

THE SOUTHERN PENNSYLVANIA AREA
ASSOCIATION OF ROCKETRY
COUNTDOWN

VOLUME 1

NO 12

MAY, 1989

SPAAR HOLDS MONTHLY MEETING

The monthly SPAAR business meeting was held at the Lancaster Co. Library on April 17, with the following members attending: John Yost, Dale Greene, Ed Miller, Rick Hackman, Dick Ehoat, Glenn Feveryear, and George Beever. The meeting began at 7PM.

OLD BUSINESS: John Yost stated that he will attempt to have more information on the May 20 Cub Scout demo by the May 7 club launch. John also passed out info on the Pearl River Model Rocket Seminar, to be held April 28-29.

NEW BUSINESS: Committee Reports:

Treasurer's Report: Ed Miller reported that there were 22 paid members, and a previous balance in the General Fund of \$201.20. Expenditures since the last meeting: \$5.00 for postage. Income: \$15, dues from 2 new members, leaving a current balance of \$211.20. Ed reports that he has filed the paperwork for the club to open a saving's account for the General Fund.

Activities Committee: Dale Greene states that he is working on finding a site for the club family picnic, to be held during the weekend of August 19-20.

Operations Committee: John Yost stated that the club launch system, used for the first time April 16, worked well, but the following items are still needed: blast deflectors, launch rods, ignitor leads, and numbers for the pads. He also suggested that 6 pads be set up with 1/8" rods, and the remaining 2 pads be set up for 3/16" and 1/4" rods, as well as those who use towers. Under Operations, Glenn Feveryear wished to discuss his concern for safety and lessening of confusion at club launches, particularly in light of the fact that on April 16, more people attended and made more flights than at any previous club launch. All members present agreed and shared Glenn's concern; he was then asked to formulate his ideas into a club "Standard Operating Procedure", to be implemented as soon as possible.

Newsletter Committee: George Beever reported that 21 copies of the April newsletter were mailed: 15 to paid members, 1 to a prospective member, 1 to AmSpam, & 4 to other NAR Sections. Expenditures: \$3.40 for paper, and \$25 for a roll of stamps.

Competition Committee: Glenn Feveryear announced the results of the A Streamer Duration practice event, flown on April 16, found elsewhere in this issue. Under Competition, John Yost read off the results of the GODDARD V Open Meet in New Jersey, March 19.



THE SPAAR PHOTO CAPTION CONTEST, page 2

OTHER NEW BUSINESS: The following new members of SPAAR were announced: Jimmy Lausch, A Division, Lancaster; James Lytle, C Division, Pylesville, Md; and Eric Marcella, A Division, Parkesburg, Pa.

Glenn Feveryear mentioned that many of the NAR Flight Cards used on April 16 were not filled out properly, or entirely. This is due to many of the members not being familiar with the cards. He suggested that as part of the new club SOP concerning launch procedures, a flight card be filled in for every flight, whether it be sport or competition. After some discussion, the members present agreed, and this will be adopted.

Dale Greene suggested having timers work 1/2 hour shifts, which would allow them the time to fly, and to give everyone experience in timing or other range duties, however no decision was made on this topic.

Section Advisor John Yost then led a discussion on the NAR/AMA Insurance situation. More on this important topic inside

The SPAAR Countdown

Volume 1, Issue 12

May, 1989

CONTENTS:

Section Meeting Minutes.....Cover
SPAAR Launch Procedures.....Pages 1 & 2
April 16 Section Launch & Flight Log.....Pages 3 & 4
Tips for C Eggloft Duration, by Glenn Feveryear.....Page 4
Section News Notes.....Pages 4 & 7
SPAAR Classifieds.....Pages 4 & 7
Using Ejection Baffles, by Ed Miller.....Pages 5 & 6

The SPAAR Countdown is the official newsletter of the Southern Pa. Arca Association of Rocketry, NAR Section #503, PO Box 127, Reamstown, Pa 17567. Those to blame this month: George Beever, Ed Miller, & Glenn Feveryear. Classified Editor: John Yost.

ON THE COVER: Just what is this man trying to tell us? That's our Section Advisor John Yost, at the very short but cold Section Sport Launch on March 12. Send your photo captions in before next March. No, there is no prize.

A Message from the Prez.....

You will notice on pages 1 and 2 of this newsletter a somewhat new launch procedure that we will be putting into effect on May 7. I say new, with some qualifications. Actually, we never really had much of a set system before. Usually, one person was "volunteered" to be Launch Control Officer for the day, and some very nice young lady (yes, my wife reads this now) would keep track of the information for the Flight Log. Well, thats fine when the most that we could expect at a club launch would be six or seven members with accompanying wives, mothers, children, cats, dogs, etc. But now, the Section is growing in numbers, which is what we want. This necessitated going to a more formal launch system.

Some may be wondering: "if it's just me and my brother (or sister, cat, dog, etc) and I go out to the local school (playground, feild, etc) how come I have no problems launching my rockets without a safety check-in, a Range Control Officer, a Range Safety Officer, or even a countdown? Why is all of this needed?" The answer is simple: safety. Even the motto on our cards says it: "Promoting Safe Model Rocketry..." Easily put, the more folks at a launch, the more rockets we have flying around, the chances increase of something unfortunate happening, and no one wants that. Model Rocketry has an excellent safety record; it's our job to keep it that way. Without slighting Glenn Feveryear, procedures written on the following pages are not new; the NAR developed them 32 years ago. They work. Within the past month, I've had the chance to see how established Sections such as GSSS and NOVAAR run things; they are very much like the procedures proposed here.

I'd like to make something clear; no one did anything wrong, or is being blamed for some problem, which resulted in these changes. They are simply a sign that we as a Section are growing, learning and improving. No one expected us to get it all down pat at once, but this is a step forward. Please help out, follow the guidelines, and be patient. The result will be more enjoyment out of out hobby for all of us.

SPAAR RANGE OPERATIONS

by Glenn Feveryear

After our last Section launch, on April 16, it became evident that some sort of procedure needed to be established for range operations. Now, before anyone decides to quit the Section because of "too much organization", let me explain what this is all about.

Last summer, our Section was a little smaller, and didn't have it's own launch system. As a result, the number of models able to be flown was smaller, only because of the number that could fit on the pads available. On our best day last summer, in August at Comet Field, we were able to launch about 62 rocket flights. This year, we have grown a bit, in terms of members, and we have our own launch system which can handle eight pads. At the April 16 launch, we were able to get off an estimated 70+ rocket flights in about four hours.

At the club meeting on the following evening, April 17, a proposal was resented to establish a Range Operations Procedure to lessen the confusion, and hopefully increase the number of flights that can be launched.

Please read the following, and let's try them at the next launch, May 7. The merits of this system will then be discussed at the May 15 Section meeting.

RANGE OPERATIONS PROCEDURE

Purpose: To establish a Range Authority and Procedures to insure safe, efficient range operations.

Personnel: Range Safety Officer (RSO)
Range Control Officer (RCO)
Launch Control Officer (LCO)

Qualifications and Duties:

- A. Range Safety Officer shall be the current Chairman of the Range Operations Committee (J. Yost). He shall oversee the operation of the range in accordance with the NAR Safety Code. He shall have the authority to close the range if he feels that events taking place on the range pose a danger to persons or property in or near the range area. (See Section 5.1 and 7.2 of the NAR "Pink Book")
- B. The Range Control Officer shall be a senior member of the Section (18 or over), and has previously served as a Launch Control Officer at a previous Section Launch. The requirement of service as LCO may be waived at the discretion of the RCO. He shall handle Safety Check-in, Pad Assignments, launch orders, and those duties required to accurately and completely process Flight Cards. This person may also serve as LCO if a separate person is not available. Only the RCO or LCO shall be permitted to operate the launch controller, unless permitted by the RSO or RCO.
- C. The Launch Control Officer shall control the launch of all model rockets. Every Section member shall be given the opportunity to serve in this position. He shall not serve as RCO until he or she has served as LCO, unless prior approval has been obtained from the Range Safety Officer.

In accordance with the above procedure, the following is a guide on what the modeler will need to do, in order to fly his or her rockets:

PROCEDURE TO FLY MODEL ROCKETS

(Also see diagram, next page)

FILL OUT FLIGHT CARD: (A)

- A. Every flight, whether sport or competition, shall have it's information recorded on a Flight Card, for the purpose of recording data, and maintaining the Section Flight Log.
- B. The entrants name, NAR number (if applicable), Division (A, B, or C) will be the minimum information required. If flight data is to be recorded relating to an NAR approved

competition event, the name of that event shall be entered on the Flight Card in the appropriate block. If the flight is a Sport flight, enter the word "Sport" in the "event" block. The block entitled "Remarks" shall contain the rocket's name, if it has one, and notes such as "flashbulb ignition", "SPAAR record attempt", etc, whatever is applicable.

ENTER THE RANGE AREA: (B)

A. Report to the RCO with the Flight Card, and the prepped model, except for the insertion of the engine, if possible. The RCO will safety check the model, verify the engine used, and enter this information on the flight card. The RCO will then assign the modeler a pad number, and turn the flight card over to the LCO.

PREPARATION FOR LAUNCH: (C) & (D)

A. The modeler will place his or her model on the assigned pad. He will then move outside of the restricted launch area, and signal his readiness to have the model launched.

B. The RCO will acknowledge the modeler's signal, and give the LCO the instruction to launch.

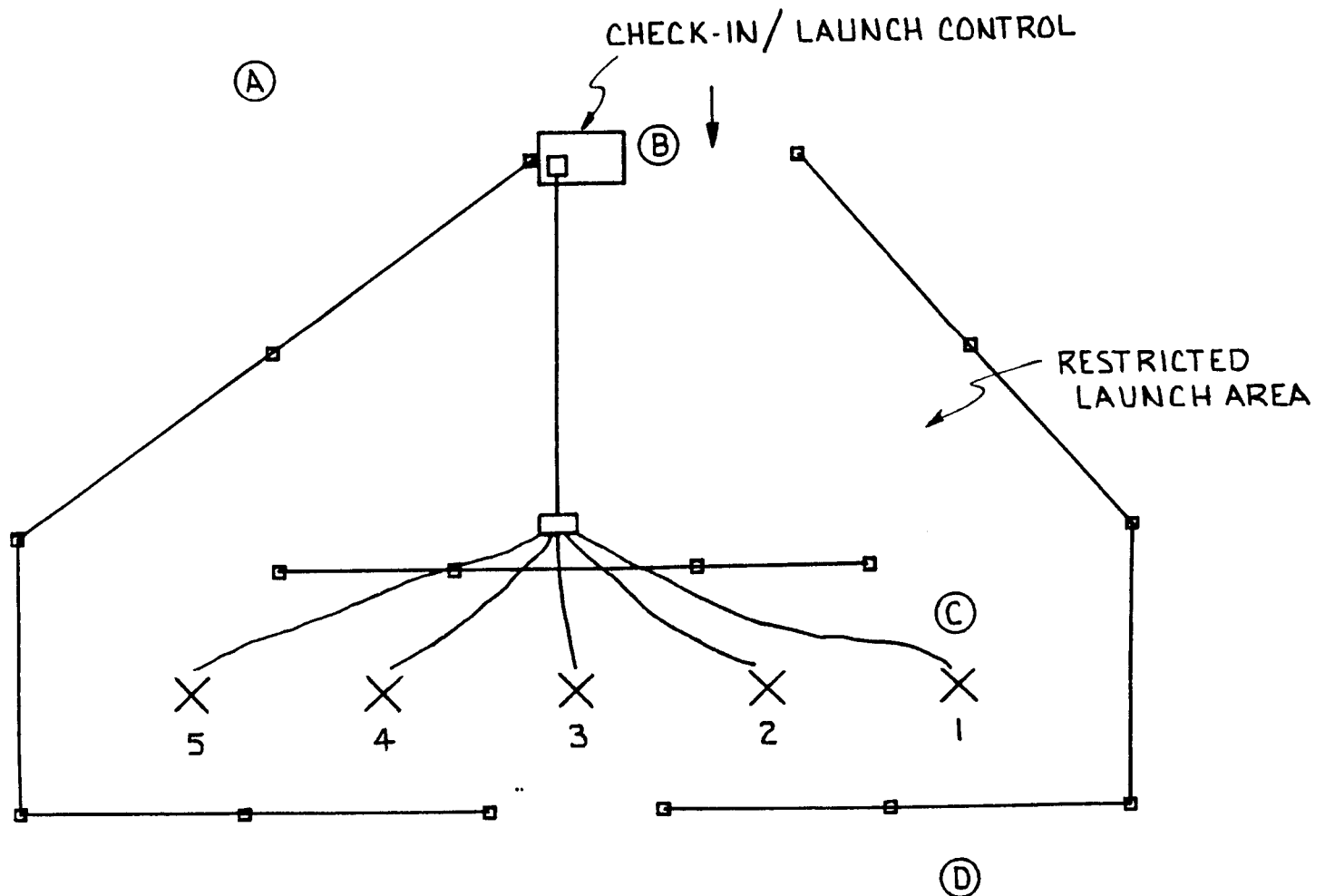
RETURN OF MODELS:

A. Although there are specific rules in the NAR "Pink Book", concerning the return of models, it will be the modelers responsibility to report back to the RCO to verify either a return or no-return of a model.

MISCELLANEOUS NOTES:

A. After the first flight, flight cards will be retained by the RCO. A modeler making subsequent flights with the SAME model OR IN THE SAME EVENT, will only need to report to the RCO and have the additional information recorded on his current flight card.

B. No one shall enter the restricted launch area except through the range entrance, unless the modeler must tend to a model on the pad to ready it for flight.



APRIL 16 SECTION LAUNCH

All club members are to do the following: take your left hand, reach across your chest, and pat yourselves on the right shoulder. Why? Because after putting up with lousy weather in October, November, December and March (forget about January and February), we finally got some decent flying weather on April 16. OK, so it was a bit breezy, but that is normal for us.

What appeared to be a record number of people attended, and made what is estimated to be more flights than at any previous Section launch. There were new faces, such as Jim Lytle, Jimmy Lausch and his dad, Bruce Lefever and his son, and Kevin Reichert & family. Of course, there were many familiar ones, like Dan Weinhold, the infamous Flying Wenrich Brothers, Fast Eddie Miller, etc.

The day's featured practice competition event was A Streamer Duration, Multi-round. Five people flew this event: Glenn Feveryear, Dale Greene, Bill and Dick Rhoat, and George Beever. The results are listed below. The next practice event will be C Eggloft Duration, May 7.

FLIGHT LOG

<u>#</u>	<u>Modeler</u>	<u>Rocket name</u>	<u>Motor</u>	<u>Duration</u>	<u>Event</u>	<u>Comments</u>
1	R. Hackman	Ramjet Interceptor	D12-5	25	Sport	GF
2	G. Beever	Honest John	B4-4	32	Sport	GF
3	B. Rhoat	Stingray (2nd stage)	1/2A3-4	18	Sport	GF
4	E. Miller	Lancer	B6-5	16	Sport	GF
5	R. Hackman	Nike-X	B6-4	19	Sport	GF
6	G. Beever	Rota-Roc	B6-2	25.6	B-Helo	GF*
7	G. Feveryear	Gull	B4-2	48.0	B R/G	GF
8	R. Hackman	Alpha	A8-3	34	Sport	GF
9	E. Miller	Competitor	A8-3	9.6	Sport	no deploy
10	D. Bender	Longshot	C6-5	33.0	Sport	GF
11	D. Greene	Super Big Bertha	D12-5	14.04	Sport	no deploy
12	D. Greene	Wizard	B6-4	23.3	Sport	GF
13	B. Rhoat	Wildfire	A8-3	12.9	Sport	GF
14	D. Wenrich	Mini Mars Lander	A10-3	9.27	Sport	GF
15	R. Hackman	Mark II	A8-3	25.18	Sport	GF
16	B. Lefever	Der V-3	D12-5	63	Sport	GF
17	E. Miller	Bullpup 12-D	B6-4	17.57	Sport	GF
18	D. Rhoat	DART	B6-4	28.1	B PD	GF
19	J. Wenrich	Searcher	B6-4	25.9	Sport	GF
20	J. Yost	Rosa-Roc	1/2A3-2	14.25	1/2A Helo	GF
21	R. Hackman	Micro	E5-6	?	Sport	lost
22	G. Beever	SS Aquarius	B6-4	13.9	Sport	GF
23	B. Lefever	Mean Machine	D12-5	19.0	Sport	prang
24	R. Hackman	Flying Corn Stalk	A8-3	7.8	Sport	peices
25	E. Miller	Hercules	E60-6	24.0	Sport	GF
26	D. Bender	Liberty	B8-5	26.2	Sport	GF
27	J. Lytle	Transtar Carrier	?	9.3	Sport	?
28	B. Rhoat	Wizzard	B4-2	79.0	NARTREK	GF
29	R. Hackman	X-Ray	C6-5	42.0	Sport	GF
30	D. Rhoat	DART	C6-3	65.0	C PD	GF
31	E. Miller	Megatron	D20-0/D20-7	?	Sport	GF
32	R. Hackman	Blackie	1/2A3-2	21.3	Sport	GF
33	G. Feveryear	Helix	A10-3	29.7	A Helo	GF
34	G. Feveryear	Helix	A3-2	29.4	A Helo	GF
35	G. Beever	Rascal	1/2A3-2	XXXX	1/2A R/G	hung on rod
36	R. Hackman	XR-22A	1/2A6-2	?	Sport	?
37	D. Bender	Air Mail	D12-3	?	Sport	GF
38	R. Hackman	XR-22	1/2A3-2	7.8	Sport	?
39	B. Rhoat	Phoenix	D12-3	31.1	Sport	GF
40	B. Lefever	Sizzler	C?	69.4	Sport	?
41	G. Feveryear	B_Altitude	A10-0/A3-6	?	B-Alt	GF

42	G. Beever	A SDM	A3-4	72.27	A SDM	GF
43	G. Beever	A SDM	A3-4	107.99	A SDM	GF
44	B. Rhoat	A SDM	A8-3	11.4	A SDM	GF
45	G. Feveryear	A SDM	A3-4	XXX	A SDM	DQ-ND
46	D. Greene	A SDM	A3-4	94.0	A SDM	GF
47	D. Rhoat	A SDM	A3-4	5.4	A SDM	DQ-Unst
48	D. Rhoat	A SDM	A3-4	69.0	A SDM	GF
49	D. Rhoat	A SDM	A3-4	18.0	A SDM	GF
50	G. Feveryear	A SDM	A3-4	120.0	A SDM	GF-MAX#

A SD MULTI-ROUND RESULTS

Entrant	Flight #1	#2	#3	Total	Place
G. Beever	107.99	72.28	X	180.27	1st
G. Feveryear	DQ-ND	120.00	X	120.00	2nd
D. Greene	94.0	X	X	94.00	3rd
D. Rhoat	DQ	69.00	18.00	87.00	4th
B. Rhoat	11.40	X	X	11.40	5th

TIPS FOR FLYING C EGGLOFT DURATION

by Glenn Feveryear

1. Try using a larger diameter body tube than normally used. Something along the line of a BF-50 is just about right. This will allow you to pack a larger chute than in an 18mm (BF-20 size) tube.
2. Use a chute that is at least 24" diameter. Parachutes of diameters up to 42" have been used. Make sure that any size chute is reinforced by running shroud lines over the top of the canopy. If you try flying without a reinforced chute, chances are pretty good that you will have a separation when the chute is ejected.
3. Use an engine with a little kick to it. A C6-3 is probably the best. Avoid the C5-3, as they have a tendency to burn a little slower, not producing enough initial thrust. A model with marginal stability and heavier than normal weight may not have enough air speed, and go unstable. If you build your model light enough, you may be able to use a C6-5, but be sure it's light.
4. When launching egglofters, you should use at least a 3/16" rod. 1/8" rods are just not stiff enough to handle the extra weight.

SECTION NEWS NOTES

Please add the following new members to your Section rosters: Jimmy Lausch, 434 Surrey Dr., Lancaster, Pa., 17601, Ph# 569-7160, A Division, and Eric Marcella, RD#2 Box 47, Parkesburg, Pa., 19365, Ph# 215-857-5226, A Division. WELCOME!!

SPAAR CLASSIFIEDS

WANTED: Part time parachute packer, experience needed in packing large chutes in various body tubes, sizes up to BF-55. Salary commensurate with successful openings. Piece work available. Benefits include travel and a boxed lunch. Must be available weekends. Send sample of work and resume to: J. Yost, C/O this paper.

FOR SALE OR RENT: Tired of losing that B or C Eggloft event because your fragile payload cracked? Pack your chute too tight? YOUR PROBLEMS ARE SOLVED!! Try our new Kevlar egg shells. Spin and drop tested from 200 feet (dark page)

It is possible to fly your model rocket without the use of recovery wadding and making a mess of your flying feild. Ejection baffles will increase the reliability of your recovery system. They will also prevent recoil damage to your model rocket.

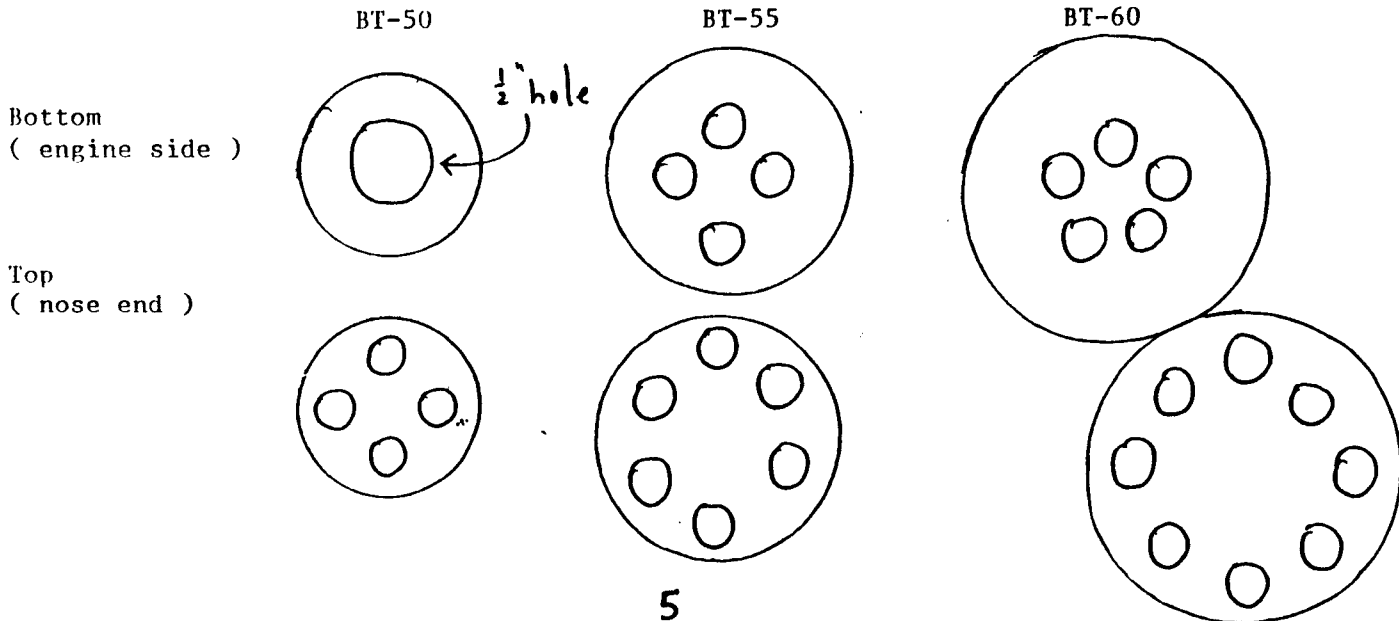
Ejection baffles work very well if certain conditions are met.

1. Rocket body tube must be at least 1 foot long.
2. Rocket body tube must be of a large diameter; BT-50 or greater. The larger and longer the better.
3. Ejection baffles must be as far from the rocket motor as possible, leaving just enough room for the recovery device, the shock cord, and the base of the nose cone.
4. Recovery device must fit loosely in the tube.
5. Nose cone must be loose enough so that it almost falls out when the rocket is turned up side down.

Ejection baffles work for three reasons.

1. The recovery device can not slide down the body tube under acceleration. The ejection charge will not have to work so hard to push the wadding and recovery device up the tube.
2. Baffles will diffuse and cool ejection charge gasses so they will not burn your chutes and streamers.
3. Baffles will slow down the action of the nose cone leaving the body tube. The nose cone will not recoil on the shock cord and damage the end of the body tube.

Construction- The next time you buy a Model Rocket kit pick up a tube coupler to fit it. For Example: A Big Bertha kit is based on a BT-60 tube, so get a JT-60C coupler. You will also need chipboard (heavy tablet back) (also see note at end of this article), hand paper punch, scissors, glue, and sand paper. When building your model DO NOT install the shock cord mount until after the baffle is installed. Using your tube coupler as a pattern, set it on the chip board and trace a line on the inside of the coupler. Make two. Cut them out and punch holes as shown below.

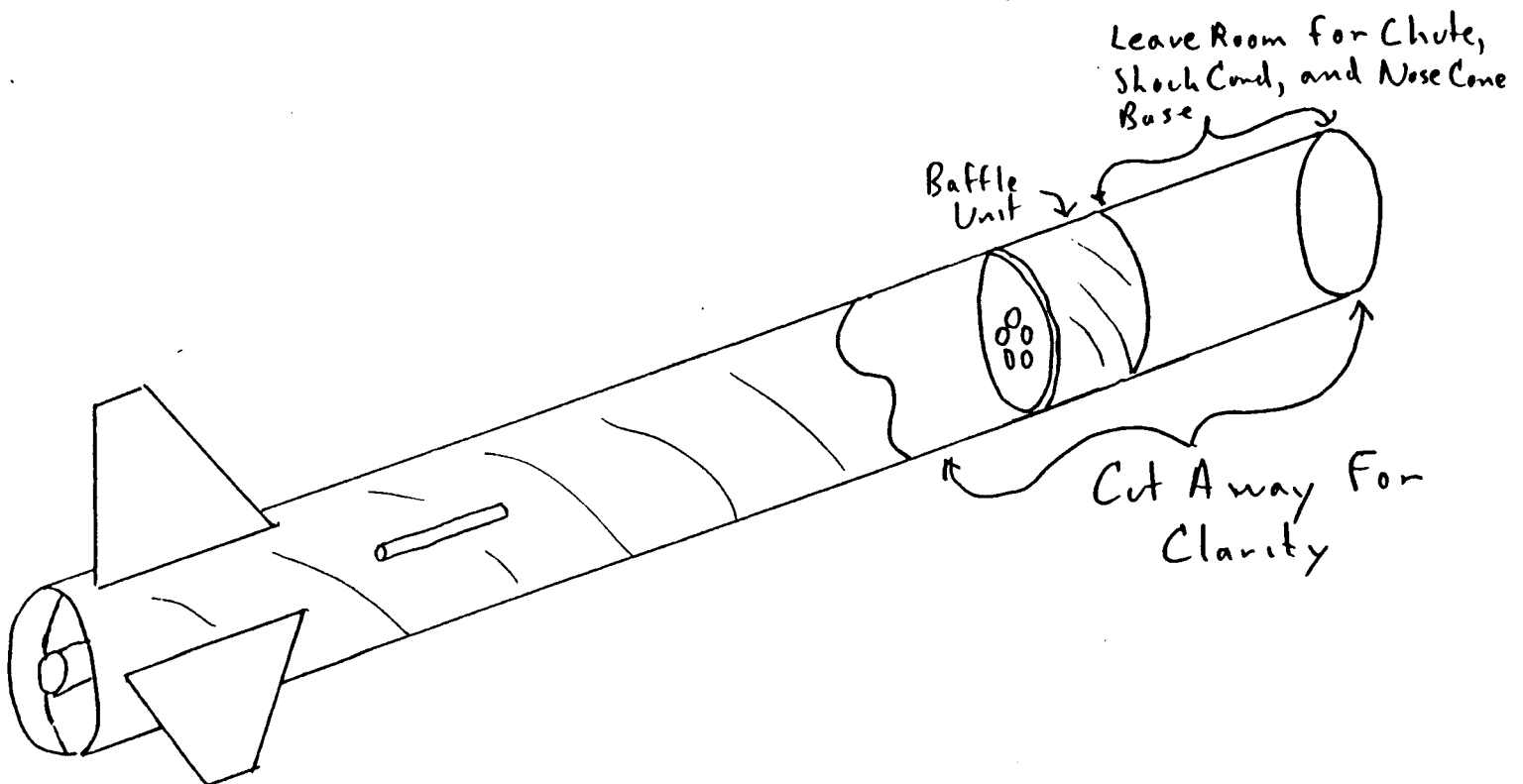


If you need a size larger than shown use a hole pattern like the BT-60 but larger.

Glue a disc inside each end of the coupler about 1/8 inch from the edge. Run a fillet of glue around each disc to reinforce them. Set aside to dry thoroughly. Now sand the outside of the coupler until it slides easily down the body tube. Put a bead of glue around the inside of the nose end of the body tube about 4 inches from the end. With the engine end of the baffle unit downward push into the body tube. Make sure to push it in far enough so there is room for the recovery device, the shock cord, and the base of the nose cone. Let dry. Then using a long stick put a fillet of glue around the top edge of baffle unit. Let dry. Now install the shock cord mount. Test fit the nose cone. It should be just tight enough so that it will not fall out when the rocket is turned up side down. If it is too tight, sand as needed. Your rocket is now ready to fly without wadding.

Note: This tech report says that you should use chipboard for baffle material. It is recommended for A to C engine rockets only. If you are using D engines or cluster rockets substitute 1/16 inch plywood and drill the holes. If you are using E or larger engines, use 1/8 inch plywood and drill the holes. The acceleration from high impulse motors will make the recovery device punch through the chipboard. Your chutes and streamers will then get singed.

Note: Do not use a baffle on the Helio-Copter kit. It takes all of the power of the ejection charge to expell the nose cone rotor unit and the chute for the main body.



SPAAR CLASSIFIEDS, Cont.

with not even a hairline crack! These eggs are laid by our tough and NARAM hardend hens. Don't delay, get yours today!!

BARBER EGG RANCH BR-939

LOST: 2 Sparrow A-class Boost/Gliders. Colors: black, tan & red. Last seen heading S,SE, toward Manassas, Va. Answers to names such as !@#%\$ and &*?. Will not come when called. Reward if found before next rain. Contact J. Yost, C/O this paper.

FOR SALE: Remember that last rocket meet, as you watched that monster cluster D engine bird lift-off? It took your breath away. LITERALLY!! Next time, BE PREPARED!! Try our newest fashions in range wear... Gas Masks! The filter is specially designed to stop those nasty rocket exhaust fumes that gag and burn your eyes when you are caught unawares. Also great for preventing blindness when some clod decides to test open his powdered chutes while you are downwind. "Only" \$29.95 while supplies last! Completely adjustable. One size fits all!!
SURPLUS 'R US, C/O this newsletter.

FREE TO GOOD HOME: A large bag full of balsa peices and splintered body tube parts... looks like a SuperRoc design gone nuts!! Actually is the remnants of a nice B Helo Rota-Roc which took the big PRANG at NICE-9. References. G. Beever, C/O this paper.

WANTED: Articles for model rocket newsletter. We'll print anything! (Well, almost)
PO Box 127 Reamstown, Pa 17567

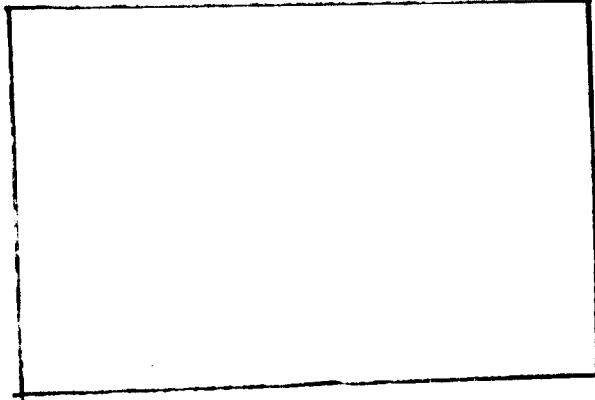
SECTION NEWS NOTES, (cont.)

Congratulations of course are in order to SPAAR members Bill Rhoat and Ed Miller, whose names appeared in the April issue of American Spacemodeling, for thier succeses in the NARTREK program. NARTREK is a very worthwhile NAR program, and anyone who is not familiar with it should look into partic- apating. Keep up the good work, guys!

Just a reminder that there are two launches scheduled for the month of May; Sunday, May 7, and Sunday, May 28. On the 7th the practice competition event will be C Eggloft Duration, and on the 28th we'll fly two, 1/2A Boost/Glide and B SuperRoc Duration. In B SuperRoc, the rocket must be between 100 and 200 cm long, or 39.37" and 78.74", and of course powered by a B motor. The longer the rocket, the more "static" points awarded. For C Eggloft on the 7th, since this is just practice, it will be BYOE... Bring Your Own Egg. The club will supply the eggs on July 23 for the Section Meet, but NOT on the 7th of May.

All SPAAR members should make every effort to attend the Section Meeting on May 15, when the issue of insurance coverage will be decided. As many of you know, the NAR recently obtained flight insurance through the Academy of Model Aeronautics, the AMA. There are many wrinkles to this situation, but the bottom line appears to be that if any NAR Section allows a non-insured member to take part in any launching activities, the insurance for the entire Section would be voided. And, in order to remain an NAR Section, we must have insurance. So, you can see the dilemma. AMA insurance for modelers is available for \$7 per year, which should not be too much of a problem for us old C Division members (18 or older), but it might prove to be a bit of a hardship on the younger guys, who pay \$5 or \$7 annually in SPAAR dues, not to mention thier NAR dues, which are going up. It should be noted that one does not appear to have to be an NAR member to be eligible for the \$7 AMA insurance. The Section Board of Directors (Section Advisor John Yost, president George Beever, vice-president Glenn Feveryear, Sec./Tres. Ed Miller and Member-at-Large Dick Rhoat) have already discussed the situation, and are continuing to look into our options. One option considered is to offer assistance to A and B Division members for the first year of AMA insurance, if the member's parents cannot afford to help out. The bottom line expressed by those at the April 16 meeting when this issue was forst brought up is that we don't want to lose any members or turn away any prospective members due to lack of insurance coverage. Please attend May 15, at 7PM in the second floor Board Room at the Lancaster Co. Library. Thank you.

Help is going to be needed to help set up the launch equipment at every Section launch. If you can help, please come a little early. Also, members are urged to take turns sharing range duties, such as timing. Don't wait to be asked!



:01

SOUTHERN PENNSYLVANIA AREA ASSOCIATION OF ROCKETRY
NATIONAL ASSOCIATION OF ROCKETRY, SECTION 503
SCHEDULE OF EVENTS
APRIL 1, 1989

APRIL:

SUN 16 SECTION LAUNCH: PRACTICE EVENTS; A INT SD
MON 17 SECTION MEETING
SAT 22 **NICE-9, MANNASSAS, VIRGINIA**

MAY:

SUN 7 SECTION LAUNCH: PRACTICE EVENTS; C ED
MON 15 SECTION MEETING
SAT 20 & SUN 21 **ECRM-16, MANNASSAS, VIRGINIA**
SUN 28 SECTION LAUNCH: PRACTICE EVENTS; 1/2 A BG, B SRD

JUNE:

SUN 11 SECTION LAUNCH: PRACTICE EVENTS; 1/2 A PD, B SD
SAT 17 & SUN 18 **WUBBA-12, ALLENTOWN, PENNSYLVANIA**
MON 19 SECTION MEETING

JULY:

SUN 2 SECTION LAUNCH: PRACTICE EVENT; PREDICTED DURATION
MON 17 SECTION MEETING
SUN 23 SECTION MEET: 1/2 A PD, 1/2 A BG, A INT SD, C ED,
B SD, B SRD, PREDICTED DURATION
(SPECIAL LAUNCHING OF SATURN V's TO COMMEMORATE
APPOLO 11 MOON LANDING OF JULY 20, 1969)