

THE 206-43

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

PHOTOS ROCKVILLE SCIENCE CONSORTIUM

April 29, 2007



Photos by John McCoy

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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 Material in ZOG -43 is not copyrighted. Free and unlimited reproduction is granted with the proper credit to the author and/or ZOG-43.

For more information.....

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ZOG-43 is edited by Roy Lappalainen, 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 & 2005

Photographs: by Roy Lappalainen, except where noted.

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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 and 2006

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 Pike Recreation 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 third 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.

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

Directions to College Park Airport:

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

ZOG ROYAL COURT
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NARCON 2007

Even though March was a long time ago, I still remember this one session at NARCON held by Alan Estenson. But let's start with an explanation.

First of all, NARCON is the NAR's national convention, usually held in February or March. There is usually no rocket flying involved, but lots of sessions on tips, building and the latest from vendors. It makes a good winter rocket event when you are itching to fly something. NARCON 2007 was held in Rochester, MN, this year where the weather wasn't that bad (I even went to lunch outside WITHOUT a jacket one day.). There was snow on the ground, but it was sunny.

Alan's session was on tube rockets. I love my totally tubular rocket and my Razor, so I was intrigued with what Alan had to say. He had come up with a spreadsheet (which I can't find at the moment) that showed how many tubes of one size would fit around another tube. Obviously, same size tubes are always 6 around the 1. Using this spreadsheet, he came up with a few scratch built models, using different size tubes. One of the plans was published in the Zog last month. Hopefully the other one will be published this month. He had several models that he hadn't made a plan out of yet. He had tubes inside of tubes, tubes cut at an angle, and tube rockets of almost every size.

Alan likes tube rockets so much, he has used one for his Level 1

certification. He likes not having to fill in the fins for a smooth finish. With tubes, you just cut, glue and paint. He did give a few tips on how to cut tubes, which John McCoy has shared with us as well. He also talked about the fun of not having all the tubes the same length. He has even put these tube rockets into RockSim to find the CP for the larger models. I can't wait to get a chance to cut some tubes and build one of Alan's plans.

The rest of NARCON, I mostly remember shopping at Semroc (which is where I got the SPEV for the build session in June) talking to some vendors, and talking to the Minnesota racketeers. Oh, and that pesky board meeting was there too.

Zog Bubbles



R109 - Contest Motor Certifications

May 5, 2007

The following model rocket motors have been upgraded by NAR Standards & Testing to allow their use in NAR Contest events effective May 5, 2007.

Aerotech/RCS:

(R) G71R-4,7,10
29 x 124mm, 29/40-120
Hardware
107 Ns Total Impulse
56.9 grams Propellant Mass

(S) G77R-4,7,10
29 x 146mm
103 Ns Total Impulse
59.1 grams Propellant Mass

(S) G79W-4,7,10
29 x 146mm
108 Ns Total Impulse
60.1 grams Propellant Mass

Propellant Key:

R = Redline,
W = White Lightning,
(R) = Reloadable Motor,
(S) = Single Use Motor

Plans

Diamond 'lil

"That 'lil, she's quite the looker."

Design MH-06 by Alan Estenson, NAR 69539 SR

Length: 556 mm (21.875 in.)

Diameter: 18.8 mm (0.74 in.)

Weight: 43 grams (1.5 oz.)

Recommended engines: A8-3, B4-4, B6-4, B6-6, C6-5, C6-7

Parts list

- A. One (1) 864 mm (34 in.) piece of t-20 body tube.
- B. One (1) eb-20 engine block.
- C. One (1) 1/8" launch lug, 60 mm (2.375 in.) long.
- D. One (1) 73 mm (2.875 in.) ogive nosecone, plastic or balsa, to fit t-20 tubing.
- E. One (1) 51 mm x 762 mm (2 in. x 30 in.) plastic streamer.
- F. One (1) elastic shock cord – about 914 mm (36 in.) long.
- G. One (1) 508 mm (20 in.) length of Kevlar cord (optional).

Building Notes

1. Cut three 51 mm (2 in.) lengths of t-20 tubing.
2. Cut three more lengths of t-20 tubing that have a 45 degree angle at both ends. The long side of each tube should be 89 mm (3.5 in.) The short side will be about 51 mm (2 in.)
3. Cut the end square on the remaining long piece of t-20 tubing. It should be about 483 mm (19 in.) long. This will be the main body tube of the rocket.
4. If you'd like to use a Kevlar shock cord mount, tie the Kevlar cord around the engine block, then glue the engine block 64 mm (2.5 in.) up inside one end of the main tube. If you prefer, make a folded paper shock cord mount and glue it inside the opposite end of the main tube.
5. Glue the tubular fins onto the main tube. Alternate between the square and angled tubes. The angled tubes should be positioned 13 mm (0.5 in.) up from the bottom of the main tube. The square tubes should be positioned 32 mm (1.25 in.) up from the bottom of the main tube. Make sure to align the long side of the angled tubes along the main body tube.
6. Glue the launch lug on the main tube about 140 mm (5.5 in.) up from the bottom end. Align the lug such that the launch rod will pass through one of the tube fins.

Reprinted from Volume 8, Issue 6 of the MASA Planet Newsletter



R110 - Motor Modification May 5, 2007

The following model rocket motors have been modified since their original certification by the manufacturer. NAR Standards & Testing has evaluated the motors with the following results:

Aerotech/RCS:Current Production

(S) G40W-4,7,10

29 x 124mm

97.1 Ns Total Impulse

53.8 grams Propellant Mass

(S) G80T-4,7,10

29 x 124mm

94.0 Ns Total Impulse

47.9 grams Propellant Mass 2004

and older production date

(S) G40W-4,7,10

29 x 124mm

113.7 Ns Total Impulse

62.4 grams Propellant Mass

(S) G80T-4,7,10

29 x 124mm

116.3 Ns Total Impulse

57.4 grams Propellant Mass

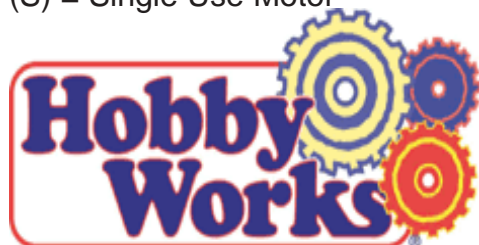
Propellant Key:

R = Redline,

T = Blue Thunder,

W=White Lightning

(S) = Single Use Motor



**NARHAMS
MEMBERS
SAVE BIG!**

LAUREL ROCKVILLE FAIRFAX

Show your NARHAMS membership card and receive a 20% discount off rocket kits, motors and building supplies!!

Calendar of Events for 2007

Jul 01	01:00 – 02:00 pm	Goddard public launch
Jul 02	05:30 – 10:00 pm	Monthly meeting, UFO building
Jul 15		Goddard Contest
Jul 21	10:00 - 04:00 pm	Sport launch
Jul 28 -		NARAM-49
Aug 03		NARAM-49
Aug 04	05:30 – 10:00 pm	Monthly meeting
Aug 05	01:00 – 02:00 pm	Goddard public launch
Aug 18	10:00 – 04:00 pm	Sport Launch
Sep 01	05:30 – 10:00 pm	Monthly meeting, build "A rocket"
Sep 02	01:00 – 02:00 pm	Goddard public launch
Sep 15	10:00 – 10:00 pm	Sport Launch, night launch, R/C fun fly 2 pm
Oct 06	05:30 – 10:00 pm	Monthly meeting, Sputnik building session
Oct 07	01:00 – 02:00 pm	Goddard public launch
Oct 20	10:00 – 04:00 pm	Sport launch, FAI Practice
Nov 03	12:00 – 05:00 pm	Planning meeting
Nov 03	05:30 – 10:00 pm	Monthly meeting, glider building session
Nov 04	01:00 – 02:00 pm	Goddard public launch
Nov 17	10:00 – 04:00 pm	OPOSSUM-12, Sport launch
Dec 01	05:30 – 10:00 pm	Potluck Dinner
Dec 02	01:00 – 02:00 pm	Goddard public launch
Dec 15	10:00 – 04:00 pm	Sport launch

Sport launches are held at Old National Pike 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. Questions? Call Club President Jennifer Ash-Poole at 410-674-6262 or visit NARHAMS online at <http://www.narhams.org>



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

New T-Shirt! Check it out at
Mention your NARHAMS
membership on
the online order form for a
Special Ludicrous Discount!

Long Night's Journey Into Squat

By Alan Williams NAR 14137

Ah, the weekend of April 22-23rd. A golden opportunity for viewing celestial events. First, at my girlfriend Bridget's house in Pennsylvania, we would use the clear country air to view comets Enke, a "sun-grazer", and Lovejoy, with a bonus of the Lyriad meteor shower thrown in. Then the real action with a night launch at Wallops Island!

I got there mid-day Saturday and the weather was shatteringly clear. So of course sundown, and the Enke viewing window brought with it a lovely scene of....clouds. We saw squat.

Comet Lovejoy; newly discovered, with an unusual green tail was our next quarry at 2:40 AM. Fighting off the pull of Morpho's gentle arms, we go out to find the clouds gone to the east. A beautiful clear sky arches overhead filled with all the wonders of creation! We look southeast at Sagittarius to where the comet 's magnificent form reveals itself, not. Forty minutes of averted vision technique later we still have squat. Well, there's always that nifty meteor shower to keep us occupied. Except that every time I looked down, Bridget went "OOOH LOOK!". I saw squat. I also think she's just messing with me.

Sunday afternoon I drive home to Bowie and make contact with Ed Pearson. That night at 10 we are on the road to Wallops and the launch of the Missile Defense Agency's NFIRE-1 satellite (an advanced infra-red warhead detection testbed; it also will evaluate direct laser-based satellite communications). The 3 hour trip is marred only by a Cambridge Police officer's attempt to respond to a call though my truck. No hit, no foul.



We reach the Wallops Visitor Center at about 2 AM. Since this is a classified launch, the public viewing site is on the VC grounds. The sky is astounding. This is going to be great! All goes well with the count for a while, then little delays begin cropping up. T-0 was originally 3:13 Local, then 3:20, then 3:35. Twenty minutes before launch I go get camera and tripod from the truck. That doomed it. As soon as I got inside the V C, the launch was scrubbed for ground equipment issues. Ed and I drive home. We see squat.

The next morning, April 24, at 2:40 AM Ed and I were on our respective lawns back in Washington looking to the southeast. (The prospect of another 300 mile round trip wasn't that appealing to us.) Unfortunately a strong haze layer made only the brightest sky objects visible. Shortly after 2:48 a star begins climbing in the southeast, getting brighter as it rises.

They Did It!

I watch as the fire intensifies, then, dang it!, dims as the haze filters the view. Three stages were visible, as it arced maybe 30 degrees above the horizon. There were also a few flashes as pyro events happened. Ed saw much the same things in Lanham. So while we did not see squat, this time we successfully viewed diddly.

As a fitting end to the adventure, my brother Craig watching from Silver Spring with a fancy digital infra-red camera, ya know the type that's supposed to let you see through people's clothes, who had put me on to the whole comet and meteor weekend thing, he got squat.

Launch video and nice hi-res stills are downloadable at the Wallops web site([http://. wff@nasa.gov](http://wff@nasa.gov))





RAMTEC-13

Regional Meet
September 1 & 2 (Labor Day Weekend)
Ft. Indiantown Gap National Guard Training Center



1/2A Streamer Duration - Multi Round

A Rocket Glider Duration

B Helicopter Duration

B Eggloft Altitude

Set Altitude - 150 meters

www.spaar.org





ZOG-43, THE ONLY NAR SECTION NEWSLETTER PUBLISHED MONTHLY!

Aug 18th
SPORT LAUNCH
Old National Pike
10:00AM - 04:00PM

July 21st
SPORT LAUNCH
Old National Pike
10:00AM - 04:00PM

July 15th
PUBLIC LAUNCH
Goddard Space Flight Center
Visitors Center
1:00PM - 3:00PM

Launch Schedule
206 - FORTY THREE
700 CLIVEDEN ROAD WEST
BALTIMORE, MD 21208

