

COUNTDOWN

Official Newsletter of SPAAR
THE SOUTHERN PENNSYLVANIA AREA ASSOCIATION OF ROCKETRY



• *August, September & October Sport Launches*

COUNTDOWN

Volume 11, Issue 5
September/October 1998

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Vice President
John Yost

Secretary-Treasurer
George Beever

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Randy Brust

COUNTDOWN is the newsletter of SPAAR, the Southern Pennsylvania Area Association of Rocketry, NAR Section #503. **COUNTDOWN** is published 6 times a year for the benefit of SPAAR club members. Any information contained in **COUNTDOWN** may be used as long as proper credit is given. Please address all correspondence to:

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and the Countdown website at:
<http://members.aol.com/rebrustee/index.html>



The Editor's Corner

This month, thanks go out to George Beever and Mark Kamide for contributing to this issue of the Countdown. *Thanks guys!*

I would also like to announce that I have notified club president Mark Kamide that the next issue of the Countdown (Nov/

Dec) will be my last one as the editor. At this point in time, Mark himself has volunteered to take over the job. I would like to ask all SPAAR members to try to help out Mark with this responsibility. It's a lot of work for one person and I'm sure he would appreciate any contributions.

Randy

The President's Corner

As time goes on we all take on additional responsibilities and new projects. Sometimes it can be as simple as building that next rocket kit by a certain date to fly it in a contest. Other times it's helping to set up and tear down club equipment at our launches.

Each time a new task is taken on, it is accomplished by taking small steps, which add up to *the one giant leap* accomplishing the goal. Each time you help with a club function the whole club benefits from it.

With the end of the year fast approaching, the time for contributing to the club on a larger scale would be to volunteer to hold

a club officer position. It can be challenging by testing your skills and rewarding. If you are asked to take on this challenge at the November 20th business meeting, please just say "Yes". The club needs new ideas being thrown out into the ring to move forward. We have a strong club with a wide variety of interests and our launch schedule for next year proves this out.

So when your time comes to support the club just say "Yes" and volunteer. Besides, to date, no club officer has been run out town or thrown out of office and it is a safe bet this will not happen to you. See you at the August meeting.

Mark

Section News Notes

New Aerotech Motor Certifications: Well we finally got our club members straightened out regarding uncertified Aerotech motors, so what does Aerotech do? They get them certified! Oh well, hats off to Aerotech for finally getting the job done. According to Jim Cook, Secretary for NAR

Standards & Testing, the following Aero-tech motors have been certified as of September 1, 1998 for general use as model rocket motors. They are certified for contest use effective October 31, 1998:

24mm Reloads:
D9-4,7
F12-5

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On the Cover

Glenn Feveryear's 1/10 scale Astrobee 1500 at NARAM-40. Glenn's model won 1st place in C Division Sport Scale scoring 905 points out of a possible 1100. The inset shows the Astrobee with the two B2 motors running just moments before the main G40 ignites. (*Vincent, Feveryear*)

29mm Reloads:
E23-5,8
F22-7
F52-6,8,11

Please note that the following Aerotech motors are *still not certified* and may *not* be used at SPAAR launches.

18mm Reloads:
B6-2T, B6-4T, B6-6T
C4-3W, C4-5W
C6-5W

24mm Reloads:
E11-5J
F24-10W

29mm Reloads:
E23-11T

New Estes Motor Certified: Jim Cook,

Secretary for NAR Standards & Testing has announced that the Estes Industries 1/4A3-3T has been certified for general use as a rocket motor as of October 1st, 1998. It is certified for contest use as of November 30th, 1998. The motor is 13mm x 45mm, has an impulse of 0.625Ns., and has a propellant mass of 0.83gm.

Estes to Re-release Saturn V: Estes Industries has announced that they will re-release their famous Saturn V in commemoration of the 30th anniversary of the Apollo 11 moon landing. The model will be 43.25" tall, 3.9" in diameter, and weigh 10.2oz. The recommended motor will be a D12-3, which should fly the Saturn to 300ft (can you say 24mm composite motor?). It is rumored that the kit is a hybrid of the old Estes and Centuri Saturns of years past. The retail price of the Saturn V should be \$69.95 and is supposed to be released in

December. This will most likely be a limited production run, so if you've always wanted the big Saturn V, you better get one while you can.

Upcoming Events:

Friday, November 20th, 1998 - SPAAR Monthly Meeting, 7PM to 9PM, APRIA Community Room, Lancaster, PA.

Friday, November 27th, 1998 - SPAAR Sport Launch, 9AM to 1PM, Hoover Farm, New Holland, PA.

Sunday, December 13th, 1998 - SPAAR Sport Launch (Best Old Time Rocket), 1PM to 5PM, Hoover Farm, New Holland, PA.

Friday, December 18th, 1998 - SPAAR Monthly Meeting, 7PM to 9PM, APRIA Community Room, Lancaster, PA.

**Section Meeting Minutes
by George Beever**

August 21st, 1998

Meeting called to order at 7:10PM.

Present: No report.

The first order of business was to announce Randy Brust's resignation as newsletter editor effective the end of the year. Everyone present knows how hard it is to make a newsletter and Randy's efforts have given the newsletter a whole new look and feel over the last two years. On behalf of all the club members, thank you for your hard work.

We also discussed the SPAARSPAM Launch on November 1st. Everyone present was asked to bring a covered dish to share. The club will provide sodas. The launch starts at 1PM and runs till 5PM. The eating starts and ends at the same time.

We took additional orders for the winter build project slated for January, February, and March of next year. This winter build has us building a variety of scale rocket kits.

A vote was taken to purchase a high power launch pad and low power launch stakes.

We also discussed taking the winter

club trip. From the suggestion, Goddard won hands down for the place to visit. Rita Feveryear will plan the details of the trip and report on them at the next club meeting.

The field search committee was not represented so no report was given.

Kill the keystone submissions are still coming in and we will have quite a good selection to choose from. Keep them coming.

The treasure was not present, so no report was given.

The meeting ended as usual with discussions on rocketry.

Committee Reports:

Treasurer: No report.

Section Advisor: No report.

HPR: No report.

Competition: No report.

Old Business: No report.

New Business: No report.

The adjournment time is unknown.

September 18th, 1998

Meeting called to order at 7:15PM.

Present: G. Beever, D. Feveryear, G. Feveryear, Rita Feveryear, R. Hackman, M. Kamide, D. O'Neal, T. Rossi, J. Yost.

The President thanked all those who helped clean up after the last launch. The next launch will be October 18th, from 1PM to 5PM, at Cocalico.

It was again announced that Randy Brust will step down as newsletter editor at the end of the year. Future plans for the newsletter will be discussed at the October meeting.

SPAARSPAM will be November 1st from 1PM to 5PM at Cocalico. Bring a covered dish to share.

As decided at the August meeting, the Winter Workshop program for 1999 will center around Aerospace Specialty Products kits. Orders were taken.

Mark asked for a volunteer to replace the micro-clips on the launch system. Dave O'Neal volunteered.

The purchase of a second high-power pad was discussed.

The club trip to Goddard Space Flight Center in February 1999 was discussed.

The President asked for a volunteer to arrange the January Family Dinner. George Beever did so.

The latest submissions to the "Kill The Keystone" program were passed around.

Fran Murphy was thanked for making up the new flight card pads.

Committee Reports:**Treasurer:** No report.**Section Advisor:** Glenn Feveryear reminded everyone that the NAR Section Insurance will be due at the beginning of 1999. If you are planning to obtain personal NAR insurance, please do so as soon after the first of the year as you can.**HPR:** No report.**Competition:** No report.**Old Business:** No report.**New Business:** Glenn Feveryear offered to sell to the club some leftover trophies. Those present decided against the purchase.

The adjournment time is unknown.

October 16th, 1998

Meeting called to order at 7:25PM.

Present: G. Beever, G. Feveryear, D. Greene, M. Kamide, D. O'Neal, T. Rossi, J. Yost.

The President reported that the next launch will be October 18th, from 1PM to 5PM, at Cocalico.

Dave O'Neal was thanked for soldering new clips on the launch system.

New stakes to hold the launchers have been purchased. George Beever will get the holes drilled.

Rita Feveryear is planning the trip to Goddard SFC. Tentative date is February 21st.Tentative date for the Family Dinner is January 23rd. The "Kill The Keystone" winner will be announced then.

The President reminded everyone that nominations for the club officers for 1999 will be taken at next month's meeting. Those offices are President, Vice-President, Secretary/Treasurer, Member-at-Large, and Section Advisor.

Committee Reports:**Treasurer:** George Beever reported a current checking account balance of \$835.55.**Section Advisor:** No report.**Field Search:** George Beever reported that the Field Search Committee of Randy Brust, Tony Rossi, Matt Zimmerman, John Yost, Mark Kamide and himself had met on October 4th. After reviewing the list of desirable points to look for in a new field, Matt offered that he had located a farm field near his residence that would be available

for our use.

The committee went to look at the field, and determined it to be about 1200 feet by approximately 1500 feet. It is a cornfield that the farmer, Mr. Hoover, will not be using for crops this winter.

The committee recommended that the club fly the November 27th Sport Launch (the day after Thanksgiving) at this field, from 9AM to 1PM. The field appears to be able to support up to G motors, which will be our voluntary limit.

It was also recommended to keep the Field Search Committee intact, and continue attempts to secure an even larger field.

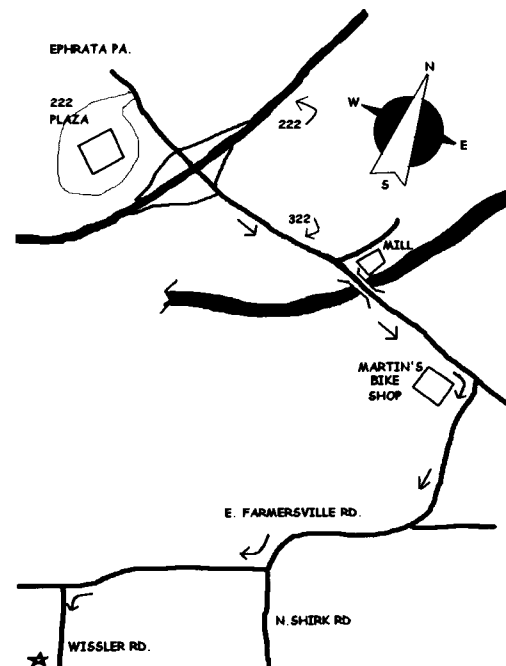
A motion made by Dale Greene, seconded by Glenn to accept the committee's recommendations. Motion passed.

HPR: No report.**Competition:** No report.**Old Business:** No report.**New Business:** Those present developed the club's 1999 schedule. An NAR sanctioned Local Meet is planned for November 1999, with the events to be B Helicopter Duration and A Boost/Glide. The ASP kits were distributed.The adjournment time is unknown. *CD*

Important Notice to all SPAAR Members

The November 27th (day after Thanksgiving) launch has been moved from Cocalico High School to Hoover Farm, in Hew Holland, PA. Hoover Farm, located about 6-1/2 miles from Cocalico High School, is a new field that SPAAR may have access to during the late Fall, Winter, and early Spring months. This is a trial launch at the new location, and we will be limited to motors of G (160Ns) impulse or less. If all goes well, small H impulse motors may be allowed in the future.

To get to Hoover Farm, take Route 222 to Route 322 east for approximately 1.9 miles to Farmersville Road. Turn right on Farmersville Road and go about 1.2 miles to Wissler Road. Turn left on Wissler Road and Hoover Farm will be on the right. If the ground is firm, please park on the edge of the field. If the ground is soft, park off to the side of the road.



SPAAR Sport Launch

August 30th, 1998

by George Beever

The August 30th sport launch was supposed to be a 9 to 5 affair, but with the iffy weather and relatively small turnout, things wrapped up early. Because of the breeze, most flights were C or smaller powered Estes-type models. The Dinger family lived up to that old saying, "The family that flies

together stays together", by making 14 flights between them. The Feveryears and the Beevers were second with 9 each.

One particular flight deserves mention. John (I've gotta use up these motors!) Yost put an Aerotech D21 in an old Estes Calypso, about the size of an Alpha. Even with the breeze, he got it back. **CD**

#	Flyer	Model	Motors	Result	#	Flyer	Model	Motors	Result
1	George Beever	Estes Black Brant II	Estes C6-5	Good Flight	33	Daniel Feveryear	Scratch Young One 2	Estes A8-3	Good Flight
2	George Beever	Scratch Maxi Alpha	Estes D12-5	Good Flight	34	Daniel Feveryear	Scratch Young One 2	Estes A8-3	Good Flight
3	George Beever	Scratch Saturn V	Estes D12-5	Good Flight	35	Glenn Feveryear	Scratch 1/4A Helicopter	Apogee 1/4A2-2	No Deploy
4	George Beever	Estes Titan III E	Estes D12-5	Good Flight	36	Glenn Feveryear	Scratch 1/4A PD	Apogee 1/4A2-2	Good Flight
5	George Beever	MSH V-2	Estes D12-5	Good Flight	37	Glenn Feveryear	Scratch 1/4A PD	Apogee 1/4A2-2	No Deploy
6	Mark Beever	Estes Athena	Estes C6-5	Good Flight	38	Glenn Feveryear	Aerotech Arreaux	Aerotech E15-4W	Good Flight
7	Mark Beever	Quest Cyclone	Estes C6-5	Good Flight	39	Glenn Feveryear	Estes Big Bertha	Estes B6-4	Good Flight
8	Mark Beever	Quest Enterprise E	Estes C6-3	Good Flight	40	Glenn Feveryear	Scratch C Streamer Dur.	Apogee C4-5	Good Flight
9	Mark Beever	Estes X-Wing	Estes C6-3	Separation	41	Steve Hutchinson	Estes Cobra	Estes A10-0T/A3-4T	Good Flight
10	LeRoy Bonawitz	Estes Cheshire Comet	Estes D12-5	Good Flight	42	Steve Hutchinson	Estes F-22	Estes C6-5	Good Flight
11	LeRoy Bonawitz	LOC/Precision Onyx	Aerotech F14-6J	Good Flight	43	Dave O'Neal	Estes Alpha	Estes A8-3	Good Flight
12	LeRoy Bonawitz	Estes Prime # Explorer	Estes A10-3T	Good Flight	44	Dave O'Neal	Quest UFO	Estes C6-0	Good Flight
13	LeRoy Bonawitz	Estes Prime # Explorer	Estes A10-3T	Good Flight	45	Dave O'Neal	Quest UFO	Estes C6-0	Good Flight
14	LeRoy Bonawitz	Estes Prime # Explorer	Estes A10-3T	Good Flight	46	Tony Rossi	Estes Big Bertha	Estes C6-5	Good Flight
15	LeRoy Bonawitz	Thoy Snipe	Estes D12-3(3)	No Chute	47	Tony Rossi	Estes Broadsword	Aerotech RMS E18-4W	Separation
16	LeRoy Bonawitz	Thoy Sparrowhawk	Aerotech F14-6J	Good Flight	48	Tony Rossi	Estes Commanche-3	Estes C6-0/B6-6	Good Flight
17	LeRoy Bonawitz	MSH V-2	Estes D12-3	Good Flight	49	Tony Rossi	MSH Mercury Redstone	NCR F62-4	No Chute
18	Doug Dinger	Estes Star Destroyer	Estes D12-5	Good Flight	50	Tony Rossi	MSH Mercury Redstone	NCR F62-4	Good Flight
19	Doug Dinger	Estes Tie Fighter	Estes C6-3	Good Flight	51	Tony Rossi	Scratch No Name	Aerotech RMS E11-3J	Separation
20	Doug Dinger	Estes B6-2	Estes B6-2	Separation	52	Tony Rossi	Scratch No Name	Estes D12-3	Good Flight
21	Doug Dinger	Estes X-Wing	Estes C6-3	Good Flight	53	Tony Rossi	QCR Rotaroc	Estes B6-4	Good Flight
22	Doug Dinger	Estes X-Wing	Estes C6-5	Separation	54	Tony Rossi	Estes Sidewinder	Estes C6-5	Good Flight
23	Jenny Dinger	Estes Fat Boy	Estes C6-5	Good Flight	55	Brian Royer	Estes Big Bertha	Estes C6-5	Good Flight
24	Melanie Dinger	Estes Bandit	Estes C6-5	Good Flight	56	Brian Royer	A.A.A. Lasersonic	Aerotech RMS F40-4W	Good Flight
25	Tim Dinger	Estes ARV Condor	Estes B6-2	Good Flight	57	Brian Royer	Estes Mosquito	Estes 1/2A3-4T	Good Flight
26	Tim Dinger	QCR Rotaroc	Estes B6-2	Good Flight	58	Brian Royer	Estes Ninja	Estes 1/2A3-4T	Good Flight
27	Tim Dinger	QCR Rotaroc	Estes B6-2	Good Flight	59	John Yost	Estes Big Bertha	Aerotech D21-7T	Good Flight
28	Tim Dinger	NCR Tempest	NCR F62-6	Good Flight	60	John Yost	Estes Big Bertha	Estes B6-6	Good Flight
29	Tim Dinger	NCR Tempest	NCR F62-6	Good Flight	61	John Yost	Estes Calypso	Aerotech D21-7T	Good Flight
30	Tim Dinger	Quest Tomahawk	Estes C6-5	Good Flight	62	Matt Zimmerman	Scratch CDR	Estes C6-5	Good Flight
31	Tim Dinger	Quest Tomahawk	Estes C6-5	Good Flight	63	Matt Zimmerman	Estes Silver Comet	Estes D12-5	Good Flight
32	Daniel Feveryear	Launch Pad ASRAAM	Estes D12-5(2)	Good Flight	64	Matt Zimmerman	Estes Star Destroyer	Estes D12-5	Good Flight

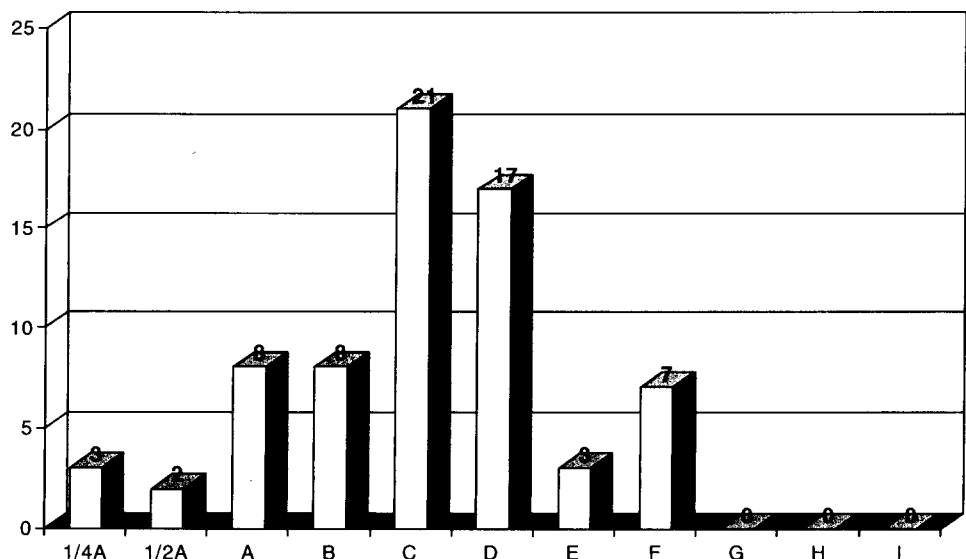
Launch Statistics - August 30th, 1998

Number of Flyers: 15 Weather: ??

Models Flown:

Estes	27
Scratchbuilt	8
Quest	4
MSH	3
Thoy	2
QCR	2
A.A.A.	1
Aerotech	1
Launch Pad	1
LOC/Precision	1
NCR	1

Impulse Distribution:



Motor Usage:

Estes	53
Aerotech	5
Apogee	4
NCR	4
Aerotech RMS	3

SPAAR Sport Launch

September 13th, 1998

#	Flyer	Model	Motors	Result	#	Flyer	Model	Motors	Result
1	Ivan Barnsley	Estes Arcas	Estes A8-3	Good Flight	47	Eric Miller	Estes ARV Condor	Estes B6-4	Good Flight
2	Ivan Barnsley	Estes Arcas	Estes B6-4	Good Flight	48	Eric Miller	Estes Big Bertha	Estes C6-3	Good Flight
3	Ivan Barnsley	? Delta	Estes B6-0/B6-6	Good Flight	49	Eric Miller	Estes Big Bertha	Estes B6-4	Good Flight
4	Ivan Barnsley	Scratch Hummer	Estes C6-5	Good Flight	50	Eric Miller	Estes Big Bertha	Estes C6-5	Good Flight
5	Ivan Barnsley	Scratch Hummer	Estes C6-3	Good Flight	51	Eric Miller	Estes Prowler	Estes D12-7	Good Flight
6	Ivan Barnsley	Scr. Leftovers 'N Ideas	Estes B6-4(2)/D12-5	Good Flight	52	Eric Miller	Estes Sidewinder	Estes D12-7	Good Flight
7	Ivan Barnsley	Scratch Lil' Dragon	Estes A3-4T	Cato	53	Eric Miller	Estes Sidewinder	Estes D12-7	Good Flight
8	Ivan Barnsley	Scr. Momma & the Brats	Estes A8/A10(2)/A10(2)	Good Flight	54	Eric Miller	Estes Tornado	Estes A8-3	Good Flight
9	Ivan Barnsley	Scr. Momma & the Brats	Estes A8/A10(2)/1/2A3(2)	Good Flight	55	Eric Miller	Estes Tornado	Estes A8-3	Good Flight
10	Ivan Barnsley	Estes Ranger	Estes D12-0/C6-7	Good Flight	56	Eric Miller	Estes Viking	Estes A8-3	Engine Eject
11	Ivan Barnsley	RDC Samson	Estes B6-4(3)	Good Flight	57	Jim Moyer	Scratch Bullpup	Estes C6-3	Good Flight
12	Ivan Barnsley	Scratch Shrimp	Estes 1/2A3-2T	Good Flight	58	Francis Murphy	Estes ARV Condor	Estes C6-3	Good Flight
13	Ivan Barnsley	Scratch Upscale Gyroc	Estes A8-3	Good Flight	59	Francis Murphy	Estes Astrocam RTF	Estes C6-5	Good Flight
14	Ivan Barnsley	Scratch Upscale Gyroc	Estes B6-4	Good Flight	60	Megan Murphy	Estes X-ray	Estes A10-3T	Good Flight
15	Ivan Barnsley	Scratch Whistler	Aerotech RMS F40-4W	Good Flight	61	Megan Murphy	Estes X-ray	Estes A10-3T	Good Flight
16	Jeanie Barnsley	Scratch Brat	Estes A3-4T	Good Flight	62	Tony Rossi	Estes Death Star	Estes C5-3	Good Flight
17	Jeanie Barnsley	Scratch Hat Trick	Estes C6-5(2)/D12-5	Good Flight	63	Tony Rossi	Scratch No Name	Aerotech RMS F24-4W	Good Flight
18	Jeanie Barnsley	Scratch Hat Trick	Estes C6-5(2)/D12-7	Good Flight	64	Tony Rossi	Estes Python	Estes D12-5	Good Flight
19	Jeanie Barnsley	Estes Midgit	Estes A10-0T/1/2A3-4T	Good Flight	65	Tony Rossi	Estes Sidewinder	Estes C6-5	Good Flight
20	Jeanie Barnsley	Estes Star Blazer	Estes 1/2A3-2T	Good Flight	66	Tony Rossi	Estes Tie Fighter	Estes C6-5	Good Flight
21	Jeanie Barnsley	Scratch Stilt Fin	Estes A8-3	Crash & Burn	67	Tony Rossi	Estes X-wing Fighter	Estes C6-3	Unstable
22	Jeanie Barnsley	Estes Streak	Estes 1/2A3-2T	Good Flight	68	Tony Rossi	Estes X-wing Fighter	Estes C6-5	Good Flight
23	Jeanie Barnsley	Scratch Super Stilt Fin	Estes D12-3	Good Flight	69	Chris Taylor	Estes ARV Condor	Estes B6-4	Good Flight
24	Jeanie Barnsley	Estes Venus Probe	Estes C6-5	Good Flight	70	Chris Taylor	Estes ARV Condor	Estes B6-4	Good Flight
25	Jeanie Barnsley	Estes Yankee Clipper	Estes A8-3	Good Flight	71	Chris Taylor	Estes Big Dawg	Estes A8-3	Good Flight
26	LeRoy Bonawitz	Thoy Snipe	Estes D12-3(3)	Good Flight	72	Chris Taylor	Estes Big Dawg	Estes C6-7	Good Flight
27	LeRoy Bonawitz	MSH V-2	Estes D12-3	Good Flight	73	Chris Taylor	Quest Enterprise E	Estes C6-3	Prang
28	James Darnell	Estes Amraam	Aerotech RMS E28-7T	Good Flight	74	Chris Taylor	Scratch Heliroc	Estes 1/2A6-2	Good Flight
29	James Darnell	Estes Blackbird	Estes D12-5	Unstable	75	Chris Taylor	Scratch MPGB FSW	Estes C6-3	Good Flight
30	James Darnell	Estes Long Shot	Aerotech RMS F40-7W	Good Flight	76	Chris Taylor	Scr. MPGB Turbo 2000	Estes C5-3	Good Flight
31	James Darnell	Estes Tomcat	Estes C6-3	Unstable	77	Chris Taylor	Scratch Nerf 18mm	Estes A8-3	Good Flight
32	James Darnell	Aerotech Tree Lover	Aerotech RMS F40-7W	No Ejection	78	Chris Taylor	Scratch Nerf Arrow	Estes A8-3	Good Flight
33	Mike Dinger	Estes Fat Boy	Estes B6-4	Good Flight	79	Chris Taylor	Estes SR-X	Estes C6-3	Unstable
34	Daniel Feveryear	Scratch Bye Bye Birdie	Estes 1/2A3-4T	Good Flight	80	Chris Taylor	Estes SR-X	Estes C5-3	Good Flight
35	Daniel Feveryear	Scratch Bye Bye Birdie	Estes 1/2A3-2T	Good Flight	81	Chris Taylor	Scratch UFO X2	Estes C6-0/A10-0T	Good Flight
36	Daniel Feveryear	Scratch Bye Bye Birdie	Estes 1/2A3-4T	Good Flight	82	Chris Taylor	Scratch UFO X2	Estes C6-0/A10-0T	No Stage
37	Daniel Feveryear	Scratch Young One 2	Estes A8-3	Good Flight	83	Amy Weiss	Estes X-ray	Estes A10-3T	Good Flight
38	Glenn Feveryear	Scr. 1/2A Streamer Dur.	Apogee 1/2A2-6	Good Flight	84	Shannon Weiss	Estes Scorpion	Estes B4-4	Good Flight
39	Rick Hackman	Scratch Asroc	Estes D12-3	Unstable	85	Shannon Weiss	Estes X-wing Fighter	Estes C6-3	Good Flight
40	Rick Hackman	Scratch Polaris	Estes A10-3T(4)	Unstable	86	Matt Zimmerman	Scratch CDR	Estes C6-5	Good Flight
41	Aaron Hutchinson	Estes Fat Boy	Estes B6-4	Good Flight	87	Matt Zimmerman	Scratch CDR	Estes A8-3	Good Flight
42	Bryce Hutchinson	Estes Cobra	Estes A10-0T/A3-4T	Good Flight	88	Matt Zimmerman	Estes Mongoose	Estes A8-3	Good Flight
43	Bryce Hutchinson	Estes F-22	Estes C6-5	Good Flight	89	Matt Zimmerman	Estes Silver Comet	Estes D12-5	Good Flight
44	Mark Kamide	Scratch Black Brant II	Estes B6-4	Good Flight	90	Matt Zimmerman	Estes Silver Comet	Estes D12-5	Good Flight
45	Mark Kamide	Scratch Hermes	NCR F62-4	Good Flight	91	Matt Zimmerman	Estes Silver Comet	Estes D12-7	Good Flight
46	Mark Kamide	Estes Mini Patriot	Estes A10-3T	Good Flight	92	Matt Zimmerman	Impulse Six Pack	Estes D12-5	Prang

Launch Statistics - September 13th, 1998

Number of Flyers: 19 Weather: ??

Models Flown:

Estes	38
Scratchbuilt	27
Aerotech	1
Impulse Rocketry	1
MSH	1
Quest	1
RDC	1
Thoy	1

Motor Usage:

Estes	112
Aerotech RMS	5
Apogee	1
NCR	1

Impulse Distribution:

