



THE ZOG-43

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



Jan/Feb 2011
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Look! Club Officers building rockets!
(photo by Alex Mankevich)

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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.

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.

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 meeting pickup or email or \$15 for postal mail U.S. Funds for 6 issues a year, payable to NARHAMS

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ZOG ROYAL COURT (NARHAMS OFFICERS)

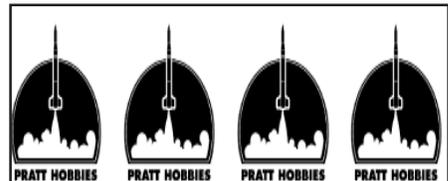
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Alex Mankevich

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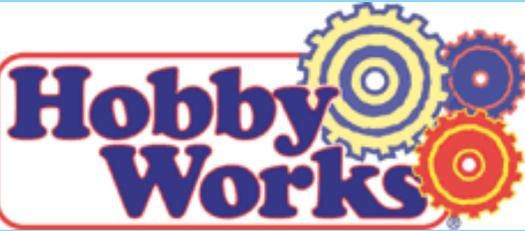
COURT JESTER (Section
Advisor)
Mark Wise



Pratt Hobbies is proud to announce that we are now a QUEST dealer! Contact us for all your Quest and MicroMaxx products.

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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.

From the President

I look out my window and even though the calendar says it's Jan. 29th. My mind is months ahead reeling for warm weather. Not only for flying model's but for those that don't have paint booths an opportunity to do some painting. NARHAMS puts together a yearly calendar every year to schedule a year's worth of activities for club member's to participate in. I encourage you to spend a few minutes reviewing the calendar and hope you find some items that interest you in participating. We are always looking for more people to participate in these activities we have taken the trouble to put onto the schedule. We still have several regular sport launches that need a "Launch Manager" to make them go. We need new Launch Managers to step up and run launches. Some of us seasoned veterans are not getting any younger. I would like to be able to come to a launch and have several volunteers do range duty for an hour each and still get to enjoy the launch. If you're interested in learning how to volunteer your service, please see me, or one of the club officers. This is great way to pay forward to the future of our hobby.

Shifting gears, I would like to touch on business meetings. I received a suggestion a while back and would like to share it with you. I would like to encourage anyone that is attending meetings to bring your latest project you just finished for everyone else to see! I look forward to seeing your cool models. We schedule business meetings to get necessary club business taken care of as well as an opportunity for us all to gather, build and share common interests. A few things need to happen for these to be successful. When we are open for business I remind all club members to raise your hand so I can call on you to speak. Too often some people just interject without considering those that are following procedure. I have received feedback from several members that when I take the time to create an agenda and then stick to the agenda, then the meeting becomes easier to bear. The last item I am going to mention in regards to our group and our hobby; please remember above all else that this is a hobby and anybody that is volunteering their time deserves your respect. I am going to leave you with this thought; I hope to see you at the upcoming club meetings and launches.

Jim

NARTS (Technical Services)

by Tom Ha

I thought I'd write an article on not just the obvious of what NARTS is, but some of how it works and what gets done. It's on my mind because I just gave NARTS over

to Brad Cline, a long-time rocketeer from Ohio.

I'm one in a very short list of NARTS Chairmen, and I'm afraid my tenure was one of the shorter ones too, covering only a span of about 4 and a half years. Back when I decided to step up my involvement in rocketry to the national level, the only open position was the new one of Historian. I emailed back and forth about it and had actually accepted the position when Bill Spadafora posted on the NAR Sections listserv that he was looking for a replacement. I think Bill had the easiest time finding one, because I quickly switched to the NARTS role. I didn't give it much thought when I became Historian for a day, because I knew that NARTS was what I really wanted to do.

NARTS is a business without many of the disadvantages of a business. We're not tasked with making a profit, but to make sure we offer items to rocketeers that will help them in their craft. This niche has been filled gradually by overlapping products with some other businesses, though not enough to need to do away with NARTS. NARTS from the start was not a rocket-kit business, as we knew that Estes and Centuri would fill that bill. Nowadays of course we have Red River and Semroc and about thirty other kit companies.

When I say "without many of the disadvantages", I mean that. NARTS does not pay anyone a salary, does not have to market to masses of people that may never buy our product, and has no stockholders just waiting for their dividends. The glory in that to me was that I could experiment with items and take chances that others could not.

For example, when I heard that people were looking for stainless steel igniter clips, I immediately considered it. When I then discovered that the minimum to get a decent price was 1000, I reconsidered it! But I got pre-sales commitments for about 200 and that allowed me to take the leap. Over the last two years, I've nearly sold out of the 1000 clips I bought, but NARTS has made about \$150 on the total sales. Not quite a stunner for profit, but a great item that rocketeers obviously need and appreciate getting at a reasonable price in reasonable quantities. (I do suggest that people buy at least two, and buy them in pairs).

Blast deflectors are another interesting item, one that I fell into because the guy who had them made ended up with extras. NARTS was the name given to him for a reseller who might take them on, and I did. They aren't huge sellers, nor can there be much profit at a selling price of five dollars, but the cost was low and it is an item that is otherwise hard to come by (at least with laser-cut holes for 1/8", 3/16" and 1/4" rods in each one).

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NARTS Technical Services

NARTS is really time-consuming in the day-to-day things that any business has to deal with, ordering inventory, processing sales, shipping orders and coming up with marketing materials, promotions and tracking it all. Reporting on sales, taking end-of-year inventories, balancing the checkbook and paying royalties are all part of the job.

One of the few disadvantages is that the NARTS Chairman gets no pay, which actually is ironic in a sense. I've known for a long time now that many vendors attend an event like NARAM and if they sell enough product, they feel free to buy stuff from other vendors with their profits. So I sell lots of stuff, but when I go to buy things, I end up spending more of my own money on kits and engines and all the great stuff I get to see by going to these events!

The other part that can be a downside is that the travel to events is also not reimbursed. While I do like to attend events, there is again some irony in needing to attend events to sell stuff, but knowing that by attending these events I'll have to pay out for the (sometimes considerable) cost of travel, room, board and other miscellany, including all that neat stuff I just had to have from the other vendors.

All in all, though, I wouldn't have done it any differently. NARTS has changed my life for the better.

NARHAMS Night Launch #14 – Sept. 18, 2010

Reported by John McCoy – Nar-15731

Oh man, oh man! If you missed September's day/night sport launch you really missed a gorgeous flying day and night.

Our new UV LED night flight card fixture really lights up the range head table well and the new ¼ sheet fluorescent night flight cards glow just dandy. Reading the cards was easy at that end but some smart guy filling out his flight cards in red ink made it really hard for the check-in guy with his red lens clad flashlight LOL!!! Shame on you, Jim, shame.

The Moon came up early (about 6:30pm) making it very visible and easy to spot all evening. Super close Jupiter shining second brightest just below and left of the Moon. Mars could also be seen off to the west very low on the horizon. Major constellations were easy to spot.

As the sunset so did the pleasant 78° F temperature and our low 39% humidity jumped quickly to 46%. Dampness began to be felt while our exhaust smoke hugged to the grass long after the rocket had left the range. Light NW 3-5mph breeze we enjoyed all day went completely still as night fell, with an almost cloud free star and Moon filled sky!

Starting off the evening's flying was the 14 year old 4xD12 clustered 43 LED illuminated 3X upscale Nova Payloader by the author. This old bird has been flying at all but 2 NARHAMS night launches since we started back in January of 1996. Her mostly, weak by today's standard .63mcd radio shack LED's barely show in the photos, but the 1-12,000mcd orange in the white nosecone glow well enough in the sky for night tracking of another very nice clustered BP flight. This model's LED string payload section will be getting a makeover with new high brightness S-flex LED strings before she flies again next year.

A late head count of the folks on the field came to a surprising 55 total. This might be off by a couple with folks moving around but should be pretty close. We had a very good flying turnout this year with 37 flights by 19 different flyers. Even our own Alan Williams appeared to fly a very interesting blue/white pendant LED illuminated bottle bottom nosed model. Great flight Alan! Kevin Johnson flew his Icarus, twice showing off a very nice blue LED flexible stripe wrapping the model body purchased from an auto parts store along with a K-Mart lighted "red-nose" ball as the nosecone.

Mike Howie gave use two different looks at specialty kit models from Leading Edge Rocketry "the Phantom" and an E30-4 powered green LED illuminated "Alien", as well as I believe his original "Lighting" model on a D12-5. Some very nifty looking models Mike!

Several of the younger folks; Aimitre Avramov, Dimitre Avramov, Isaac Schofer & Patrick Stalnaker flew smaller A and B powered models with cylume (glue sticks) taped or otherwise attached to the exteriors of their daytime flying models. Caroline Berg flew her LED lighted Stealth saucer twice.

John Stalnaker treated us to a 4xC6 clustered Blue Streak flight. A really fine looking cluster flight John.

During all this Alex Mankevich, Kyle Mobry and Bruce Wayson were busy flying 4 models each making a 3-way tie for most models flown for the evening.

Flying was pretty solid until Jim closed out the evening with another great clustered flight flying his 4xD12 clustered "4x4" at 9:24PM.

All in all not a bad nights flying...two 2-motor clusters, three 4-motor clusters, one 2-stage...though it was also the strangest flight of the night. 3 saucers, 1- dual glider and 27 various single staged models.

We burned: 1- A6-4, 5- A8-3, 1- B6-2, 6- B6-4, 2- C6-0, 9- C6-3, 4- C6-5, 1- C11-3, 1- C11-7, 1- D12-0, 11- D12-3, 5- D12-5 and 1-E30-4 motors.

Many thanks to everyone who lent a hand in this very important part of range teamwork helping to get us off the field by 10:00pm. Great job everyone!!!

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NARHAMS November 2010 Sport Launch Report

By: Alex Mankevich NAR# 86018

“These are dark times, there is no denying. But I say this, to our NARHAMS membership: We, ever your servants, will continue to defend your right to fly rockets and repel the forces that seek to take it from you! Your NAR section, remains, strong!”

Apologies to: Rufus Scrimgeour – character in the blockbuster movie ‘Harry Potter and the Deathly Hallows: Part 1’

It seems only fitting that on the opening weekend of the latest Harry Potter film that I highlight in this report the sacrificial and unselfish efforts that are obviously shared between your section members and the heroic characters portrayed in this epic film.

The November 2010 Sport Launch was agreeable thanks in large part to the devoted men and woman who stepped up

to shoulder the burden of responsibility so that others may enjoy this day.

Many thanks go to Maria, Tom and Zach Ha and to Fabrice Derullieux for untiringly

devoting their time and energy to ensure a successful and enjoyable launch.

This launch day dawned a cool morning but with fair skies. A steady wind persisted

throughout the day, but was well below any cause for concern. Towards mid day one could argue that we enjoyed mild temperatures. Fortunately, we didn’t have to contend with any activity on the nearby soccer fields.

Tom and Zach ‘were there for me’ to help with the launch equipment transport and set-up. Once we were launching, Tom skillfully served as mentor and instructor to a number of flyers who were new to how we conduct our sport launches. Zach admirably performed the role of pad assistant and grass fire inhibitor specialist.

Our morning kicked off with students from the physics department at Towson University and a number of other new faces eager to launch their fleet of rockets. As launch manager, I noted that some flyers were staring with bewilderment at the launch rack’s six metal rods, as well as displaying puzzled looks at the presence of small alligator clips inexplicably attached at the end of electrical wires also sticking out of the launch

rack. At this point I hurriedly engaged Fabrice Derullieux to also supervise the activity at the launch rack and to offer fixes to problems the flyers had with loading their rockets for flight. Fabrice stuck with his duties throughout the day, and even had the excitement of chasing after possible grass fires with either the fire

extinguisher and/or fire flapper. Ultimately no fire suppression skills were needed, but both Zach and Fabrice remained alert to any possibility of such.

Maria Ha joined us before lunch and capably took over the RSO/pad assignments functions. By day’s end she accepted 120 flight cards. She also completed six first time flyer certificates, some of which went to the Towson University students. Maria also got in on the launch fun flying her Bumblebee a couple of times.

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A TARC team gets ready to launch
photo by Alex Mankevich



New member Fabrice checks out the rockets
photo by Alex Mankevich



Kevin Johnson’s Space Ship 1 is prepped for launch. It is RC controlled.

Photo by Alex Mankevich

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Towards noontime, we were graced with the presence of a special guest in the person of Ole Ed. As ever, Ed fell into the role of rocketry good will ambassador and unofficial good cheer distributor.

This sport launch presented flyers with perhaps their last opportunity to qualify their kitbash models before the December meeting judging. Therefore the kitbash launch activity was furious. Ellen Fineran started things off by qualifying her Disney's Castle Express. Ellen's flight at the October launch went off unstable, however she made the right fix to launch her model at this launch with a straight and true flight. Jeff Fineran launched his Super Hornet on a C-11. Tom Ha qualified his Scary Unstable on a D-12. Bruce Watson sent up his kitbash on a C-6. Tom Rackers showed up later in the afternoon to qualify his Big Birdie on a E-9.

This November launch was billed as a "R/C Glider Day". Three flyers made a total of five glider flights. Dimitre Avramov twice flew his Apus II r/c glider on a D-5. Thomas Henderson brought out his Valkyrie 5. Someone named Kevin Johnson flew two glider models. The first was a Megga Dagger and the second was a RC Space Ship One. Buzzing around the range, but not off the launch pad, was Robert Edmonds.

Two-stage flights were all the rage at this launch. Chris Greco flew his Stretch 2-Stage FatBoy. Alex Hall sent flying his 2-Stage Romper, the UMBC Big Dog was twice flown by David Mason, Jonathan Hunter let loose his White Knight, the Mongoose soared thanks to Dave Szymproch, John Stalnaker flew both this Fliskit and his Corona. The doubtable Little Jimmie Filler twice launched a two-stage something called a Bag of Parts.

Not to be upstaged, UFOs wobbled and tumbled for a total of five flights by three aliens, I mean, flyers. Tom Anderson flew his Pecklitz and 13 mm UFO models.



A rack almost ready for flight. Photo by Alex Mankevich

Doug Beard sent off his Yellow Saucer model. Tom Ha completed the alien invasion with his Oooh Shiny UFO.

Team America Rocketry Challenge (TARC) teams took advantage of our November sport launch to conduct tests of their models in preparation for next spring's contest. Five sport launch cards were filled out by TARC flyers. All their models flew from our away pads, mostly using E-30 motors.

I would like to make a couple of Honorable Mentions to this launch. Jonathan Hunter had conducted a science experiment project whereby he tracked the altitude of his "Dark Lord" (as in Harry Potter) model. Jonathan tried to do this project at the November Goddard Launch, but was dissuaded by the high winds which persisted that day. Matthew Berg made six flights with "Bob" the astronaut on board, and Caroline Berg made three flights with "Al(ien)" as a passenger.

As launch manager I've taken the liberty of creating a new category for flight tracking. It is called the **Family Frequent Flyer** table. The November launch breaks down as follows:



Maria Ha checking in a model Photo by Alex Mankevich

Family	Member/Flights	Family Total
Matlock,	Mercedes (2), George (2)	4
Avramov,	Stoil (3), Dimitre (2)	5
Fineran,	Ellen (3), Jef (3)	6
Ha,	Maria (4), Tom (3)	7
Berg,	Caroline (9), Matthew (10)	19

I have to say that I have three favorite flights of the day. One launch was Caroline Berg's Estes' Death Star on a C-6. Those familiar with this model know that it bursts upon ejection charge into four innards that

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descend upon steamers. Another favorite was watching Ellen Fineran overcoming her past set-back with a good flight of her Disney's Castle Express kitbash. A final favorite flight goes to the inestimable Kevin Johnson who thrilled me with his radio controlled Space Ship One glider flight that he luckily (?), inadvertently (?), or unintentionally (?) recovered from a death spiral to a level and horizontal profile.

The motor usage chart reflecting 120 flights breaks down as follows:

Type	# Flown
¼ A	1
½ A	6
A-3	1
A-6	8
A-8	11
A-10	5
B-4	6
B-6	42
C-6	20
C-11	3
D-5	2
D-9	1
D-12	12
E-6	1
E-9	2
E-30	4
F-22	1
F-24	1
F-60	1
G-38	1
G-40	1

Total Motors Flown = 130

By my calculations we burned a total of 1409.62 Newton-Seconds of rocket propulsion total impulse. Our cumulative total impulse is comparable to a single Animal Motor Works K530W motor which is rated at 1410 N-S of total impulse.

We logged eleven 'problem' flights spread over 120 total flights. Three were motor ejections, two each were lawn dart and unstable flight, and the remaining flights have been classified as nose heavy, body separation, CATO and improper ignition sequence. Three times our pad assistants rushed to ascertain that no grass fire had started.

December Goddard Pictures!

(all photos by Alex Mankevich)



Ole Ed checking the winds at Goddard.



Ed at the mike.



An elf taking time out of working on presents to help launch.



The launch pad. Looks cold and windy!

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Rocketry Zogmusings

By: Alex Mankevich – Vice Zog

Chapter 1: Am I a space enthusiast, rocket scientist, modeler or cheerleader?

Introduction

We have a very momentous year coming up in 2011. It is after all the 50th anniversary of the first human in space. Russia's Prime Minister Vladimir Putin has been named as the chairman of Russia's organizing committee for the events commemorating the historic flight of Soviet Air Force Major Yuri Gagarin. Russia has declared 2011 to be the 'Year of Space'. Undoubtedly we in America will see (and NARHAMS will hopefully participate in) some major commemorative events surrounding the anniversary of Alan Shepard's historic sub-orbital flight aboard Freedom 7.

In anticipation of these historic celebrations, I have taken it upon myself to collect some thoughts and aspirations in order to kind of 'prep' us NARHAMSters for the big events in the near future. I thought I'd start by trying to define who we are as individual modelers and as a NAR section. Of course, my insights aren't the only ones that count, but if this article in some way makes you feel better about the time and efforts you've devoted to this hobby, then so much the better.

Jack of all trades – master of none

We're all familiar with the above expression. If you try to do it all you end up in a self-defeating mode of consistently producing mediocre, sub-standard results. Another way to say the same thing is to acknowledge that if you try to please everyone, you then end up pleasing no one. But, isn't this paradoxical situation precisely how a NAR section seeks to conduct its affairs? Don't we cast a wide net in order attract potential members who may be inspired by one, some or many of the various niches of sport rocketry? Don't we like seeing our members become attracted to then later excel at very specific aspects of our hobby such as contest flights, radio controlled gliders, micro modeling, outreach programs, scale modeling, electronic payloads, multi-stage rocketry, multi-clustered rocketry, newsletters and magazines, etc? We impose no 'penalty' upon someone who aspires to become the next Michelangelo of (*fill in the blank*).

I have been dabbling in sport rocketry ever since I've developed the digital (meaning: fingers) dexterity to connect micro clips to an igniter wire. Yet I've only

recently begun to participate in this hobby as a member of an organized NAR section. So, what have I gained by going 'organized'? I became exposed rather quickly to the many and various specialties, niches and aspects that make up this hobby (see the list in the above paragraph).

It would have taken me years to accumulate the exposure to all this had I tried to do it on my own. Absent guidance and/or inspiration through a NAR section, I wouldn't have been able to accumulate the requisite knowledge to become the better modeler that I am today. So, for me, it is good that NARHAMS spreads itself out (some might say spreads itself thin).

I don't believe that we degrade our identity when we try to coordinate and offer to the public several of the various domains that make up sport rocketry. Further, I don't believe that we degrade our identity when we schedule whimsical events such as ping pong ball spot landing for the public to enjoy. We have numerous members that are enthusiastic, talented, accomplished and expert at what they do. Each one of us is an inspirational story in her/himself, and you never know what will resonate with our next potential recruit.

I AM a REAL rocket scientist!!!

I've seen several middle-aged dudes wearing a T-shirt proclaiming that they are the real deal, just like Werner von Braun. I've been sorely tempted to buy one of those "I am a rocket scientist" T-shirts for myself. Ultimately, some nagging sense of meritocracy keeps me at bay. If only someone would come out with a T-shirt that says "Kiss me, I'm a Rocket Scientist"!

In my estimation, someone who is a real rocket scientist is someone who earns a paycheck for putting something into orbit. That person may be working on computer programs, communications, guidance, hardware, payload – whatever. The distinctive thing for me is that a real rocket scientist earns an income while being immersed in a scientific approach towards producing a consistent, reliable and reproducible aeronautically-derived product that gets miles above the earth's surface. This person employs an experimental approach which is dedicated towards producing a fool-proof product, and backed up by a commitment to continuing education. This is what I deem necessary for one to be called a real rocket scientist.

So, by my definition, an amateur rocket scientist isn't all that far behind the real rocket scientist (let's take the (*continued Page 9*))

Rocketry Zog Musings continued

'orbiting' criterion out for now). We good amateur rocket scientist know that once the micro clips are attached, the rocket must perform autonomously, reliably and dependably in order for the launch manager to declare a 'qualified' flight. A whole lot of good, professional scientific stuff has to be incorporated into our model's design, construction and flight preparation to earn the "oohs" and "aahs" of the crowd. We sport modelers conduct ourselves by self-imposed standards of precision, reliability and robustness when we perform high-end rocket construction using calculations and adherence to meticulous quality control. These 'good science' practices are the same hallmarks by which the real rocket scientist is performing on the job. Sure, any young Jim Filler wannabee can shove a "C" motor into the back end of a recently-bought, ready-to-fly model, and that model will reasonably fly. What I am talking about here is taking oneself to the level where you can become good enough to seriously participate in several of the aspects of our hobby, and have a satisfying sense of pride, joy and achievement as the result.

Step aside NASA... NARHAMS is here.

A couple of years ago I attended a Space Day event at the National Air and Space Museum and sauntered over to the NOVAAR display. This was when we were just beginning to hear that the days of the Space Shuttle were numbered, and it was already a certainty that many years of hiatus would ensue before NASA would be launching its next generation of manned rocket. I brought up that topic to one of the NOVAAR guys, and casually mentioned that it looks like the NAR was going to have to take up the slack to keep the interest of the space enthusiast engaged until NASA readies its next spacecraft. Naturally, the NAR wouldn't be have any responsibility to contribute towards the development a man-rated vehicle, but wouldn't we be assuming some sense of responsibility to 'step up' for the space enthusiast at a time when NASA will be disappearing behind the drawing board? The hiatus following the Columbia disaster was painful enough to endure, and the post-shuttle hiatus was already being anticipated to last (optimistically only) seven years!

My NOVAAR buddy disagreed, stating he saw no correlation (direct or otherwise) between NASA's programs and what we do as sport rocketry. He was certain that there was no continuous spectrum between the accomplishments of NASA and the inspiration the NAR generates through sport rocketry. I would be remiss not to mention that he said all this while we were

standing next to the Smithsonian's awesome Missile Pit, surrounded by historic rockets towering far above us, with the NAR banner proudly displayed at the nearby NOVAAR table.

My experiences with our NARHAMS outreach programs and my forays into the space enthusiasts' world have taught me otherwise. Three situations stand out preeminently for me to conclude that the space enthusiast public has adopted a fungible connection between what we do and what the pros do.

First, is that I vividly recall several Olympic gold medalists recounting how they were inspired as youngsters to excel in some athletic field specifically because as a kid they saw on TV some athlete winning a gold medal in some previous Olympic games. These stories of athletic inspiration are mirrored in the space arena by current astronauts when they relate during their pre-flight interviews that they received inspiration to, and persisted in, becoming an astronaut after watching the Apollo 11 moonwalk or some earlier Space Shuttle launch/landing. There can be no denying that being captivated by some momentous event as a kid will lead towards that youngster achieving a spectacular goal as an adult. All we need to do is make sure that kid gets a chance to see us in action at a Goddard or a Mt. Airy launch, and then we've got her/him hooked!

Second, is a line I've recently read in Andrew Smith's book "MoonDust". Regretfully, I've never been to the Kennedy Space Center to witness a real NASA launch. I've read stories and heard first-hand from people who've been there. At a NASA launch you get a thunderous roar of the engines that produces a chest-pounding, heart-in-your-throat, tears-down-your-cheeks, near-religious awaking of all your senses that stays with you for a life time. So, I can identify with the line in Smith's book where he quotes British space journalist Hugo Young that "*in the bedlam of launch, there were, momentarily, no critics of the space program.*"

Those of us who have done some of the NARHAMS outreach programs such as Goddard or scout launches will tell you that the first launch of the day always generates a spontaneous wave of "oohs" and "aahs" from the crowd. Experiencing a rocket launch, whether from one of our systems or from the (perhaps) slightly larger system at Cape Canaveral, instinctively produces a strong emotional response in the public. There is something about the noise of the engine, billowing column of the exhaust, speed of the flight and wonder at the technical prowess of a soaring rocket that resonates deep within the emotions and psyche of many people.
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Rocketry Zog Musings continued

Third, I couple the public's thrill of witnessing rocketry with another oft-encountered aspect of the public's (albeit ill-defined) perception of space exploration. Several astronauts have recounted in their books a story of how someone approached them to ask what was it like to be standing on the moon with Neal Armstrong. The questioner gushes to share with the astronaut that they recall exactly where they were in July 1969, and that the sight on men on the moon remains a poignant memory from their past.

The patient and kind astronaut then goes on to explain that he indeed did stand on the moon, but next to either Alan Shepard, Pete Conrad, Gene Cernan, John Young, etc. It is obvious to me that whereas the public routinely gets its details about space exploration a bit muddled, they are absolutely certain about the strong, powerful and enduring emotions they had experienced by merely witnessing a spectacular space mission or rocket launch.

Being aware of this nature, I feel that it is incumbent upon me to provide to the space enthusiast that which is within my means to instill some sense of relation between what we do in sport rocketry and real space exploration performed by NASA, ESA, JAXA and other national space agencies. I feel that I can ably accomplish this via through the various kinds of NARHAMS rocketry activities. I have realized that the public has already made up their own minds that a correlation exists between NASA's programs and what we do as sport rocketry. So, perhaps it is fitting that we attempt to 'step up' our visibility and activities in anticipation of the 'downtime' expected in NASA's manned spaceflight program.

Our Identities (Like Paradise) Found

I can make an arguable case that we are currently living the "Golden Age" of sport rocketry. Personal computers allow us to shop on-line for rockets, download catalogs, access detailed construction plans, run simulation programs for CG/CP determination and a whole lot more other sophisticated things. Rocketry newsletters can be assembled to look just like professionally-created magazines. Pictures of launches are now captured and shared digitally. Many more hobby shops are in existence as compared to when I was a kid. The benevolent rocketry gods have created places like the Dollar Store and Michaels where we can find stuff to experiment on while constructing our next "X" rocket design.

All this technology and progress has allowed us to do more than ever before. Setting aside modestly for a moment, aren't we modelers simply genetically good at the high-end computer, technically challenging and sophisticated-assembly-required stuff in the first place?

Over and over again the phrase "*Pay it forward*" is uttered in sport rocketry. We don't say it (just) because it's some cool catch line that picks up the wild women. I suspect most of us repeat that mantra because we've been uplifted by experiencing some awesome goodness that had previously emanated from some of our rocketry colleagues.

In the final analysis, I don't think that it's so much a matter of us trying to discover what we at NARHAMS want to become. Rather, I think it's more the case that the public has already determined that which we are. We have already touched the hearts and minds of countless people, principally because we are an active, creative, much-engaged, continuously running and generous NAR section. In many nascent and latent ways, the public anticipates, and rightfully expects, that we will "be there for them" to satisfy their desires of participating in events at which they or their children can realize some connection to the wonder that space exploration instills!



Pictured is Alex Mankevich, Vice Zog of NARHAMS and a space enthusiast. Here he is trying to figure out how to get this thing in orbit or at least on NASA's radar.

THE ZOG-43

December 18, 2010 Sport Launch

By Jim Miers

Carpe diem.

A small but enthusiastic turnout for the Saturday before Christmas. The weather was brisk but not bitter cold, visibility was good and the wind no more than a gentle breeze. There was a light dusting of snow on the field, but not enough to interfere with traffic, vehicular or pedestrian. And we had the whole park to ourselves. A neighborhood couple walking dogs passed through around nine thirty as I was setting up, a jogger or two drifted 'round about the same time, but nobody except launch participants were anywhere in sight after that.

We operated with minimum equipment, the self contained rack with five rail positions and one away pad for mid-power. Six positions total was quite sufficient for the day.

By the log launch activities commenced at 10:00, but at that time, being the only person on the field, I sat back on the tailgate of the truck and pondered (reflecting on the anti-war sentiments of the sixties) what would happen if they gave a launch and nobody came.

First flyers were a family, couple with two boys aged about nine and seven, brought a couple of models and an Estes launcher. They had been to a Goddard launch, and lost a model in the trees, and were hoping to avoid a repeat of that disappointment. I allowed that conditions appeared propitious; also they could use their own equipment or ours, their choice. Dad said it made no difference to them as long as the boys got to push the launch button, so they set up on pads one and two, and I showed the boys how to select the pad and check continuity and such, and

counted down and they launched their own models. They put in five flights, all recovered successfully. Whole family pronounced it a most satisfactory morning.

Club members started to arrive after that, and activity increased after 11:00 or so, although at a casual rate consistent with the light turnout.

More guests, father and son arrived with an Estes Mongoose, two stage model, but I think their first attempt, and they had assembled the motor mounts all wrong, with the retaining rings in the rear, and of course couldn't get the motors inserted, and hoping we would be able to explain it. Alex Mankevich took their problem upon

himself, and by some magic (I have no idea how he actually did this) was able to get the model sorted out properly, and they flew the upper stage twice, on B and C motors, and recovered it both flights, and I am no end grateful for Alex taking time out from his own morning's activities to help out a couple of new flyers. This is the best way I know to welcome folks to the hobby.

John McCoy celebrated the season with five holiday themed models, icicle, Christmas tree, candle, snowman and bell, all flown on MicroMax motors. John's grandson, Kyle, flew the full sized bell, twice on C6 motors.

(continued on Page 12)



Photo credits: Mike Kelly at launch pad (*Alex Mankevich*)
Mike Kelly's launch (*Alex Mankevich*)
Launch Manager Jim Miers and kids flying (*Peter Vanderham*)
Alex's Little Drummer Boy ZOG (*Alex Mankevich*)

THE 206-43

For those who have not seen it, this model has the shape of a hand bell, a high drag design with ascent reminiscent of a flying saucer, but it swung back and forth merrily on its descent, as any proper bell should toll.

Alex traded off range duties with me several times, for which I am grateful as well, allowed me opportunity to get the occasional break, and do some flying myself.

Final flight logged a bit past 2:30, and we packed on up. Robert Edmonds came around late with an RC plane to fly (but no reaction propulsion), and later still, Ol' Ed Pearson himself. But we were done flying by then, and were off the field just after three.

Many thanks to Alex Mankevich, Robert Edmonds, Mike Kelley and Ed Pearson for helping with packing up the range (Ed and Alex went so far as to follow me back to the storage facility and helped re-store the equipment.)

For raw stats, the range was open five hours, there were at least sixteen launch participants, members and guests. There were forty two flights logged, using forty three motors, impulse range from 1/8A through G. There were no motor malfunctions noted (despite the cold); possible one lost model; one tree recovery (eventually retrieved with some damage); several models damaged on recovery, result both of frozen ground and of recovery malfunctions.

I suppose there are any number of excellent reasons to miss the December launch. Too busy 'round the holidays, too cold, too whatever. But



Jim Miers gives some advice for some flyers
(photo by Alex Mankevich)

consider, for a day flying with practically no wind, clear visibility, no thermals and nobody in sight beyond the actual launch participants, allows flying anything club protocols permit and with minimal recovery concerns. This launch was definitely worthwhile. Seize opportunities that present. We will do this again.



John McCoy's holiday collection, complete with hot drink and weather station.
(photo by Alex Mankevich)



The range from afar.
(photo by Peter Vandeham)

THE 206-43

Dyeing Mylar Parachutes

By Kevin Johnson, NAR 77083

Silver Mylar parachutes are fairly common in contest rocketry. They are lightweight, especially at a quarter mil thickness, tough and can handle being packed into small spaces. On a clear, sunny day you can see the models for a very long time in the air as the sun glints off the reflective surface. I have watched silver chutes in the air for over 20 minutes and they were easy to follow even without binoculars. This reflectivity is one of the reasons I like to use Mylar parachutes in my contest models.

The silver Mylar chute does have a downside though. On days when the skies aren't as clear and the sun doesn't shine enough to produce the brilliant reflections, a silver chute will reflect the sky color. Under certain conditions the silver canopy all but disappears and all you are left to try and watch for is the body of the rocket against the sky. This issue was discussed on the NAR FAI Competition group last fall.



Purple dye, orange dye, the dye carrier and a hot plate
(photo by Kevin Johnson)

Alexander Mitiurev commented that a vibrant violet coloring could be added by painting a concoction of methyl violet (a biological staining agent) and BF-6 (a Russian medical adhesive) directly on the Mylar.

I had heard that you could also dye clear polyester film using RIT dyes, but because RIT is formulated for cotton or other natural fibers, you don't get very much dye absorption. Dr. Chris Kidwell performed a test of this a while back using RIT dye in his crock pot, but even on the heat for a good long soak, the color was disappointing.

Here's where having a fabric artist in the family helps out! I talked to my mother about the material, and what she knew about dyeing polyester fabric. My reasoning was, if Mylar is just aluminum coated polyester film, then it should be colored with the same stuff used to dye polyester fabric. She directed me to a website with information about hand dyeing fabric.

<http://www.pburch.net/dyeing/dispersedye.shtml>

This site has lots of useful information, including this description of different polyester fabrics:

Polyester fibers are sold under various names, including the following: Crimplene, Dacron, Enkalen, Lavsan, Mylar, Tergal, Terlenka, Terylene, Trevira, Polarfleece, and Polartec. Polyester is, chemically, a fiber made of poly(ethylene terephthalate), and can be made from recycled plastic bottles. Plastics marked with the recycle logo containing a number 2 are HDPE (high density polyethylene), plastics marked with the recycle logo containing a number 4 are LDPE (low density polyethylene), and plastics marked with the recycle logo containing a number 1 are PETE (polyethylene terephthalate - e.g., Dacron, Fortrel, Mylar).



Silver coating coming off the Mylar.
(photo by Kevin Johnson)

THE 20G-43

The site also lists several sources for the special dyes needed to color polyester, and I decided to contact PRO Chemical and Dye to order a dispersion dye sample kit. The sample kit included all the special chemicals and a set of dye powders. The kit I ordered can be found at <http://www.prochemicalanddye.com/store/product.php?productid=16292&cat=401&page=1>

To dye Mylar parachutes you will need the following supplies in addition to the dye kit:

Citric Acid Crystals or White Distilled Vinegar

Hot plate (or your stove if you don't mind dying in the kitchen- this stuff smells!)

2 stockpots at least 2 gallon capacity, one for dying and one for rinsing (UTENSILS USED FOR DYING SHOULD NEVER BE USED FOR FOOD PREPARATION)

Funnel

Paint strainers and paint cups (for mixing and holding the dye- look at Harbour Freight in the paint gun section)

Wooden spoons

Measuring cup and measuring spoons

Rubber gloves and apron



Silver and purple runoff in the rinsing bucket.
(photo by Kevin Johnson)



Purple parachute after being in the dye bath for only 10 minutes.
(photo by Kevin Johnson)



Drying the now transparent orange parachutes.
(photo by Kevin Johnson)

The directions for using the kit can be downloaded ahead of time, and are very easy to follow. One thing to note is that the Mylar is coated on one side with aluminum and that if you leave the material in the hot water too long, it will start to de-bond from the polyester film and you will be left with a transparent canopy! I only did two batches of parachutes but the silver coating started to come off in about 10 minutes.

THE ZOG-43

NARHAMS 2011 CALENDAR

Feb 5	5:30 - 9 pm	Monthly meeting	College Park, MD	Open Build Session
Feb 6	1 - 2 pm	Goddard Launch	Greenbelt, MD	
Feb 19	10 am - 4 pm	Sport Launch	Mt. Airy, MD	R/C Glider Theme
Mar 5	5:30 - 9 pm	Monthly meeting	College Park, MD	Presentation on first men in space (Alex Mankevich)
Mar 6	1 - 2 pm	Goddard Launch	Greenbelt, MD	
Mar 19	10 am - 4 pm	SportLaunch	Mt. Airy, MD	Goddard Theme
Mar 26	10 am - 4 pm	FAI S8 Fun Event	Capitol College, Laurel, MD	
Apr 2	5:30 - 9 pm	Monthly meeting	College Park, MD	Mercury capsule contest judging (Alex Mankevich)
Apr 3	1 - 2 pm	Goddard Launch	Greenbelt, MD	
Apr 16	10 am - 4 pm	Sport Launch	Mt. Airy, MD	Decorated Eggloft Theme
Apr 16-17	10am-5pm	Reach for the Sky 23	Prospect, PA	
		1/8A SD, 1/2A SRD, A HD, C DED, C3 Payload(Wiffle Baseball)Dur.		
May 1	1 - 2 pm	Goddard Launch	Greenbelt, MD	
May 7	5:30 - 9 pm	Monthly meeting	College Park, MD	Glider building session (Robert Edmonds)
May 14	12 - 7 pm	Sport Launch	Mt. Airy, MD	US/USSR Spot Landing
May 14	7 am - 5 pm	TARC Finals	Great Meadow, The Plains, VA	
Jun 4	5:30 - 9 pm	Monthly meeting	College Park, MD	Review logistics for CAP search and rescue exercise
Jun 5	1 - 2 pm	Goddard Launch	Greenbelt, MD	
Jun 11	10 am - 4 pm	CAP Search and Recovery Exercise	TBD	
Jun 11-12	10am-5pm	Steel City Smoke Trail 11	Prospect, PA	
		1/4A FW, 1/2A ALT, 1/2A SRD, A HD, A RG		
Jun 18 - 19	9 am - 5 pm	Sport Launch	Mt. Airy, MD	ECRM Regional Meet, events TBD
Jul 2	5:30 - 9 pm	Monthly meeting	College Park, MD	Picnic, bring a dish to share (Mark Wise)
Jul 3	1 - 2 pm	Goddard Launch	Greenbelt, MD	
Jul 16	12 - 7 pm	Sport Launch	Mt. Airy, MD	Multistage Theme
Jul 23 - 29	9 am - 11 pm	NARAM-53	Lebanon, OH	
		1/2A ALT, A-HD, 1/4A FW, 1/2A SRD, C RG, 1/8A SD(M), C-ELA, R&D, B Scale Alt, PMC		
Aug 6	5:30 - 9 pm	Monthly meeting	College Park, MD	NARAM recap, open building session
Aug 7	1 - 2 pm	Goddard Launch	Greenbelt, MD	
Aug 20	12 - 7 pm	Sport Launch	Mt. Airy, MD	Streamer Theme
Sep 3 - 4	9 am - 5 pm	RAMTEC	Ft. Indiantown Gap, PA	
Sep 4	1 - 2 pm	Goddard Launch	Greenbelt, MD	
Sep 10	5:30 - 9 pm	Monthly meeting,	College Park, MD	Election
Sep 17 - 18	9 am - 5 pm	Capitol Cup 2011	The Plains, VA	
Sep 17	12 - 7 pm	Sport Launch	Mt. Airy, MD	Paratrooper Spot Landing , Night Launch
Oct 1	5:30 - 9 pm	Monthly meeting	College Park, MD	Ole Ed Movie Festival (Ed Pearson)
Oct 2	1 - 2 pm	Goddard Launch	Greenbelt, MD	
Oct 15	12 - 9:30 pm	Sport Launch	Mt. Airy, MD	Halloween Theme
Nov 5	5 - 9 pm	Monthly meeting	College Park, MD	Planning meeting
Nov 6	1 - 2 pm	Goddard Launch	Greenbelt, MD	
Nov 19	10 am - 4 pm	Sport Launch	Mt. Airy, MD	Military Theme
Dec 3	5 - 9 pm	Holiday party	Greenbelt Community Church, Greenbelt, MD	
Dec 4	1 - 2 pm	Goddard Launch	Greenbelt, MD	
Dec 10	11 am - 3 pm	Sport Launch	Mt. Airy, MD	

SPORT LAUNCH
March 19, 2011
Mt. Airy, MD

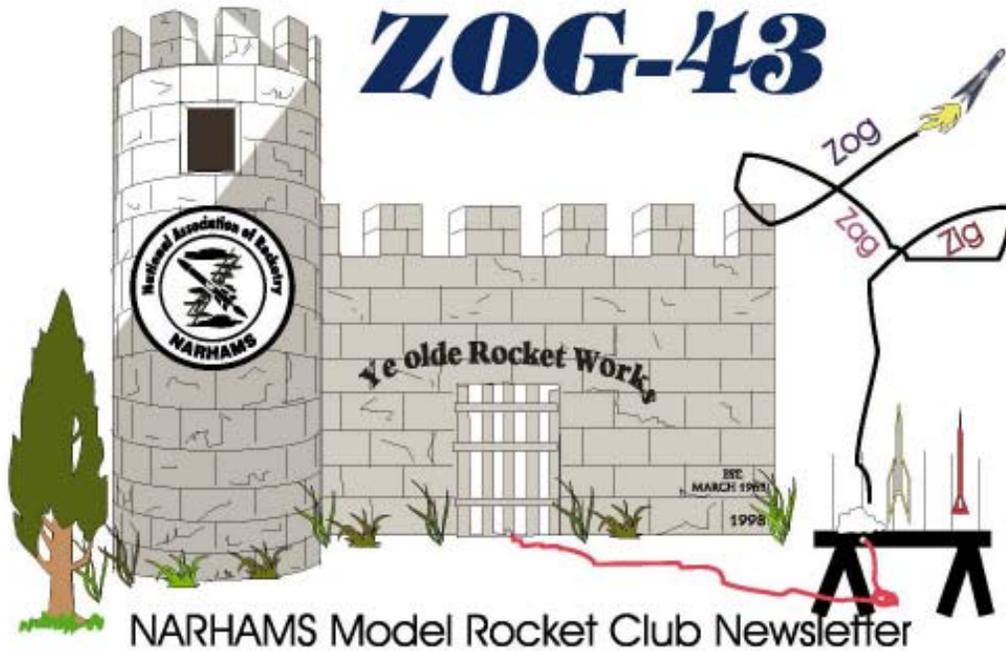
March 6th, 2011
Visitor's Center
Goddard Space Flight Center
PUBLIC LAUNCH

SPORT LAUNCH
February 19, 2011
Mt. Airy, MD

February 6th, 2011
Visitor's Center
Goddard Space Flight Center
PUBLIC LAUNCH

Launch Schedule

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



NARHAMS Model Rocket Club Newsletter