THE ZOG-43

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

A New Look for ZOG-43

This issue marks a big change for the newsletter as I attempt to vary the design a bit to make it more attractive to look at. The overall look and feel of ZOG-43 has been the same for a few years. I'm looking for feedback on what you think of the new format.

King Zog Speaks!

We are officially deep into the winter rocketry doldrums. Cold, darkness, no rocket flying, snow, and other miserable symptoms of winter can make a rocketeer's heart heavy. But, there are some good things that come out of our annual hibernation period. Finally we can repair all of the rockets that met less-than-perfect launchings and unhappy landings during the last flying season. Our range boxes can be refurbished with all of the supplies that support our launching through the year. Some cleaning and touch-up painting of the models will make them look good when it is time to send them aloft again. It is also a chance to accumulate some much-needed funds to keep the fleet stocked with motors when we hit the range again.

The good news is that our first sport launch of the year is only a few weeks away. And we know that we can be blessed with some very favorable conditions in February sometimes. So, with chins up we look forward to the "FAT BOY" launch on February 8th. Bring out your Fat Boys of all types and let's blast away the winter blues!

Chris Kidwell and Jennifer Ash-Poole make balsa dust at the annual Filler House Build and Fly session. Photo by Doug Pratt.

Some club news that deserves mentioning includes: Our Hobby Town USA in Frederick meeting dates have been confirmed with the store so that our members in the Frederick area can come out and take part in club meetings. The field search is getting help from some sources outside of the club that may be very beneficial to us. And the club continues to reach out to many groups in an effort to attract new participants to our hobby.

So keep warm and we will see you soon at the field!

King Zog

This is YOUR ZOG-43

I'm still looking for more articles, plans, and photos! You can email submissions, or send them through the post. Let's see what you've got!

FEBRUARY 2003
VOL 25 ISSUE 2

Inside this issue:

ZOG-43

Volume 25 Number 2

February 2003

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

NARHAMS is the oldest model rocket club in theUnited States!

ZOG- Forty-Three 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 FORTY-THREE is published monthly and is available to anyone on a subscription basis. Current rate is $15 U.S. Funds for 12 issues a year, payable to NARHAMS

For more information.....

If you have any questions about ZOG Forty-Three 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 Forty-Three
10340 Hickory Ridge Rd, #526 Columbia, Md. 21055 E-Mail ZOG-43 at: zog43editor@yahoo.com

ZOG Forty-Three is edited by Kevin Johnson, and is a six-time winner of the NAR/LAC "Rockwell" Trophy, recognized as the best NAR section newsletter.

Years won: 1969, 1973, 1975, 1990, 1991, & 1992

Zog-43 staff typist is none other then Jennifer Ash-Poole a.k.a. Secretary to the Stars !

Photographs: by Kevin Johnson, except where noted.

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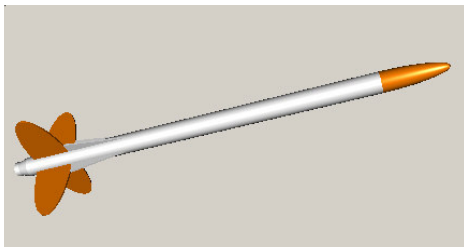
This Edition: ***45 copies***

NARHAMS ON THE WORLD WIDE WEB

http://www.narhams.org

Send and receive E-mail with other NARHAMS members through NARHAMS Web page grouplist via yahoo-groups.



NARHAMS serves Baltimore, the state of Md., Washington DC and the surrounding Metropolitan areas. The club is a section of the National Association of Model 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 four time winner of the NAR "Section of the Year" award.

Years won: 1997,1998,1999, 2001

Until recently, NARHAMS members have regularly flown their model rockets at NASA's Goddard Space Flight Center on Soil Conservation Rd. in Greenbelt Md. The launches were open to the public and were held every first and third Sundays of every month (weather permitting), starting at 1 PM. We are working hard to reinstate these launches for the general public.

Sport Launches are usually held the second Saturday of every month at Middletown Recreation Park in Middletown Md. Check the web page for updates.

NARHAMS welcomes all prospective new members to our monthly meetings. They are held on the first Friday of the month from 7:30 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.

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

ZOG ROYAL COURT

(NARHAMS OFFICERS)

KING ZOG (President)

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PRINCESS BUBBLES (Vice-President) Jennifer Ash-Poole 410-674-6262

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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.

Freezing Fingers at the Filler Fun Day!

Micro- Maxx launch report: from January 11, 2003 Building session

By John McCoy, NAR 15731

Thoughts of another warn and toasty Micro-Maxx launch, like the 60 degree weather we enjoy in 2002 had been going down hill the week before our arrival at the Filler home Saturday morning for the club's third annual building session at the

Filler's. I think it was King Zog, Don Brown, who suggested you rename the homestead as "The Jefferson Skunk Works." Very catchy…. I think we should come up with a logo decal for stuff we design and/or build there.

The temperature had been falling all week, as a cold front moved some arctic cool in on strong winds for the northwest. Highs around 33° and winds of 10-20 mph were the crackle over the weather radio. I kept checking the winds, but thought them a bit too brisk until about 3:30pm when some of the others started asking if we would go for it. AH, why not… the launch rack and equipment was set up and we were read to go. It was **cold!!** and the wind was still hovering about the 10mph mark with higher gusts. We were luckily facing south, the sun really helped warm us up.

We had 7 flying launching a total of 32 models on 6 racks, a new record to the Filler MMX launch by 4. I must say the wind played havoc with our ultra light models, pushing many of the normally stable models into unstable flips, but no real damage or danger. I somehow hit the launch button, while Jim Filler was at the launcher, so I totally missed the first flight of my Christmas tree. Others said it was nice, and Jim didn't even flinch. We had some scratch built scales, down scales, and RTF models. Tom Anderson had by far the most models flown, I lost count at 14. I flew 7; Jim, Bill Harvey, Jennifer Ash-Poole, and The Ha family made up the rest. And then there was Kevin Johnson.

Kevin first wowed the assembled trembling masses (both by the cold wind and with model) with his Rapier powered U-2 type hand tossed glider that did the most loops without crashing of any glider I've ever seen. [*Rapiers are like single use Jetex motors. About the size of an Estes motor, but with a long burn and lower thrust.-kj*]

On Kevin's second try the U-2 did loop into the ground, but undaunted by the still thrusting lonnnnnng burn motor he ran down the hill to the model, picked it up and re-tossed it back into the air.. where it promptly went right back into its power looping, making Kevin duck for cover at least twice until burnout. We had a great time watching these antics. Kevin then tried two or three times to be a birdie to fly on a 1/4A motor but just wouldn't ignite. A good sign I think. He followed by launching a 1/4A boost glider the deployed as the model cleared the rod. Also an interesting "Heads UP!"

By the 6th rack, the warmth of the sun had been diminished by its setting behind the homes to the southwest, bringing a real chill to the wind and numbing of the fingers

attempting to attach the micro-clips. Tom Anderson had the last rack of 4 models all to his self.

We shut down the range and hauled everything inside to clean up and take down around 4:55pm. Cold fingered fun was had by all. A special thanks to my Better 2/3rds, Mary for helping with the setup, take down and cleanup.

Paul Miller at the belt sander. Photo by Doug Pratt.

Alan Holmes bashfully builds a rocket. Photo By Doug Pratt.

Getting Started with Hybrid Motors

A quick overview of what you'll need

Text and photos by Doug Pratt, NAR 17870

Three hybrid systems. There are three distinct types of hybrid rocket motors presently certified and on the market. Each requires different support equipment, although there is some commonality.

The simplest is the Aerotech system, where the oxidizer tank is attached to a conventional reloadable motor casing. The tank is loaded before it is attached and installed in the rocket. A "pyrovalve" releases the oxidizer into the combustion chamber when the igniter is fired.

The second is the floating injector design used by RATT Works, Propulsion Polymers and West Coast Hybrid motors. This is sometimes called the U/C Valve, for Urbanski and Colburn, two experimenters who apparently came up with the idea independently at about the same time. In this kind of motor, the casing is a single tube with closures on each end. The inside of the tube is divided into two sections by the injector, which can move up and down in the tube. The space above the injector is the oxidizer tank; below it is the fuel grain. A nylon hose is connected to the injector, and runs out the nozzle to the oxidizer supply tank. On the launch pad, oxidizer flows into the motor through the nylon hose. When the motor is full, a special igniter positioned just under the injector is fired. It burns through the nylon fill hose, which releases oxidizer into the combustion chamber and starts the motor burning. These motors require a launch system that can control the flow of oxidizer into the motor.

The third hybrid motor system in common use is the HyperTEK system invented by Korey Kline. A HyperTEK motor consists of three parts: a tank, a molded plastic fuel grain, and an injector bell that connects the two together. On the launch pad, the motor rests on a special support structure. A metal tube mounted on the structure goes up through the nozzle and the fuel grain, into the injector. Oxidizer flows through this tube into the tank. When the tank is full, a second tube introduces oxygen into the combustion chamber while another mechanism generates a high-voltage spark at the end of an igniter wire in the combustion chamber. This ignites the fuel grain, which burns through straps holding the fill tube in place. This allows the tube to come out of the injector, releasing oxidizer into the combustion chamber. The major advantage of the Hypertek system is that there are no pyrotechnic components anywhere in the system.

Getting Started. Getting started with any of these systems means buying some ground support equipment.

First of all, you need an oxidizer supply tank. A 10 lb tank is adequate for most fliers, and should cost between $150 and $250 depending on where you buy it. Make sure the tank is rated for nitrous oxide (NOX), the oxidizer we use for hybrid motors. While common CO-2 tanks can handle the pressure of liquid NOX, they are often equipped with seals and rings that are not compatible with NOX. The most common source of NOX is automotive racing (hot rod) stores. While they are usually excellent places to get your tank filled, they are often on the high end of pricing for tanks and fittings. You can expect to pay $4-6 a pound to have your NOX tank filled.

The HyperTEK system also requires a gaseous oxygen (GOX) tank. These can often be rented from welding or medical companies for less money than it would cost to own a tank. Check your local Yellow Pages.

The Aerotech hybrid requires a fill valve and hose that connects to the motor's oxidizer tank. Since the tanks are filled by weight, you will also need a precise digital scale. The fill hose assembly costs around $70, and you can expect to pay $80-150 for a suitable scale. Once loaded, an Aerotech hybrid is treated like a conventional motor, with no special equipment needed to launch.

As of this writing, there is only one system on the market designed for floating injector motors: the Pratt Hobbies M-RTLS (Modular Remote Tanking and Launching System). The M-RTLS is offered in four Modules. This modular approach allows you to buy the parts you need to fill and fire the motors you are interested in, and upgrade later. For floating injector motors, Modules One and Two are used. Module One is the Basic RTLS, which includes a built in rechargeable battery and can be used to fire conventional solid fuel rocket motors. Module Two is a solenoid valve assembly that attaches to the NOX supply tank and plugs into Module One. It allows you to connect to the nylon fill hose, fill the motor with NOX, fire the igniter, and dump the NOX tank in the event of a misfire.

The HyperTEK motor system requires the most complex ground support. A basic Hypertek system consists of valves, regulators and fittings for the NOX and gaseous oxygen (GOX) tanks, a high voltage system to generate the ignition arc, and associated cables, hoses and controllers. Also required is a fill stem assembly, the part that contains the metal tubes that introduce NOX and GOX into the motor. All of this equipment is of very high quality and will be good for years of firing. The only part that can be degraded by continual use is the fill stem, and the vulnerable parts are easily and cheaply replaceable. Furthermore, once you have the basic Hypertek system, you can get inexpensive adapters to use it to fill and dump floating injector hybrids, as well as fitting the Aerotech fill hose.

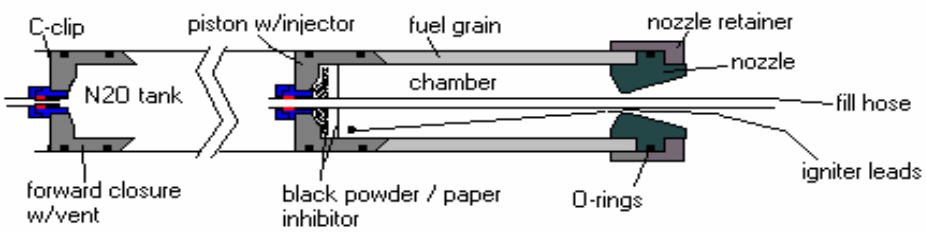
Another alternative is to add Module Four to the M-RTLS system described in the paragraph about floating injector motors. Module Four, the GOX Box, controls ignition of HyperTEK motors. Modules One, Two and Four of the M-RTLS will fill and fire any rocket motor up to the K range. For larger motors a longer control wire is required by the NAR and Tripoli Safety Codes, and Module Three of the M-RTLS provides this. It uses a tone encoder/ decoder pair to allow you to control the system up to 2000 feet away. With all four modules of the M-RTLS, you can fill and fire any commercially available rocket motor, solid or hybrid.

For more information about hybrid motors, you can check out the following websites:
www.pratthobbies.com
www.fly-hybrids.org
www.nowhybrids.com
www.aerotech-rocketry.com
www.propulsionpolymers.com
www.hypertekhybrids.com
www.rattworks.com
www.westcoasthybrids.com

Doug Pratt holds the old-style HyperTEK M motor. The new model has a long tank.



A Pair of Hybrid rockets in flight.



Product Review - EPOXO 88 Epoxy System

By Don Brown, NAR 70318

In my never ending quest for the perfect fin fillet (like the ones that you see on any Paul Miller rocket), I have found a product that really does a great job. I have tried 5 minute epoxy, 30 minute epoxy and even added micro-balloons to both of them in an effort to get the perfect fillet. The 30 minute stuff runs down the root edge of the fin unless it is perfectly level. And even then it is hard to keep it from moving to where I don't want it. 5 minute epoxy is better as far as being thicker, but it doesn't get very hard and that makes final sanding tough. Micro-balloons make either epoxy nice and thick, but the finish can have tiny bumps in it from the balloons after it has cured.

I was placing an order with Aerospace Speciality Products and asked Andy for his advice on a good solution. He recommended using EPOXO 88. So I gave it a try and this stuff is great! It comes in two tubes. The epoxy in one tube has the consistency of toothpaste (Crest Regular I believe). The hardener in the other tube is more like Crest Gel. They mix together nicely and you know that it is mixed enough when the color is homogeneous.

I apply the epoxy with an artist's spatula that I got at a craft store. It has a round front edge that makes a very nice radiused fillet. The epoxy is thick enough that it hardly runs or sags at all. Working time is about 5 minutes, so you don't want to mix too much at one time. I let it cure until the next day. A little touch up can then be done with very fine sandpaper. If you get some of the epoxy where you don't want it when you are applying it, a little acetone on a rag takes it right off. Acetone will also smooth out any rough spots if you try to apply the epoxy after it starts to take a set.

The cost of this product is very competitive with other epoxies on the market. ASP sells 2 sets; 7 oz. for $8.95 and 18 oz. for $18.95. For the cost, EPOXO 88 is far superior to anything that I have tried so far. Call Andy, or go to http://www.asp-rocketry.com/epoxo88image.html and give it a try.

The EPOXO 88 System comes in two sizes from ASP.

March Astrobulletin

By Paul Miller NAR 51615

Why is it always outrageously COLD when the sky around here is BEST? Saturn and Jupiter still command the winter sky, but is frostbite worth the view? The vernal equinox on March 20 may announce a warm-up for sky watchers.

Whoa, Nellie! Is it March already? Weather permitting, Jupiter should present himself well around 7 P.M. on March 14 as the Moon passes 4° north. To see Saturn in the morning try March 11 at 7 am as the Moon passes 3° to the north.

Let's go circumpolar for our March constellation. It was March of '89 [*is that 1889, Paul?-kj*] when I took my first astronomy class out to see the sky. Ursa Major proved to be their favorite target that night. The Great Bear, the Plough, the Wagon,

Jupiter and Saturn both make an appearance this month.

Are you interested in astronomy? Do you enjoy pointing out the wonders of the heavens to people? Why not put that interest to good use and write next month's installment of the Zog-43's Astrobulletin?

Paul has requested assistance from a club member in writing this feature as he is limiting his astonomical activities. This popular feature of the newsletter may soon be a thing of the past! Please contact me at zog43editor@yahoo.com if you'd like to keep the Astrobulletin a part of Zog-43! -Kevin

and the Big Dipper are names given to this third largest group of stars. The Alpha and Beta stars of this constellation form the famous "Pointers." By extending a line northwards through them one can spot Polaris, the present day pole star. Dubhe, the Alpha star, is the upper lip of the dipper. The lower "Pointer" is the Beta star Mirak. The Owl Nebula, M97, is just below Mirak.

Mizar seemed to impress my students. This is the second-to-last star in the Dipper's handle. Mizar forms a visual "double" star with Alcor a 4th magnitude neighbor. This famous pair has tested human eyesight for centuries. When a telescope focuses on this target, Mizar reveals its own binary companion.

Ursa Major boasts lots of galaxies and many are easy to find with a telescope. My favorite is M81, a bright spiral galaxy much like our own. A clear March night can provide a lot of sights in this constellation. Go to a skychart website and print this region of the sky. Since it is circumpolar, you can look there anytime of the year.

The planet of the month is Uranus. My students handed out " I have seen Uranus" stickers for almost a week before our principal put a stop to it. Uranus is in Aquarius and can be observed best in September. On March 29 at 3 A.M. the Moon passes 5° south of Uranus. Coincidentally, William Herschel discovered Uranus on March 13, 1781. Rings around Uranus were discovered on March 10, 1977.

Our greatest star of the month could be the introverted New Englander Robert Goddard. On March 16, 1926 his liquid fuel rocket made a suborbital flight of 41 feet. In just a little over 43 years man walked on the Moon.

Calendar of Events for 2003

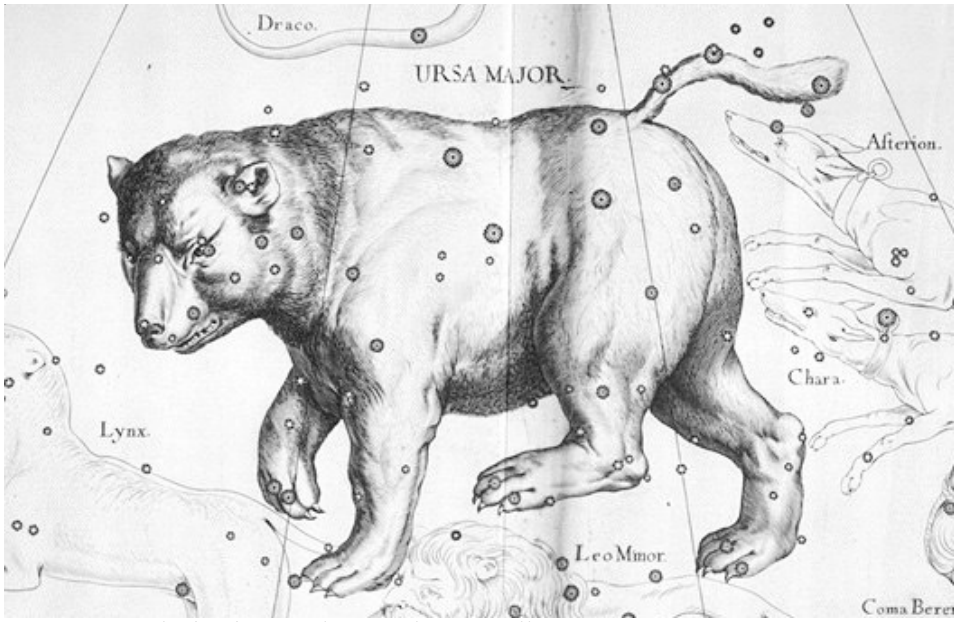
Jan 31 - Monthly meeting, competition roundtable
Feb 8 - Sport launch, February Fat Boy theme
Feb 15 -Online chat for Centennial of Flight
Feb 28 - Monthly meeting, Baby Bertha building session
Mar 8 –Katie-1 Section Meet (HQSM-37)
Mar 14 - Short meeting then building session, Hobbytown USA Frederick, MD
Mar 22 Painting party, McCoy house Washington, DC
Apr 4 Monthly meeting, 1/4A BG building session
Apr 12 -OPOSSUM-7 Open Meet
Apr 27 -Rockville Consortium of Sciences Rockville, MD
May 2 -Monthly meeting, altitude prediction talk
May 10 -Team America Flyoffs, Great Meadow
The Plains, VA
May 17-18- ECRM-30 Regional Meet
Jun 6 -Monthly meeting, making decals
Jun 14 -Sport launch
Jun 21-22 – MARS 29 Regional Meet, Great Meadow
The Plains, VA
Jun 27 -Monthly meeting, UFO building session
Jul 12 -Sport launch, UFO theme
Jul 20 - Centennial of Flight launch
Jul 26 -Short meeting then building session, Hobbytown USA
Frederick, MD
Aug 9 -Sport launch
Aug 15 – Monthly meeting, Night Launch for Newbies
Sep 5- Monthly meeting, elections, pirate building session
Sep 13 -Sport/night launch, pirate theme 12:00 pm start
Sep 28 -AIAA launch Columbia, MD
Oct 3 -Monthly meeting, electronics
Oct 11 -Sport launch, Oktoberfest V-2 day, picnic launch
Oct 11-12 -SCST-3 Jonesburg, PA
Oct 17 -Short meeting then Skywriter building, Hobbytown USA Frederick, MD
Oct 25- Planning meeting College Park Airport
Nov 8 -Sport launch, writing implement theme
Nov 14 -Monthly meeting, finishing techniques
Nov 22 - Centennial of Flight display College Park Airport Museum
Dec 5 -Monthly meeting, pot-luck holiday party
Dec 13 -Sport launch

Sport launches are held at Middletown Park from 10am-4pm, waiver up to 3.3 lbs and "G" motors not exceeding 62.5 grams of propellant. All flights "E" power and above are restricted to 5 degrees from vertical and between the hours of noon and four PM. Call ahead to confirm launch and waiver availability.

Business meetings are held at the College Park Airport Annex Building, **except where noted above**. Meetings begin at 7:15pm with building sessions or presentations and last until 9:00pm or so. Regular Business meetings follow until 10:00pm. If no presentation or building session is scheduled, please bring whatever project you are working on currently.

Questions? Call Club President Don Brown at 410-781-7539 or visit NARHAMS online at http://www.narhams.org

For more info on this month's constellation, try these web sites:
http://www.dibonsmith.com/uma_con.htm
http://www.astro.wisc.edu/~dolan/constellations/constellations/Ursa_Major.html



Ursa Major, the big bear is this month's constellation.

NARHAMS 43 Spotted Again...

A sharp-eyed young man spotted a NARHAMS 43 while researching his favorite rocket. Paul Miller passed on this photo of White Sands V-2 number 43 from http://ouray.cudenver.edu/~wrbeggs/whitesands.html. I think this rocket would be a shoe-in at ECRM. Also this month, Don Brown had the 43rd message on the NARHAMS yahoo group. Take a look back at the archives if you get a chance, and see which member of NARHAMS has both message number 43 and 139. Keep your eyes out for more 43 spotting!

NARHAMS Families

One of the great things about Model Rocketry as a hobby is that it can be shared with the whole family. Nothing proves this more readily than having several generations of a single family launching rockets.

Our club has several rocket families listed on the membership role. The Lyons can now boast 4 generations of card carrying NAR members.

The Fillers and the Millers (now that Garrett's NAR card has finally arrived) are both represented by 3 generations.

And lets not forget those rocket dynasties that are just getting started. The Bittles and the Has are representative of the 2 generation set in our club, with the Bergs counting down to the time that Matthew can officially join their team.

I'm sure that I've missed someone in my quick glance at the membership list. If I have, please send me an email at zog43editor@yahoo.com and let me know how many generations of rocketeers you have in your family.

Space Trivia Challenge

1. How long does it take light to travel across the Milky Way?
a. 75,000 years
b. 200 years
c. 2 million years

2. What astronomer discovered that the universe is expanding?
a. Albert Einstein
b. Percival Lowell
c. Edwin Hubble

3. What event do astronomers believe began the universe?
a. Big Bang
b. Quasar
c. Supernova

4. A galaxy's "Red Shift" is derived by using what formula?
a. Its radius times its circumference
b. The Doppler Effect
c. E=MC2

5. When was the Hubble Space Telescope launched?
a. 1975
b. 1996
c. 1990

Answers: 1.a, 2.c, 3.a, 4.b, 5.c

The 14th World Spacemodeling Championships

Sazena, Czech Republic
October 11-20, 2002

By Mark Petrovich, Sr, NAR 29160

Part 3: Competition Continues

Wednesday was a new day full of challenges and the team assembled in the early morning to face them. I would fly S3B parachute duration in the afternoon and the Senior S6B team would take the lane in the morning. We had our usual lunch meat breakfast and then were off to the field by bus. Some slept on the way, some talked softly in the dim light of morning and some sat in silence, collecting their thoughts and running through the procedures they needed to follow to do their best. I watched the roadside, looked at the houses as we passed them and wondered what it would be like living here permanently. Before long, we bumped and bounced down the single lane road that lead to the field and the bus came to a stop. We collected in the team tent and picked up our assignments for the day.

I headed out to long range recovery again, something that was becoming usual for a day in the Czech Republic. Flights were a little easier to see but once again we had some communications problems directing recovery teams to their prey. Most flights looked the same no matter how much you call their direction and markings. Such was the case for S6 as models dropped out of the sky far from the eyes of the observers and it became a guessing game as to which model belonged to your country.

In the battle to build lighter, some of our team members ended up with models that could not withstand the boost of the Delta B motors. Either the nosecone on their models separated or their models folded and went unstable. As such, we lost a prime opportunity to show the world how the US Team achieves excellence in S6. It was sad in particular for Jay Marsh who's models were a work of art featuring KAPTAN tubes that revealed everything inside of them due to the transparency of the film. I returned to the range head once it was realized that I could do nothing else to recover models that never made it to our deep recovery zone.

S3B, the event I had been waiting years to fly. After lunch, I prepared my models, powdered parachutes, set DT's and collected my thoughts. I arranged my pad outside of the tent and then headed off to the lane. I felt no apprehension or nervousness, just euphoria to be making flights in this event. Once on the organizer's program, S3 was the event that got me on the Team. At the Fly-offs in Muncie, Indiana a year earlier, it was the only event that I had placed well in. Six months after becoming a Team member, the organizer omitted the event from the schedule and reshuffling took place to keep the original team together. That's when I was given the S1B slot to fill and I was fortunate to get it. After a protest at the CIAM meeting a few months later, S3B was reinstated at the behest of several nations who count on its presence, especially for their Junior flyers. As I marched along to fly my orphan event, I was hoping that I would make it worthwhile.

By the time the round had started, the skies began to turn ugly with moderate winds and the threat of rain. I took along a plastic tub to store my models inside just in case the skies decided to let loose. The rounds stop for no weather and I didn't want to get caught exposed to the elements. I acquired my motor and loaded my model, checked the DT pin and waited. Models began piercing the sky with their protracted hissing as they left their pads and I felt it was time to fly. The thermal detecting weather station was not on-line at the moment and I felt that my shot was just as equal as anyone else's considering the wind and cold that was blanketing the field. After a few minutes, I held up my hand and waited for our timing team to notice. They flagged the RSO and he called lane 13.

"Ready?" He said and I nodded and said "Ready," back to him, pulling the shunt off of the DT timer in the nosecone. I backed away from the model and the RSO counted me down: 3-2-1-Start! She streaked skyward drowning out his call along the way. Over my shoulder, Dr. Bob was calling the shot out to the veteran recovery team headed by David O'Bryan. Also on long range were Phil Barnes and James Duffy and a host of others. I had my FRS radio on and with me and I could hear their calls back and forth as the model came into view. Dr. Bob's narrative included the attitude of the shot, the delay call out and then the deployment. The chute was out, all 36 glorious inches of it and the model was heading downwind. It was a beautiful sight and I waited to see if the model would max in the cool, fast moving air.

Yes it was a beautiful sight, at least until I couldn't see it anymore. I had followed it into a

cloud bank until it simply disappeared from view. FAI timer teams use binoculars to watch the model until it is out of their sight too and fortunately they were doing their job correctly. I checked my watch, which I had started as soon as my hands had been freed of the launch controller and looked up to see the timing team writing. They were writing down my time and I knew it was a bad thing. Somehow they had lost track of my model after only 300 seconds, a full two minutes short of a max. Disappointed but not saddened, I prepared my next model for round two.

Meanwhile, Chad and Andy were in the lane preparing their models. They also launched based upon their instincts and landed in air similar to what I had flown into. Andy racked up 305 seconds and Chad had 332 seconds. In the first round, Team USA's S3B Team was out of medal contention.

Round two started and I was ready to fly. I launched early again and the chute deployed as desired. The DT had been used again and a new timing team was on duty. This time, the younger element of the team was keeping a vigil on the model. He had a set of binoculars on a tripod that kept his eyes focused steadily on the model. His older counterpart lost sight of the model and began to hunt the skies for it. But the first timer watched all the way to the max, my first in an international duration event. I was euphoric and the return smile from the timer was an appreciation for the feelings I had. I batted back a stream of emotions as happiness swept over me and tried to look calm. I actually WHOOPED out loud and caught several competitors from other teams off guard. I went over and shook the timer's hand, thanking him for keeping such a good eye on the flight. The excited voices of Dave O, Phil and James on the radio indicated that they saw the DT work flawlessly. The model suddenly released the parachute and rapidly descended just like it was intended to do for an easy recovery. It was icing on the cake to hear about that success. I was sorry I could not have been there to watch but preferred my vantage point just the same.

Andy launched his model second only to have the chute get stuck in the tube and get disqualified. Chad launched last to score 380 seconds, just short of a max. Two rounds down, one to go.

Round Three started and I was ready to fly. It seemed that each round started and about five to ten minutes would expire before the sky was literally peppered with flying models. Several materials were used for canopies ranging from black plastic to Mylar to red inked plastic. All of the flights were to about the same altitude as judged from my earthly position. My flight ripped skyward and deployed the canopy on cue. The model had good altitude and the new timers from Slovakia, in their navy blue uniforms and smartly worn caps, were watching diligently. I kept vigil on them until they took their eyes off of the model and wrote the result on the board. The lead timer looked over at me, smiled and said "Mahx". His smile was mine too and I felt justifiable relief that I had done my best for the USA. I watched Chad and Andy both prep their models, talked to Bob a bit about the flights, the DT in particular, and cheered when my teammates scored maxes on their flights. We were finished and packed up our belongings and carted them to the tent. Later, we would watch the winners mount the podium, listen to their anthems play and feel exhaustion that comes from a long day of flying.

Back at the hotel, we ate, unwound and drank a Pivo as a toast to the events of the day.

Photos of the 14th WSMC can be found at http://homepage.mac.com/jduffy/PhotoAlbum23.html

...Continued next month...

Submit your rocket plan to the Zog-43 and not only will it get published in the newsletter, but you get the chance to win a free rocket kit!

The Rules: You have until February 28th to get your rocket plans to the editor of Zog-43. Plans can be sent either by mail or email. You can enter as many plans as you want, but only 1 will be chosen as the winner.

Judging will be done by the editor and 2 assistants, and the winner will be announced and published in the April issue of Zog-43.

The Prize: A rocket kit similar to the raffle prizes available at club meetings.

Good Luck!

Build the Super Baby Bertha

A kit-bash sport plan by Kevin Johnson, NAR 77083

With the Fat Boy theme sport launch coming up, I was looking for something different to do with my last Fat Boy kit. I had just finished repairing my Super Big Bertha when inspiration struck. I have a Big Bertha, Super Big Bertha and a Baby Bertha, why not a Super Baby Bertha? Build the motor mount per kit directions, making sure that the centering rings close off the fin slots. Cut 4 new fins from 1/8" balsa and glue them on so that one of the fin slots is halfway between 2 of the fins. I used the launch lug to cover one of the slots, and monokote trim to cover the others. RockSim says you'll need to add a little more than 1/2" of nose weight for stable flight. Here's a parts list if you don't have a Fat Boy kit:

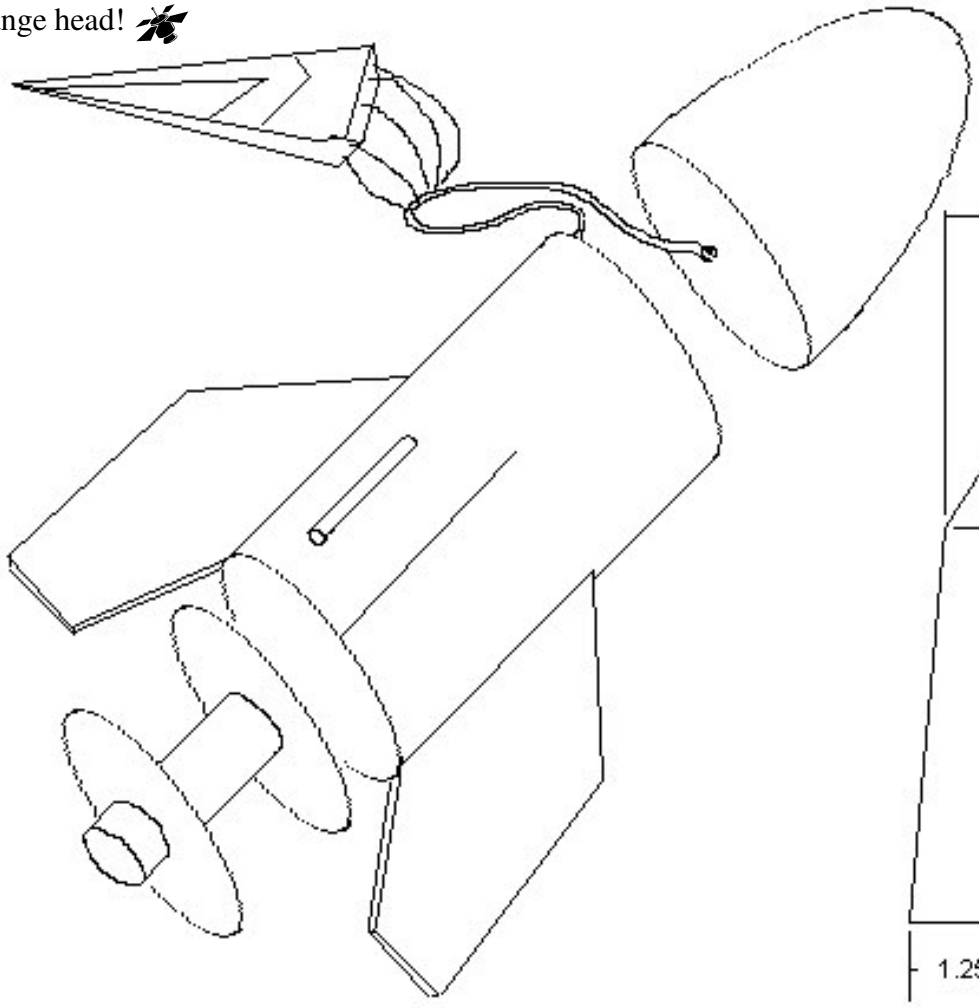
1 PNC-80BB
8" BT-80
2.75" BT-20
2 CR-2080
24" of your favorite shock cord
2.375" of 1/8" launch lug
1 EB-20 engine block
1 standard engine hook
1 12-18" parachute your choice

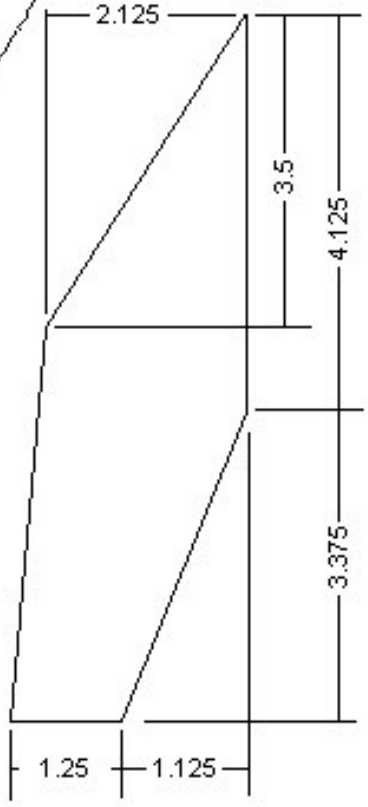
Here is a schematic and the dimensions for the fins.

Have fun, and see you at the range head!

Finishing:

I finished my Super Baby Bertha using self-adhesive Monokote trim. In addition to covering the TTW fin slots, it makes a glass smoth finish on the body and the fins... with no filling needed!





ZOG - FORTY THREE
10340 HICORY RIDGE RD, #526
COLUMBIA, MARYLAND 21044

Launch Schedule

SPORT LAUNCH
Fat Boy Theme
Middletown Park
10:00am-4:00pm
Feb 8th

CONTEST/SPORT LAUNCH
KATIE-1 (HQSM-37)
Section Meet: All Flights to made with Estes Baby Berthas
EVENTS:
A Parachute Duration Multiround
B Streamer Duration Multiround
Random Duration
Drag Race
Open Sport Landing
CD: Don Brown
Mar 8th