

# THE ZOG-43

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



## The Year In Review...

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**DECEMBER 2004**  
**VOL 26 ISSUE 12**

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If you missed any of these great issues of Zog-43 this year, don't panic! You can view them online at [www.narhams.org](http://www.narhams.org)

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ZOG-43

## ZOG-43

**Volume 26    Number 12**  
**December 2004**

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 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 12 issues a year, payable to NARHAMS

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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 :

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ZOG-43 is edited by Kevin Johnson, and is an eight-time winner of the NAR/LAC "Rockwell" Trophy, recognized as the best NAR section newsletter.

Years won: 1969, 1973, 1975, 1990, 1991, 1992, 2003, & 2004

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

Photographs: by Kevin Johnson, except where noted.

ZOG-43 is produced on a Compaq Evo PC with a Pentium 4 processor using Adobe PageMaker. Masters are printed on a Canon ImageRunner 5000 copier/printer.

**This Edition: 35 copies**

## NARHAMS ON THE 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 five time winner of the NAR "Section of the Year" award.

Years won: 1997,1998,1999, 2001, 2004

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 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 )**

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Jennifer Ash-Poole  
410-674-6262

**VICE ZOG** (Vice-President)

Jim Filler

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Chris Kidwell    571-434-7507

**COURT JESTER** (Section Advisor)

Khim Bittle        301-293-2399

## 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.





## President's Message for December

I have had to write a president's message 15 times since I was "elected" Zog Bubbles. Sometimes it is easy to come up with something to fill up space for Kevin, sometimes it's hard.

I looked back at my last December message, and I talked about what was the oldest rocket related thing in my house. So I guess this year, I'll talk about the newest.

Actually, the newest would probably be that bottle of CA I bought at the hobby store before the Girl and Boy Scouts descended upon Goddard in November. I knew I needed some, cause I would probably have to make some repairs. I did, but not as many as I thought. I think the newest model I have bought is an oldie, the Estes Yankee. No, I haven't built it yet.

The newest FINISHED built model would be the Alpha 3 that I used as a demo with the girl scouts. Before that, it would be Edmonds Deltie (both regular and upscale version) that I built for Steel City in October. I did start on Mark Petrovich's helicopter model, but I haven't finished it yet.

Some new models I want are some of the X-Prize models Estes is supposed to come out with in Fall and Winter of 2004. (We know how that is, we'll be lucky to see them by Team America 2005!) I like Space Ship One, but the Lucky Seven and Canadian Arrow look cool.

And speaking of new, NARHAMS is trying something new out for the meetings. We will meet the first Saturday (instead of the first Friday) of the month. Meetings will start at 5:30pm with a building session, and the business meeting afterwards. We hope to be finished earlier, and that

the Saturday time can maybe bring a few more people to the meeting that can't make it due to traffic and such. Our first meeting of the new year is Saturday, January 8th.

So, Merry Christmas, Happy Hannukah, Happy New Year and may you get lots of new rockets to build.

*Zog Bubbles* ✨

## Site Set for NSL '05

The NAR is pleased to announce that the 2005 NAR National Sport Launch will be held on May 6-8, 2005 at the Plaster City East Recreation Area west of El Centro, CA. NSL 2005 will be hosted by the Diego Area Rocketry Team (DART) Section #317 with Mike Jerauld as Event Director.

There will be the usual California "M" power limit on individual motors, and the usual 25Kft waiver for this launch site, which is the site used for the "Plaster Blaster" launches.

Until a website is established, you can reach the Event Director by email at [mjerauld@tns.net](mailto:mjerauld@tns.net), or by phone at (619) 276-6238.

Thanks to the members of DART section for stepping forward to offer



this great site and this important NAR national service.

Trip Barber

NAR 4322

NAR National Events Committee  
Chairman





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## Get to Know: Mark Petrovich

By Steve Humphrey, NAR 17888

### ***Mark, have you always lived in the DC area?***

I was born at St. Joseph's Hospital in Baltimore, Maryland. I lived in the Baltimore suburbs for the bulk of my youth and early adult years. When I was 23 I moved to the Essex, Maryland area with my wife.

### ***What kind of work do you do now?***

I'm a computer aided design and drafting technician with Audio Visual Innovations in Lanham, Maryland. I've been in this field for 15 years working for several companies making cooling towers, electronic assemblies, wiring diagrams and power tools in 2D and 3D.

### ***How did you get started flying rockets?***

I started when I was 12 years old, and it was a fluke. My friend, Jay, and I were sitting in the backyard of my parent's house one summer afternoon doing the usual nothing. Above the high branches of a nearby oak tree something was moving. It was a parachute with a rocket suspended beneath it! It landed beyond the fence of a neighbor's yard but I scaled the fence easily, intent to gather this gift from the sky. We inspected it and when I smelled the aroma of freshly burned black powder I was hooked. We went to the Toy Barn about two miles from our houses and I bought my first rocket kit, an Estes Astron Scout. I also bought the wrong motors—mini A's instead of 18mm—and the clerk told me so. I insisted they would work; they had to, the kit and motors used all of my money even after I borrowed a buck from Jay! Later, when I told my Dad that they



wouldn't fit, he took me back to get the right motors for the model.

### ***Have you been in the hobby continuously since then?***

I've bounced in and out of rocketry over the years as my life changed. I joined my first NAR club, the Star Spangled Banner Section #156 (SSB), and a year later, with membership dwindling, became its President. President at 14! We supported the Goddard launches and flew public demonstrations for a hobby store in Pasadena every summer. It was a wonderful experience. I used to remember the names of all of the rocket kits and gave narration for the launches. Then Dad took me to a new hobby store one day, City Wide Hobby Shop, to get some rocket supplies and I discovered model airplanes. I mixed airplanes and rockets for about three years then put all of it into mothballs for a few years. It wasn't until I was married that I brought out the model airplanes and discovered most of the aging rocket fleet looking pretty haggard. The airplanes attracted me more than the

rockets because I could do some flying, work the joysticks and get the model back in one piece, something that I couldn't always do flying RC planes as a teen.

One day, while flying my plane, two guys came up to the field with rockets. I introduced myself and watched them fly in between them watching me fly. We became good friends and a year later we re-started SSB. Our section served ourselves more than anything though and we burned out after flying every Saturday of every month for a whole year at Blob's Park near BWI. We killed some motors there and our interest too and when my son was born in 1989, the club went under once more. After that, I spent my time at the field flying just my RC planes.

It wasn't until 2000 that I expressed some interest in getting back into rocketry to my girlfriend. She encouraged me to start doing it again if it brought me so much enjoyment as a kid. So, I started looking for a club to join and a reason to get involved and found NARHAMS and



the Internats [World Space-Modeling Championships, or WSMC]. NARHAMS was the only club around and the Internats were something I'd always wanted to get involved with when I was a kid. Can you guys still remember that issue of Model Rocketry with Guppy Youngren's picture on the front with the gold medal for S8 [radio controlled rocket glider event] around his neck? That was inspiring!

### ***What kind of rockets do you fly now?***

I am very partial to contest rocketry. I had flown most, if not all, of the ESTES fleet when I was a kid and liked to fly just for the smoke, flame and thrill of seeing the next model fly. My first contest changed that when I got a 2<sup>nd</sup>-place in streamer duration. That's all it took to make me want to fly competition. Rather than ride a pillar of smoke and flame just to do it all over again, there was a goal to be reached if you rode that pillar right. I still have the ribbons from when I was an A-division competitor hanging in the basement next to my latest ribbons. I also have a first place trophy from a MARS regional that I was awarded for flying eggloft altitude with an Estes Scrambler on three B's.

However, I'm pushing myself to get involved with sport rocketry these days. I feel as if I am missing the full potential of rocketry if I don't look at the fun aspects of it. Contest flying doesn't give you a chance to, say, mount a delta shaped boost glider on top of a flying saucer to see how it works, because there is little need for that if you expect to place in a contest. Sport rocketry gives me a chance to explore the abstract, see the potential that exists by shaping a nose this way or that or using a different type of body tube. I enjoy contest rocketry and will always stay with it but sport flying sure is the fun part of the

hobby.

The largest motor I've used is an F in a heliroc [helicopter-recovered rocket] called the Chickenbeater (may it rest in peace!) Most of what I want to see a rocket do is under 1000 feet so to go beyond that isn't necessary. I like to use rocket motor impulse to do something rather than just expend it. When I was a kid, I used to say "Wow, that's cool" when my Estes Renegade blasted into the sky on a "Mighty D". These days I think, "what can I get those 20 N-s to do for me?"

### ***Do you have any kids involved in rocketry?***

I have a 15-year-old son who I introduced to rocketry about three years ago. These days, he's more interested in video games and game design than what Dad does with his paper rockets. We had a good time with rocketry while his interest lasted.

### ***What else keeps you busy?***

I still love to fly RC planes and these days it's planes that fly silently and seek thermals. I really enjoy Discus Launched Gliders and usually bring my model to Middletown to get some stick time on a larger field. The field I test fly at is a baseball diamond that is OK for low impulse rocket flights but ideal for DLG. The local roads present many thermals to cruise into for relaxing stick time.

I also enjoy custom pen turning from exotic hardwoods. A former co-worker showed me what he had done on his lathe to make these and I got into the game too. The pen turning hobby helped me to come up with my own rocket parts when I needed them. I think everyone who flies rockets should have a lathe!

### ***Why did you join an NAR Section?***

An NAR section is a dedicated

bunch of enthusiasts who appreciate the hobby and want to promote it. It's easy to go to a flying field and launch a few rockets by yourself, but you don't see the full potential that is in rocketry unless you congregate, communicate and disseminate information. I wish that more people who burn black powder were able to join their local clubs or start one of their own. People over the years have told me that they flew rockets before and that the rockets always ended up in trees. That's usually where their interest died, in a tree, because there no one was there to help them out and show them what else they could do. Clubs do that!

### ***Why NARHAMS?***

Well, for one thing NARHAMS is the only section around. Also, I've known Ed [Pearson] since I was 12 or 13 years old and have known about NARHAMS since then, too. SSB was closer for us to join so my Dad and I went there first. Returning to rocketry as an adult, I knew that NARHAMS was still around and flew contest and sport launches on a regular basis. I figured if I was going to return to rocketry for good it would be with this bunch of dedicated flyers.

### ***Is there anything about NARHAMS, NAR or the hobby in general you would like to see changed?***

I think that NARHAMS does a great job reaching out to the public and showing them that rocketry is alive, fun and educational. I would like to see the NAR become familiar to every household that has a rocket in it or every kid who loses one in a tree. Maybe then their interest could be preserved and participation increased. This is a great hobby, a real

*Continued on page 8...*

# Zvezdotchka ACM

## Parts:

You will find almost everything in an Estes Big Bertha kit.

- A: Nose Cone from Big Bertha
- B: 2 Ears from cardstock
- C: Shock Cord and Mount
- D: Parachute (12" or 18")
- E: Body Tube, 7" BT-60
- F: 2 Fore Legs from 1/8" balsa or thicker.
- G: 2 Hind Legs from 1/8" or 3/32" balsa (you will need wood bought separately from Big Bertha)
- H: Tail from 1/8" or 3/32" balsa
- I: Standard Engine Mount (Cut Big Bertha mount tube to 2 3/4" long)
- J: Launch lug

Hind legs and tail are equally spaced around rear of rocket. Fore legs in line with hind legs.

Paint white base coat. Leave white, or mask off tail and spray paint upper side with rabbit-appropriate color of your choice. I painted the ears (except where glue goes) separately, scraped paint from glue area on nosecone, and glued ears on last.

Front of eye is about halfway up the nosecone, eye is around 1/4" x 3/8".

Ears (B)  
Make 2 from cardstock (photocopy plan onto cardstock and cut out).

Forelegs (F) must be glued on straight, a slight misalignment could make your model go unstable.

Fly this model on the same engines you'd use for a Big Bertha.

Hind Leg (G)  
Make 2 from 1/8" or 3/32" balsa

Mold seam  
Mold flaw

Nostrils and philtrum line meet at nose tip.

Fore Leg (F)  
Make 2 from 1/8" or thicker balsa or basswood.

1/4" forward of front of tube

Tail (H)  
Make 1 from 1/8" or 3/32" balsa.

Glue ears to nosecone

Nose-body joint

Tube rear

Wood Grain

Wood Grain

Wood Grain

Tube rear

Wood Grain

## Queen Bubbles' Club Anniversary Challenge!

As previously announced in the Zog-43 and at recent meetings, our Zog Bubbles wanted to create a fun challenge to the club to get everyone involved in a project celebrating the 40th anniversary next year. We asked Peter Alway if it would be ok to print a plan form his NARTS book, "Peter's Little Book of Goofy Rocket Plans" and have everyone in the club build a version. Peter was excited by the project and gave us the go-ahead to select a plan.

Many club members looked at the available plans and the clear favorite was the Zvezdotchka Anti Carrot Missile. Here is the plan as designed by Peter.

Now it's fine to build your model using parts from that spare Baby Bertha kit, but you could make things interesting by upscaling or downscaling as it suits your fancy. A BT-80 based bunny would be easy to make, can you make one even bigger?

You have all winter to work on your wascally wabbits. We hope to see all of the bunnies hop into the sky at Middletown Park during the March sport launch. 🐰



## Calendar of Events for 04/05

*Dec 3-* Monthly meeting, pot luck dinner  
*Dec 5-* Public launch, Goddard Space Flight Center  
*Dec 11-* Sport launch, no theme  
*Jan 2 -* 1-2 pm Goddard Public Launch  
*Jan 8-* 5-10 pm Monthly meeting, SF/F scale discussion (Mike Howie)  
*Jan 16-* 12 - 4 pm Club building session at Goddard  
*Jan 22-* 12 - 4 pm Sport launch, fly what you got for Christmas theme  
*Feb 5-* 10 am - noon Cadet building session College Park Aviation Museum  
*Feb 5-* 5 - 10 pm Monthly meeting, A Cluster Altitude (John McCoy)  
*Feb 6-* 1 - 2 pm Goddard Public Launch  
*Feb 12-* 12 - 4 pm Sport launch, Red Rocket Day  
*Feb 26-* 1 - 5 pm Udvar-Hazy Tour Dulles, VA  
*Mar 5-* 10 am - noon Cadet building session College Park Aviation Museum  
*Mar 5-* 5 - 10 pm Monthly meeting, 40th anniversary party  
*Mar 6-* 1 - 2 pm Goddard Public Launch  
*Mar 12-* 10 am - 4 pm KATE-3 section meet  
*Apr 2-* 10 am - noon Cadet building session College Park Aviation Museum  
*Apr 2-* 5 - 10 pm Monthly meeting, 1/8A techniques (John McCoy)  
*Apr 3-* 1 - 2 pm Goddard Public Launch  
*Apr 16-17-* 9 am - 4 pm ECRM-32 regional meet  
*Apr 24-* 12 - 4 pm Rockville Consortium of Sciences Rockville, MD  
*May 1-* 1 - 2 pm Goddard Public Launch  
*May 7-* 5 - 10 pm Monthly meeting, NARAM models (Chris Kidwell)  
*May 14-* 10 am - 10 pm OPOSSUM-9 open meet/ night launch  
*May 21-* 8 am - 5 pm TARC Flyoffs Great

Meadow, VA

*May 28-30-* Balticon-39 Baltimore, MD  
*Jun 4-* 5 - 10 pm Monthly meeting, fiberglass tubing (Mark Petrovich)  
*Jun 5-* 1 - 2 pm Goddard Public Launch  
*Jun 11-* 10 am - 4 pm Sport launch, cluster/staging theme  
*Jul 2-* 5 - 10 pm Monthly meeting, open building session, focus on staging  
*Jul 3-* 1 - 2 pm Goddard Public Launch  
*Jul 9-* 10 am - 4 pm Sport launch, airborne trooper spot landing, special prize for 40 troopers deployed  
*Jul 10-* 12 - 4 pm Goddard building session, open to public, tie in to Goddard Contest  
*Jul 17-* 10 am - 4 pm Goddard contest  
*Jul 30 -* Aug 5 24/7 NARAM-47 OH  
*Aug 6-* 5 - 10 pm Monthly meeting, pirates discussion (Alan Williams)  
*Aug 7-* 1 - 2 pm Goddard Public Launch  
*Aug 13-* 10 am - 4 pm Sport launch, pirate theme  
*Sep 3-* 5 - 10 pm Monthly meeting, elections, night launch discussion (John McCoy)  
*Sep 4-* 1 - 2 pm Goddard Public Launch  
*Sep 10-* 10 am - 10 pm Record trial, FAI S6A (A SD), night launch  
*Sep 25-* 12 - 4 pm AIAA Picnic Launch  
*Oct 1-* 5 - 10 pm Monthly meeting, leftover parts scratch building (Jim Miers)  
*Oct 2-* 1 - 2 pm Goddard Public Launch  
*Oct 8-* 10 am - 4 pm Sport launch, Oktoberfest theme, microbrew launch  
*Nov 5-* 5 - 10 pm Monthly meeting, glider building session (Robert Edmonds)  
*Nov 6-* 1 - 2 pm Goddard Public Launch  
*Nov 12-* 10 am - 4 pm OPOSSUM-10  
*Dec 3-* 5 - 10 pm Monthly meeting, holiday party  
*Dec 4-* 1 - 2 pm Goddard Public Launch  
*Dec 10-* 10 am - 4 pm 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. Meetings begin at 5pm with building sessions or presentations and last until 10:00pm or so.

Questions? Call Club President Jennifer Ash-Poole at 410-674-6262 or visit NARHAMS online at <http://www.narhams.org>





chance to put your hands on parts and hardware, to create a fun and useful flying vehicle that does what you want it to do. It's a real

hands-on experience and creative channel that many kids can benefit from. And the NAR is doing a great job with the TARC [Team America Rocketry Challenge] program.

### ***Why do you compete in rocketry?***

Got to love contest rocketry! Yes, I compete and enjoy the challenge of trying to make a model that will out fly the next guy/gal who's trying to do the same thing. Contest rocketry pushes my understanding of rules, methods and materials to come up with better than average rockets. It's actually contest flying that brings me back every time.

I especially enjoy the Internats. The sense you get of being at a NARAM—sharing ideas and establishing relationships with other flyers—is magnified when you are overseas and flying against the best in the world. I couldn't go to the 2004 WSMC because of a job change but that won't happen in 2006 at Baikonur. I'm going to the birthplace of Russian spaceflight to represent the United States of America!

### ***Tell me about Venus Model Rocketry.***

When I wasn't very active in rocketry, I was active in local field flying and designing new models. I used to think that it would be fun to share my designs with people so they could enjoy them as much as I did. I created about six or seven models under the name of Rockettech for sport flying in 1989-1990. I contacted a spiral tube manufacturer

about pricing and sent along some samples of my hand wound tubes. They quoted me parts in the thousands and I would have had to spend thousands to get the project started. With a new baby in the crib upstairs and my interest waning, I shelved the idea.

In 2000, while playing with Corel Paint I made a picture of a star field, sunset and bold four-point star that was the planet Venus. I mused that it looked like an Estes logo, elliptical in shape, a real rocket company's logo, and then put the name to it—Venus Model Rocketry. Staring at the horizon line I thought of a few catch phrases and "New Horizons in Model Rocket Design" is the one that stood out. I designed a helicopter-recovery model, using 3D CADD and started to work on a parts list. I built a prototype and it flew poorly. I didn't have the time, as a new Dad, to refine it and make it fly right so the project was shelved.

Last Spring, I went to visit Phil Barnes who makes Discus Launched Models as a profession. I was impressed with his shop layout, his methods and the fact that he does it all from the confines of his basement. I left thinking that I would like to do the same thing: take a design, fabricate the parts and share it with the rest of my respective modeling community. I was reminded of my Venus Model Rocketry project and thought that it just might be possible to bring it to life using commercially available parts and some that I create on my own.

The Corkscrew [the subject of the NARHAMS November building session] was an answer to how to simplify and lighten a heliroc for NAR competition. It was a new way, to me at least, of looking at an old

concept and asking "what if" in so many areas of design and construction. I started to think that maybe this design would take some of the mystique out of helirocs and improve their success rate. So, rather than being an alternate model for me to fly for contests, it could become a sport or contest model for others.

Now my idea for Venus is to look at those old sketch books on the shelves and see what is there, determine if the model has function, not just looks, that will appeal to others. I guess you could say that my goal is to do something with all that impulse in the rocket motor rather than just ride it on a column of smoke and fire.

Venus rockets will be for those who fly sport or contest models and want to see something different take to the skies. I want to present solutions to contest flyers and entertainment to sport flyers who want to step away from the norm and try something else.

### ***What do you like best about model rocketry?***

Model rocketry forgives the fact that you can think outside of the box. It's a flying hobby that let's you loft a plastic baseball bat or a plastic jet kit, an egg or a slug of sand in a tube, a model six inches long and a 1/4" diameter or an eight foot long beast on a D motor. The designs are only limited by a person's imagination. There are thrust, balance and gravity to contend with and not much else to stand in the way of flight and fun. Breaking any of these rules will not set you back months of building or hundreds of dollars in the bank account. Rocketry attracts some of the most creative and skilled people that I've seen in a hobby and that is a definite advantage for the longevity of the hobby. ✨



## The story of WD-40

By Dave Daggy

The product now known as WD-40 began as a search for a rust preventative solvent and degreaser to protect missile parts.

It was created in 1953 by three technicians at the San Diego Rocket Chemical Company. Its name comes from the project that was to find a “water displacement” compound. They were successful with the 40th formulation, thus WD-40.

The Corvair Company bought it in bulk to protect their Atlas missile parts. The workers were so pleased with the product, they began smuggling it to use at home. The executives decided there might be a consumer market for it and put it in aerosol cans. The rest, as they say, is history.

It is a carefully guarded recipe known only to four people, one of whom is the “brew master.” There are about 2.5 million gallons of WD-40 manufactured each year. It gets its distinctive smell from a fragrance that is added to the brew.

WD-40 has been designated the “official multipurpose problem-solver of NASCAR,” a ringing endorsement if there ever was one. I told my NASCAR-loving sons about this, and they said they couldn’t imagine how WD-40 could solve the Jeff Gordon problem.

In celebration of their 50th year, the company conducted a contest to learn the favorite uses of its customers and fan club members (yes, there is a WD-40 Fan Club). They compiled the information to identify the favorite use in each of the 50 states. I was curious about Georgia and Alabama and found the favorite use in both states was that it “penetrates stuck bolts, lug nuts, and hose ends.” Florida’s favorite use was “cleans and

removes lovebugs from grills and bumpers.” California’s favorite use was penetrating the bolts on the Golden Gate Bridge.


Let me close with one final use—the favorite in the state of New York: WD-40 protects the Statue of Liberty from the elements. No wonder they’ve had 50 successful years.

### Uses of WD-40

- Protects silver from tarnishing
- Cleans and lubricates guitar strings
- Gets oil spots off concrete driveways
- Gives floors that ‘just-waxed’ sheen without making it slippery
- Keeps flies off cows
- Restores and cleans chalkboards
- Removes lipstick stains
- Loosens stubborn zippers
- Untangles jewelry chains
- Removes stains from stainless steel sinks
- Removes dirt and grime from the grill
- Keeps ceramic/terra cotta garden pots from oxidizing
- Removes tomato stains from clothing
- Keeps glass shower doors free of water spots
- Camouflages scratches in ceramic and marble floors
- Keeps scissors working smoothly
- Lubricates noisy door hinges on vehicles and doors in homes
- Gives a children’s play gym slide a shine for a super fast slide
- Lubricates gear shift and mower deck lever for ease of handling on riding mowers
- Rids rocking chairs and swings of squeaky noises
- Lubricates tracks in sticking home windows and makes them easier to open
- Spraying an umbrella stem makes it easier to open and close
- Restores and cleans padded leather dashboards in vehicles, as well as

vinyl bumpers

- Restores and cleans roof racks on vehicles
- Lubricates and stops squeaks in electric fans
- Lubricates wheel sprockets on tricycles, wagons and bicycles for easy handling
- Lubricates fan belts on washers and dryers and keeps them running smoothly
- Keeps rust from forming on saws, saw blades, and other tools
- Removes splattered grease on stove
- Keeps bathroom mirror from fogging
- Lubricates prosthetic limbs
- Keeps pigeons off the balcony (they hate the smell)
- Removes all traces of duct tape
- I have even heard of folks spraying it on their arms, hands, knees, etc., to relieve arthritis pain
- One fellow claims spraying it on fishing lures attracts fish

For more WD-40 history, visit [www.wd40.com/AboutUs/our\\_history.html](http://www.wd40.com/AboutUs/our_history.html). 



from The Tail Spinner  
Longmont Aircraft Modelers Association  
Mike Guliza, editor  
Longmont CO

## NARHAMS Quick Tips

By Ed Giugliano, NAR 46086

We don't currently have a "quick tip" section in ZOG, so here's one to get the ball rolling. If you have any tips or tricks you'd like to share, send them to me by email at [daddia@yahoo.com](mailto:daddia@yahoo.com) and we'll see if this can be a regular article.

Here is a quick tip I just used this week--

When you are staying at a motel, steal the sewing kit out of the toiletries "goody basket" in the bathroom. Not all motels will offer this item, but if they do, swipe it and throw it in your range box.



It contains a needle, needle threader, and lots of really weak thread which makes good burn thread for helicopter duration, rocket glider duration, and other events. And it is much easier to find the needle in the sewing kit than the bottom of your range box! The threader comes in handy if your eyes are getting weak like mine.

Oh, yes, the sewing kit can also be used to mend clothes, if need be.

That is the end of my tip for this month.

Cumberland Ed 



from ZOG-43 and

# NARHAMS





# McCoy's Micro Wonder Works

## Micro Scissor Wing Transports

2.6x Downscale Drawing parts drawing complete: 12-18-03 - Model #299 complete: 11-21-2004 - Completed Ewt: 11.1 grams

.375" multiplier = .3843131147  
= 1/16" Basswood  
= 1/32" Aircraft Plywood  
= 1/16" Aircraft Plywood

Motor/stuffer tube: T-2 + .281" x 4.611":long

3 - T2 + to T-3  
Fibre centering rings

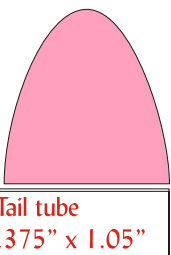
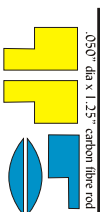
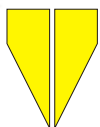
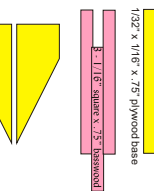
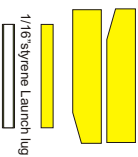
T-3 tube .375" x 6.916" long



T-3 .375" Tube size Scissor Wing Glider parts

.375" x 1.5"  
Basswood Nosecone

Note:  
A copy of the original construction steps  
will be REQUIRED to complete this model  
Plan pages are available for JimZ plans  
on the internet.



20G-43, THE ONLY NAR SECTION NEWSLETTER PUBLISHED MONTHLY!

NEXT ISSUE'S SUBMISSION  
DEADLINE IS JANUARY 31

*Jan 2nd*  
Visitor's Center  
Goddard Space Flight Center  
PUBLIC LAUNCH

*Dec 11th*  
10:00AM-4:00PM  
Middletown Park  
SPORT LAUNCH

*Dec 5th*  
Visitor's Center  
Goddard Space Flight Center  
PUBLIC LAUNCH

Launch Schedule

20G - FORTY THREE  
5269 RIVENDELL LANE, APT 5  
COLUMBIA, MARYLAND 21044



NARHAMS Model Rocket Club Newsletter