

COUNTDOWN

**OFFICIAL NEWSLETTER OF
THE SOUTHERN PENNSYLVANIA AREA ASSOCIATION OF ROCKETRY**

VOLUME 6, ISSUE 6 NOVEMBER/DECEMBER 1993

SEASONS GREETINGS !!!

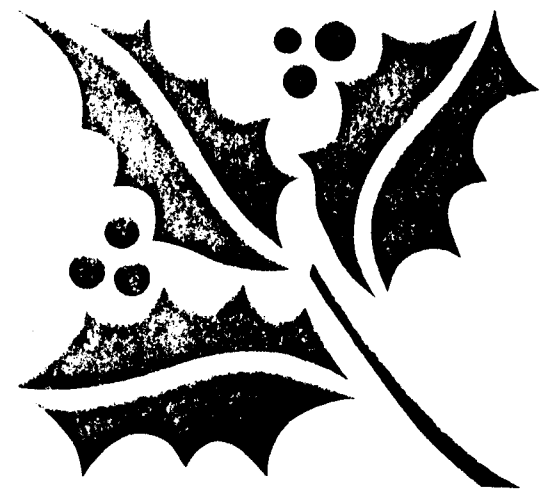
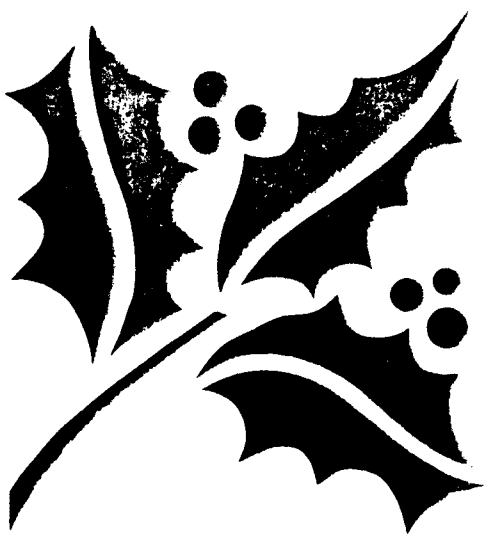
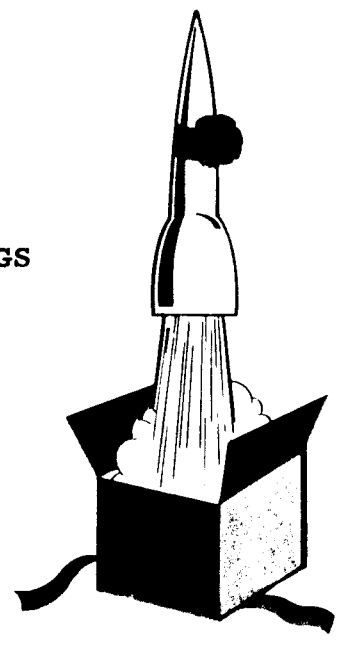
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The Countdown

Volume 6, Issue 6

November/December 1993

SPAAR, the home of 1992-93 C Division champ Glenn Feveryear

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 Beever**

Thanks this time to: Ed Miller, Rick Hackman, & Matt Steele

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SCHEDULE

SUNDAY DECEMBER 26, 1993: SPAAR SPORT LAUNCH, 1PM-5PM, COCALICO HS.
**** BRING YOUR OWN LAUNCH SYSTEM ***

SUNDAY JANUARY 9, 1994: SPAAR SPORT LAUNCH, 1PM-5PM, COCALICO HS.
*** BRING YOUR OWN LAUNCH SYSTEM ***

SATURDAY, JANUARY 15, 1994: SPAAR FAMILY DINNER, 6:30PM - ?
BONANZA RESTAURANT, LANCASTER
SEE PAGE 8 FOR DETAILS AND DIRECTIONS

SATURDAY, JANUARY 29, 1994: MEETING/WINTER WORKSHOP, 9AM-1PM,
DELTA VFC. TOPIC: E HELICOPTER DURATION [FOR RAMTEC-2]

SUNDAY, FEBRUARY 6, 1994: GROUND HOG DAY SPORT LAUNCH, 1PM-5PM
COCALICO HS * BRING YOUR OWN LAUNCH SYSTEM *****

SATURDAY, FEBRUARY 19, 1994: MEETING/WORKSHOP, 9AM-1PM DELTA VFC

SECTION NEWS NOTES

B.Y.O.L.S: Excuse me? OK, what BYOLS means is: Bring Your Own Launch System. Until next spring, that is.

The club launch system will not be brought to Sport Launches until next March or April. So, BYOLS: Bring Your Own Launch System!

MEETING PLACE: Good news and not-so-good news: the good news is, John Yost has spoken with the Ironville Fire Co. concerning our use of their meeting room for our club's monthly business meetings. The not-so-good news is that the fire company charges \$200 per year for use of the facilities. Obviously, we cannot drain the club treasury, however, with some brainstorming we might come up with a solution or alternative. Let's discuss this at the next launch.

WORKSHOPS OK'd: Club Prez Glenn Feveryear tells us that our Winter Workshop program for January-March 1994 has been approved by the Delta Fire Co. Glenn writes, "...our workshop dates are OK as long as there is no other Fire Co. function scheduled. At this time all is clear."

The first workshop, on E Helicopters, is scheduled for Saturday, January 29, 9AM-1PM, at the Delta Fire Co.

E HELICOPTER KITS: Concerning the E HD Workshop, I will be making up 10 E Helicopter kits, that will be available for \$7 to \$8. You'll have your choice of two designs to build, the "Yost-A-Roc" or the smaller Rot-A-Roc. If you want to reserve one, give me a call at 717-733-4170. Four are already spoken for.

WHAT'S AHEAD IN '94: A copy of the '94 schedule is included in this issue. We have all kinds of things planned for next year; January starts off with a launch on the 9th, followed by the **Family Dinner** on the 15th. The **E Helicopter** workshop and meeting will be on the 29th... the annual **Ground Hog Day** festivities are scheduled for the 6th of February... the **Plastic Model Conversion** workshops will be on February 19 and March 26. "Special" launches next year will include, **Multi-Stage Day** on April 10; **Sounding Rocket Day** on May 15; **Old Rocket Day** on Oct. 9; and 3 new ones, **Club Duration Record Day** [June 26], **Club Altitude Record Day** [Aug. 7] and **Cluster Altitude Day** [Sept. 18]. These last three are designed to allow SPAAR members to exceed existing records, or set new ones. It will also give more of our members a chance to familiarize themselves with the trackers.

In addition, we are looking for ideas on how we can celebrate

the 25th anniversary of the **Apollo 11 moon landing** on Sunday, 10 July. Your ideas are encouraged!

As for locations: please note that the January, February, and March meetings will be held on the same days as the workshops. After that, they are scheduled for the same days as launches, **unless a new meeting place is found**. Also, all launches will be at Cocalico High School, **unless the Belair, Maryland site is used**.

WE WILL MAKE EVERY EFFORT TO SEE THAT ANY CHANGES ARE COMMUNICATED TO OUR MEMBERS. HOWEVER, PLEASE DO YOUR PART:

STAY IN TOUCH.

As you can see, 1994 should be a busy year, and we trust a fun one!

NARAM-36: Is scheduled for July 23-28, 1994, near Johnson Spaceflight Center, Houston, Texas, coinciding with the end of Space Week. Terry White, with the assistance of John Pursley, will be Contest Director. The events will be: **1/4A PD Multi Round; F SD; A HD; C RG Multi Round; E Dual Eggloft Altitude; D Altitude; Scale; R&D**. Look for further details in future issues of Sport Rocketry.

EAST COAST REGIONAL: or, as it's known, **ECRM**, will be hosted by NARHAMS over the weekend of 24-25 April 1994. The site will be Middletown, MD, where NARAM-35 was held

this past summer. The events will be based on the events to be flown at NARAM-36.

Middletown, by the way, is not one of the places that Jack Kent Cook wants to move the Deadskins. Keep 'em on your side of 495, guys.

PARASICLE-1: Is an Open Meet, planned by our neighbors to the east, PARA. The tentative date is the weekend of January 15-16, 1994. The events: **A HD; C SRD; 1/2A BG; C ELA; & C RG**. The meet fee will be \$10. The contest will be held at PARA's regular flying site at Pennfeild Middle School.

FEEDBACK WANTED: Your editor would like to use one of our sport launch dates this March or April to host a non-NAR sanctioned contest. The contest would be made up of a maximum of three events, in order to attract new members, or even experienced rocket modelers who would like to try their hand at competition flying. The events would be simple enough to allow the contestants to use standard off-the-shelf kit models and stand a chance of winning. Sort of a LAMTEC [Local Aerospace Meet To Encourage Competition, if you will.] NOVAAR did a similar thing this past fall with one of their Section Meets, with reportedly good results.

If anyone wants to pursue this idea, please let me know. Thanks - George.

SPAAR SPORT LAUNCHES**October 25, 1993**

Considering the obstacles that we had to put up with, this was a pretty good launch. There were the soccer games that took up a lot of space at Cocalico, and there was the rather stiff breeze that kept us company all day. On the good side, a lot of the corn at the edge of the field had been cut down, and this worked to our advantage.

Bill Schafer of Designex came up from Baltimore to do some flying. He showed us a variety of his interesting models, and number of which will be offered as kits. Despite passport problems, Bruce Canino came over from New Jersey also. He flew "an Estes kit with a BT-50 and a bunch of tail rings" [that's a Star Rider, Bruce] for a good flight. He also flew a Cox Saturn 1B on an AeroTech D21 that sent everyone running for cover. Those can be a bit testy in the stability department.

This was "Old Rocket Day", and there were some old classics flown. Glenn Feveryear unfortunately lost a mid-70's Estes Aerobee 350. Rick Hackman also flew some old ones such as the Estes Mark II, Scout and Sky Hook. But it was Dale Greene who took the prize for the oldest rocket flown: an old Centuri Explorer from the 1968 "Mini-Max" line. The old boy flew pretty well on a 1993 AeroTech F25-9WL.

Bill Rhoat wanted to fly his new Quest Space Clipper so that he could write a kit review. The problem was, the Estes C6-3 CATO'd. So much for the article the Clipper. And, despite the breeze, little Daniel Feveryear got his Alpha back, even though he flew it on a C6-5. [Thanks, Dad!]

November 14, 1993

Twenty-one flights were made at SPAARSPAM-V, including 4 in "Fun Scale Spot Landing" the event for the day. The spot? Why, a bowl of chili, of course! The winner turned out to be Bruce Canino, with a distance of, well, uh, I sort a' threw the flight cards out, but I think it was about 20 feet or something. I do know he used his Little Joe II. Bruce also flew his rather unique IQSY TomARCAS. This one of a kind model has 3 Tomahawk fins and one ARCAS fin, as supplied with the kit [no extra charge]. He did have a tough time convincing the static judges at NARAM-35 of this particular round's scale authenticity. I believe you, Bruce, really.

All in all, this was a rather SPAARsly attended SPAARSPAM, even though he weather was great. Even though the chili was a toned-down version from previous years, we probably did give new meaning to the term "Blue Thunder".

FLIGHT LOG

October 25, 1993

<u>#</u>	<u>FLYER</u>	<u>MODEL</u>	<u>MANUF</u>	<u>MOTOR[S]</u>	<u>RESULT</u>
1	Daniel F	Alpha III	Estes	E C6-5	Good Flight
2	Daniel F	Bandit	Estes	E C6-5	Good Flight
3	Daniel F	Gnome	Estes	E 1/2A3-4	Good Flight
4	Bill R	Nova Payloader	Estes	E B6-4	Separation
5	Bill R	Space Clipper	Quest	E C6-3	CATO
6	Rick H	Mark II	Estes	E A8-3	GF - 1976
7	Rick H	Sky Hook	Estes	E A8-3	GF - 1975
8	Rick H	Scout	Estes	E A8-3	GF - 1976
9	Rick H	Groove Tube	Centuri	E A8-3	Good Flight
10	Rick H	XR-55	SB	E C6-3	Good Flight
11	Rick H	The Stalk	SB	E A8-3	Good Flight
12	Rick H	EKB Roc	SB	E C6-3	Well.....
13	Bill S	Scamp	Estes	E B4-6	Good Flight
14	Bill S	Slim Jim	SB	E C6-7	Good Flight
15	Bill S	SST-92	SB	E D12-5	Good Flight
16	Bill S	Blue Star	SB	E A3-4	Good Flight
17	Bill S	Gabriel	SB	E D12-5	Good Flight
18	Bill S	D-Experimental	SB	E D12-7	GF - lost
19	Bill S	M61E	SB	AT E15-7	Good Flight
20	Bruce C	Star Rider	Estes	E B6-4	Good Flight
21	Bruce C	Saturn 1B	Cox	AT D21-4	Unstable
22	Bruce C	Little Joe II	Estes	E A3-4	Good Flight
23	Bruce C	Alpha	Estes	E B6-4	Good Flight
24	Glenn F	Aerobee 350	Estes	E B6-4	GF - lost
25	Dale G	Explorer	Centuri	AT F25-9	GF - 1968
26	Dale G	Spr Big Bertha	Estes	E D12-3	Good Flight
27	Gary F	Nike Apache	Estes	E B6-4	Good Flight
28	Gary F	Nebulon Warrior	Estes	E B6-4	Good Flight
29	George B	Carlisle MK II	SB	E A8-5	Good Flight
30	George B	Maxi-Alpha	SB	E D12-5	Good Flight
31	George B	Pathfinder	Estes	AT D9-4RMS	Good Flight
32	George B	Initiator	AeroTech	AT E16-4RMS	Good Flight
33	George B	Delta Clipper	Estes	E D12-0/D11-9	Good Flight

MODELS FLOWN: Estes - 17 Centuri - 2 Cox - 1 AeroTech - 1 Quest - 1
Scratchbuilt - 11

MOTORS FLOWN: Blackpowder - 29, all Estes; Composite - 5, all AeroTech,
3 Single Use, 2 Reloadable.

MOTOR FAILURES: 0

November 14, 1993

SPAARSPAM - V

1	Daniel F	Serval	Custom	E B4-4	Good Flight
2	Daniel F	Serval	Custom	E B4-4	Good Flight
3	Rick H	XR-19	SB	E B4-4	Good Flight
4	Rick H	XR-63	SB	E A10-3 [7]	1 ignited
5	Rick H	UFO-24	EM	E D12-0	Good Flight
6	Rick H	Ramjet Int.	SB	E D12-3	Good Flight
7	Rick H	XR-55	SB	E C6-3	Crash
8	Rick H	XR-61	SB	E D12-3	No deploy
9	Rick H	XR-19	SB	E B4-4	Good Flight
10	Bruce C	Little Joe II	Estes	E 1/2A3-2	Good Flight
11	Bruce C	Alpha	Estes	E C6-5	Good Flight
12	Bruce C	IQSY Tomahawk	AeroTech	E F14-6J	Good Flight
13	John Y	UFO	EM	E E15-4	Good Flight
14	Glenn F	Honest John	Estes	E A8-3	Good Flight
15	Glenn F	Arreaux	AeroTech	AT E15-4	Good Flight
16	Glenn F	Grumpy Dog	SB	E D12-0/D12-3	Oh No!!!!!!
17	George B	Mini Patriot	LARS	E 1/2A3-2	Good Flight
18	George B	Dagger	Estes	E A8-3	Good Flight
19	George B	Pegasus	Estes	Q A6-4	Good Flight
20	George B	Skywinder	Estes	E C6-3	Flap, Flap
21	George B	Omloid	Estes	E C6-3	Chililofter!

MODELS FLOWN: Estes: 7 AeroTech: 2 LARS: 1 Custom: 1
 Ed Miller: 2 Scratchbuilt: 2

TYPES OF MOTORS: Blackpowder: 19; 18 Estes, 1 Quest, no failures.
 Composite: 2 AeroTech single use, no failures.

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APOGEE COMPONENTS will be introducing two new **Medalist** motors soon. The **Medalist C5** motor measures 18 x 51mm, and the new **D4** motor measures 18 x 70mm. Both motors will offer 3, 5, and 7 second delays. Pricing will be comparable to other **Medalist** motors [\$7.95]. For more information, contact:
 Apogee Components, 19828 N. 43rd Ave. Glendale, AZ 85308

THOY is introducing the **Thuria**, a 32" two-stage model, featuring two 24mm motor mounts. Also included are 2 18mm adapters, full decals, large payload section, and a 16" parachute. For more information:
 THOY, PO Box 467, Ypsilanti, MI 48197

AEROTECH announced a price increase on Sept. 1. Class C expendables increased \$1 - \$3, Class C reloads increased \$1 - \$2. Kit prices went up \$3 - \$10.
 Aerotech, 1955 S. Palm St., Suite 15, Las Vegas, NV 89104

**THE FIFTH ANNUAL
SPAAR FAMILY DINNER**

WHEN: Saturday, January 15, 1994

TIME: 6:30PM to ?

**WHERE: The Bonanza Restaurant,
Centerville Rd.,
Lancaster, PA**



STYLE: The Bonanza is a cafeteria-style restaurant, featuring steaks, chicken and seafood. Casual dress.

SPECIAL EVENTS

SEE WHO WINS THE DREADED SPAAR "ROCKET-LOCK" AWARD ! !

DOOR PRIZES ! !

**IN ADDITION, THE DRAWING WILL BE HELD FOR THE 1993
SPAAR KIT RAFFLE**

DIRECTIONS: From Lancaster, take Rt. 30 West, to the Centerville Road exit; turn left at the first traffic light; go back over Rt. 30 to the next light, and turn right. The Bonanza is on the right. You may recall that the first Family Dinner was held at this location.

WE WILL HAVE A ROOM RESERVED SPECIFICALLY FOR OUR USE

FOR MORE INFORMATION, CONTACT:

JOHN YOST

717-684-9519

CULPEPER HPR LAUNCHES

[Editor's note: Our favorite High Power fiend, Ed Miller, was able to make it to the most recent HPR launches in Culpeper, VA. Here is Ed's report:]

AUGUST 1993

The sky was clear, the sun was hot, and the winds were calm. Perfect weather for a high power launch.

This late summer launch was attended by 25 to 30 flyers. Many children were also in attendance. One boy had over 20 successful flights with the same Estes HelioCopter model. Trip Barber came by to watch the action. Joe Egan was also present. Joe is the NAR lawyer in Washington. Many of the east coast flyers were in attendance: The following is a brief summary of the most notable flights:

Ed Holland flew his LOC Magnum with an I357 and two air-started G54s. He then flew his two-stage Stage Fright with an I357 and an F motor. Jim Scarpine flew his scratchbuilt Star Eagle with a cluster of 3 reloadable H238s. Larry Z flew his scratchbuilt MX3 with a J415, and then a second time with a J800 for two great flights.

Nobody lost a model in "No Man's Land" [boy, do I know him!-editor], but a few models lost at the June launch were

recovered at the extreme east side of the launch field.

Ed Miller, the author, flew his Bandit with a Synerjet I211 for a great flight. Ed also flew his Azinon with a Vulcan G200 for a great high-G flight. He flew his Flaming ASAT with an H128. He also flew the Silver Streak with a RocketFlight H220SS for a meteor-like lift-off. He also flew his Falcon with a Vulcan I160HF [640ns] for a very high flight.

Doug Pratt flew a total of 8 flights. All were demonstrations of the Pratt Hobbies R/C Deployment device. It worked great, so I ordered one for myself.

Larry Z flew his Blue Thunder with an I284 for a great flight. Ed Holland flew his Stage Fright again, with an I284 and a G160 Silver Streak in the upper stage. The flight was very spectacular but the upper stage was lost in the corn [sound familiar, SPAAR fans?]. I hope that he replaces this model since it is very impressive. Mike Showalter, club president, flew his 1/2-scale Patriot with a K1100 for a very good flight. Joe Egan flew his Falcon with an H115 for a good flight. Rob Cramer flew a large cluster model with 3 H145s for a good flight. Kent Allen flew a mint Estes Pershing 1A with an FSI F100 for a good flight. He also flew a Cox Saturn V with an F100.

This was the same Saturn V that he had previously flown on an H100 for his Tripoli confirmation.

NOVEMBER 20-21

The November Tripoli launch in Culpeper is the last HPR launch of the year in the Northeast. The weather was expected to be good, so many flyers turned out for the year's last launch.

This launch was attended by 52 flyers. Many well-known east coast flyers were present. Tom Lyons, Paul Miller, Trip Barber, Will Safford, Warren Sisco, Ken Mizoi, and Doug Pratt were among those. SPAAR members present were Roger Dwyer and the author, Ed Miller.

The weather on Saturday was 50 degrees, perfectly clear, with wind gusts to 20mph. Saturday saw a total of 98 launches. The following is a brief summary of Saturday's events:

Doug Pratt demonstrated his R/C deployment device. Sonny Thompson launched his Hi-Tech H45 with an H55 for a good flight. Trip Barber confirmed with an H97 in a LOC Forte. Ken Goldstein flew a scratchbuilt rocket with 3 G160 Silver Streak motors for a spectacular flight. Ed Miller flew his Tarsus with H180 for a good flight. Sonny Thompson launched his 38 Special with an I500 for a high-G flight. Sunday's weather was better, 55 degrees, perfectly clear skies, and almost calm.

Lane Levitt launched his up-scale Estes Sprint with an L750 for an incredible mile-high flight. Ed Miller launched his Hercules Powder with 7 D12s for a good flight. Henry Holtzgreffe launched a THOY Falcon with a J125 for a very high flight. Lovett Reddick flew his Electronic Bruiser with a K550 and four air-started F25s for a great flight. Sonny Thompson launched a scratchbuilt model with a J340 Smokey Sam, and it landed about 200' from his car. Mike Showalter launched an EZI-65 with an H115 for a good flight. Henry Holtzgreffe came back and launched his PML Triton Concept with an L750 and 8 air-started H100s. This rocket really cooked and had a calculated altitude of over 7000'. It landed in a wooded area over a mile away and was never recovered. A 16-year old flyer named Justin Gleiter flew a THOY Falcon with a booster for a perfect straight up flight. He used an H180/G40 engine combination. Warren Sisco launched a scratchbuilt rocket with a J285 for a good flight. Ed Miller launched his Falcon with an I357, and Ken Mizoi launched a two-stage model with a J800 and 3 G160 Silver Streaks in the booster and a G160SS in the second stage. It was impressive, but not quite perfect. Neil Davis launched his Rainbow Maker with a cluster of 7 F50SS motors for a very impressive flight. The weekend saw over 200 flights and 13 confirmations. The April launch is just around the corner, and I will be ready!

HOW I GOT HOOKED ON MODEL ROCKETRY

by Rick Hackman

One day when I was in the first grade, a boy came in with a rocket. It looked neat, but without wheels, I couldn't push it around. I soon became bored with it.

In second grade, a boy brought in a Saturn V for Show & Tell. He took it apart, showing the parachutes, interior, and engines. I thought it looked neat as a model, but not knowing where to purchase one, I soon forgot about rockets. Instead, I got hooked on plastic models. Then it happened, one fateful day when I was nine years old.

My father and I went into a hobby store so I could purchase a model kit. While looking around, I saw plastic bags, each with a picture on the front and parts inside. I asked dad, "What's that?" He answered, "it looks like some sort of model kit", or words to that effect. I looked them over and picked one out. What I purchased was an Estes Aerobee 300. Well, I took it home, and without reading the instructions, slapped it together. What made me wonder was, "why a parachute?" There was no need for it, and by the way, what's the hole in the bottom of the rocket for, anyway? I knew my kit wasn't missing any parts, so I could never figure that one out. Well, being a kid and not satisfied to let the rocket

just sit there on the table, I had to enjoy what I had just made. So, outside I went. I gave it a toss, and it flew nice and straight. It wasn't long until I was tossing it harder and harder. Finally, I threw it over the house. I only did that a few times until I was a total wreck. The following several months, I purchased several more kits [Estes Streak, Scout, Alpha III & Mark II], and built them. By the way, what's the hole in the bottom of the rocket for? Not only did I throw them over the house, but the barn also. I soon lost interest in building rockets that got smashed up each time I launched them by hand! Hey, what's the hole in the bottom of the rocket for, anyway?

Three years later, while looking through the library of the Middle School I was attending, I saw a book entitled, "The Handbook of Model Rocketry", by G. Harry Stine. I took it out, and renewed it several times over. It was then that I discovered what the hole was for! Engines! I went out and obtained a 1975 Estes catalog, which led to an Alpha III Starter Set. That was so long ago that the A8-3's were light green with medium green print. I think I still have one yet.

The first flight I angled at about 45 degrees. The rocket

shot across one of our fields and flew great. The 'chute opened and it landed A-OK. I soon had it in the air again on a vertical flight, which again was picture perfect. I then discovered that I was hooked, and still am, some 18 years later.

I would like to thank Mr. Estes for starting his mail order business so many years ago, and Mr. Stine for writing the book that really got me started in the hobby.

Over the years, I usually flew by myself, occasionally launching with neighborhood friends. What I wanted was to join a club. Back in 1984, I joined the NAR. I enjoyed the magazines, but still no club. Four years later, I was thinking of leaving the NAR, because the only thing I was getting out of being a member was the magazine. Then in May, 1988, I got together with George Beever, John Yost, Bill Rhoat, Tim Singles, and Dave and Jess Wenrich [remember them?-editor], and helped to form what became SPAAR. We are now in our fifth year and it's been a blast! I hope SPAAR will be around for many years to come.

Also from Rick:

MY FIRST NARAM

On August 5-6, I attended my first NARAM. I wish I'd gone for the whole week. I couldn't believe how many people were there, and all those rockets!

I was very impressed by how people went out of their way to help me renew my NAR membership. Everyone was very friendly, ready to stop and talk.

Although we needed the rain, it didn't have to come on Thursday and Friday! I did manage to get six rockets up, out of the 15 that I'd brought. I need to say "sorry" again to the guys manning the tracking station behind the Sport Range who I nearly wiped out with my Vector V. By the time I arrived there to retrieve my rocket they had it laying on a table with the 'chute and shock cord neatly packed inside. It was things like that that made for an enjoyable time.

Friday turned out to be a great day for a duck, so I hung around the motel, speaking with rocketeers from all over, checking out all those neat rockets. Several that stuck out in my mind were Glenn Feveryear's Black Brants, Scott Tyrell's flying Statue of Liberty, as well as the "Scale" model resembling the one in the "Far Side" cartoon. [In Fact, We ARE rocket scientists].

I also enjoyed meeting and speaking with Ken Brown of QCR, Trip Barber of NOVAAR and the US Navy, and Mr. and Mrs. Vern Estes.

I'm looking forward to the next near-by NARAM, and I hope that I can attend all week!

THIS 'N THAT

HEY, I KNOW THAT GUY!: Last month, as I was reading through the November issue of the Naval Institute Proceedings, I came across an article entitled, "Ready or Not?", by Commander Arthur H. Barber III, US Navy. The article begins, "To face the challenge of doing more with less, the Surface Navy must overhaul it's readiness-development process - by working smarter, not harder". Who is the author? Why, none other that Trip Barber of NOVAAR. "...Commander Barber completed a tour in command of the USS DEYO [DD-989] in April 1993. A 1973 NROTC graduate of the Massachusetts Institute of Technology, he has a master's degree in electrical engineering and a subspecialty in programming and budgeting. he is currently a student at the Army War College [Carlisle, PA] and a recent selectee for captain." He also flies a nasty. PD bird. Congratulations, Trip. Nice job!

A LOOK INTO THE FUTURE: Along those same lines, I can see it now...in the January, 2000 issue of Sport Rocketry, or whatever it's called by then, "... Chief of Naval Operations and NARAM-42 Contest Director Admiral Trip Barber announced that the site chosen for NARAM-42 will be the flight deck of the aircraft carrier USS John F. Kennedy, currently deployed with the US Sixth Fleet in the Mediterranean. Contestants will meet the Kennedy in Naples, Italy. Said Admiral Barber, "We feel that this can serve two purposes at once. Considering the fact that most NAR competitors are now in their 40s and 50s, they've almost certainly promised their wives a second honeymoon cruise. Well, here you have the best of both worlds. We plan to cordon off the fantail so the wives can catch the sun, while we fly from the forward part of the flight deck." When asked what the guests should do during flight operations, Admiral Barber replied simply, "Move." Hey, it could happen.....

NEW FROM ESTES: Estes Industries has released several new kits, as well as some changes to existing ones. The **Maniac** is a quick-building model designed for the new Estes E motors [and can also be flown with Ds]; the **Shadow** and **Broadsword** are re-makes of the Optima and Super Big Bertha, respectively, beefed up to take E motors. In addition, a special 25th anniversary commemorative Saturn V, also modified to take Es, will be released soon. Estes Industries, 1295 H Street, Penrose, CO 81240

NORTH COAST ROCKETRY is looking to a January release date for their line of "Impulse" F & G composite motors. For more information: North Coast Rocketry, 4848 S. Highland Dr. Salt Lake City, UT 84417

FINAL COMPETITION STANDINGS

The following is a final list of competitors for the 1992-1993 Contest Year:

A DIVISION

	NAME	NAR#	SEC#	POINTS	WE
1	SHAUN SMITH	46440	205	8,222	19
2	TOM SPALDING	55031	519	5,595	19
3	MATTHEW KOENN	52684	324	2,765	7
4	MATTHEW WHYMARK	46575	439	2,472	7
5	KATHLEEN MCCOY	53731	139	2,107	14
6	KRISTI SMITH	54234	205	1,879	19
7	MIKE FILLER	57690	139	1,490	14
8	JAMES HAMILTON	54254	511	1,398	6
9	ANTONIO SEMPRONIO	57702	139	1,369	15
10	DAREN CHILDERS	44192	IND	1,260	7
11	JOHN BUSH	56475	519	1,128	6
12	TOMMY LYON	39257	139	921	11
13	DERRICK SCHAEFER	56839	519	768	3
14	DAVID LANTERMAN	42254	427	762	3
15	TROY LEVERON	56973	IND	660	6
16	ANDREW HALUCHA	56299	439	618	3
17	JOHN MARSH	41004	461	609	7
18	ROBERT CUTHBERTSON	50218	496	602	7
19	MAUREEN MJSARRA	50392	439	588	6
20	RACHEL CLEEK	54913	308	570	3
21	VICKI BERNATCHEZ	44543	IND	546	3
22	JOSH HAYES	PEND	515	504	3
23	ERIN WHYMARK	50424	439	470	7
24	MELINDA MATHIS	57231	139	448	7
25	SIDNEY MAXWELL	59419	IND	434	7
26	STEPHANIE HUNSICKER	PEND	308	420	3
27	CHRIS CROSBY	59309	IND	420	7
28	RALPH LEMON III	46226	496	371	7
29	CHRISTINA AUSTIN	47534	139	367	5
30	JAMES JOHNSON	PEND	427	366	3
31	ALLISON MATHIS	57230	139	354	10
32	WILLIAM VACCARO	PEND	IND	348	3
33	TRACY WOEBKENBERG	59263	519	347	10
34	BRANDON GRAYSON	56518	IND	342	3
35	JOHN KESTNER	56441	506	342	3
36	JAMES JOHNSON	59266	427	315	7
37	CHELSEY TKINSON	57262	0	306	3
38	VINCENCIO SEMPRONIO	57703	139	254	8
39	JEREMIAH BAILEY	52495	282	234	3
40	ERIC SKAINS	56703	IND	210	7
41	BRIAN KABINIER	46370	IND	168	2
42	ALEX WAHL	PEND	IND	138	3
43	DOUG LAMAR	57421	282	108	3
44	NICK BARRETT	PEND	430	80	2
45	GENE AUSTIN	56557	317	54	3
46	PETER SCHWARTZ	56101	205	36	4
47	ROBERT ALFANO	59486	IND	35	7
48	JOSH SHAPIRO	55157	473	30	1
49	EDMUND COLLIER	50450	471	24	3
50	IAN ADAMS	PEND	430	10	2
51	OWEN RYAN	PEND	205	8	2
52	RAPHAEL GOTTESMAN	58026	IND	6	3
53	ANDREW DODDS	53413	205	0	2
54	RUSSELL WAGNER	PEND	IND	0	3
55	JASON GUESSETTO	46709	481	0	3
56	ELLIS LANGFORD	58002	205	0	2
57	DAVID GANIN	PEND	439	0	1

B DIVISION

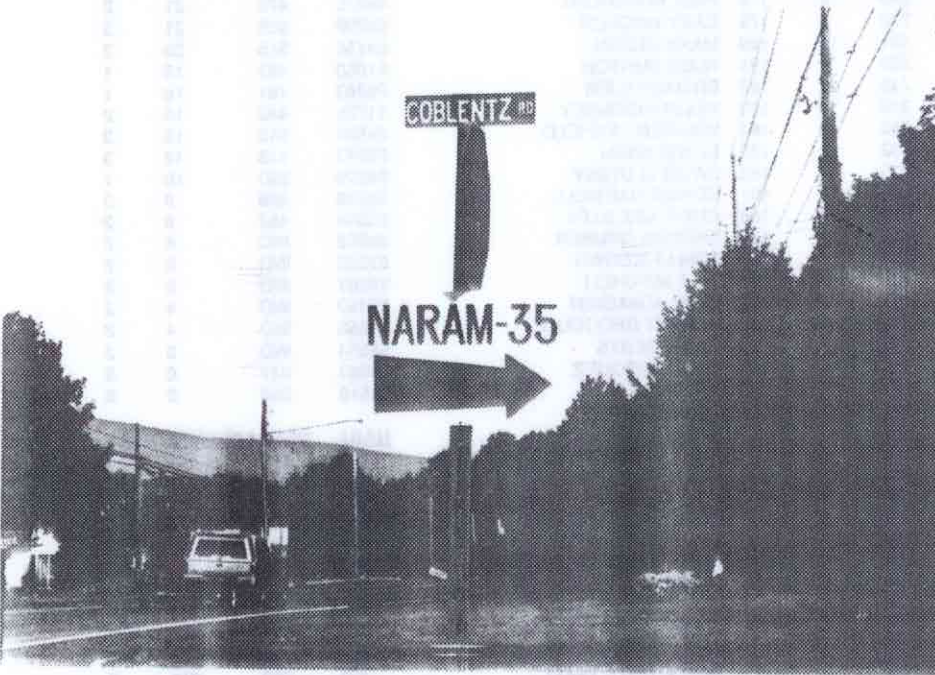
	NAME	NAR#	SEC#	POINTS	WE
1	ANDREW MILLER	51617	139	8,052	19
2	CHAD RING	50652	519	7,586	19
3	BOBBY GORMLEY	40847	205	5,261	15
4	RYAN WOEBKENBERG	49363	519	4,352	19
5	JASON WHYMARK	44382	439	2,382	7
6	KEVIN J. GORMLEY	54797	205	2,082	12
7	TODD SCHNEIDER	42644	515	1,872	6
8	JOHN MUSARRA	50393	439	1,744	7
9	JOE RANDOLPH	51164	519	1,558	12
10	JOE DUVA	53708	139	847	7
11	JENNIFER LYON	39258	139	604	11
12	JIM MCCONVILLE	52919	308	162	3
13	JUSTIN FLAGG	58326	317	90	3
14	MATTHEW LINDY	54823	473	78	2
15	BRENT VALDEZ	56818	430	61	6
16	BRIAN RACHIELLES	PEND	430	54	2
17	STEPHEN HART	41468	473	38	1
18	IAN LOGAN	45614	430	30	2
19	KEVIN WILSON	52547	473	18	1
20	MATT JOHNSTON	55411	515	12	2
21	SCOTT BARKLEY	57249	482	8	2
22	MARURICIO SANCHEZ	50771	IND	0	2

C DIVISION

	NAME	NAR#	SEC#	POINTS	WE
1	GLENN FEVEYEAR	24931	503	5,033	19
2	KEN MIZOI	30017	IND	4,188	19
3	JOHN DEMAR	52094	136	4,083	18
4	DAVID WOEBKENBERG	52423	519	3,449	19
5	DAN WOLF	24516	136	2,891	19
6	LARRY RICE	33323	113	2,748	17
7	MIKE BORMAN	33032	519	2,736	12
8	JULES DISTEL	52977	439	2,688	19
9	PETER ALWAY	26985	463	2,620	8
10	KEN BROWN	29354	205	2,276	19
11	PAUL MILLER	51615	139	2,100	19
12	ALAN BERMAN	52607	430	2,020	12
13	BRUCE KILBY	56865	481	1,988	8
14	VINCE SEMPRONIO	53137	139	1,973	19
15	JOHN VIGGIANO	25615	136	1,826	19
16	JAMES FILLER	27862	139	1,761	16
17	WILLIAM DAUPHIN	51259	481	1,686	16
18	RICK BOYETTE	31375	481	1,631	16
19	RANDY GUESSETTO	48170	481	1,584	9
20	BOB KREUTZ	35100	439	1,574	11
21	JOHN WRIGHT	42323	317	1,339	10
22	MARC MCREYNOLDS	11769	130	1,314	10
23	JEFF RYAN	46148	136	1,308	16
24	FRED WILLIAMS	14198	487	1,281	7
25	ROBERT ZABRISKIE	36036	439	1,272	10
26	LAWRENCE CURCIO	55540	IND	1,260	7
27	BRUCE CANNINO	39989	439	1,201	14
28	TOM WHYMARK	9220	439	1,166	6
29	ANDREW JACKSON	14575	481	1,099	10
30	FERENC ROKA	11077	136	1,089	15
31	WARREN SISCO	12282	IND	1,059	13
32	TERRY BUSH	56476	IND	1,026	6
33	ARNOLD KLEIN	39095	439	933	14
34	WILL SAFFORD	28524	439	920	13
35	BRUCE MARKIELEWSKI	38377	482	917	7
36	TOM SECRIST	12463	113	884	9
37	ROBERT EDMONDS	37700	205	849	11
38	LILA SCHMAKER	56500	IND	819	16
39	RANDALL REDD	6333	523	806	5
40	DON WINANS	57582	IND	800	6
41	RON SMITH	54233	205	762	15
42	MARK JOHNSON	14025	427	743	10
43	MARK HAMILTON	48841	511	738	6
44	DAVID KLOUSER	16235	520	735	7
45	RON SHIPLEY	43595	427	717	3
46	JASON BLOOM	55478	481	709	7
47	DAVID NAUER	48644	515	708	7
48	JUAN ROMAN	53623	139	694	9
49	ROGER PORTER	27601	113	653	9
50	MATTHEW SHERRILL	51452	511	651	7
51	JEFF VINCENT	27910	471	651	6
52	JOHN MCCOY	15731	139	626	14
53	CHUCK WEISS	35775	471	606	3
54	SCOTT TYRELL	53529	520	603	11
55	ROBERT ALWAY	45556	500	578	10
56	ROBERT HAFNER	32480	317	569	10
57	ED BROWN	29941	IND	558	3
58	JOHN E. THOMPSON	54313	317	545	10
59	CHARLES KABINIER	46369	IND	532	2
60	JOHN BUSCAGLIA	27366	464	529	10
61	STEVE LUBLINER	22152	430	526	9
62	WILLIAM ETZEL	50638	506	525	3
63	DALE GREENE	12464	503	524	12
64	KEVIN KUCZEK	31593	482	500	5
65	WILLIAM NOTHENIUS	53555	520	492	14
66	ED O'NEILL	57122	482	487	7
67	JACK SPRAGUE	45689	308	486	3
68	DAVID LEWICKI	53288	506	462	13
69	CHARLES ARKENS	51262	520	460	11
70	ROBERT KOENN	19196	324	455	7
71	BOB BERNATCHEZ	29996	480	434	3
72	KEVIN CREAMER	57571	439	431	11
73	JAY KING	19799	136	420	7
74	KEVIN E. GORMLEY	55663	205	420	7
75	KEN EVA	39676	523	412	2
76	MIKE HOWIE	53983	139	412	10
77	PAUL STE. MARIE	28241	487	396	2
78	LYNELL JACKSON	57374	430	384	10
79	JOHN CRABE	57268	308	378	3
80	TED MAHLER	18184	IND	378	3
81	ROBERT SANFORD	38125	777	369	4
82	MIKE DROBITSKY	57714	506	360	3
83	BONNIE JOHNSON	31404	427	341	10
84	DAN SAGSTETTER	36746	113	330	3

85	LAMONT MCCANDLESS	47389	463	315	7	171	ALAN WILLIAMS	14137	139	30	3
86	DAVID PLANTHOLT	55671	139	315	7	172	MATT CARTER	58767	IND	28	2
87	RUSTY WHITMAN	48599	139	313	5	173	DAVID POPKIN	57013	481	28	4
88	PETER DEIERLEIN	53859	901	297	2	174	AL DE LAGLESIA	38946	463	24	1
89	KEVIN FUNK	40770	317	296	6	175	JIM FACKERT	53871	IND	24	1
90	BILLY THOMPSON	50098	IND	293	2	176	MIKE BINKLEY	56289	0	24	3
91	DUANE LANTERMAN	6620	427	288	3	177	ROBYN BERRY	57706	430	22	2
92	PAUL LUTZ	30947	487	280	2	178	PAUL BUECHLER	49875	473	21	2
93	WAYNE FOSTER	56991	136	272	6	179	CARY WACKER	56209	308	21	3
94	CRAIG PHILLIPS	16907	205	261	10	180	MARK JILSON	54156	515	20	2
95	ROBERT STOTT	36510	520	250	4	181	ROSS DUNTON	51060	487	18	1
96	DAVID PRINGLE	47756	901	249	2	182	ED BASHAUER	PEND	481	16	1
97	JOE WARNOCK	30813	427	249	3	183	KEVIN MCKINNEY	11726	482	16	2
98	GARY FEVEYER	53641	503	243	4	184	WARREN LAYFIELD	24534	515	15	3
99	JOHN PACE	49785	473	232	2	185	CLYDE NIMAL	PEND	113	12	3
100	NATE GOEBEL	55342	515	230	4	186	DAVID SLUTSKY	54399	IND	10	1
101	JOHN YOST	31472	503	219	1	187	DENNIS HARWELL	56699	308	9	3
102	STEVE SKUBISZ	55470	439	216	2	188	CHRIS BRICKLEY	55504	482	8	2
103	MICHAEL DENNETT	54720	IND	214	3	189	THOMAS GRUBER	56852	IND	8	2
104	TOM PASTRICK	2276	IND	210	7	190	TOM MCKEOWN	57205	IND	8	2
105	MARTIN BOWITZ	28196	430	208	7	191	JEFF MITCHELL	59267	IND	6	3
106	RUSTY WAGNER	56443	IND	204	3	192	DAVE ADAMSON	PEND	IND	4	2
107	BOB WINGATE	35396	505	201	3	193	ROBERT BROCCOLI	51353	IND	4	2
108	WILLIAM CURTAIN	45352	IND	198	5	194	JIM ROBERTS	56554	IND	0	3
109	DREW GRAY	38856	473	196	1	195	MARK BASQUEZ	58663	317	0	3
110	PAUL HORNING	7571	139	196	7	196	DAVID FRIZZELL	58516	308	0	3
111	CHRIS RENDENNA	29220	IND	194	4		TEAM DIVISION				
112	JIM CLEEK	54912	308	180	3		NAME	NAR#	SEC#	POINTS	WE
113	ED REILLY	41085	IND	178	4	1	GUNS 'N ROCKETS	T100	519	4,547	19
114	MARK CHRUMKA	58182	463	163	1	2	HOT & COLD TM	T051	506	4,234	19
115	KEN HALVCHA	52122	439	160	3	3	SOUTHERN NEUTRON TM	T553	511	3,847	10
116	RONALD WILSON	55579	482	160	2	4	LEE-PURCELL TEAM	T241	203	3,446	19
117	SID MAXWELL	38480	IND	154	7	5	REN & STIMPY TM	T034	463	3,433	13
118	DALE WINDSOR	56639	IND	154	7	6	FLIRTIN' W/DISASTER TEAM	T503	503	1,783	13
119	ANDY TOMASCH	39741	463	140	1	7	PERMANENTLY ON VACATION TM	T108	308	1,164	3
120	STEPHEN DECKER	9695	520	140	7	8	COOR'S LIGHT TM	T200	205	1,127	7
121	ROGER WILFONG	36404	463	138	1	9	SUDDEN IMPULSE TM	T042	517	996	13
122	DAN HOBBS	47142	IND	138	3	10	JANKOV/PAVLOV TM	T251	205	966	3
123	G. HARRY STINE	2	506	138	3	11	SPACE NUTS TEAM	NR	282	816	3
124	GEORGE BEEVER	44391	503	137	1	12	THE USUAL SUSPECTS TM	T002	117	770	7
125	DAN GARRETT	57029	IND	134	3	13	ACE DISASTER TEAM	NR	0	600	3
126	JOHN SICKER	49422	471	132	3	14	MR SQUARED TM	T101	506	522	3
127	TOM LYON	16558	139	124	4	15	KUSTER WEAVER TM	T102	203	504	3
128	JOE MAGLATY	38969	520	120	3	16	CARDIAC ATTACK TM	T444	282	470	10
129	ALEX BOYCE	56656	317	120	5	17	FRUIT 'N NUTS TEAM	T105	IND	427	7
130	MICHAEL O'BRIEN	28089	IND	114	1	18	ARROWS II TEAM	T103	282	420	3
131	JON RAINS	13911	205	114	2	19	SCOTTY-CHEKOV TEAM	T107	205	412	2
132	RANDAL DUGAL	57432	481	113	2	20	TEAM NCR	T424	512	412	2
133	JEFF STEBELTON	57019	113	106	2	21	LITTLE RASCALS TEAM	T104	282	384	3
134	ED SCHNEIDER	50222	515	98	2	22	EPOXY PLUS TEAM	T005	471	381	4
135	BOB JENNINGS	42615	439	97	1		SECTIONS				
136	ROD SCHAFFER	36564	473	96	1		NAME	SEC#	POINTS	WE	
137	JAMES NOLAN	30886	471	96	3	1	LAUNCH CRUE	519	31,693	19	
138	PEGGY WARNOCK	34079	427	96	3	2	NOVAAR	205	27,647	19	
139	WILLIAM HARTLEY	56832	482	92	2	3	NARHAMS	139	25,478	19	
140	KEVIN PREBULA	43890	IND	91	7	4	GARDEN STATE	439	17,643	19	
141	FRED SHECTER	20117	430	90	1	5	MARS	136	10,009	19	
142	CARL LINDY	49499	473	90	2	6	FL SPACEMODELERS	481	8,964	17	
143	TIM BARR	51403	506	81	3	7	SSS	506	6,571	19	
144	LARRY WEBER	47092	482	80	2	8	SPAAR	503	6,555	18	
145	ROGER DWYER	54772	205	80	2	9	HUVARS	463	5,589	14	
146	DAVID STATHAM	57656	439	80	2	10	CSAR	113	4,831	17	
147	TED HIPPLE	32605	113	78	3	11	LARS	430	4,766	19	
148	ISABELLO SIBOLBORO	39677	473	74	1	12	CAROLINA SPACEMODELERS	461	4,102	7	
149	MARK MATHIS	58752	139	70	7	13	PARA	520	4,009	14	
150	PHILLIP WING	38824	359	70	7	14	VIKINGS	203	3,950	19	
151	THOMAS GELLENBECK	54863	463	64	1	15	KOSMO	427	3,877	10	
152	EDWARD BASHAUER	59018	481	63	3	16	CSROCS	515	3,519	10	
153	BUZZ NAU	38803	463	60	1	17	DARS	308	3,486	6	
154	DAVE WYSS	23219	282	60	3	18	ZIA SPACEMODELERS	517	3,132	13	
155	EDWARD MILLER	45776	503	58	1	19	DART	317	2,663	11	
156	RICHARD O'NEIL	57522	IND	54	2	20	SCAM	282	2,522	10	
157	MARC MCCAULEY	56351	308	54	3	21	CRASH	482	2,276	7	
158	GREG BOCK	44161	205	53	9	22	UROC	523	2,215	5	
159	MORT BINSTOCK	27182	473	53	2	23	ASTRE	471	1,890	6	
160	ROBERT AUSTIN	47533	139	51	3	24	MIVARS	487	1,844	8	
161	SERAI CARRI	56073	522	49	7	25	DALE COUNTY	496	973	7	
162	BRETT TEMPLAR	26340	IND	47	2	26	PITTSBURGH SPACE CMD	473	926	2	
163	PAUL HEMMINGER	53111	IND	45	3	27	WEMROC	500	578	10	
164	ROBERT TURNER	27837	308	42	3	28	CMASS	464	529	10	
165	PATRICK PISCINI	54692	136	39	1	29	MICHIGAN	505	201	3	
166	GREG ELDER	56644	506	36	3	30	BAYNAR	359	70	7	
167	TOM LANIER	55640	365	36	3	31	NAR-CONN	522	49	7	
168	GARY ALFANO	59485	IND	35	7	32	NASA/HOUSTON	365	36	3	
169	WILLIAM RHOAT	43355	503	34	2						
170	DON LAMAR	41220	282	30	3						

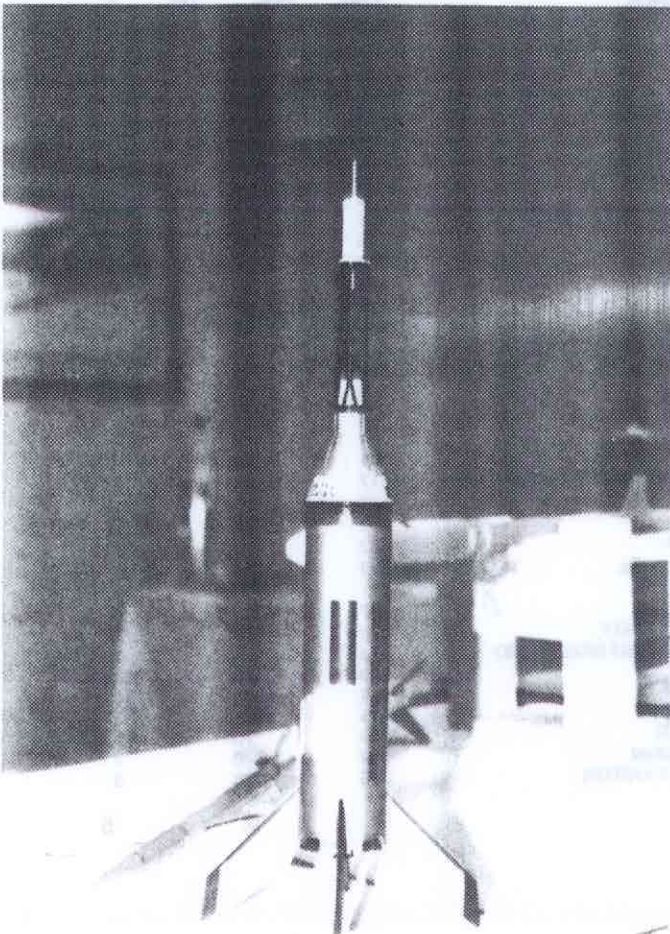
LEFT: THE SIGN POINTS THE WAY TO NARAM-35

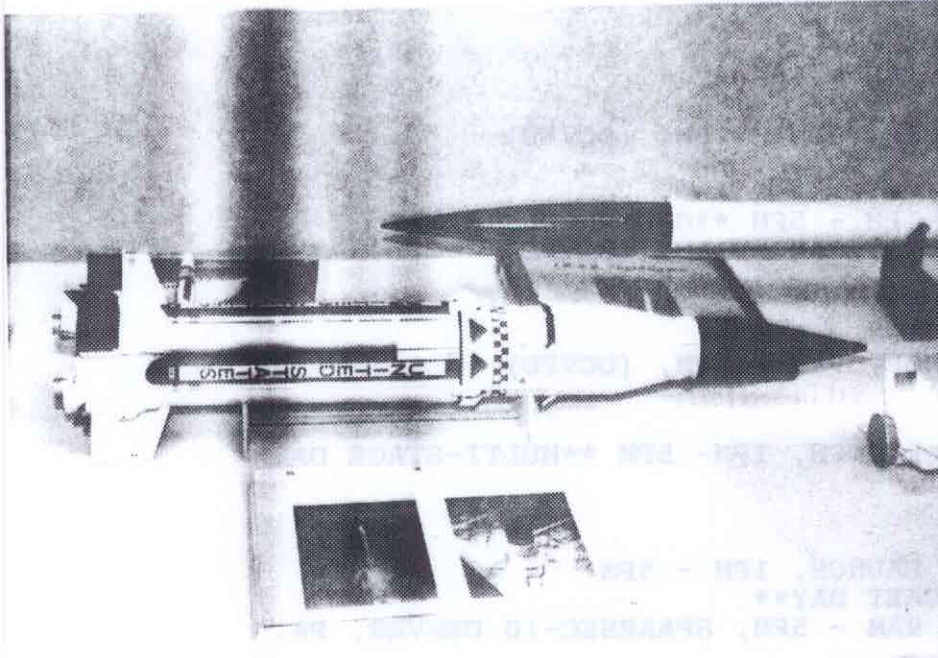


BELOW: LARRY, MOE & CURLY? NAH.

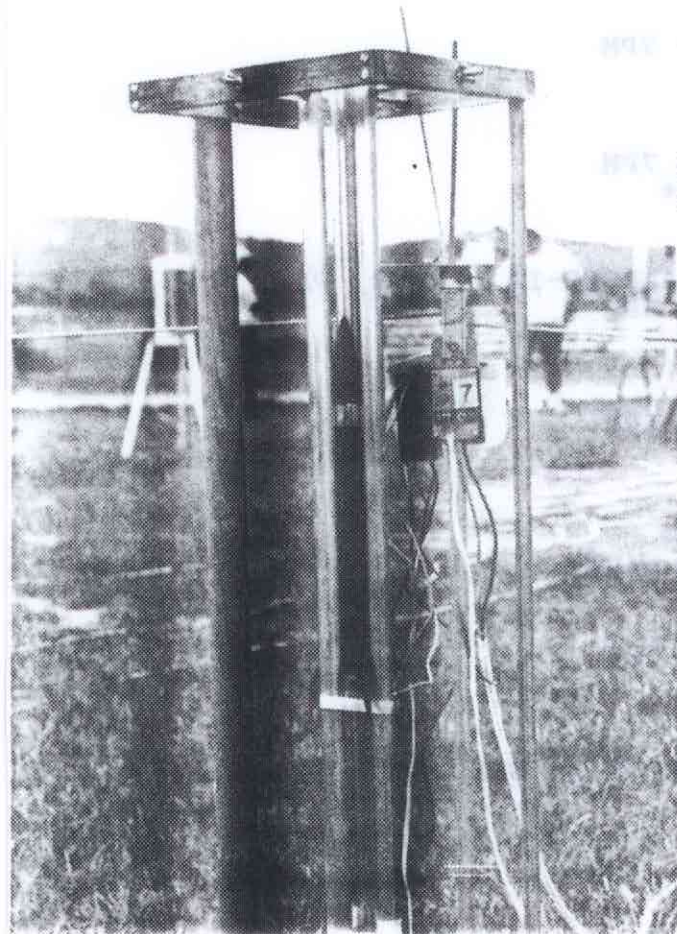
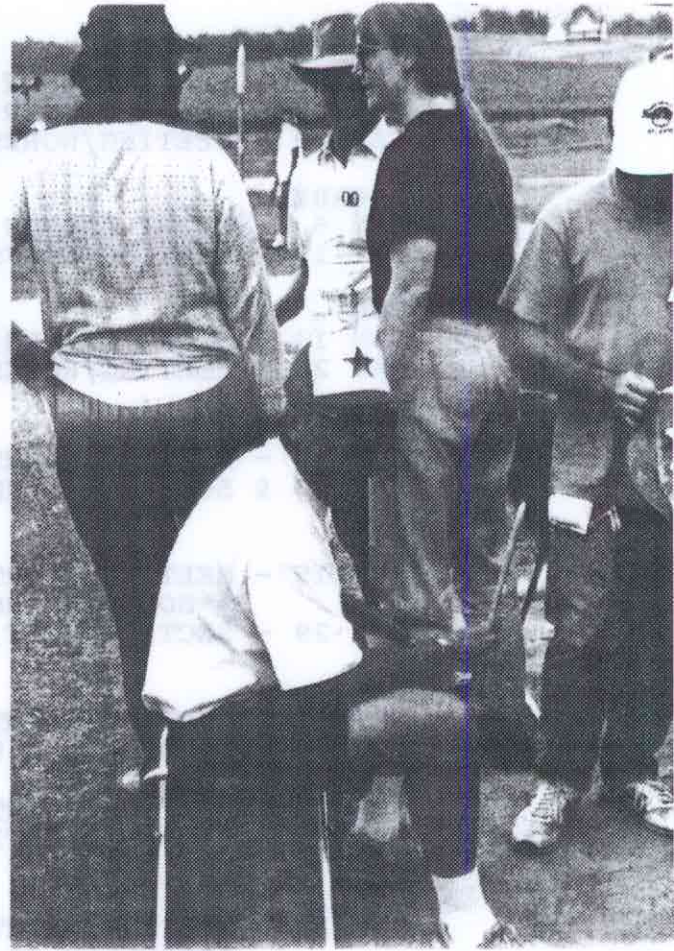
DALE, JOHN & GLENN

BELOW LEFT: A SPORT SCALE LITTLE JOE I

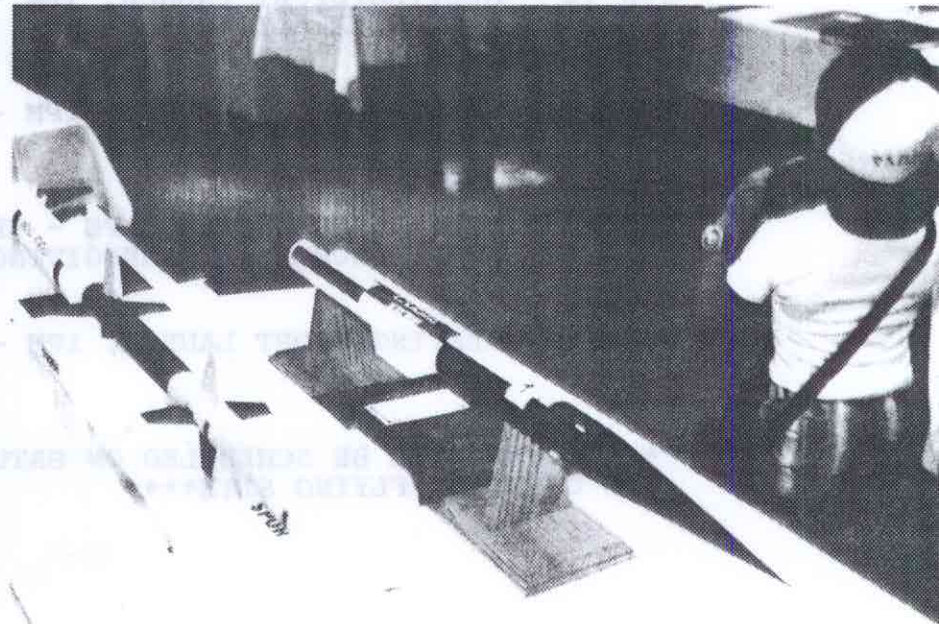




ABOVE: PETER ALWAY'S FIRST PLACE SATURN 1;
LEFT: JOHN YOST SITS DOWN ON THE JOB.



LEFT: A 1/2A CLUSTER ALTITUDE MODEL IN THE TOWER;
BELOW: GLENN FEVEYER'S BLACK BRANT 1A.



SOUTHERN PENNSYLVANIA AREA ASSOCIATION OF ROCKETRY
1994 CALENDAR

JANUARY

SUN 9 - SPORT LAUNCH, 1PM - 5PM
SAT 15 - SPAAR DINNER
SAT 29 - MEETING/WORKSHOP, 9AM - 1PM, (DCVFD)

FEBRUARY

SUN 6 - SPORT LAUNCH, 1PM - 5PM **GROUND HOG DAY**
SAT 19 - MEETING/WORKSHOP, 9AM - 1PM, (DCVFD)

MARCH

SUN 13 - SPORT LAUNCH, 1PM - 5PM
SAT 26 - MEETING/WORKSHOP, 9AM - 1PM, (DCVFD)

APRIL

SUN 10 - MEETING/SPORT LAUNCH, 1PM- 5PM **MULTI-STAGE DAY**
SAT 23 & SUN 24 - ECRM

MAY

SUN 15 - MEETING/SPORT LAUNCH, 1PM - 5PM
SOUNDING ROCKET DAY
SUN 29 - SECTION MEET, 9AM - 5PM, SPAARSEC-10 DENVER, PA.

JUNE

SAT 11 & SUN 12 - RAMTEC-2, CENTER VALLEY, PA (SPAAR)
E HD DUR, A RG DUR MULTI, B ELD, C SR DUR,
PMC
SUN 26 - MEETING/SPORT LAUNCH, 3PM - 7PM
CLUB DURATION RECORD DAY

JULY

SUN 10 - MEETING/SPORT LAUNCH, 3PM - 7PM
APOLLO 11 DAY *

AUGUST

SUN 7 - MEETING/SPORT LAUNCH, 3PM - 7PM
CLUB ALTITUDE RECORD DAY

SEPTEMBER

SUN 4 - SECTION MEET, 9AM - 5PM, SPAARSEC-11 DENVER, PA.
SUN 18 - MEETING/SPORT LAUNCH, 1PM - 5PM
CLUSTER ALTITUDE DAY

OCTOBER

SUN 9 - MEETING/SPORT LAUNCH, 1PM - 5PM
OLD ROCKET DAY

NOVEMBER

SUN 13 - MEETING/SPAARSPAM, 1PM - 5PM
FRI 24 - SPORT LAUNCH **THANKSGIVING DAY**

DECEMBER

SUN 18 - MEETING/SPORT LAUNCH, 1PM - 5PM

***LAUNCHES WILL BE SCHEDULED ON SATURDAY IF BEL AIR
IS USED FOR FLYING SITE***

**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. _____
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 Amount Enclosed..... \$ _____

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

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 Spacemodelling.

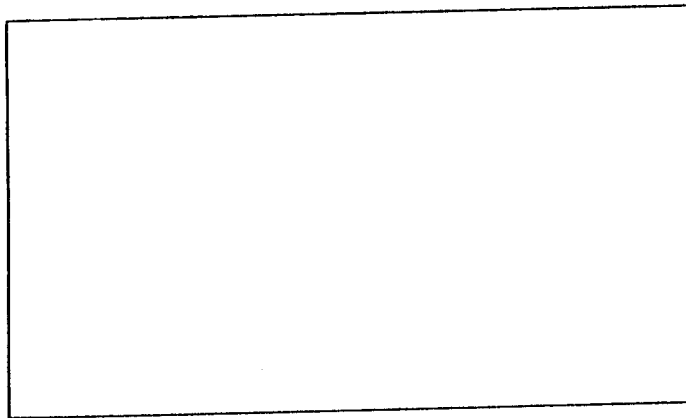
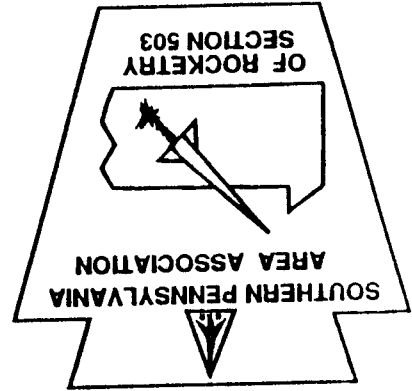
COUNTDOWN

*The Southern Pennsylvania Area
Association of Rocketry*



PROMOTING SAFE MODEL ROCKETRY
IN SOUTHERN PENNSYLVANIA
AND NORTHERN MARYLAND

SOUTHERN PENNSYLVANIA
AREA ASSOCIATION
OF ROCKETRY



TO:

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