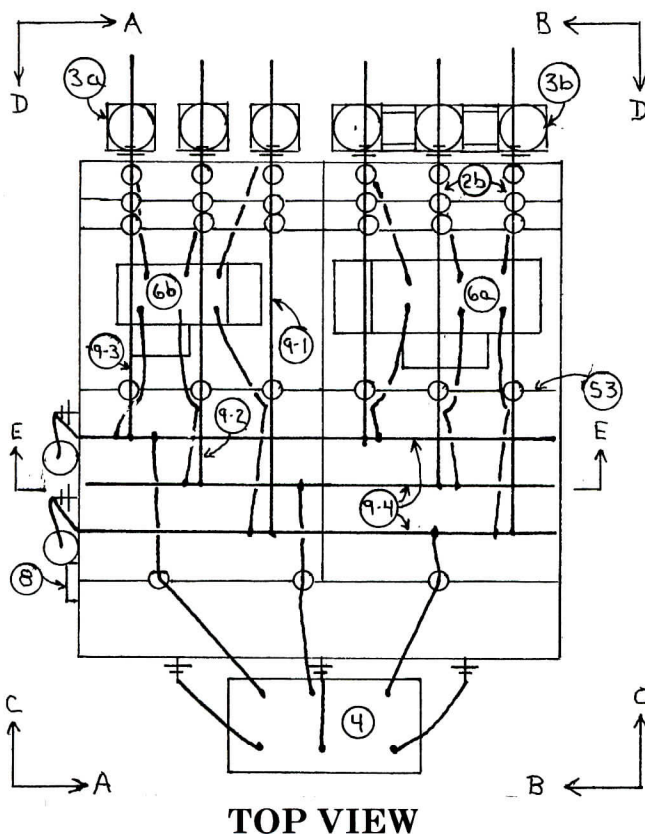
Section E-E

PARTS LIST

NOTE WELL: Where parts dimensions are given in the standard abbreviations of in for inch and ft for foot they are true measurements. Those dimensions denoted by the symbols ' for foot and " for inch are scale measurements.

PART NO.	DESCRIPTION	QTY	COMMENT
1a	Insulator	78	
1b	Insulator	9	
1-1	1/4 in disk	87	
1-2	3/16 in disk	87	
1-3	3/32 in disk	174	
2a	Switch	3	
2-1	3/32 in channel, 4'6" long	3	
2b	Switch	6	
2-2	3/32 in channel, 3'2" long	6	
2c	Disconnect	12	
2-3	3/32 in channel, 2'5" long	12	
2d	Fuse	3	
2-4	3/32 in channel, 3'6" long	3	
3a	Regulator	3	
3-1	3/8 in dowel, 1-1/4 in long	3	body
3-2	1/8 in balsa, 3/8 in x 3/8 in	3	base
3-3	Balsa 12" x 15" x 15"	3	control
3-4	1/16 in balsa 9" x 5'9"	27	cooler fins
3b	Regulator	3	
3-5	3/8 in dowel, 1-1/8 in long	3	body
3-6	1/32 in balsa 3/8 in x 3/8 in	3	base
3-7	Balsa 18" x 18" x 6"	3	control
3-8	3/32 in I beam, 24" long	6	base
3-9	3/16 in channel, 9' long	2	base

(Continued on Page 30)



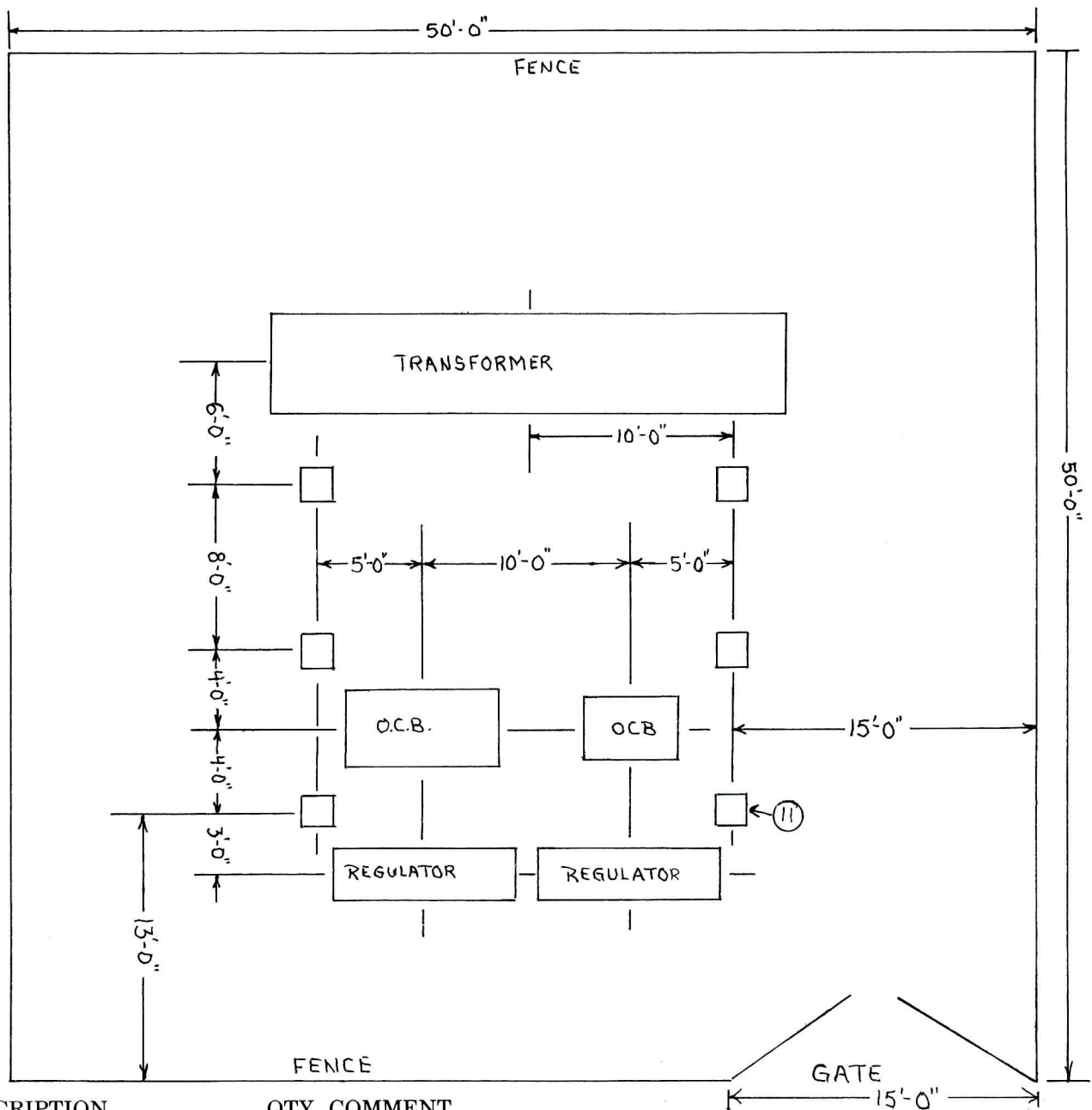
TOP VIEW

Fig. 10

(Not to Scale)

Fig. 11

(Not to Scale)



PART NO.	DESCRIPTION	QTY	COMMENT	PART NO.	DESCRIPTION	QTY	COMMENT
4	Main transformer	1		6-3	Balsa 2'6" x 4' x 1'6"	1	control
4-1	Balsa 4' x 8' x 12'	1	main body	6-4	Balsa 4'6" x 3' x 1'6"	1	control
4-2	Balsa 3' x 2' x 9'	1	out body	6-5	1/8 in angle, 7' long	4	legs
4-3	Balsa 48" x 30" x 12"	1	control	6b	Oil Filled Breaker (OCB)	1	smaller size
4-4	Balsa 1/4 in x 1/8 in x 5'6"	2	cooler	6-6	Balsa 3'6" x 2' x 1'	1	top (rounded edges)
4-5	Index card 1/4 in x 8'5"	30	cooler fins	6-7	Balsa 3'6" x 2' x 1'8"	1	main body
4-6	Index card 5' x 8'	1	foundation plate	6-8	Balsa 4' x 2'6" x 1'3"	1	control
4-7	Index card 27" x 40"	1	out body roof	6-9	Balsa 2'6" x 3'6" x 1'6"	1	control
4-8	Index card 4'6" x 8'6"	1	main body roof	6-10	1/8 in angle, 4'9" long	4	legs
4-9	3/16 in I beam, 5' long	2	foundation	7a	dowel 8" x 2'4"	3	arrestor
5	1/4 in dowel, 1/2 in long	2		7b	dowel 6" x 1'10"	6	arrestor
6a	Oil Filled Breaker (OCB)	1		8	1/8 in balsa, 18" x 18"	1	panel box
6-1	Balsa 7' x 3' x 1'	1	top (rounded edges)	11	Balsa 18" x 18" x 6"	6	footing for steel tower
6-2	Balsa 7' x 3' x 3'	1	main body				

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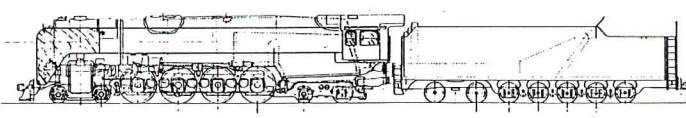
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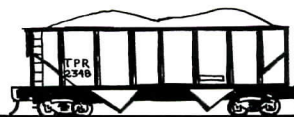
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Ar. Detroit...	6:24 A.M.	Ar. Hoboken...	8:12 A.M.

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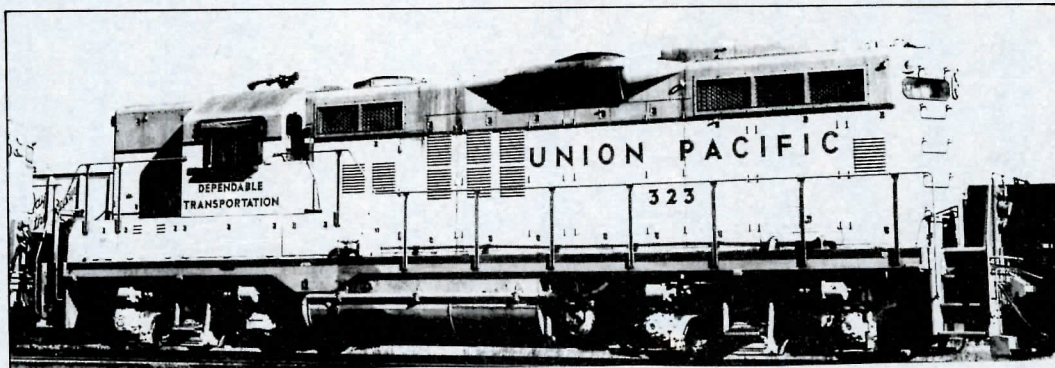
T. D. KERNS, Supt. WAYNESBURG, PA.



Dave Pool

Here are the Connecticut S. Gaugers at John MacSweeney's home. Pictured, left to right: Bill Krause, John MacSweeney, Ceil MacSweeney, Hank Roos, Bill Fuhrman, John Foley, Don Roos, Kevin Ross, Herb Wasserman, Dave Pool.

GP-9 IN S-SCALE (COMING THIS SUMMER)

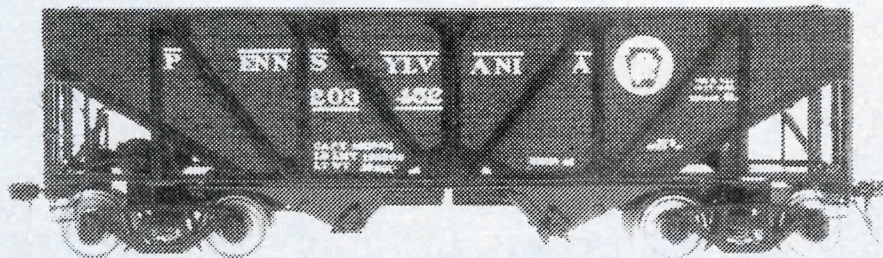


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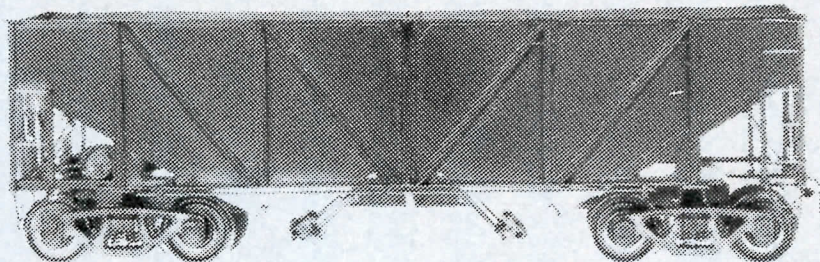
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H31-c

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Photos by Bob Werre

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