

# News

NEWSLETTER OF THE  
EVANSTON MODEL ROCKETRY ASSOCIATION

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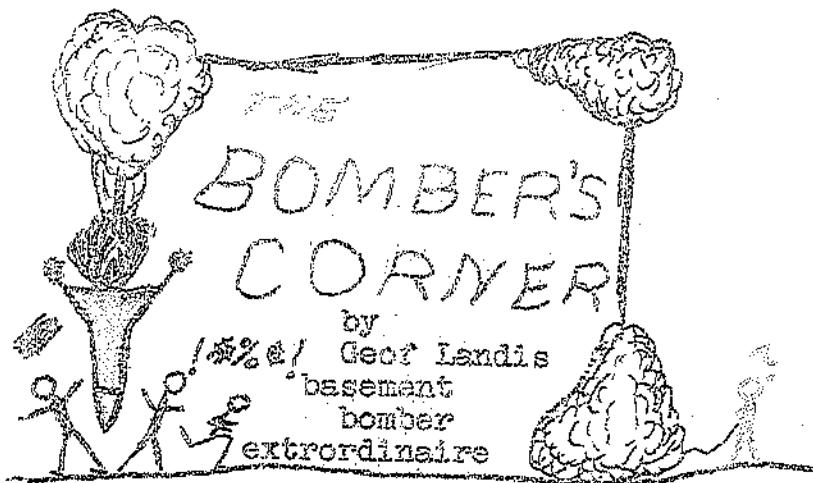


The Aberdeen Proving Grounds was the site for NARAM-13 this year. When we arrived on August 8th, at the Tuckaway motel in Aberdeen, we recieved our contestant packet. It contained info sheets, NAR card holders, the patch, and other assorted things. That night, the contestant briefing was held on the grass outside the motel. We were told about entry into, and exit out of the base, and other info. Sunday night, a revolutionary new concept was introduced into the NARAM. Discussion groups. There were ones on running a contest, R+D, scale, B/Gs, etc. Personally, I think that this is a

great idea.

On Monday, the opening ceremonies were a half an hour late in starting, so the check-in lines were already long when the competition opened, after the manufacturers demonstration. With class III streamer duration on schedule, along with predicted altitude, the meet got off to a good start. The winning times in streamer duration ranged from 89 to 127 seconds. The most common model was equipped with the popular chrome mylar streamer. The launch system was rack type, with five racks and six rods per rack. Things ran rather smoothly, and they caught up with the lost thirty minutes. Monday afternoon brought predicted altitude

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As I have stated before, there is nothing in the NAR code expressly forbidding clustering of the upper stage of a multi-stage rocket. In fact, there are several proven, workable methods in which this can be done.

The Grand Ah-Whoom is one of the pioneer rockets in cluster staging. Due to the wide nozzle of the series two engines, and the large opening in the end of the D-13 engine, B-14 engines can be reliably ignited by a D-13 lower stage<sup>2</sup>.

This requires a special engine mount system to let the lower stage engine ignite both upper stage engines, as shown on the next page.

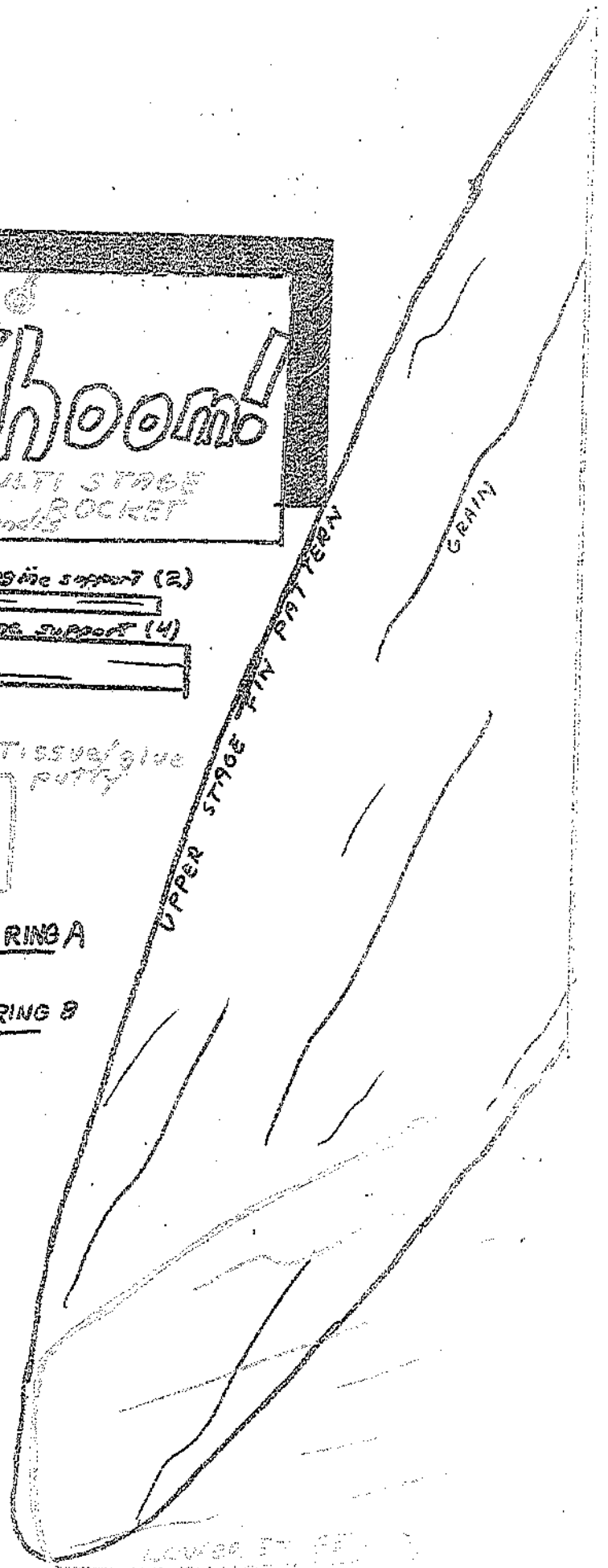
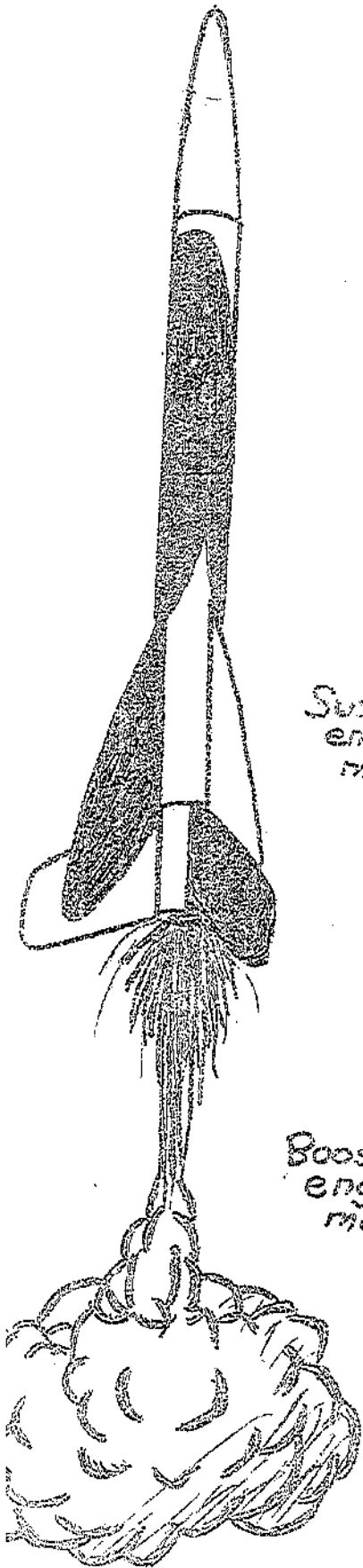
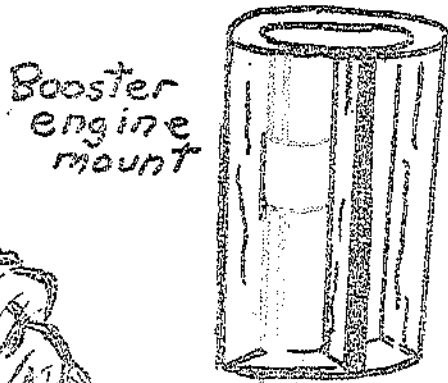
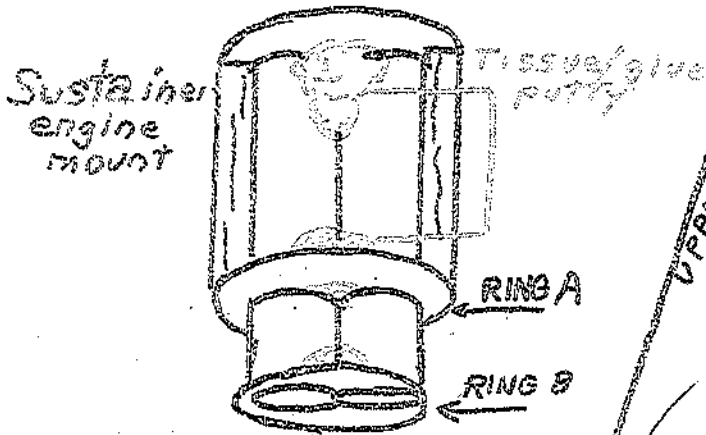
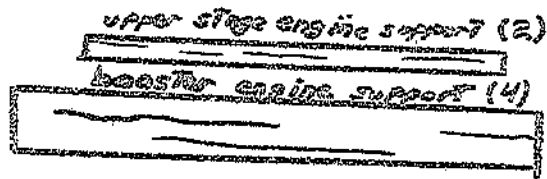
For the lower stage mount, cut a slit into a 7cm long BT-50 and tape in an Estes engine holder. Four gussets are made from the "booster engine support" pattern and glued in place; then two 50-60 adapter rings are glued in place, one on each end. This should slip easily into an 8.6 cm piece of BT-60, cut to size with a CME body tube cutter. If it does not fit, sand until it does; then glue so the rearward end of the mount is flush with the end of the BT-60. The forward adapter ring should be coated with glue. Now a JT-60 stage coupler should be glued in (it should end up sticking out

about 2cm out of the tube. Glue on the fins, and fill<sup>3</sup> heavily, and you have a complete lower stage.

The upper stage engine mount is slightly more complex. Glue engine blocks into two 7cm long BT-20s. Cut out two of the "upper stage engine supports" from 1/8" balsa, and glue them securely to the tubes, as shown. A 20-60 adapter ring is centered on the front end (the end with the engine blocks) and glued. Now trace onto another 20-60 adapter ring the outline of the two tubes and cut them out. This should give

you a circular piece of cardboard with two holes in it, which will fit into a BT-60 (this is Ring A.) Slide it onto your engine mount to the position marked "Ring A" and glue it securely. Cut two similar holes in another ring, ring B. This time cut away about 1/16" from the outside of the ring with a sharp razor knife (so it will fit into a JT-60 stage coupler.) Slide this onto the engine mount and glue at the position marked "Ring B" (at the end of the tubes—about 2.25cm from Ring A.) When all this is dry, mix some glue with tissue paper to form a putty, and fill all openings where gas might escape (see drawing). Naturally, if the ejection gasses escape, the chute won't open, and you will have thrown out a few hours of careful work—so make certain all openings are filled! Then cut away the part of the top ring blocking the engines. Fill<sup>3</sup> everything once more, and glue it into the 45cm long upper stage BT-60 so that the bottom ring is flush with the surface. The lower stage should slip smoothly into this. Do not force it! If it does not slip smoothly, check to see that you are sliding it in absolutely straight. If it stalls

The Speed  
**Ah-Whoom!**  
 CLUSTERED-MULTI STAGE  
 designed by Glenn ROCKET



### BOMBER'S CORNER CON'T.

won't go in, coat ring B with glue and let dry. Then carefully cut away any portion of ring B which may catch the stage coupler. Now coat ring B with flameproof paint.

From here on, the rocket is built like a more normal model— with a BNC-60AH nose cone, and a 12cm long payload section.

### NARAM-13 CON'T.

the best of which was an amazing two-way tie with 0% deviation, in C division.

Tuesday brought Sparrow R/G, and Robin Eggloft. The best in the R/G event was about 40 seconds. The majority of these flights were quite spectacular, with successes few and far between. In eggloft, it was mostly routine, with the winning altitude at about 208 meters. Wednesday brought eagle B/G, and PeeWee Payload. I must say that I slept through Eagle B/G, so I can't tell you anything about it. In the afternoon, just as the payload event started, it started to pour. With 45 knot winds, we all went scurrying for the nearest shelter.

On Thursday, they were finishing up on payload flights, and then started with the Class I Parachute duration flights. In the area, there were the most incredible scale models that I have ever seen. There was a 1/2 foot model of the Astrobee-D, which had every detail magnificently reproduced. There were also many other beautiful models.

On Friday, Super Scale flights were supposed to start at 9:00, in the mornings, and end at 10:30. But, as Howard Galloway put it, "The judges thought that Super Scale was supposed to start at 10:30. Happy Friday the 13th!" The Super Scale launches were impressive, and large. R+D lights proved interesting, especially the team that got off a 9 engine cluster! Successfully! At the banquet, many awards were given out, and pictures taken. After that, we all walked away from a successful meet.

### WANT TO JOIN E.M.R.A.? The Evanston Model Rocketry Association

EMRA is a group in the Chicago area who is fully concerned with the progress of model rocketry. Though this club is based in Evanston, it encompasses the entire north shore area. We are an extremely active section, doing such things as co-hosting the regional ETR-1, building a launch panel, putting out a newsletter, and many other things of general interest to rocketeers. To join, just fill out the form below, and mail it to

Paul Pasco  
504 Lee  
Evanston, Ill.

or call him at  
491-1819

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_

NAR NO. \_\_\_\_\_ PHONE \_\_\_\_\_

ROCKETRY EXPERIENCE \_\_\_\_\_

### ARTICLES?

This newsletter is in need of articles. Would you like to tell us about your latest invention? Or maybe about the contest that you were at. We would appreciate guest editorials most of all. Do you have any beefs? Send them in, and you may find out that you have more people on your side than you thought. Send articles to:

Stephen Bryson  
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Chicago, Illinois, 60626

Don't forget, a free mosquito goes to the one who thinks up the best name for this newsletter.