



THE ZOG-43

The Newsletter of NARHAMS, NAR Section #139.
NAR National Champions 2001, 2004



November/December 2011
Vol 33 Number 6



Frank Panek, his military rocket and the new NAR banner
at the November sport launch
(photo by Alex Mankevich)

Outreach!	Page 6, 7
Fred's Frog plan	Page 8, 9
New Field	Page 10
2012 Calendar	Page 15

About NARHAMS

NARHAMS serves Baltimore, the state of Md., Washington DC and the surrounding Metropolitan areas. The club is a section of the National Association of Rocketry (NAR) and we are the oldest continuously active model rocket club in the United States, first established as a high school club in 1963, changing our name to NARHAMS when chartered as a NAR section in 1965. NARHAMS is the only seven time winner of the NAR "Section of the Year" award.

Years won: 1997, 1998, 1999, 2001, 2004, 2006, and 2007

NARHAMS members regularly fly their model rockets at NASA's Goddard Space Flight Center on Soil Conservation Rd. in Greenbelt Md. The launches are open to the public and are held the first Sunday of every month (weather permitting), starting at 1 PM.

Sport Launches are usually held the third Saturday of every month at Old National Regional park near Mt. Airy, Md. Check the web page for updates.

NARHAMS welcomes all prospective new members to our monthly meetings. They are held on the first Saturday of the month from 5:30 to 9:30 PM at the College Park Airport Annex Building. Dues are 10 cents a week, with an initial 50 cents up front (good for 5 weeks) as a sign of good faith.

Monthly meetings available on-line via chat-room, simply go to the NARHAMS homepage and click on the link.

Directions to College Park Airport:

Follow I-495 to Kenilworth Ave. South. Make a right onto Paint Branch Parkway, then make a right on Cpl. Frank S. Scott Dr. At the airport entrance go straight to the Operations Building, the annex building is adjacent to the "Ops" building.

THE ZOG-43 ZOG-43

Volume 33 Number 6
November/December 2011

ZOG-43 is the official newsletter of NARHAMS the National Association of Rocketry Headquarters Astro Modeling Section # 139

NARHAMS is the oldest model rocket club in the United States!

ZOG- 43 is dedicated to model rocketeers of all ages, abilities, and interest. We are committed to providing the most current, up-to-date information on model and real world rocketry, and to provide educational material as well as entertaining information. ZOG -43 is published bi-monthly and is available to anyone on a subscription basis. Current rates are \$10 for email or \$15 for meeting pickup or \$20 for postal mail U.S. Funds for 6 issues a year, payable to NARHAMS Material in ZOG -43 is not copyrighted. Free and unlimited reproduction is granted with the proper credit to the author and/or ZOG-43.

For more information.....

If you have any questions about ZOG-43 or NARHAMS, or if you have any comment(s), correspondence, free merchandise or if you'd like to submit an article, send them to :

ZOG-43,
1404 Sweet Cherry Court
Severn, MD 21144

E-Mail ZOG-43 at:
zog43editor@yahoo.com
Zog-43 Editor: Jennifer Ash-Poole

ZOG ROYAL COURT (NARHAMS OFFICERS)

ZOG (President)
Jim Filler

VICE ZOG (Vice-President)
Alex Mankevich

COLLECTOR OF THE ROYAL TAXES (Treasurer)
Ed Pearson

KEEPER OF THE HOLY WORDS (Secretary)
Chris Kidwell

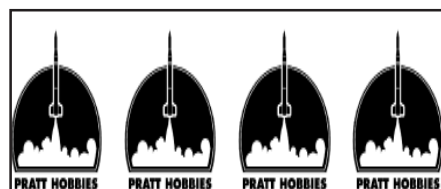
COURT JESTER (Section Advisor)
Mark Wise

New Members
October

Rob Ferguson

November

Richard and Ritchie Lempicki
Alec Waterhouse

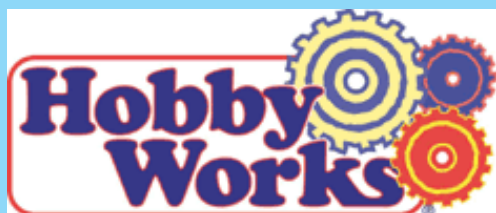


Pratt Hobbies

Rocket Party: 13 Super Six Kits,
25 rocket motors, FullBoost
Launch System, Quest Liftoff
Launch Pad, glue

Check it out at
www.pratthobbies.com

Mention your NARHAMS
membership on
the online order form for a
Special Ludicrous Discount!



Save up to 20 % at
Hobby Works when
you show your club
membership card.

THE ZOG-43

ZOG SPEAKS!

There must be some truth in the old saying that time goes by faster as you get older. The year 2011 has flown by and it seems like just yesterday we were having the annual holiday party for the club and everyone was having a great time. The party is always one of the highlights of the year, great food, great company and the biggest raffle of the year. If you recall we also had a separate raffle sponsored by Hobby Works ...thanks Scott!!! Raul Pena was the winner of the mighty Saturn V and I remember telling him he had just about 7 months to finish it in time for the Goddard contest. I still have not seen the completed model yet.... Raul? **Come on Man!** (a little ESPN humor for those that enjoy pro football)

Another great activity we are not going to have this year at the party is the “kit bash” contest. Maria Ha has decided to spearhead this activity for 2012 and I thank her for volunteering her time. Maria also worked with the membership putting together the latest haberdashery project through longtime screen printer and club friend Richard Hickok. I’m looking forward to getting some new t-shirts.

I’m also happy to report that the 2012 calendar of events is filled with an activity and a volunteer for refreshments for each business meeting, a theme for each sport launch, and most important a launch manager and activity coordinator for each sport launch! The club membership did great job with the planning meeting.

As the days grow shorter and the temps get colder, I hope you find some motivation to build some fun projects for next year’s flying season. I do want to draw your attention to a special event we are going to have at ECRM in June. The craftsmanship event this year is a provisional event called “Classic Model” I would invite you to read the rules for the event by going to the NAR website and click on contest flying then pink book. In a nutshell you enter a model rocket that was available prior to 1991. It can be original size or it can be an up or down scale as well. You put your best craftsmanship and finish on the model for judging. I think this is going to be a fun event that is going to bring some really nice models to be launched! (Editor’s Note: SEMROC has a Classic Model page if you are stuck. <http://www.semroc.com/Store/scripts/NARClassics.asp>)

I’ll leave you with my final thought which is to let KJ know that his president’s message was not a recycle of a previous message. I wrote it while eating lunch at work with no access to my previous columns.

Happy Holidays to Everyone!

Jim



Calendar for the next 3 months!

December 4	1pm - 2pm	Goddard Launch	Greenbelt, MD	
December 10	11am - 3pm	Sport Launch	Mt Airy, MD	Launch Manager:
January 7	5:30 - 9 pm	Monthly meeting	College Park, MD	Refreshments:Roy Lappalainen
2011 Year in Review (Alex Mankevich)				
Show and Tell theme: open				
Jan uary 21	11 am - 3 pm	Sport launch	Mt Airy, MD	Launch Manager:Jennifer Ash-Poole
Cold War glider spot landing fun event (Alex Mankevich)				
February 4	5:30 - 9 pm	Monthly meeting	College Park, MD	Refreshments:Jef Fineran
Glider building session (Kevin Johnson)				
February 5	1pm - 2pm	Goddard Launch	Greenbelt, MD	
February 18	11am - 3pm	Sport Launch	Mt Airy, MD	Launch Manager:Alex Mankevich
Mid-Power Day				

THE 20G-43

AIAA Demo Launch

(reports by Jim Filler and Brad Grant)

On October 8th, a handful of NARHAMSters put on a Demo Launch for the AIAA folks at the Applied Physics Lab Picnic area. With other air related hobby organizations, we put on a three rack



demo of the various types of Model Rockets we fly.

Ole Ed Pearson, Jef Finnernan, Febrice Delerieux,

Brad Grant, Jennifer Ash-Poole, Bill Harvey and Jim Filler met about 9am, set up the range inside the fence on the baseball field. At 10:30 we proceeded to launch the first rack, which included the Alpha III engine series demonstration. Other Racks included a Boost Glider Launch, a multistage launch, flying saucer launch, streamer and parachute launches.

All rockets were easily recovered even though the field was very small. We had near zero breeze and temps in the 70's. Weather conditions were great !

The MDRA club was also in attendance and made their bucket of borrow it fly it models available to the crowd. So we flew one more rack for the kids that wanted to borrow a model (this was a good idea btw). We broke down the launch equipment and got it packed away in Jennifer's truck. Our hosts invited us to join them for the bbq at the pavilion. So we decided to enjoy some lunch and headed home from there. A very positive experience overall and I am glad we got to participate.



2012 Kitbash Info:

\$20 per kit-prepaid to be distributed at the April NARHAMS meeting. (Kit is put together by SEMROC!)

Maria Ha is keeping mum about the details, but she did say that there will be a parachute, a streamer and other interesting parts.

Tom Ha laughed manically when asked about the kit.



Photos:

Top, The first rack (photo by Brad Grant)

second: The Big daddy flying (photo by Bill Harvey)

Left: The line control guys waiting their turn.(photo by Bill Harvey)

Above: The second rack of fun stuff (photo by Bill Harvey)

October Sport Launch Coverage

By: Jim Filler NAR #27862

The October 15th sport launch was delayed one week because of high winds in the forecast. We were actually starting to wonder if we were going to get another launch in this year after we cancelled the August and September launches. October 22nd started off nice with sunshine and reasonable temps & wind. I met John Stalnaker at the storage facility about 9:15 and we drove over to

the field to find the sun had disappeared under a deck of clouds. Things were still OK; we got some help setting up and got started about 10. I only set up one rack based on my on-line survey of

club members coming didn't get much response. I also tried to get away with out having to use the PA, but not long after we got started, I realized it was time to get the PA out.

We had about 25-30 people on hand by 11 am. We had a mix of regulars, locals, a few cub scouts and lots of rockets being flown. The Explorer post brought three new TARC teams and they had six very good flights all using E30 motors and carrying two eggs. Numerous models were seen flying over and over again. I decided that even though I was the launch manager I was going to do some flying myself. Thanks to my RSO helpers Alex & Fabrice who allowed me to get some flights in as well.

We totaled 121 flights for the day from about 10am until about 4pm. We had 6 TARC flights, three staged models, 1 cluster that flew twice, and we only marked three cards with less then nominal flights. The motor usage break down appears in the following chart.

Photos: Top right: Jack o Lantern on Pad

Top Left: Skull & Crossbone Rocket KEWL!

Bottom left: Jim Filler & Upscale Mini-Brute

(all photos by John McCoy)



Micro Max	Qty = 7	C	Qty = 35
1/4A	Qty = 0	D	Qty = 11
1/2A	Qty = 0	E	Qty = 9
A	Qty = 24	F	Qty = 1
B	Qty = 32	G	Qty = 1

THE ZOG-43

OUTREACH PICS from NJ and MD!



Steve Humphrey helping out 4-H kids launch in NJ



Steve tells rocket stories
(photos by Laura Herndon)



Dean Brown at Carroll County College Launch
(photo by Ed Pearson)



Ethan, Jordan, Sam, Kevin, Missy and Marie launch rockets
at Carroll County College.
(photo by Ed Pearson)



Hillcrest Elementary School launch
(photo by Ed Pearson)



Westowne Elem kids wait to launch.
(photo by Ed Pearson)

Windy Westowne Elementary School Launch by Ed Pearson

Elsewhere here we reported about the November public outreach at Hillcrest Elementary School in Catonsville, Maryland. A scant two weeks later, Tom and Johanna Bagg and yours truly were at another Catonsville School—Westowne—to help their fourth grade classes fly Alpha IIIs.

The session led off with a gymnasium presentation for the assembled fourth grade on space history and careers. The students, the Westowne Owls, were orderly and well behaved. Lunch followed and whilst the students went to the cafeteria (doesn't that bring back school memories?) the Baggs and I went to a local eatery that specializes in grilled cheese sandwiches. I write this because how often does one have the chance to use the word "whilst" in a sentence?

After lunch was launch. It was a typical elementary school field—immediately adjacent the school and essentially a ball diamond abutting a soccer field: close, tidy, basically rectangular and SMALL.

Seventy-two students flew their models. Although we set up close to the end of the rectangle and aimed the rods further into the wind (towards the closer end of the yard), the A-motors and parachutes allowed drift still the length of the school with a handful of models even crossing the road and into neighboring trees. Nearer trees on our side of the road bore even more decorating attention and some racks would put five out of six into their boughs. At least three models landed atop the school too. If we had more time and less models I am sure we would have cut holes in the 'chutes or used 1/2As. As it was, we were adjusting the launch angles and direction the first few racks trying to get the recovery right.

Fortunately, three-four parents were on hand to assist and use Tom's extension pole. The flights lasted from 1:40 to 3:00 pm and at the end, all roof rockets were recovered and only four models were left in the trees.

The teachers, Miss Bill, Ms. Myers, and Mr. Willig, were delighted by the event...but not as much so as the students, who were quiet and attentive during the gym presentation but LOUD and enthusiastic during and after the launch. Tom and Johanna have been doing these presentations for more than 15 years at Catonsville schools.

On the GSFC October launch, here's the report:

(by Ole Ed Pearson)

A quick rundown on October's GSFC launch: It was great. We had 27 new flyers and about 40 participants--all flyers and maybe two-four spectators. If you recall September's launch, we had all spectators (which we recruited as flyers). There must be something in the water! Thanks NARHAMS for a great job.

Blast from the Past and Build Session

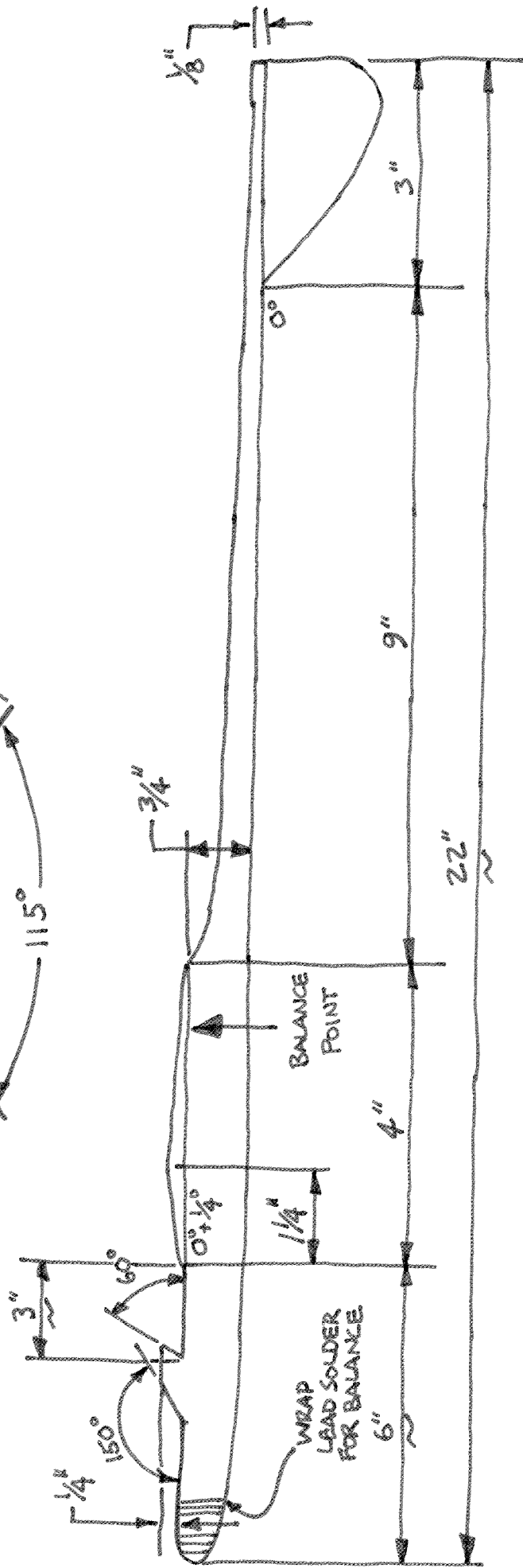
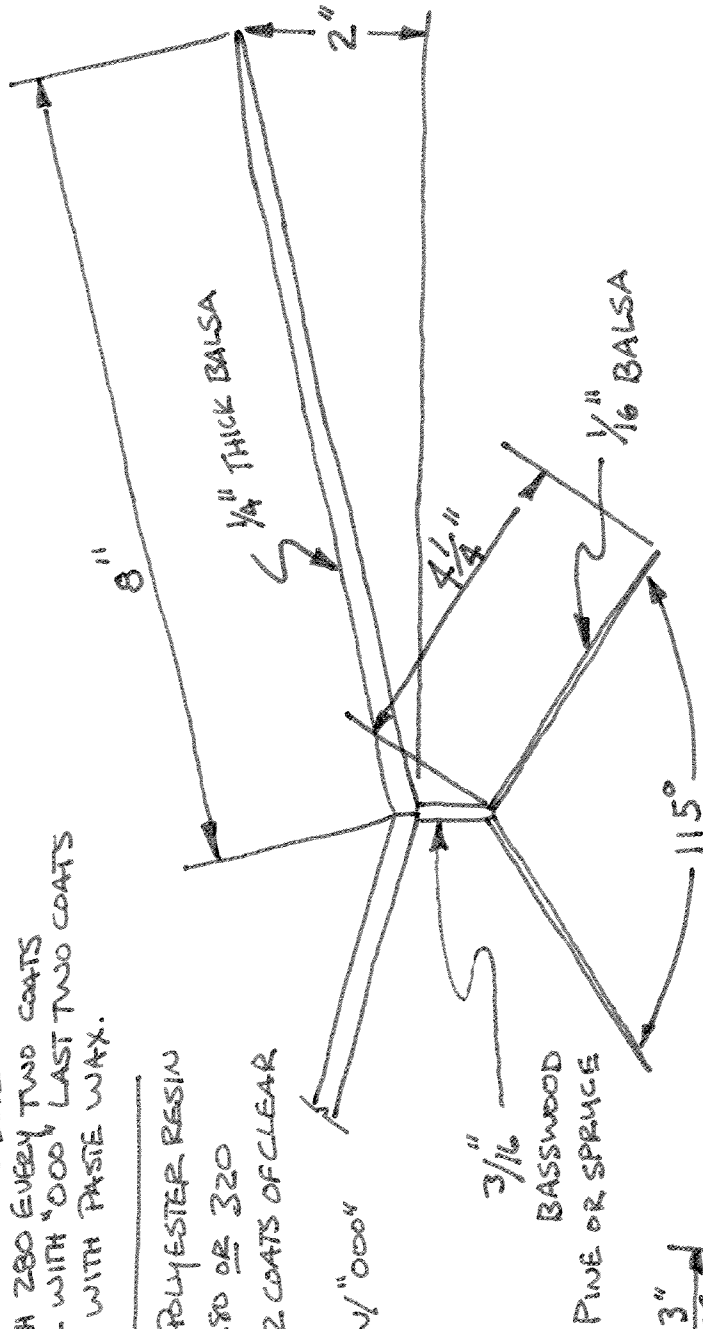
On the following two pages is a plan first published in the March 2002 Zog. It's Fred's Frog, originally by Fred Alford, but redrawn by Kevin Johnson. Kevin will be leading the build session in February for this plan. He might even have plans on how to make it RC.

Look for Kevin's hints and how he will be building the plan on the NARHAMS Yahoo list. If you aren't subscribed, send him an email telling him you will be at the February meeting for the build session, and he will send the information.

FINISH: 3 COATS OF SANDING SEALER
 4 COATS OF CLEAR DOPE
 SAND WITH 280 EVERY TWO COATS
 STEELWOOL WITH "000" LAST TWO COATS
 AND WAX WITH PASTE WAX.

OR

1 COAT OF POLYESTER RESIN
 SAND w/ 280 OR 320
 FINISH w/ 2 COATS OF CLEAR
 DOPE
 STEELWOOL w/ "000"
 THEN WAX.

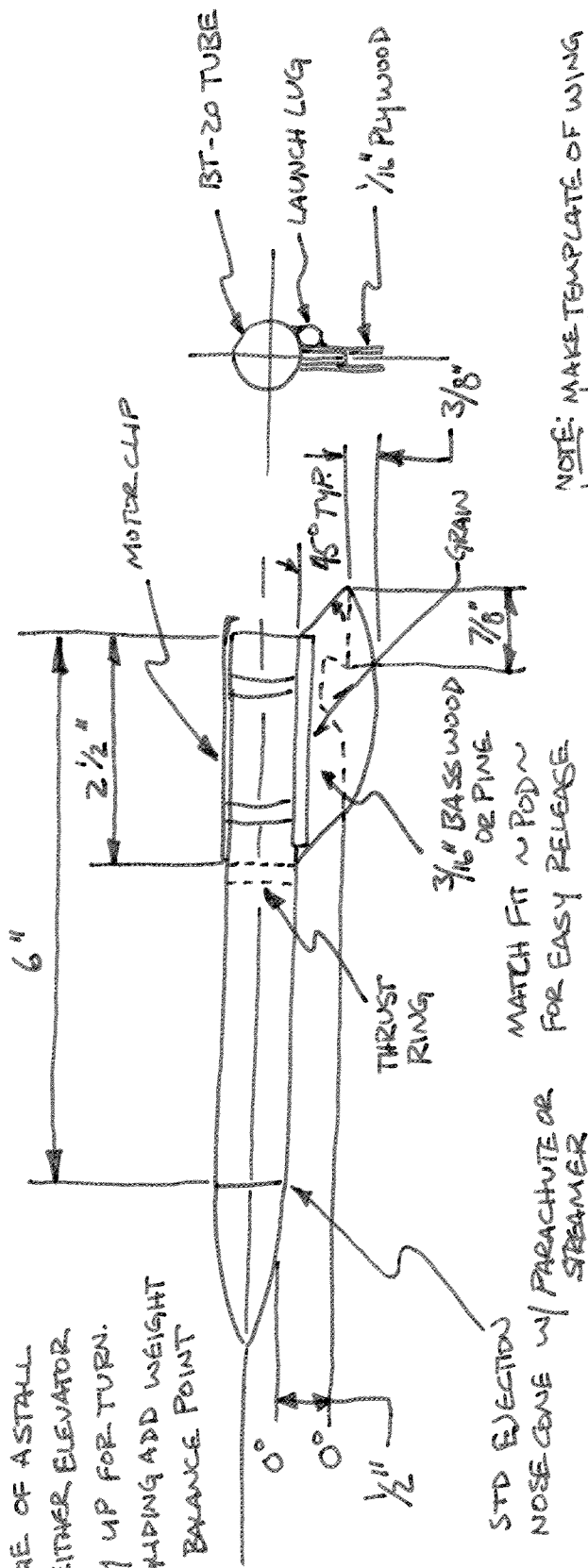


DESIGNER: FRED ALFORD

BOAT GLIDER FROGS
 SWIFT & HAWK CLASS
 "B" & "C"
 PAGE 1

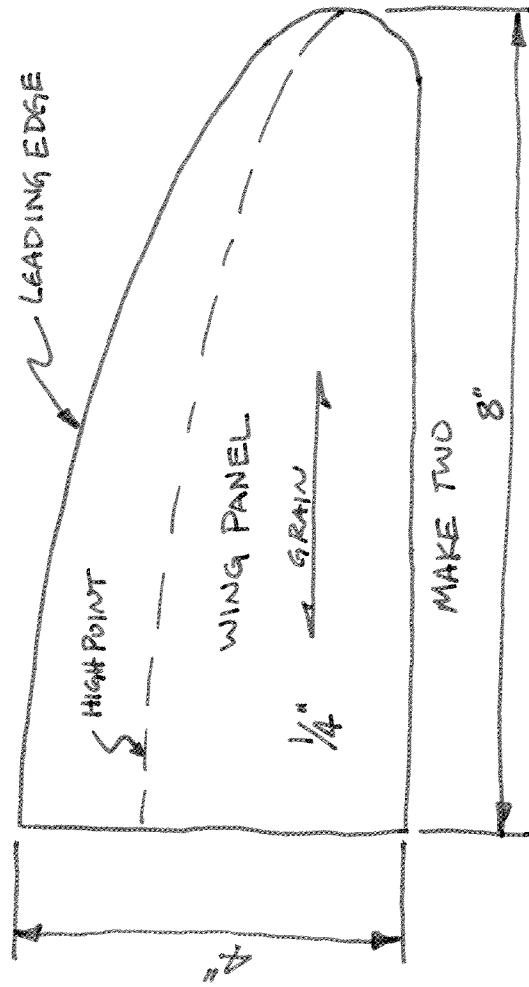
TRIMMING: GUIDES SHOULD CIRCLE

EITHER RIGHT OR LEFT
ON VERGE OF A STALL
BEND EITHER ELEVATOR
SLIGHTLY UP FOR TURN.
BEFORE GLIDING ADD WEIGHT
OBTAINED BALANCE POINT

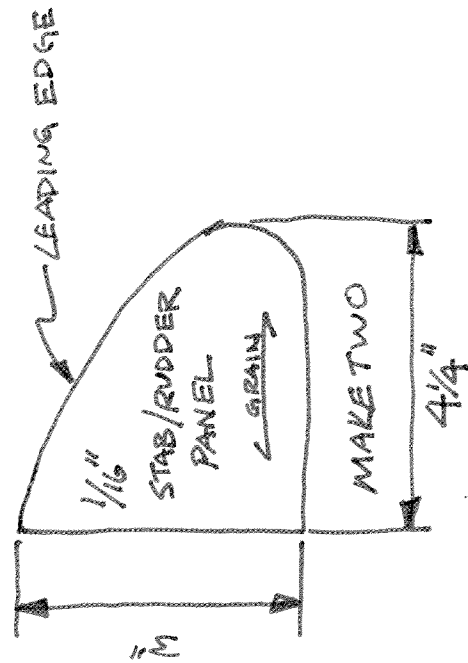


NOTE: MAKE TEMPLATE OF WING & STAB & FUSELAGE ON CARD BOARD (FULL SIZE) TRACE BOTH HALVES ON WOOD ~~BEFORE~~ CUTOUT SHAPE AND SAND BEFORE CUTTING IN MIDDLE FOR DIHEDRAL.

Pop Pod



SCALE: 1/2" = 1"



GSFC November Launch by Ed Pearson

Here are photos of people preparing their rockets at the November 6, 2011 Sunday public launch at NASA Goddard's Visitor Center. The participants were predominately from Cub Scout Pack 8 of Silver Spring, but we also had scouts from BSA Troop 205 of Ellicott City, another troop (#166), a large birthday party, and families with lent NARHAMS models.

Because of the crowd, our launches went beyond 2 pm and we finished closer to 3. After smoke settled we counted 20 racks, but because of misfires and 5-model racks we probably launched

about 110 models for the day. Tiara, a staff member of the center, volunteered to hand out new flyer certificates and by the end of the launch, she had written out 68. Volunteers included Jennifer Ash-Poole who did safety check and rocket recovery, Michael Cochran and Alan Williams as rack pursers, and Alex Mankevich who helped with prepping, repairs and lend-outs. Your cub reporter narrated. The weather was good but we lost many B-powered small models; feedback was excellent from parents and scout leaders.



The cub scouts and parents gather around Alex to hear a briefing on how to pack their rocket. (photo by Ed Pearson)



Jennifer Ash-Poole showing a young rocketeer how to fold his parachute (photo by Ed Pearson)



The empty rack at Goddard, soon to have lots of rockets on it. (photo by Ed Pearson)



The long line for the launch rack. (photo by Ed Pearson)

THE ZOG-43

November sport launch – A great day to be a rocketeer Brad Grant

With winter fast approaching and the quality launch days dwindling, the weather for the November sport launch could not have been better. While the day started it out a bit windy, the winds for the most part stayed in the 10 to 14 mph range.

With Jim Filler providing the critical assist in getting the launch equipment, we went to the field to set up. With MDRA's Red Glare this same weekend, we were not sure of the turnout we would have.

The range opened up at 10:30 and we had our first group of rocketeers join us. Not long after that we had two TARC teams show up to get some practice in. We then had a some of our regulars bring out a wide assortment of rockets for launching. We then had a cub scout group join us. With all these different rocketeers at the range, it made for a very busy but fun day. We had plenty of NARHAMSters available to perform launch duty, which meant everyone could fly their rockets.

We also had great help for clean-up.



Above: Rocketeers on the hill.
(photo by Frank Panek)



Alex as RSO.
(photo by Frank Panek)



Military Rockets was the theme.
And here are a bunch of them!
(photo by Alex Mankevich)

When the smoke finally cleared around 3:30 we had the following totals

number of rocketeers over 18
- 17
number of rocketeers under
18 – 21 (Includes TARC
Team)

Number of Flights - 123
Number of Successful Flights - 115

Engine Breakdown

Micro Maxx	- 13
13mm A	- 13
A	- 13
B	- 24
C	- 28
D	- 13
E	- 10
F	- 6
G	- 3

So in summary, for those who were able to make it and fly, I would say we had quite the fun day. That way if Mr. Winter does not cooperate at least we have some good memories.

THE ZOG-43

Sport Launch, Carroll County Agriculture Center

November 26th, 2011

by Mark Wise

We'd been waiting for the moment since August. We were finally going to stage our first sport launch from the Carroll County Ag Center. The weather forecast looked great, NARHAMSters had committed to bring everything from MicroMaxx through G models, and it was shaping up to be one of those great rocketry days that people would remember for a long time.

Jennifer Ash-Poole and I planned to show up early, to mark out the range and parking areas and begin the field setup.

However, by the time the gates were opened, we'd been joined by Tom and Maria Ha,

Jim Miers, and John Hochheimer. We drove through the two gates down to the Gesell Lot, an asphalt-and-gravel parking lot that made for a dry, flat rangehead. Many hands made light work, and we set up the field in near-record time. We set up System 2, with four 1/8-inch rods and two 3/16-inch rods, as well as an away pad with a relay I'd built just for the occasion.

We declared the range open at 10:00. For the record, the first NARHAMS launch from the Ag Center was Jennifer's Tube Thing, with an A8-3 and streamer recovery. It was the first of several memorable flights that day.

Every field has its idiosyncrasies, and our main goal for the day was to "learn the field" to decide if the field was suitable for club launches and outreach. We discovered that the trees just to the east of the Gesell Lot weren't as thick as they appeared to be on Google Maps, and while several models landed in the trees, all but one of them were eventually recovered. It

also wasn't long before we began experimenting with launch rod angles in the light to non-existent winds, as the asphalt surface was hard on balsa fins. Tube fins and gliders seemed to fare better on the hard surface than basic 3FNC models.

We made 95 flights between 10:00 and 2:30, including 23 mid-power launches. At the other end of the impulse spectrum, we saw nine 1/8 A (MicroMaxx) flights, all by John McCoy, including a rocket glider and a helicopter. Other notable flights included Jim Miers' two-D and three-D clusters, Ed Pearson's Deltie-B, Tom Ha's F-powered saucer, three G R/C rocket glider flights (two by Big Jim, one by Kevin Johnson), and Kevin's safety cone, launched on an F23-4.

We saw a few flights that were tense, mostly due to heart-stoppingly low deployments. Fortunately, the only prang of the day was this correspondent's LOC-IV, which lawn-darted spectacularly a couple of hundred yards downrange. About two seconds after impact, the ejection charge fired. Only the parachute and shock cord could be salvaged from the wreckage.



Mark Wise and Jim Miers, ready to fly.
(photo by Ed Pearson)



Jim Miers setting up
(photo by Ed Pearson)



The flight line, with cones.
(photo by Frank Panek)



One of Mike Kelley's flights.
(photo by Jennifer Ash-Poole)

THE ZOG-43

Carroll County launch (cont)



In honor of the Safety Grant,
we fly a traffic cone.
(photo by Ed Pearson)

By motor:

MicroMaxx: 9

½ A: 1

A: 9

B: 17

C: 22

D: 9

E: 3

F: 11

G: 9

2-B cluster: 1

2-D cluster: 1

3-D cluster: 1

Staged B to A: 1

Staged B to B: 1

By recovery system:

Parachute: 37

Streamer: 17

B/G: 9

R/G: 4 (1 MMX, 3 G R/C)

Helicopter: 3

Tumble/bounce: 6

Not specified on flight card: 19

By modeler:

John McCoy: 12

Jennifer Ash-Poole: 9

Tom Ha: 9

Maria Ha: 9

Jim Filler: 8

Jim Miers: 7

Ed Pearson: 6

Mike Kelley: 5

Roy Lappalainen: 5

Frank Panek: 5

Fabrice Derilleux: 4

Kevin Johnson: 4

Mark Wise: 4

John Hochheimer: 3

Alan Williams: 3

With a group made up almost entirely of experienced rocketeers, no outreach, and no soccer or football games making it necessary to have a deputy RSO, we had enough qualified people to cover the RSO table in half-hour shifts. That way, our regular RSO's had more opportunities to fly than they usually see at a club launch. Thanks to all of the 30-minute RSO's for sharing the burden!

The consensus among the group was that the field was a success. The large downrange area and the lack of athletic fields were a big selling point for our people. In addition, the Saturday flea market and craft show in the Ag Center gave our people the opportunity to do some shopping and take advantage of indoor plumbing. We've scheduled another launch for March 24th. See you there!

November 26th launch statistics:

95 flights (96 flight cards; one B/G hung up on the rail)



John Hochheimer RSOs
while Jim sleeps on the
flapper.

(photo by Ed Pearson)



Away and Close Pads

(photo by Ed Pearson)



Kevin's RCRG under Thrust

(photo by John McCoy)

Awsome Photo John!



Kevin's glider and liftoff

(photo by Frank Panek)

THE ZOG-43

Year in Review! (Pictures that didn't make previous Zogs, but were still great!)

(photos by Alex Mankevich, Ed Pearson, Jim McGraw, Brad Grant)



Bruce Canino at the helm.



Every rocket club needs a dog!



Ed Pearson at the Apollo Contest



OK, the computer says to do X, but I can't find that on this part.



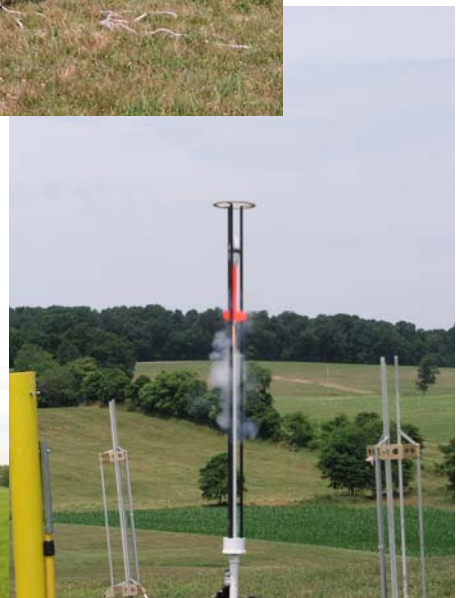
Typical Sport Launch Day at Mt. Airy



How Ed transports a Deltie to a launch.



That is how you land your plane for S8.



Egglofter flight at ECRM

THE 206-43

NARHAMS 2012 CALENDAR

Jan 7	5:30 – 9 pm	Monthly meeting, 2011 Year in Review (Alex Mankevich)	College Park, MD
		Show & Tell theme: open	
Jan 21	11 am – 3 pm	Sport launch, Cold War glider spot landing fun event (Alex Mankevich)	Mt. Airy, MD
Feb 4	5:30 – 9 pm	Monthly meeting, B Boost Glider building session (Kevin Johnson)	College Park, MD
Feb 5	1 – 2 pm	Goddard public launch	Greenbelt, MD
Feb 18	11 am – 3 pm	Sport launch, Mid-Power day	Mt. Airy, MD
Mar 3	5:30 – 9 pm	Monthly meeting, Classic Model discussion (Jim Filler)	College Park, MD
		Show & Tell theme: scale models	
Mar 4	1 – 2 pm	Goddard public launch	Greenbelt, MD
Mar 17	10 am – 4 pm	Sport launch, St. Patrick's Day theme	Mt. Airy, MD
Mar 24	10 am – 4 pm	Members-only launch	
Apr 1	1 – 2 pm	Goddard public launch	Greenbelt, MD
Apr 7	5:30 – 9 pm	Monthly meeting, Kit bash (Maria Ha)	College Park, MD
		Show & Tell theme: previous kit bash models	
Apr 21	10 am – 4 pm	Sport launch, Ping Pong ball spot landing fun event (Maria Ha)	Mt. Airy, MD
Apr 22	noon – 5 pm	Rockville Science Day, Rockville Community College	Rockville, MD
May 5	5:30 – 9 pm	Monthly meeting, Contest building session (Kevin Johnson)	College Park, MD
May 6	1 – 2 pm	Goddard public launch	Greenbelt, MD
May 12	7 am – 5 pm	TARC 2012 Finals	The Plains, VA
May 19	10 am – 4 pm	Sport launch, ABC triathlon fun event (Chris Kidwell)	Mt. Airy, MD
Jun 2	5:30 – 9 pm	Monthly meeting, ½A Cluster Altitude building session (Jim/John/Chris)	College Park, MD
Jun 3	1 – 2 pm	Goddard public launch	Greenbelt, MD
Jun 16-17	10 am – 4 pm	ECRM-39 Regional Meet (Jim Filler)	Mt. Airy, MD
		Events: Classic Model, Set Duration (60 sec), ½A PD MR, B BG MR, ½A Cluster Altitude (with altimeters), Open Spot Landing	
Jul 1	1 – 2 pm	Goddard public launch	Greenbelt, MD
Jul 7	5:30 – 9 pm	Monthly meeting, Pot Luck Picnic (Mark Wise)	College Park, MD
Jul 15	12pm-4pm	Apollo Contest - Goddard	Greenbelt, MD
Jul 21	10 am – 4 pm	Sport launch, Maryland Funny Meet 3 (Mary McCoy)	Mt. Airy, MD
Jul 28 – Aug 3		NARAM-54	Muskegon, MI
		Events: R&D, G ELA (D for A/B div) (with altimeters), Classic Model, Sport Scale, A HD, B BG, C SD MR, A PD MD, Set Duration (60 sec), Open Spot Landing	
Aug 4	5:30 – 9 pm	Monthly meeting, Open building session (Alex Mankevich)	College Park, MD
Aug 5	1 – 2 pm	Goddard public launch	Greenbelt, MD
Aug 18	10 am – 4 pm	Sport launch	Mt. Airy, MD
Sep 2	1 – 2 pm	Goddard public launch	Greenbelt, MD
Sep 8	5:30 – 9 pm	Monthly meeting, Elections, Masking techniques (John McCoy)	College Park, MD
		Show & Tell theme: night launch models and electronic	
Sep 15	10 am – 4 pm	Sport launch, German theme, Oktoberfest picnic, Night launch	Mt. Airy, MD
Oct 6	5:30 – 9 pm	Monthly meeting, Ole Ed movie night (Ed Pearson)	College Park, MD
		Show & Tell theme: odd roc models	
Oct 7	1 – 2 pm	Goddard public launch	Greenbelt, MD
Oct 20	10 am – 4 pm	Sport launch, Halloween/Odd-Roc theme	Mt. Airy, MD
Nov 3	5:30 – 9 pm	Monthly meeting, Planning meeting	College Park, MD
Nov 4	1 – 2 pm	Goddard public launch	Greenbelt, MD
Nov 17	10 am – 4 pm	Sport launch, Glider theme and trimming sessions (Kevin Johnson)	Mt. Airy, MD
Dec 1	5:30 – 9 pm	Holiday party, Greenbelt Community Church	Greenbelt, MD
Dec 2	1 – 2 pm	Goddard public launch	Greenbelt, MD
Dec 15	10 am – 4 pm	Sport launch, Holiday theme	Mt. Airy, MD

Note: Sport launches at Mt. Airy are open to NARHAMS members only for the first 2 hours, and open to everyone thereafter.

SPORT LAUNCH
January 21, 2012
Mt. Airy, MD

NOTE!
No January Goddard Launch

SPORT LAUNCH
December 10, 2011
Mt. Airy, MD

PUBLIC LAUNCH
Goddard Space Flight Center
Visitor's Center
December 4, 2011

Launch Schedule

206 - FORTY THREE
1909 SWEET CHERRY COURT
SEVERN, MD 21194

