Zog-43

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Zog-43
Volume 44 Number 1
2021 Recap
Official NARHAMS Newsletter
Editor: Sarah Jackson

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 - 2021 Recap
Sarah Jackson, NAR #101372

Welcome to ZOG-43! After many years of being the ZOG's editor, Don Carson has stepped down from the position. I have decided to step up and keep creating NARHAM's award winning newsletter (may I achieve that glory too!) Many thanks and much appreciation to Don for his work, commitment, and creativity in keeping ZOG-43 going for so long. I can't promise my editing will be as good, especially these first few issues, but I hope to improve with time.

A brief introduction of me: My name is Sarah. I am a fairly newish NARHAMS member (especially if you compare me to folks like Ed Pearson), but I've been Secretary for the club since 2016. (Has it really been that long?) I'm still a newbie when it comes to rocket building, and I have major disagreements with glue. Any type of glue. However, I love the NARHAMS community and interacting with the members. When Goddard was running and starts back up, I help out at the monthly launches at the safety check-in table. I enjoy seeing the models that the kids bring, and I get really excited when it's a not a rocket in a box type. My favorite rocket models are anything Bertha. I love the nose cone and fin shapes of the Bertha series, but I am also a sucker for anything short and stubby (Big Daddy, Fat Boy, etc) or anything retro looking (think 1950s scifi rocket drawings). I love talking to people, so feel free to send me mail or come find me at a launch.

This will be a special issue. It has been a year since ZOG-43 has been issued, so I would like to take this chance to create a 2021 recap issue. Then we can start anew in 2022 with the bimonthly releases. So, what happened in 2021? More COVID, obviously, but we still managed to get in some launches and events. We had our usual ECRM and John McCoy Night launch, plus we added in Ed Pearson's Rocket Run idea, which seems like it might also become an annual event.

As of now, we are looking for more material for this year's ZOG-43 volumes. Please send in content (articles, pictures, letters, member biographies, etc) to the usual ZOG editor email at zog43editor@yahoo.com.

For questions, answers, opinions, files, photos, and more NARHAMS, join the NARHAMS Groups.io. Also checkout the Facebook group, and of course, the website at narhams.org.

Front Cover: Don Carson receives a NARHAMS Appreciation Award from President Alex Mankevich. This award acknowledges all Don has done for the club and to model rocketry in general. Congratulations, Don! And thank you!

Photo: Michael Cochran

Back cover: A view of the crowd and range head at the August 2021 Sport Launch at Old National Pike Park.

Photo: Sean Ricketson

ZOG ROYAL COURT
(NARHAMS OFFICERS)

ZOG (President) Alex Mankevich

VICE ZOG (Vice-President) Alan Williams

COLLECTOR OF THE ROYAL TAXES
(Treasurer) Ed Jackson

KEEPER OF THE HOLY WORDS (Secretary)
Sarah Jackson

COURT JESTER (Section Advisor) Jim Miers

For Rocketeers of Greatness (FROG) Award is presented to Todd Schweim

By: Ed Pearson

Todd Schweim is awarded the National Association of Rocketry Headquarters Astro-Modeling Section (NARHAMS) FROG award for facilitating NAR's communication and infrastructure.

Since 1996, Todd has been the publisher of Sport Rocketry, The Model Rocketeer, and NAR's Member Guidebook. Todd also handles advertising in Sport Rocketry.

Beginning 2017, Todd has worked full-time maintaining NAR's primary website (nar.org) and other NAR websites (e.g., for NARAM, NARCON, and NSL) and NAR's Technical Services.

In 2020, Todd co-chaired a virtual NARCON that drew more than 500 registrants.

Todd works on modernizing NAR processes, maintaining upkeep of NAR's database, and documents' conversion into electronic format.

One sees Todd helping run meets, taking photographs and competing. Todd was a member of the 2010 U.S. spacemodeling team in Serbia.

In 2021, Todd became a full time NAR employee and a grateful NARHAMS awarded him this FROG.

Top: Todd Schweim looks delighted to receive his FROG award.
Bottom: Mark Wise and Jennifer Ash were on hand to present the FROG award on behalf of NARHAMS.

Photo: Jim Wilkerson/Tahoma Photography You can see more of Jim's rocketry photography here: https://jimwilkerson.zenfolio.com/f538951341

Top: Don's first cato, 1972! "In my hands are the split motor casing and a MESS form to document the failure. Also in my hands are the remains of the paper conical payloader model it destroyed. The model was launched from a closed breach launcher, an early predecessor of the piston launchers in use today." *Photo- Don Carson*

Bottom: Don Carson prepping a competition flight at NARAM 62. *Photo- Jim Wilkerson/Tahoma Photography*

Service Appreciation Award

The NARHAMS Model Rocketry Club

Hereby presents this award to

Don Carson

In appreciation for his years of outstanding service to this NAR section and to sport rocketry in general. Mr. Carson is recognized for his notable achievements and activities which include:

TWICE SERVIING AS EDITOR OF THE ZOG-43

TWICE AWARDED THE LAC TROPHY FOR BEST SECTION NEWSLETTER

REPRESENTING THE USA AT THE 2018 WORLD SPACE MODELING CHAMPIONSHIPS

TOP THREE FINISHES IN EVENTS AT NARAMS 56 AND 58

PIONEERING THE CONCEPT OF A VIRTUAL NARAM DURING COVID-19

Presented by a grateful section

December 2021

ECRM 47.5

East Coast Regional Meet 47 ½

By: Jim Filler NAR 27862

NARHAMS hosted the East Coast Regional Meet for the forty seventh time over father's day weekend. This meet was original scheduled for June 2020 but we all know what happened, they say hindsight is twenty twenty and all I will say is I am so very glad we got to return to some form of normalcy. It was so great to be able to see and interact with my extended rocket family members doing something that we all enjoy. For me personally this is one of my absolute favorite activities of the hobby. Contest flying and sport flying at the same time is usually enough to keep the action on the range moving. We were treated to a couple of pluses this year in the form of no waist high hay adjacent to the field as well as no soccer games on the other side of the field. We were treated to multiple flyers being able to fly mid power models as well as easier recovery of those models. Saturday started off hot and hazy. The weather kept changing as the day went on. The breeze made it difficult to fly duration contest models. Open spot landing was flown by most flyers on Saturday. The best flight of the meet was flown by the Chuckleheads Team landing only 8.04 meters from the spot. For those that did fly duration models the models drifted quite a distance even with the events being only 1/2A or less power. The Chuckleheads Team also had the best 1/2A Streamer flight of the meet with a 149 second flight that drifted up over the field and into the far tree line to the northeast. I don't have separate daily counts for sport flights but do have numbers for both days combined. With the approaching line of weather we decided to close down the range at 4pm. As we were packing up a wind burst came through the field and pulled up 2 of the range EZ-UP's bending and mangling (*cont...*)

Left: The Ole Ed Pearson Gang rides again, or more accurately, lounges in the shade planning their next great adventure.
Bottom Left: Bruce Canino shows us his secret to competition flying. The big secret is to have fun while competing.
Bottom Right: An appropriately-timed COVID-19 scale model was on display at ECRM. COVID looks a lot more scary when you see it scaled to size.

Photos/captions: Alex Mankevich

Top Row: Mark Wise RSO'ing. Jim Filler and Scott Branche overseeing a RC glider flight.

Middle Row: Jennifer Ash showing off her Ole Ed Spaceman. Brian Beard timing a flight. Competitors prepping.

Bottom: Sean Ricketson showing off his successful flight.

Photos: Ed Pearson

one completely (sorry Ed and Sarah) and the club owned one suffered a bent leg that appeared it would be able to be replaced.

Sunday seen much better conditions for duration flights but with it being a shorter launch day this caused a lot of the contest flights being flown in a hurry. Glenn Feveryear had the best flight of the meet for ½A Altitude w/altimeter logging a great flight of 212 meters. Maddie Stokker in A division had the best ½A Helicopter Duration single flight of the meet with 62 seconds. Bruce Canino had the best flight single flight of the meet for ¼A Flex-Wing Glider Duration with 90 seconds. Thanks to everyone that helped break down and pack up the range. Going all the way back to the 90's we have always had a picnic after the conclusion of flying on Sunday, we decided that we would fore go the that tradition this year coming out of the pandemic. Hoping to pick this up again next year. I want to thank all of the flyers that came out and participated. I want to also thank everyone that stepped up and helped with range duty even if you were not actually on a shift. Special thanks to Jennifer Ash for processing the data and results. Matt Filler worked extra time doing check in and to Mark Wise taking a RSO shift even though he did not bring any models to fly. Special thanks to Sarah and Ed Jackson, they still showed up to help with getting the equipment to the field and back to storage even though they did not stay and fly over the weekend. I also want to extend a big thank you to Mary McCoy for donating kits to the club that we used for door prizes. We had a total of 18 entries including the team division. Hope to see you at ECRM-48 next June.

We logged 121 sport flights over the two days with two staged models and four cluster models. Here is the breakout by motor:

1/4A – 10 flights
1/2A – 3 flights
A – 12 flights
B – 39 flights
C – 23 flights
D – 15 flights
E – 14 flights
F – 4 flights
G – 1 flight

ECRM 47.5 in photos

Top from Left: Rocket launch! (Photo: Christina Tyler Wenks) Family (Photo: Ed Pearson) Glider go! (Photo: Christina Tyler Wenks) Closeup! (Photo: Christina Tyler Wenks) Bill Handy's Big Truss (Photo: Ed Pearson)

Bottom from Left: Maddie and Alan Stokker on the range (Photo: Ed Pearson) Time to load the truck! (Photo: Ed Pearson) Award ceremony (Photo: Sarah Jackson)

Rocket Run

Rocket Run Recap

By: Alex Mankevich

Warning: The following article was written while I was in a "Christmas in July" mode. The reader will have to suffer some spurious attempts to link Ole Ed Person to a beloved Christmas character.

One day during the idyllic, halcyon times before the start of COVID-19 Ole Ed Pearson dusted off his long-idled thinking cap. What was it that inspired him to will the furtive cogs in his mind to reluctantly spin once again you ask?

Ole Ed had taken a keen interest in the exploits of John Bonk whose notable oeuvre at the First Sunday launches at the NASA Goddard Visitor Center is his launch of Mosquito model rockets – often decorated to reflect the month's holiday theme. A signature strategy of Mr. Bonk's is to enlist the assistance young friends of his family whose youthful keen eyes and youthful sharp ears are better suited to assure the successful recovery of his flown Mosquitos. Mr. Bonk also keeps detailed records of the launch and recovery of his Mosquitos. Ole Ed was fascinated by this attention to detail. Nothing beats hard numbers coupled with cold facts. After all, they represent unassailable ground truth.

A small, tentative kernel of thought then fragilely took root in Ed's mind. Can we possibly corral this precious knowledge into a formal NARHAMS event? How can we parlay the vast store of knowledge, skills and abilities of our section members to bring about an activity that takes advantage of Mr. Bonk's experience and achievements, showcases the fun side of model rocketry as well as possibly generating some publicity for the section?

So, Ole Ed scrunched his thinking cap further down upon his head. "He puzzled and puzzled till his puzzler was sore. Then Ole Ed thought of something he hadn't before" (Sorry, Mr. Grinch)". You see, Ole Ed "got an idea! An awful idea! Ole Ed got a wonderful, awful idea! I know just what to do Ole Ed laughed in his throat" (Sorry again, Mr. Grinch).

His ingenuous idea was to organize a Rocket Run at which NARHAMS would launch a volley of Mosquito rockets which youngsters would then be challenged locate using their hearing and eyesight gifts. Another inspiring thought was to have the Mosquitos constructed under the aegis of a build contest in which NARHAMS members would be judged and recognized for their craftsmanship and originality. *(cont...)*

Right: The Rocket Run line up.

Photo: Sarah Jackson

Left: Kids get ready to retrieve Mosquito rockets.

Photo: Sarah Jackson

So, during our January 2020 business meeting ideas were introduced, motions were made, discussions were had, money was allocated, and motions were passed. We had selected the April 2020 sport launch at Mt. Airy as the venue and date for the Rocket Run. Another inspiring thought by Ole Ed was to commemorate the club's 55th anniversary in March 2020 via a Mosquito craftsmanship contest. Once again, motions were made, discussions were had, money was allocated, and motions were passed. The craftsmanship contest has held during our March 2020 business meeting (yes, it was held live and in person just before the start of the pandemic lock down). Jim Miers took top honors in the contest.

Then COVID-19 struck.

The pandemic precipitated a closure of Old National Pike Park to activities such as our model rocket launches. The Rocket Run had to be postponed for the foreseeable future.

The seemingly endless pandemic began to loosen its grip following the countrywide administration of COVID vaccines which started around January of 2021. Eventually the federal and local governments began to loosen their restrictions regarding social gatherings and outdoor activities. Our section rescheduled the Rocket Run during our June 2021 business meeting so that this event would be conducted during our July 2021 sport launch.

The club did some advertising just prior to this event. The Rocket Run was announced on the section's website and on a few social media event calendars. No registration for participating in the Rocket Run was required and no fee was charged. This was to be our first major outreach since COVID-19, so there was some trepidation as to what turnout would be generated. Would be get enough kid chasers for the Mosquitos? Would the dreaded July heat and humidity keep the modelers at home? Would we get drenched by afternoon thunderstorms?

The fates aligned and the Rocket Run was on for July 17, 2021. It was a brutally hot and humid day in the mid-90s, but without too much wind. A very ominous threat of afternoon thunderstorms was in the offering. The kids and their parents were gathering in earnest on the launch range around noon. Alex Mankevich set up his popup tent and displayed the 12 Mosquitos on a purpose-built display peg rack on a folding table so that the chasers could preview their targets prior to their launch. Ole Ed did the preparation of the ¼ A motors and the igniter wires. Just after 12:30 pm, we had Ole Ed, Alex, Alan Williams and DJ Emmanuel load the Mosquitos onto the 12 rails of the launch racks. Ed Jackson and Jim Baird did the countdown and launch of the rockets at 5 seconds intervals. We did have one misfire which was promptly corrected. Then it was off to the races!

We estimated about 16 to 20 kids had participated as chasers. We had allotted them 30 minutes to find all 12 Mosquitos. The field's grass had been cut short and even the grass on the field upslope from the launch racks was relatively short. There was no athletic activity on the adjacent soccer fields. Apart from the heat, things were going our way for once. *(cont...)*

The Rocket Run action was captured by reporter Jillian Atelsek of the Frederick News-Post. She did a wonderful job photographing the event and she expertly captured the family affair of the event as well as the excitement of the chase for the Mosquitos. Her 18 images also included some of the regular launch activities prior to the Mosquitos' launch. Ole Ed was briefly quoted as providing some contest insight and background in her short article. The website link is https://www.fredericknewspost.com/news/lifestyle/in-photos-rocket-run-in-mount-airy/collection_becbe5e7-3397-54bf-b1d0-170d8eaf9cf7.html#1

Amazingly, eleven intact Mosquitos were returned by the chasers and one return of Mosquito debris was collected even before the end of the 30 minutes recovery window. The successful chasers got to keep their Mosquitos and also scored a swag bag of space and rocketry patches, stickers and glossy prints. A Viking model rocket kit and a NARHAMS lapel pin were among the goodies.

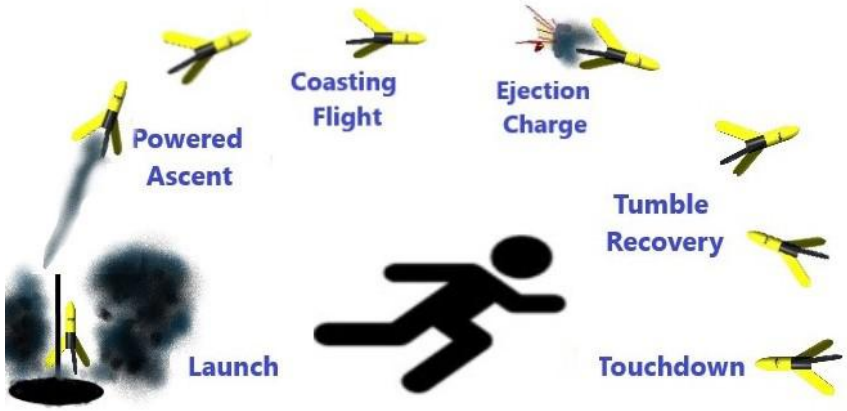
We learned that quite a few families travelled from Pennsylvania for the Rocket Run. We also picked up interest in doing this event again. We may have more volunteers for the next Mosquito build. Suggestions were made not to have this event repeated during the hot and brutal summer months.

So, now Ole Ed you can take off your thinking cap and relegate it to its customary dusty shelf. You done good, Ed! Thanks for giving us what turned out to be an exciting activity that many got to enjoy. You have earned the right and honor to spoon out the Who-Pudding and to carve the rare Who-Roast Beast (many apologies to Dr. Suess).

Top Left: Michael Cochran's "chapstick"-decorated Mosquito ascending.
Photo: Ed Pearson

Bottom Left: The ideal flight of a Mosquito.
Photo: Alex Mankevich

Right: Owen found one of the Rocket Run's Mosquitoes resembled his Baby Bertha.
Photo: Ed Pearson



Launch Reports

March 2021 Mt Airy Launch Report

Sarah Jackson

NARHAMS is back to launching at Mt. Airy again! Unfortunately, COVID restrictions mean we have to limit our participation to 50 flyers at a time. We figured at least some flying was better than none, so we set up a registration system to allow interested rocketeers a chance to reserve a spot on the fly list. To allow even more rocketeers a chance to fly, we split our typical launch day into two sessions, with up to fifty flyers each session. Registration for March was actually pretty light, with about 25 folks (including spectators) in the morning and 35 in the afternoon. Three groups registered but did not show. One group didn't register, but showed up anyway. Luckily we had room to accommodate them. For the immediate future, while we are under the Frederick County Parks' COVID restrictions, all launches will be registration only. Once restrictions are lifted, we will go back to fully open, no registration needed, public launches.

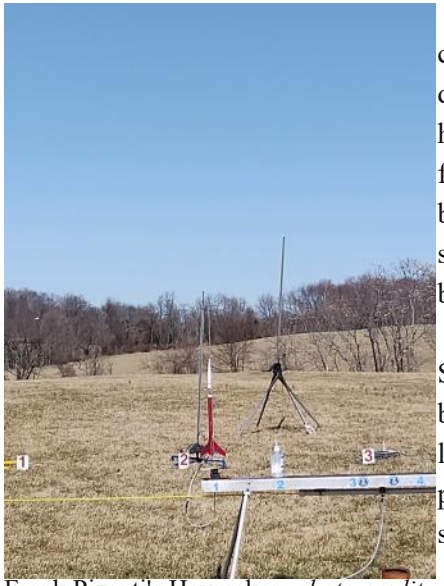
Bill Handy prepping his Astron Sprint XL- *photo credit to his girlfriend*

The morning was bright and cold, but the day warmed up in the afternoon. Set-up took a longer time than usual as we were out of practice. Mike Kelley brought a LiPo battery for us to try out. We hooked it up to the PA system, and the battery kept it running all day. For those of you who have had the pleasure of moving one of our lead acid batteries, you will appreciate the lightness and size of the LiPo battery. Thanks, Mike, for giving us the chance to test your battery and give us hope that someday we might not have to break our backs lugging the lead acids around. Many thanks to the flyers who helped set up and tear down the range (and hauled batteries)!

Margaret's Hi Jinks, with Bill Stec's Longship in the background- *photo credit Bill Stec*

We were finally ready to fly around 10:30, and the Stecs were patiently awaiting their chance. As usual, Bill and Steven Stec made the most flights of the day, with 24 launches. Bill managed multiple flights with his Corvette, Hi Flier XL, Centuri, Interceptor, and Space Twister. Steven kept it unique by flying all of his rockets just once, including his Star Trooper, Luna Bug, and Alpha VI. Overall, we had 115 flights for the day. Even DJ Emmanuel showed up to fly!

We had some new flyers show, including Frank Pizanti, Bill Handy, and Autumn Hathaway. Frank was conducting a challenge with his rocket, The Haymaker. I believe it was a CAP goal of reaching 500 ft in altitude while carrying a specific weighted payload. He came equipped with an Estes Altitrack (I believe) and a very long tape measure. His mission was to track the altitude of his rocket from 500 feet away. He ended up over near the tree line where the long grass usually is in order to be the right distance away for accurate tracking. Frank's initial launch was on a B6-4, which obviously didn't reach its goal, as he was



Frank Pizanti's Haymaker- *photo credit Sarah Jackson*

back soon with a C6-5. Three attempts later, and The Haymaker was still not reaching 500 feet. Frank came back to the check-in table for advice and to see if he could buy another engine off someone. He thought maybe a D might work, but didn't realize that the engine mount would be too small. In the spirit of science, we offered him a C12 for free, and directed him over to Alan Williams to go about teaching him how to insert the igniter for a composite motor. The Haymaker's final flight, on the C12, reached 500 ft! Good job, Frank! Bill Handy returned to model rocketry after 20 years of absence. He brought a gorgeously painted Astron Sprint XL that unfortunately lost a fin after a bad landing on its second flight. Happy to see you flying, Bill! Autumn showed up with her Riptide and made three successful launches. She later mailed in a form to become a NARHAMS member. Welcome, Autumn! I hope we see you again soon!

Several flights had issues at this launch. The most spectacular was Steve Lloyd's E12 CATO. Steve had designed a beautifully bright rocket, using a 2 liter soda bottle as the base. The rocket did not survive, unfortunately. Jim Miers initially lost one of his models to a rocketus eatemupus (tree), but he was able to recover it, with some damage, using the retrieval pole and Gerry Stephens' help. My first launch of the year, Big Daddy (my second ever real build), launched nicely, but suffered a nose cone separation upon ejection. It should be an easy fix as the body landed fairly gently.

Ole Ed debuted his Gnat and Stir Stick. Both are Mosquito type and sized rockets that eject engines and tumble recover. The Gnat was his first flight, and Ole Ed was able to recover both the rocket and the engine within several feet of each other (John Bonk would have been proud if he'd seen it). The Stirstick was a unique and prettily painted design, which flew well, but was unfortunately not recovered. My condolences, Ole Ed.

Tom Jackson's Motor Eater- *Photo credit Sarah Jackson*

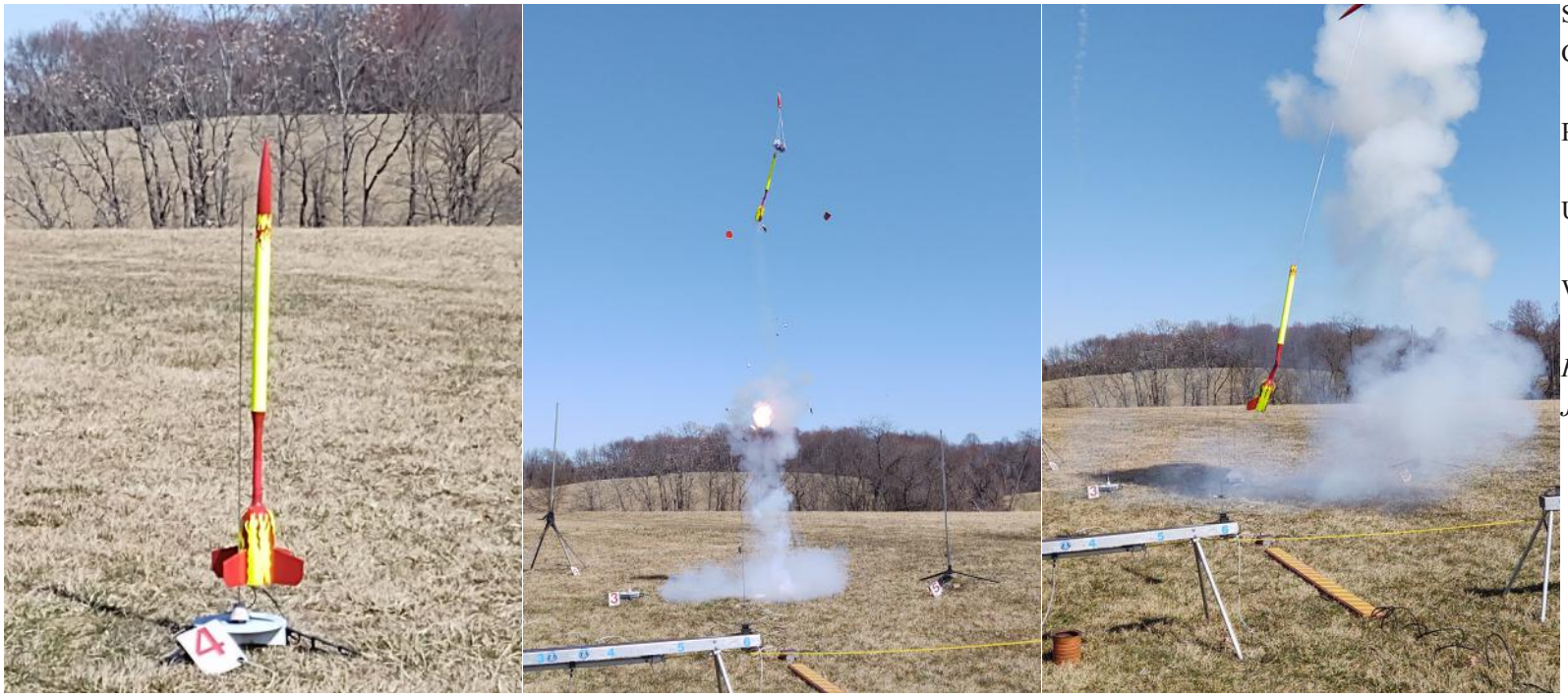
Tom Jackson brought a small family of Mean Machines and Motor Eaters, plus his upscaled Aquarius. He's been a busy builder during COVID, thanks to the generous raffle table at the last holiday party. The largest, the Evil Machine, is a direct upscale of the original Mean Machine to BT80 and stands about 10ft tall (taller than an already tall Tom!). He flew this on a F20-4WL. The Mini Motor Eater was two stages, and flew on 3 A10-0's in the booster, and 3 1/2A3-4's in the upper. The Mega Motor Eater was single staged with 3 B6-4's and 3 A10-3's (the A10 gasses eject rearward through slots in the aft centering ring) and stands about 6.5ft tall. Two rockets, twelve engines. Definitely an appropriately named family of rockets. His Mega Explorer Aquarius is an upscale version of the original to BT-70. He found the nose at the raffle table from a holiday party several years back. The side tubes are 29mm, and the whole thing weighs in around 30oz flight ready. He borrowed Ed Jackson's laser cutter to make centering rings and other parts (Our house was quite smoky for a little bit on that project). The Mega Aquarius flew on a F67-4WL.

Field five was soccer free, so quite a few more folks brought out their F and G motors for fun, including one of Ted Cochran's TARC teams. They set up near the goalposts of field five to get away from the trees (rocketus eatumupuses), and we used cell phones, the PA system, and miming to conduct their launches. Ted says this team has

launched over ten times for practice and are in a good position to possibly make the finals.

And finally, the theme of this launch was the Festival of Colors (I submitted this idea in a nod to the Holi festival celebrated in India which people play with colored powders). For rocketry, this meant including colorful tracking powder in your launches. I bought two types of powdered paint, tempera and actual holi powder, to use in my rockets and I had extra for others to use. (Seriously, I have LOTS of extra, so come see me at upcoming launches if you want to try it out!) The tempera paint, in blue and red, was extremely messy and felt heavy. I never did actually use any of it in my rockets. The holi powder was lightweight, and smelled divine! I used orange and pink for some of my rockets. The resulting cloud of color at ejection was not as spectacular as I'd hoped, but I have enough powder to keep experimenting. Ed Jackson, Jim Miers, and George Cromby also used tracking powder to try for colorful displays in the sky.

So, NARHAMS is officially back to monthly launches, and the April launch is upcoming. Register at the links above, and remember this is an NRC launch, so bring your competition rockets. We're happy to be back on the field, enjoying the good weather and smelling the black powder residue! Happy Spring, everyone!



Stages of Steve Lloyd's CATO flight:

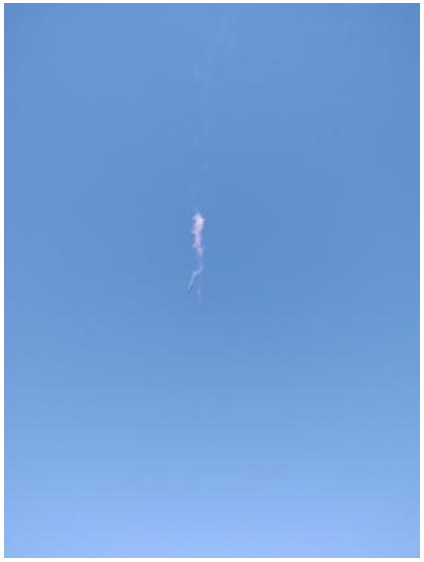
Ready to fly!

Uh oh!

Wow!

Photo credits- Sarah Jackson

March 2021 Launch in Pictures



Top row from left: Tom Jackson's Mega Aquarius Explorer, in hand, on the pad, and in flight. Gerry Stephens' SpaceX Heavy on a C6-5 and 2 B6-0s. TARC team on the "Far Away" away pad with rocket in flight.

Bottom row from left: Pink Holi Powder in Sarah Jackson's Black Diamond. Tracking powder residue discovered on the Jacksons' truck after the launch- Dangers of keeping your vehicle on the field. Ole Ed's Stir Stick. May it rest in peace.

Photos: Sarah Jackson

April 2021 Launch in Pictures

Clockwise from top left: Enjoy this wide-angle view of the range head. The gathering clouds threatened rain, but we managed to stay dry for the entire launch. *Photo- Alex Mankevich*

Vice President Alan Williams transports a launch tower back from the launch range. *Photo- Alex Mankevich.*

Pau helps Esther track a rocket. *Photo- Kevin Johnson.*

Ed Jackson, masked at left, approves a rocket for launch. *Photo- Alex Mankevich*

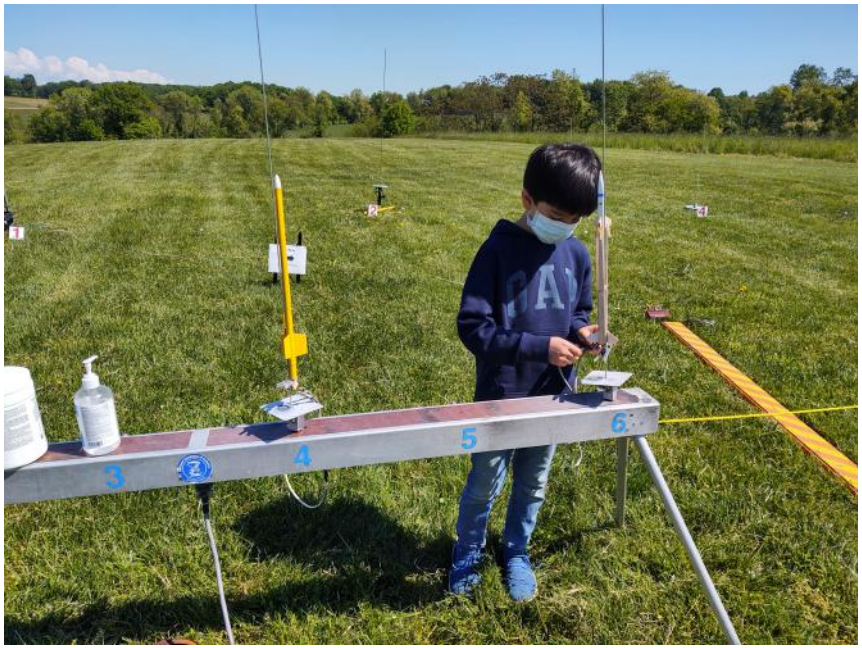
A young model rocketeer shows off his NASA Space Launch System (SLS) scale model. The optimistic among us anticipate a demo flight of the real SLS late this year. *Photo- Alex Mankevich*

DJ launches a rocket. Will it go? *Photo- Sally Cook.*

Quite a few furry model rocket launch spectators enjoyed the April 2021 sport launch. No word yet on how generous they were in regard to our field donation box. *Photos by Alex Mankevich, Collage by Ed Pearson*

May 2021 Mt. Airy Launch Report

Sarah Jackson



Top: Adlai preps his HD.

Bottom: Adlai's streamer duration competition model.

Photo credit- Sarah Jackson

May's launch weather was gorgeous! Sunny, warm, and barely any wind. The May launch was also an impromptu NRC launch at the request of A Division member, Adlai Perry. He was excited to try out contest flying and get his name on the national scoreboard. And he did! He participated in the following events, and is on the national scoreboard for 4 of them.

1/2A Boost Glider Duration
1/2A Streamer Duration
1/2A Helicopter Duration
1/2A Parachute Duration
1/2A Altitude

Unfortunately, his attempts at altitude flights were troubled by altimeter issues. Our very own Webmaster, Christopher Kidwell, was on hand to help out, but even he was unable to get the altimeter working reliably. Congratulations to Adlai for his competition flights!

We also had C Division member, Brian Beard, participate in the NRC competition. He attempted a flex wing duration event, but we later found out that the engine size was not a current NRC event, so he did not qualify. Thanks to our editor, Don Carson, for pointing out our error, and we apologize to Brian for not realizing it was an issue. The launch managers (Ed and I) are pretty solid sport rocketry folks, with only minor toe dippings into the competition field.

As usual, in these park mandated limited participation launches, we held two sessions of launches, one in the morning and one in the afternoon. For May, we had scouts signed up for each session. In the morning, we hosted Cub Scout Pack 333, while in the afternoon, we hosted Cub Scout Pack 1967. Both groups were very well behaved and seemed to enjoy the launching process. My favorite rocket was Lucas' Alpha III, which he named "The Fastest Rocket I've Ever Seen." Considering he launched it for the final time on a C6-5 and lost it, I'd say it was an appropriate name. How do I know he lost it? Club member Ted Cochran found it the next day while he was mentoring his TARC team's practice. Lucas, we have your rocket if you would like it back! (Other favorite rocket names from the launch were "This One is Red," "LuLu MooMoo," "Leo to the Moon," and "Once in a Blue Moon").

With the ready supply of cub scouts with their Alphas and multiple engines, I was curious about which engine ruled the day, the A8-3 or the C6-5. According to the graph I made, A8-3s were the clear winner when considering quantity. We managed to have 162 sport flights, and 38 of those were A8-3s. Mid-power had a decent showing, as well. George Crombie brought out a lot of

E's. I think George even had his Big Daddy clustered with two E12s. Mike Kelley, he of the famously long and springy shock cords, brought out half a dozen mid-power rockets, including the lovely Mega Magician.

New club member, Autumn Hathaway, returned with her Riptide and flew it several times on a C6-5. She also brought her first balsa fin rocket, the Shooting Khakiteki (I hope I got that name right) which is a Big Bertha painted blue with fish. It unfortunately lost its engine mount on the first flight. She will rebuild and return, however.

The highlight of the day was the Great Rocket Rescue, however. The details will be written in another article with lots of pictures, but the salient points are Bill Stec lost his Executioner to a tree, but a mighty team of rocketeers banded together, MacGyvered a tool, and rescued said rocket from the evil clutches of the tree.

The June Mt. Airy launch is ECRM, so get your building done (preferably before the day of) and join in on the competition events. We'll see you there!

The Treasurer, Vice Zog, and Webmaster manning the launch head.
Photo credit- Sarah Jackson

Left: Ed Pearson brought out a relic in the form of a Doug Frost UFO model. *Photo credit- Sarah Jackson*
Middle: A scout's Alpha III flies! *Photo credit- Charlene Heppner*
Right: Range crew helping scouts at the pad. *Photo credit- Charlene Heppner*

The Great Rocket Rescue of May 2021

Sarah Jackson

This is the tale of the Great Rocket Rescue of May 2021. It started with Bill Stec launching his Executioner on an E12-4. Nothing very spectacular about that, and the winds were super calm on that launch date. Yet, even with a perfectly fine engine and no wind, Bill's Executioner managed to find itself a tall tree to fall in love with. Of course, it chose a part of the tree that was not accessible via the recovery pole. Bummer.

This is where the magic happened. Rocketeers came from everywhere to help out. John Larson, who hasn't launched in years, I believe, decided that a longer pole might help. He and Steven Stec found a large branch and tape so he could attach the branch to the pole to extend the reach. (Rocketeers have all types of handy implements on them for emergencies like this. Usually it's glue, though. Ask me about the glue conversation someday.) The newly extended pole was not quite long enough though. More bummer.

Michael Cochran joined the action by bringing over his beloved Toyota FJ Cruiser with the snorkel (that he dresses up for Halloween and other holidays). He proceeded to climb on top of his Cruiser and take a stab at retrieving the lovestruck Executioner with the freshly extended pole from the additional height of the Cruiser's roof. This time, the pole was long enough! No bummer!

The gentlemen fought for quite a while with the Executioner, pleading it to come to its senses and leave the tree alone. Rockets and trees are absolute enemies after all. Eventually, the tree gave way and the Executioner was back in the anxious hands of its owner.

Top: The view from the launch head. Executioner retrieved!!! Yay!!! *Photo credit- Sarah Jackson*

Far left: John Larson and Michael Cochran steady the recovery pole. *Photo credit- DJ Emmanuel*

Left: The Executioner stuck in the tree and the extended extendable recovery pole. *Photo credit- DJ Emmanuel*

Here’s Bill Stec’s version of events:

The whole thing was nuts. First it was my son and I, then John joined in, we couldn't see what we were doing since there were branches in the way. Then John got a roll of blue masking tape from his vehicle and he and my son found a large stick to tape to the pole to extend it. But we still couldn't see and it wasn't going well. About this time DJ came over and was taking pictures, etc. Then Michael rolled on over with his SUV and he climbed on top of it to get some more height. I helped some, then John took over so I could stand back and help give directions as to where the end of the pole was. It was really difficult, but they finally succeeded. I had said several times that I was okay with giving up and that I didn't want anyone to get hurt recovering a $30 rocket, but they were determined to get that thing down.

It didn't help that I had put in 200# kevlar as part of the shockcord, so they couldn't break it and at least retrieve the main body. As it turns out the body suffered a zipper when the kevlar was under a lot of tension and then everything suddenly came down. It's repairable, albeit a pain, but far better than losing the main body, etc.

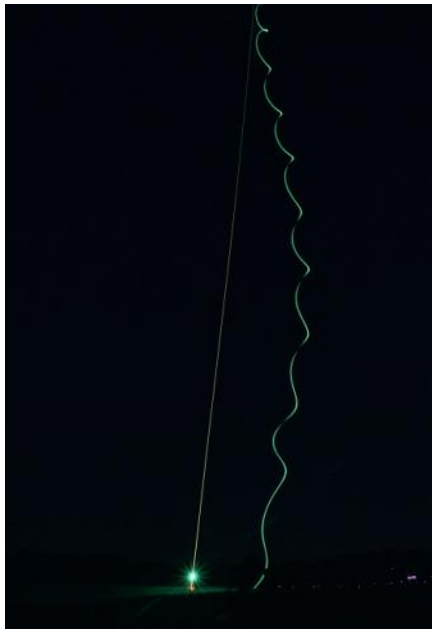
I really have to say the camaraderie and willingness of people to help out someone they don't really know that well (or at all, as I don't know Michael) was simply amazing and awesome.

Yay for NARHAMS, and friendly Rocketeers in general!

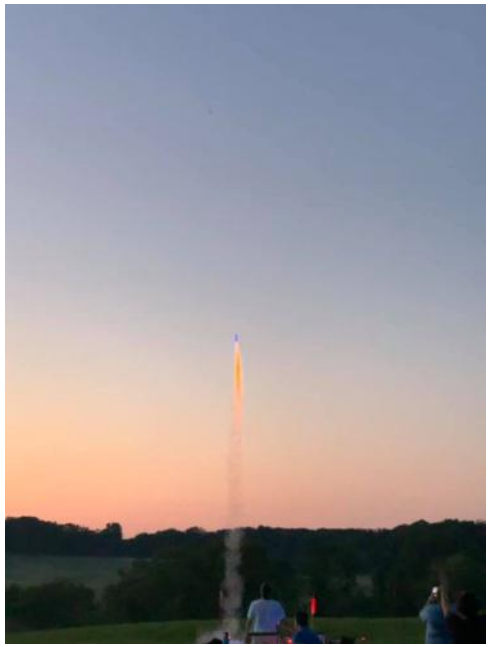
Right: This is why DJ's pictures are of such high quality. *Photo credit- Sarah Jackson*

Left: Also, always come to a meeting when it's DJ's turn to provide refreshments. You won't go home hungry! *Photo credit- Sarah Jackson*

John McCoy Night Launch Pictures



Left: Scott Branche's rocket taking off on an E12. *Photo credit- Kevin Johnson*
Right: Jim Filler's green rocket long exposure. *Photo credit- Alan Mankevich*
Bottom left: Sarah Jackson's MAV. *Photo credit- Kevin Johnson*
Bottom middle: Rocket engine smoke coiling along the ground. *Photo credit- Sarah Jackson*
Bottom right: Lots of beautiful lights in the dark. *Photo credit- Don Carson*



Minotaur I Launch from Wallops Island

By: Alex Mankevich – Intrepid ZOG-43 reporter

A Minotaur 1 rocket roared off the Mid-Atlantic Regional Spaceport's (MARS) solid-fueled launch pad 0B on a muggy, cloudy, rainy and buggy Tuesday morning in mid-June. This was a clandestine mission for the National Reconnaissance Office (NRO) thus the mission was given the name NROL-111.

The Minotaur I is a four-stage solid fueled rocket. Its two lower stages are from decommissioned Minuteman II nuclear missiles. Its third and fourth stages are made of two commercially produced solid-fueled Orion-class motors from Northrop Grumman. The whole stack stands just short of 70 feet tall with a 61 inches wide fairing. The Minotaur 1 rocket can a loft a payload up to 1,278 pounds (580 kilograms) to a low-altitude orbit. A notable feature of the Minotaur I rocket is the yellow-colored thermal protection blanket which protects the first and second stages while on the launch pad. As the rocket lifts off, guidelines peel away the yellow blanket much like a banana being peeled apart.

Under law, the Minotaur rockets cannot be used for commercial missions. Consequently, they are primarily used by U.S. government agencies for military-based, intelligence gathering-based or technology demonstration missions.

This was the sixth Minotaur I launch from Wallops. The rocket's first stage motor was cast with solid propellant in 1966 thus making it over 54 years old. This fun fact infers that the first stage was probably the oldest rocket motor ever successfully used to launch a space vehicle. This reliability aspect of the Minotaur's motor is in line with the data derived from the National Association of Rocketry's (NAR) Out of Production (OOP) Motor Testing Program. *(cont...)*

Top: During the two episodes of rain early on launch day, the Moveable Service Structure (MSS) completely encapsulated the Minotaur I rocket. The MSS swings away from the rocket prior to launch.

Bottom: A 127 feet tall Moveable Service Structure (MSS) surrounds the Minotaur I rocket on pad 0B at the Mid-Atlantic Regional Spaceport (MARS). *Photo credits- Alex Mankevich*

The NROL-111 mission is classified, however the NRO disclosed prior to launch that the rocket was to deliver three discrete payloads that were designed, built, and operated by NRO. Therein the details of the mission and its payloads become shrouded in secrecy. The purposes of the payloads are top secret. The intended orbit is undisclosed and the specifics of its altitude, eccentricity and inclination are classified. The ground track of the payloads is confidential. The expected lifetime of the payloads is mysterious.

The NROL-111 launch was delayed for about two and a half hours due to rain showers. The initial launch time of 7:00 a.m. was postponed to 9:35 a.m. The rain-producing clouds stayed in the vicinity, so that the speeding rocket quickly became lost in the thick cloud cover. However, the screeching roar of the high thrust-to-weight ratio first stage motor was quite satisfying.

As you've probably already heard from other NARHAMS members, it is worth the trip to Wallops Island to experience at least once in your life a "real" rocket thundering away majestically towards the heavens.

Right: The Minotaur I rocket is solid fueled, so I knew to expect the smoky exhaust trail. I was surprised by the intensity of the motor's burning propellants. The motor's high thrust-to-weight ratio makes the Minotaur I leap off the pad much like our model rockets. *Caption and photo credit- Alex Mankevich*

Left: I had to wait years to take this image since launches at Wallops from pad 0B are uncommon. This image captures a quintessential Virginia tidewater locale. The horizontal lines of the horizon, dock and water line all complement each other. The rocket's vertical exhaust is accented by the vertical wooden pilings, standing spectators and the old wooden tower at the image's left border. This image reeks of what photogs refer to as "composition". *Caption and photo credit- Alex Mankevich*

Krimgold May 2021 Launch Report

By: Alex Mankevich – Launch Manager

Brian Beard preps his Astron Invader for launch on a 1/2A6 motor. *Photo Credit- Alex Mankevich*

NARHAMS did a low-key, quite launch at Krimgold Park located on Route 94 (Woodbine Road) near Woodbine in Carroll County, Maryland on Saturday May 22, 2021. The Parks Department scheduled us so that we would not coincide with any athletic activity. Our launch window ran from 12:00 noon to 5:00 pm. We were assigned fields #4 and #5 which are located south of where we had previously launched. The fields used for the May 2021 launch are situated a bit uphill on the higher reaches of the park. The day's steady winds managed to factor a little bit into the launch activities. We used launch system #2 for this smaller-sized launch. We had the COVID mitigation supplies on hand and we stayed masked. We set up a number of Mike Kelley's away pads in addition to the system's launch rack. We also gave Mike's LiFePO4 (Lithium Iron Phosphate) battery a chance to shine. The LiFEPO4 battery provided all the juice we needed. Launches at Krimgold Park are a different affair than what we have at Old National Pike Park. The Carroll County Recreation and Parks does not permit a PA system, pop-up tents and driving on the grass. On the plus side, we can park relatively close to the launch range and walk just a short distance to the check in station.

The principal modelers for the day were Mike Kelley, Sean Ricketson and Brian Beard. Brian tested a flex wing model and flew a video camera aboard an Estes Camroc. Sean sent up his Estes Goblin on a B6 motor then later upgraded to a D12 motor. Mike provided the "oomph" for the day as he flew F24, F35 and F40 motors. Mike also gave me a mild heart attack as the E12 motor powering his Applewhite Cinco flying saucer model did a spectacular CATO. There is nothing quite like a deep-throated, resonant "boom" to rattle your brain.

DJ Emmanuel and Sally Cook arrived to help with the range equipment. They also made an outstanding peanut gallery as they soaked up the warm afternoon sun. DJ engaged with a gentleman who was out for a walk in the park. It turned out that this dude was a NASA employee who regaled us with tales from NASA's Stennis Space Center and the Michoud Assembly Facility in New Orleans. Alex managed to hand out three of the NARHAMS business cards to interested passersby. Hopefully we'll see these young families at one our future launches.

We wrapped up our launch activities before 5:00 pm. Thanks to DJ and Sean for helping to pack up and haul the launch equipment.

Far left: Mike Kelley prepared his Mega der Red Max to fly on a F40 motor with a Jolly Logic chute release.

Left: Launch Manger Alex Mankevich at launch control on the elevated field #4 at Krimgold Park.

Right: Sean Ricketson's Estes Goblin suffered a broken fin on a flight.

Photo credits- DJ Emmanuel

Ch-ch-ch-ch-changes

Calling all NARHAMSters! We need help finding a new location to launch!

Sarah Jackson

We recently discovered that our lovely reliable Old National Pike Park will be undergoing an expansion. The new expansion will provide park goers with artificial turf fields, restrooms, an amphitheater, volleyball, tennis, and basketball courts, and new roads and parking places. However, these new facilities will be located in our current rocket launch area (see Current Park Map and Master Plan photos). Our rocket launch area is next to field five and will soon become ball courts and roads.

Frederick County Parks is not sure that a space will be available for rocket launching after Phase 2 development is finished. Construction is slated to begin in FY 2023 (which generally starts in July of the previous year, so expect 7/1/2022). We have a little over a year to find a new place to fly. Frederick County has offered the possibility of using Othello Regional Park, which is in Knoxville, MD. This is a longer drive for those folks living closer to Baltimore, but it is still manageable. Here is a map showing the location compared to Old National. Right now, we are not sure which part of Othello we could take over, but we will be scouting the park out this summer. In FY 2026 (July of 2025), Othello will also undergo development, so if we do transition over to Othello, we may be in need of another new field come 2025. *(cont...)*

Far left: The current Old National Pike Park map.

Left: The planned Old National Pike Park map.

These maps are courtesy of the Frederick County Parks and Recreation department.

This is where we need your help. We are asking everyone to think of new locations for a launch field. Some requirements include: free (or minimal fee for use), restroom facilities, availability for monthly launches, ability to use a PA system, and easy access to move equipment and allow disabled access (whether that be a field next to a road or the ability to drive on grass). If you know a farmer who has fallow fields, or a private landowner with large open fields, or a public park with a big enough open space, or anything that looks possible, send it our way. If the space doesn't have all the requirements, but is still very promising, send it our way. We can always price out how much it is to rent a porta potty if need be.

If you are interested in being part of the process of finding a new field, please volunteer! At the moment, I think I'll be spearheading the process, but I am always grateful and thankful for help. The plan is to create a "nice to meet you, this is NARHAMS" introductory packet that we can hand out to possible landowners/ park officials. It will detail what we do, why we are important, and how we will use the land, as well as emphasizing our safety procedures and insurance coverage. We have some documentation from a previous field search (thank you, Mr. Ha and Mr. Wise), but I would like to update it for the current search. I am hoping this package will be ready by summer, so we can start shopping the club around. If you have ideas, experience, or contacts in a county's park and recreation department, please feel free to reach out.

If you want to know more about the development of Old National and Othello parks, you can visit the Frederick County Parks and Recreation Development and Acquisition site, especially the Short Range and Long Range development sections. https://www.recreater.com/295/Park-Acquisition-Development

Map courtesy of Google.

Reconnaissance of Othello Regional Park

By: Alex Mankevich – NARHAMS President

The Frederick County Division of Parks and Recreation notified NARHAMS in January 2021 that our rocket field at Old National Pike Park is going away in the future. The master plan for Old National and our rocket launch range calls for replacing our site with roads, playgrounds, and an amphitheater. It looks like construction begins in 2023, but planning is set for 2021.

The Parks and Recreation recommended that we look into Othello Regional Park was a possible future venue for our sport launches. Othello is located near Knoxville, Maryland in the southwest corner of Frederick county. It is generally on the way to Harpers Ferry, West Virginia. This recommendation was accorded a reconnaissance which was undertaken at the end of May 2021.

Me, myself, and I took I-70 out to Frederick, Maryland then Route 15 south towards Leesburg, Virginia. I then travelled West on Route 340 and exited at Route 180. The exit sign says, "Route 180 Petersville". Othello Regional Park is on the left side of the road and is easily recognized by its sign and the tall towers for its night lights.

The presumptive areas for the NARHAMS model rocket launches would be the raised unimproved area for the equestrian trial or the multipurpose field designated as Field 6. These venues are far removed from Route 180, the lighted baseball field, tennis courts and pavilions that are located on the lower section. Astute readers will realize that raised ground will likely bring more winds, and that assumption proved to be the case as I toured the upper-level venues.

Multipurpose Field 6 is flat and features plenty of nearby parking and a cluster of Port-a-Potties. The adjacent equestrian trail is located to its East. The equestrian trail is basically open grassland with some shrubs but not trees. Two stands of rocket-eating trees that surround Field 6 could come into play. These trees are much like we deal with at Old National Pike Park. They are about a football field long, but only a few feet in width.

For those NARHAMSters who used to launch at our field in Middletown, you might remember the nice indoor restroom complete with running water and clean sit-down-at-your-leisure toilets. Othello Park has a modern, clean, spacious restroom on its lower section. You can even wash your hands (if you so desire, but no peer pressure is intended).

As for the drawbacks, there is a house located at the equestrian center, but is does not appear to be inhabited. There are single family houses to the south of the park, but they appear to be over 1,000 feet away. The equestrian trial grasslands and Field 6 are situated on the upper level of the Park rendering them most subject to persistent winds.

As for the positives, the equestrian trail grasslands bordering Field 6 give us ample area for contest flights that drift afar. This area of the park is situated far from the Park's popular playground, shelters, and synthetic turf courts. The presumed launch range is far from the heavily travelled Route 180.

Brief Note on Shakespeare's Othello

Shakespeare's tragic play Othello is set in Venice, about the latter half of the sixteenth century. The title character Othello is a cultural and racial outsider in Venice, however his skill as a soldier and leader renders him an integral part of Venetian society. Due to its enduring themes of passion, jealousy and race, Othello is still widely performed and has inspired numerous adaptations.

Quote from Othello:

"Oh, I have lost my reputation! I have lost the immortal part of myself and what remains is bestial".

All photos credited to Alex Mankevich.
Map courtesy of Frederick County Parks and Recreation.