THE COUPLER

Issue 9 December 194

Official Bulletin of the Northeastern Region of the National Model Railroad Association

COSTS FOR SPRING '49 NER CONVENTION ANNOUNCED

For those who plan to attend the convention and wish to budget their expenditures in advance, the New York Society of Model Engineers — who will be hosts to the Northeast Region of the NMRA at the Spring 1949 Convention to be held April 30-May 1 - announce the following costs:

Room Rates at Hotel Pennsylvania

Single - $4, 4.50, 5., 5.50, 6., 6.50, 7.
Double - $6.50, 7., 7.50, 8., 8.50, 9.
Twins — $7., 8., 8.50, 9., 10., 11., 12.
Suite — $13.50, 14.50, 16.50

Convention Costs

Registration -	$1.00
Trip -	2.00
Banquet -	3.50
	$6.50

If tickets for the trip and banquet are purchased together at the time of registration, the total cost will be only $5.50.

THE NMRA has lost membership for two years. Read the editorial in the November NMRA bulletin and Doc Buyse's comments in the next column. What do you think the NMRA should offer to attract members?

THANKS TO DOC BUYSE

In my opinion, the NMRA's most important single contribution to the hobby is the erection of standards. No other organization in the hobby could possibly serve this purpose as effectively. In this respect we hold the same position in model railroading as did the several organizations among the prototype railroads many years ago which eventually came together to make up the Association of American Railroads. These coordinating groups were responsible for such far-reaching accomplishments as standard time, standard track guage, standard automatic safety couplers, standard brakes and all of the standards in facilities and methods which have contributed to the nation-wide flow of commerce.

NMRA's role is much the same, however, we have yet to attack the standardization of facilities and methods of operation. Perhaps this is because of the status of interchangability of equipment. Unfortunately, this has not yet been too happily solved in that we have not discovered a satisfactory way to police the model railroad manufacturers. This work, as you know, is confined solely to measurable standards. Once this is achieved, and we are reasonably sure that we can put fully interchangable equipment on our pikes, we may forge forward in a campaign to more or less "standardize" on more realistic operation. Chronologically, this is the order in which the prototype roads had to face their problems, and it seems that the NMRA will have to follow suit in its evolution.

I do not mean to imply that we shouldn't be exploring possible solutions in the direction of operation while still dealing with the problem of measurable standards. However, as set up now, physical standards come first. Until our national Bulletin becomes the sounding board for these intriguing questions, I suggest that you keep the torch aloft in the Coupler.

There is growing evidence that the magazines are to become more operation minded. Surely, we in the NMRA should take up the challenge too, but I'm afraid that as long as we have to depend exclusively on volunteer help for all of our committee work, we cannot yet take the initiative in sponsoring studies on realistic operation. We must first find a solid core of hard-working, willing individuals who will take up the cudgels in its promotion.

THE COUPLER

W. Watson House ..... Editor
36 Pearl Street, Hartford, Connecticut

IS YOUR PIKE LOSING MONEY?

By Rowland Peak

It was a gala day on the Spit, Polish and Elbow Grease Railroad. Some persuasive talk had obtained a room for the SP&EG in the local depot, and months (or years) of bloood, sweat and tears had resulted in an elegantly engineered and sceniced layout. Every spike was in place; the two and three track mains were laid to perfect alignment; beautifully designed mountains, rivers and buildings abounded. The members had brought down their prized rolling stock, a timetable rehearsed, and now at long last their first annual show was to be previewed by their host's big brass.

Well, the Traffic Vice President and some of his help showed up with the local trainmaster and track supervisor. They admired the scenery; the cars and engines were pronounced excellent; the schedule was run off, glory be!, without a hitch.

Glowing with pride, the Welcoming Committee invited the railroad brass to join the club in disposing of some malt beverages which happened to be on ice in the club room.

The traffic V.P. took off his coat, unbuttoned his vest, accepted a cold glass, and proceeded to unburden himself of a few comments.

"You know what caught my eye, fellows?" he said, sipping appreciatively. "All those high speed streamliners and red ball freights zooming about the railroad were mighty pretty, mighty pretty. But I didn't see the real workhorse, the real money maker. Where was the local freight? Even if some roads do get along as bridge lines between big carriers, it's in originating and terminating freight that a road makes its money."

All this is to bring up the point that admiration for the glamorous speed kings brings many model rails to overlook the peddler freight.

Every model pike that essays main-line operation has some small towns along the high iron as part of the scenery. Here is where realism can be added to both operation and scenery at one time.

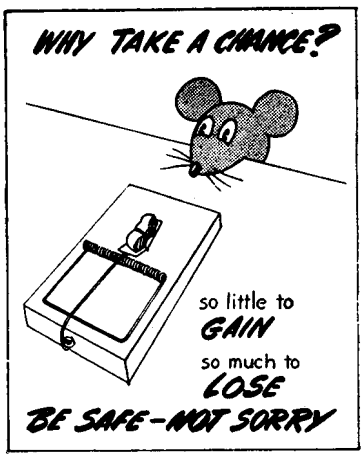
Take a town at a time and add industries. A house track (spur behind the depot) and a couple or more industries can always be fitted into a village. The spurs can be short ---- one or two cars in the clear. Looking around any moderate size town will give the scenery crew plenty of ideas -- an oil station, stock pen, a foundry -- or see the back issues of the hobby mags. Large club layouts may be able to put in something complicated like a marine terminal or oil refinery with two or more tracks serving.

As soon as one or two of the towns is fixed up, add a way freight to the schedule. Usual procedure is to operate as an extra, but with designated starting and arrival times, the engineer to do as much switching as possible within time limits. The train may run north one night, south the next; make a round trip each night; or two may be run, one in each direction; all depending on the extensiveness of the schedule.

Pick-ups and setouts should be ordered before the beginning of the run; the engineer in charge of the train will then do the work ordered, planning his moves so as not to delay any scheduled trains, and always protecting his train whenever it is on the main.

After you have had this local running for a while, many interesting developments will suggest themselves, and it will become easily the most popular run on operating nights; on our road we run two of them, and the two engineers with the most "whiskers" are always in charge.

The local freight offers a challenge to a club or fair sized home layout to make operation as much like prototype as possible. It is the final touch of realism, lacking on many roads.



M-K-T Employes' Magazine

VISITORS DO NOT GET DIZZY HERE

Congratulations on this latest issue of the COUPLER! It is by far the best yet, and I think, that this is so because it is more than just a reporter's story of the news, more like a series of thought provoking editorials. We need more of these and more airing of members' views on generalities in the hobby.

Here at the North Shore Club (Essex Valley R.R.) we have spent ten years building a layout with one primary thought in mind ---- realistic operation. Every plan we've made, and every detail we have built into the layout has been done with the idea of creating a more natural appearing section of terrain, with railroad operation within it that would appear as close to the real thing as possible.

Our layout space is 15' x 40' with an L on one corner, of sufficient size to handle a 13 track yard (about 120 cars) turntable, roundhouse, service and lead tracks.

Into this area we installed about 800 feet of track using all of the usual track patterns including a double track main line (loop) a figure eight (within the loop), a water wing at a higher level (Mt. Division) and east and west yard leads. To disguise the pattern, about one-half of this entire trackage is hidden from view. Some parts appear and disappear again to break up the idea of continuous loop. The entire area has complete scenery without any "operating" holes to break it up. Certain sections of scenery lift out and these are so arranged that we can reach any part of the track when necessary.

On the Mt. Division we had foresight to install a long passing track, completely hidden from view and two stub industrial sidings that are in view of our main line. This serves to give us local freight moves similar to those you always see near a large freight yard, with a "goat" shuttling back and forth from yard to spur and back across the main between trains. Now we're riding along side Doc!

We thought that this would give us enough variation to break up the loop idea. But did it? It did not. This is due to the too frequent appearance of each train, no matter how many routing changes you make. Always too soon it is going by you again!

As Doc says "a real railroad starts somewhere and ends somewhere else". OK, we agree. Then that's what we want to do. But on a real railroad, you can't stand at one terminal and at the same time see the other one. You see a train leave and disappear and you know that it will be a long time before you see that particular train again. There is where all we have done to create illusion, has failed.

Several weeks before Doc's article came out we started figuring ways and means to overcome this. We had good scenery, signals, automatic block control, completely electrified switches, 100% automatic coupling and uncoupling by remote control (thanks to Baker couplers), followed prototype practice in makeup, operation and breakup of our trains, but it was all upset by one fact. The damn trains showed up too often to be realistic.

What we needed was in some way to have trains leave the terminal as they were made up, show themselves on various tracks, and then disappear for a long, long time. Meanwhile other trains must operate and over the same routes, with an occasional through train -- passing but without any orderly relationship to the way they lad left the terminal. Sounded like a large order for a layout that was considered finished, but the solution was not difficult after doing a bit of hard thinking (and using our heads this time, Doc).

Our solution is this: Create a hidden "holding yard". To do this we will install a power operated switch at the west end of our main line (all of this will be out of sight) and from that go to a lower level track area to be built under our present main line, diverging or fanning out to a long 4 track yard which will converge again to a single track at the east end, climb a grade and reenter the main at the east end.

All of this does not represent any structural or control difficulties but can be handled in the same manner as all of our other trackage and we won't have to disturb any of our present scenery or work. A vastly different operating pattern can then be executed. A train can be made up, sent out and fade into the distance and it can be as long as you wish before the train comes into view again. In the meantime, other trains will follow, some one route, some another, but each one different. Then the pattern will begin to change as trains start to return from their other terminals, in a vastly different order than they departed (locals leaving last and returning first, etc) all according to good railroad practice as you would see it if you spent a day at a terminal, and all without you being able to see "the other end of the line".

We feel that this will accomplish the very thing Doc suggests and at the same time permit operation of a far greater variety of trains, without overloading either the power circuits, or the operators. We hope it will make our visitors feel that they have seen a railroad in operation and not leave feeling dizzy from watching a few trains go 'round and 'round.

Let's have some opinions from others on this subject for it is a serious one as evidenced by a letter in the August MODEL RAILROADER from a visitor that evidently felt cheated. Read it and see how many clubs that you know to which it could apply. This is our solution -- what's yours?

IVAN S. PREBLE
North Shore Model RR Cl
LYNN, MASS.

NORTH JERSEY MIDLAND RAILROAD SLOPPERATING MEETING

Some call it operating, but we do not; it gives us all kinds of excuses when something goes wrong. We just say, well we are slopperating and everyone gets the point, including the wrong doer who gets the BROWNIES.

Well, to get down to slopperating: How is it done? That's simple if you get a few of the requirements first; in our case we had a railroad small in area but big in realm. So our railroad which represents a small line that is still prosperous, runs single track from the terminal at DOVER thru the farm town of MT. HOPE, into the mining town of ORELAND JCT from which a branch line runs to the vacation town of SPARTA, whereas the main line continues from ORELAND JCT past ANDOVER to the terminus at NEWTOWN. Each town mentioned has its industries and passing siding, so we have a place to run a train from and to, with a reason for every run. Next we have an engine cab control containing three main line engineers and one drill engineer board. Each main line engineer can run his train the entire railroad from terminal to terminal. The thirty-six track runouts have indication lights on three separate tower control boards, each covering a section of the layout.

Now we have all the requirements of material wealth. What to do with it? We have elected a man of vice, known as vice president of operations. He draws up time table schedule, that contains twelve trains, from the Limited to the Local Way Freight. Who throws the switches? The conductors of each train. How do we pick our Engineers and Conductors? That is done by Merit, Attendance, Operation, General Conduct at meetings, etc. until someone gets bumped by farnishing of many BROWNIES. Who gives the BROWNIES? The dispatcher and trainmaster, those vile sons of boilers. So you now have the Railroad, the crews, now what? SLOPPERATE, of course.

So comes zero hour and you sit in the Cab, hand on throttle, balancing a pipe in your mouth, your engineer's cap pushed back on your head. The schedule in your lap, you watch your cab signal, your conductor, the dispatcher, you look at your opposition in the other cabs and: "Oh hell" we drew #21 Local freight "not that of all runs".

The cab signal goes green, you pull your consolidation out of the house, you swing thru the wye and head into Dover Terminal. Your loads are made up by the switcher and you feel good, at least we get out on time. Your conductor is all hands and signals as he gets you coupled. The dispatcher says OK roll, and you're off. The 2% grade up to MT. HOPE makes you feel great to see your train climb with ease, but too quickly you are in the siding, so you grab your schedule and check your opponents (opposing trains). None due for an hour (five minutes scale time) you flip around your train and start drilling.

You push your train into the farm spur, there is a stock car to take out and a reefer to put in. Your conductor gives you a frantic stop sign; with a grin to yourself you stop a sixteenth of an inch away. Then the devil possesses you and just as your conductor tries to drop the coupler in place you move your train a quarter of an inch away. The third time you pull this stunt your conductor is giving you dirty looks; oh, oh, the trainmaster has caught up on you and you find yourself assessed a BROWNIE for poor conduct; oh well, what's one BROWNIE.

You still feel good and want to show off, how you can kick a car into a spur and admist a burst of speed you big hole her and the reefer goes sailing in. Sail she does; you out guessed yourself and a resounding thump informs you that three more BROWNIES are assessed, as the reefer jumps the rails due to the impact.

Boy, how time flies, the dispatcher is now on your neck as you are not finished with your move on time. So, you get another BROWNIE for holding up a Superior Train. Finally you are back in the clear and No. 4, the morning Commuter pulls in. As they pick up or drop a milk car on the same spur, you lose no time in getting out to MT. HOPE.

Your train truddles along and you pull into ORELAND JCT. This time you cuss your conductor for running into the wrong track. His mistake means you have got to make a couple of extra moves. You sit patiently and perform the moves while he gets the old harry from the train master and dispatcher. He gets a couple of BROWNIES for his boner. You now work the mine spur and when you are through you are running an hour late. Knowing what is coming, you can't leave ORELAND JCT: so you sit and wait for No. 24 from NEWTOWN, the Express Reefer Run. She barrels thru on time, but still you sit, you've lost your rights and you are in the dispatcher's hair. Then No. 11, the Branch Local, rides by on the way to SPARTA. Nope, you still sit; finally No. 1 THE LIMITED comes flying by. You get orders to follow her into NEWTON Terminal. You start down the grade and pass ANDOVER spur and station; thank God you don't have anything for the foundry, and so into NEWTON.

Here we do our own drilling and after we put the flat car in the Lumber yard, the tanks at NOCO OIL CO'S siding, our stock car at SWAN & HAHN'S Packing Plant, our box car at the JOHANN GRANNERY, we hook into our caboose and head for the wye and house.

Twenty-five minutes actual time was consumed to run through five stations and only 125 feet of line track. No. 21 sure lived up to expectations, you check your merit list after all those BROWNIES: well, you are still five ahead of your nearest competitor, but you will watch your step from here on in as you can't afford many more. Your successor to the cab seats himself and gives you a crack about "Thanks for giving me an early start". He is already late, even before he starts and you apologize by saying "You know No. 21". Under your breath you say: "Next session I hope I get a new conductor, then I'll show them."

You have completed your run and sit back to watch the others perform their assignments. Mentally and verbally you ride the boys as they make their runs as they did while you were making your run.

You leave the session after all the trains have completed their runs and you say: "What a night, I wouldn't miss it for the world. That's real FUN, that's SLOPPERATING."

DAVE SACKS, SECRETARY
North Jersey Midland

HAZEN HAS WASPS

The Portland & Rutland has had its troubles this summer; not the least of which was an invasion of wasps, which flew in through the open barn window, and proceeded to build their durable mud houses in whatever place was available and attractive. One of these places proved to be the air-conditioning apparatus under the P & R's one club car, and the mud house projected below the top of the rail, with rather disastrous results to the contents of the glasses on the tables when the first trip thereafter reached the first turnout. To prevent future derailments, said mud house was removed by the section crew. However, since that time more non-paying passengers have been discovered: one family in a Pullman, and the other in the end of a box car. In both cases it would seem to be necessary to destroy the car in order to remove the inhabitants, but a dose of DDT has rendered them more peaceful tenants.

Relative to Doc Buyse' notes in the September COUPLER, I can heartily agree with him, both as a modeller and real railroader, especially as applying to club roads. The P & R IS a loop, for reasons to be at least partially explained, but that fact will be concealed as much as possible. I am, by reason of geographical situation, a lone wolf, and it is necessary for me to be able to put on a semblance of operation, possibly two trains at once in opposite directions on single track, keep something moving most of the time, and do it unaided.

I have at the present time a passing siding located at the far side of the room from the main control board, about 20 feet away. Midway between the passing track switches is a short spur out of the main line. The other day I was running a 20-car freight with a M of W bunk car next to the caboose, and wanted to set it off into the spur, which was a facing-point turnout for the way the loco was headed. Track switches and loco reverse are handled from the control board, but I had to walk back and forth to handle the coupling (incidentally walking less actual steps than a prototype brakie would have done in performing the same functions). To cut off the loco, run around the train, cut off caboose and bunk car, set bunk car on the spur, replace caboose on train, run around track again, couple up and go (without taking time for a brake test asrequired on the prototype) took just about fifteen actual minutes.

Now perhaps no spectator should be bored with such a bit of operation, a reasonable facsimile of the prototype, but I daresay that many who pride themselves on operating their own roads would have been looking elsewhere about the room for something else to happen. A move such as this might be speeded and perhaps made more interesting by remote control coupling, such as yours, Watty. However, while I as a railroader will not give up doing such switching moves, I do feel that it is necessary to keep things moving, and a train which can run relatively unattended (as on a loop) helps in this end. Remember I usually have no assistants. I can see that had the Limited come along while I was setting out that bunk car, things would have been interesting indeed.

ALLEN HAZEN
West Buxton, Maine

BEHIND THE 8-SPOT
by H. P. Eighmey

(The 8-Spot is an American type locomotive on whose tail hangs many a true tale.)

You've heard of the race of the hare and the turtle but have you heard of the classic contest between the 8-Spot and the mouse?

It happened one day when the old 8-Spot was pressed into mainline service to replace a crippled Hudson on a local passenger run. The 8-Spot was rolling along quite nicely, thank you, and entered the long tunnel.

There was a squeak and the patter of feet ---- and one might imagine that the villain had made a pass at the heroine riding in the coach of the local. No such scandal had happened, but the snooze of Mister Mouse between the rails had been rudely interrupted!

The record does not say whether or not the 8-Spot nudged the intruder with her pilot, or just scared the daylights out of him with her size, but the fact remains that emerging from the tunnel at top speed came Mister Mouse. Like the charge of the Light Brigade came the 8-Spot behind.

It was tail to pilot and about even for a while. The mouse couldn't seem to gain, perhaps because he insisted in traveling on the ties between the rails. The 8-Spot was now highballing it at top speed, and cheers arose from the onlookers. The rails curved away and Mister Mouse slid around the same bend, scampering amid a dust cloud that threatened to obscure the dashing 8-Spot.

But alas, the 8-Spot decided to stay on the rails this time, and a switch hove in view. Mister Mouse ignored the switch points and decided that a straight line was the safest way. So Mister Mouse hightailed it down the main, while the 8-Spot took the siding -- thus ending a historic event.

COUPLER HEIGHT

Bill Walthers covered the subject of Standards very well indeed in the September COUPLER.

Although we here do have freight and passenger wheel sizes for HO gage, there is no doubt whatever that the gage would get along very well with a compromise such as Walthers uses.

We have "NMRA Trucks" but we also have the same truck with a bolster which may be screwed to a wood floor and thus secure a height such that a coupler fastened directly to the wood floor gives an NMRA coupler height.

The NMRA boys evidently forgot that a vast majority of HO gagers use cars with wood floors, but also need a fixed coupler height. Therefore a standard height truck bolster attaching directly to the floor becomes a common model railroad item.

GORDON VARNEY
VARNEY SCALE MODELS

OPERATION EVEN WITH NMRA FLANGES

I agree with you that a relatively heavy truck will ride the rails somewhat better than a relatively light truck, but I don't feel that the actual weight of the truck itself is necessarily the controlling feature. Neither do I feel that the truck has to be sprung, although I have a mild liking for sprung trucks.

It seems to me that the weight can be in the lower part of the car almost as well as in the truck proper, and that the car will ride well if the truck and the track are mechanically and dimensionally satisfactory. Obviously, if the entire car isn't heavy enough to hold the trucks down on the track, trouble will occur. (In this connection, a few months ago an article appeared in the MODEL RAILROADER on the subject of car weights in HO, by Ed Ravenscroft.) In my own observation, it seems to me that the situation can be summed up roughly about as follows:

(a) The truck must be so mounted that it will swivel freely on the sharpest reverse curve on the railroad. (Interference between truck frames and depending sides of streamlined passenger cars must be avoided.)

(b) All truck wheels must bear on the running surface of the rail head on level track. (In six-wheel trucks, the intermediate wheel on each side may be slightly higher than the end wheels, but must not be lower.)

(c) A solid, unsprung truck is an abomination. Personally, I like a flexible truck, even to the point where it seems almost sloppy, provided the arrangement is such that the wheels stay in gage.

(d) Flange thickness must not be greater than standard, and distance back-to-back of wheels must likewise not be greater than standard if derailments are to be avoided.

Personally I have deliberately thrown away some new trucks that failed to meet the above requirements—in both O and HO gauges -- and replaced them with trucks that did suit me, and have had no remaining derailments that could rightfully be attributed to the new trucks.

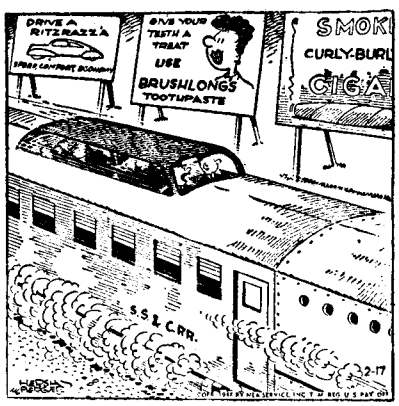
On the local club railroad, there have been very few derailments that could be blamed on the trucks exclusively, and the boys have every imagineable type and make of O gauge truck on their cars. Most of our derailments occur at turnouts, due to misalinements of rails and incorrect positioning of guard rails.

It is so obvious that I forgot to mention above that a little lubricant helps at times to make trucks perform satisfactorily.

Your question presupposes that the hypothetical modeler has fairly good track work. That is a pretty broad assumption, isn't it? A slight kink at the end of a frog can be terrifically annoying, and still not be visible except upon careful examination. Often, a fellow will be unpleasantly surprised if he gets his eye down to approximately track level and sights along the rail; the kinks that you then see are sometimes simply astonishing.

So far as I definitely know, no specific manufacturer's trucks at the present time are materially worse than those of the average manufacturer. This is a point that I would like to submit to the Inspection Committee chairman -- as soon as we get one. It is a matter that could be investigated to considerable advantage. In the meantime, I hope that the foregoing somewhat random comments will be of some interest to you.

---- MARK HARRISON
Altoona, Pa.



"It's no use—they just make the billboards higher!"

PCR BRANCH LINE

N.E.R. ANALYSIS COMMITTEE

As a result of the discussion concerning operations vs. standards which occurred at the Providence meeting, the Northeastern Region has set up an analysis committee for the purpose of assisting members with operational and construction problems. The work of the committee will largely be divided into two parts, as follows:

1. The analysis of commercial kits and materials from a constructive point of view, i.e., with a view to making suggestions which will help to make satisfactory operating equipment from materials which might otherwise cause trouble. Included in the broad perspective of this work are not only rolling stock items but also such equipment as switches, switch machines, buildings, etc. It is hoped that helpful suggestions can be made to the manufacturers and that a healthy strong relationship can be built between the Committee, manufacturers, and dealers which will help in the promotion of model railroading as a hobby.

2. The development of operational aides to both beginners and old-timers primarily with the idea of giving assistance in the details of constructing an operating pike. Suggested items for investigation in this field include such things as switch maintenance, relative merits of various switch machines, principles of pike design, principles of scenery construction with merits of various types, signalling, etc.

The committee formed at the meeting, which still lacks OO and S representation, is as follows:

John W. Wilson Jr., Chairman
Russ Houghton
Max A. Morgenstern
George F. Weinheimer
William Bolmer
Herbert Ruddock
Fred Riebel III
Allen W. Baldwin

The chairman of the committee, whose address is RFD No. 1, Bethel, Conn. would very much like to hear from anyone who has suggestions to offer or contributions to make to the work of the group. Every effort will be made to have the group fulfill the wishes of the Region membership, so let us hear what you want or what you have to offer.

JACK WILSON, CHAIRMAN

ATHEARN HO BOX CAR KITS

In general, this kit makes up into an excellent car by following the detailed instructions. However, the mitering at the side of the roof piece used in making up the wood car is not sufficiently wide. If the miter is not cut in about 1/32 of an inch on each side towards the ridge of the roof, the metal roof will not fit down snugly over the wood car resulting in a sloppy appearance. If the miter is widened, as suggested, the metal roof will fit snugly and the resulting car has an excellent appearance. This fault has been noted with five examples of this kit examined and is being brought to the attention of the manufacturer.

CONSTRUCTION ANALYSIS OF O-GAUGE MODELMASTER 40' GREAT NORTHERN BOX CAR

1. The construction methods used in the building of this car are essentially the same as those used on any car having a wooden shell upon which all external detail and fittings are attached.

2. No work is required to make the wood shell fit properly as the wood parts are accurately cut and fit together with ease. Wood screws on the outside and a good grade of airplane glue on the inside have been found to give a very rigid wood frame upon which to attach the trimmings.

3. On cutting out the door openings in the composition sides, a series of #55 drill holes were made all around the opening, followed by cutting with a heavy knife along the scribing made by the manufacturer. This results in a smooth door opening with a minimum of effort.

4. It is necessary to check the fit of the metal sides and ends before installing on the wooden shell. Modifications for fit should be made before assembly is attempted. On this particular car the ends fitted properly but it was necessary to trim 1/8 of an inch from each end of the processed metal sides to prevent buckling. In addition, it was necessary to taper off the composition sides starting about one inch from each end. If this is not done, only one processed side can be fitted in place under the car ends. The depth of taper required in this case corresponded to the outermost cardboard layer of the composition sides.

5. The stamped metal roof went on with no trouble, the stamped brass ends slipping under the overhang of the roof on both ends with slight pressure. This type of fit is helpful in holding the brass ends in place while fittings such as brake platforms, ladders, etc. are put in place. Plenty of wire brads are furnished with this so they can be used generously in the construction of the car.

6. Painting of the ends, roof and all attached fittings is suggested at this stage. The paint furnished with the kit is not satisfactory as it dries to a high gloss. 410-M paint was found to be satisfactory for this car, three coats being used to get complete coverage.

7. The orange paint furnished with the kit is not satisfactory for use in painting the door because of high gloss and lack of color match with the processed sides. However, a satisfactory paint can be made by mixing 410-M reefer yellow, caboose red, and black. The mixture was made by trial and error, adding the red and black to the yellow. More red than black was added for the kit in hand. The paint resulted in an excellent match and appearance of the finished car.

8. It is suggested that the underbody be painted before the sides are put on to prevent the paint from running over the edges and smearing the sides. This step is not included in the directions supplied with the kit.

JACK WILSON, CHAIRMAN