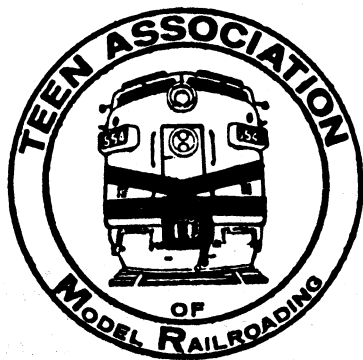




HOTBOX

"the Un-Magazine of Model Railroading"
No. 198 April 1984

Q. Why is the crew of CR 9945 so happy?



A. Because they've just seen this special M of W edition of the HOTBOX and think it's the greatest thing since sliced bread.



HOTBOX

OFFICIAL PUBLICATION • Iron Association of Model Railroading

Issued every month with an additional special mailing of a Directory of Membership during the summer

Annual dues for the TAMR are as follows:

REGULAR: (under 21 years of age) \$10.00
ASSOCIATE: (21 years of age and up) \$9.50
SUSTAINING: (both Regular & Associate) \$15.00

Please address all membership applications, renewals, address changes and complaints of non-receipt of the TAMR HOTBOX to the TAMR Secretary.

TAMR Secretary: Dee Gilbert
Box 132
Harrison, AR
72602-0132

All other HOTBOX business, except where specifically noted, is handled by the Editor. Please address all comments to the Editor.

HOTBOX Editor: Mark Kaszniak
4818 W. George St.
Chicago, IL 60641

DEADLINES: The TAMR HOTBOX welcomes articles, photographs and artwork pertaining to model and/or prototype railroad subjects. All material for publication must be submitted 30 days before the month of publication. The TAMR HOTBOX assumes that all material is submitted for the mutual benefit and enjoyment of the hobby by the membership and thus no payment will be made upon publication.

CONGRATULATIONS!

TAMR member, Shawn Ballard, of Harrison, AR took second place in the Display category at the March 17th Mid-Continent Region Convention of the NMRCA with his scratchbuilt Nn3 Colorado mine. Perhaps Shawn would be interested in writing an article for the HOTBOX explaining his award-winning scratchbuilding techniques?

HI-TECH HOTBOX

A few members have written recently to ask why doesn't the HOTBOX modernize its image and go to commercial typesetting and state-of-the-art production techniques. The most obvious improvements of which would be new column titles, right and left justified type and more interesting titles accompanying articles. Obviously, these members have the best interests of the TAMR and this publication in mind when they mention these improvements. However, let's face the facts, with a membership that has been hovering around the 150 mark for the past couple of years, you just can't expect those kind of changes to happen over night. For the size of our membership, I think we are producing an excellent publication.

Instead of thinking of ways to improve the HOTBOX, these members should be thinking of ways to attract new members to our association. Believe it or not, most of what does or does not happen in the TAMR hinges on membership. You can not expect slick multi-page magazine from the TAMR each month loaded with photos with our current membership unless you are willing to pay upwards of \$50 a year in dues.

Dreaming about what can be is nice, but unless you are willing to work to achieve the goal, all the dreaming in the world isn't going to change the current situation.

Plans are being made right now for our 21st anniversary convention and so far one person has forwarded his ideas on what the program should entail. This year's elections have some very important amendments to our Constitution, but as of this writing, less than one quarter of our members have submitted ballots. How can we hope to improve anything in the TAMR when a majority of our members won't even voice an opinion, let alone help out with the hard work. Nothing is going to happen unless you help to make it happen. Now is the time to stand up and be counted. Otherwise, things will remain as they are.

--Mark Kaszniak
HOTBOX Editor

EXTRA BOARD

All the new that fits, we print:

MEMBERSHIP

By Dee Gilbert

Total TAMR Membership (4-2-84): 138

Breakdown as follows:

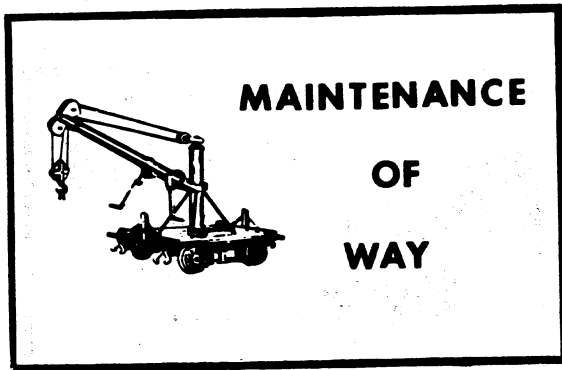
Region	Number	Percentage
Canadian	7	5.0%
Central	45	32.6%
International	1	0.8%
Northeastern	42	30.4%
Southern	22	16.0%
Western	21	15.2%

TAMR Welcomes These New Members:

Bryan Hammond, Houston, DE
Ron Lawrence, Elverta, CA
Darren Ferreter, Cedar Rapids, IA

Also, Welcome Back:

Kristen Schnell, Pulaski, VA
Dave Valentine, Pottstown, PA
Mark Nerger, Pensacola, FL
Ken Keels, Rochester, MI
Alan Fisher, Denton, TX
Frank Rudowski, Wyandotte, MI
Mike Thomas, St. Louis, MO
John Marshall III, Pittsburgh, PA
Michael Barth, Victorville, CA



M of W is a product review column written by our members on model railroading and railfanning items that may be of interest to you. All the opinions presented are those of the reviewer and are not necessarily those of the T&EH or the MOTOX. Please submit reviews to the MOTOX Editor.

HON3 Outside Frame 2-8-0, Model Die Casting, 3811 W. Rosecrans, P.O. Box 926, Hawthorne, CA 90250 \$49.98

During the 1870's and 1880's, when narrow gauge railroads were being constructed in large numbers in the U.S., locomotives on these lines were more or less scaled down versions of their standard gauge counterparts on three foot gauge drivers. The lack of space between the drivers severely limited the size of firebox that could be used on these locomotives, thus limiting their power. Also, this small frame probably resulted in a top heavy setup which lead to easy derailing.

In 1886, Baldwin Locomotive Works built a small narrow gauge 2-4-2 for the Antofagasta Railway in Chile using a new concept. Instead of having the frame placed inside the drivers, which was the universal practice for standard gauge locomotives at the time, the frame was built outside the drivers. This revolutionary idea allowed for a firebox of greater width between the frame and a wider cradle for the boiler thus providing a more powerful locomotive. There was also greater engine stability due to the location of outside journal bearings.

Despite the success of these outside frame locomotives, none were built for an American narrow gauge railroad before 1901. In that year, Baldwin built the first of three outside frame 2-8-0's for the Crystal River Railroad in Colorado. These three engines later found their way to the Denver & Rio Grande Western narrow gauge where they were renumbered 360, 361 and 375. The Rio Grande purchased its first outside frame 2-8-2's in 1903. These engines were very successful and led to the development and purchase of three even more powerful classes of outside frame locomotives during the 1920's. This made the Rio Grande one of the largest users of outside frame narrow gauge locomotives.

The Model Die Casting kit follows the lines of the Crystal River 2-8-0's. While it is a bit long for any of these locomotives, the lines are there. The tender is nicely detailed and follows almost to the letter the dimensions of the Rio Grande class K-27 2-8-2's. In fact, the kit could be easily converted into a slide valve K-27 by adding a trailing truck to the engine. Robert Sloan offers a conversion kit for doing just that. An article published in the Jan/Feb 1984 issue of Narrow Gauge and Short Line Gazette by Mr. Sloan describes this conversion.

The cab and boiler details are crisp and require little filing. The boiler backhead is detailed and the cab can be removed with a screw for further detailing. MDC has included many extra parts for superdetailing. Included in the lineup is a wide assortment of stacks, tanks, brake cylinders and other little locomotive details. Some Zamac counterweights are also provided in case you want to construct a K-27.

The neatly packaged kit comes with a complete set of instructions, super-detailing tips and a list of reference books on the prototype for further detailing information.

In constructing the model, I started with the mechanism first. I strongly recommend doing this before anything else as all the detailing in the world can't save a bad running engine. The mechanism runs quite well if it is carefully assembled. One suggestion I have here is that after filing all the flash from the chassis, assemble the drivers and work out the kinks by rolling the chassis down a sheet of glass. If there is any binding, carefully file out the wheel well of the problem driver a tiny bit and retest. Continue in this manner until all the drivers run down the glass smoothly without binds. From there, move on to the valve gear using the same techniques. If you can get the entire mechanism running smoothly in this manner, you will be assured of smooth operation. I checked out the meshing of the worm gear and drive gears as per the instructions and found that I had to shim up my motor by .030". When assembling the motor, please check to see that the gears mesh properly as shown on the diagram. If the instructions are followed correctly, you will be assured of sound smooth operation.

The first major change I made was in lowering the boiler. Most prototype outside frame locomotives rode a lot lower than this one does. I followed

(cont'd page 4)

M of W (cont'd from page 3)

the techniques shown in the October 1979 MODEL RAILROADER and in the Tweetsie Railroad article in 1981 MODEL RAILROADER. This simple conversion makes for a dramatic and much more realistic appearance. The smokebox is too long for most of the later Colorado narrow gauge locomotives that I've seen, so I cut out a small section of the smokebox and refitted it together. This modification is a bit tricky, but it can be done with a razor saw and some careful work. Another minor modification I made was to file off one row on each of the leaf springs. This makes them much more realistic as they just don't look right the way they are. If you don't want to bother with all the filing, you can cut off and replace these leaf springs with ones from Precision Scale Company (#3617).

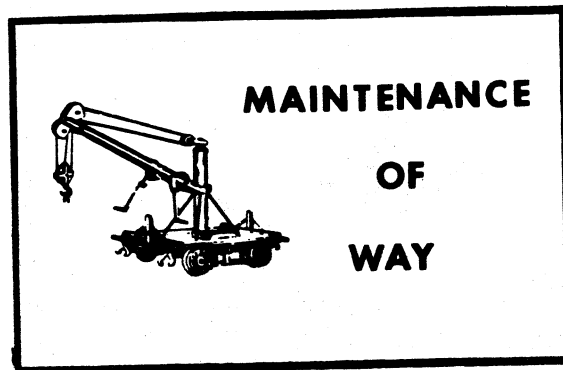
Some of the details in the kit such as the bell, whistle and generator are quite crude and I replaced these with brass detail castings. I also suggest adding a headlight, air pump and injectors for starters. You can add additional parts if you like following the prototype photos supplied with the kit. Paint, letter and top off the tender with some coal and you're in business. The completed model has a close resemblance to the Rio Grande's C-21's and C-25 #375. The boiler is a bit too long, but a credible replica could be built. The model is a sucker for detailing and you can use the detail parts supplied with the kit to come up with many combinations.

This locomotive kit is a great model for those starting out in HO_{n3}. It is a very good model for the price without having to pay for a brass narrow gauge locomotive. You can easily detail the model and still not spend a fortune. The engine is a good runner and can probably pull about eight narrow gauge cars--a typical narrow gauge train. At present, I am building Alchesay & White Mountain's C-24 2-8-0 #361 complete with her famous wedge plow. When completed, this locomotive will look quite impressive as she pulls her consist of narrow gauge cars up the grade to Greer.

--Mark Miter

Front Cover:

Conrail #9945, a re-engined DeWitt Geep, pulling a local wayfreight through Grand Rapids, MI. Photo by Tim Vermande.



M of W is a product review column written by our members on model railroading and railfanning items that may be of interest to you. All the opinions presented are those of the reviewer and are not necessarily those of the TAM or the HOTBOX. Please submit reviews to the HOTBOX Editor.

Operate! The Game of Model Railroading
Golden/Lahm Co., Star Route Box 38k,
Glenwood, NJ 07418 \$14.95

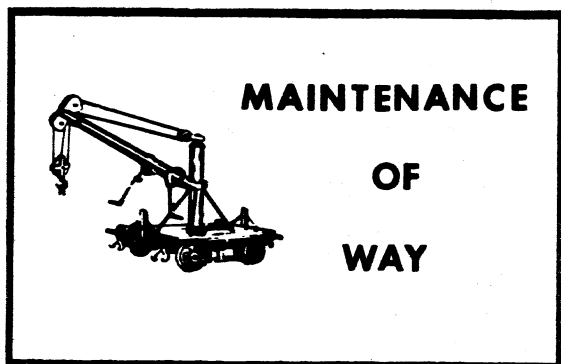
If you've always drooled over how well the pros have used freight car movements on their layouts, well you're not alone, but now there's help. The Operate! game is a fine way to start running your pike the prototypical way. There are only two requirements to play the game: at least two industries and a passing siding so the locomotive can run around the train.

The set includes: waybills, waytacks, car marking systems, shipment work-sheets and very detailed, easy to understand instructions. In addition, there are five different versions of the game. The first, of course, is the easiest. Car movements are performed with numbered color-coded stickers. The stickers are held on the cars by thumb-tacks. This means that you will have to drill a hole in the roof of the car. If you do not wish to do this, there is a piece of plastic "I" beam included that can be placed on the roofwalk of a boxcar or adapted to other cars.

Game two uses two cards, one called a waybill and the other called a car order, for use in identifying the car needed for shipment. Games three, four and five deal with car service, sequential scheduling and express freight.

Also out is Operate II, which includes locomotive servicing, situation cards, passenger operations and other advanced situations. In short, the Operate! game is an inexpensive, easy-to-use operating system that can be adapted to your own personal pike.

--Jeff Patelski



M of W is a product review column written by our members on model railroading and railfanning items that may be of interest to you. All the opinions presented are those of the reviewer and are not necessarily those of the TAA or the MOTOX. Please submit reviews to the MOTOX Editor.

Several members have asked our MSC Chairman about the suitability of MRC's new Tech II throttles with N scale equipment. Dee Gilbert has evaluated both throttles and reviews on both the 2400 and 2500 throttles appear below. Please note that these are Dee's recommendations based on extensive testing with these throttles.

MRC Tech II Railmaster 2400 throttle, Model Rectifier Corp., 2500 Woodbridge Ave., Edison, NJ 08817.

The 2400 is one of the new series of Tech II transistorized power supply/Throttles being offered by MRC. To begin with, the case is made of black, high impact resistant plastic with white lettering. The speed controller scale is marked off in five step increments, with unnumbered marks in between representing a single increment of voltage (speed) increase. The scale begins at zero (stop) and terminates at full (100).

The speed controller handle is a two-piece affair and I found that by taking it apart, removing the burrs and using a touch of plastic compatible grease on the contacting surfaces that smoother handle movement resulted.

Three switches are set to the right of the speed controller and they are Power, Pulse and Direction switches. Above the speed controller are three indicator lights: Power lamp, Overload and Power Monitor. Of these, my only real complaint is that the Power Lamp light is too bright and can be somewhat distracting when trying to look across it to the layout.

Track and other connections are on the back. There are terminals for fixed DC, fixed AC and Variable DC. With no load, the voltages for each output are respectively: 15vdc, 18.5vac and 0-14 vdc. Actual output ratings may vary due to the tolerances of the internal components.

The first thing I wanted to know after reading all the instructions and properly connecting the throttle to the track was the actual output amperage on a dead short. For this pack, I found it to be slightly above 4.5 amps taking about 45 seconds for the circuit breaker to trip. This means--in N scale--that derailments involving wheels shorting the rails can heat up enough to melt the insulating plastic and that it is also possible to melt the insulation on the wiring from the throttle to the track. Thus it is probably a good idea to shut off the power immediately in the event of a derailment. In terms of locomotive capacity, I was able to run 20 N scale locomotives, averaging about a half an amp each, for almost five minutes before the overload breaker tripped shutting down the throttle.

From the feel of the top of the area under the throttle, I would say that the transistors are mounted on a heat sink which is held in place by the throttle housing as this area became quite warm. Although the area does become warm, it does not interfere with the throttle's operation. No heating occurs with the throttle just feeding current to the track and no trains being run.

How does it operate? Very fine! I am most impressed with the operation of this pack with N scale and heartily recommend it. With the pulse off, your average N scale locomotive, regardless of the motor used, will have a reasonable smooth take-off, minimal jerking and average running speed maintained about the 30 to 35 setting on the throttle. With the pulse on, motors do tend to make a little more noise and will tend to start a little better. However good quality motors, such as those found in Trix, Rapido and Con-Cor units, will experience little improved starting ability. If a locomotive has a little binding problem, the throttle tends to smooth this over in the operation, but start speed will tend to be higher although jerking will be reduced as far as the start is concerned. Naturally, the worse the bind, the poorer the unit will perform.

In addition, the pulse can be used to achieve slower speeds up grades. I demonstrated this to myself on one section of my layout where the grade is a quarter of an inch rise per foot (2.1%).

One of the biggest problems N scalers have is locomotive heating. The motors are so small and take up most of the space in the shell leaving little room for ventilation. The heat must go somewhere. If there is not enough space in

(cont'd page 6)

M of W (cont'd from page 5)

the shell, or not enough air-flow through the shell, the heat builds up in motor causing it to burn out. Heating occurs from both the current draw from the motor and arcing taking place between the brushes and commutator. Pulse power is merely AC ripple and is used to shake loose the motor's components. Unfortunately, pulse power makes locomotives run hotter due to increased arcing. Thus an ideal throttle would use AC to start the locomotive and have it disappear as the throttle setting is increased. A good throttle will minimize the AC ripple effect to prevent excessive arcing. The 2400 does have some AC ripple, but I could only measure 3.6 to 4.0 volts during operation with the pulse off. Turning the pulse on adds another volt or so of AC to the output. Please note that turning the pulse on does not increase the speed of the locomotive, but only the amount of arcing that takes place inside. As the amount of arcing increases as the throttle setting is increased, one should avoid running N scale locos at high throttle settings with the pulse on. Doing this will only decrease the life of your locomotive. The 12 volts DC range is attained at a throttle setting of approximately 75 to 85. Since most N scale locos have 12 volt motors, you should not exceed this setting while running motors else you will tend to burn them out rather quickly. Thus with N scale motors, you should probably not operate above the 60 to 65 throttle setting, this is due to the fact that if the pulse is accidentally left on, the AC ripple can burn out lamps in locos and lighted cars.

Finally, one of the nice features of this throttle is that it tends to equalize starting voltages for a variety of different locomotives. As you are aware, each locomotive starts at a different voltage making it difficult to run multiple unit consists as one unit is usually doing the lion's share of the work. With the 2400, I have found that the starting voltage variation is not more than .4 of a volt. This means that locomotives will tend to run more in unison when paired up allowing each one to take its share of the load.

This throttle tends to bring out the best operating characteristics in your locomotives, but can cause damage under derailment conditions. For instance, the tiny wires between the tender and locomotive can be melted in two when run through an electric block with one having reverse polarity in relation to

the other.

Appendix

To illustrate the AC ripple effect of this throttle, the following test was performed. A train was made up of two Rivarossi 2-8-8-2 locomotives pulling 15 cars, including a caboose around the layout. The cars were a ready-to-run assortment of Atlas, Con-Cor, Trix, Rapido and Roundhouse, all have Kadee trucks and wheels.

The column headings are identified as follows:

- A = throttle setting
- B = AC ripple, no pulse
- C = AC ripple, with pulse
- D = DC voltage

A	B	C	D
9	0.5	0.8	1.0
14	1.0	1.5	2.0
17	1.8	2.1	3.0
23	2.1	2.8	4.0
25	2.4	3.3	5.0
29	3.0	3.8	6.0
35	3.4	4.4	7.0
50	3.8	4.4	8.0
58	4.0	4.4	9.0
65	4.4	4.6	10.0
73	4.8	4.8	11.0
81	5.2	5.2	12.0
88	5.8	5.5	13.0
Full	5.8	5.8	13.5

Load on throttle was 400 milliamps.

--Dee Gilbert

MRC Tech II Railmaster 2500 throttle,
Model Rectifier Corp., 2500 Woodbridge
Ave., Edison, NJ 08817.

The 2500 is another in the MRC Tech II family of power pack/throttles. The case is designed the same as the 2400 with a few differences in controls and overall performance in operation.

The speed controller is of the same design as the 2400, but on the right side of the controller there are now four switches: Power, Momentum, Direction and Brake. Across the top of the throttle there are three lamps, Momentum, Overload and Power Monitor. When the momentum is turned on, the Momentum lamp lights as a reminder.

Output connections on the back are fixed DC, fixed AC and variable DC with ratings of 20 vdc, 16.5 vac and 0-14 vdc, respectively.

For a dead short, the circuit breaker tripped out at 3.5 amps. This is still enough current to melt insulation on wheels and wires. In operation, you will find that the braking action coupled with the momentum will produce quite a novelty until you become accustomed to it.

(cont'd page 7)

M of W (cont'd from page 6)

Pulse power is on and used from zero to ten volts when it falls off through the circuit design of the pack.

With the momentum in the "off" position, you will have direct control of your train speed at all times. Thus after using the brake switch--which is spring loaded--your train will immediately return to the preset speed of the throttle.

With momentum "on", your throttle becomes much more like the action of a real train. Your train will gradually build up to speed, can be braked for curves and speed restrictions and can be made to come to a graceful stop using the brake switch alone. On my mainline, which is approximately 75 feet long, it took nearly three revolutions to get the train from full stop to full throttle using the momentum. With a few calculations, this translates into nearly 1.5 N scale miles! I did find out that the action of the brake and momentum did vary by the amount of current the train was drawing. The effect seemed to be longer on lower current drawing trains than on higher current drawing ones. This, of course, is opposite to that of the prototype.

The pulse on the 2500 is different from that on the 2400 causes a bit more buzzing in N scale motors and produced considerable more heat in the motors. For this reason, I do not recommend this pack for scales smaller than HO. Brush wear and spring failure may be increased in N scale with this pack so if you decide that this is the pack for you, it is advisable to maintain a watch on these parts.

Appendix -

To illustrate the pulse (or AC ripple, effect of this throttle, the same test was conducted with it as the 2400.

The column headings are identified as follows:

A = throttle setting

B = AC ripple

C = DC voltage

Load#400 mA

A	B	C
17	2.0	1.0
23	3.4	2.0
37	4.4	3.0
51	4.8	4.0
58	5.1	5.0
61	5.2	6.0
64	5.2	7.0
66	5.2	8.0
68	5.2	9.0
70	5.0	10.0
73	4.8	11.0
77	4.2	12.0
Full	1.6	15.5

April 1984

TRAIN ORDERS



TRAIN ORDERS is a letters column in the TAMR HOTBOX where you can express your views on the TAMR, its publications and its officers. All letters for this column should be sent to the Editor of the TAMR HOTBOX.

21st Anniversary Suggestions

- 1) An extra large HOTBOX with more photos, etc. If MR can do it, so can we. Perhaps the members would be willing to chip in some extra bucks.
- 2) At the national convention:
 - a) Pass contest.
 - b) Model contest--All scales with categories for engines, cars, cabooses and structures.
 - c) Photo contest--slides and prints, color and b&w, prototype and model.
 - d) Prototype tours
 - e) Slide shows

3) A commemorative car --Greg Dahl

National Model Railroad System

John Dunn (234 Jefferson Ave., St. James, NY 11780) is willing to head up a national model railroad system like those developed for our regions. Write him if you are interested in participating.

Member in Need

Mike Raposa (2494 Golf Links Circle, Santa Clara, CA 95050) will be attending the Cass Scenic RR railfan weekend in May and would like to hear from other TAMR members doing likewise.

Amendment Comments

I feel that amendment number 2 is nothing less than extortion of a form. Forcing national membership or even visa versa could do a great deal of harm to our membership. Members should be encouraged to the fullest extent to join the national or regional. I strongly feel that this amendment will not help the TAMR.

--Stephen Sant

I am upset that you are raising Associate member dues from \$10 to \$12. If this is passed, there will be a lot of us who will drop out, mainly me. You see a lot of us are on fixed incomes and just don't have the money. You must remember that your older members are mostly retirees. Perhaps we should lower the dues and cut out some issues of the HOTBOX?

--George Freeman

PIKE ADS-

Take advantage of the HOTBOX's latest service for TAMR members. Here is your chance to tell others about your railroad, your modeling efforts or just your pipe dreams.

These ads employ a reusable "header" with the option of changing the text below as often as you desire. Your text can be informative, newsy, tongue-in-cheek or foot-in-mouth. Funny or dead serious, that's your choice. Either way, it makes for interesting reading.

The pike ad charge is based upon the number of typed lines (40 spaces per line) that you use. Cost is a mere 10¢ per line with the header printed FREE! Headers can be no larger than 1½ inches wide by 4 inches long. You can work up the header yourself (black ink on blank white paper, please) or we'll prepare one to your specifications for a one time fee of a \$1.00.

All pike ads should be submitted to the Editor with payment. No ad will be printed until full payment is received. Please make checks or money orders payable to the TAMR. Avoid sending cash if possible. If you would like your ad published in a particular issue, please heed the deadlines listed on page two. So come on, tell us what's happening on your railroad or your future plans for expansion.

TAMR HOTBOX, the "Un-Magazine of Model Railroading"
Box 132
Harrison, AR 72602-0132

PLACE
POSTAGE
HERE

Issued 5-5-84

FIRST CLASS MAIL

