Northern Virginia Association of Rocketry

Free Press

May – September 2002

NOVAAR EVENT CALANDER

28 September 2002 – Section Meet and sport launch at Great Meadow. 8-2 PM

- A SD (multiround)
- 1/2A PD (multiround)
- B Eggloft Altitude

1 October 2002 - NOVAAR Meeting, 7 PM – Ratworks Hybrid Motors by Bart Merkley

15 October 2002 - NOVAAR Meeting, 7 PM – Range Safety Officer/NAR Trained Safety Officer Program – Jonathan Rains

2 November 2002 - Sport/High Power Launch Great Meadows 9 AM – 5 PM

5 November 2002 - NOVAAR Meeting, 7 PM Running Safe High Power Launches – Group Discussion

19 November 2002 NOVAAR Meeting, 7 PM

3 December 2002 - NOVAAR Meeting, 7 PM

7 December 2002 – Sport Launch at Great Meadow 9AM - 5PM

15 December 2002 - Annual NOVAAR Holiday Party & Auction

17 December 2002 - NOVAAR Meeting, 7 PM

Ivan Galysh's model makes a dramatic lift-off on an I class hybrid motor at NOVAAR's 31 August sport launch. – Photo by Greg Bock

See page 6 for a look at NOVAAR's 4th of July High Power Rocket Demonstration at Great Meadow— Photo by Steve Schwartz

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Fly Safe, Fly Fast, Fly High!

NOVAAR FREE PRESS

May – September 2002

Editor: Greg Bock

Contributors: Trip Barber, Greg Bock, Roger Hillson, Fritz Langford, Ted Phipps, Eric Robinson, and Jonathan Rains. Photos by Steve Schwartz and Jason Vick.

The **NOVAAR *Free Press*** is the official newsletter of the Northern Virginia Association of Rocketry, NAR Section 205. Subscriptions are included as part of the membership dues.

Send submissions to:

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7021 Forest View Drive
Springfield, VA 22150-3120

Submissions can also be sent electronically to:
gbock@erols.com

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7021 Forest View Drive
Springfield, VA 22150-3120

Visit NOVAAR's Web site at:
http://www.geocities.com/CapeCanaveral/8561

Or better yet….

ATTEND NOVAAR MEETINGS!

NOVAAR holds meetings twice a month. We meet the first and third Tuesday from 7:00 PM to 8:30 at the Kings Park Community Center--behind the Chinese restaurant in the Kings Park Shopping Center. The shopping center is in North Springfield, two miles outside the Beltway (I495) at the intersection of Braddock and Burke Lake Road.

Dues are $5.00 per year for members age 13 or younger, $8.00 per year for ages 14-18, and $10.00 per year for age 19 or older. The maximum yearly membership fee for a family is $20. Make checks payable to "NOVAAR" and send to the Treasurer at:

Roger Hillson
4317 Selkirk Drive
Fairfax, VA 22032
ATTN: NOVAAR RENEWAL

Members who wish to receive important announcements of launches, meetings and other club activities should send their E-mail address to Roger Hillson (hillson@erols.com)

President's Corner

Fellow NOVAAR Members --

I'm honored to be able to take a turn at the helm of NOVAAR, and I want to thank my predecessor Jim Brower for the years that he has spent supporting NOVAAR as President. This club has been one of the NAR's most successful sections for over 30 years, and it has endured and succeeded, because of the committed volunteers who run it, and who make its events happen. It will continue to grow and succeed as long as each of us steps up to take a turn at doing the hard work necessary to keep it going. Right now it's my turn to be President, but what I do for the club in this office is no more important than what people like Bart Merkley (our range equipment manager and transporter), Greg Bock (our newsletter editor), and Roger Hillson (our treasurer and membership roster custodian) do every day and have been doing for years. Over the next few months we are losing some of our key volunteers to moves out of the area. At the same time we are facing one of NOVAAR's greatest opportunities, serving as hosts to the Team America Rocketry Challenge, a huge national event on May 10 that will have a hundred high school rocketry teams competing for $59,000 in prizes, with the Administrator of NASA, Homer Hickam, astronauts, media, and thousands of spectators watching. NOVAAR needs your active involvement and assistance to succeed. Please step forward and lend a hand!

Trip Barber
NAR 4322
NOVAAR President

Editor's Ramblings

By Greg Bock

I hope you like this issue of the NOVAAR Free Press. NOVAAR has had a lot of activities during the long, hot, code Red summer. The club held a section contest and 3 sport launches. Several club members donated their time and expertise to assist in a test run of a new after school activity aimed at getting 5-11 graders interested in science and engineering careers. See the item on the Galaxy Explorers in this issue. On July 4th NOVAAR successfully completed its second high power rocketry demonstration at the Plains. As school starts several club members are assisting with the Team America Challenge. Club members provided great talks and discussions on streamer recovery, multi-staging of rockets, solid rocket motors and composite materials for model and high power rockets.

Fritz Langford's write-up of his NARAM 43 R&D project involved investigating the speed at which plastic parachutes "Shred". If you plan to participate in upcoming Steel City Regional meet in October, and are serious about recovering your egg intact be sure to read Fritz's article.

Ted Phipps gives a blow-by-blow description on the 1000+-acre high power launch site at Whitakers, NC. The site is within a day's drive from here.

Four NOVAAR members attended the National Meet in Waco, Texas. See Trip Barber's item about NARAM 44.

This issue contains a membership roster on page 11. Please review it for accuracy, and pay special attention to your email address and phone number.

Finally, with the help of Jonathan Rains, I've drafted a short item about the publication of the newsletter on the club's website. As postage and reproduction costs continue to increase, the club is considering using electronic means to distribute the newsletter, and doing away with the hardcopy. Please consider carefully and send me your comments.

NOVAAR Assists in New Youth Program on Space Science

By Trip Barber and Greg Bock

On a "Code Red" morning in mid July Trip Barber, Kurt Beckman, Kurt's daughter Ava, a seventh grader at Marshal Middle school, Greg Bock, Ivan Galysh, Roger Hillson and Joe Woodford took part in the pilot running of the "Galaxy Explorers" a newly formed youth program on space science. The program was designed to be an after school extra-curricular activity, but the full curriculum for a year was being "beta" tested as a two-week summer camp from 9 to 19 July in preparation for its inaugural year of operation this fall. More than 100 rising 4th-10th graders participated in the initial running at Saunders Middle School, near Manassas. A senior US government employee, Nick Eftimiades, recently put the new national Galaxy Explorer program together. Nick wants to provide a means of inspiring kids in grades 4 through 11 to become interested in pursuing college careers in space technology. Model Rocketry was only one segment of the two-week program that includes modules on robotics, physics, space art, aerodynamics, astronomy, and space science.

Club members from NOVAAR were recruited by Nick to come teach the "rocketry module" in the program. Using rockets and motors supplied by Doug Pratt from Pratt Hobbies, and assembled by class groups supervised and led by the NOVAAR members, more than 100 young students learned the basics of model rocketry and assembled and launched the Pratt Hobbies *Quark Star* model rocket. NOVAAR also supplied the launch equipment and technical expertise and supervision for the launch.

The club volunteers demonstrated their quick adaptability and flexibility when the schedule of events was changed due to the intense heat expected that day. The original plan called for each member to host two separate rocket-building classes in the morning with 10-12 students at a time. The launches would take place during the early afternoon. However, with the predicted Code RED heat and pollution alert the camp staff asked if we could complete the program, including launching the constructed rockets, in the morning. We doubled the size of the classes and completed the construction by 11:30 AM, then launched the rockets. The biggest concern was allowing enough time for the yellow glue to dry on the balsa fins. More than 136 models were launched, and thanks to the liberal application of cyanoacrylate "reinforcing" by well-prepared NOVAAR instructors, no fins stripped off.

The program was worth doing as both a service to a good group, and as a potential boost for the NAR's overall program to develop linkages to national organizations that can get us into schools and attract junior members. Several of the participants attended NOVAAR's sport launch the next Saturday.

Galaxy Explorers launched more than 136 *Quark Star* rockets and thanks to the liberal application of cyanoacrylate "reinforcing" by well-prepared NOVAAR instructors, no fins stripped off.

Pratt Hobbies of Herndon, VA supplied the *Quark Star* model rocket kits and motors.

Shred

By Fritz Langford

For my NARAM 43 R&D project I evaluated how two different methods of making parachutes performed when they were deployed at high speeds. Many times rockets shred their parachutes, especially with heavy payloads like those in eggloft events. I wondered why this happened, and how to prevent it.

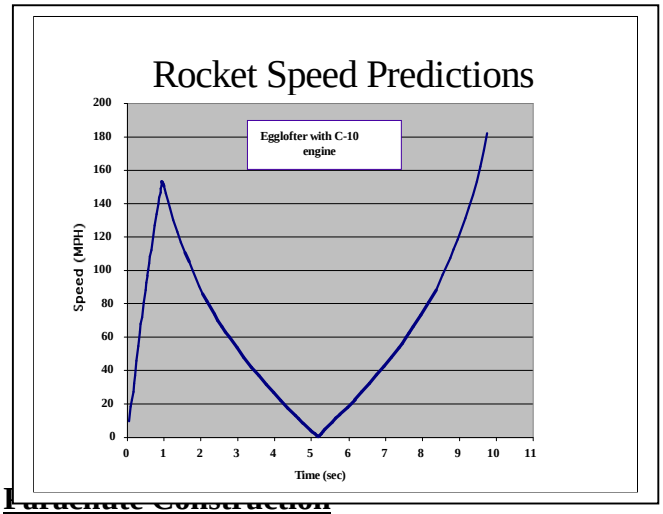
My approach was to calculate the speed of a C-10 egglofter using my brother Ellis' altitude prediction program, build the two different types of parachutes, then "deploy" the chutes out my car at progressively increasing speeds. Finally, I analyzed the data and found how large a safe deployment time window you have. If you deploy your parachute outside that time window, then it will usually fail. I found that normal parachutes fail at around 15-20 mph. However, reinforced parachutes can go up to 40-45 mph before shredding.

Speed Prediction for C Motor Eggloft Rocket

I first had to understand how fast the rockets were going so I could decide how to do the test. I used my brother's altitude prediction program to determine how fast the rocket was traveling. I decided to use an egglofter rocket powered by a C motor, since it is a NARAM 43 event.

I analyzed an egglofter with a C-10 engine, with a launch mass of 108 grams, a drag coefficient of 0 .65, and a diameter of 45.7 mm. The predicted altitude is for 142 meters. This is pretty low, since at contests this year a good C eggloft altitude is closer to 200 meters. So my speeds might be a little low.

Here is the speed as a function of time. Note how it accelerates quickly, and then slows down after burnout. Allowing for the engine burn time, a C10-4 looks pretty good. If no deployment occurs, the rocket speeds back up again as it dives in. This assumes the rocket does not tip off the launch rod during launch. Note also, the graph shows that Egglofters can go faster coming down than going up, if there is no parachute deployment.



Parachute Construction

I made two types of parachutes: the normal way where the shroud line is attached to the plastic canopy using a piece of tape, and an "over the top" design where the shroud line goes all the way over the top of the canopy and down the other side. I made three parachutes for each type. All my parachutes were Estes 24" plastic types, and I made 36 tests.

The first batch of over the top parachutes was made with cheap nylon thread that broke easily in the tests. I remade these parachutes with carpet thread, and that eliminated the lines as a source of failure.

Parachute Tests

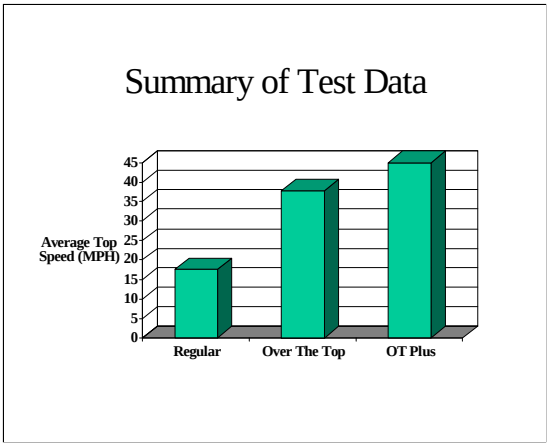
It took a while to figure out the best way to do the experiment. At first I tried throwing the parachute out the sunroof attached to a weight simulating the egg. This was tricky and very time consuming. But it was probably a good simulation of how the parachute really opens. It slows down quickly after the parachute opens. I also debated whether or not to use a shock cord. I decided not to because I couldn't calculate the effect it would have. I ended up just holding on to the parachute and stopping the car quickly after it deployed. This was simple and repeatable. I held onto the shroud lines and threw the parachutes out the car window at progressively higher speeds (5 mph increments). I held on to the parachute while the car stopped.

Results

There were four kinds of failures:

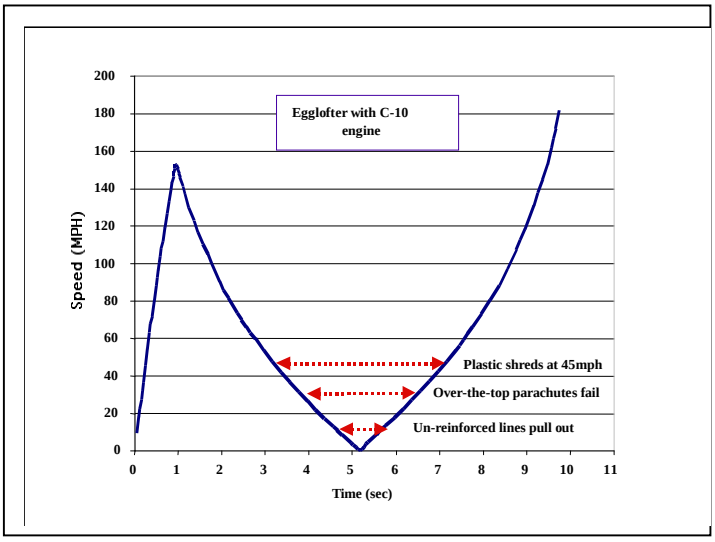
1. The shroud lines broke
2. The shroud line pulled out of its attachment
3. The plastic chute material would break free near the edge, slide up the shroud line and "gather" along the shroud line.
4. The plastic shredded

The bar graph summarizes the average maximum speed reached using each design. The "over the top plus" design is where I put 6" of tape from the edge of the canopy towards the center on top of the shroud line. This stopped the canopy from breaking free near the edge and sliding up the shroud line. The over the top design really helps!



Superimposing the speeds at which the various chutes fail on the original Rocket Speed Predictions graph for the C-10 eggloft rocket summarizes the whole project. You can see how the timing of the deployment determines the strength of parachute that you need. Depending on the maximum speed of the parachute, there is a "deployment window" in which the parachute will survive. The window is a lot bigger with the stronger parachute.

The normal method of attaching shroud lines is very dangerous for egglofters since there is only a very narrow deployment window (about 1 second) in which they will not fail. Reinforcing the parachute really helps! The safe deployment window can open another 2.5 seconds to a total of about 3.5 seconds. Note the graph shows that Egglofters can go faster coming down than going up, if there is no deployment



In the future I would see whether or not it makes a difference, on the regular parachutes, to just tape the lines on or to loop them through a hole and tie them back on themselves. Finally, I want to thank my mom and my dad for helping me with the tests and the report.

ATTENTION CLUB MEMBERS !!

Please review the accuracy of your membership information on page 11. Please check your email address. If it is either MISSING or INCORRECT, send your address to both Roger Hillson (hillson@erols.com) and John Hocheimer (vze2wxpz@mail.verizon.net). If your email address is correct, but you are not sure if you are on the NOVAAR mailing list, send a note to John.

NOVAAR MEMBERSHIP APPLICATION

DATE: _____

NAME: _____

ADDRESS:_____

CITY:_____STATE:_____

ZIP CODE:_____

EMAIL ADDRESS:_____

DATEOF BIRTH:_____

HOME PHONE:_____

NAR membership number, if a member:
_____

Dues are for one year of NOVAAR membership and do not include optional NAR Membership.

Please check one category based on your age as of the previous July 1st:
__ Age 13 or younger ($5)
__ Ages 14-18 ($8)
__ Age 19 or older ($10)
To apply, make checks payable to NOVAAR and send to:

Roger Hillson
ATTN: NOVAAR
4317 Selkirk Drive
Fairfax, VA 22032

Go to your next model rocket competition by way of Pittsburg!!

5-6 October – Steel City Smoke Trail II Regional Contest
A SD (multiround), A PD (multiround), B Eggloft Altitude, F Helicopter, Sport Scale. Details at www.psc473.org

Whitakers, North Carolina

By Ted Phipps

Whitakers is the home field for 3 prefects – Tripoli Eastern Virginia #82 (EVARA), Tripoli Eastern North Carolina #65, and Tripoli North Carolina #40 – and is considered one of the premier launch sites on the east coast. Although it's a bit of a drive for us (2+ hours depending on where you live), getting there is straightforward and in my opinion well worth the trip. They have launches scheduled on the last Saturday of the month for the regular stuff and Sunday reserved for experimental flights. Every few months a 2-day launch is held and flights using certified motors are launched on both Saturday and Sunday. Normal range hours are 10am – 6pm with a waiver to 8,000 feet, and call-in windows to 12,000 feet.

The field itself is a large (1000+ acres) pasture and surrounding fields. Some of the fields change character with the seasons as the crops grow (tobacco and cotton). There are some treelines along property lines and roads, but not too many. Because of the crops along 2 sides of the field, I'd recommend 'screamers' or sonic beacons in your rockets, especially if the wind is blowing towards those fields. I speak from experience, having lost a couple rockets in the tall cotton, and having spent some time searching and eventually finding a few others. Put your name and phone number on your rockets and chutes too.

The usual range setup consists of a rack with 8 model rocket rods, and another 6-8 high power pads. Rails are available. One quirk of their ground support equipment is that any low-power clusters have to be launched from the high power pads to ensure enough battery 'oomph' to be safe. Standard RSO/LCO procedures are in effect and followed.

Port-o-johns are available on site, and the 'Cowpie Café' is open on many launch days from 12-2pm to sell hot dogs, chips, and soda. I believe camping is allowed, but I usually stay at the official hotel where the rocket crowd gets a special rate, the restaurant is good, and the pool is heaven after a long hot day chasing rockets.

Performance Hobbies (Ken Allen) attends most of the launches as the on-site vendor, selling a wide assortment of motors, kits, components and accessories.

As is usually the case, what makes a Whitakers launch special is the people. These folks are friendly, helpful, and love to talk rockets and share their experience. I've met rocketeers from all over the eastern US and Canada at Whitakers, and the camaraderie is exceptional. Kids are welcome and fly low power for free.

I lost a rocket and reloadable motor casing in the tall cotton, and come springtime I got an email telling me that it was found. Now the rocket itself was chewed almost beyond recognition by the cotton gin, but the reload casing was returned in perfect shape. I understand that lost rockets have been found and returned by local farmers, and there seems to be an excellent rapport between the clubs and the local property owners.

The clubs make use of the Walston tracking system to locate extreme-altitude rockets when they return to earth. There's always something new and interesting going on, whether it's staging high-power motors, airstarts and clusters, or just an extra-large rocket being prepped.

All in all, I really enjoy the Whitakers launches. I think it's too far to drive just for a one-day event, but the weekend launches are highly recommended.

Directions

Take I95 south into North Carolina to exit 150 (NC33)
Take NC33 east to, then through the town of Whitakers
5 miles past the town, take a left of Red Hill Church Road
Almost immediately, there is a pasture on the right, enter the field through the gate

Range Ops

Range fees are $10.00/day, $15.00 for the weekend, spectators and kids flying model-rockets are free
Range open from 10am-6pm
Waiver to 8,000 feet, windows to 12,000 feet

Field Info

Port-o-johns available
Cowpie Café open for lunch on many days
Performance Hobbies attends as on-site vendor

Hotel Info

Super 8 252-442-8075 $34.95 I-95 Goldrock Exit 145, 1 exit south of launch field
(Ask for the Tripoli Rocketry Launch rate)
Other available hotels, rates, and ratings are listed on the website.

Web Site

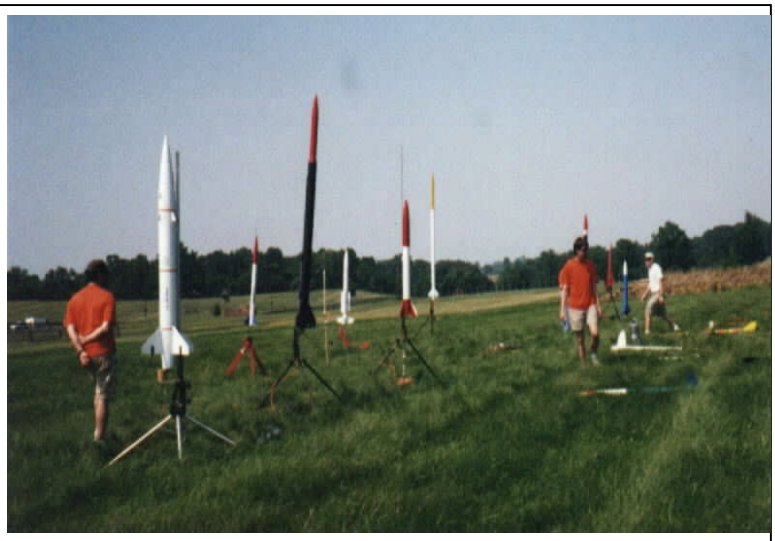
http://www.colonialvirginiahpr.org/whitakers.html
Check out the website for all updated information

NOVAAR's July 4th Demonstration Launch

By Trip Barber

NOVAAR put on a rocketry demonstration at the annual 4th of July Air Show held at Great Meadow. The show, a big fundraiser for the Great Meadow Foundation, involves parachutists, aerobatic planes (the Bealeton Flying Circus this year), wing-walkers, and other acts -- including a rapid-fire high-power rocketry demonstration by NOVAAR. Depending on weather, the show attracts up to 20,000 people.

Last year NOVAAR launched about 30 rockets in 30 minutes, after getting rained on all afternoon with passing thunderstorm cells. This year the weather was better (if 100 degrees and no wind is better than rain), our time was shorter (and earlier in the program), and we got ourselves organized to launch 20 high-power rockets (G through J motors) in just 15 minutes. One thing was the same as last year, though -- our own golden-throated announcer John Hochheimer provided running narration to the crowd. He did a great job talking up NOVAAR and the hobby, and Craig Beyers did a great job running our display booth back in the crowd area to provide follow-up information. By the end of the launch, there wasn't a high-power motor left in NOVAAR, we all cleaned out our reserve stocks of Aerotech stuff and are still waiting for new shipments from the factory when the new one opens in Utah after the big fire at the Las Vegas plant.

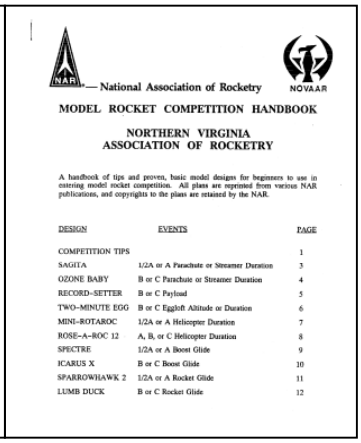


Club members ready the first volley of rockets for the 4th of July demonstration at Great Meadow. The demo began with a spectacular Bullpup powered by a J570 (1st rocket on left) --Photo by Steve Schwartz

Our show began with a spectacular Bullpup powered by a J570 whose ear-splitting takeoff roar really snapped the crowd's heads up! All of our rockets flew perfectly and we wowed the crowd -- but we were more wowed by seeing Steve Schwartz lose an Aerotech Initiator with a stock nylon chute in a booming thermal, and by seeing Robert Edmonds fly an R/C glider that shed miscellaneous aerodynamic surfaces during boost and still had a great, crowd-pleasing controlled-glide flight. None of us had ever seen an Initiator thermal away on a stock parachute, or a glider fly after losing that much structure. Many thanks to the 20 NOVAAR members who showed up, sweated, and contributed to our big annual public demonstration. The crowd liked what we did, and the owner of Great Meadow LOVED what we did.

High Power Rocket Drag Race---
Photo by Steve Schwartz
The winner of a drag race is the rocket that is the last one off the pad, achieves the lowest altitude, and is the last one to land.

If you are a new club member and have not received a copy of the NOVAAR *'s Model Rocket Competition Notebook* contact Greg Bock (at gbock@erols.com)



National Association of Rocketry — NOVAAR

MODEL ROCKET COMPETITION HANDBOOK

NORTHERN VIRGINIA ASSOCIATION OF ROCKETRY

A handbook of tips and proven, basic model designs for beginners to use in entering model rocket competition. All plans are reprinted from various NAR publications, and copyrights to the plans are retained by the NAR.

NOVAAR SECTION MEET RESULTS

June 8, 2002 --- Great Meadow, VA

		1st flight	2nd flight	3rd flight	Score	Pts
Predicted (Set) Altitude - 175 meters						
	C & Team Division					
1st	Trash Always Wins team	172 meters			2%	80
2nd	Joe Woodford	132 meters			24.6%	48
3rd`	Greg Bock	131 meters			25.1%	32
4th	Ted Phipps	114 meters			34.9%	16
	Keith Wancowicz	112 meters			36%	8
	Robert Edmonds	TL				8
	Trip Barber	DQ				
	A Division					
1st	Abby Clark	209 meters			19%	80
2nd	Sam Clark	79 meters			55%	48
A Rocket-Glide						
	C & Team Division					
1st	Trip Barber	28 sec	210 sec		238 sec	200
2nd	Trash Always Wins team	32 sec	65 sec		97 sec	120
3rd	Joe Woodford	39 sec			39 sec	80
4th	Greg Bock	24 sec	DQ		24 sec	40
	Robert Edmonds	17 sec	DQ		17 sec	20
	A Division					
1st	Abby Clark	DQ	17 sec		17 sec	200
	Sam Clark	DQ	DQ			
1/2 A Streamer Duration (multi-round)						
	C & Team Division					
1st	Trip Barber	40 sec	45 sec		85 sec	120
2nd	Greg Bock	DQ	43 sec	40 sec	83 sec	72
3rd	Trash Always Wins team	DQ	29 sec	27 sec	56 sec	48
4th	Ted Phipps	16 sec	15 sec	15 sec	46 sec	24
	Joe Woodford	29 sec	DQ	DQ	29 sec	12
	A Division					
1st	Abby Clark	83 sec			83 sec	120
	Sam Clark	DQ				

Overall Points		
	C & Team Division	
1st	Trip Barber	320
2nd	Trash Always Wins team	248
3rd	Greg Bock	144
4th	Joe Woodford	140
	Ted Phipps	40
	Robert Edmonds	28
	Keith Wancowicz	8
	A Division	
	Abby Clark	400
	Sam Clark	48

Congratulations to NOVAAR's Recent High Power Certifications

Submitted by Eric Robinson with photos by Jason Vick

Kurt Beckman – Level 2 Certification using an Aerotech J350 motor.

Kirk Johnson – Level 1 Certification using an Aerotech H128 motor.

Rose Fichtel -- Level 1 Certification using PRO-38 I240 motor

NOVAAR Free Press On the Web??

At one of our recent meetings the club discussed the possibility of replacing the hardcopy version of the NOVAAR Free Press (Freep) with a web version available on NOVAAR's web site. The newsletter would be available as a PDF file (Adobe® Portable Document Format), which could be viewed using the free Adobe® Acrobat® Reader®. Members would be able to print the Freep with no loss of quality from the hard copy newsletter,

There are advantages to an electronic copy in terms of cost. Currently it costs the club about $100 to reproduce and mail an issue of the newsletter. This equates to $400 - $600 yearly depending on the frequency of publication. About 70 newsletters go to individual members, and about 20 get sent to other rocket clubs who we exchange newsletters with. I have 100 copies reproduced because I get a better price per page from Office Depot if I run 100 copies rather than a lesser amount. It costs about 60 cents a copy to reproduce and 37 cents postage. Mailing labels and adhesive seals bring the cost to about $1.00.

There are other advantages to an electronic copy of the newsletter. An electronic copy would have color. You could see these great launch pictures in color rather than in black and white. The newsletter would be available quicker. For max cost effectiveness I wait until I have 12 pages of material before publishing the Freep. Why 12 pages? That the max number of pages that can be mailed for one First Class postage stamp. NOVAAR members get the max amount of information for the one-ounce postage. A newsletter with fewer pages could be placed on our web page with no cost impact. Finally, a club member has the option of storing the newsletter electronically, with the option of printing off a hardcopy on an individual basis.

Before the club discusses this further, we decided to poll the membership and see how they feel about receiving the newsletter electronically rather than a printed copy. This is your opportunity to speak up. What do you think of transforming the NOVAAR Free Press to a web publication? Send your comments to gbock@erols.com

NARAM 44 Report

By Trip Barber

McGregor, Texas, is not listed in any travel guide as one of America's scenic spots. It is in the middle of the central Texas prairie, 15 miles west of Whacko (Waco) and 10 miles south of President Bush's ranch in Crawford. It's hot, dry, dusty, and brown. NARAM-44 was one of the big events of the year for the little town, though, and the nice people who live there really made us feel welcome. The local fire department was on-scene all week, on standby (never used, fortunately) and running the concessions. Local church groups sold refreshments. The mid-week social and BBQ was held in the town park, and the awards banquet was catered in the high school cafeteria. I guess you don't have to be in a scenic place to have a good NARAM, because we weren't but it was. Scott Hunsicker was NARAM CD for the third time in his NAR career, and he and his wife Nettie did an excellent job running NARAM-44. There were about 90 entries (including 24 teams) and 200 or so people there.

NOVAAR had only 4 entries at NARAM-44, far below our norm: Trip Barber, John and Andrew Hochheimer (as a team), Jim Brower, and Robert Edmonds (who flew his own plane in). We didn't fly all that well, either -- a grand total of two third and one fourth place among the lot of us. But we were there -- where were you? You missed a good meet -- big field, good weather (if 100 degrees and no wind is your definition of good), no significant organizational problems (this is NOT the norm for Texas NARAMs). And you missed a chance to see fields that were rippling in waves of crickets, a 10.4 no-recovery zone that was SERIOUSLY off-limits due to unexploded ordnance, and the first NARAM in history with USAF Combat Air Patrol cover. The CAP was overhead most of the time starting Wednesday when President Bush arrived at his ranch just down the road. We even got a visit from the Secret Service, who came out, looked us over, and allowed us to continue flying with an HPR waiver once they were convinced we could not reach to Crawford with our rockets.

You can check out the flight results at the NARAM web site, but since we didn't do all that well, don't bother. We finished something like 8th in the national point standings and had no members in the top 4 in any division. A few events in the week stand out, though.

- My helicopter duration test flight that landed in the top of the only tree on the entire field
- The pet bird and wild mouse that had the run of the shabby (rocketeer-quality) NARAM motel's main lobby
- The astounding 31 R&D reports that were entered -- a banner year for R&D
- Having a burger lunch at "W"'s favorite coffee shop in Crawford
- Jim Brower's "Spirit of NOVAAR" scale model -- crashed on its first flight, reassembled for a successful second flight by the customary NOVAAR teamwork with package-sealing tape, CA glue, and spare balsa
- John Pursley's first-place Mercury Redstone scale flight, a huge model that he radio-controlled (thrust vanes and recovery deployment) on the way up in a perfect flight.
- Glenn Scherer's last-place Pegasus scale flight, a three-stage overweight disaster (two upper stages had pop-out fins that didn't) that caught an adjacent launch tower at liftoff and dragged it 20 feet into the air before the whole flight went unstable and slammed into Chris Kidwell's rental car, creating a dent like a sledgehammer blow and a claim on NAR insurance.

Let's fly hard in all age divisions, and all go to NARAM next year -- it's time for NOVAAR to move back up in the standings! NARAMs make for good camaraderie and stories for a lifetime; there were plenty of both at NARAM-44.

Items of Interest

See following web site for information about the Nevada State Investigation of AeroTech, and the possibility the DA might launch a Probe for Possible Criminal Prosecution

http://www.co.clark.nv.us/Public_communications/aerotech_report.htm

August 2002 BATF Explosives Newsletter item on Sport Rocket Motors
http://www.atf.treas.gov/explarson/newsletter/ex_newsletter/aug_2002/page3.htm

-- Jonathan Rains

Rocketeering in Colonial Times---Wallops Island is Virginia's designated Spaceport. Named for John Wallop, a 17th-century surveyor who began patenting land on Virginia's eastern shore in the 1660's. In 1672 he received a Crown Patent of the 13-square-kilometer island from King Charles II, and in his will John Wallop referred to "my island formerly called Keeckotank." It was also known as Accocomoson or Occocomoson Island, but has borne the name "Wallops Island" for more than 260 years. from: "Origins of NASA Names" by Wells, Whiteley, and Karegeannes, NASA SP-4402, 1976

--Ted Phipps

NOVAAR MEMBERSHIP APPLICATION

Dues are $5.00 per year for members age 13 or younger, $8.00 per year for ages 14-18, and $10.00 per year for age 19 or older. The maximum yearly membership fee for a family is $20.00. Make checks payable to "NOVAAR" and send to the Treasurer at:

Roger Hillson
4317 Selkirk Drive
Fairfax, VA 22032
ATTN: NOVAAR RENEWAL

Roger can also be reached by email (hillson@erols.com) and telephone (703-978-6957 evenings). Be sure and put "NOVAAR RENEWAL" somewhere on the outside of the envelope, and enclose a copy of the renewal application.

Date _____ Please check one: ___ New Member ___ Renewal

NAME: _____

DATE OF BIRTH:_____

STREET: _____

CITY: _____

STATE: _____**ZIP:**_____

HOME PHONE:_____

NAR membership number, if a member: _____

EMAIL ADDRESS
(Optional)_____

I heard about NOVAAR from:

_____

Dues are for one year of NOVAAR membership and do not include optional NAR Membership.

Please check one category based on your age as of the previous July 1st:
One: __ Age 13 or younger ($5) __ Ages 14-18 ($8) __ Age 19 or older ($10)

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