



SPAAR

MAY/JUNE 2002  
VOLUME 14 ISSUE 3

# COUNTDOWN

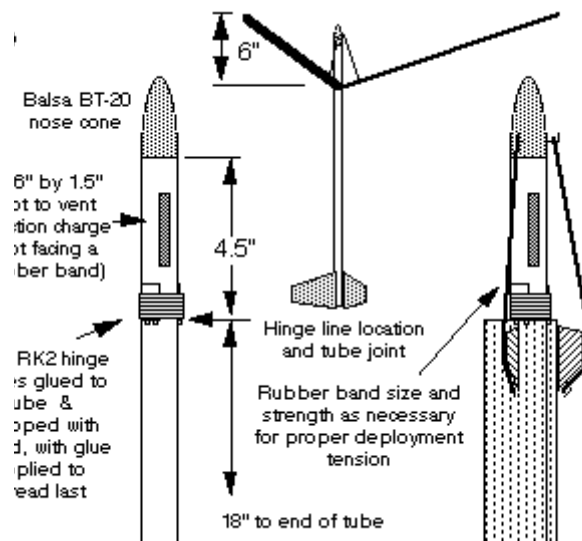
*WHAT DO THESE GUYS HAVE IN COMMON?*

CHECK INSIDE TO FIND OUT!



**SPORT LAUNCH COVERAGE**  
Page 7 & 8

**COMPETITION PLAN: B ROTAROC—1989**  
By George Gassaw, Page 4 & 5



**COUNTDOWN**

Volume 14, Issue 1  
January/February  
2002

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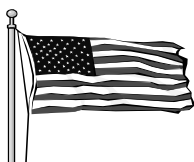
*Countdown* is the newsletter of SPAAR, the Southern Pennsylvania Area Association of Rocketry, NAR Section #503, and is published six times per year as a benefit of membership. Content may be used with proper credit. Thanks this time to:

Mark Kamide  
Aldo Comacci  
George Gassaway

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Visit the SPAAR Website:

[www.spaar.org](http://www.spaar.org)

**"LET'S ROLL"****FROM THE PREZ.....****MESSAGE FROM THE PREZ**

May, 2002

**Rocketry in our schools**

As reported earlier this year SPAAR will be an official launch host for Team America Rocketry Challenge. The NAR is still in need of individuals to serve as mentors for this project. If you would like to help contact Trip Barber through the NAR website. If you would like to see your local school sponsor a team make your school officials aware of the program at [www.nar.org](http://www.nar.org)

Another program available for the schools is The Science Olympiad. This program has many projects for different grade levels. One of the projects at the middle school level is water rockets - not the type of rockets we fly but a great program none the less. Information on the Science Olympiad is available at <http://macsoly.tripod.com/>

Most schools are planning next year's curriculum now so this is the time to call your science dept. to push for these programs.

**New launch site**

Yes, I know we say this every year but we need to find a new site for our club to fly. As we fly bigger and bigger rockets our space at Cocalico gets smaller and smaller due to construction and more Sunday sports

leagues. And we will be losing the Allentown site in years to come. So the future of RAMTEC and sport launches depends on finding a bigger and better site. Club officials are looking at sites in Gettysburg and Elizabethtown, but we need all members to be on the lookout for new sites

Dale

**FROM YER EDITOR.....**

Once again, a lot of people really came through, helping to make this issue a breeze. The Prez Dale Greene, Aldo and Danny Camacci, and Mark Kamide all provided plenty of material and photos. Thanks guys. I also want to thank George Gassaway for his permission to use the plan for the original B RotaRoc, which he designed in 1989. It might be a 13-year old design, but it is still very competitive today and has become the standard Helicopter Duration design.

Due to the amount of material in this issue, the minutes from the last two meetings will be posted on the e-group as well as the SPAAR website.

And finally, the answer to the question posed on the cover:

- A. It's a contest to see who is wearing the goofiest hat;
- B. They are holding up SPAAR's new banner;
- C. They are not wearing pants;
- D. All of the above

**D. of course**

## RAMTEC AT 10: A QUICK LOOK AT IT'S PAST, PRESENT, AND FUTURE

It's hard for many of us old timers to believe that this year's RAMTEC will be it's 10th edition. The time has simply gone too fast. For those of you in SPAAR, as well as elsewhere who do not know of it's origin's, let's look back a little bit - to things called AARDVARKS and WUBBAs.

Model rockets have been flown at DeSales University for over a quarter of a century—back when it was simply Allentown College. In the 70's, a series of meets was held there called AARDVARK. My only knowledge of them comes from Glenn Feveryear, who flew one or more of them; and he doesn't even recall what that stood for. The attraction to the site was obvious—the on-campus housing. Perfect for a weekend of rocket flying and socializing. Then came a series of WUBBAs. WUBBA allegedly stood for Weird Unusual Ballistic Blast Attack—although there are several other variations. The WUBBA meets were the brainchild of Art & Janet Rose, a couple who had formed an NAR Section called PULSAR in the late 70's/early 80's. PULSAR was one of the premier contest-oriented clubs in the entire country at the time, feature the likes of Art Rose himself, as well as Charlie Sykos of The "Sykos Streamer" fame. PULSAR even hosted a couple of NARAMs at Allentown College, the last being in 1984. Remember, these were the days when the interest and participation in competition rocketry was more widespread and intense than it generally is today.

The WUBBA Regionals were almost considered the Mecca for anyone remotely interested in rocket contests in the 80's. I don't know how many times I heard the words, "Ya gotta go to WUBBA" from Glenn, John Yost, and Dale Greene in the early days of SPAAR's formation in the late 80's. And they were right! Finally, however, after WUBBA-14 in 1992, the Rose's had had enough. Running a big meet like that is a lot of work. The end of the WUBBA series threatened to leave a void for many of us who had gotten used to going to Allentown College every Father's Day weekend, not to mention a big hole in the contest calendar on the East Coast.

Throughout the summer of 1992, the issue was debated among the members of SPAAR. We all agreed that it would be a shame to lose the use of the college—once we were out, that would be it. It also appeared that SPAAR, and to an extent GSSS in New Jersey, might be the natural heirs to the tradition. With GSSS committed to several meets per year, it really fell to us. And here's where the Feveryears, Glenn, Rita and both kids, really stepped up. To say that they filled the roles of the Roses would be an understatement. Over the years, they have built RAMTEC into a meet that is eagerly anticipated by flyers in PA, MD, NJ, DE, and NY.

The Roses had wanted to retire the name WUBBA, and that was only right. So the name RAMTEC was born—Regional Aerospace Meet To Encourage Competition—and with it, a *new* tradition.

Over the years, we've had many memorable times over that mid-June weekend. The proud tradition of opening the range *on time*; having results posted at the end of each flying day, and an awards ceremony at the close of the meet on Sunday; the rain starting at 9:05AM at RAMTEC-3 and finally stopping at 1:30PM Sunday; The House of Wang; John Yost's rendition of *Mississippi Queen*; watching the Feveryear kids grow up; the scourge of soccer; E Helicopters; the theme from *Gettysburg*.

It is no secret that construction at what is now DeSales University threatens to put an end to the days of holding a meet there. It's only a matter of time before a building is right where we have set up the range, and the Rose's before us. Not only that, but quite frankly, the Feveryears are tired after 10 years of running the meet.

So, where do we, as SPAAR, go from here? Over the next several weeks and months we will have to make some decisions: continue with a meet over the Father's Day weekend, albeit at a different location? And if so, where? What form will it take? Who will step like Glenn and Rita did 10 years ago? If there ever was a time to make your voice heard, it's now.

-George Beever

# Standard ROTAROC (1989 plan)

B4-2, B6-2, or C6-3 power

## Plans page 1 (Design & assembly)

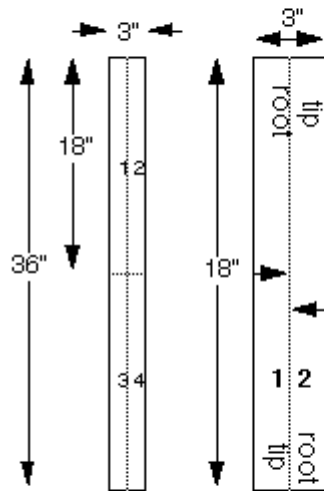
Drawings show model which would rotate counter-clockwise as viewed from above.

**PARTS:** light 3/32" balsa (fins & rotor supports), Medium light stiff 3/32" balsa or very light 1/8" for rotors, 18" and 4.5" BT-20, tube coupler, BT-20 nose cone, Klett RK2 model plane hinges (3), pins or model railroad spikes, rubber bands

Rotors are 1.5" wide (chord), 18" long. Made from medium-light stiff 3/32" or light 1/8" balsa. Balsa should be somewhat stiff so it will not bow outward much when folded for boost.

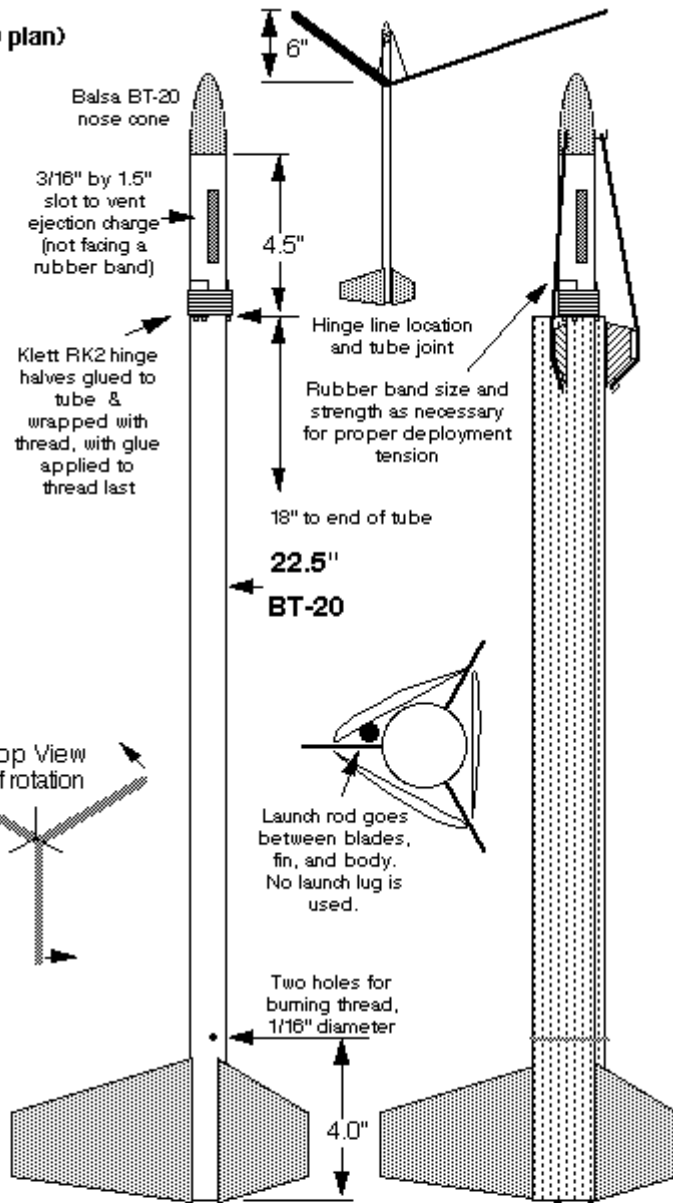
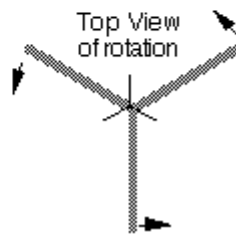
Rotors are fragile and easy to damage or break while sanding the trailing edge. Below is how to sand the trailing edge of all rotors before cutting out from balsa sheet.

Middle arrows point in direction of leading edge. Top view for models rotating counter-clockwise



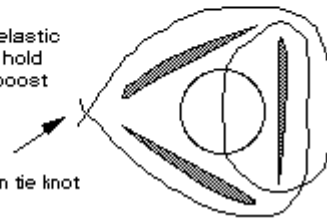
Layout for shaping and cutting 3 rotors plus spare from one sheet of balsa.

Sand trailing edges to shape before cutting apart at middle



How to tie elastic thread to hold rotors for boost

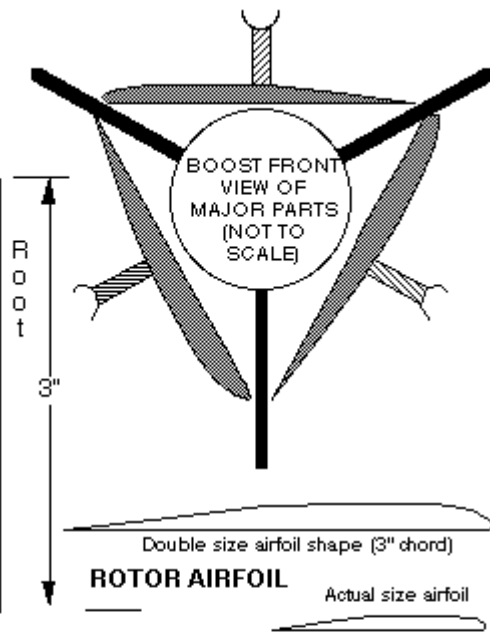
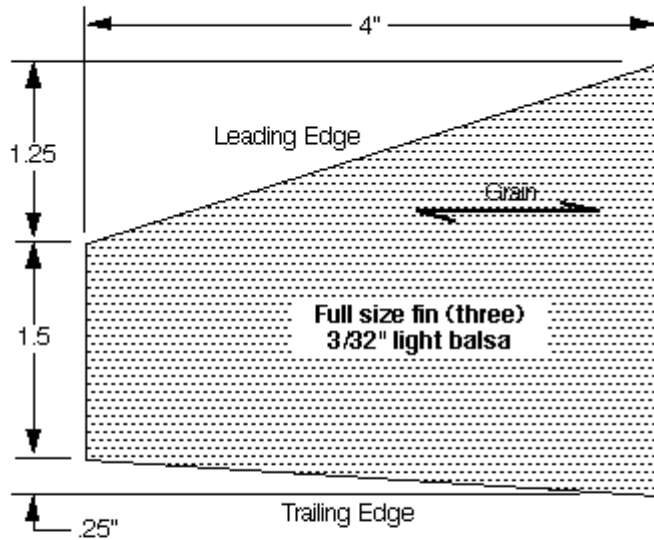
Pull snug, then tie knot



**Standard ROTAROC (1989 plan)**

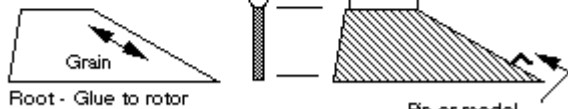
Plans page 2 (with full size templates & details)

Power: B4-2, B6-2, C6-3



Full size rubber band standoff & dihedral angle support (3 from 3/32" hard balsa, note grain.)

split segment of 1/8" launch lug



Pin or model R.R. spike to anchor rubber band

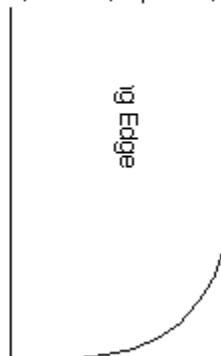
**Construction:**

For best performance, build model carefully so that parts are not grossly out of alignment and so it will deploy and rotate properly.

Keep model lightweight in selection of parts, wood, and in construction. Use Cyanoacrylate glue.

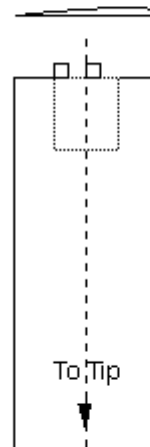
For finish, use only 1 coat of thinned clear dope on fins and nose cone, 1-2 coats of clear thin dope on rotors. Do not use any paint. For coloring, use magic marker.

**Optional Rotor tip shape**  
(Full size, top view)



**Perpendicular hinge mount**

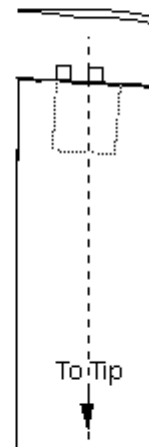
Blade flat at root, must be angled down out towards tip to rotate



Down angle achieved by twisting outer portion of blade

**New Skewed hinge mount**

Blade angled at root, will rotate fine without any additional work.



Twist tip of blade up nearly horizontal for more efficiency, but will work OK if blade is same angle all across

## FLIGHT LOG

April 7, 2002

<u>Fl#</u>	<u>Name</u>	<u>Manu.</u>	<u>Model</u>	<u>Motor</u>	<u>Result</u>
1	Mark Beever	Estes	Intruder	Estes A10-3	Good Flight
2	Mark Beever	Estes	Intruder	Estes A10-3	Good Flight
3	Mark Beever	Estes	Big Bertha	Estes C6-5	Good Flight
4	Mark Beever	Estes	Mercury Redstone	Estes C6-3	Good Flight
5	Mark Beever	Estes	Big Bertha	Estes C6-5	Good Flight
6	George Beever	Scratch	Carlisle MK II	Estes A8-3	Good Flight
7	George Beever	Quest	Big Betty	Estes D12-7	Good Flight
8	George Beever	Estes	Big Daddy	Estes D12-5	Good Flight
9	George Beever	Estes	V-2 [2.6"]	Estes D12-5	Good Flight
10	George Beever	FSI	Sprint	Estes B4-4	Good Flight
11	Mike Brubaker	Estes	Sidewinder	Estes C5-3	Good Flight
12	Mike Brubaker	Scratch	V-2 [2.6"]	AT E18-4RMS	Good Flight
13	Mike Brubaker	Estes	Fat Boy	Estes D12-7	Good Flight
14	Mike Brubaker	Estes	Black Brant II	Estes C5-3	Good Flight
15	Tony Comp	Estes	Explorer Aquarius	Estes D12-3	Separation
16	Tony Comp	Scratch	Cerberus	AT E15-4	Ouch!!
17	Tony Comp	Scratch	Tritium	Estes C6-5 x 3	Good Flight
18	Nate Comp	Scratch	7 <sup>th</sup> Planet Probe	Estes D12-5	Good Flight
19	Nate Comp	Scratch	7 <sup>th</sup> Planet Probe	Estes E9-4	Good Flight
20	Glenn Feveryear	Scratch	1/2A SD	Estes 1/2A3-4	GF - 39s
21	Larry Gerlach	Scratch	Arrow	Estes B6-4	Good Flight
22	Larry Gerlach	Estes	Silver Comet	Estes E9-6	Good Flight
23	Larry Gerlach	Estes	Broadsword	AT E15-4	Good Flight
24	Larry Gerlach	Estes	Mars Snooper	Estes B4-4	Good Flight
25	Ed Miller	Estes	Super Big Bertha	AT E18-4RMS	CATO
26	Ed Miller	Scratch	Armacron III	Estes C6-7 x 3	Good Flight
27	Ed Miller	Scratch	Monocopter 32	AT G12-RCT	Good Flight
28	Ed Miller	Estes	Super Big Bertha P	AT F40-4RMS	Good Flight
29	Ed Miller	Scratch	UFO	AT D13-4RMS	Good Flight
30	John Yost	Estes	Maxi V-2	Estes E9-4	Good Flight

May 26, 2002

1	George Beever	Holverson	Silver Hawk	Estes 1/2A3-2	Red Baron
2	George Beever	Estes	Strike Fighter	Quest B6-4	Splat!
3	George Beever	Estes	Pathfinder	Estes D12-7	Good Flight

4	George Beever	AAA	Aerobee Hi	Estes	D12-5	Good Flight
5	George Beever	Estes	SR-71	Estes	C6-5	Good Flight
6	George Beever	Scratch	V-2	Estes	C6-5	Good Flight
7	George Beever	Holverson	Silver Hawk	Estes	1/2A3-2	Red Baron
8	Mark Beever	Quest	Nike-Smoke	Quest	B6-4	Good Flight
9	Mark Beever	Estes	Intruder	Estes	A3-4	Good Flight
10	Mark Beever	Estes	Intruder	Estes	A10-3	Good Flight
11	Mark Beever	Estes	R2D2	Quest	B6-4	Lawn dart
12	Mark Beever	Estes	Intruder	Estes	A3-4	Good Flight
13	LeRoy Bonawitz	THOY	Snipe	AT	E30-7 [3]	Great Flight!
14	LeRoy Bonawitz	LOC	Onyx	AT	E30-4	Good Flight
15	LeRoy Bonawitz	THOY	Snipe	AT	E30-7 [3]	Good Flight
16	LeRoy Bonawitz	Estes	Wizard	AT	D21-10	Good Flight
17	Mike Burkholder	Estes	Sidewinder	Estes	C5-3	Good Flight
18	Mike Brubaker	BSD	Horizon	AT	G80-4	Great Flight!
19	Mike Brubaker	Scratch	Fat Boy	AT	F12-4	Good Flight
20	Mike Brubaker	Quest	Navaho	Estes	B6-4	Good Flight
21	Mike Brubaker	Quest	Navaho	Estes	C6-0/B4-6	Good Flight
22	Mike Brubaker	Launch Pad	Bullpup 12B	Estes	D12-5	Good Flight
23	Mike Brubaker	Launch Pad	Martin Pescador	Estes	D12-5	Good Flight
24	Mike Brubaker	Estes	Fat Boy	Estes	D12-7	Good Flight
25	Mike Brubaker	Estes	Seahawk	Estes	D12-5	Good Flight
26	Danny Camacci	Scratch	AustinRoc	Estes	C6-3	Good Flight
27	Danny Camacci	Scratch	Pringles	Estes	C6-5 [3]	Good Flight
28	Danny Camacci	Estes	Big Daddy	Estes	D12-3	Good Flight
29	Danny Camacci	Estes	Super Big Bertha	Estes	D12-3	Good Flight
30	Danny Camacci	Scratch	Water Rocket	95psi		Lawn dart
31	Danny Camacci	Scratch	Water Rocket	80psi		Lawn dart
32	Danny Camacci	Estes	Prowler	Estes	C6-5/A10-3	Good Flight
33	Danny Camacci	Quest	Big Betty	Estes	C6-5	Good Flight
34	Danny Camacci	Estes	V-2	Estes	D12-3	Good Flight
35	Bruce Canino	Estes	Blue Ninja	Estes	C11-3	Good Flight
36	Bruce Canino	Estes	Mongoose	Estes	B6-0/B6-6	Good Flight
37	Bruce Canino	Aerotech	Initiator	AT	E15-4	Good Flight
38	Bruce Canino	Estes	Sky Winder	Estes	B4-2	Good Flight
39	Bruce Canino	Estes	Blue Ninja	Estes	D12-3	Good Flight
40	Chris Cox	Scratch	Excessive Force	Estes	A8-3	Unstable
41	Chris Cox	Estes	Condor	Estes	A8-3	Good Flight
42	Chris Cox	Scratch	UFO	Estes	C6-0	Good Flight
43	Chris Cox	Scratch	Pinky & The Brain	Estes	C6-5	Good Flight
44	Chris Cox	Estes	Skywinder	Estes	C6-7	Good Flight
45	Chris Cox	Estes	Mean Machine	Estes	D12-5	Good Flight
46	Chris Cox	Estes	Big Daddy	Estes	E9-6	Good Flight
47	Chris Cox	Estes	Condor	Estes	C6-7	Good Flight

48	Chris Cox	Quest	Totally Tubular	Estes	C6-7	Good Flight
49	Chris Cox	Estes	Condor	Estes	C6-5	Good Flight
50	Chris Cox	Scratch	Cigar Tube	Estes	B4-4	Good Flight
51	Chris Cox	Scratch	Mini Callisto	Estes	E9-6	Good Flight
52	Chris Cox	Scratch	Mini Machine	Estes	D12-5	Good Flight
53	Chris Cox	Scratch	UFO	AT	D13	Good Flight
54	Chris Cox	Scratch	Tri-FO	AT	D24	Good Flight
55	Chris Cox	Estes	Gemini DC	Estes	B6-4	Good Flight
56	Chris Cox	Scratch	Tri-FO	AT	E27	Good Flight
57	Chris Cox	Estes	Snitch	Estes	C6-0	Good Flight
58	Jim Cox	Scratch	Purple Thing	AT	D13-4	Good Flight
59	Jim Cox	PML	Mini BBX	AT	G35-7	Good Flight
60	Jim Cox	Aerotech	?	AT	F23-4	Good Flight
61	Jim Cox	PML	Excalibur	AT	G35-7	Good Flight
62	Jim Cox	Estes	Big Daddy	AT	F12-5	Good Flight
63	Glenn Feveryear	Vector Aero	'Cuda RC RG	AT	D7	Re-kitted
64	Larry Gerlach	Estes	V-2	Estes	E9-6	Good Flight
65	Larry Gerlach	Launch Pad	Krypton	AT	E15-4	Good Flight
66	Larry Gerlach	Estes	Big Bertha	Estes	C6-3	Good Flight
67	Larry Gerlach	Estes	Broadsword	Estes	E9-6	Good Flight
68	Dale Greene	Estes	Maxi Alpha 3	Estes	D12-5	Good Flight
69	Dale Greene	Estes	Fat Boy	Estes	B6-2	Good Flight
70	Dale Greene	QCR	Min RotaRoc	Apogee	A2-3	MEF
71	Dale Greene	Estes	Big Bertha	Quest	C6-3	?
72	Dale Greene	Estes	Fat Boy	Estes	C6-5	Good Flight
73	Tom Ha	Estes	Maxi Alpha 3	Estes	D12-3	Good Flight
74	Tom Ha	Scratch	2X Deltie	Estes	B6-2	Good Flight
75	Rick Hackman	Scratch	Space Freighter	Estes	B6-4	Good Flight
76	Rick Hackman	Scratch	Mark 4	Estes	A8-3	Good Flight
77	Rick Hackman	Scratch	Ganymede	Estes	A8-3	Good Flight
78	Rick Hackman	Scratch	Jaguar	Estes	A8-3	Good Flight
79	Rick Hackman	Scratch	Little Beth X2	Estes	A8-3	Good Flight
80	Rick Hackman	Scratch	Patna Mark 1	Estes	A8-3	Good Flight
81	Rick Hackman	Scratch	Patna Mark 1	Estes	B6-4	Good Flight
82	Dale Jacobs	Quest	DC-Y	Estes	C6-3	Good Flight
83	Dale Jacobs	Estes	V-2	Estes	D12-5	Good Flight
84	Dale Jacobs	Estes	Skywinder	Estes	C6-5	Sep
85	Dale Jacobs	Estes	Fat Boy	Estes	E9-6	Good Flight
86	Dale Jacobs	Estes	Astrocam 110	Estes	C6-5	Good Flight
87	Dale Jacobs	Estes	Astrocam 110	Estes	C6-7	Good Flight
88	Andrew Martell	Estes	Gnome	Estes	1/2A3-4	Good Flight
89	Andrew Martell	Estes	Gnome	Estes	1/2A3-4	Good Flight
90	Allison Martell	Custom	Freedom	Estes	B6-4	Sep
91	Gregg Martell	Estes	Big Bertha	Estes	C6-5	Good Flight
92	Gregg Martell	VBS	Extreme 24	Estes	D12-5	Good Flight



93	Gregg Martell	Edmunds	Ecce Thunder	Estes	D12-3	Good Flight
94	Gregg Martell	Estes	Fat Boy	Estes	C6-5	Good Flight
95	Stacy Ness	Quest	UFO	Estes	C6-0	Good Flight
96	Susan Reed	Estes	R2D2	Estes	C6-3	Good Flight
97	Susan Reed	Estes	Flash	Estes	C6-5	Sep
98	Andrew Reichel	Estes	Banshee	Estes	B6-4	Sep
99	Andrew Reichel	Estes	Athena	Estes	B6-4	Good Flight
100	Andrew Reichel	Estes	Banshee	Estes	C6-3	Sep
101	Andrew Reichel	Estes	Banshee	Estes	B6-4	Sep
102	Andrew Reichel	Estes	Banshee	Estes	B6-4	No Chute
103	Greg Reichel	Estes	Sabre	Estes	C6-3	Unstable
104	Greg Reichel	Estes	Athena	Estes	C6-5	Good Flight
105	Greg Reichel	Estes	?	Estes	B6-4	Good Flight
106	Joe Skitka	Estes	Comanche 3	Estes D12-0/C6-0/C6-7		Great Flight!
107	Joe Skitka	Estes	Comanche 3	Estes D12-0/C6-7		Good Flight
108	Joe Skitka	Estes	Comanche 3	Estes	C6-3	Good Flight
109	John Yost	LOC	Onyx	Estes	E9-4	Good Flight

## SPAAR SPORT LAUNCH COVERAGE

### APRIL 7

No, we weren't hiding from anyone—we just had to fly from behind the school due to construction and that scourge of the Free World, soccer. But, with the breeze going back towards the farmer's field, we had plenty of room. John Yost got to fly his brand-new Estes Maxi V-2 that he had won as a door prize at the Family Dinner, much to Larry Gerlach's delight. Ed Miller flew some old stand-bys, and some relatively new members, Tony Comp and his son Nate flew some really nice scratchbuilt models.

### MAY 26

It was our Memorial Day weekend all-day launch, and after a shaky start, the weather really came through [thanks Dale]. From about 10:00AM to 4:00PM we put up 109 flights by 23 flyers.

Some of the more memorable include some water rockets by Danny Camacci. He had some problems with recovery system deployment, but they were still very interesting. He also flew a couple of rockets made from Pringles Chips tubes, and his dad says he doesn't even like the chips.

LeRoy Bonawitz has been chaffing to fly his THOY Snipe

On a cluster of 3 E30 composites for a long, long time. He finally got to do it, not once, but twice. All motors ignited both times, proving that our launch system can handle composite clusters. They were great flights. "Old Larry Gerlachy" got to fly his new Estes V-2 [2.6" version] on an Aerotech E15 and almost put it on the roof. Dale Greene used a Mini RotaRoc on a "motor elimination flight", using up an Apogee A3-2, which lost it's contest certification.

Joe Skitka made a really neat series of flights with his Estes Comanche-3. The first flight was at full power, with a D12/C6/C6 combination that really tore through the sky and landed so close to the range it was amazing. The second and third flights were two-stage and single-stage, respectively. Dole "Don't Call Me Dolt" Jacobs took some pictures with his Astrocam; Rick Hackman made some nice flights on some old Estes free plan designs from the 60's; Glenn re-kitted an RCRG in a flight that was painful to witness; and Mike Brubaker tempted the roof with a beautiful BSD Horizon on a G80. A big thanks to Mark Kamide, who did a lot of range duty but never flew a rocket! You be da' man!



WOULD YOU BUY A USED TRANSMISSION FROM THIS GUY???



I MEAN IT, I'M GONNA PULL THIS STRING! NOW STAND BACK AND NOBODY GETS HURT!!



A GREAT SHOT OF DANNY CAMACCI'S PRINGLES CAN CLUSTER AT IGNITION



LEROY BONAWITZ' SNIPE ON 3 E30'S

# Report from NARCON 2002

By Dale Greene

## NARCON 2002 Austin Texas

Our friends in Texas are becoming very proficient in staging these conventions. This was their third and the best yet. Over 44 sessions were scheduled making it by far the biggest! And they had something no other NARCON has ever had - REFRIGERATOR MAGNETS !!!! (No I didn't bring enough for everybody!) It was 2 days of eating, sleeping and breathing rockets and meeting some great people! A few of the highlights-

### WATER ROCKETRY IN THE NAR - by Bruce Berggren and Robert Youens

Huh? What? Water rockets? I fly REAL rockets - I think I'll skip this one. But it was the only presentation Friday night so I went anyhow. Well, this alone was worth the flight to Texas. Water rockets made from plastic soda bottles are popular the world over and are used in the National Science Olympiad. They feature some very unique and innovative construction - some of the techniques could be applied to model rockets. The purpose of this session was to help develop a safety code for water rockets in the hope that the NAR will embrace this form of rocketry.

### BACKSLIDER - THE SUPEROC ROCKET GLIDER by Peter Alway

For decades rocketeers have noticed that some long skinny rockets will glide backwards if their recovery systems do not deploy - but why? Peter and Bob Always created an R&D report for NARAM 2000 on this subject, the result being the patented BACKSLIDER r/g. It is an excellent demonstration on the principles of stability and how the center of pressure moves with a change in the angle of attack.

### SCALE MODELING WITH STONE KNIVES AND BEARSKINS by Peter Always

For years Peter has been promoting scale model rocketry and trying to defeat the notion that it is an "elitist" branch of the hobby. He feels that building a scale model doesn't have to be harder than a 3 fins and nose sport model. He outlined some basic techniques to building scale models for sport or competition. The most important part for me was that if you do use stone knives be sure they are the best quality obsidian! Any talk that Peter gives is fun - you can check out his website at <http://members.aol.com/petalway/Peterweb.html>

### STARBOOSTER CONCEPT by Hu Davis

Hubert Davis is a former NASA engineer who in his 17 years at Johnson Space center was responsible for 3 successful lunar modules and was the manager of future programs at NASA. He is now Vice President of Starcraft Boosters a private engineering firm designing a cost effective and profitable reusable space launch vehicle. Hu covered the design of a series of cargo ships that his company hopes to have in production soon.

### PLASTIC MODEL CONVERSION TECHNIQUES by Jack Sprague

PMC often called "plastic death" is a very challenging event that scares away some competitors (and many spectators). Jack gave some basic tips on how to fly and survive plastic models. Jack pointed out that mission points can make the difference - interesting is judged higher - but - it must successfully fly to get points! Always remember to stay within your capabilities.

This is a small sample of what I experienced this year. I have an extra copy of the proceedings and a CD of most of the sessions available for loan.

THE SOUTHERN PENNSYLVANIA AREA  
ASSOCIATION OF ROCKETRY

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## COUNTDOWN

PLEASE MAKE SURE YOUR MEMBERSHIP IS  
UP TO DATE—THANKS!



***DON'T FORGET:***  
IT'LL BE A DOG DAY  
AFTERNOON AT THE  
AUGUST LAUNCH!!!

***YOU PICK THE CAPTION!***

1. HONEST OFFICER, WE FOUND THEM RIGHT IN THIS HERE FIELD!!
2. MY V-2 CAN BEAT UP YOUR V-2!!
3. ED & JOHN VON BRAUN, THE TWO SONS THAT WERNER NEVER TALKED ABOUT.
4. "MIT DEISE ZWIE RAKETEN, VEE VILL ROOOLE ZE VORLT, JA?"