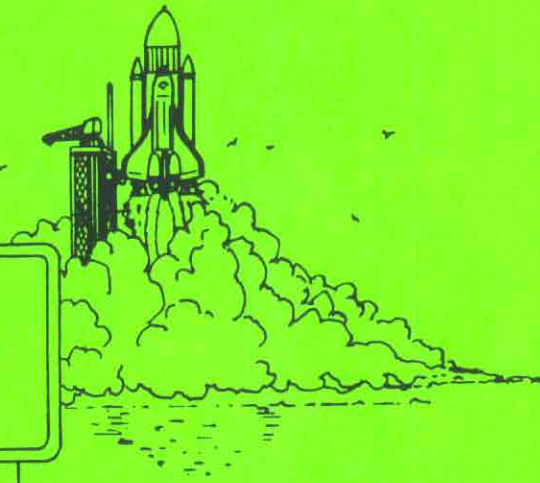


# COUNTDOWN



OFFICIAL NEWSLETTER OF  
THE SOUTHERN PENNSYLVANIA AREA ASSOCIATION OF ROCKETRY

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VOLUME 6 ISSUE 2 MARCH/APRIL 1993

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## PLUS

PROJECT SATURN 1B

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The Countdown

Volume 6, Issue 2

March/April 1993

The Countdown is the newsletter of SPAAR, the Southern Pennsylvania Area Association Of Rocketry, NAR Section #503, PO Box 127, Reamstown, PA 17567. Non-member subscription rate, \$6 per year, six issues. Please make all submissions to address above. Material may be used with proper credit.

Cover Logo: **Bob Stott** Jacket Design: **Bruce Canino** Editor: **George Beaver**

Thanks this time to: **MARS, Glenn Feveryear, Bill Rhoat, and an extra special thanks to Kevin Funk of DART for allowing me to shamelessly using his "Mo' Motors" list in it's entirety.**

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**CALENDAR**

**SATURDAY, MAY 8:** Meeting at Ephrata Nazarene Church, 9AM; Sport Launch afterwards at Cocalico High School, ? - 2PM.

**\*\* CLUSTER DAY \*\***

**SUNDAY, MAY 30:** SPAARSEC-VIII Section Meet & Sport Launch, 9AM-5PM, Cocalico High School. Events: A HD, B ELA, 1/2A RG [M], 1/2A SRA.

**JUNE 12 & 13: RAMTEC - 1 REGIONAL, CENTER VALLEY, PA.** Events: A BG, B HD [M], B RG, 1/2A PD [M], 1/2A SD [M], D ELD.

**SUNDAY, JUNE 20:** Sport Launch & Meeting at G. Beaver's 1PM-7PM.

**SECTION MEETINGS****27 February 1993**

Present: Glenn, Rene, & Gary Feveryear; E. Miller, J. Yost, George & Mark Beaver.

1. Treasurer: Ed Miller reported that there are 34 paid members. The balance at the end of the last meeting was \$190.14. Disbursements: \$2.96 for paper, \$28.59 for postage. Income: \$15 in dues; \$5 donation; \$75 refund from the dinner; .29 in interest. Current balance, \$253.88.

2. Section Advisor: G. Beaver reported that the Section charter from the NAR has been renewed for 1993.

3. Newsletter: G. Beaver made his usual request for submissions.

4. Contest & Records: Glenn Feveryear reported on preparations for REMTEC-1.

5. High Power: Nothing to report.

General discussion followed, with the meeting adjourning at approximately 10AM; the workshop followed.

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**20 March 1993**

Present: Glenn F, G. Beaver, J. Yost, D. Weinhold, B. Rhoat, D. Greene, D. Bender, E. Miller

1. Treasurer: Ed Miller reported that there were 34 current members. The balance at the end of the last meeting was \$253.88. There were no expenses in the past month; income was .38 in interest. Current balance is \$254.26.

2. Section Advisor: G. Beaver reported contacting Tom Lyons of NARHAMS, the CD for NARAM-35. Some information will be forwarded to the club; according to the Cocalico School District's newsletter, the construction project on the field that we normally fly from will be finished in August.

3. Newsletter: One Section was dropped from the exchange list; submissions were requested.

4. Contest & Records: Glenn discussed contacts from PARA regarding PACT-1; discussed REMTEC-1.

5. High Power: Ed Miller stated that he expects Central VA/Tripoli #25 to hold a waived High Power launch sometime in April; more details as they become available. Also, Ed will be flying at North Lebanon High School on Good Friday, April 9, in the morning. Contact Ed for more info.

Topics discussed were: the raffle, the RMS status, and the availability (or lack thereof) of single use Aerotech motors.

## NEWS FROM AROUND THE HOBBY

**AEROTECH** no longer has the services of Bob Sanford, who had been Marketing Director until a recent lay-off. Sanford had served as Contest Director for NARAM-34, as well as overseeing Aerotech's major entry into the commercial rocket hobby over the past 4 years. Bob had also served as a contact person between many NAR Sections and Aerotech, both promoting Aerotech's product line, as well as listening to feedback from rocket modelers. There was no official announcement from Aerotech concerning his departure. [Good luck Bob!]

=====

**ESTES INDUSTRIES** has released a new-look catalog for 1993. Actual photos of products replace the rather worn out appearance of the catalogs of the past 10 years. New scale models include the Terrier/Sandhawk and the 1/5-scale Jayhawk. Many of the old favorites, such as Big Bertha and Wizard, have received facelifts, and a number of interesting sport models have been introduced. These include the Tomcat RG, featured on the cover. One item not yet included in the catalog are the long-rumored Estes black powder E motors. They are reportedly 24mm in diameter [same as the D12], and 3.5" in length [as opposed to 2.75 for the D]. They are rated at 32NS, and will be available with delays of 4, 6, & 8 seconds, with a plugged version for the Astroblaster glider. They will be offered in packs of 2, priced at \$7.69. They will be available upon regulatory approval.

=====

**NORTH COAST ROCKETRY** will discontinue several kits and send two on hiatus. The Brighthawk and Viking will take a one year vacation from the NCR catalog, reportedly due to nose cone availability problems. Gone for good are the Corporal and Juno-1 scale kits, along with the Orion, Aries, Mini Spoil Sport and Mini Katana. The Corporal, however, may reappear as a 4" diameter kit in the future. A leaner, meaner NCR catalog will debut in April '93. Also, the NCR F30 and G50 composite motors are still scheduled for April delivery. These motors are 29mm X 6" and feature a molded monolithic case. The F30 will have delays of 4 and 6 seconds, and the G50's will have 5 and 7 second delays. [DART/Warp-9]

=====

**APOGEE COMPONENTS** has become the exclusive distributor of non-standard Aerotech motors.... **QUEST AEROSPACE** is weeks away from shipping the Delta Clipper kit. Look for a new 32 page retail catalog in the April/May time frame. Quest C motors are back in stock and shipping. [DART/Warp-9].

## SECTION NEWS NOTES

**AUCTION:** On March 20, SPAAR held an auction to raise funds for the club treasury, and hopefully to have a little fun. In all, nine members attended, and a total of \$152.83 was raised for the club. A good number of interesting items were sold; see the complete listing elsewhere in this issue.

=====

**NARAM-36:** Despite the fact that NARAM-35 hasn't even arrived yet, plans are already afoot for the '94 NARAM. Reportedly, the NASA/Houston Section, led by Ed Tindell, is considering making an offer to hold NARAM-36 in the Houston, Texas area.

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**FLYING FIELD BLUES:** According to the Cocalico School District's newsletter, the construction project that is now taking place on our launch field is scheduled for completion in August of this year. As stated before, until then, we won't really know the extent of the damage.

=====

**OVATION-35:** The March/April edition of American Spacemodeling contained, on the inside rear cover, an announcement for the "Ovation-35" rocket. The sale of these models, donated by the Custom Rocket Co., will be used as a fund raiser for the NAR... we think. While it appears to be a nice idea, the NAR never bothered to inform the individual sections either through the Section Advisors or by mail. Strange.....

=====

**SEE ED FOR ALL YOUR ROCKET NEEDS:** SPAAR's Ed Miller is now your one-stop shop for all of your model rocketry needs. Ed will be handling the Estes, Aerotech, FSI and THOY product lines at various discount levels, as well as miscellaneous items such as 5-minute epoxy and handi-wipes. Contact Ed at 717-865-6829 for details.

=====

**CUB SCOUT DEMO:** We will be assisting SPAAR member Mark Snyder with a Cub Scout model rocket demonstration on Sunday, May 23. The location will be in Harford County, MD., and current plans are for the demo to begin at 1PM. According to Mark, the field is south of Belair, MD., along Rt. 1, and not too far from Delta, PA. This event has been discussed at a number of recent club meetings, and permission has been granted to use the club launch equipment. Anyone who is interested in helping out [which means flying rockets!], contact George Beever at 717-4170 or Mark Snyder at 410-256-7499.

**THE SPAAR RECORD BOOK**

As Of 1/12/93

<u>Event</u>	<u>Name</u>	<u>Model</u>	<u>Motor</u>	<u>Date</u>	<u>T/A/P</u>
A Division					
1/2A PD	Dave Bender		1/2A3-4	11/3/91	44.5s
A PD	Dave Bender	X-3	A3-4	5/5/91	50.9s
B PD	Aaron Newman	Sizzler	B4-6	5/27/90	157.6s
C PD	Eric Marcella			9/3/89	66.4s
D PD	Dave Bender	Gone	D12-7	10/14/90	94.6s
1/2A SD	Dave Bender	X-1	1/2A3-2	5/5/91	22.9s
A SD	Dave Bender			10/9/88	42.6s
B SD	Jason Wingenroth	Viking	B6-4	10/14/90	40.0s
C SD	Dave Bender	Excalibur	C6-7	12/18/88	39.5s
1/2A RG	Daniel Yost		1/2A3-2	5/26/91	26.4s
B ELD	Derek Yost	2-minute Egg	B6-2	5/26/91	17.2s
C ELD	Daniel Yost			10/9/88	34.1s
B HD	Daniel Yost	RotaRoc	B6-2	5/26/91	56.6s
C BG	Aaron Newman		C6-3	10/14/90	93.2s
D ALT	Lee Dwyer	Mean Machine	D12-5	7/19/92	166.5m
E ALT	Patrick Boyle	Cheetah	E15-7	7/19/92	276.6m
B Division					
1/2A PD	Bill Rhoat			7/23/89	36.5s
A PD	Bill Rhoat			8/14/88	27.6s
B PD	Bill Rhoat			4/16/89	79.0s
C PD	Dave Wenrich			8/14/88	33.9s
D PD	Bill Rhoat			4/16/89	31.1s
E PD	Bill Rhoat	Onyx	E60-6	11/5/89	22.1s
1/2A SD	Bill Rhoat			7/23/89	38.9s
A SD	Bill Rhoat		A3-4	7/22/90	85.7s
B SD	Bill Rhoat			7/23/89	50.9s
A ALT	Aaron Newman		A8-3	6/30/91	83.2m
B ALT	Aaron Newman		B6-4	6/30/91	110.9m
C ALT	Aaron Newman		C6-5	9/13/92	98.4m
B ELD	Bill Rhoat		B6-2	5/27/90	10.7s
C ELD	Bill Rhoat			7/2/89	67.2s

B SRD	Bill Rhoat			7/23/89	832.5p
C HD	Bill Rhoat	Rotaroc	C6-3	5/27/90	61.3s
C Division:					
1/4A BG	G. Feveryear		1/4A3-4	5/23/92	25.8s
1/2A BG	G. Feveryear		1/2A3-2	7/23/89	71.5s
A BG	G. Feveryear	Vulture	A3-2	7/2/89	84.3s
B BG	G. Feveryear	Fly Baby	B4-2	9/2/90	112.3s
C BG	Fred Hoke	HXP-1	C6-3	5/27/90	83.7s
D BG	John Yost	D-Light	D12-3	9/2/90	67.3s
1/2A HD	John Yost	Mini Rotaroc	1/2A3-2	12/4/88	42.7s
A HD	John Yost	Mini Rotaroc	A3-2	7/22/90	74.0s
B HD	G. Feveryear	Rotaroc	B4-2	9/3/89	61.8s
C HD	Ed Miller	Aerocopter	C6-3	5/24/92	197.7s*
D HD	John Yost	Yost-a-Roc	D12-3	11/8/92	68.2s
E HD	John Yost	Yost-a-Roc	E15-4	8/12/90	115.0s
1/4A PD	G. Feveryear		1/4A3-4	11/8/92	102.3s
1/2A PD	G. Feveryear	Perihelion	1/2A3-4	7/2/89	258s
A PD	George Beever		A3-4	9/2/90	125s
B PD	Dale Greene		B4-6	7/2/89	184.9s
C PD	Dale Greene		C6-7	8/13/89	125.2s
D PD	Ed Miller		D12-5	7/2/89	120.0s
E PD	Bob Balogh	V-2	E6-4	9/3/89	104.7s
F PD	George Beever	Aerobee-Hi	F25-6	8/12/90	83.4s
G PD	Bob Balogh		G40-7	8/13/89	138.4s
1/4A RG	George Beever		1/4A3-2	5/24/92	16.1s
1/2A RG	George Beever		1/2A3-2	10/14/90	36.4s
A RG	G. Feveryear	Vulture	A3-2	9/1/90	109.8s
B RG	G. Feveryear	Gull	B4-2	10/30/88	154.0s
1/4A SD	G. Feveryear		1/4A3-4	5/3/92	41.9s
1/2A SD	G. Feveryear		1/2A3-4	9/24/89	94.8s
A SD	George Beever	Perihelion	A3-6	9/15/91	132.3s
B SD	G. Feveryear		B4-6	8/12/90	168.5s
C SD	Bob Balogh		C6-7	7/22/90	208.0s
D SD	Dale Greene		D12-7	8/13/89	52.3s
E SD	Ed Miller		E25-10	7/22/90	106.0s
F SD	Ed Miller		F25-12	7/22/90	138.5s*
G SD	Ed Miller		G25-10	7/22/90	181.6s*
1/2A SRD	G. Feveryear		1/2A3-2	7/22/90	233pts
A SRD	George Beever		A3-4	5/27/90	415pts*
B SRD	G. Feveryear		B4-4	7/23/89	486pts
C SRD	Dick Rhoat		C6-3	9/3/89	533pts
A Payload	George Beever		A8-3	7/21/90	61m

B Alt	Alan Rubright		B4-4	9/13/92	184.6m
C Alt	Fred Hoke		C6-3	7/19/92	97.2m
D Alt	Ed Miller		D13-4	5/10/92	173.0m
E Alt	George Beever	Maxi-Alpha	E18-7	7/19/92	269.9m
F Alt	Roger Dwyer	Sparrowhawk	F50-4	7/19/92	328.9m
G Alt	Ed Miller		G42-4	5/10/92	279.2m
B ELA	Gary Feveryear		B6-2	11/8/92	56.0m
C ELA	G. Feveryear		C6-5	9/13/92	118.2m
B ELD	E. Miller	Streamliner		5/26/91	83.8s
C ELD	G. Feveryear	Aero-Owl	C6-3	10/9/88	156.0s
D DELA	G. Feveryear		D21-7	5/24/92	294.0m

#### NOTES ON CLUB RECORDS:

\* = National Record

#### Longest Standing Club Performance Records:

A Division: 1/2A SD, Derek Yost, & D PD, Daniel Yost, 7/3/88;  
 B Division: A PD, Bill Rhoat, & C PD, Dave Wenrich, 8/14/88;  
 C Division: C ELD, Glenn Feveryear, 10/3/88.

#### To set a club record:

At any SPAAR launch, make a notation on your Flight Card that you wish the flight to be considered for a club record, before the flight is made. If it is a timing event, you must make certain that there is someone timing the flight. Altitude events are obviously restricted to those launches when the club tracking equipment is available. All members are encouraged to familiarize themselves with the operation of the club trackers.

#### SPAAR HOLDS AUCTION

On March 20, SPAAR held it's first-ever auction, following the regular monthly business meeting at the Delta Fire Department. All told, the club gained in excess of \$150. If you couldn't make it, here's what you missed:

<u>#</u>	<u>ITEM</u>	<u>SELLER</u>	<u>BUYER</u>	<u>PRICE</u>
1	Estes Eggspress	Dave B.	Dale G.	2.25
2	Estes Tornado	Dave B.	John Y.	1.00
3	Estes Constellation	Dave B.	Dale G.	1.50
4	Trim Monokote [6]	Glenn F.	George B.	3.00
5	Trim Monokote [6]	Glenn F.	Dale G.	3.00
6	Trim Monokote [6]	Glenn F.	NO SALE	



7	Lunar Module PMC	Glenn F.	Dale G.	3.00
8	Alien Invader kit	John Y.	Bill R.	3.50
9	Interceptor kit	John Y.	Ed M.	11.00
10	PK-12 'chute kit	John Y.	Dale G.	1.00
11	Field Repair Kit	John Y.	Bill R.	1.50
12	MPC 1/2A3-3M	Bill R.	George B.	1.00
13	MPC 1/2A3-3M	Bill R.	John Y.	.75
14	MPC 1/2A3-3M	Bill R.	John Y.	.50
15	MPC A3-0	Bill R.	Glenn F.	.50
16	MPC B3-0	Bill R.	Glenn F.	2.25
17	AMROCS Hawk B/G	Dale G.	Bill R.	5.00
18	Centuri Nike-Smoke kit	Dale G.	Ed M.	9.50
19	Enerjet Nike-Smoke kit	Dale G.	Ed M.	15.00
20	MPC A3-6	Dale G.	John Y.	.50
21	Cent. 1/2A4-5M	Dale G.	Glenn F.	1.50
22	Enerjet E24-7	Dale G.	NO SALE	
23	Czech C6-0	Dale G.	NO SALE	
24	FSI D6-8	Dale G.	NO SALE	
25	B14-0,B14-6,C6-3	Dale G.	NO SALE	
26	FSI F7-6 [2]	George B.	John Y.	2.00
27	Alien Invader kit	George B.	Dave B.	2.00
28	Phaser kit	George B.	Bill R.	1.50
29	Halley's Tail kit	George B.	Dale G.	2.50
30	Echo kit	George B.	Bill R.	1.00
31	Corsair kit	George B.	NO SALE	
32	Estes ALCM kit	George B.	John Y.	14.00
33	HV ARCAS	Ed M.	George B.	15.00
34	Estes Phoenix	Ed M.	John Y.	7.00
35	Super Big Bertha	Ed M.	Dale G.	6.50
36	Skinny Pink Thing	Ed M.	Dale G.	5.00
37	Estes Magnum	Ed M.	Dale G.	6.50
38	FSI Megatron	Ed M.	George B.	5.00
39	AT Mustang	Ed M.	George B.	10.00
40	NCR Mini Katana	Ed M.	Rick H.	13.00
41	Space Enterprise book	John Y.	Dale G.	5.00
42	Stealth outfit	John Y.	NO SALE	
43	S6A model	Glenn F.	Dale G.	4.00
44	Jupiter-C kit	Glenn F.	Dale G.	7.00
45	Shock Cords	Ed M.	Rick H,	1.75
46	NCR Patriot decals	Ed M.	George B.	1.00
47	3" OD tube	Ed M.	George B.	.20
48	29mm tube [paper]	Ed M.	NO SALE	
49	Fin sets	Ed M.	George B.	.50
50	Fin sets	Ed M.	Rick H.	.25
51	Large tubes	Ed M.	John Y.	.50
52	29mm tubes [plastic]	Ed M.	John Y.	.50
53	MRC Thermal Hawk	Ed M.	George B.	1.25
54	Warp Drive	Ed M.	George B.	2.75
55	MPC Flat Cat kit	Dale G.	Dave B.	5.75
56	MPC Titan III kit	Dale G.	NO SALE	
57	Aurora UFO kit	Dale G.	Ed M.	5.00

58	Estes Explorer kit	George B.	NO SALE	
59	Estes Launch System	George B.	Dale G.	5.00
60	Estes B14-5	George B.	Rick H.	1.00
61	Estes 1/2A6-4	George B.	NO SALE	
62	Estes B8-0	George B.	Rick H.	1.00
63	Estes A8-0	George B.	Dale G.	1.00
64	Astrocam 110	George B.	Dale G.	3.00
65	Quest Nike-Smoke	George B.	Dale G.	3.00
66	Estes Calypso	George B.	John Y.	1.00
67	Estes Stealth	George B.	John Y.	1.00
68	Estes Voyager II	George B.	Dave B.	1.50
69	T-Shirt	George B.	Dale G.	2.00
70	T-Shirt	George B.	John Y.	2.00
71	Estes Spartan kit	George B.	NO SALE	
72	Estes Sparrow kit	George B.	Bill R.	1.00
73	Estes Space Shuttle	George B.	Dale G.	4.00

A special thanks to Ed Miller, who was the **BIG** contributor!

=====  
 And, still on the subject of the auction:

#### **THE AMROCS HAWK B/G**

At the auction, Bill Rhoat purchased a rather unique kit from Dale Greene: the AMROCS Hawk boost/glider. Bill has submitted the plans so that we can all make a copy. [Thanks Bill!]

#### BACKGROUND

Richard M. Jungclas, in Flying Rocket Kits, 1958-1988, indicates that this design originated with a company called Space Age Industries: "This company was started in 1969. Later it was acquired by or renamed AMROCS. AMROCS published an almost identical catalog with descriptions referring to the SAI line. Little else is known about the company..." The firm was located in Highland Park, New Jersey, and apparently ceased production in 1972. The Hawk was listed as kit #K101, and was in production from 1970 through 1972.

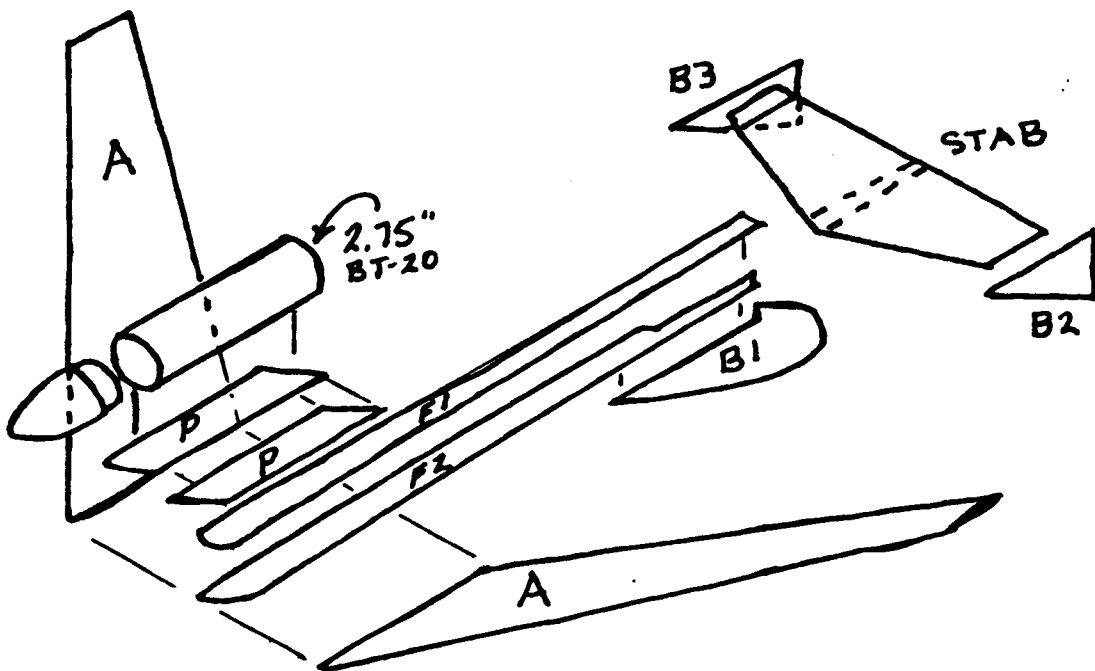
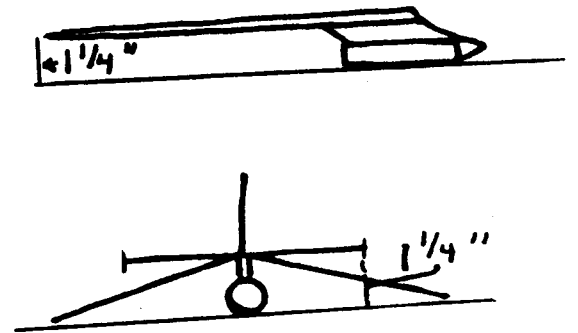
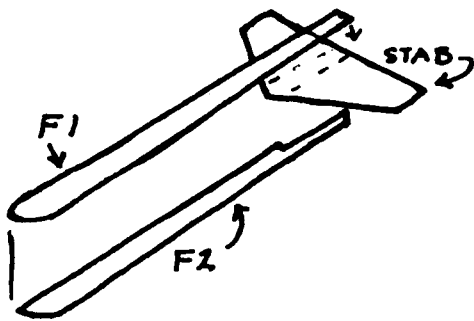
#### Sez Bill:

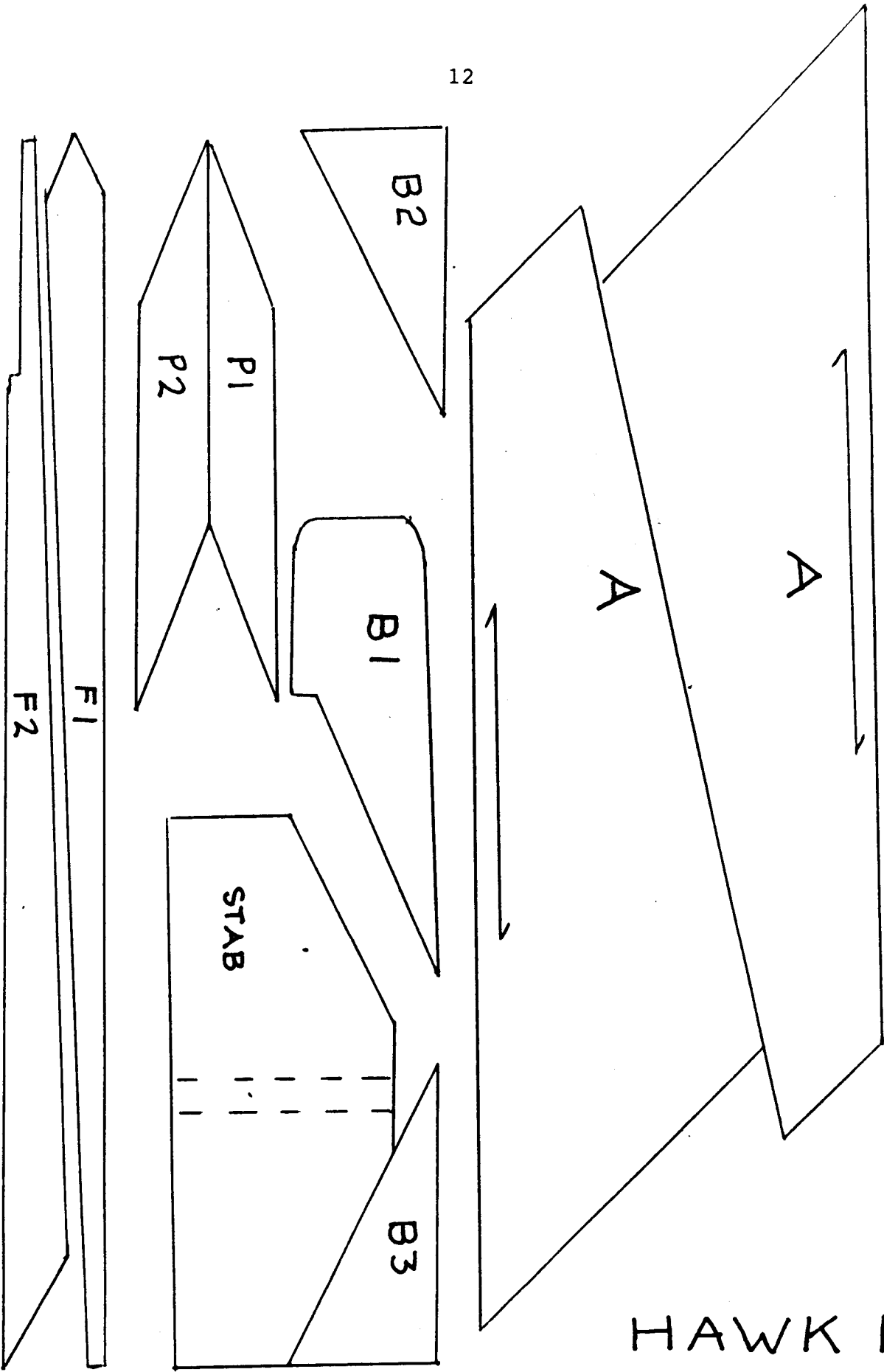
The Hawk was a glider originally produced by AMROCS a good while ago. I purchased the kit at the auction and thought others might want to own a Hawk. The outlines were printed on the balsa, but some had worn off, so I had to fill in the blanks. The engine is ejected at transition, and a streamer is necessary to make it NAR

legal. The Hawk can fly on anything from 1/4A to B motors. The figures below, from the original instructions, are included for ease of construction.

Parts List

- 3 X 18 X 1/8 balsa
- 2.75" BT-20
- One BNC-20Y Nose Cone
- 1/8" launch lug





HAWK B/G  
PLANS

## PROJECT SATURN 1B

by

George Beever #44391

Just a quick disclaimer: I am not writing this to toot my own horn. Hardly. What emerged from this project of mine is neither a work of art or original for that matter. Rather, I just want to pass on the idea that you really can do what you put your mind to. With that said.....

This story actually goes back to October 1968; I was in the 7th grade, and my greatest interest, besides the late lamented **Baltimore** Colts was the US space program. The successful Mercury program had ended in 1963, and the even more successful Gemini series had come to a conclusion in 1966. The Apollo program designed to land man on the moon, had been seriously delayed by the tragic Apollo 1 fire in January, 1967. Almost 21 months later, in this October of 1968, all attention was focused on the upcoming Apollo 7 mission. This mission would be the first manned earth-orbit test of the Apollo spacecraft, and would be boosted by the Saturn 1B vehicle. The first Saturn 1B [referred to at various times as the "Uprated Saturn 1"] had flown, unmanned, in February, 1966.

It was during the midst of all of this that I discovered model rocketry. In late September I joined something called "The

Rocket Club". I thought it was concerned with the space program; I wasn't ready for these little paper and balsa things. However, there in Mr. McGuire's science room, was a big model of the Saturn 1B. I'd always liked the way the 1B looked - there was just something classic about it. It wasn't even painted, but it sure got my attention. In any event, the following Saturday I found me at Lloyd's Hobby Shop on York Road, in Lutherville. I think it's a tanning salon now or something. Anyway, I walked in to buy my first Rocket, even though I wasn't sure what I was looking for. There they were: Alpha, X-Ray, Big Bertha, Scout, Sprite, Skyhook, ARCAS, V-2, Honest John, Gemini-Titan, Drifter, Mark; all began with the word "Stron". But there on the floor, in a box instead of a bag, was the big one: the Saturn 1B. The same one in Mr. McGuire's classroom. I wanted it. I had to have it...but a couple of things stood in my way. The price tag, for one. I had all of about \$3 in my pocket, 6 weeks worth of allowance. The Saturn went for \$9.50! It also said, on the label, "Recommended for Experienced Rocketeers". I wasn't sure just what a "Rocketeer" was, but I got the gist. I had built scads of plastic models, but this was something new.

I wound up with an Astron Scout kit [.70], a blue tube of 1/2A6-2s, [.80] a 1/8" X 36" piece of music wire [also known as a launch rod, .25], and a 1968 Estes catalog. There went my three bucks. But that catalog! On the cover was the real Saturn 1B at launch, riding that column of flame; and as an insert, a smaller photo of the Estes 1/70 scale version. Yup, gotta have it. Someday.

For the next few years, two things kept me and the 1B apart: money [or the lack thereof] and the knowledge that if I got one now, I'd screw it up. Probably more the former than the latter. I did have a friend who had one, though. Good 'ol Marty. Marty himself was a screw-up. Never could quite get that balsa grain-direction/leading edge theory down. And, sure enough, Marty Screwed-up his Saturn 1B. What a mess. One day we did convince him to fly it, though. I'm not certain he had the required 4 engines, and I doubt they were all of the same type. I tried to convince him to let me have the wreckage so that I could try to rebuild it, but I had no luck. He did give me one of the pages of the instruction sheet, the one that contained the parts list. I figured that sometime in the future I could fabricate one from parts. As soon as I figured out just what size a BT-51 or a BT-63 was.

As a Christmas present in 1970, I was given an Estes 1/70 scale Little Joe II kit. This was the same scale as the Saturn 1B and shared the same Apollo

capsule kit. My experience with this little gem reinforced by suspicion about messing up a Saturn; that Apollo capsule was a pain. I didn't fly the thing until sometime in 1978. It promptly crashed, but I saved the pieces. I figured I could use the capsule as the basis for a Saturn, because by that time, Estes had discontinued the kit. Yes, in the intervening years I had drifted away from the hobby as so many do. High School, college, women, and all of the other distractions of life...{grin}

When I did "settle down" and got back into rocketry, the first thing I did was go out and get a copy of the '78 Estes catalog. Much to my displeasure, so many of the kits that I had grown up with were gone. Thor-Agena, Cobra, Farside, Apogee II, Falcon, Space Plane, Semi-Scale Saturn and of course, the Saturn 1B. I had never stopped wanting one of those things, and now it was gone, discontinued in 1977. So, I did the next best thing. I bought a 1/100 scale Centuri Saturn 1B. It was a great model, powered by 2 motors, full of detail, and was the same scale as both the Centuri and Estes Saturn V kits. Neat, but not quite the same. It was with this kit, however, that the concept of scaling up a model first entered my head. Using the 1/70 scale Apollo capsule that I'd salvaged from the Little Joe II, and taking measurements from the smaller Centuri kit, why couldn't I just enlarge it? Why not, indeed? Because I didn't trust my modeling skills, that's why.

## SATURN 1B [CONT.]

For some reason, I had shied away from building a certain model, or tackling a particular project, for fear that the result would not be perfect. For this, and other reasons, the 1/70 scale Saturn 1B became one of those "Someday Projects"; you know, you'll do it "someday".

I rejoined the NAR in late 1987, and one of the first issues of American Spacemodeling that I received had a cover shot of a large scale early model Saturn 1. Plans of the model were promised for a future issue. They never materialized, but I started think about that project again...

Then, a few months later, I became involved in an auction by mail. A good number of old kits were available, including one Estes Saturn 1B. I put in a bid of \$100 for it [just kidding, dear]. It eventually went for about twice that. So much for that idea.

Then, in the summer of 1990, Art Babiarez showed up at a SPAAR Sport Launch with 2 very interesting models: a Gemini-Titan, in the same scale as the old twin-engine Estes kit, and a 1/100 scale Saturn 1B, powered by a single "D" motor. I couldn't believe that he was actually going to fly these two precious relics! No, they were brand new. "Scratchbuilt" he said. Scratchbuilt? Yea, use as many commercially available parts as you can, and make what isn't. You must be kidding!

Sure. The Apollo capsule on the 1B came from a casting, using the capsule from an Estes Saturn V as the mold! Everything else was just scaled to it. Sound familiar? [Postscript: about a month after Art produced this gem, Estes re-released an updated version of the Centuri 1/100 scale 1B]. I explained my idea for a 1/70 scale 1B to Art. He said, "We can do this." And ya know what? He was right!

**In the next issue:**

### Building The Beast

#### =====

#### LATE NEWS

**1/4As, ANYONE?:** ...Estes will be selling the 1/4A engines, previously made available through Apogee. They will be sold in "bulk" packs of 24 engines. Each package will contain 12 1/4A3-2s and 12 1/4A3-4s, and will cost \$29.99. These engines are ready to go, once NAR S & T is done and the DOT gives it's OK. [The Upstate Rocketeer/MARS].

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**MICROBRICK IS MOVING:** Microbrick has relocated to Petersburg, NY. The new address is:

Microbrick Technologies, Inc.  
PO Box 126  
Petersburg, NY 12138-0126  
[518] 658-9132

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**WHATS NEXT?:** Aerotech's "800" number has been disconnected... they are "working hard" on F and G motors, however.

## SPAAR HOLDS RECORD SETTING SPORT LAUNCH

### BAD WEATHER NOT A FACTOR

Never let it be said that SPAAR is a bunch of fair weather flyers. Never let it be said that a little ice and snow [read that "blizzard"] will keep us indoors watching endless reruns of "The Incredible Mr. Limpet". We proved otherwise on March 13, when a record number of members and guests showed up. This, despite, the fact that we had been warned that the "Storm Of The Century" was barreling up the east coast.

There were some problems, however. Someone Triple Dog Dared Dave Bender to lick the blast deflector of Ed Miller's launch system with his tongue just to see if it would really stick. He did, it did, but quick action by the Denver Rescue Squad saved the deflector.

The weather was no problem for Trevor Smedley, who drove all the way from his home in Nova Scotia just to make this launch. Hey, Canadians have no problems flying in the snow, eh?

One of the big surprises was the appearance of Dave and Jess Wenrich. They were two of SPAAR's original 1988 members. They disappeared in the spring of 1989, and hadn't been seen since. Dave wanted to pay all of his back dues; when advised that they were somewhere in the neighborhood of \$6,000, he and

Jess disappeared again.....

The club's new multi-station, electro-magnetic, infrared, upward-looking, laser-guided tracking system was unveiled for the first time, with shocking results. Literally. A power surge through one of the 100 jiggawatt transducers sent electronic whiz John Yost off babbling something about shoulder launched egglofters.

If necessity is the mother of invention, then the SPAAR members who braved this cold, snowy day are real mothers...er, uh, inventors! Using some leftover Rocketflight Silver Streak motors, some FSI F7's, and an Estes USS Enterprise model, we were able to fashion enough hand and bun warmers for everyone. Look for plans in an upcoming issue.

There was a bit of tragedy, however. Building on the Gassaway sun-guidance experiments, Rick Hackman tried to test out his "Snow Guidance" theory, using the premise that if snow falls from above... well, Rick was last heard from, heading towards the Artic Circle. Sounds like a good newsletter article!

OK, better late than never.

**! S L O O F L I R P A**



AREA EVENTS CALENDAR

NICE - 15 OPEN

May 8, 1993

Manassas, VA

Events:

B RG(M), 1/4A BG(M)  
 B HD, Prec. Dur.  
 Sport Scale

Host Section: NOVAAR

Contact: Ken Brown  
 7021 Forest View Drive  
 Springfield, VA 22150

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BATTLEPARK '93

May 22-23

Culpeper, VA

15,000 foot waiver

This is THE East Coast  
 High Power Launch!

Host: Central VA/Tripoli #25

Contact: Mike Showalter  
 1090 Norman Rd.  
 Culpeper, VA 22701

=====

ECRM-20 REGIONAL

June 5-6

Middletown, MD

Events:

1/2A Cluster Alt; B RG  
 D Dual Eggloft Dur; B HD  
 A Payload; Sport Scale

Host Section: NARHAMS

Contact: Tom Lyon  
 PO Box 1746  
 Prince Frederick, MD 20678  
 Ph: 301-855-9457

=====

RAMTEC-1 REGIONAL

June 12-13

Allentown College  
 Center Valley, PA

Events:

B HD(M); B RG  
 1/2A PD(M); 1/2A SD(M)  
 D Dual Eggloft Duration  
 A B/G

Host Section: SPAAR

Contact: Glenn Feveryear  
 RD#1 Box 1-C  
 Delta, PA 17314  
 [717] 456-5570

=====

NARAM - 35

August 1-7

Middletown, MD

Events:

1/2A PD[M], 1/2A SD[M]  
 A Pay, B RG, C SRA  
 D DELD, B HD, 1/2A X 3 Cluster Alt

Research &amp; Development

Host Section: NARHAMS

Contact: Tom Lyon  
 Same As for ECRM-20

# Mo Motors, Mo Motors, Mo Motors!

OFFICIAL NAR MOTOR  
CERTIFICATION LIST  
EFFECTIVE JANUARY 1, 1993  
(ITALICS DENOTE CONTEST  
APPROVED)

**AEROTECH**

18 X 70 MM

D8-0 D8-2 D8-4 D8-8 D8-12  
D21-4 D21-7 D21-10 E25-4 E25-7  
E25-10

18 X 106 MM

E45-4 E45-8 E45-12

24 X 49 MM

D7-0 D7-2 D7-4 D7-8

24 X 70 MM

E6-0 E6-2 E6-4 E6-8 E6-P E10-0

E10-2 E10-4 E10-8 E15-4 E15-7

E15-10 E28-0 E28-4 E28-8

E28-12 E30-4 E30-7 E30-10

E50-0 E50-5 E50-10 E50-15 F9-0

F9-2 F9-4 F9-8

29 X 80 MM

F30-0 F30-4 F30-7 F30-10

29 X 98 MM

F14-4 F14-6 F14-9 F14-P

24 X 101 MM

F44-0 F44-5 F44-10 F44-15 F44-20

24 X 122 MM

F32-5 F32-10 F32-15 F72-5 F72-10  
F72-15

27 X 75 MM F15-0 F15-2 F15-4

F15-8

27 X 85 MM F10-0 F10-2 F10-4

F10-8

29 X 75 MM F20-0 F20-4 F20-8

F20-12

29 X 83 MM F80-0 F80-5 F80-10

F80-15 F80-20

29 X 89 MM F41-0 F41-6 F41-9

F41-14

29 X 95 MM

F25-4 F25-6 F25-9 F25-12 50-4

F50-6 F50-9 F50-12 F60-6 F60-9

F60-12

**APOGEE**

13 X 45 MM

114A3-2T 114A3-4T A3-2T A3-6T

B7-4 B7-6 B7-8 B7-10

C10-4 C10-7 C10-10

**CENTURI ENGINEERING COMPANY  
(ENGINES DATED 1975 OR LATER)**

1/2A6-2 1/2A6-4 A8-0 A8-3 A8-5

B4-2 B4-4 B4-6 B6-0 B6-4 B6-6

B14-0 B14-5 B14-7 C5-0S C5-2S

C6-0 C6-3 C6-5 C6-7 D12-0

D12-3 D12-5 D12-7

**CENTURI ENGINEERING, INC.**

1/4A4-2M 1/4A4-4M 1/2A4-3M

1/2A4-5M

A4-2M A4-4M A4-6M B8-0 B8-3

B8-5 B8-7

**ESTES INDUSTRIES, INC.**

1/4A3-2T 1/4A3-4T 1/2A3-2T

1/2A3-4T

A3-2T A3-6T A3-4T A10-0T A10-3T

1/2A6-0 1/2A6-4 1/2A6-2 A8-0

A8-3 A8-5

B4-2 B4-4 B4-6 B6-0 B6-2 B6-4

B6-6 B8-0 B8-7 B8-5 B14-0

B14-5 B14-7

C6-0 C6-3 C6-5 C6-7 C5-3

D11-9 D11-P D12-0 D12-3

D12-5 D12-7

**FLIGHT SYSTEMS, INC.**

A6-3 B6-5

B6-0 B6-3 B6-5

C6-0 C6-3 C6-5

D18-0 D18-4 D18-6

D20-0 D20-3 D20-5 D20-7

E5-0 E5-4 E5-6 (E5's DATED FEB  
1987 OR LATER)

E5-0 E5-4 E5-6 (DATED BEFORE  
FEB 1987)

E60-0 E60-4 E60-6 E60-8

F7-4 F7-6

F100-0 F100-4 F100-6 F100-8

F100-10

**MRC**

FX (SMOKE GENERATOR, NO  
THRUST)

A8-3 B4-2 B4-4 B6-4 C6-3 C6-5

**NORTH COAST ROCKETRY**

(Contest certification was withdrawn at end of  
1990-1991 contest year)

E28-0 E28-4 E28-8 E28-12 E50-0

E50-5 E50-10 E50-15

F41-0 F41-6 F41-9 F41-14 F75-0

F75-5 F75-10 F75-15 F75-20

**QUEST**

A6-4 B6-0 B6-4 C6-3 C6-5

C6-0 C6-7

**U S ROCKETS**

(Contest certification was withdrawn at end  
of 1990-1991 contest year)

E6-0 E6-4 E6-8 E10-0 E10-4

E10-8 E25-0 E25-4 E25-8 E25-12

E55-0 E55-5 E55-10 E55-15 F9-0

F9-4 F9-8 F20-0 F20-4 F20-8

F20-12 F10-0 F10-4 F10-8

F80-0 F80-5 F80-10 F80-15 F80-20

**VULCAN**

(Contest certification was withdrawn at end of  
1990-1991 contest year)

E26-5 E26-7 E26-10

**OFFICIAL NAR HIGH POWER  
MOTOR**

**CERTIFICATION LIST**

EFFECTIVE JANUARY 1, 1993

(Italics denotes approved for contest use)

**AEROTECH**

G25-0 G25-5 G25-10 G25-15

G40-4 G40-7 G40-10 G40-13

G80-4 G80-7 G80-10 G80-13

G42-4 G42-8 G42-12

G55-5 G55-10 G55 15

**U S ROCKETS**

(Contest certification was withdrawn at end of  
1990-1991 contest year)

G25-0 G25-5 G25-10 G25-15

**VULCAN**

(Contest certification was withdrawn at end of  
1990-1991 contest year)

G50-7 G50-10 G50-13

**SOUTHERN PENNSYLVANIA AREA  
ASSOCIATION OF ROCKETRY**  
NATIONAL ASSOCIATION OF ROCKETRY, SECTION 503  
PO BOX 127, REAMSTOWN, PENNSYLVANIA 17567

\_\_\_\_\_ YES, I WANT TO JOIN SPAAR! HERE ARE MY DUES

\_\_\_\_\_ PLEASE CONTACT ME WITH MORE INFORMATION

NAME \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_

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

PHONE: AREA CODE ( ) \_\_\_\_\_ AGE \_\_\_\_\_

DATE OF BIRTH \_\_\_\_\_

\_\_\_\_\_ I HAVE NEVER FLOWN ROCKETS. \_\_\_\_\_ I HAVE BEEN FLYING  
MODEL ROCKETS FOR \_\_\_\_\_ MONTHS/YEARS.

\_\_\_\_\_ I AM A MEMBER OF THE NAR. MY NAR NUMBER IS \_\_\_\_\_  
\_\_\_\_\_ I AM NOT YET AN NAR MEMBER.

DUES: \_\_\_\_\_ 14 YEARS OF AGE OR YOUNGER, \$5.00  
 \_\_\_\_\_ 15, 16 OR 17 YEARS OF AGE, \$7.00  
 \_\_\_\_\_ 18 YEARS OF AGE OR OLDER, \$10.00  
 \_\_\_\_\_ FAMILY PLAN: OLDER MEMBER JOINS AT THE FULL RATE  
 THEN ALL YOUNGER MEMBERS JOIN AT HALF PRICE.  
 (FAMILY PLAN PROVIDES ONLY ONE COPY OF THE  
 NEWSLETTER PER FAMILY.)

DUES ARE PAYABLE FOR 12 MONTHS. RETURN THIS FORM TO:  
 SPAAR, PO BOX 127, REAMSTOWN, PENNSYLVANIA 17567

# Membership Application

NATIONAL ASSOCIATION OF ROCKETRY  
 1311 EDGEWOOD DRIVE, DEPT M  
 ALTOONA, WI 54720

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

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

DATE OF BIRTH: Month \_\_\_\_ Day \_\_\_\_ Year \_\_\_\_

I pledge to conduct all my model rocket activities in compliance with the NAR/HIA Safety Code. I will never fly model rockets at the same time or in the same vicinity as other types of rockets.

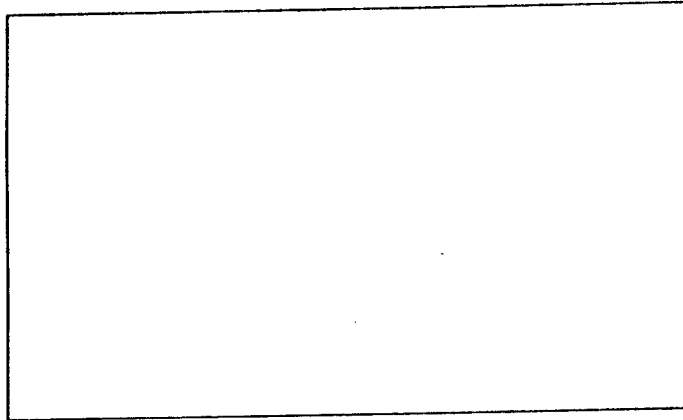
SIGNATURE: \_\_\_\_\_

DATE: \_\_\_\_\_

- MEMBERSHIP CATEGORY (Check one only):
- JUNIOR MEMBERSHIP (Under 16 as of January 1)..... \$15.00
  - LEADER MEMBERSHIP (Under 21 as of January 1)..... \$15.00
  - SENIOR MEMBERSHIP (21 or over as of January 1)..... \$25.00
- FOR OVERSEAS MEMBERS ONLY
- SURFACE POSTAGE (Required)..... \$ 6.75
  - OPTIONAL AIRMAIL POSTAGE (Replaces surface)..... \$33.00
- OPTIONAL MEMBERSHIP SERVICES
- FAI STAMP for US Team eligibility and world records \$10.00
  - FIRST-CLASS POSTAGE (U.S. & Canada only)... \$10.50
- DISCOUNTS (Select only one)
- RENEWAL (NAR # \_\_\_\_\_ Section # \_\_\_\_\_); Deduct \$1. \$ \_\_\_\_\_
  - FAMILY PLAN (Details below); Deduct \$8 ..... \$ \_\_\_\_\_
- Amount Enclosed..... \$ \_\_\_\_\_

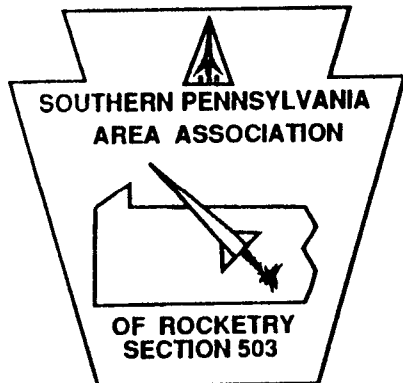
Family Plan: Full rate for one family member, others at \$8 discount — one American Spacemodeling per family.  
 NAR Membership dues include \$8.88 for a subscription to American Spacemodeling.

Canadian Modelers: Write to the Canadian Association of Rocketry, P.O. Box 1031, Postal Station B, Mississauga, Ontario, Canada L4Y 3W3.  
 Rights, privileges, and responsibilities of membership begin upon acceptance of this application by the NAR. All memberships are for twelve months from the date of acceptance. Rates and services subject to change without notice. Please allow 6-8 weeks for delivery of of American Spacemodeling.



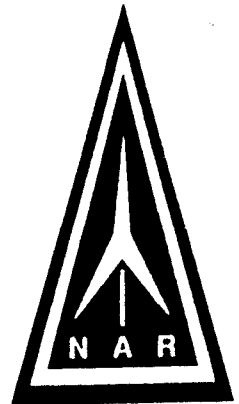
**TO:**

SPAAR  
P.O. Box 127  
Reamstown, PA. 17567



**SOUTHERN PENNSYLVANIA  
AREA ASSOCIATION  
OF ROCKETRY**

PROMOTING SAFE MODEL ROCKETRY  
IN SOUTHERN PENNSYLVANIA  
AND NORTHERN MARYLAND



*The Southern Pennsylvania Area  
Association of Rocketry*

# COUNTDOWN

**Volume 6 No. 2**

MARCH/APRIL 1993