

# ZOG 43

JANUARY 1968

Vol. 3 No. 3

## NARTS

by Ed Pearson

Capt. Byrant "Red" Thompson-NAR Technical Services (NARTS) Director-has asked NAR members to provide suggestions and plans for his committee. Capt. Thompson wishes to learn exactly what NAR members ideally desire of NARTS. A list of suggested projects and improvements is currently being compiled by IAC member Ray Stanford at Capt. Thompson's request.

Capt. Thompson took over the duties of Tech. Services last year on a part time basis from NAR Headquarters. However, "Red" is an old time model rocketeer, hobby shop owner, and NAR Trustee. At NARAM-9, Capt. Thompson was elected NAR vice-president.

NARHAMS members have already made some suggestions for NARTS at their December 15, meeting. Among their ideas were: (1) NARTS to carry more scale rocket data; (2) NARTS

(Continued on page 2)

## RESPONSE

Does your section put out a newspaper? Do you have an extra copy?

If your section puts out a newspaper and if you have an extra copy, please send said copy to NARHAMS. Please, at least, send us a post card letting us know that you are getting the ZOG 43. Your response will be greatly appreciated.

NARHAMS sends out the ZOG 43 to all NAR sections listed in the most up-to-date roster available, free of charge, as a service in the interest of improving communications between the model rocketry sections throughout the United States.

WAMARVA

Andy Elliott  
Norham's  
7419

WAMARVA sections are those NAR sections in Washington D.C., Maryland, and Virginia.

The WAMARVA sections are now being organized to help improve communications between the NAR sections in Washington D.C., Maryland, and Virginia.

What WAMARVA will basically be doing in improving communications between sections is letting the sections in the group know what is going on, when and where special activities are being held, and who is holding them. WAMARVA will help coordinate activities so that such things as two regional meets only two or three weeks apart will not happen or so all sections of the group will know of special activities in the area, such as the NASA Spacemobile lecture given at Walt Whitman High School one week-end during the Spring 1967.

The first formal meeting of WAMARVA is now being planned for 2:00 p.m., January 14, 1968 at the home of Howard Galloway, the senior advisor of the Star Spangled Banner section, who will act as chairman at the meeting. It is hoped that all sections in the group will be represented at the meeting.

The WAMARVA sections are: (in alphabetical order)

Annapolis Association of Rocketry  
NARFAX  
NARHAMS  
Randallstown Rocket Society  
Rock Creek  
Star Spangled Banner  
U. F. O.

## NARHAMS MAIL

Since September 1966 the mailing address of NARHAMS has been that of the ex-president of our section, Bob Kaplan. As of the time of the printing of this ZOG 43 the new mailing address for NARHAMS will be that of our section advisor.

Please address all correspondence to:  
NARHAMS  
c/o James Barrowman  
5614 Hamilton Manor Drive  
Hyattsville, Maryland 20782



(NARTS Cont'd)

to provide R&D reports; (3) NARTS to make copies of NAR's constitution and by-laws available; (4) NARTS to issue rocket plans of NARAM event winning birds; (5) NARTS to make their advertisement list more accessible to members, i.e., include one is renewal packets, keep copies at headquarters, and send copies to the sections.

These are some of the suggestions coming from our members. Members of Blackhawk and Pascack Valley Sections, as well as the Leader Administrative Council, have made others. How about you? Whether you're a junior, or leader club member, or a section president, Capt. Thompson will welcome your suggestion. Send your ideas concerning NARTS to Ray Stanford, 402 East Daniel, Champaign, Ill. 61820.

Ray is another old time model rocketeer; a fellow who is noted for his beautifully accurate scale models. Ray formed the Blackhawk section, was elected to the LAC of NARAM-9 and currently attends the University of Illinois.

## NARHAMS GETS PRINTING EQUIPMENT

We have finally gotten the equipment to produce ZOG 43, the Phone Tree, the Library List, etc. for NARHAMS. The club voted at the meeting of December 1, 1967, to rent a "Ditto" copier with the express intention of buying it if its performance met with the approval of the Communications Committee and of the Club Members.

This ZOG 43 was printed on the new machine. What do you think? Does the work it does satisfy you? The vote will be coming soon. Think about it.

The Editor of ZOG 43 invites the members of NARHAMS and of the NAR to write and submit any articles or information for publication. Send to:

ZOG 43  
c/o Chuck Gordon  
192 Charlotte Drive  
Laurel, Maryland 20810

## SECRET AGENT 0043

The following story is an excerpt from an ancient unpublished novel by an anonymous author, titled, "Stories of the Adventures of BARROW-MAN."

The names of the characters have been changed to protect the innocent. Any resemblance to any real life persons is purely coincidental.

In a conference room in the city office building a meeting of the commissioners was being held. A commissioner said, "These bombings and raids must cease. Our fields and parks and libraries must be protected. The MASKED AVENGERS must be stopped."

Another commissioner cries, "This is a job for BARROW-MAN, our under cover super secret hero," and turning to the Police Chief, "Get him on the BARROW-phone right away!"

Inside a building deep inside Goddard Space Flight Center a hidden phone rings. All the employees turn and look at the mild mannered engineering technician who sheepishly explains that the ringing in his desk is only his alarm clock that he forgot to take home. Opening his drawer he pretends to tie his shoe laces, he talks to the commissioner.

BARROW-MAN: "Hello, BARROW-MAN speaking."

Commissioner: "BARROW-MAN, your very first job on the force of crime fighters is to catch the MASKED AVENGERS."

BARROW-MAN: "G U L P"

(Continued on page 3)



(BARROW-MAN Cont'd)

Commissioner: "They have been holding chaos meetings in our libraries and bombing our fields. They must be stopped!"

BARROW-MAN: "Yes Sir. I'll take annual leave this afternoon and look for information about this ruthless gang. But first I will make some checks on the BARROW-puter."

Commissioner: "Good hunting BARROW-MAN." Click.

BARROW-MAN quickly goes to the files and looks up the facts on this mob, finds the file he is looking for, and dashes off to the computer room. Feeding the info. into the BARROW-puter and, looking at the results as they trickled out, he finds that the center of pressure is ahead of the center of gravity. Deciding that the whole plan will not get off the ground he throws the file in the trash can and rushes outside, hops into the wheelBARROW, and roars off, nearly hitting a slow guard at the front gate.

By checking with the libraries BARROW-MAN finds out that the MASKED AVENGERS were having a meeting that Friday. Looking at his pocket calendar he saw he had another meeting at the same time and place. Then a slow smile spread across his mild face. He knew then that the commissioners would never catch the MASKED AVENGERS FOR he BARROW-MAN was the leader of the MASKED AVENGERS which was disguised as an innocent model rocket club.

BARROW-MAN stood at the door of the library meeting room and greeted the AVENGERS as they arrived. "Mob of Catland", second in command, was the first to arrive, followed by Blob Singer, the one who picks the libraries to be raided, Chuck the Moneybag came in with the keeper of the chaos records, Carl the Rat, with his sidekick, Steve the Rat. Pearson Pearson, the flower of Cumberland, Peter Pan, and Walt Ian arrived together in Pan's blue roadster. Atilla of NATHANS arrived alone.

(Continued on page 5)

#### M.I.T. CONVENTION

Full information on the M.I.T. convention has been received by the ZOG 43. It is as follows:

"The M.I.T. section of the NAR would like, at this time, to announce the holding of an international model rocketry convention at the Massachusetts Institute of Technology on the weekend of March 29, 1968. The purpose of the convention will be to attempt to establish a sound theoretical and practical basis for research and development in many areas of model rocketry design and flight, as well as to examine in detail much of the work being done with model rockets today.

Convention activities will include discussions groups, presentations of technical reports, a launch, 2 banquets, the unveiling of new model rocket products and illustrations

(Continued on page )

#### CHANGES

##### PHONE TREE Changes:

Singer--new phone number is 656-1434. Please change your phone trees and roster.

Blickenstaff--take his name & number off the phone tree.

Jewell, Ron--new name and number. Put him on under Andy Elliott.

##### ROSTER Changes:

###### New name and address:

Jewell, Ronald (935-6007)  
4807 Hollywood Road  
College Park, Md. 20741

###### Change of address:

Guthrie, Kenneth  
1001 Rockville Pike Apt 514  
Rockville, Md. 20852

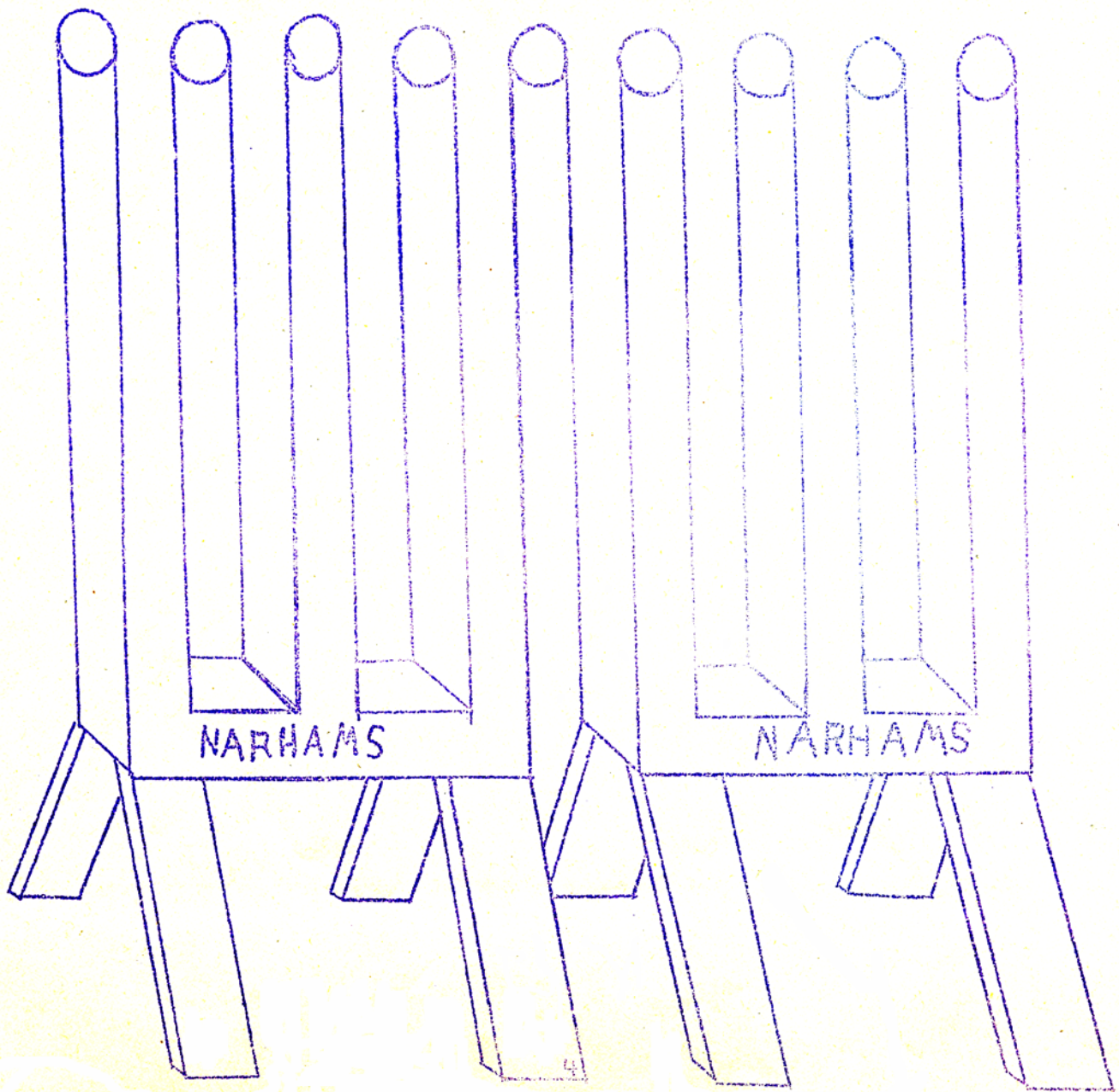
Remove--Jan Blickenstaff from active member standing.



# A NEW LAUNCH SYSTEM

by Alan Swift

While standing around at the last NA HAMS' section meet in the cold I concluded there was a need for a more efficient launch system. This new system should be more efficient, for use in large regional shoots and still be portable and practical for smaller meets. After some thought I came up with the design pictured below which can be transformed from a nine rail system to a six rail system with a mere flick of the eye.



Proposed Narhams Launch Complex

FIGURE 1 -- Transition Piece

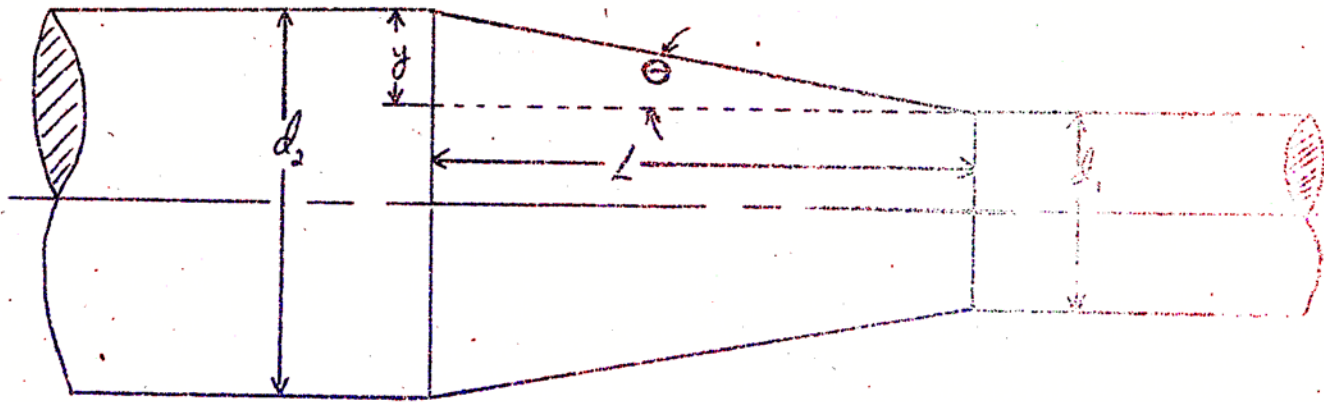
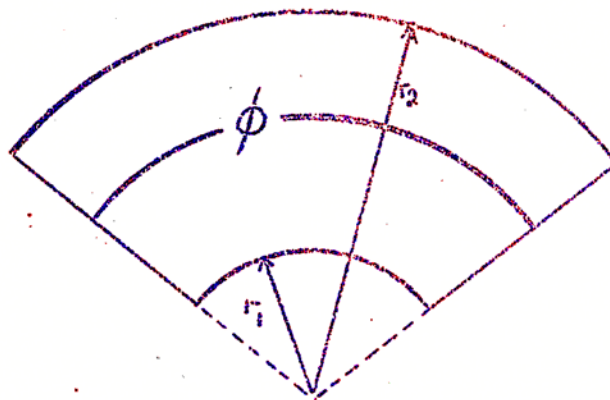


FIGURE 2 -- Transition Piece Template



When data provided by:  
SIP Corporation  
SIPRALS

Steps to compute Template Dimensions.

$$1. y = \frac{d_2 - d_1}{2}$$

$$2. \sin \Theta = \frac{1}{\sqrt{(L/y)^2 + 1}}$$

Can use Table 1 to get  $\sin \Theta$

- a. compute  $L/y$
- b. Use table 1 to get  $\sin \Theta$

$$3. \phi = 360 \cdot \sin \Theta$$

$$4. r_1 = \frac{d_1}{2 \cdot \sin \Theta}$$

$$5. r_2 = \frac{d_2}{2 \cdot \sin \Theta}$$

Gen. Contr.  
C.M.C.

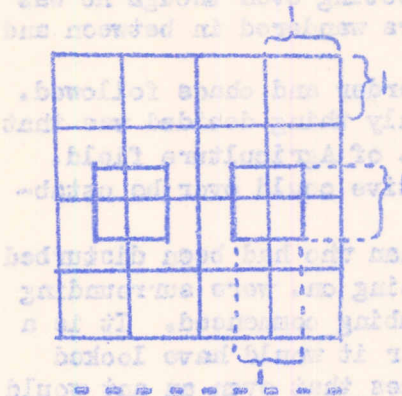


TABLE 1 Values of  $\sin \theta$  from  $L/y$

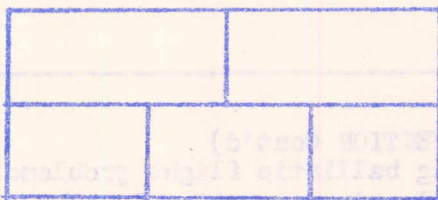
| $L/y$ | $\sin \theta$ | $L/y$ | $\sin \theta$ | $L/y$ | $\sin \theta$ |
|-------|---------------|-------|---------------|-------|---------------|
| 0.01  | 1.000         | 1.40  | 0.578         | 5.80  | 0.170         |
| 0.02  | 1.000         | 1.50  | 0.553         | 6.00  | 0.164         |
| 0.04  | 0.999         | 1.60  | 0.529         | 6.50  | 0.152         |
| 0.06  | 0.998         | 1.70  | 0.507         | 7.00  | 0.142         |
| 0.08  | 0.997         | 1.80  | 0.487         | 7.50  | 0.132         |
| 0.10  | 0.995         | 1.90  | 0.467         | 8.00  | 0.123         |
| 0.12  | 0.993         | 2.00  | 0.448         | 8.50  | 0.117         |
| 0.14  | 0.991         | 2.20  | 0.414         | 9.00  | 0.110         |
| 0.16  | 0.988         | 2.40  | 0.384         | 9.50  | 0.105         |
| 0.18  | 0.985         | 2.60  | 0.358         | 10.0  | 0.099         |
| 0.20  | 0.981         | 2.80  | 0.335         | 12.0  | 0.083         |
| 0.25  | 0.970         | 3.00  | 0.316         | 14.0  | 0.071         |
| 0.30  | 0.958         | 3.20  | 0.297         | 16.0  | 0.063         |
| 0.35  | 0.945         | 3.40  | 0.282         | 18.0  | 0.056         |
| 0.40  | 0.928         | 3.60  | 0.267         | 20.0  | 0.050         |
| 0.45  | 0.912         | 3.80  | 0.253         | 25.0  | 0.040         |
| 0.50  | 0.892         | 4.00  | 0.242         | 30.0  | 0.033         |
| 0.60  | 0.857         | 4.20  | 0.231         | 35.0  | 0.027         |
| 0.70  | 0.822         | 4.40  | 0.222         | 40.0  | 0.025         |
| 0.80  | 0.784         | 4.60  | 0.213         | 45.0  | 0.022         |
| 0.90  | 0.746         | 4.80  | 0.204         | 50.0  | 0.020         |
| 1.00  | 0.707         | 5.00  | 0.196         | 60.0  | 0.017         |
| 1.10  | 0.669         | 5.20  | 0.189         | 70.0  | 0.015         |
| 1.20  | 0.640         | 5.40  | 0.183         | 80.0  | 0.013         |
| 1.30  | 0.607         | 5.60  | 0.176         | 90.0  | 0.011         |
|       |               |       |               | 100.  | 0.010         |

## PUZZLE PARADE

How many squares are there in this figure?



Draw one continuous line, without moving the pen from the paper in such a way as to cross all lines on the figure once, but no line twice. You can start anywhere.



Each break counts as a line. There are a total of 16 lines. Good Luck.

Answers to last Puzzle Parade:

The multiplication comes to:

$$\begin{array}{r}
 1475 \\
 \times 527 \\
 \hline
 8850 \\
 88500 \\
 885000 \\
 \hline
 998575
 \end{array}$$

\*\*\*\*\*

Those persons who worked out the answer of 77 to the Tennis question with the use of brackets or the addition of halves of halves may feel foolish when it is pointed out that if 77 entrants are to be eliminated then there had to be 77 matches.

## BITS & PIECES

The meeting of February 2, will be devoted to the checking and verifying of scale models and substantiation data. If you have a scale model or scale data you would like to have built, then bring it to the meeting. A very short business meeting will be held.

\*\*\*\*\*

Andy Elliott, long time member of our section, has been appointed as chairman of the Activities Committee. Andy's job will include making arrangements for special club activities such as movies, lectures, etc. Congratulations Andy and GOOD LUCK.

\*\*\*\*\*

The section has voted to replace one of the speaker that has been classified as unrepairable. The system should be completely ready for our next launch.

\*\*\*\*\*

NARHAMS now has in the section library a movie from NARAM-7. The movie was shown at the meeting of December 15, and will probably be shown regularly as decided upon by the Activities Committee. Thanks to O'le Ed for getting us the use of this movie.

### FIRST WAMARVA MEETING

The first official meeting of the WAMARVA coordination group was held on January 14, 1968. All of the WAMARVA sections, with the exception of NARFAX, were represented.

Discussed at the meeting were the activities or special events each section was planning to sponsor. Also briefly discussed were the many transportation problems in our area.

A small WAMARVA newsletter, containing WAMARVA news only, will be published by the NARHAMS for this quarter, and copies will be sent to all WAMARVA sections.

"Atilla-of-Narhams" is coming. Beware.



(BARROW-MAN Cont'd)

being a member of the disaster committee. Lighting boy. Jim Eagle, Richie the Maron, and Hicky the Dorf all arrived in a tight little knot. Andy the Elliotness came alone, peering into all the darker shadows looking for liquor. Kink the Shield, keeper of the bombing equipment, made the meeting even though he was on payroll. Assistant bombers and apprentice fuse layers wandered in between and after the ring leaders.

Disorder reigned. Then the meeting was called to order and chaos followed. Rioting broke out when refreshments were served. The only thing decided was that this time they would pull a Federal job--on unused Dept. of Agriculture field. Every one figured that it would be an easy job as no motive could ever be established. There was none--just plain meanness.

The state police, having been alerted by a librarian who had been disturbed by the noise and had come to the room to see what was going on, were surrounding the field. The bombing equipment was set up and the bombing commenced. It is a good thing that the world is not just a hollow sphere or it would have looked like a whiffle ball. The field was so pocketed with holes that even an ant would have had trouble finding an open spot to put up a mound.

The Police could not do anything because the field was Federal property, so when the gang left they were only sent home. BARROW-MAN was never heard of again because when he got to work on Monday morning he threw out the BARROW-phone and when the Police Chief called three months later he only got an answer from a couple of rats at Kennilworth Dump. BARROW-MAN was listed as missing in action and was awarded a plack of dishonor, but he never got it.

E N D

#### WAMARVA SYMPOSIUM

On January 27, 1968, the Randallstown Rocket Society shall host a symposium which will be attended by the seven WAMARVA sections. The symposium will be held at the Goddard Space Flight Center, Greenbelt, Maryland and will last from 10 AM to 5 PM, with a one hour break for lunch. This symposium, although primarily directed toward Junior members of WAMARVA sections, will be open to parents, friends, and other interested adults, and youngsters. There will be no cost involved whatsoever.

If you plan to attend try to arrive at the main gate, GSFC, no later than 9:45 AM. Passes will be arranged to clear each person through the main gate. We want to do this as a group.

If you have any questions, please feel free to contact the R.R.S. or any of the other WAMARVA sections.

FOR SALE Five C-8-O's. Six months old and unused. Best offer accepted. For information call John Hunter. 474-1153.

#### (MIT CONVENTION Cont'd)

of solving ballistic flight problems by analytical and computational methods on the institutes computer systems. In addition, all technical papers delivered at the convention will be bound in a book which will be given to each attendant.

Optional accommodations at a Boston hotel will be provided for at a fee of approx. \$7 per person per night. In addition, special travel guides will be sent to all applicants providing transportation information for attending the convention. Please write immediately for convention and technical paper applications to George J. Caporeso, Convention Chairman M.I.T. Branch Post Office Box 110, Cambridge, Mass. 02139

ZOG 43 is an official publication of the National Association of Rocketry Headquarters Astro-Modeling Section

Editor ... Chuck Gordon  
Staff .... Bruce Blackstone



ATTILA

OF NARHAMS

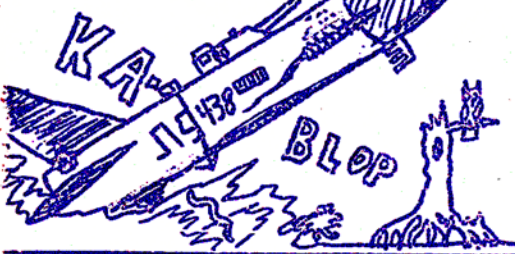
#3  
MAR. 68837409643333... LDR.  
BY BRUCE BLACKSTONE EXP. 17194487M

WHEN WE LAST LEFT OUR HERO HE HAD ESCAPED FROM THE CLUTCHES OF THAT EVIL POWER BARROW-MAN AND WAS HEADING BACK TO THE U.S. IN A STOLEN ROCKET! HOW EVER BARROW-MAN HAS NOW CONTACTED SUPER ZINGER!

I'LL BLOW HIM OUT OF THE SKY BARROW-MAN



AND SUPER ZINGER TAKES OFF FROM THE DISMAL BETHESDA SWAMPS.



MEANWHILE OUR HERO DISCOVERS...

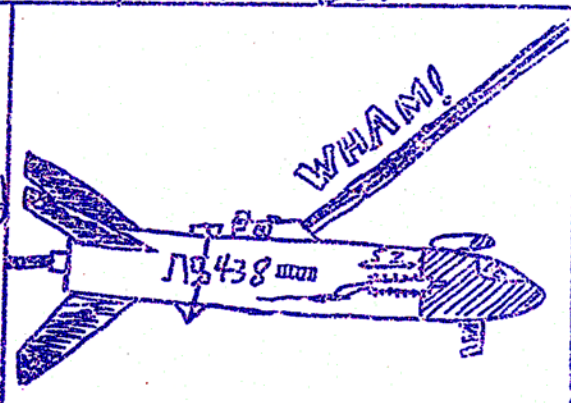
YE GADS! I'M BEING PURSUED! I MUST TAKE EVASIVE ACTION OR BE SHOT DOWN



...AND TAKES DESPERATE ACTION.



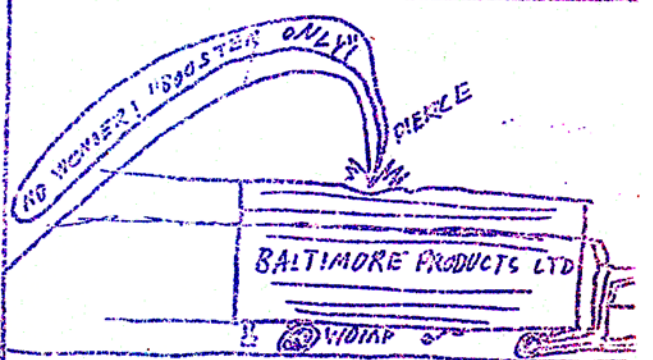
HOWEVER IT IS NOT ENOUGH!



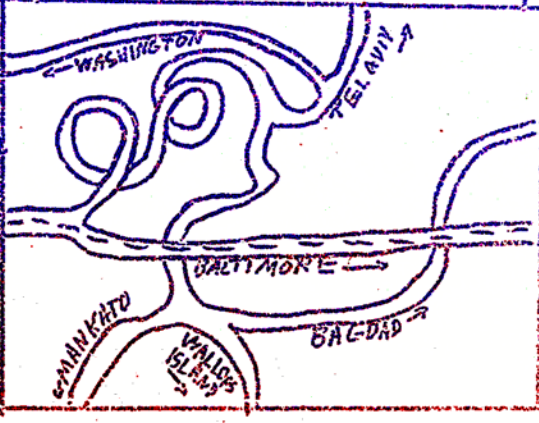
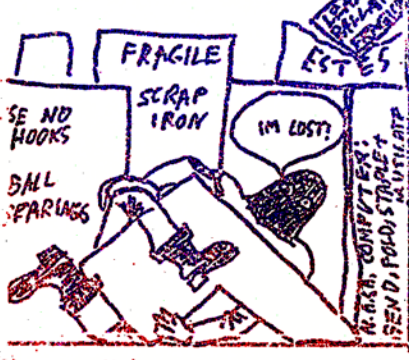
OUR HERO IS TRAPPED IN A BURNING HULK!



HOWEVER HE MAKES A PERFECT LANDING ON THE CAPITAL BELTWAY.



OUR HERO TAKES STOCK OF HIS SITUATION.



IS OUR HERO DOOMED TO GO TO BALTIMORE? TO THAT DEN OF ANIGUTY? THE TURF OF THOSE NASTY RIVALS?

PROBABLY.  
HAKS AFRICA BABY  
SPAN MPRING, MPR!