

THE SOUTHERN PENNSYLVANIA AREA ASSOCIATION OF ROCKETRY COUNTDOWN

VOLUME 2 NO. 5



Flight	Orbiter	Crew (Names If Assigned)	Launch Date	Mission Duration	Orbital Altitude	Primary Cargo
34	Atlantis	CDR: Donald Williams PLI: Michael McCulley MS: Shannon Lucid Ellen Baker Franklin Chang Diaz	10-12-89	5 days	160 mi.	Galileo probe to Jupiter
33	Discovery	CDR: Frederick Gregory PLI: John Blaha MS: Story Musgrave Kathryn Thornton Manley Carter	11-19-89			Classified military flight
32	Columbia	CDR: Dan Brandenstein PLI: James Wetherbee MS: Bonnie Dunbar David Low Marsha Wins	12-18-89	10 days	190 mi.	SYNCOM 5 Retrieval of Long Duration Exposure Facility (LDEF)
36	Atlantis	CDR: John Creighton PLI: John Casper MS: Dave Hillmers Mike Mullane Pierre Thuot	2-1-90			Classified military flight
31	Discovery	CDR: Loren Shriver PLI: Charles Bolden MS: Steve Hawley Kathryn Sullivan Bruce McCandless	3-26-90	5 days	310-330 mi.	Hubble Space Telescope
35	Columbia	CDR: Vance Brand PLI: Guy Gardner MS: John Lounge Jill Hoffman Robert Parker	4-26-90	9-10 days	190 mi.	ASTRO-1 ultraviolet telescopes Broad Band X-Ray Telescope
37	Atlantis	CDR: Steve Nagel PLI: Kenneth Cameron MS: Jerry Ross Jerome Apt Linda Godwin	6-4-90	5 days	243 mi.	Gamma Ray Observatory
38	Discovery	CDR: Richard Covey PLI: Frank Culbertson MS: Robert Springer Carl Meade Charles Gemar	7-9-90			Classified military flight

The SPAAR Countdown

Volume 2, Issue 5

October, 1989

CONTENTS:

Letters to SPAAR..... page 1
Elections for 1990, Section News Notes..... page 2
Sport Launch & Flight Log, 9/24/89..... page 3
Sport Launch & Flight Log, 10/8/89..... page 4
Section Meeting Minutes, 10/16/89..... page 5
SPAARSPAM-1 events, The Poet's Corner, etc..... page 6
Space Shuttle Launch Schedule, part 2, & Nomination ballot p.7

The SPAAR Countdown is the newsletter of the Southern Pa. Area Association of Rocketry, NAR Section #503, PO Box 127, Reamstown, Pa., 17567, and is intended for the enjoyment of it's members and subscribers. Non-member subscription rate, \$5 per year. Contributors this month: Bill Rhoat, Daniel Yost, Glenn Feveryear, John Yost & George Beaver.

CALENDAR

SUNDAY, NOVEMBER 5, 1989:

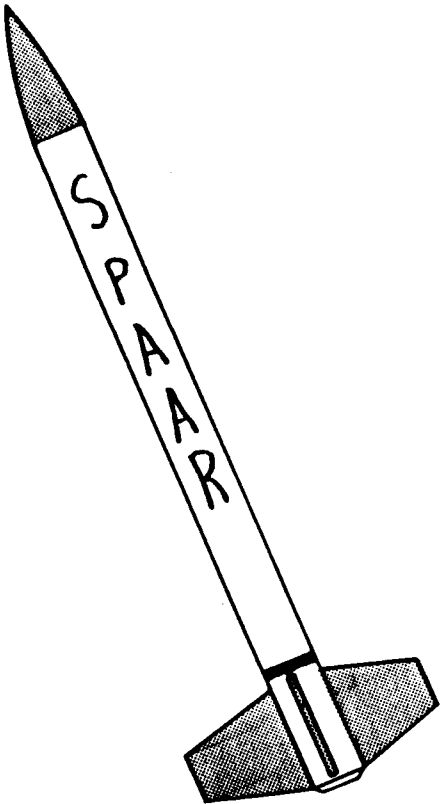
SPAARSPAM-1 Section Sport Launch and Tailgate party; Cocalico Sr. High, Denver, Pa., 1 PM to 5 PM.
EVENTS: 1/2A MicroRoc Non-Duration and Drag Race.

MONDAY, NOVEMBER 20, 1989:

Section Meeting, Lancaster Co. Public Library, N. Duke St., Lancaster, 7 PM to 9 PM.
ALL MEMBERS URGED TO ATTEND!!

SATURDAY, DECEMBER 9, 1989:

SPAAR Winter Workshop, Delta Fire Co., Delta, Pa., 10 AM to 4 PM. TOPIC: Kit building session, videos of SPAAR launches past & present (plus other topics), pizza.
For info. call: George Beaver
Glenn Feveryear, or John Yost.



SPAAR: ONE YEAR AS AN OFFICIAL NAR SECTION !!

As many of you "old-timers" know, the club that eventually became SPAAR was organized in May, 1988. However, it was not until October, 1988, that SPAAR was granted a Section Charter by the NAR, as Section #503.

As part of the ongoing festivities celebrating our first anniversary, we have been receiving a huge number of cards, letters, and telegrams offering congratulations. Here is just a mere sample of what has been received:

The White House
Washington, DC

Dear SPAAR:

Happy Anniversary!! Just remember:
Stay the course...steady as she goes...read my lips...a thousand points of light (or was that an F7 CATO?)... anyone know if the Texas Rangers won?

Sincerely,
George Bush

Phoenix, AZ

SPAAR,
Glad you've been around for a whole year. Just remember my words to fly by: The coefficient of the time-thrust curve of the parabola is equal to the square root of the trailing edge vortex of the total impulse blivet.

Keep 'em flying,
G. Harry Stine
NAR #2

The Reagan Ranch
Somewhere, CA

Hello,

Well, Nancy tells me that it's your one year uh anniversary. Well, it's hard to beleive that you folks have made it for one whole year. So, I just want to say...uh...well...ah...yes... that as you know, SPAAR stands for Silly People Aren't All Republican, uh, doesn't it? Well,...I mean...uh...Nancy?

Yours Truly,
uh Ronald Reagan

Hollywood, CA

Hey Punks,

Ya know what this is, punk? It's a Mini-Katana, the most powerful model rocket that I can afford, punk. Now, in all of this excitement, I can't remember if I loaded 6 C6-5's or 7. Feel lucky today, punk?

Warm regards,
Clint Eastwood

Brooklyn, NY

Hey SPAAR,

Ooh, I don't know, ya know? Tough crowd, tough crowd...Hey, I went to a SPAAR sport launch the other day, they invited me, ya know? Sort of the guest of honor, ya know? Huh, some nice guys they were...they gave me a T-shirt with a bull's-eye on the back!! No respect...no respect!!

ya know?
Rodney Dangerfeild

Hole-in-the-wall,
New Mexico

To: SPAAR
Ref: This article

SPAAR:

Knock it off and act right, will you? By the way, have you guys paid up your section insurance?

J. Pat Miller
President, NAR

ELECTIONS FOR 1990

The elections for the 1990 SPAAR Board of Directors is approaching, and will be held in December.

For those SPAAR members who joined during the 1989 calendar year, and are not familiar with this process, here is a quick primer: SPAAR has a five member Board of Directors: Section Advisor, President, Vice-President, Secretary/Treasurer, and Member-at-Large. All officers serve a one year term, from January through December.

Nominations are sent in by means of a mail-in ballot, which appears on the last page of this issue. After all nominations are received, the two individuals who received the most votes are then put on an election ballot, which appears in the November issue of the Countdown. The results of these ballots are tabulated, and the officers for the next year are announced at the December meeting.

The elections are held in this manner to allow those members who cannot attend meetings due to work, school, etc, a chance to vote. Officers are allowed to succeed themselves, if they wish. In addition, members may nominate themselves for any office if they wish, however two offices cannot be held by the same person.

I'd like to take this opportunity to state that I do not wish to be nominated for another term as president. I would, however, like to continue as head of the Newsletter Committee, and as such, editor of the Countdown. That, of course, can be decided in January when the 1990 committees are formed. Being president has been fun, but after holding the job since May, 1988, I think it's time for a change!

Another note to all of the "new" members that we have added this year: if you wish to have a copy of our Section by-laws, please contact me (George Beever) and I'll see that you get one.

Below is a listing of the SPAAR Board of Directors which currently holds office:

Section Advisor: John Yost

President: George Beever

Vice-President: Glenn Feveryear

Sec./Tres.: Ed Miller

Member-at-Large: Dick Rhoat

SECTION NEWS NOTES

As always, members are encouraged to attend our monthly meetings. These are held on the third Monday of each month, from 7 PM to 9 PM at the Lancaster Co. Public Library, located on N. Duke St., Lancaster.

Lately, an average of only 6 to 7 members have been attending the meetings. This makes conducting business rather difficult. Scheduling conflicts and prior commitments are to be expected, however a better turnout is needed!!

If you wish to come to a meeting, but need directions or transportation, contact your closest SPAAR member, or call me at 717-733-4170, so that arrangements can be made.

Congratulations are in order once again to SPAAR's Bill Rhoat, whose name recently appeared in the September issue of American Spacemodeling

Bill was cited for his continuing advancement in the NARTREK program. Good Job!!

MORE SPAAR AT NARAM NEWS:

The final point totals for the national meet are in, and our guys did something like this:

John Yost-218 points, added to his pre-NARAM total of 548; Dale Greene-118 points; and Daniel Yost-229 points.

A more detailed breakdown of these totals appears elsewhere in this issue.

If you are planning to attend the SPAARSPAM-1 Section tailgate party and end-of-the-flying-year meet, Sunday, Nov. 5, expect a phone call with a request or a question on what type of goody that you can bring.

Flight #	Name	Model	Motor	Time	Event	Misc.
1	E. Miller	Honest John	B4-6	17.2	Sport	GF
2	R. Hackman	Alpha 3	½A6-2	6.60	"	"
3	D. Greene	MRC Relic	B6-2	14.1	"	"
4	E. Miller	Black Thing	E60-8	109.00	"	NR
5	G. Beever	Wizard-X	A8-3	26.7	"	GF
6	R. Hackman	XR-45	C6-3	58.0	"	"
7	R. Balogh	Honest John	C6-5	42.5	"	"
8	E. Miller	Orion	C5-3	15.0	"	"
9	E. Miller	Hercules	F100-6	21.5	"	SEP
10	R. Balogh	V-2	D12-3	66.0	"	GF
11	R. Hackman	XR-46	B4-2	67.0	"	NR
12	G. Beever	Mini RotaRoc	½A3-2	15.5	½A HD	GF
13	R. Hackman	XR-47	A8-3	14.5	Sport	GF
14	G. Feveryear	Rose-a-Roc	B6-4	14.0	B HD	PRG
15	J. Yost	T.H.E. Brick	D12-3	11.5	D RG	No Glide
16	J. Yost	T.H.E. Brick	D12-3	46.0	D RG	NR
17	R. Fuld	Viking	A8-3	15.59	Sport	GF
18	R. Fuld	Viking	B4-4	25.53	"	"
19	R. Fuld	Viking	C6-3	42.06	"	"
20	F. Hoke	Super Rig Bertha +	2-D12-0/D12-5	?	"	"
21	R. Hackman	XR-50	A8-3	10.84	"	"
22	G. Beever	Rascal	½A3-2	13.22	½A RG	GF
23	F. Hoke	Phoenix+	D12-0/D12-3	21.5	Sport	GF
24	G. Feveryear	RotaRoc	B4-2	10.0	B HD	PRG
25	E. Miller	Double Take	C6-0/B8-5	18.47	Sport	GF
26	R. Hackman	XR-52	A3-4	21.00	"	"
27	F. Hoke	Crusader S/W	C6-3	30.00	" +C BG	GF
28	D. Greene	½A BG	½A6-2	14.0	½A BG	?
29	D. Greene	A BG	A10-3	7.05	A BG	Uns
30	D. Greene	B BG	B4-2	15.6	B BG	Uns
31	R. Balogh	Nike Ram II	F80-0/F25-9	?	Sport	PRG
32	F. Hoke	Honest John	C6-3	51.5	"	"
33	R. Hackman	RanJet Int.	D12-5	11.0	"	SEP
34	E. Miller	Spoilsport	4-D12-5	32.5	"	GF
35	D. Greene	MRC Relic	C6-3	20.2	"	SEP
36	R. Fuld	Starbird	B4-4	35.2	"	GF
37	R. Hackman	XR-53	A8-3	4.3	"	UNS
38	F. Hoke	Der V-3+	D12-0/D12-5	114.3	"	GF
39	R. Hackman	Aerobee 300	A8-3	55.4	"	"
40	E. Miller	Warp Drive	D20-7	39.2	"	"
41	F. Hoke	Space Shuttle	B6-2	?	?	?
42	R. Fuld	Viking	B4-4	26.00	Sport	GF
43	D. Greene	Minueman	D21-7	66.00	"	"
44	R. Hackman	XR-54	A8-3	1.9	"	"
45	E. Miller	Cloud Buster	F7-6	XXXX	?	CATO
46	G. Beever	V-2	D12-3	47.3	"	GF
47	R. Fuld	Strikefighter	C6-3	41.2	"	"
48	R. Hackman	XR-55	B4-2	4.5	"	"
49	E. Miller	Sentinel	C6-5	23.4	"	"
50	G. Beever	Transition	½A3-4	78.0	½A SD	GF
51	G. Beever	½A SD	½A3-4	39.2	½A SD	GF
52	D. Greene	"	"	32.0	"	"
53	D. Greene	"	"	20.5	"	SEP
54	G. Feveryear	"	"	94.8	"	GF

The weather on Sept. 24 was beautiful, but some SPAAR members may have wished for rain. Oh, some people got in some very nice flights...and some didn't.

Fred Hoke set a club C Boost/Glide record, with of all things, an Estes Crusader S/W. He also got a nice flight out of another modified Estes kit, adding a booster to a Der V-3. Robert Fuld flew his Viking and Strikefighter (with his son's help, of course); Ed Miller flew his FSI Hercules and Sentinel. But for each one of those nice flights there was one that wasn't so nice!

For instance, take the case of poor John Yost. John doesn't get much of a chance to fly, so when he does, people take notice. On this day, he brought out a huge D Rocket/Glider, designed by NOVAAR's Ken Brown, which John dubbed T.H.E. Brick; The Heaviest Ever. A BIG glider. On the first flight, the model failed to transition, and it pranged. After about an hour of supergluing and trimming, however, it turned in a great flight,

last seen over the dreaded rocket-eating cornfield to the east. And so it went. Ed Miller lost an E60 powered sport model, The Black Thing, over in Soy Bean Land; George Beever flew a Mini-RotaRoc which failed to flip over, and one of those wonderful "no moving parts" RG's. Good thing it was powered only by a ½A. as it looped over the spectators, almost giving some un-asked for haircuts. Ed flew another home grown design, the "Cloud Buster". The only thing that busted was the model, as the F7-6 CATO's just after launch.

The bad luck continued when Robert Balogh flew his high powered Nike-Ram II in a two-stage configuration, with an F80-0 and an F25-9. At launch, it weather-cocked into the breeze, and headed out over the pig farm to the west of the launch site. At the point where those on the ground expected to hear the second stage ignite, only silence was heard...hmmm, something not quite right here... the model arced over, and started coming in... and then the second stage ignited, driving the rocket into the nearby cornfield. Bob did recover the model, but it looks like it's seen it's last flight. Don't feel bad, Bob; welcome to the club!! And then there was Glenn Feveryear and hi helicopter problems. Glenn is a real craftsman when he builds competition models. For this launch, he had built beautiful examples of a Rotaroc B and an even more complex design, the "Rose-a-Roc". Both, unfortunately, ended up the same way... in peices. The 4 second delay in the Rose-a-Roc was too much, and the model nosed into the ground. But when it did, the rotors deployed perfectly! The RotaRoc pranged into the asphalt parking lot, but showed it's toughness and is now repaired.

SPORT LAUNCH, 10/8/89

Despite a steadily worsening afternoon, weather-wise, and competition for space from a couple of league soccer games, SPAAR got in it's only scheduled October sport launch on the 8th of the month.

We wound up using a rotating RSO/LCO, with Dale Greene opening the range at about 1:30.

The day saw the return of Aaron Newman, one of our younger members, who last flew with the club back in May. Aaron flew a number of very nice sport

models, all the while receiving help and encouragement from Section Advisor John Yost. Aaron also came up with a new event, "Frito lofting".

B Helicopter was the practice event of the day, with only Glenn Feveryear and George Beever entering the competition. Glenn flew two RotaRoc models to times of 34.3 and 25.1 seconds, for a total of 59.4. George flew one flight with a RotaRoc also, to a time of 46.2 seconds. Later in the day, Glenn flew a RotaRoc-C to a time of 92 seconds, setting a SPAAR club record in C HD. Rick Hackman flew one of the more interesting of his "X" series of designs, the "XR-57", which is painted in an olive drab-light grey color scheme which resembles a US Army Air Corp WWII fighter. The model does a nice roll-out during boost, which helps with stability; maybe a plan will appear soon for this interesting model.

Ed Miller got a beautiful flight out of his NCR Mini-Katana, with a seven engine cluster involveing 1 D12, 3 C5's and 3 B8's. He also flew his FSI Hercules with

FLIGHT LOG

Date: 8 October 89

Location: Cocalico HS

<u>Flight#</u>	<u>Name</u>	<u>Model</u>	<u>Motor</u>	<u>Time</u>	<u>Event</u>	<u>Misc.</u>
1	D. Bender	Birdie	1/2A3-4	XXXX	Sport	GF
2	R. Hackman	Alpha 3	A8-3	14.0	"	"
3	D. Bender	Yellow Jacket	B4-4	27.4	"	"
4	G. Beever	RotaRoc-B	B4-2	46.2	B HD	GF
5	R. Hackman	XR-22	1/2A3-2	XXXX	Sport	GF
6	G. Feveryear	RotaRoc-B	B4-2	34.35	B HD	GF
7	G. Feveryear	RotaRoc-B	B4-2	25.1	B HD	GF
8	E. Miller	Mini-Katana	D12-7/3-B8-5/ 3-C5-3	25.6	Sport	GF
9	M. Snyder	Sprint	B6-4	32.2	"	"
10	A. Newman	H.A.S.T.E	B6-4	24.2	"	"
11	R. Hackman	XR-47	C6-3	45.2	"	"
12	G. Feveryear	RotaRoc-C	C5-3	92.0	C HD	GF
13	D. Bender	Liberty	B6-4	37.5	Sport	GF
14	G. Beever	GT-3C	1-C6-5/2-C6-0	67.0	"	"
15	E. Miller	Hercules	F100-6	54.8	"	"
16	R. Hackman	XR-52	A10-3	21.2	"	"
17	M. Snyder	Pathfinder II	C6-5	16.3	"	ND
18	D. Greene	Flatcat	A8-3	11.4	A BG	RB
19	E. Miller	Air Mail	E15-4	38.5	Sport	GF
20	R. Hackman	XR-54	B6-2	11.6	"	"
21	A. Newman	Hercules	A8-5	6.0	"	"
22	A. Newman	Hercules	C6-0/A8-5	70.0	Frito Dur.	GF
23	R. Hackman	XR-55	C6-3	22.0	Sport	GF
24	R. Hackman	XR-55	C6-5	?	"	?
25	G. Feveryear	A SRD	A3-4	37.7	A SRD	GF
26	M. Snyder	Sidewinder	B6-4	10.7	Sport	GF
27	A. Newman	Strike Fighter	B6-4	15.8	"	"
28	A. Newman	ALCM	B6-4	10.5	"	"
29	D. Greene	1/2A BG	1/2A3-4	24.1	1/2A BG	?
30	D. Greene	1/2A BG	1/2A3-4	6.0	1/2A BG	?
31	D. Greene	1/2A BG	A3-4	?	A BG	?
32	G. Beever	A SRA	A10-3	?	A SRA	GF
33	R. Hackman	XR-57	1/2A6-2	6.2	Sport	"
34	R. Hackman	XR-57	B6-4	32.35	"	"
35	E. Miller	Lancer	B8-5	16.5	"	"
36	A. Newman	Stealth	B6-4	16.9	"	"
37	G. Feveryear	Gull	B4-2	11.4	B RG	PRG
38	E. Miller	Flying Saucer	C6-0	7.2	Sport	GF
39	D. Greene	Super Wiz	B6-0/A8-5	40.5	"	"
40	A. Newman	Mach Rider	C6-3	21.4	"	"
41	E. Miller	Titan III	D12-3	22.9	"	"
42	A. Newman	Nimbus	B6-4	21.5	"	"
43	R. Hackman	XR-58	1/2A6-2	9.9	"	"
44	G. Beever	Mini RotaRoc	A10-3	23.1	A HD	GF
45	F. Hoke	X-15	A10-3	2.9	Sport	GF
46	F. Hoke	Sunbird	1/2A6-2	9.9	"	"
47	G. Feveryear	Grumpy Dog	D12-0/D12-3	87.0	"	"
48	A. Newman	X-16	B4-4	19.8	"	"
49	E. Miller	Super Nova	B6-0/A8-5	32.4	"	"

an F100-6, which also turned in a very nice flight. Glenn's day ended up with the "good news-bad news" feeling. He pranged his B Rocket/Glider, the Gull, however then proceeded to set a another club record with his A SuperRoc Duration flight. And finally, of course, came the club mascot, the Grumpy Dog, which performed perfectly to an 87 second flight. Flying would have continued, but the rains finally came, closing the range, and sending everyone running for shelter!!!

SECTION MEETING MINUTES, 10/16/89

Members present: John Yost, Bill Rhoat, Dick Rhoat, Dale Greene, Ed Miller, Rick Hackman, Glenn Feveryear, Rita Feveryear, George Beever.

I. Old Business:

John Yost made a motion, seconded by Bill Rhoat, to adopt the high power safety proposal as presented at the September meeting, and published in the September issue of the Countdown. The motion passed by unanimous voice vote.

John Yost stated that he had found a company that trophies can be purchased from for reasonable prices. This had been discussed at an earlier meeting. These trophies could be used as prizes at future contests.

John Yost brought up the subject of club patches. This has been discussed numerous times in the past. It was decided that a poll would have to be taken to determine how many members will commit themselves to purchasing patches, and pay for the patches prior to ordering. This is due to the limited amount available in the club treasury. The club could purchase a number of patches for sale later. For example, if members need 65 patches, this could be rounded upward to nearest production amount, ie 100, of which the club might fund for the balance of 45. George Beever stated he would try to get prices by Jan. 1, 1990.

Glenn Feveryear announced that the Delta Fire Co. hall is available for our use on the following dates for workshops: Dec. 9, Jan. 27, Feb. 17, & Mar. 10. These are all Saturdays, from 10 AM to whenever, but no later than 4 PM. Topics: Dec. 9: Kit building (your choice), pizza & videos. Feb 17: Boost/Gliders, Glenn Feveryear. March 10: High Power construction and finishing techniques, Ed Miller. Jan. 27, TBA, however George Beever volunteered to hold a session on helicopters, but this was not decided.

II. New Business:

Treasurer's Report: Ed Miller reported a balance in the general fund, as of 10/16/89, of \$170.38.

Activities: Dale Greene stated that he has continued to send free advertising items to various magazines; also placed club membership applications in the "R/C World" hobby shop, a new shop in Shillington, Berks Co.

Newsletter: George Beever reported receiving copies of the NOVAAR Free Press and MAX-Q, from NOVAAR and HARA, respectively; in addition, he brought it to the club's attention that a decision will be reached within the next few months concerning the future publishing schedule for the Countdown, and the possibility of having the newsletter printed professionally.

Competition: Glenn Feveryear did not have the results from the last two practice events, ½A SD and B HD. He did fill the club members in on the Open Meet held the day before, VACUUM-15, in Virginia. He also announced that the JOISEE-V Regional will be held the weekend of Oct. 21-22.

III. Other New Business:

The SPAARSPAM-1 launch was discussed. George B. is bring chili in massive quantities; Glenn and Rita are bringing ice and a camp stove to keep the chili warm; the other members can expect a phone call on what to bring.

Dick Rhoat suggested having some sort of family dinner around the holidays. This might be held as some sort of awards affair. He stated that the Ponderosa Steak House chain has meeting rooms for use. He was detailed to check into this, and report back to the club as soon as possible.

SECTION MEETING MINUTES, 10/16/89, CONT.

Glenn Feveryear brought up the idea of selling sodas at club launches next year, as a means of both quenching thirst and raising funds for the club. The members seemed to think that this was a good idea.

The rules for the two events to be flown at SPAARSPAM-1 were discussed, and are explained below. The "Drag Race" rules are reprinted from the NAR Pink Book.

The meeting adjourned at 9 PM.

The SPAARSPAM-1 (and no, I'm not telling you again what it means) tailgate party and fun meet will be held on Sunday, November 5, from 1 PM to 5 PM. The location will be the usual launch sight, Cocalico Sr. High in Denver, Pa.

As part of this event, two "special" contests will be held: Drag Race, a standard NAR competition, and one that's not-so official. This will be "Micro-Roc Non-Duration". We can thank, or blame, Bill Rhoat for this one, as he originally came up with the idea last year. Just follow these simple rules: 1. You must use a 1/2A motor, 13mm or 18mm, your choice; 2. There is no minimum or maximum length requirement. 3. A fully operable, fully deployed, honest-to-goodness parachute MUST be used, minimum diameter is 3 inches. SCOREING: The score will be determined by the following equation: 1/2 the length of the model in millimeters PLUS the duration of the flight. (Or non-duration, whichever you prefer.)

The LOWEST score wins. Two flights allowed, worst of two counted. Confused??

41 DRAG RACE COMPETITION

41.1

Drag Race Competition comprises a single event open to single-staged entries. The purpose of this competition is to determine which entry is most successful at meeting the triple criteria of quick ignition and lift-off, low altitude, and long duration.

THE POET'S CORNER

Take Flight

They can fly higher than birds
More Wonderful than words

41.2

The event is a series of flyoffs (heats) between pairs of entries. The winner of each heat flies against the winner of another heat until the overall winner is determined. An additional flyoff between the losers of the semi-final rounds is to be made to determine third and fourth places.

They don't nest in trees
Launch my rocket, please!

41.3

No substitution of models is permitted during the course of this event, except as specified under the provisions of Rule 11.5.

Up it went into the sky
I hope this is not good-bye

41.4

Competitors for each flyoff shall be chosen by the officials by lot.

The parachute broke
And then I awoke
It was only a dream...

41.5

The model may be launched by either of the following methods:
(a) through a common ignition switch operated by the Launch Control Officer; or
(b) by the contestants themselves, using separate ignition systems.

At least I didn't scream!!

41.6

Any type of electrically-initiated ignition system may be used, provided that it meets the requirements of Rule 9.5.

-Dan Yost

41.7

An entry which does not fly successfully shall be disqualified.

CLASSIFIED ADS:

41.8

When a model is launched with a separate ignition system under the control of the contestant, the model must achieve first motion on or after T-0. A model achieving first motion before T-0 shall be disqualified.

DAVE & JESS: Phone SPAAR, all is forgiven!!

41.9

A model which does not achieve first motion before T+2 shall be disqualified.

SPAAR members: Got a "wish list" for 1990? Come to the next meeting, Nov. 20. Purchases and plans for next year will be discussed.

41.10

Drag Race Competition shall be scored as follows: the winner of each heat shall be that entry which receives the higher number of points according to the following schedule:

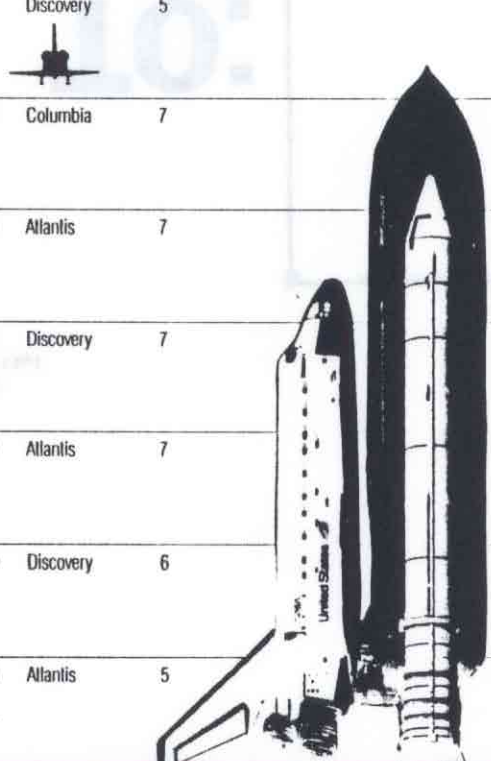
- (a) One point for the first entry to achieve first motion;
- (b) One point for the entry achieving the lower altitude; and
- (c) One point for the entry that touches the ground last. If the entry separates into two or more pieces, the first piece to touch the ground is counted.

The winner of the last heat shall be declared the winner. The loser of the last heat shall receive second place. There shall be a flyoff for third and fourth places between the losers of the semi-final heats.

41.11

The model is not required to be returned to the officials, except as stated in Rule 9.10, and Rule 41.3.

Flight	Orbiter	(Names If Assigned)	PS	Date	Duration	Altitude	Primary Cargo
40	Columbia	CDR: Bryan O'Connor PLT: Sidney Gutierrez MS: Rhea Seddon James Baglan Mae Jernigan	F.D. Gaffney Robert Phillips	8-16-90	8-9 days	160 mi.	Space Life Sciences Laboratory
41	Atlantis	5		10-5-90	5 days	160 mi.	Ulysses solar probe
39	Discovery	MS: Guy Bluford Richard Hieb Charles Veach CDR, PLT and two MS to be assigned later		11-1-90	8 days	140 mi.	Infrared Background Signature Survey CIRRIS SDI experiment
42	Columbia	MS: Mary Cleave Norm Thagard CDR, PLT, one MS, two PS to be assigned later		12-6-90	9-10 days	160 mi.	International Microgravity Laboratory
43	Atlantis	5		1-31-91	5 days	160 mi.	Tracking and Data Relay Satellite
44	Discovery	5		3-4-91			Classified military flight
45	Columbia	7		3-28-91	9-10 days	160 mi.	Atmospheric Laboratory for Applications and Science
46	Atlantis	7		5-16-91	7 days	160 mi.	Tethered Satellite System EURECA retrievable carrier
47	Discovery	7		6-17-91	7 days	160 mi.	NASA/Japan Spacelab flight
48	Atlantis	7		8-22-91	7 days	175 mi.	Starlab DoD Spacelab
49	Discovery	6		9-30-91	7 days	160 mi.	Laser Geodynamics Satellite Geostar-1
50	Atlantis	5		11-27-91	5 days	291 mi.	Upper Atmosphere Research Satellite



CDR, Commander, PLT, Pilot, MS, Mission Specialist, PS, Payload Specialist Note: NASA retains the original mission number even when flights are launched out of sequence. All dates are subject to change.

*****CUT ALONG THIS LINE*****

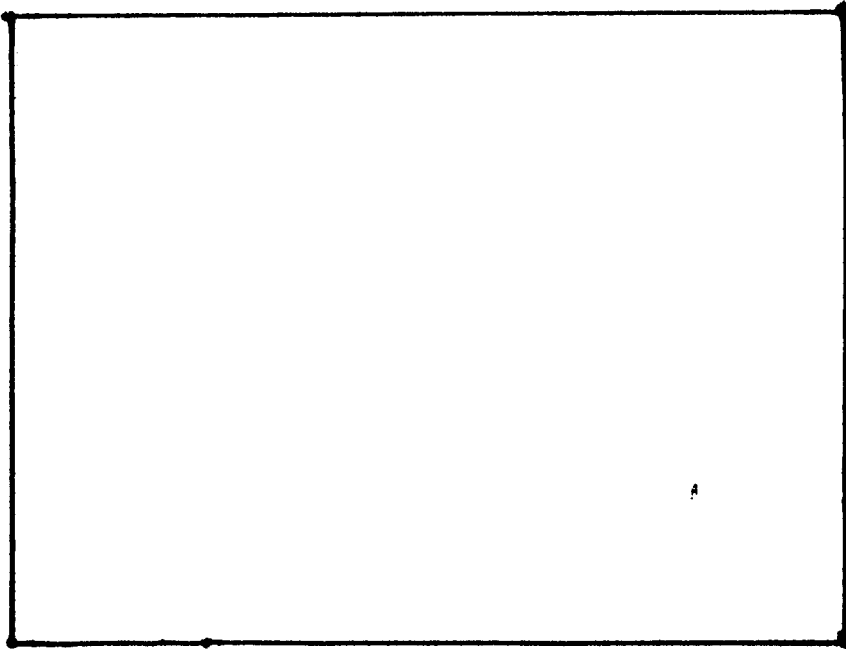
NOMINATION BALLOT

FOR SPAAR MEMBERS ONLY; RETURN TO: SPAAR, PO BOX 127, REAMSTOWN, PA 17567, NO LATER THAN 11/20/89

SECTION ADVISOR _____
 PRESIDENT _____
 VICE-PRESIDENT _____

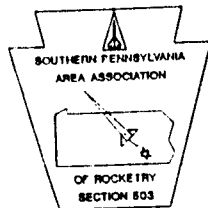
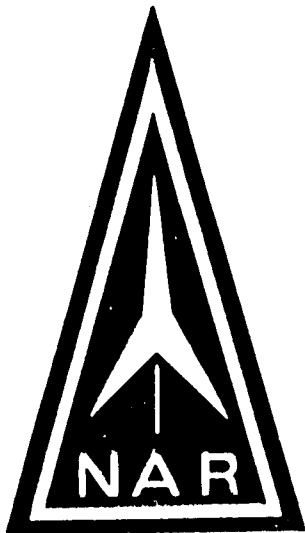
SEC./TRES. _____
 MEMBER-AT-LARGE _____

Note: The top two vote-getters for each office will be the candidates for the 1990 Board of Directors, the election for which be held in December.



TO:

S.P.A.A.R.
P.O. Box 127
Reamstown, PA 17567



**SOUTHERN PENNSYLVANIA
AREA ASSOCIATION
OF ROCKETRY**

**PROMOTING SAFE MODEL ROCKETRY
IN SOUTHERN PENNSYLVANIA
AND NORTHERN MARYLAND**