Zog-43

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Zog-43
Volume 42 Number 6
November/December 2020
Official NARHAMS Newsletter
Editor: Don Carson

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 all paid up members of NARHAMS. Club membership is open to all, dues are 10 cent per week.

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

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About NARHAMS

The National Association of Rocketry Headquarters Astro Modeling Section, or NARHAMS, serves Baltimore, the state of Maryland., Washington, DC and the surrounding Metropolitan areas. The club is a section (#139) of the National Association of Rocketry (NAR).

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 (1997, 1998, 1999, 2001, 2004, 2006, and 2007).

NARHAMS members regularly fly their model rockets at NASA's Goddard Space Flight Center in Greenbelt Md and at Old National Pike Regional park near Mt. Airy, Md.

NARHAMS welcomes all to our monthly meetings and launches.

For details, dates and directions to our club, meetings and launches, go to: http://narhams.org

From the Editor - Catching Up

Don Carson, NAR #11069

The final issue of Volume 42, the Nov/Dec one, is just now coming out to you. Your humble Editor spent the holidays and beginning of the new year ill and recovering. I am well now, thank you, and working off the backlog of newsletters, a well as, trying to make up for missing most of my "build season".

Local Maryland limitations on gatherings have fluctuated and so we have not had as many launches as we would have liked. When allowed to fly, the club appears to have done a good job complying with the pandemic guidance and providing an environment where folks feel safe launching rockets.

I expect to begin the Jan/Feb issue as soon as this one goes out. With any luck, I'll have us back on track for the Mar/Apr issue. With the number of launches down, now is a good time to document a build, or write a "non-flying" article. I've got a few but can always use more inputs.

My thanks go out to everyone who contributes to make this a such an outstanding newsletter - the credit goes to you.

I hope you enjoy this issue.

As always,

Fly 'em high, bring 'em back, and, for heavens sake, be safe...

For questions, answers, opinions, files, photos, and more NARHAMS, join the NARHAMS Groups.io group. It is free, painless, no ads, and may just be the cure for the common cold. Also: Facebook if you are not parnoid about that sort of thing.

Front Cover: Ready on Rack 3! Scouts attending the October Sport Launch came out in force.
Photo: S. Jackson

Back cover: Here is your NARHAMS calendar for 2021. As you would expect in these times, the scheduling of activities continues to be in flux, so check the club website for updates and any changes in status.

ZOG ROYAL COURT
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A COVID View of an Antares Launch

Article and Photos By: Alex Mankevich
Zog-43 Photojournalist

Northrop Grumman launched its 14th cargo resupply mission to the International Space Station on October 2, 2020. As they say, the third time is the charm – this launch being the third flight of the Antares 230+ version, the third under the Commercial Resupply Contract-2 and the third October launch for an Antares rocket from the Mid-Atlantic Regional Spaceport.

The current COVID-19 pandemic presented challenges to the Antares and Cygnus teams as they prepared the rocket and spacecraft for this mission. COVID-19 also prevented the usual public activities associated with an Antares mission. The NASA Wallops Island Visitor Center was closed for this launch, so the usual pre-launch conferences were conducted virtually instead of being open for the media and public in the Visitor Center's auditorium. The NASA Wallops Island Public Affairs Office severely limited the number of accredited media representatives as a COVID precaution. Space launch enthusiasts were left on their own to decide how and where to view the night-time launch.

Your intrepid and daring ZOG-43 cub reporter was keen to keep social distance for this event. He used his local knowledge to view the launch from a location about 12 miles south of launch pad 0A. This choice of viewing site was prophetic as only six other vehicles showed up with spectators at launch time, thus satisfying my COIVD isolation desires. The downside was that this site offers no direct view of the launch pad and you have to wait a few seconds before the rocket rises above the tree line. The plus side is that the Antares fights take a

Continued next page

Antare N-14, Continued

southeastern path out over the Atlantic Ocean, and this site being south of the launch pad means that you get to view the rocket flying somewhat overhead. A viewing site located to the North or to the West of the launch pad means that the Antares rocket travels away from your viewing location. For those ZOG-43 subscribers not familiar with the Delmarva peninsula, a viewing site East of launch pad 0A means that your feet will be wet, and the crabs and sharks will likely be nibbling on your toes – which could be an annoying distraction if you are trying to photograph the launch.

The launch happened at 9:16 pm on a clear night under a full moon which hung imposingly above the eastern horizon. I knew that the rocket's flight path would take it towards the moon, but I wasn't certain if the flight path would end up over, below or intersecting the moon's full disk. As it turned out, the orange flame of the rocket arced over the moon (and Mars if you want to be technically correct).

Two aspects of viewing the launch from this location caught my attention. First is that the northern horizon lit up like crazy at the moment of the engines' ignition. If you were not certain about exactly where on the northern horizon the rocket would appear, you certainly knew at T-0. It took time for the rocket to clear the tree line, but not really any longer than ten seconds. The second aspect I noted was the roar of the engines. Of course, it took several seconds for the sound of the engines to reach my distant location, but since the rocket was traveling towards me rather than away, the roar and cracking of the engines were more sustained than I remember from other distant viewing sites.

Because of COVID, I was not going to view this launch from a site that was 2 to 5 miles from the launch pad which I knew would be packed with spectators. I gladly gave up experiencing a chest-thumping reverberation of the engines for the isolation of a more distant site with fewer spectators. In the end, I considered myself to be another satisfied launch-viewing spectator.

Lockheed Martin X-59 QueSST

Graphics courtesy of Lockeed Martin

By Don Carson

Working in conjunction with NASA this Quiet Supersonic Technilogy aircraft will explore the potential to greatly reduce noise compared to prior technology SSTs. This woud enable regular flights over populated areas at supersonic speeds. SST flights are currently banned over land.

Targeted to fly at 55,000 feet, cruising at Mach 1.4 (or 940mph), it could cut travel time in half.

The aircraft assembly phase began in September of 2020 and is scheduled to fly for the first time in 2022.

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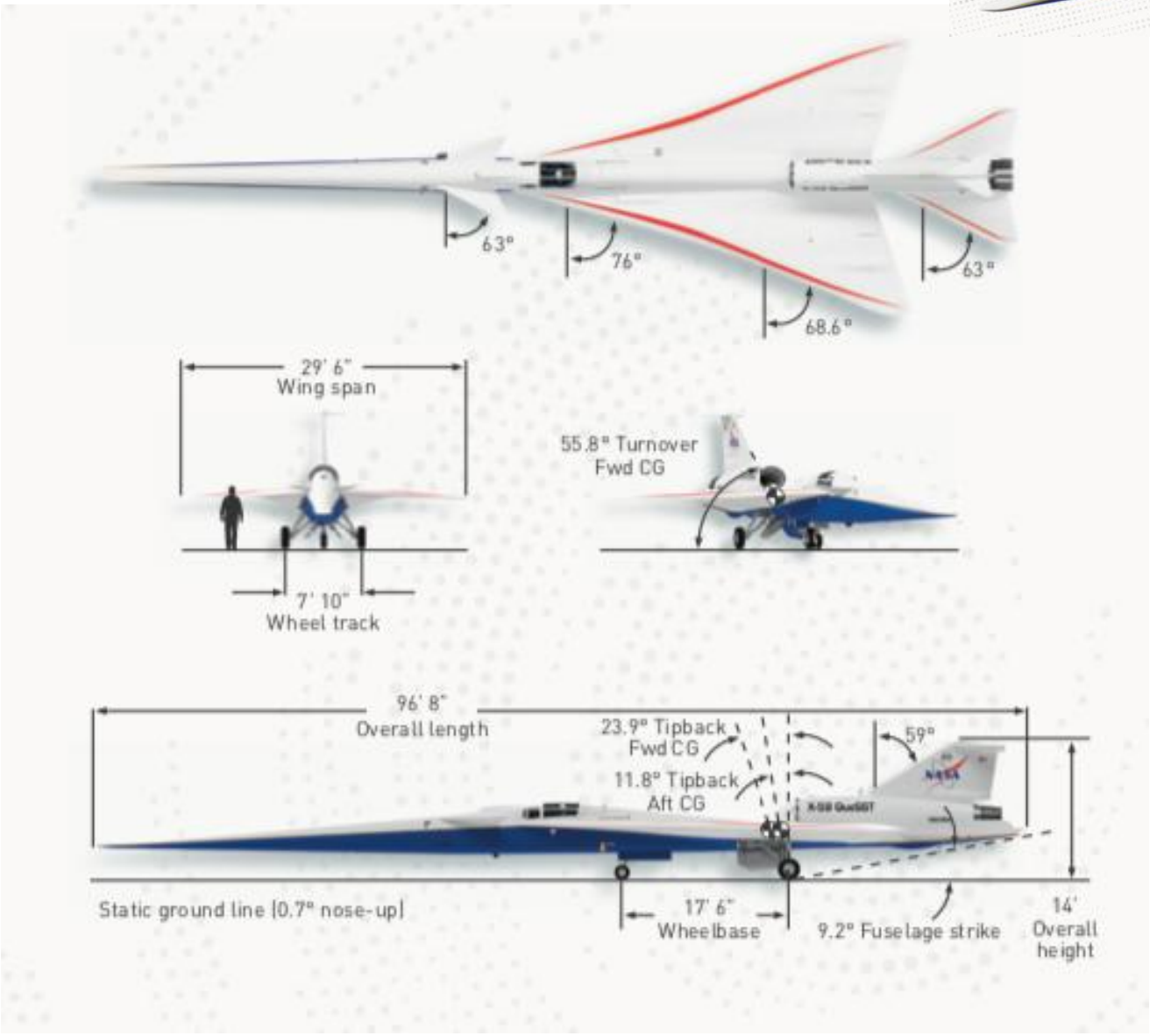
LM X-59 QueSST, Continued



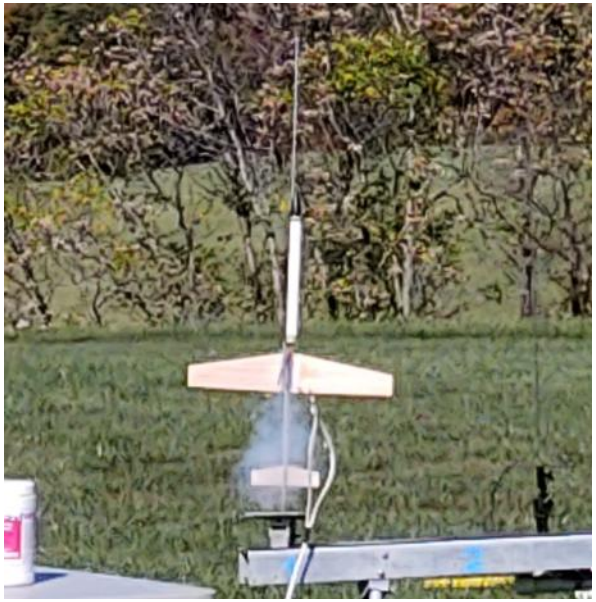
October 2020 Mt. Airy Sport Launch Report: *Gliders and More!*

By Don Carson, Launch Manager

The weather was great for the October Mt Airy launch. The turnout was good and we were busy all day. We had arranged to have the scouts arrive late in the afternoon and club/public members were to finish up by 3 pm. The scouts arrived early and, of course, wanted to fly right away. That put a bit a crimp on the club/public flying. With the limited launch rods available (due to COVID spacing), we had some pretty sizable waiting lines forming. Ed Jackson got on the PA and went into "Goddard Visitor Center Launch Mode," dispensing with the normal PA chatter and got the launch rate sped up considerably, thanks Ed!

This future astronaut, like all good ones, checks out the rocket to make sure everything is proper.
Photo: D. Carson

Alan Williams' Little Joe II ready to go.
Photo: S. Jackson



The theme for the launch was Gliders, this was Adley's glider.
Photo: S. Jackson

(R) Buff Fairchild's Tomcat.
Photo: D. Carson

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Oct. Sport Launch, Continued

(Above)Steve Lloyd turns on the camera.
Photo: D. Carson

(L)Rob Edmund radio controlled boost glider drew lots of attention but electronics issues forced a scrub.
Photo: D. Carson

(R) Rob still wowed the crowd buzzing the field with an RC model airplane.
Photo: S. Jackson

(R)Test flight of an S2/P competition rocket to determine if it has earned a paint job.
Photo: D. Carson

Patriot at liftoff!
Photo: S. Jackson

Don Carson waits to launch his J&H Aerospace's Swingshot RC swing wing rocket glider.
Photo: S. Jackson

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Steve and Buff prep for launch.
Photo: D. Carson

Jim Miers Big Bertha gently returning home.
Photo: S. Jackson

Unlike the cover shot, these guys are not ready to launch!
Photo: S. Jackson

After a successful Mercury Redstone flight.
Photo: D. Carson

Mike M and his Bottle Rocket 01.
Photo: S. Jackson

Evan supervises to make sure it is connected correctly.
Photo: D. Carson

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Steve Lloyd preps another one.
Photo: D. Carson

Late in the afternoon, lines began to form.
Photo: D. Carson

Richard Ruth and his technician prep for flight.
Photo: D. Carson

Nice looking Mercury Redstone on the pad.
Photo: D. Carson

From the Zog: *A Year of COVID*

By Alex Mankevich – NARHAMS President

It is not often that a NAR Section President presents an annual report that focuses on what did not happen during the course of a year, but the COVID pandemic has re-shifted the landscape. Normally, I would herald our success and the people behind our accomplishments. However, for this year's report I will concentrate on the impact of having to cancel most of our regular events and what that means to us in terms of losses and our need to rebuild.

In general, we lost momentum and continuity with our flagship events such as ECRM, the Apollo Contest, the John McCoy night launch, Rockville Science Day, and the Goddard First Sunday launches. These are all events which we have been conducting or supporting for decades! Generations of model rocketeers have become accustomed to participating at these highly anticipated activities each and every year. It was sad to "break the streak" with these events – some of which have had a twenty plus years run.

We started 2020 off normally enough. We conducted the Goddard First Sunday launches for the first three months of the year. We met in person for our monthly business meetings at the Hap Arnold Center from January through March. We did a huge outreach of displaying model rockets at the Pax River Naval Air Museum in Lexington Park at the end of February. News of COVID was then still a distant "Chinese thing" at that time, so no precautions were in place at this event.

Just few weeks after the Pax River event, the whole business of doing model rocketry related activities changed with announcements by the Federal and Maryland governments. Restrictions on social gatherings, museum/business openings, outdoors recreation activities and travel were put into place. Our partner facilities at the Goddard Visitor Center, College Park Airport and the Frederick County Parks and Recreation quickly announced their closings and restrictions for public activities.

Starting in April we had to conduct our meetings via Cisco WebEx software. Thanks go to our Treasurer, Ed Jackson, for setting that up and for being prescient enough to anticipate its usage.

The timing of the on-set of COVID restrictions could not have been worse. Our legions of NARHAMS volunteers know that spring heralds the start of our launch services for scouts and schools. We know that the months of April and May mean to be ready for assisting at the big launch events for the Rockville Science Day and for the TARC Finals. These events were promptly postponed and were later cancelled outright.

Rockville Science Day and TARC are meaningful events for as they serve as incentives for me to undo all the bodily harm, I have inflicted upon myself for being a couch potato from November through

No masking, no social distancing, and no hand sanitizer in sight at the NARHAMS May 2018 business meeting in the Hap Arnold Center at the College Park Airport. Ah yes, the good ole days!
Photo: A. Mankevich

No six-foot physical distancing being observed at the February 2020 Steam Day at the Patuxent River Naval Air Museum. This event was held just as concerns about COVID were getting on the radar for some Americans.
Photo: S. Jackson

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From the Zog, Continued

March. During those inactive months, my body builds up stores of pizza, chocolate and cookies reserves from Thanksgiving to Valentine's Day. Being king of the Lazy-Body chair throughout the winter months renders my lung capacity to about the size of a quarter. The heaviest wintertime object I lift is the gallon of milk that I pour on my bowl of Fruit Loops cereal. The only finger-strengthening activity I do is to twist the cap of a toothpaste tube (BTW: Do let me know if I am providing a little too much personal information).

Tom Bagg explains range safety to the students prior to the model rocket launch at the Hillcrest Elementary School in June 2016.
Photo: A. Mankevich

So, if you've been reading between the lines, you'll realize that I need to ramp up my physical and endurance capacities before we head into the Dog Days of summer when I will be hauling a ton of launch range equipment over great distances under a hot, blazing Mid-Atlantic sun, in 90 plus degrees temperatures accompanied by a sauna-like 85 percent relative humidity.

My arm strength also needs to be built up gradually. Manipulating a fully extended recovery pole can't be done ten times a day in the early spring, but as we get into the fall months my arm strength returns so that I can consider multiple turns at rocket-in-the-trees recoveries. The same goes for lifting and hauling our 12-volt marine batteries. Lest we forget all the bending, kneeling, and squatting that normally accompanies our launch range set up and take down.

Let us tally up our 2020 loses thanks to COVID. Ole Ed Pearson's Rocket Run Derby would have featured youngsters chasing across the launch range to recover Mosquito rockets during the April sport launch. We missed out on the competition, comradery and cookout that are all part of the ECRM experience. In July we took two hits. First, we had to cancel the enjoyment of face stuffing hot dogs, hamburgers, and a whole bunch of potluck specials during our annual July 4th picnic. Later in July we had to forego honoring the legions of people who made the Apollo 11 moon landing the historical and cultural milestone that it is (which could be regarded as a good thing since the temperature topped out at over 100 degrees F on what would have been contest day). We will have to wait another year to honor the memory of John McCoy at September's John McCoy Night Launch. Finally, we are going to miss the thrill of choosing the various rocketry goodies when our number is called during the raffle at our annual Holiday Party.

Technically speaking, I was able to get "face time" with a lot of you during our WebEx meetings. But I intentionally did not mingle, meet, and greet while at the few sport launches that we conducted after they were permitted. Personally, this was a big loss for me this year. I read a lot into people's faces and their body language when I engage in face-to-face discussions. It was this level of connection that I have missed the most in 2020.

As I write this, the good news is that numerous COVID vaccines seem to be preparing for rollout in early 2021. Soon, we will all have a full year's experience staying safe while dealing with COVID. It is with pride and honor when I say that I am amazed at the level of insight, competence and concern displayed by many of my NARHAMSter colleagues who did their part to address safely conducting model rocketry activities during these unique and trying times.

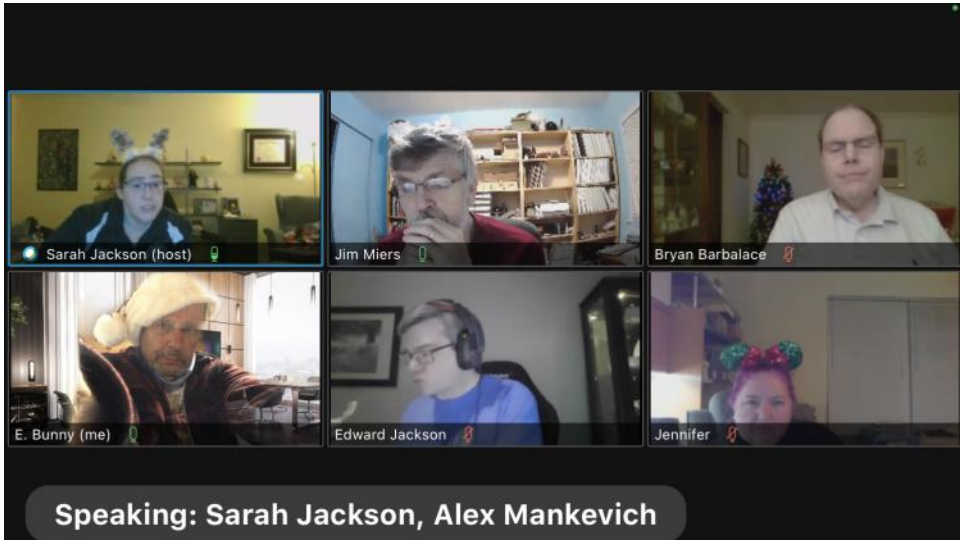
So, hopefully by the summer of 2021 we will have to get used to (again) conducting two regular monthly launches. As I have explained above, we may have to work on re-conditioning our bodies to take that punishment. We may (again) become challenged to assemble interesting static displays at museums, space centers and STEM events. We will reconnect (again) with our partner groups of schools, scouts, and CAP squadrons. We will (again) enjoy our 'traditional' events throughout the course of the year. I look forward to seeing you, and working with you shoulder to shoulder, at these events.

December Meeting Highlights By Ed Pearson

The annual (Cisco Webex) holiday extravaganza was held December 5 in the cloud. An unofficial count showed 16 popping by and cheer was held for 1.5 hours prior to the meeting—mostly quiet but good input from Tom Ha, now in Rome, NY.

The actual meeting lasted almost a full half hour. And with no launches, but good input from outside the club on how we conducted our post-virus launches, the meeting turned to announcing the Tee-shirt contest winners. Sarah Jackson did an outstanding slide presentation on the entries and took third place too with a rocket riding hamster. Second place was a holiday ham orbited by a rocket while 1st place and all that goes with it went to Ed Jackson's 4-letter naughty words of model rocketry.

Cheers every one and ho, ho, ho.



Some of the clebrants at the December meeting.
Screen Capture: Tech Whiz E. Pearson

* As always, the club meeting minutes are emao;ed with the Zog-43 and posted on the NARHAMS website in the "Minutes" section. *

Joe Woodford

NARHAMS notes with sadness the passing of a rocketeer friend, Joe Woodford, this past December 6. He was 73 years old.

Joe Woodford (L) and John Hochheimer.
Photo: Johnathan Rains

Joe served as President and Senior Advisor with NOVAAR and was with the section for the past 24 years. We would see Joe regularly at ECRM and of course annual TARC final competitions. He helped heavily in TARC's range setup/breakdown, made auditorium arrangements for the contestant/crew orientations and was in charge of result posting. Joe made sure things were ship shape and people knew the contests' standings.

This was right up his alley too. Joe retired from the Navy, in 1996, with the rank of Commander specializing in naval communications.

Joe was raised in RI and graduated from Brown. He was number one in his class at the Naval Post Graduate School in Monterey, CA.

Joe leaves behind his wife of 47 years, Consuela Woodford, three children, two grandchildren and five brothers and sisters.

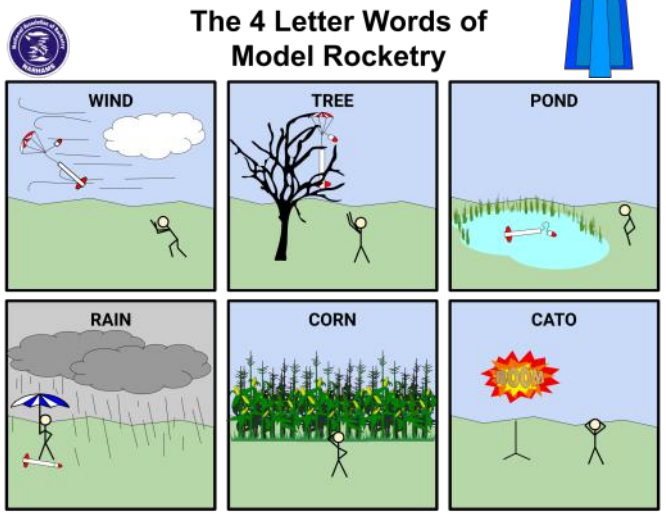
Joe welcomed all at NOVAAR meetings and launches. He mentored TARC and Student-Launch-Initiative teams at local high schools.

Tom Ha recalled that he did always make me welcome, from day one. I never knew about his past career until his obit came out, but it doesn't surprise me. I really enjoyed being around Joe, he made comments that would make me laugh, or make observations about what was going on that I'm not sure he would share with just anyone. I really miss him though I think it will hit me most when I attend another NOVAAR launch and he is not there. He was always there!

Trip Barber, also a retired Navy Captain, posted this salute on Joe's online obit page: "We'll miss you Joe! Fair winds and following seas."

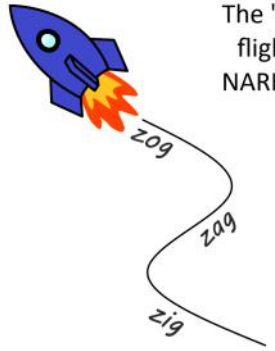
NARHAMS T-Shirt Contest Results

1st *



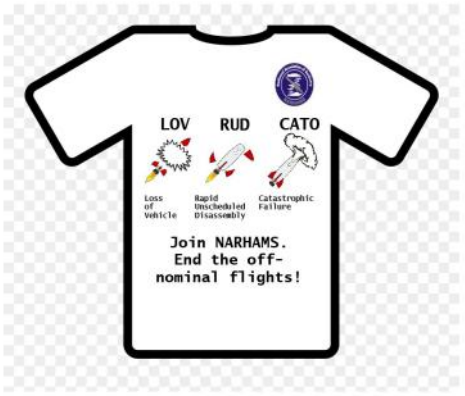
2nd *

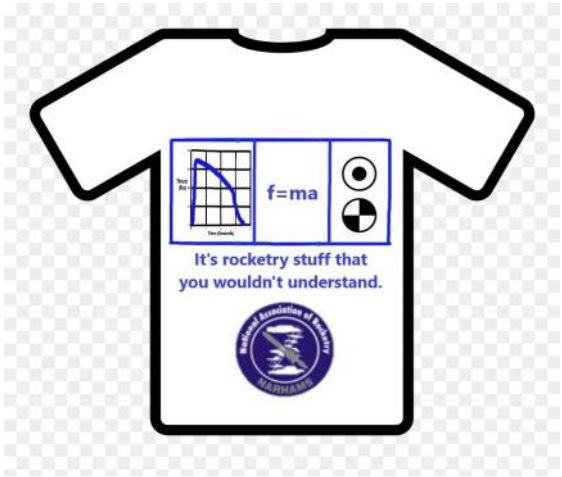
3rd *



The "Zig Zag Zog" flight path of a NARHAMS rocket *

* Available on NARHAMS Merch from CafePress. Click Here.





New Contest Announcement!!!

CONTEST: Build a Semroc-kit Spaceman model rocket. Customize it as you wish. Then take and send us a photo of your model. We'll judge the rocket for creative thinking, execution and our perception of its flight stability potential. You might win a prize...you need not fly the model (but if you do and attest for its flight stability—you'll get credit).

PRIZES: Did we say prizes? Well this is for your fun, but NARHAMS is awarding: 1st Place-$25; 2nd-$10; 3rd-$5; 4th-$2 bill; 5th-$1 American Indians in the Space Program U.S. dollar coin.

Examples - Gort and Marvin.
Photo: E. Pearson

WHAT THIS IS: This is a subjective judging contest so let your imagination romp and have fun with your project.

HOW TO ENTER: Send your rocket's (JPG or GIF digital) photo via email to glennepearson@aol.com. Photos are to be received by December 31, 2020. Winners will be announced in the scheduled JAN/FEB 2021 issue of NARHAMS Zog-43 newsletter and notified by email.

JUDGES: We have assembled a group of imaginative rocketeers to judge this thing and they are ineligible to enter theirselves.

ABOUT THE SPACEMAN: The Semroc Spaceman kit is advertised online for about $10 and available from eRockets.biz, Apogeerockets.com, JonRocket.com, and others.

Note: The original 18mm motor Astron Spaceman (Kit K-9, woof) sold for $0.75 in the 1965 Estes catalog...the year when NARHAMS chartered. Semroc's is a downsized 13mm motor oddroc version. Pssst... they are fun, delight and are remembered.

NARHAMS Club Merchandise

New Online Store for NARHAMS Merchandise:

https://www.cafepress.com/narhams

NARHAMS now has an online store for club mechandise. No more waiting for a group buy. Lots more choices of colors and styles. Plus, a huge variety of items, much more than we have ever had in the past.

Shirts, Hoodies, Hats, Mugs and more!

End your loved ones' gift shopping dilemma - leave this page open and circle this announcement.

Contact your editor before buying. He gets regular discounts or free shipping codes from Cafepress. Save your dollars for rocket motors.

Flight-Testing Quest "Q-Jet" D Class Motors

By Alan Williams

A short while back (as the pandemic flies) our friends at Quest/Aerotech expanded their line of Q-Jet 18 mm plastic cased composite propellant motors with the addition of "D"-class impulse products.

I know Kevin Johnson tried one at last year's ECRM, but I finally got my hands on some and would like to share my thoughts about them. They feature the advantages common to this family of high energy formulations-light weight, higher thrust capability, choice of flame/smoke effects, and great reliability. The composite propellants are so that the A, B, and C motor casings are actually sort of empty! The D-16 price tag is about what you will pay for the Estes D-12. There are some major differences between the two products. The Estes motor is a classic semi-endburning black powder 24 mm paper-cased motor producing 15 Newtons impulse. They have been considered as the "go-to" product for that class for decades. There's nothing wrong with them at all. However, compared with the newer Q-jets their size and weight might appear less attractive in smaller models.

The Q-Jet Black Max D-16s are interesting additions to the range box for a number of reasons. Even with their lower 12.5 Newton impulse, their higher thrust spike and lighter mass produce attention-getting acceleration for normally staid models. Though the Black Max propellant flame is almost invisible, its dense smoke gives good contrast in most sky conditions. The D-20 White Lightning version features that fuel's higher energy and popular brilliant white flame trail.

Handling is almost like that of standard 18 mm. motors, with exceptions. Here follows a little composite propellant "Rockets 101" lesson: Solid rocket motors are greatly affected by the burning surface available. Thus the cigarette-like end burn of the Arcas sounding rocket yielded a 30 second burn at 325 lbs. Center coring the same motor produced the Boosted Arcas II booster which topped out at over 5,000 lbs. for five seconds. Center core designs also feature increasing thrust as the burn surface enlarges out toward the motor walls. The Q-Jet's "C-slot" grain and similar "moonburner" designs start with a large offset burning surface which decreases in area as the fuel is consumed. This mimics the high low thrust of most standard model motors. Finally, the requirements of real-world rocketry also yield high thrust, flat burning "star" and multiple-ring-and-crossbar port configurations.

Composites are properly started by an advancing flame front working its way down from the head of the motor, so correctly positioning the initiator is important. You must identify the propellant grain's slotted core and carefully guide the igniter entirely up inside. Otherwise, the whole of the internal core surface may not evenly light off and a depressed and unpredictable thrust curve results.

In addition, the initiator must be physically touching the delay for proper ejection function. (The delay element is actually burning during motor thrust.) Note that the plastic

Q-Jet packaging comes with initiators and some wadding.
Photo: Quest Model Rockets

Q-Jet Black Max.
Photo: Quest Model Rockets

casings become hot and must be allowed to cool before removal. Pliers are a good suggested removal aid. Friction fitting with masking tape is discouraged, as the heated adhesive may leak and glue the casing to the engine mount.

The Q-jet 2-pack comes with First Fire Micro twin lead initiators, a more convenient and robust item than the Copperhead foil skin igniters of old. They are held in the nozzle throat by small plastic tubes like those used in Quest black powder motors. A supply of crepe-like recovery wadding and a very comprehensive instruction insert are also enclosed.

Continued next page

Q-Jets, Continued

I fired two D16-6 motors, each in a basically stock four ounce, 1.3 inch diameter Quest Falcon kit at the September and October Mt. Airy launches. Motor light-off was essentially instantaneous. In both cases the Falcon screamed upward, accompanied by shocked exclamations from onlookers. Using my official MK.43 mod.2 NAR calibrated eyeballs, I believe the flights exceeded 1,100 feet altitude. Both motors had ejection right at six seconds. The roughly 15 ft. yellow caution tape recovery streamer I had installed was also popular with the gallery. Unfortunate fickle winds landed the October flight well into the southeast tree line. Our pal D.J. and another participant kindly went out to find it, returning empty-handed about 15 minutes later. Ah, well.

Since then I have built two additional Falcons and a similar Quest Brightstar to continue tests. Based on the high performance with the Falcon, I'd also love to try the D-16 or D-20 on something like the Estes Wizard kit. If the fins could be convinced to stay on I'm thinking it would be the very definition of a "one shot wonder."

Putting all this together, I think these things are a great inexpensive way to train yourself into the world of higher energy motors.

The D-16s are available now at Hobbyworks' Laurel store. With enough lead time, they can transfer some to the Rockville store for you. The even zippier D 20 version is not yet being stocked. Of course, the entire Q-Jet motor line is also available direct from Quest.

Q-Jet 18 mm composite motors. *Photo: Quest Model Rockets*

Bits and Pieces

Sylvia Acevedo

Chris Wallace on his Fox News Sunday show introduced NARHAMS to Sylvia Acevedo. Who?

Ms. Acevedo is Chief Executive Officer of the Girl Scouts and a former rocket scientist at NASA. A big proponent of STEM education, Ms. Acevedo got her start in New Mexico with the launch of an Estes model rocket and thought, "I can do that." This launched her interest in science. Google her and read about her career experiences...that started with model rocketry.

National Sport Launch(NSL) Or Spudnik 2021

NSL "Spudnik" 2021 is being held in one of the nation's largest potato growing regions. In recognition of the area's agricultural significance we named the event Spudnik. Look for our special Spudlofting contest during the event.

Come and fly in beautiful Colorado! Alamosa has a base elevation of over 7,500' and sits in a valley surrounded by mountains. NSL "Spudnik" 2021 is being held in one of the nation's largest potato growing regions. In recognition of the area's agricultural significance we named the event Spudnik. Look for our special Spudlofting contest during the event.

When: Saturday May 29 through Monday May 31

Where the heck is Alamosa, CO? Alamosa CO is in south-central Colorado, in the heart of the amazing San Luis Valley. We enjoy 350 days of sunshine per year tucked between the San Juan and Sangre de Cristo Mountain Ranges.

Click Here For More Info

Welcome New/ Renewing Members

New

Heather Bronson, Richard Ruth

Renewals

DJ Emmaunuel, Bradley Grant, Edward Jackson, Sarah Jackson, Tom Jackson, Adlai Perry, Andrew Perry, Chandra Serfoss, Craig Williams

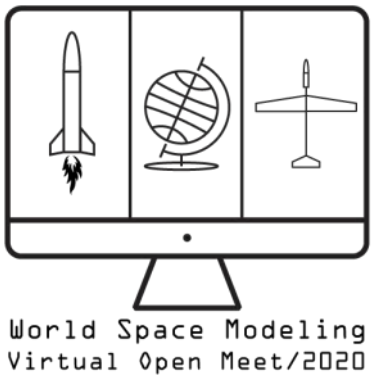
Not Reading Your Own Copy of the Zog-43? Join NARHAMS and have your own copy emailed to you hot off the press. Only $5/ year! Click here.

Competition Corner:

Virtual FAI Contest

1st World Space Modeling Virtual Open Meet 2020

With the 2020 World Championships postponed, James Duffy and Mike Nowak teamed up to create a virtual contest for FAI competition across the US and around the world. They proposed it to the FAI and it was heartily endorsed by the CIAM Space Models SC Chrman, Zoran Pelagic! The contest ran from 21 August to 18 October and was very well attended. Below is a report out from Mr Pelagic. Congrats and well done to James and Mike!



Dear Spacemodellers,

The 1st World Space Modeling Virtual Open Meet 2020 came to its final phase!

Please find attached the Results Lists of the 1st ever Virtual Spacemodelling Meet.

Congratulations and a big Thank YOU go to James Duffy, Mike Nowak and their team that had made organisational arrangements and thus making this interesting event happen!

A big thank you deserve all the scale judges, RSO and jury members, who actively contributed to the success of this competition.

Some words about the competition:

- Attended by 139 competitors in 5 Classes,
- Competitors from 4 Countries from 3 Continents,

The "Player of game" ,or in our case "Best Competitor of the Meet" is SERDIUKOV Serhii from Ukraine, who secured wins in two Classes - S6A (streamer duration) and S9A (Gyrocopter duration).

Congratulations also to all winners and participants in this event for their sports successes and good sportsmanship.

This competition has shown to have good potential for the future as it shows potential not only to have a "Virtual" competition, but also can serve to train, exchange potential ideas between each other. With such competitions we can simulate any kind of new idea and thus later adopt new proposals based on practical experience.

With best regards,
Dr. Zoran M. Pelagic,
CIAM Space Models SC Chairman

Rocketry Festival 2021

NARAM-62 Events:

1/2A Parachute Duration*
1/2A Streamer Duration*
1/2A Helicopter Duration*
1/2A Altitude w. altimeter*
1/2A Boost Glider*
B Payload Altitude w. altimeter*
1/2A Flexwing
D SuperRoc Altitude w. altimeter
Sport Scale
Research & Development

Postponed to July 2021
National Warplane Museum
Geneseo, NY

For current info, go to
www.nar.org

NARHAMS 2021 Calendar

Date	Time	Event	Location
Dec 19	12 - 4 pm	Sport Launch (currently SUSPENDED due to COVID) – Old National Pike Park Theme: open Launch Manager: Fabrice Derullieux	Mt. Airy, MD
Jan 2	5:30 - 9 pm	Monthly Webex virtual meeting Topic: open	College Park, MD
Jan 3	1 - 2 pm	Goddard public launch CANCELLED due to COVID	Greenbelt, MD
Jan 29 - 31		Virtual NARCON 2021	
Feb 6	5:30 - 9 pm	Monthly Webex virtual meeting Topic: FROG Award / Chris Flanagan virtual presentation	College Park, MD
Feb 7	1 - 2 pm	Goddard public launch CANCELLED due to COVID	Greenbelt, MD
Feb 20	12 - 4 pm	Sport Launch (currently SUSPENDED due to COVID) – Old National Pike Park Theme: Stubby Rockets Roulette Launch Manager: Alex Mankevich	Mt. Airy, MD
Feb 27	12 – 4 pm	Sport Launch – Krimgold Park (currently requesting Park's permission) Launch Manager: Alex Mankevich	Woodbine, MD
Mar 6	5:30 - 9 pm	Monthly Webex virtual meeting Topic: Keith Koehler (NASA Wallops) virtual presentation	College Park, MD
Mar 7	1 - 2 pm	Goddard public launch CANCELLED due to COVID	Greenbelt, MD
Mar 20	12 - 4 pm	Sport Launch (currently SUSPENDED due to COVID) – Old National Pike Park Theme: Festival of Colors (tracking powders) / Firefly altimeter duration contest Launch Managers: Ed and Sarah Jackson	Mt. Airy, MD
Apr 3	5:30 - 9 pm	Monthly Webex virtual meeting Topic: open	College Park, MD
Apr 4	1 - 2 pm	Goddard public launch CLOSED for Easter holiday	Greenbelt, MD
Apr 17	12 - 4 pm	Sport Launch (currently SUSPENDED due to COVID) – Old National Pike Park Theme: NRC launch / Rocket Run event Launch Manager: Don Carson	Mt. Airy, MD
May 1	5:30 - 9 pm	Monthly Webex virtual meeting Topic: Open	College Park, MD
May 2	1 - 2 pm	Goddard public launch CANCELLED due to COVID	Greenbelt, MD
May 15	8 am - 5 pm	TARC Finals	The Plains, VA
May 15	12 - 4 pm	Sport Launch (currently SUSPENDED due to COVID) – Old National Pike Park Theme: UFOs over Mt. Airy Launch Managers: Ed and Sarah Jackson	Mt. Airy, MD
May 29 - 31	9 am - 5 pm	National Sport Launch 2020	Alamosa, CA
Jun 5	5:30 - 9 pm	Monthly Webex virtual meeting Topic: open	College Park, MD
Jun 6	1 - 2 pm	Goddard public launch CANCELLED due to COVID	Greenbelt, MD
Jun 19 - 20	9 am - 5 pm	ECRM-47 1/2 Contest / NRC Launch (currently SUSPENDED due to COVID) Events: 1/2A HD, 1/2A ALT, 1/4A FW, 1/2A SD, OSL Launch Manager: Jim Filler	Mt. Airy, MD
Jul 3	5:30 - 9 pm	Monthly Webex virtual meeting Topic: Summer Potluck Picnic (if COVID allows)	College Park, MD
Jul 4	1 - 2 pm	Goddard public launch CLOSED due to Independence Day holiday	Greenbelt, MD
Jul 17	12 - 4 pm	Sport Launch (currently SUSPENDED due to COVID) – Old National Pike Park Theme: Flyer Predicted Altitude (altimeter measured) / Walls of Daring challenge Launch Managers: Jim Baird and Sarah Jackson	Mt. Airy, MD
Jul 18	12 - 4 pm	Apollo Contest - NASA Goddard Visitor Center (currently SUSPENDED due to COVID) Contest Director: Ed Jackson	Greenbelt, MD
Jul 24 - 31	9 am - 10 pm	NARAM-62	Geneseo, NY
Aug 1	1 - 2 pm	Goddard public launch CANCELLED due to COVID	Greenbelt, MD
Aug 7	5:30 - 9 pm	Monthly Webex virtual meeting Topic: open	College Park, MD
Aug 21	12 - 4 pm	Sport Launch (currently SUSPENDED due to COVID) – Old National Pike Park Theme: Sounding rockets Launch Manager: Alex Mankevich	Mt. Airy, MD
Sep 4	5:30 - 9 pm	Monthly Webex virtual meeting Topic: Elections	College Park, MD
Sep 5	1 - 2 pm	Goddard public launch CANCELLED due to COVID	Greenbelt, MD
Sep 18	2 - 9 pm	Sport Launch (currently SUSPENDED due to COVID) – Old National Pike Park Theme: John McCoy Night Launch / NRC Launch Launch Managers: Jim Filler / Don Carson	Mt. Airy, MD
Oct 2	5:30 - 9 pm	Monthly Webex virtual meeting Topic: TARC Build - Date subject to change	College Park, MD
Oct 3	1 - 2 pm	Goddard public launch CANCELLED due to COVID	Greenbelt, MD
Oct 16	12 - 4 pm	Sport Launch (currently SUSPENDED due to COVID) – Old National Pike Park Theme: Gliders Launch Managers: Ed and Sarah Jackson	Mt. Airy, MD
Nov 6	1 - 2 pm	Goddard public launch CANCELLED due to COVID	Greenbelt, MD
Nov 7	5:30 - 9 pm	Monthly Webex virtual meeting Topic: Planning for 2022	College Park, MD
Nov 20	12 - 4 pm	Sport Launch (currently SUSPENDED due to COVID) – Old National Pike Park Theme: Open Launch Manager: Open	Mt. Airy, MD
Dec 4	5 - 9 pm	Holiday potluck dinner and raffle	Greenbelt, MD
Dec 5	1 - 2 pm	Goddard public launch CANCELLED due to COVID	Greenbelt, MD
Dec 18	12 - 4 pm	Sport Launch (currently SUSPENDED due to COVID) – Old National Pike Park Theme: Open Launch Manager: Open	Mt. Airy, MD

Scheduled events are still subject to change.
Check the Club website Calendar for the most current information.