

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

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VOLUME 9, ISSUE 3    MAY/JUNE 1996

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THE STUFF THAT'S INSIDE:

\* SPAAR SPORT LAUNCH COVERAGE

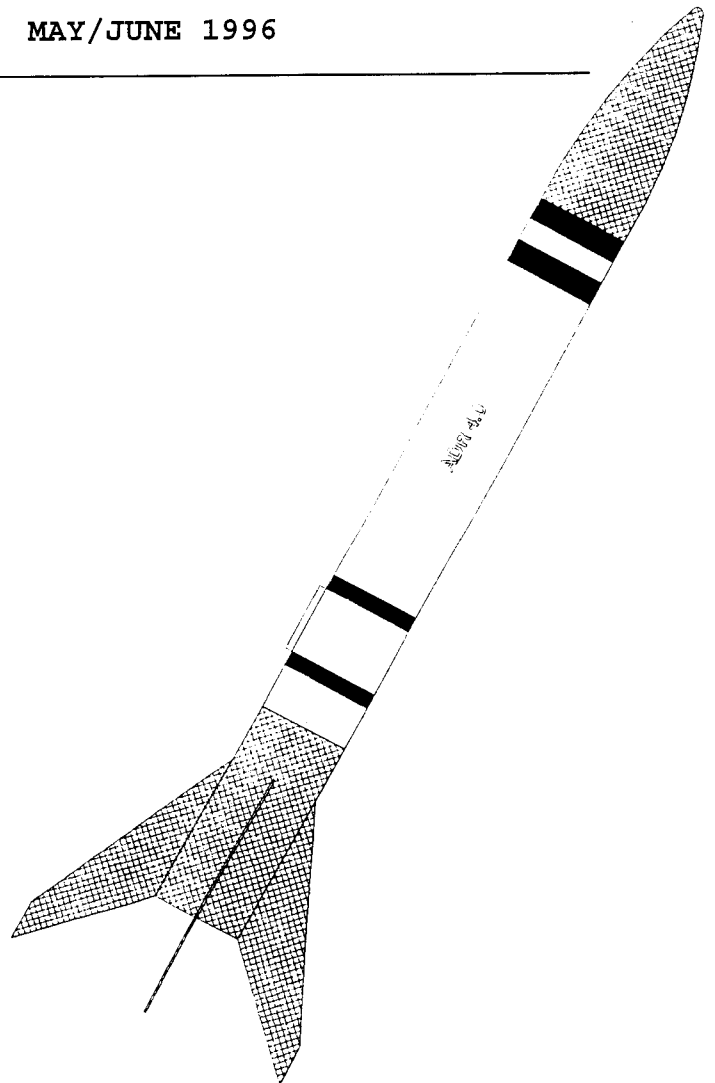
\*\* ROAR AT THE SHORE - '96

\*\*\* KIT REVIEW: AEROTECH MIRAGE

\*\*\*\* CLUB NEWS NOTES

\*\*\*\*\* TWO [COUNT 'EM!] PLANS

\*\*\*\*\* NEW PRODUCT NOTES



The Countdown

Volume 9, Issue 3

May/June 1996

The Countdown is the newsletter of SPAAR, the Southern Pennsylvania Area Association Of Rocketry, NAR Section #503, PO Box 127, Reamstown, PA 17567, as well as of Tripoli Susquehanna/#71. Material may be used with proper credit. [US funds only!]

Club President: Dale Greene  
Senior Advisor: Glenn Feveryear  
Tripoli Prefect: Ed Miller  
Editor: George Beever

Thanks this time to: Doug Gardei, Glenn Feveryear, George Fetter & Rick "Forward My Mail To..." Hackman

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**SCHEDULE**

**JUNE 15/16 [SAT/SUN]:** RAMTEC-4 Regional Meet, Center Valley, PA. Host Section: SPAAR. Events: C Helicopter Duration, B Streamer Duration, D Dual Eggloft Altitude, Sport Scale. Sport Flying welcome. Contact: Glenn Feveryear, [717] 456-5570.

**JUNE 21, 7PM-9PM [FRI]:** SPAAR Club Meeting, HOMEDCO Community Room, 240 Harrisburg Ave., Lancaster.

**JUNE 30, 3PM-7PM [SUN]:** SPAAR Sport Launch, Cocalico High School. Practice Event: A Rocket Glider Duration. **NOTE TIME!!!**

**JULY 14, 3PM-7PM [SUN]:** SPAAR Sport Launch, Cocalico High School. Practice Event: 1/2A Parachute Duration. **NOTE TIME!!!**

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SECTION MEETING MINUTES

April 19, 1996

Present: Dale Greene, Dan Weinhold, Rick Hackman, Bill Rhoat, Gary Feveryear, Glenn Feveryear.

**Treasurer's Report:** 49 current members; Account Balance: \$236.91.

**Section Advisor:** Glenn reported that the Section charter had been received. The Facility Utilization request was sent to the Cocalico School District, but no word has been received back yet.

**High Power:** It was reported that Ed Miller has qualified for his Level 2 High Power certification in New Jersey last weekend.

**Competition:** About 50 RAMTEC-4 flyers were sent out last week. We have received an FAA Waiver for both days of RAMTEC, from 9AM to 5PM each day. The waiver is for 8oz of propellant, 5lbs, and 3000 feet.

Dale Greene will post a message on Compuserve to see if anyone has a chart or program to create one for altitude vs body tube size.

At the next launch, a new cable will be tested to see if it will convey enough power sufficient to meet the distance requirements for launching 11

motors.

The NARAM Committee will meet briefly at the next meeting for a status report.

**Old Business:** None.

**New Business:** The micro clips will be replaced on the launch wires before the next launch. Ed Miller has been tasked to present some instruction on the regulations regarding the shipment and storage of thermolite wick. And, he is to present info on obtaining high power certifications, both Tripoli and NAR. This is to occur at one of the regular meetings.

Dale talked about an April 27 RC Fun Fly and model rocket launch sponsored by a hobby shop in the Elizabethtown area.

[minutes submitted by Glenn Feveryear]

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All members, both new and old, are encouraged to attend club meetings. The location is the Community Room of the HOMEDCO Building, 240 Harrisburg Ave., Lancaster. Meetings are held every third Friday of the month, from 7PM to 9PM.

These meetings are the best way to get to know other club members, share ideas, show off your latest creations, and have input into your club.

SPAAR SPORT LAUNCHES

March 10, 1996

Well, it finally happened. The weather cooperated for a change on a Sunday that a Sport Launch was scheduled. Ten flyers took advantage of it to get in 63 flights. It was a nice way to break out of the winter doldrums.

George Fetter and Mark Kamide were looking forward to some decent weather in order to flight test some prototypes of planned Mountainside Hobbies kits. The 4.0" diameter V-2 and ADR 4.0 performed flawlessly, as did the 2.6" diameter Aerobee 350. Mark was overheard to mutter his thanks when all went well. And, he and George will leave it up to the customer to figure out what "ADR" stands for. George didn't have as much good fortune with his LOC IV, however. It stripped it's chute [again?], but was recovered undamaged. Talk about 9 lives!

Frank Sombers flew a beautifully finished Estes SR-71 twice on C6-5 motors. It was believed to be the Blackbird's first and only flights. After the second one, Frank handed it over to Mark, and it is now on display at Mountainside. Courtney Sombers flew an Estes Mosquito and Athena for two nice flights.

Steve Biers flew his Estes Dagger and Sparrow twice, on C6

and A10 motors. All four flights were good.

Another Mountainsider, Matt Zimmerman, flew a really neat scratchbuilt scale-up of the old Estes Xarconian Destroyer. This one flies on D12s and is recovered by dual parachutes. The futuristic markings were reproduced by hand by Matt. Nice job! He also flew an oldie, an Estes Laser-2 on a C6-7. The chute stripped, but the damage appeared light. Matt then flew his Astrocum 110 three times, the last flight ending in a tree.

Ed Miller flew some good old stand-bys, such as his Flight Systems Javelin on an F52 reload; his Estes Warp II on a C6/B8 combination; the UFO 29-12 for another loud flight on a G64 reload; the big Tarsis complete with it's "five second" shock cord [the shock cord is so long that the nose cone lands 5 seconds after the airframe]; and the always entertaining Moncopter 32-18 on a G12. Two flights really stand out, however. Ed flew his NCR Eliminator on an Aerotech F25 for another great flight. This model is almost old enough to vote, has been flown probably well over 25 times, but just keeps going and going.... the best however was the flight of Ed's Aerotech Strong Arm on a G64-7 reload. Too bad no one was timing the flight, as it was well over two and a half

minutes in duration, but landed within a few feet of the launch pad. Great flight!

Well, there is one thing that you have to say about Doug Gardei: he loves to fly rockets. Lots of them. A lot. Twenty flights worth. All were pretty good flights, too, except for the last one of the day. His Aerotech Initiator separated from it's parachute after boosting on an E11 reload.

Brian Royer got some really neat flights in with his Estes Big Bertha [the Aerotech D21 is a killer in this model!], and of course, the yet-to-be-lost Mosquito. But the weirdest flight was his Aerotech Mustang on an F22 reload. Poor Brian had put a lot of work into the model, and was itching to fly it. At ignition, it made like a TOW Anti-tank rocket, going up about 20 feet, acquiring radar lock on an embankment about 300 yards away. Aerotech's explanation? Misuse of masking tape. Right. Gotta do better than that, guys.

This was a well attended sport launch, and everyone had plenty of time to get in a lot of flying. The "misfire alley" type of launch system was used, as we have during the winter months over the past few years. However, with so many folks showing up, maybe we should consider either modifying the misfire alley,, or simply using the club launch system all year 'round. This would help to

ensure the safety record that the club has maintained for eight years now.

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**April 14, 1996**

If March 10's weather was great, then of course it stands to reason that April 14's would be better, right? Nah, of course not. The temperatures were in the 50's, which doesn't sound too bad. But when you couple them up to 20mph winds with higher gusts, well, you get the idea. The thing was, a club record 20 flyers showed up, all wanting to fly! Figuring that maybe, just maybe, the winds will die down, the launch system was put up in a casual manner, with lots of chit-chat going on. Did the winds ever diminish? Sure, right around 5PM, when all but the brave [or just plain goofy] were still there.

Despite the conditions, those 20 flyers managed a total of 56 flights, not bad all things considered. The kids had a blast. Daniel Feveryear, Ryan Auker, Steve Biers, Billy Niehenke, Kyle Simon, Matt Granholm, Nick Crowther and Gerard Hertzog all got some good flights in.

Bill Rhoat, not exactly a kid, flew a classic Estes Skyhook on an A8-3 for a good flight. Matt and Deb Zimmerman got a couple of flights in, and Mark Kamide tempted fate and the wind with his Estes Mongoose upper-stage on a C6-7. We think he

even got it back, too.

Frank Sombers had the honor of being the first non-Mountainside Hobbies employee to fly a production MTSH kit at a sport launch. His 2.6" V-2, unfortunately, mistook the asphalt parking lot for London. Ouch.

John Balmer flew a couple of Quest kits, the Viper and the Starhawk, in A8-3s. No, that's not a misprint. John is used to flying videocameras in vehicles powered by H or I motors, in various cluster combinations. These smaller models were the result of a school rocketry demonstration that John has been involved with for some time. No matter what you're flying John, it's good to see you.

George Fetter flew an Estes Bullpup on an A8-3. We're not sure why. He did give a reason for having such a small model [for him] in hand, but we forget what it was. After that, out came the big V-2 for test flight #2. That's more like it, George. It had a great boost under G40 power, but the parachute and nose cone went one way, the main airframe another. Both parts were recovered with only minor damage. George then flew, or attempted to fly, his Vaughn Bros. Extreme 38, to be powered by an Aerotech F14 Blackjack. Talk about huff 'n chuff!! This thing sputtered and carried on for a while before it finally left the pad. By the time it did, it had lost so much power

that it never gained enough altitude to deploy the recovery system. The result? One VB Extreme nose first into the dirt that will become a corn field in a few months. We are happy to say that the Extreme will fly again, complete with a new paint job. George then flew another kit prototype, a Sandia Sandhawk built around 3" tubing. The model sports a 38mm motor mount, but George test flew it with a G40. Even with the windy conditions, the G40 provided a nice flight. [Altogether now] look for a kit soon.

One of SPAAR's newest members, and Mountainside's Thursday evening guest host Rick Snader flew his collection of Aerotech models. One of these was a beautifully finished Warthog, which flew great on F14 and F25 motors.

The NAR contest event for the day was 1/2A Streamer Duration. Daniel Feveryear was the only A Divisioner to fly, putting 1/2A6-2s in his Estes model for a two flight total of 9 seconds. Glenn Feveryear totaled 81 seconds on two flights, and John Yost of the Flirtin' With Disaster Team totaled 90.5 seconds with his two flights.

You had to feel good for Brian Royer. After his Mustang debacle in March, he got some great flights. His "BAR-1" flew great on G40s. And you can guess what BAR stands for!

FLIGHT LOG

March 10, 1996

<u>#</u>	<u>FLYER</u>	<u>MODEL</u>	<u>MANUF</u>	<u>MOTOR [S]</u>	<u>RESULT</u>
1	Steve Biers	Dagger	Estes	E C6-5	Good Flight
2	Steve Biers	Sparrow	Estes	E A10-3	Good Flight
3	Steve Biers	Sparrow	Estes	E A10-3	Good Flight
4	Steve Biers	Dagger	Estes	E C6-5	Good Flight
5	Crtny Sombers	Mosquito	Estes	E A10-3	Good Flight
6	Crtny Sombers	Athena	Estes	E B6-4	Good Flight
7	Matt Zimmerman	Xarconian Dest.	Scratch	E D12-5	Good Flight
8	Matt Zimmerman	Xarconian Dest.	Scratch	E D12-7	Good Flight
9	Matt Zimmerman	Laser-2	Estes	E C6-7	Good Flight
10	Matt Zimmerman	USAF	Scratch	E C6-7	Good Flight
11	Matt Zimmerman	Astrocam 110	Estes	E C6-7	Good Flight
12	Matt Zimmerman	Astrocam 110	Estes	E C6-7	Good Flight
13	Matt Zimmerman	Astrocam 110	Estes	E C6-7	Good Flight
14	Frank Sombers	SR-71	Estes	E C6-5	Good Flight
15	Frank Sombers	SR-71	Estes	E C6-5	Good Flight
16	Brian Royer	Big Bertha	Estes	E C6-5	Good Flight
17	Brian Royer	Big Bertha	Estes	AT D21-7T	Good Flight
18	Brian Royer	Mustang	Aerotech	AT F22-5J	Hmmm...
19	Brian Royer	Ninja	Estes	E A10-3	Good Flight
20	Brian Royer	Thunderbolt	Scratch	E B6-4	Good Flight
21	Brian Royer	Thunderbolt	Scratch	E C6-5	Good Flight
22	Brian Royer	Mean Machine	Estes	E D12-5	Good Flight
23	Brian Royer	Mean Machine	Estes	E D12-5	Good Flight
24	Brian Royer	Mosquito	Estes	E A10-3	Still Here
25	Brian Royer	Astro GTX	Scratch	E A10-3	Ooops...
26	George Fetter	ADR 4.0	MTSH	AT F25-4WL	Good Flight
27	George Fetter	V-2 4.0	MTSH	AT F40-4RMS	Good Flight
28	George Fetter	Aerobee 350	MTSH	AT E15-4WL	Good Flight
29	George Fetter	LOC IV	LOC	AT G40-4WL	Sep chute
30	Rick Hackman	Lil Squeeker	Scratch	E A10-3	Good Flight
31	Rick Hackman	Turbo Quick	Scratch	E D12-5	Good Flight
32	Rick Hackman	XR-76A	Scratch	E D12-5	Good Flight
33	Ed Miller	Warp II	Estes	E C6-0/B8-5	Good Flight
34	Ed Miller	UFO 29-12	Scratch	AT G64-4RMS	Good Flight
35	Ed Miller	Javelin	FSI	AT F52-5RMS	Good Flight
36	Ed Miller	Strong ARM	Aerotech	AT G64-7RMS	Great Flight
37	Ed Miller	Eliminator	NCR	AT F25-6WL	Good Flight
38	Ed Miller	Monocopter 32-18	Scratch	AT G12 RMS	Good Flight
39	Ed Miller	Tarsis	Scratch	ISP G75-6RMS	Good Flight
40	Doug Gardei	Ovation 35	CRC	E A8-3	Good Flight
41	Doug Gardei	Patriot	Estes	E C6-5	Good Flight
42	Doug Gardei	Trident II	Estes	E C6-5	Good Flight
43	Doug Gardei	Big Bertha	Estes	E C6-5	Good Flight

44	Doug Gardei	USS Enterprise	Estes	E C6-5	Good Flight
45	Doug Gardei	SA-14 Archer	NCR	ISP G104-6RMS	Good Flight
46	Doug Gardei	Jupiter-C	Estes	E D12-5	Good Flight
47	Doug Gardei	Jupiter-C	Estes	E D12-5	Good Flight
48	Doug Gardei	Broadsword	Estes	E D12-5	Good Flight
49	Doug Gardei	Broadsword	Estes	AT D13-4RMS	Good Flight
50	Doug Gardei	Shadow	Estes	AT F39-6RMS	Good Flight
51	Doug Gardei	Shadow	Estes	E D12-3	Good Flight
52	Doug Gardei	Initiator	Aerotech	AT E18-4RMS	Good Flight
53	Doug Gardei	Initiator	Aerotech	AT F25-6WL	Good Flight
54	Doug Gardei	Initiator	Aerotech	AT E11-3RMS	Good Flight
55	Doug Gardei	Honest John	Estes	E D12-3	Good Flight
56	Doug Gardei	Honest John	Estes	AT E15-7WL	Good Flight
57	Doug Gardei	Phantom 4000	NCR	AT F52-5RMS	Good Flight
58	Doug Gardei	Strong ARM	Aerotech	ISP F37-6RMS	Good Flight
59	Doug Gardei	Strong ARM	Aerotech	AT G64-7RMS	Good Flight
60	George Beever	GEO SAT LV	Estes	E C6-3	Good Flight
61	George Beever	Mini Mars Lander	Estes	E A3-4	Good Flight
62	George Beever	Mini Mars Lander	Estes	E A10-0/A3-4	Good Flight
63	George Beever	IRIS	Estes	E A10-0/A3-4	Good Flight

### Launch Statistics

#### Models Flown

25	Estes
3	North Coast [NCR]
4	Aerotech [AT]
1	Custom Rocket Co. [CRC]
3	Mountainside Hobbies [MTSH]
10	Scratchbuilt
1	LOC/Precision
1	Flight Systems, Inc. [FSI]

Number of flyers - 10

#### Motor Usage

44	Estes
7	Aerotech Single Use
13	Aerotech RMS
2	ISP RMS
1/2A	0
A	13
B	3
C	17
D	13
E	3
F	9
G	7

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April 14, 1996

1	Casey Miller	Patriot	NCR	AT F50-4T	No Chute
2	Dnl Feveryear	Bandit	Estes	E C6-5	Separation
3	Dnl Feveryear	Alpha III	Estes	E A8-3	Good Flight
4	Dnl Feveryear	America	Estes	E C6-5	44 seconds
5	Dnl Feveryear	America	Estes	E C6-5	Good Flight
6	Dnl Feveryear	Firestreak	Estes	E A8-3	Good Flight
7	Dnl Feveryear	Firestreak	Estes	E A8-3	Good Flight
8	Ryan Auker	Bandit	Estes	E A8-3	Good Flight



9	Ryan Auker	Bandit	Estes	E C6-5	Separation
10	Steve Biers	Space Shuttle	Estes	E C6-5	No Glide
11	Steve Biers	Stillette	Estes	E A10-3	Good Flight
12	Billy Niehenke	Reliant	Estes	E C6-5	Good Flight
13	Kyle Simon	Big Bertha	Estes	E C6-5	Good Flight
14	Kyle Simon	Calypso	Estes	E A8-3	Good Flight
15	Kyle Simon	Turbo Copter	Estes	E A8-3	Good Flight
16	Kyle Simon	Meanie	Estes	E A10-3	Unstable
17	Kyle Simon	Corkscrew	Estes	E C6-3	Good Flight
18	Matt Granholm	Manta	Estes	E B6-4	Good Flight
19	Nick Crowther	Super Shot	Estes	E B6-6	Good Flight
20	Nick Crowther	Super Shot	Estes	E C6-7	Good Flight
21	Gerard Hertzog	Mean Machine	Estes	E D12-5	Good Flight
22	Gerard Hertzog	Icarus	Quest	E C6-5	Good Flight
23	Gerard Hertzog	Wizard	Estes	E C6-5	Good Flight
24	Bill Rhoat	Sky Hook	Estes	E A8-3	Good Flight
25	Matt Zimmerman	USAF	Scratch	E C6-5	Good Flight
26	Deb Zimmerman	America	Estes	E C6-7	Good Flight
27	Steve Simon	Alpha III	Estes	E A8-3	Good Flight
28	Mark Kamide	Mongoose	Estes	E C6-7	Good Flight
29	Frank Sombers	V-2	MTSH	E D12-5	Good Flight
30	John Balmer	Viper	Quest	E A8-3	Good Flight
31	John Balmer	Viper	Quest	E A8-3	Good Flight
32	John Balmer	Starhawk	Quest	E A8-3	Good Flight
33	Brian Royer	Bailout	Estes	E B6-4	Good Flight
34	Brian Royer	Pip Squeak	Quest	E C6-5	Good Flight
35	Brian Royer	Thunderbolt	Scratch	E B6-4	Good Flight
36	Brian Royer	BAR-1	Scratch	AT F40-4RMS	Prang
37	Brian Royer	BAR-1	Scratch	AT G64-7RMS	Good Flight
38	Brian Royer	BAR-1	Scratch	AT G40-4WL	Good Flight
39	Brian Royer	Mosquito	Estes	E A10-3	Good Flight
40	Brian Royer	Big Bertha	Estes	E B6-4	Good Flight
41	George Fetter	Bullpup 12D	Estes	E A8-3	Good Flight
42	George Fetter	V-2 4.0	MTSH	AT G40-4WL	Separation
43	George Fetter	Extreme 38	Vaughn Bros	AT F14-6J	Hmmm...
44	George Fetter	Sandia Sandhawk	MTSH	AT G40-4WL	Good Flight
45	Rick Snader	Mustang	Aerotech	AT E15-7WL	Good Flight
46	Rick Snader	Wart Hog	Aerotech	AT F14-6J	Good Flight
47	Rick Snader	Arreaux	Aerotech	AT E15-4WL	Good Flight
48	Rick Snader	Wart Hog	Aerotech	AT F25-6WL	Good Flight
49	George Beaver	Aerobee	NCR	AT F40-4RMS	Good Flight
50	George Beaver	Lil Nuke	LOC	AT E16-7RMS	Stinko..

### 1/2A STREAMER DURATION FLIGHTS

51	Dnl Feveryear	E 1/2A6-2	4 seconds
52	Dnl Feveryear	E 1/2A6-2	4.6 sec
53	Glenn Feveryear	E 1/2A3-4	47.2 sec
54	Glenn Feveryear	E 1/2A3-4	33.9 sec
55	Flirtin' With Disaster Team	E 1/2A3-4	43.47 sec

56 Flirtin' With Disaster Team E 1/2A3-4 47.44 sec

### Launch Statistics

Number of Flights: 56  
Number of Flyers: 20 [!]

### Models Flown:

4 Scratchbuilt  
1 LOC/Precision  
25 Estes  
2 North Coast Rocketry [NCR]  
3 Aerotech [AT]  
1 Vaughn Bros. Rocketry  
2 Mountainside Hobbies [MTSH]  
4 Quest

### Motor Usage:

42	Estes
9	Aerotech Single Use
4	Aerotech RMS
1/2A	6
A	13
B	5
C	15
D	2
E	3
F	6
G	4

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### NEW PRODUCT NOTES

**Mountainside Hobbies** is now shipping the ADR 4.0 sport rocket, [shown on the cover] as well as the 3.0 diameter version of the Sandia Sandhawk sport-scale model. The ADR 4.0 is 4" in diameter, and flies great on F and G motors. Mountainside also introduced their own line of nylon parachutes, available in sizes up to 36" in diameter. Mark, Cindy, & George also plan to carry the Public Missiles and Binder Design kit lines, soon. Contact them at [717] 733-4140 for more info... **Estes'** new kits for '96 are available. Supposedly, a weird looking thing called the "Venus Probe" is the hottest item going. Look for a review of their 1/4-scale AIM-9 Sidewinder in the next Countdown...

**Apogee Components** has introduced a line of 1/4A, 1/2A, A, & B 10.5mm diameter motors for competition use. Plans also call for re-introducing the line of kits that has been on hiatus since former owner Ed LaCroix went to Aerotech. For more info, send a SASE to: Apogee Components, 708 Piedra Drive, Suite C, Canon City, CO 81212-2253... to add to the confusion, **Eclipse Components** is offering many items formerly sold by Apogee. For a catalog, send \$1 to: Eclipse Components, 570 Bucklege Drive, Colorado Springs, CO 80919-1212...

Tired of dealing with Aerotech Crapperhead, er uh, Copperhead ignitors? Check out **Firestar Electric Match**. George Fetter used some at a recent launch with great success. Send an SASE to: Firestar Electric Match, PO Box 533, New Haven, IN, 46774, FAX [219] 749-9840, Compuserve #104342,3015. This is a "make-it-yourself" deal, so you must be at least 18 years old.

ROAR AT THE SHORE - 96

[RATS]

April 13-14, 1996  
by Ed Miller

Roar At The Shore is the first Tripoli launch of the year in the Northeast. After a long hard winter it is eagerly awaited. The Garden State Prefecture did their usual fine job of organizing the event. Garden State was represented by Larry Zupnyk, Prefect; Bill Davidson, and Damien Russo. Other prefectures represented were Tripoli Susquehanna, by Ed Miller and Roger Dwyer; LIARS, by Ray Carlino and Fritz Katz; Tripoli Connecticut and Tripoli Virginia. Dealers included Countdown Hobbies, Performance Hobbies, and Zeppelin Hobbies. The boys from PARA, Donald and Justin Gleiter, Scott Tyrell and Scott Ghiz were there. Sorry if I missed anyone's name, but old age is starting to take it's toll.

Saturday's weather was clear, with average winds at 10mph. Things started off small because of uncertainty of the wind conditions. Ed Miller spent the morning certifying four members to Level 1. Roger helped on the range. Ed also found time to take his Level 2 written test, and then made a good certification flight on his Falcon using a J180 using an Adept altimeter/deployment device. Justin Gleiter made a memorable flight with a 1/3-scale Sandhawk using a K250 and 4 H motors. It was a great

flight except for the fact that it landed in a tree about 1/2 mile away. Justin finally recovered it on Sunday. Scott Tyrell also made a very nice camera flight. Saturday concluded with a buffet and meeting at the Ramada Inn. Bill and Damien [the WAC Corporal crew] also showed off their latest project, a full scale, all aluminum Nike Tomahawk. The project is to be ready for a 1997 launch. It will be powered by 5 N motors in the first stage and an O in the upper stage.

Sunday started off cloudy with winds picking up to 20mph as the skies cleared. An unusual contest was held on Sunday. To enter the contest you had to build an Estes Broadsword with limited modifications to use an H100. You should have seen them go. The one flown by Ed Miller did not fare too well. At 'chute deployment the 4-yard shock cord failed. Core sample! Roger made a nice flight with a Viper Iv and 4 E30s. Bill Davidson also flew a Broadsword, but his was modified to use an I65. It went over a mile and was recovered. By the middle of the afternoon the winds had brought operations to a standstill. We are looking forward to the November launch hoping that the winds are a little calmer.

From the Messy Workbench  
Product Review: Aerotech Mirage  
by Douglas Gardei

**Specifications:**

Length 87"

dia. 2.6"

weight (w/o motor) 31oz.

Recommended Motors: F40-4W, F50-4T, F52-5T, G40-4W, G64-4W,  
G80-4T

Other Motors: Aerotech: F25-4W (no wind conditions) G54-6W,  
G104-6T

Retail Price: \$69.95

I was flipping through the new Aerotech catalog when I noticed one of the new kits was called the Mirage. This is perfect. A rocket over seven feet tall and flies on F and G motors! I told my dad I wanted it and he got it for me for christmas.

The Aerotech Mirage is a tall attractive model standing 87" tall and 2.6" in diameter. Weighing 31oz, without the motor, this bird can fly up to twelve hundred feet on a Aerotech G reloadable or disposable motor. Her features are the Labyrinth ejection charge cooling system, molded plastic fins, through the wall fin mounting, dual parachute recovery, large decal sheet, and complete instructions. I chose 5 minute epoxy for assembly.

Construction started with the motor mount. Don't forget to check the fin-lock fin alinement before applying any cement. The Labyrinth cooling mesh is inserted into the forward motor tube after it has been stretched about six inches. The motor mount was finished off by cementing the plastic baffle into the motor tube and tying the shock cord onto the screw eye.

Before the Astrobee fins could be attached, I had to snap off the extra plastic below the fin-lock tab. This was easy if you run a knife through the ditch on both sides of the fin several times. Then using pliers, I snapped the scrap off. The root edge was a bit rough so sanding was required.

Then the motor mount was inserted into the body tube with the fin slots. After some alinement, The three fins were cemented in their proper place. The remaining centering ring was then cemented in the rear. Finishing the lower section off by cementing one of the launch lugs onto the launch lug slot on the body tube.

The two remaining tubes are then cemented together using one of the tube couplers. Caution has to be taken to make sure the tube with the launch lug slot is at the rear. Then the bulkhead is assembled and cemented into the rear end of the two tubes. Then the last remaining launch lug is cemented onto the tube.

I decided to cheat on finishing the Mirage. Skipping the priming step, I painted the Mirage gloss black. For the nose cone, I swapped it with my Initiators nose cone witch was primed but not painted. Then I painted the nose cone black. After the paint dried, the large decal was applied. Finishing the model off with tying the parachutes to the shock cords.

Prepare the rocket motor according to the motors instruction. Then install the motor into the motor mount. If you are using an disposable F motor in the Mirage, you will have to use the F spacer tube.

Then the parachutes are packed and arranged in the body tube in a arrangement so both chutes will deploy but not get tangled into each other. The nose cone is then attached to the vehicle and is twisted until the launch lugs are aligned.

I have flown the Mirage four times. Twice was with an F40-4W, and the other two were with a disposable F50-4T and an Aerotech/ISP G54-6W reload kit.

Flights with an F40 are very intrusting. Liftoff is slow and the Mirage then picks up speed. The white flame and the smoke are impressive. Apogee was about 750 feet. The F40 was used for the first and last flight of my Mirage. The last flight ended in the booster landing in the tallest tree on the field.

The flight with an F50 was a windy day. The boost was straight up and quite fast. Apogee was about 700 ft. and both sections landed in a corn field. On of the sections was very easy to find. That shorten the search of the other section because the two parts land relatively close to each other.

The G54 was the most powerful engine that was used in the Mirage. The G54 is a very nice motor with a little more power than a full F. The flight was very spectacular. There was a lot of smoke in the sky. Apogee was about 900ft.

The Aerotech Mirage is a very nice kit to get started in advance rocketry. She is a large, good looking kit that is very easy to build and fly. Flights with F motors are great for most flying fields but it can really get up there on a G motor. Out of a scale of one to ten, this model deserves a ten.

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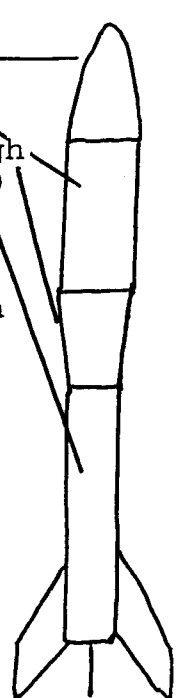
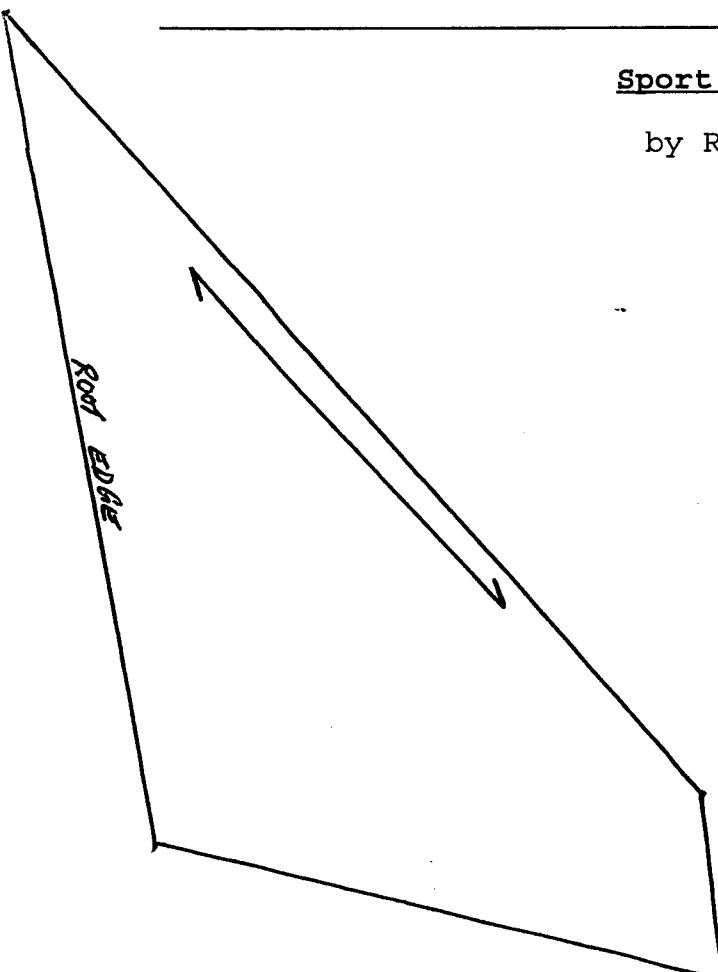
### Sport Plan: XR-76A

by Rick Hackman

#### Parts:

- 1 - PNC060AH
- 1 - 1/8" dia. launch lug
- 1 - 6.75" length of BT-60
- 1 - TA5060, drilled through
- 1 - 10.25" length of BT-50
- 1 - EB-50 engine block
- 1 - 12" or 18" 'chute
- 1 - shock cord
- 3 - fins, 1/8" thick balsa

All parts from Estes



FLIGHT LOG

May 5, 1996

<u>#</u>	<u>FLYER</u>	<u>MODEL</u>	<u>MANUF</u>	<u>MOTOR [S]</u>	<u>RESULT</u>
1	Brett Ryan	Viking	Estes	?	Good Flight
2	Brett Ryan	?	Estes	1/2A6-2	Good Flight
3	Dustin Trimble	Hawkeye	Estes	E A3-4	Good Flight
4	Dustin Trimble	Manta	Estes	E C6-5	Good Flight
5	Dustin Trimble	Hawkeye	Estes	E A3-4	Good Flight
6	Dustin Trimble	Hawkeye	Estes	E A3-4	Good Flight
7	Dustin Trimble	Hawkeye	Estes	E A3-4	Good Flight
8	Zach Trimble	Bandit	Estes	E A8-3	Good Flight
9	Zach Trimble	Bandit	Estes	E B6-2	Good Flight
10	Zach Trimble	Bandit	Estes	E B6-2	Good Flight
11	Zach Trimble	Bandit	Estes	E B6-2	Separation
12	Maggie Trimble	Motor Sport	?	E C6-3	Good Flight
13	Maggie Trimble	Motor Sport	?	E C6-3	Good Flight
14	Maggie Trimble	Cobra	Estes	E C6-3	Unstable
15	Josh White	Bandit	Estes	E C6-5	Good Flight
16	Josh White	Super Shot	Estes	E C6-5	Good Flight
17	Josh White	Bandit	Estes	E A8-3	Good Flight
18	Josh White	Bandit	Estes	E A8-3	Separation
19	Michael Sauder	SR-71	Estes	E B6-4	Good Flight
20	Michael Sauder	Bailout	Estes	E B6-4	Good Flight
21	Michael Sauder	Skywinder	Estes	E B6-4	Good Flight
22	Michael Sauder	Skywinder	Estes	E C6-5	Good Flight
23	Michael Sauder	Skywinder	Estes	E C6-5	Good Flight
24	Laura Schuelkers	Corkscrew	Estes	E B6-4	Good Flight
25	Laura Schuelkers	Dagger	Estes	E C6-5	Good Flight
26	Courtney Sombers	Athena	Estes	E B6-2	Good Flight
27	Courtney Sombers	Athena	Estes	E C6-5	Separation
28	Ben Weaver	Phoenix	Estes	E D12-3	Good Flight
29	Ben Weaver	Corkscrew	Estes	E B6-2	Good Flight
30	Ben Weaver	Big Bertha	Estes	E B6-2	Good Flight
31	Ben Weaver	Broadsword	Estes	E D12-3	Good Flight
32	Ben Weaver	Broadsword	Estes	E D12-3	Good Flight
33	Matt Weaver	Mosquito	Estes	E D12-3	Good Flight
34	Matt Weaver	Broadsword	Estes	E D12-3	Good Flight
35	Matt Weaver	Skywinder	Estes	E B6-2	Separation
36	Matt Weaver	Broadsword	Estes	E D12-3	Good Flight
37	Matt Weaver	Mosquito	Estes	E A10-3	Good Flight
38	Matt Weaver	Mosquito	Estes	E A10-3	Good Flight
39	Matt Weaver	Tornado	Estes	E 1/2A6-2	Good Flight
40	Matt Weaver	Mosquito	Estes	E A10-3	Good Flight
41	Dan Feveryear	Firestreak	Estes	E C6-7	48.4s - GF
42	Dan Feveryear	Firestreak	Estes	E A8-3	Good Flight
43	Dan Feveryear	Firestreak	Estes	E C6-3	Good Flight

44	Alan Shepard	Big Bertha	Estes	E C6-5	Good Flight
45	Alan Shepard	Corkscrew	Estes	E B6-4	Good Flight
46	Alan Shepard	Corkscrew	Estes	E B6-4	Separation
47	Mike Thuresson	Phoenix	Estes	E D12-3	Good Flight
48	Mike Thuresson	Space Shuttle	Estes	E C6-7	Unknown
49	Mike Thuresson	Phoenix	Estes	E D12-3	Good Flight
50	Beth Schuelkener	Omloid	Estes	E C6-3	Good Flight
51	Beth Schuelkener	Firestreak	Estes	E B6-4	Good Flight
52	Jesse Stauffer	Phantom 4000	NCR	AT G80-7T	Good Flight
53	Jesse Stauffer	V-2	MTSH	E D12-7	Good Flight
54	Bill Coover	?	Estes	E C6-5	Good Flight
55	Bill Coover	?	Estes	E C6-5	Good Flight
56	Bill Coover	Pegasus	Estes	E C5-3	Unknown
57	Bill Coover	Phoenix	Estes	E D12-5	Good Flight
58	Frank Sombers	SR-71	Estes	E C6-5	Good Flight
59	Frank Sombers	V-2	MTSH	E D12-5	Good Flight
60	Frank Sombers	V-2	MTSH	E D12-5	Good Flight
61	Bill Rhoat	Astrocarn	Estes	E C6-7	Corn Field Shot
62	Bill Rhoat	V-2	MTSH	E D12-5	Good Flight
63	Bill Rhoat	Wasp	THOY	AT F24-7RMS	Good Flight
64	Bill Rhoat	Der V-3	Estes	AT D15-4RMS	Good Flight
65	Mark Kamide	Broadsword	Estes	AT E15-4WL	Good Flight
66	Mark Kamide	Omloid	Estes	E C6-3	Unknown
67	Mark Kamide	Viking 10	MTSH	AT F50-4T	Unknown
68	Mark Kamide	Mongoose	Estes	E B6-0/C6-5	Unknown
69	Glenn Feveryear	A Alt	Scratch	E A3-4	Good Flight
70	Glenn Feveryear	Icarus	Quest	E C6-5	Good Flight
71	Brian Royer	Sky Ripper	Scratch	AT E23-5RMS	Unknown
72	Brian Royer	BAR-1	Scratch	AT G64-4RMS	Good Flight
73	Brian Royer	Bailout	Estes	E C6-5	Good Flight
74	Brian Royer	Sky Ripper	Scratch	AT F22-5RMS	Good Flight
75	Brian Royer	Sky Ripper	Scratch	AT G40-10WL	Good Flight
76	Brian Royer	Mosquito	Estes	E A10-3	Unknown
77	George Fetter	IRIS	MTSH	AT E15-4WL	Good Flight
78	George Fetter	LOC IV	LOC	AT F25-4WL	Good Flight
79	George Fetter	Bell X-1	Scratch	E D12-3	Hmm.....
80	George Fetter	V-2 4.0	MTSH	AT G64-4RMS	Good Flight
81	George Fetter	Sandia Sandhawk	MTSH	AT G40-4WL	Prang
82	Guy Destafano	Eider	Scratch	AT F50-4T	Good Flight
83	Guy Destafano	Osprey	Scratch	AT E30-4T	CATO
84	Guy Destafano	Spirogyra	Scratch	AT F50-6T	Good Flight
85	Guy Destafano	V-2 4.0	MTSH	AT G40-4WL	Good Flight
86	Guy Destafano	Legacy	LOC	AT F50-9T	Good Flight
87	Rick Snader	Arreaux	Aerotech	AT E15-7WL	Good Flight
88	Rick Snader	Warthog	Aerotech	AT F25-6WL	Good Flight
89	Rick Snader	Astrobee-D	Aerotech	AT G64-7RMS	Unknown
90	Rick Snader	Mustang	Aerotech	AT F40-7RMS	Good Flight
91	Rick Snader	Astrobee-D	Aerotech	AT G40-7WL	CATO
92	Robin Shepard	V-2 2.6	MTSH	AT E11-3JRMS	Unknown
93	Robin Shepard	Firestreak	Estes	E C6-5	Unknown
94	John Balmer	Rats Nest	Scratch	E A10-3[8]&D12-7[1]	Good Flight

95	John Balmer	Astrocam	Estes	E C6-5	Good Flight
96	John Balmer	Astrocam	Estes	E C6-5	Good Flight
97	John Balmer	Astrocam	Estes	E C6-5	Good Flight

### B Eggloft Duration Flights

98	Flirtin' With Disaster Team		E B6-2	20.6s
99	Flirtin' With Disaster Team		E B8-5	18.5s/egg
100	Beth Schuelkers		Unknown	22.1s
101	Glenn Feveryear		E B6-4	NF
102	Glenn Feveryear		E B6-4	12.8s
103	Glenn Feveryear		E B6-4	10.3s

### Launch Statistics

Number of Flyers: 27

Models Flown:

40	Estes
8	Mountainside Hobbies [MTSH]
2	LOC/Precision
1	North Coast [NCR]
1	Quest
1	THOY
4	Aerotech
8	Scratchbuilt

Motor Usage:

86	Estes
14	Aerotech Single Use
8	Aerotech RMS
2	Unknown

### SPAAR SPORT LAUNCH - MAY 5, 1996

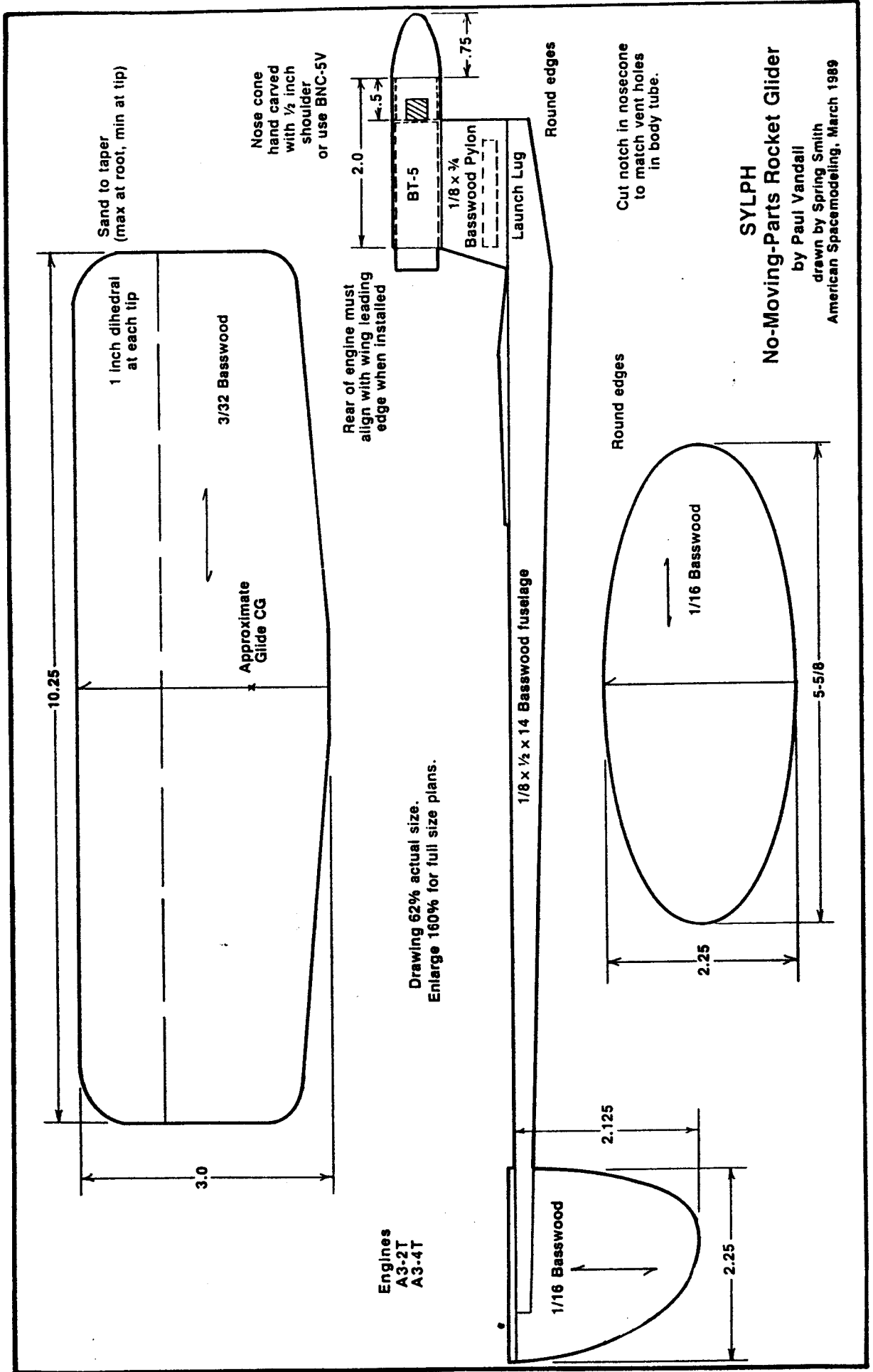
This was the best attended sport launch this year, with 27 different flyers launching rockets. Many new members were there, which is always good to see. However, it appears that an unusually high number of Aerotech single use motors had delay problems. While Aerotech delay trains have been known to be either shorter or longer than advertised in the past, we're told that many of the fourteen single use motors flown displayed these problems. Mark Kamide, for example, had severe damage done to his Viking 10 prototype when the ejection charge blew after about 2 seconds instead of the intended four. George Fetter's Sandia Sandhawk, another prototype, pranged when the 4 second delay in the G40 turned out to be much longer. According to the flight cards, one of the most impressive flights was John Balmer's "Rat's Nest". It sported eight A10s and one D12 being air-started. I imagine the name comes from the tangle of ignitor wires created by nine motors. Shades of Ed Miller!



# THE SYLPH

## A No-Moving-Parts design for Rocket Glide

by Paul D. Vandall, NAR 21208



**SYLPH**  
 No-Moving-Parts Rocket Glider  
 by Paul Vandall  
 drawn by Spring Smith  
 American Spacemodeling, March 1989

CLUB NEWS NOTES

**NEW MEMBERS:** Welcome to all of our new members: Richard, Beth, and Laura Schuelkens, Lititz; Frank and Courtney Sombers, Rick Snader, and Bill Coover, Ephrata; and Gaetano Destefano, Pottstown. Hope to see you at a meeting soon.

**LAUNCH SYSTEM UPGRADE:** The minutes of the May meeting will be posted in the next issue, but one of the topics discussed was the need to upgrade the club launch system. With more members flying larger, heavier rockets that fly on F and G motors, the equipment that we use just won't cut it. The system was designed and built in 1988, when clustered D motors were "high power".

As time passed, anyone who wanted to fly larger models made use of Ed Miller's heavy-duty pad and relay launch system. [By the way, thanks, Ed!] But with Ed's work schedule [which does not allow him to make all of the launches] and the increase in larger, heavier models, makes it necessary for the club to take some action.

The best idea appears to be to make use of two heavy-duty pads with some sort of relay. Whether this set-up is built by the club members or purchased commercially has yet to be decided. What do you think? Anyone with a suggestion or an idea should call ye old editor

at [717] 733-4170. Thanks!

**RAMTEC - 4:** SPAAR's Regional Meet will be held over the weekend of June 15/16 at Allentown College in Center Valley. The competition events are C Helicopter Duration, B Streamer Duration, D Dual Eggloft Altitude, and Sport Scale. Sport flying is welcome, and lodging can be had on campus. Contact Glenn Feveryear, [717] 456-5570.

**COMPETITION PLAN:** The Sylph, on the previous page, is a "No-Moving Parts" rocket glider. What is a sylph? A fairy of some sort. Well, anyway, if you have never built or flown a rocket glider, try this one. The difference between a rocket glider and a boost/glider is this: an RG keeps it's motor with it after it transitions from boost to glide. A B/G is recovered [theoretically] in two pieces. The motor is in a pod that is recovered by streamer or parachute, which separates from the glider portion of the model. At the sport launch on June 30, we will be flying the NAR event A Rocket Glider. This means that an "A" motor is used to power the RG. The event consists of two successful flights, which are timed from lift-off to landing. The times are added together, the highest one wins. Build a Sylph [or a fairy] and give it a try!

THE SOUTHERN PENNSYLVANIA AREA ASSOCIATION OF ROCKETRY

Membership Application

Name \_\_\_\_\_ Address \_\_\_\_\_

Phone \_\_\_\_\_ Age \_\_\_\_\_ Date of Birth \_\_\_\_\_

NAR # \_\_\_\_\_ Tripoli # \_\_\_\_\_

I have been flying rockets for \_\_\_\_\_ years. I have not yet flown a model rocket \_\_\_\_\_.

DUES: 18 years of age or older: \$10 per year.

15,16,17 years of age: \$7 per year.

14 and under: \$5 per year

Family Plan: Oldest member joins at full price, all other family members 1/2 price; one issue of the Countdown per family.

Return this form to: SPAAR, PO Box 127, Reamstown, PA 17567.

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THE NATIONAL ASSOCIATION  
OF ROCKETRY

TRIPOLI ROCKETRY ASSOCIATION  
[HIGH POWER ROCKETRY]

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NAR, write:

For more information on the  
TRA, write:

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PO Box 177  
Altoona, WI 54720  
1-800-262-4872

Tripoli Rocketry Assn.  
PO Box 339  
Kenner, LA 70063-0339

