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# 206-43



## ***IN THIS ISSUE:***

***ECRM-45, Apollo Contest, CanAm Cup, Paint Booth Review, Space Transporter America Plans, Outreach, Club Launches, and more...***

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.

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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, at Old National Regional park near Mt. Airy, Md. and at the Carroll County Agriculture Center, near Westminster, 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 - Its the Busy Flying Season Don Carson, NAR #11069

What a busy, rainy Spring we've had. June was full of contests as the first year of the new competition format has closed and practice takes place for NARAM and the upcoming World Championships. Summer has brought many Outreach activities for us to support, as well. Then there is flying for just the sheer fun of it.

Everyone ought to take a moment and pat yourselves on the back for supporting the activities of the club (including newsletter submittals!).

It is a great hobby and I'm glad to have a part in it.

I hope you enjoy this issue.

As always,

Fly 'em high, bring 'em back, and be safe..

For questions, answers, opinions, files, photos, and more NARHAMS, join the [NARHAMS Yahoo group](#). It is free, painless, no ads, and may just be the cure for the common cold. Also: [Facebook](#) if you are not paranoid about that sort of thing.

**Front Cover:** Bryce Stephens' S8 glider comes in for a landing.

*Photo: D. Carson*

**Back cover:** Soyuz MS-09 launch with Alexander Gerst to the International Space Station.

*Photo: ESA*

#### ZOG ROYAL COURT (NARHAMS OFFICERS)

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# ECRM-45 and June Sport Launch

By Jim Filler

The East Coast Regional Meet was flown for the forty fifth time on June 16th & 17th 2018. We had twenty three entrants, one in "A" division, two in "B" division, fifteen in "C" division, and five teams in "D" division. The 2017-2018 contest year brought major changes to how NAR contests are flown, no longer are there requirements for ten entries, also gone are the meet weighting factors that defined how many meets could be or needed to be flown in a contest year. ECRM-45 was flown just like it has been in years past, except this year I selected four of the NRC events and two additional events from the sporting code. We had flyers from, MD, DC, VA, NC, PA, NJ, and MA.

The acronym for this meet has been changed over the years to coincide with the weather. Years ago we took the hint and moved this annual event to Father's Day weekend in June. Instead of it being the Extremely Cold and Rainy Meet, this year the weather was really nice on Saturday and really humid on Sunday, so no real weather associated to the name ECRM this time. In addition to the contest flights there were also 83 sport flights made between both days. Charis Houston and Bryce Stephens both representing the US Internats Team also did some practice flying for Scale Altitude (S5), RC Rocket Glider (S8) and Scale (S7). The table below shows the breakdown of the 106 sport flight motors used for a total of 83 flights. There were two 3 staged flights, four 2 staged flights and two cluster flights that both used 8 motors.

## MOTORS BURNED BY IMPULSE

1/4A - 3	1/2A - 1	A - 16
B - 26	C - 21	D - 14
E - 7	F - 12	G - 6

Saturday morning started early picking up the equipment then setting up the range. Many thanks to several helpers including Ed and Sarah Jackson with their pickup truck. With all the help, setup went quick and



Our youngest ECRM competitor, Maddie Stokker.  
*Photo: E. Pearson*



Susan Picinich test fits the stages to her Comanche 3 (C to two Bs).  
*Photo: E. Pearson*



A Stokker Mercury Redstone.  
*Photo: D. Carson*



Bruce Canino and his 1/2A BG.  
*Photo: E. Pearson*

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## ECRM, Continued

we were ready to fly at 9:30 sharp. The highly scientific method for picking the spot landing location was performed by Katie Cosgrove throwing the stake “that way”. Some chose to fly spot landing first and some good flights were made. Greg Bock had a meet best flight of 1.9 meters.

Sport Scale Model judging was handled by Kevin Johnson, thanks KJ! Static judging was done on Saturday with flights made on Sunday. We had eleven entries. Alan Stokker took first in C division with a Mercury Redstone, my team “Them Filler Boys” took first in team division with one of the new Estes Little Joe 2 kits finished with an aftermarket wrap and some additional detail added.



Jef Fineran's upscale Mean Machine sport flight.  
*Photo: E. Finerin*

In the timing events, ½ A Boost Glider was flown by 13 entrants. There were many good flights of over a minute. Alan Stokker had the meets best single flight of 98 seconds. Team “The Flying I Beam Kids” had the best combined score for 2 flights at 156 seconds. A Helicopter Duration was flown by 10 entrants with several good flights turned in. Team “Murphy’s Lawyers” flew an FAI 40 mm internal blade model for a combined total of 190 seconds. ½ A Parachute Duration was flown by 18 entrants, using models of different sizes and different parachute sizes. Some flew 13mm models with 15-18” chutes, some flew 30 mm models, and some flew 40 mm models. Some notable flights included “Murphy’s Lawyers” with a 223 second flight, Greg Bock with a 322 second flight and Alan Stokker with a whopping 519 second flight.

The challenge on our field is getting the flights to stay in view of the timers. A Payload Altitude was the only event requiring altimeters. We had 11 entrants. Some flew with the Firefly altimeter, some used the Micro Peak altimeter, and a few even flew the tiny Adrel altimeter. There were only three flights that resulted in no flight data. From my point of view, altimeters have made flying altitude much easier on the organizers of the launch. The contestants have to know what they are doing with the altimeters, but the learning curve has been greatly reduced in the last few years in my opinion. The added bonus is not having to deal with tracking powder and the associated mess. Glen Feveryear topped C division flying an Adrel to 143 meters. “Them Filler Boys” also flew an Adrel to 146 meters.



The Filler Boys Maryland-flag themed rocket for C Egg-Lofting Altitude (NCR event). Normally the Maryland flag is not flown over the U.S. flag.

*Photo: E. Pearson*



Bryce Stephens checks in with WC practice model.

*Photo: E. Pearson*

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## ECRM, Continued

With all the contest and sport flights getting wrapped up on Sunday, we only had to announce results. Thanks to Mike Humphrey for processing the results. The meet results and meet champions are the results views from Contest Manger. With the change to the sporting code this contest year, the "points" used to determine the meet champions by division is significantly different. The event weighting factors no longer apply. Each event from spot landing to sport scale is weighted the same. Points are awarded based on the place you finish. Look closer at the results for C division ½ A Parachute Duration. First place was worth 25 points, second place was worth 20 points, third was worth 17 points all the way down to tenth place being worth 2 points. Even though these points do not go towards yearly totals and NARAM national champions, it is the same point award system that will be used at NARAM to determine the meet champions. This system can be used to award meet champions at contests held during the year such as ECRM and other meets flown across the country during the contest year.

We finished up the event with the annual ECRM picnic. It was great to have so many attending the meet and the picnic. Thanks to all of those that helped by doing range duty, setting up, and tearing down the range. Special thanks to Ellen and Jef Fineran for putting together the picnic and to Mark Wise for helping cook. Thanks also to Aerospace Speciality Products <http://www.asp-rocketry.com/> for the great door prizes and gift certificates we handed out with the results. If you took one of these certificates home please be sure to go over the website to order something. Thanks Andy !



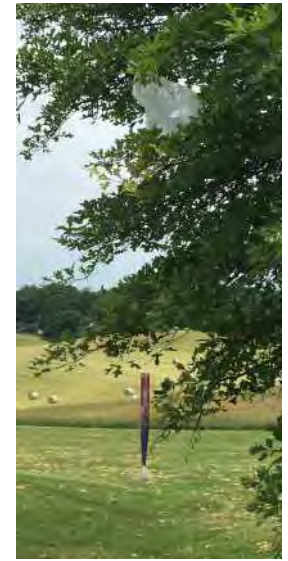
Jim Filler's Little Joe II Sport Scale model on a great flight.

*Photo: D. Carson*



A Parachute Duration on the pad. A Parachute Duration in a tree.

*Photo: D. Carson*



Bryce got some S8 practice in at the end of the contest, getting for the World Championships.

*Photo: D. Carson*



Jef and Ellen put out a great meal Sunday, Mark Wise kicked in at the grill.

*Photo: E. Pearson*

# Outreach: Baysox Moon Landing Anniversary

By Ed Pearson

“In minor league baseball, off-the-field marketing is just as important as the on-the-field product.” (David Driver, The Washington Times, July 20, 2018).

Thus the promotional office of the Double A Bowie Baysox approached NASA Goddard Space Flight Center with an offer. How would NASA like to table-display some outreach projects during a Baysox game on Apollo 11’s landing-anniversary? The Baysox’s marketing would commemorate Apollo’s achievement, NASA could do public outreach, and the Baltimore Orioles farm team would reap attendance benefits.

The Prince George’s stadium is only 15 miles from NASA. Goddard said yes and then asked NARHAMS to partner with the program.

So on late afternoon, July 20, a contingent of club members showed up before the ball park opened and were ready for our table display.

From the club were Michael Cochran, Ellen and Jef Fineran, Ed and Sarah Jackson, Alex Mankevich, Diane Pearson and Alan Williams in the accompanying photo (ordered alphabetically).

We were given prime location on the ball park’s concourse and asked for a second table. This we filled and used space on either table side for a pop-up banner and large (Jef’s) rockets. For the next 2.5 hours we talked to passerby’s and handed out club info and literature on the monthly launches NARHAMS does at NASA.

Other NASA exhibitors put up their tables and a variety of outreach occurred such as an Earth table, a Moon table, a robotics table, and a astronaut-cutout photography area.

The ball game (Baysox and Erie SeaWolves) went on just behind us off the concourse and one could just take a break, turn a chair around, and watch the game. After our display time, many packed up their cars, returned to the stadium and watched the games conclusion. The visiting team won 5-3.



The gang setting up.  
Photo: E. Pearson



Continued next page

**Baysox, Continued**

The evening was also a David Bowie tribute night with Bowie's music played between innings. After the game it was dark enough for fireworks and a 10 minute extravaganza delighted the sensitivities.

Event diehards could then do telescope viewing, water bottle rocketry or sleep out at the stadium overnight. What a rich and varied program.



Above: NARHAMS display in all it's glory.  
 Photo: A. Mankevich



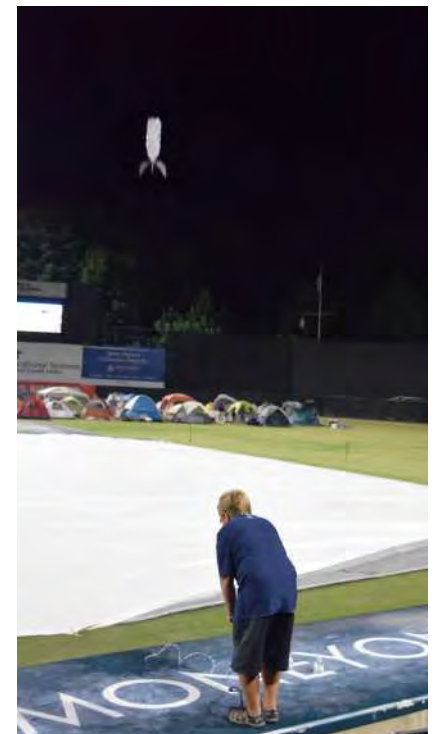
Above Right: Other NASA displays  
 Photo: E. Pearson



Game followed by night viewing of the sky.  
 Photo: A. Mankevich



Above and Left: The NASA Water Rocket and it's launch.  
 Note the tents on the field for sleepover!  
 Photo: A. Mankevich



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## Baysox, Continued

I have often opined that it is easier to organize an event than it is to get attendance. I heard this decades ago from Goddard's education officer, Elva Bailey, and experience seems to verify. That's why David Driver's opening quote seems poignant...in Double A baseball and in other activities.

With 5,431 folks in attendance, we had a thoroughly delightful time, informed the public about safe rocket and NASA activities, and were grateful that NASA reps (shout-outs to Staci Tiedeken and Nikki Whelley) were thoughtful enough to include NARHAMS in the Apollo 11 commemoration and outreach.



Louie got his hands on a Patriot missile. Look Out! Hyjinks may ensue.

*Photo: A. Mankevich*

Ellen brought Goofy, and this rocket.

*Photo: A. Mankevich*



## July Meeting Highlights



Mark Wise reprised his role from ECRM and became chef exordinaire at our July meeting—cooking hot dogs, hamburgers and emu. (That's Mike Cochran, behind Mark, waiting for his burger).

The theme of the meeting was: bring food..

*Photo: E. Pearson*





# Apollo Contest

By Jennifer Ash

The Apollo Goddard contest was held on July 15, and it wasn't the hottest day of the year. However, the World Cup and MLB All Stars festivities were being held that day as well, which we think contributed to the low turnout.

We had a total of 38 competitors, but by 1pm, we only had 12 registered. People trickled in slowly, and the competitors were allowed two chances. Even with that, we only had 4 junior winners and 8 senior winners landing in the circle. There were quite a few families that we see year after year (Wenks, Sardilli, Massey).

The junior winner was a first time flyer, Kennedy Johnson-Cheeks. She was there flying with her uncle and her cousin, who are seasoned veterans.

The senior winner was Sarah Jackson, the Pad Assignment person for the contest. She was warned not to share her kit with her husband, Ed, who came in 3rd.

Hopefully, next year, with the 50th anniversary of the Apollo 11 Moon landing, we will see a lot more competitors and more excitement for the contest.



Estes\_Youth\_winners.  
*Photo: A. Mankevich*

A Saturn IB lifts off behind a Saturn V in the history of US manned flight demos.

*Photo: E. Pearson*



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**Apollo Contest, Continued**



Estes\_Adult\_winners.  
Photo: A. Mankevich



Mr. Incognito. Michael Cochran helped people at the rack throughout the contest. Here he helps retrieve a Saturn IB capsule.  
Photo: E. Pearson



Ole Ed's vote for Best Finished model of the contest.  
Photo: E. Pearson



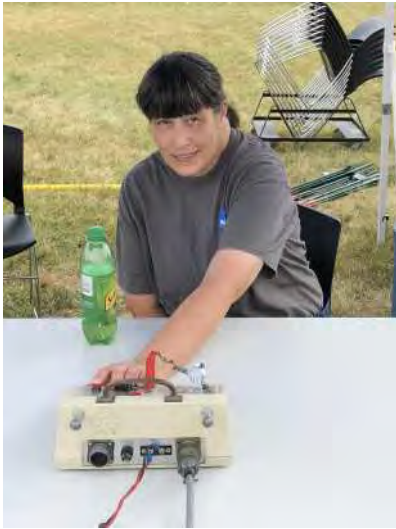
Jennifer Ash did data reduction and helped Sally Cook (not shown) register contestants.  
Photo: E. Pearson



Greg Kennedy posed with Ole Ed Pearson and Contest Director Jim Filler.  
Photo: A. Mankevich

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## Apollo Contest, Continued



Ellen Fineran with hubby Jef (not shown) were our launch officers.

*Photo: E. Pearson*



(Foreground L-R) Xavier and Raul Peña did measurements. Contest director Jim Filler (background) looks on.

*Photo: E. Pearson*



Ed and Sarah Jackson performed safety check and rail assignments.

*Photo: E. Pearson*



A rack of models flown.

*Photos: E. Pearson*



Kevin Johnson helped set up the demo rack and helped with checkin.

*Photo: E. Pearson*





# 20G-43'S SHOP SPOTLIGHT

## HomeRight Portable Spray Shelter Review

By Don Carson

**The Problem:** I refuse to ruin another paint job spraying outdoors or get overstay all over my shop.

**The Solution:** An indoor spray booth

**The Quick Evaluation:** This is affordable (about \$40), packs down to a minimal size, and works.

**The Details:** Paint spray booths allow you to do your painting indoors, away from bugs, wind and wind borne debris. They can also allow you to paint in a temperature and humidity controlled environment.



The HomeRight spray booth set up on a workbench.

*Photo: D. Carson*

You can make your own, see [NARHAMS Tech Tips-11](#), or search the internet for a variety of ideas. The problem is, most modeling spray booths are too small for rocketry.

I came across this gem online from [HomeRight \(Model C900146\)](#) and decided to give it a try. It takes up very little space when stored(see pic), erects in seconds, and does a good job



Folded up, it is a little over a foot in diameter.

*Photo: D. Carson*

of controlling over spray. It is available online for about \$40.

It combines a small pop up tent-like structure, much like those fabric car sunshades, with a common 20" box fan and furnace filter. The back of the booth has a cut out and some elastic bands where the fan and filter go. There is a flap to cover the hole if you chose not to set up the fan and filter.

The booth material is a translucent white, so if your work area is well lit, you can see what you are painting pretty well.

I tested this out with rattle can spray paint and airbrushed ink. It

did a great job of collecting the paint overspray. For the finer ink I was airbrushing, I put a second filter behind the fan. It caught some ink that made it through the first filter. That is material that won't end up in my lungs.

Don't skimp on the filter. The recommended filter is a 20" x 20" MERV 8 filter. Internet references point to MPR600 (3M/Filtrite) or FPR5 (Home Depot) filters as roughly equivalent standards. One thing these filters won't do is remove the fumes, so you may need to ventilate the room.



Set up the booth measures 35" W x 30" D x 39" H. Objects in the image may appear larger than they used to be.

*Photo: L. Carson*

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## Shop Spotlight, Continued



Left: The fan/filter combo quickly collected the overspray. I laid cardboard on the floor of the booth, because it was new. Note the ink on the filter.  
*Photo: D. Carson*



The second filter I added on the outlet side of the fan caught some ink that got past the first filter. It does reduce the airflow somewhat.  
*Photo: D. Carson*

The other option is to set up your spray booth in front of a window or door and exhaust it outside. You still need to use a filter, or you'll end up painting your screen.

Most consumer box fans use motors that spark and can be an ignition source for flammable paints so be mindful of that.

Another thing you will probably want is a "Lazy Susan" turntable so you can paint all sides of your subject. For \$5 you can pick up a lazy susan bearing at your hardware store and make your own with a couple pieces of wood. You can drill holes in the top for dowels that fit your body tubes.

One thing that some reviews of this booth complain about is having difficulty folding the booth back up. The key is to watch this video and learn the secret: <https://www.homeright.com/how-to-video/how-to-fold-a-small-spray-shelter> - very simple and easy peasy.

HomeRight makes even larger booths for bigger jobs, if you are so inclined. Also, there are many of these pop up changing shelters/outdoor shower enclosures that could be easily converted into paint booths for bigger rockets.

No more bugs in your paint jobs.



A typical pop-up shower enclosure/changing room.  
*Photo: KingCamp Outdoors*



# NARHAMS Club Merchandise

## New Online Store for NARHAMS Merchandise:

<https://www.cafepress.com/narhams>

NARHAMS now has an online store for club merchandise. 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.

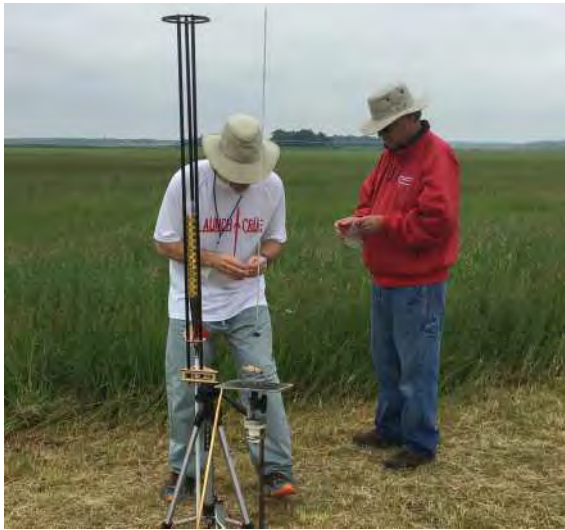


Shirts, Hoodies, Hats, Mugs and more!

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

# CanAm Cup 2018

## Muskegon, Michigan



It was cold and wet for some southerners and refreshingly cool and humid for some Arizonans.

*Photo: D. Carson*



Kevin Johnson explains just how it is going to be.

*Photo: D. Carson*



Canadian competitors (L-R): Taras Tataryn, Peter Cook, Saverio Prato, Kevin McLeod, and Richard Duczmal. Not shown is Lucy Prato, a non-competitor who proved adept at locating the team's models.

*Photo: E. Pearson*



(L) A Guzek rocket ready for some good air.

*Photo: D. Carson*



Steve Krystal and the Candians prep their S2/P models. S2/P is a TARC-like event.

*Photo: D. Carson*



Trevor Harrison, the lone Junior in the contest.

*Photo: D. Carson*

**Continued next page**

CanAm 2018, Continued



The winners of the S4A (multi-round A Rocket Glider),  
 (1,2,3) James Gearhart, Don Carson, Keith Vinyard  
*Photo: K. Johnson*



The wet 3' tall grass posed a problem for precision landing of the RC rocket gliders so out came the mower!  
*Photo: D. Carson*



Saverio Prato (Canada) and his gyro copter.  
*Photo: D. Carson*



(L) S8E launch. S8E is E RC Rocket Glider with a specific time duration and precision landing launch  
*Photos: D. Carson*



Kieth Vinyard's S8E came in for approach in some squirrely winds.  
*Photos: D. Carson*



Kieth landed close to the target (center of the purple cloth) but crunched the nose. He repaired it time to fly the next round.  
*Photos: D. Carson*



# Outreach: 2018 SISTER Launch Report

By Alex Mankevich

NARHAMS once again provided the model rocket launch support for the Summer Institute in Science, Technology, Engineering, and Research (SISTER) program at the NASA Goddard Visitor Center on July 12, 2018. The objectives of the SISTER program include introducing young women to a technical working environment, acquainting students with GSFC missions and providing observations and experiences with real hands-on projects researched and developed by women at GSFC. Marian Carson was the SISTER Program Manager out of NASA Goddard's Equal Opportunity Programs Office (EOPO). Ericsson, Aprille J. Ericsson also of NASA Goddard spearheaded the model rocket build session.

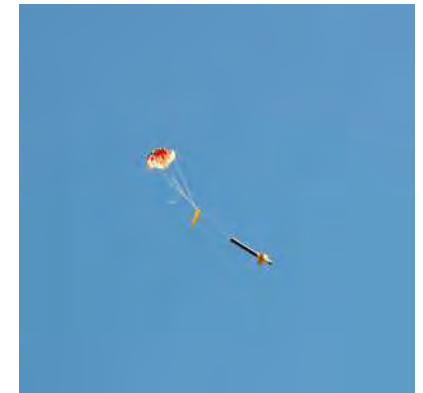


SISTER program participants awaiting their turn to approach the launch rack.

*Photo: NASA/GSFC/D. McCallum*

The original launch date was set for Wednesday July 11th. However, due to a conflict with an International Space Station downlink, the Visitor Center was at risk of being overcrowded, so the launch was moved to Thursday July 12 at 10:15 am. Jennifer Ash was deputized to alert the NARHAMSters of the change in launch date. The change of launch date didn't really affect the launch preparation and activity too much, as the weather was practically the same for both the original and the new launch dates.

NARHAMSters Kevin Johnson and Thomas Bagg joined Alex Mankevich at the Visitor Center to set up the launch range. Alex did the tweaking of setting up the range head while Kevin and Tom busied themselves with assisting the students with their rocket preparation. Kevin later served as Safety Check Officer. Kevin handed out the motors at the Safety Check Station and performed the pad assignments. Alex served as Firing Officer and provided the count downs and color commentary over the PA system. Jennifer Ash stationed herself along the fence line to collect any rockets that would have



An inbound rocket managed to shake loose one of its parachute's shroud lines. Despite some zigs, zags, and zogs all the rockets landed safely away from the participants and spectators.

*Photo: NASA/GSFC/D. McCallum*



Kevin Johnson (in blue cap) loads a motor at the safety check-in station. Summer intern Heidi Tsang (at far right) contemplates a flight in progress.

*Photo: NASA/GSFC/D. McCallum*

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## SISTER Launch, Continued



Alex Mankevich (left) joins the SISTER program participants at the launch rack.

*Photo: NASA/GSFC/D. McCallum*

made their way over the fence.

Tom Bagg brought along Heidi Tsang, a summer intern working in the office next to him. Tom had her build an Alpha III, which she flew. Hers was the straightest and highest flight of the day! Heidi helped with the equipment setup and cleanup and helped Kevin with the pre-launch safety checks. She enjoyed her day very much.

Debora McCallum of NASA Goddard provided the photo documentary of the SISTER launch. Her photos accompany this article. Debbie is a veteran of several of the past years' SISTER launches.

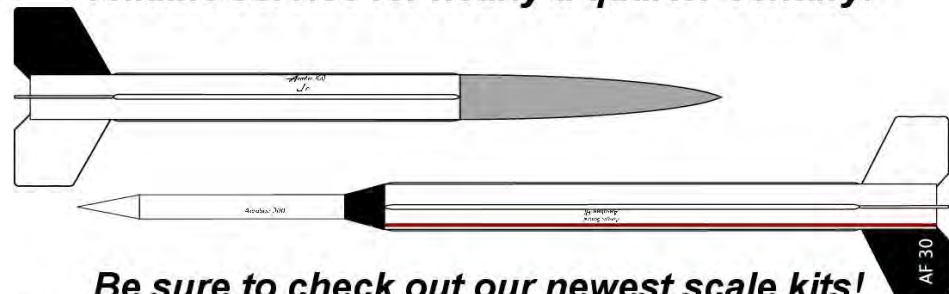
A total of 47 flights were flown on A8-3 motors. We suffered from multiple igniter misfires on each rack of rockets. Tom and Kevin were able to recover some rockets from the trees, however three rockets ended up as tree decorations. A few rockets suffered from recovery device separation during the ejection event, however all rockets landed safely away from the rocketeers and the peanut gallery.



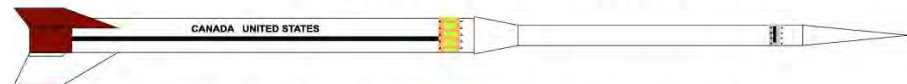
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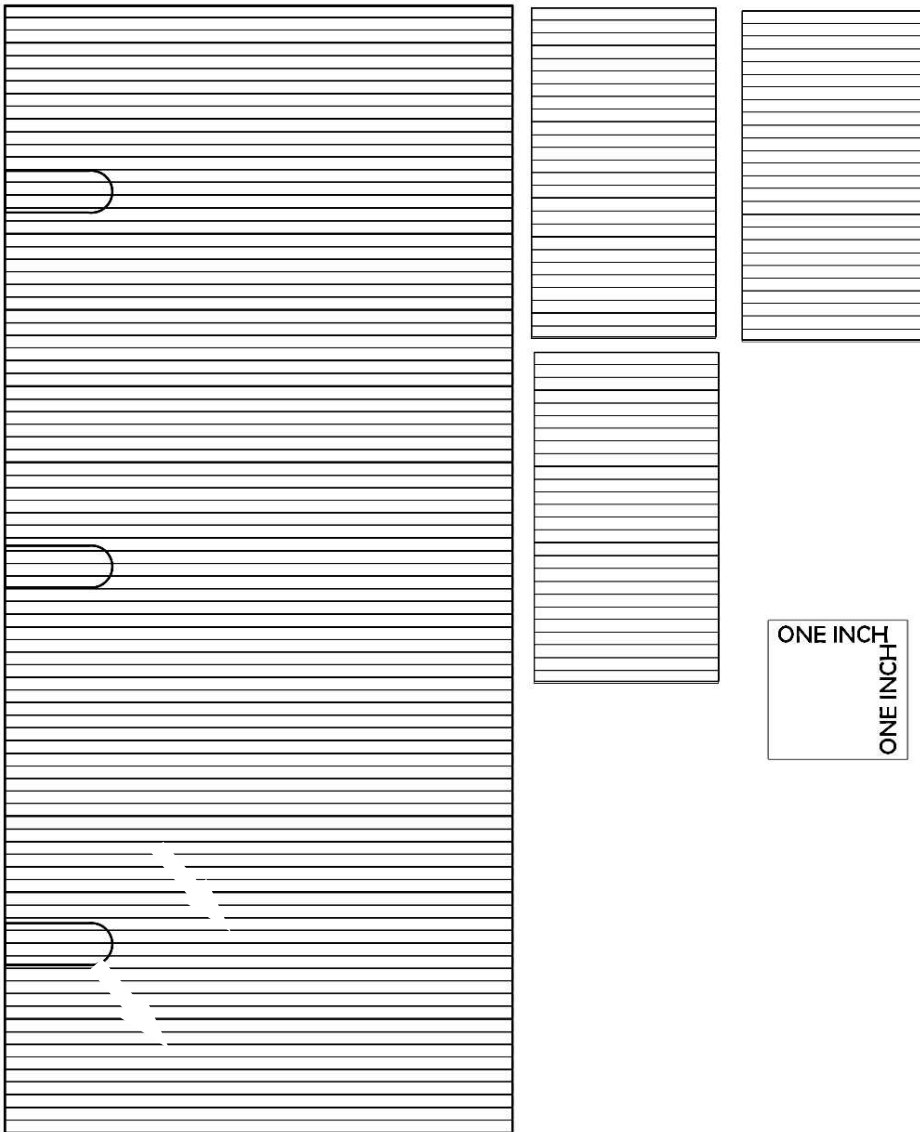


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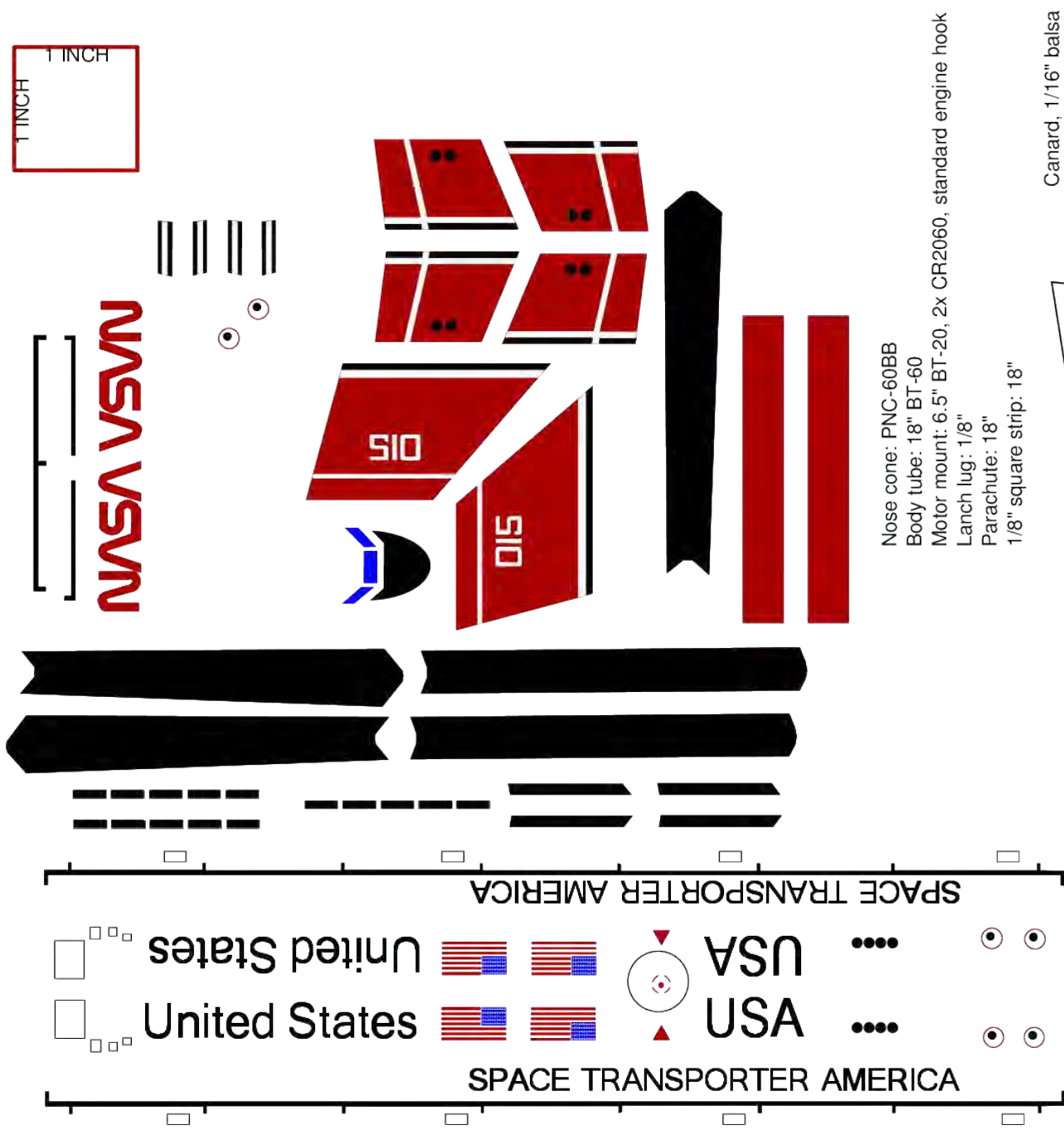
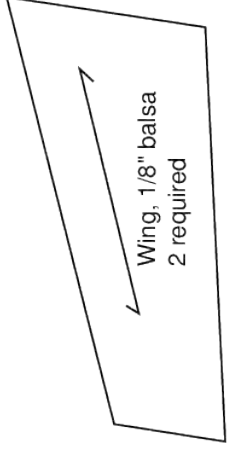
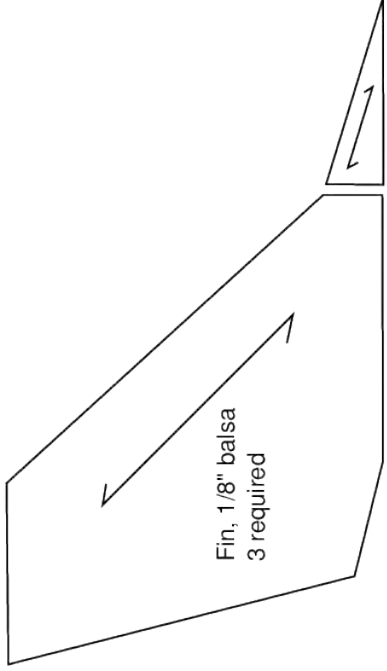
## Space Transporter America Out of Production Estes Kit Recreated by Kevin Johnson

After printing, always verify the 1"x1" square is the correct size before using.



Continued next page

Estes kit 1338  
Space Transporter America



Instructions: <http://www.oldrocketplans.com/estes/est1338/est1338.pdf>

A 3D printed replacement for the plastic display nozzles can be ordered from:

<https://www.shapeways.com/product/HDBAGCLJY/classic-sta-nozzle-set-replacement-for-bt-60?optionId=56898535>

# July 2018 Goddard Launch Report:

## By Alex Mankevich



The monthly Goddard Launch kicked off what will be a busy month of July for NARHAMS. Every so often the first Sunday of the month falls on the first day of the month. Normally, the NARHAMS business meeting precedes the Goddard Launch Sunday, so that there is kind of a build-up. Consciously or not, we use the July Goddard Launch as a prelude to the Apollo Contest to follow later in the month.

Your friendly neighborhood launch crew was heroically prepared to face Mother Nature's determined effort to melt us all like ice cream cones on a hot cement sidewalk. Visitors arriving about 12:30 were greeted with temperatures at 93 degrees and it just got hotter. The humidity was mercifully low though, around 55%. We set up a pop-up tent over the check-in station and packed a cooler with bottled water and ice.

Ole Ed had noticed a visitor from Washington state who was just about dying from the Mid-Atlantic humidity. Thank goodness we didn't have our normal 75-80% relative humidity or worse! The front desk gals, Julie Sabo and Shirley Ramos, also noted that it was brutally hot, and they were consequently surprised that so many people came. Before the launch Shirley and Julie fielded over a dozen calls from people asking if the launches would take place given the extreme heat. By the time Ole Ed sashayed into the auditorium, the room packed with visitors prepping their rockets with assistance from the range crew. At T-0 hour (1300 hours, or if you prefer, 1:00 p.m.) the range crew peeled off into the blazing sun to begin the launch. Ole Ed remained in the auditorium for an additional two hours to assist the visitors. He probably set an unofficial record for model rocket build assistance at Goddard, and consequently missed most of the launch action.

A major highlight was Bill Boublitz's tribute to the 50th. anniversary of the Apollo 6 uncrewed mission to further test the Saturn V launch vehicle. Bill took the mic and delivered an impressive narration of the objectives of the Apollo 6 mission, followed by a synopsis of the multiple less-than-nominal issues that plagued the flight of the Saturn V. Did I say impressive? What was truly impressive was that Bill delivered practically his entire narration from memory. For a finale, he brought along his 1/100th scale Saturn V model and launch it off a ¼ inch rod using a D12 motor (the highest impulse motor allowed at the Goddard launches). A well-deserved round of applause from the peanut gallery let Bill know that his performance (and his rocket's) was appreciated by all.



Rounding up the Range Crew: Ed Jackson was launch officer, RSO and narrator. Here he launches Mike Ratel's mini-Tom Cat.

*Photo: E. Pearson*

**Continued next page**

## July Goddard Launch, Continued

The range crew looked resplendent in its new and fashionable polo shirts and tees. Also getting into the haute couture and making her own fashion statement was future Cover Girl Anika Borowski. Anika is Jim/Judy Barrowman's granddaughter. Anika modeled her bright pink NARHAMS tee during the launch. Her mom, Heather, just beamed with pride.

The check-in station was manned by Sarah Jackson and Bill Boublitz. Mike Cochran and Alex Mankevich provided both pad assistance and retrieval pole duties. Ed Jackson did the launch control and color commentary. For all we know, Ole Ed is still in the auditorium helping visitors prep their rockets for the July Goddard launch.

Shirley had tallied 289 visitors that hot Sunday (152 adults and 137 children). NARHAMS had launched 74 rockets. Shirley filled out 47 certificates for first-time flyers. The recovery pole retrieved about four rockets from the cardboard and balsa-eating trees.

### A side note is worth mentioning.

July is the seventh month of the year however this July's launch was only the 4th Goddard launch of 2018. Goddard launches had previously taken place for the months of January, March and May. The incessant rains cancelled the February and June launches, and the April launch was cancelled due to the Easter holiday. The calendar should not interfere with any of this year's future launches, and hopefully the weather will be accommodating on the first Sunday of the remaining months of 2018.



Left: Range Crew continued: Zog Alex Mankevich and Michael Cochran (with bumbershoot) helped visitors set up at the rack.

*Photo: E. Pearson*



Below: Club members assist the public get their models prepared. The club went out to launch (that's launch, not lunch) at 1pm; one club member stayed behind to help visitors for the next two hours.

*Photo: E. Pearson*



Above: Fashion statement: Anika Borowski models her NARHAMS tee at the launch. Anika is Jim/Judy Barrowman's granddaughter. (Mom, Heather, just beamed).

*Photo: E. Pearson*

# June Meeting Highlights

## With Ed Pearson



Theme of meeting was night rockets. Ed Jackson showed how he codes an Arduino microprocessor to sequence LEDs on his models.

*Photo: E. Pearson*



Jef Fineran (L) examines Kevin Johnson's cluster model. Kevin made the (8-engine) model to show how clusters are wired for ignition.

*Photo: E. Pearson*

Right: Jim Filler showed his night rockets. They use a cylinder bedecked with LED strips. The cylinder then fits inside a model's clear payload section and connects to a LiPo battery.

*Photo: E. Pearson*



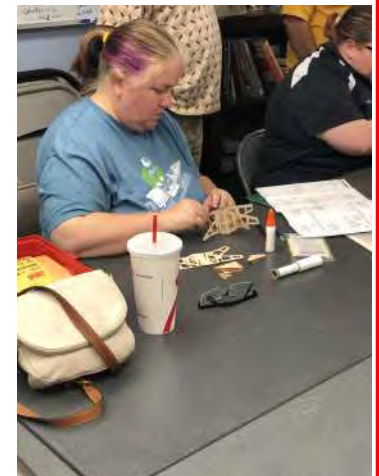
Jim Miers shows the checkered-fin model he got at the club's annual holiday party. The upper section (from his wrist up) was unfinished and Jim fixed that with MonoKote and a hot iron.

*Photo: E. Pearson*



Jen Ash works on an Estes QuinStar model. She compares it with putting together a puzzle!

*Photo: E. Pearson*



# Bits and Pieces

## Upcoming Meeting Presentation Topics:

August 4	Open Build Session
September 1	Elections/NARAM Wrap Up
October 6	World Championships recap

## Upcoming Launches/Themes:

Aug 4-10	NARAM
Aug 5	NASA Goddard public launch
Aug 18	Mt Airy, Sounding Rockets
Sept 2	NASA Goddard public launch
Sept 15	Mt Airy, Night and NRC Launch!
Oct 7	NASA Goddard public launch
Oct 20	Mt Airy, Sci-Fi Rockets/Octoberfest

## Announcements



On fireworks day, Cyrus Pearson sent his dad, Old Ed, this image of Viviana, his first, born on D-Day— dad's day. Wishing Viviana, Cyrus and mom Christina the best. This is Ed and Diane's fourth grandchild.

## Welcome New/Renewing Members

### New Members

Kevin Wenks, Tyler Wenks, Caroline Wenks

### Renewals

DJ Emmanuel, Jared Haworth, Kevin Knebe,  
Tom Jackson



## Not Reading Your Own Copy of the Zog-43?

Join NARHAMS  
and have your own  
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# Washington Capitals Win the Stanley Cup!

*By Jim Filler*

ZOG-43 is the award winning newsletter for the NARHAMS Model Rocket Club.

Why is this article about a professional hockey team winning a championship in this newsletter? I will tell you why. I've been following the CAPS since they came into the league as an expansion team in 1974. I have spoken with other club members over the years about the frustration of not winning the championship after some fantastic regular season results.

My son Matthew, his girlfriend Amy, and her brother Vinny all got to go the parade in DC to see the winning celebration. For a hockey fan it was a great thing to see and is something that will always be remembered.

I will leave you with one final thought. The season that just finished started in the fall of 2017. Maybe it was just a coincidence that the CAPS won their first ever Stanley Cup Championship in their 43rd Season ? Or was it not a coincidence? Ole Ed what do you say? :-)



[Click Here To See More Pics and Videos of the Parade.](#)





# Shade, Sunscreen, Water and Bug Spray – The Necessities for the Vietnamese Scouting Jamboree Thăng Tiến 11 Launch

By Alex Mankevich, NARHAMS

NARHAMS hosted the model rocket launches for the 11th International Jamboree of Vietnamese Scouting held at Camp Snyder near Haymarket, Virginia. This event drew nearly 2000 participants including scouts, staff and volunteers.

Hanson Nguyen was our principle contact for this event. Hanson had contacted Section Advisor John McCoy several months prior. John had instructed several scout representatives on how to properly construct and prepare the rockets. John and Hanson worked out a schedule for July 2018 that would include a night launch demonstration followed by a full day of the scouts launching their model rockets. The scouts planned a workshop at which to construct their model rockets which were mostly Estes Alpha III and Generic E2X kits.

The NARHAMS volunteers couldn't just waltz onto the launch field. They had to sign the Boy Scouts of America (BSA) Waiver Statement and Consent for use of Photographs and Code of Conduct forms. A detailed BSA Medical Form needed to be completed. Finally, the completion of the BSA Youth Protection Training on-line course was also a prerequisite for participating.

Monday evening, July 2nd. from 9:00 PM to 10:30 PM was the night launch demonstration. Alex and Mark arrived early that evening to set up the launch range. The scouts provided two 10' by 10' pop-up tents for the range head, which we arranged as we would for any Mt. Airy launch. We intended to set up the launch range that evening so that it was good for the following day's launch as well. We set up two six-rail launch racks and one away pad with a ¼ inch rod. The control panel from System Spare was used for this launch. Since it was expected to be very hot, Alex brought a fire extinguisher to go along with the fire flapper. The scouts provided a PA system for the night launch demonstration. Glow sticks were suspended from the perimeter rope as we do for our Mt. Airy night launches.

Alex provided seven of his night launch models. His rockets were mostly LED lights in clear plastic body tubing. Alex had upgraded his night launch fleet to fly on C11 and D12 motors as to boost their dramatic flame effect. Ed Jackson lent his EL Wire Retro rocket, Super Blackhawk and Enterprise models for the demonstration.

Continued next page



Most of the rockets launched for the Jamboree were Estes Alpha III models powered by B6-4 motors.

*Photo: A. Mankevich*

Mark Wise performed the safety checks and rail assignment for all 81 flights. Mark also did the launch commentary.

*Photo: A. Mankevich*



This is a look at the height of the action at the height of the heat of the day. Pop-up tents and coolers of water were needed to stave off heat exhaustion.

*Photo: A. Mankevich*



## Outreach, Continued

Mark Wise took to the microphone to provide the launch narration and countdowns. Mark entertained all with his color commentary about NARHAMS, the NAR and model rocketry safety. He also explained the nuances of how to safely and responsibly conduct a night launch. Mark was friendly, engaging and informative. This encouraged the peanut gallery to pepper Mark with questions they had about rockets. (Author's note: I promised Mark that I wouldn't embarrass him by repeating the responses he gave to what could be described as probing, personal questions. 'Nuff said!)

Tuesday morning, July the 3rd., was the day launch portion of this outreach. The range head was situated on a small hill which provided an impressive panoramic view. The launch got underway around 9:30 AM. We let the scouts create their own names for the Alpha III models. Some of the more interesting names were "Einstein's Rocket", "Flying Thing", "When Pigs Fly", "The Flying Chihuahua", "Knockoff NASA", "Speedy", "Messed Up" (not a reference to NARHAMS, thank you.), and "Lightning Reaper". The scouts had chosen B6-4 motors for propulsion, which gave the gave their rockets a strong boost to an impressive altitude. Most of the rockets were carried by their parachutes in a southerly direction, which landed the rockets smack dab in a muddy swampland. This was an international scouting jamboree and we became aware that we had launched for Canadian and Australian scouts who were included in the mix. Several photographers from the Boy Scouts were on assignment record the rocketry activity.

The day was typical Mid-Atlantic July hot and humid. The temperature stayed over 95 degrees for the entire duration of the launch. The scouts put up additional pop up tents to provide the much-appreciated shade for the rocketeers. The scouts also did a fantastic job of providing cool, refreshing water for the assembled flyers and range crew.

Hanson reported that over 100 scouts had registered for the rocket launch, however a total of 81 flights took place. John McCoy's tutelage was much in evidence. We were well into the launch before the first of two total (yes, total) igniter wire misfires occurred. Only a few rockets came down as 'wads of plastic', thanks to the scouts' generous use of baby powder to pre-treat the parachutes. Most rockets deployed their parachutes right at apogee, and we were regularly rewarded with seeing the Alpha III models floating majestically in the cloud-free (albeit hot) deep blue summer sky.



Alex's classically-shaped rockets joined Ed Jackson's EL Wire Retro and Super Blackhawk rockets for the night launch demonstration.

*Photo: A. Mankevich*



We had the launch range set up in plenty of time to enjoy the mid-summer sunset. Note the glow sticks suspended from the perimeter rope.

*Photo: A. Mankevich*



# Competition Corner: A Summer Full of Contests And More Coming

## 2018-2019 NRC Events Announced

A Boost Glider, 1/4A Helicopter Duration,  
1/4A Parachute Duration, B Payload Altitude (altimeter),  
C Eggloft Altitude (altimeter), B Eggloft Duration

### RAMTEC-21

Events:

1/4A Parachute Duration  
1/4A Helicopter Duration  
B Eggloft Duration  
C Eggloft Altitude (Altimeter)  
Parachute Spot Landing

September 1 & 2, 2018  
at Ft. Indiantown Gap, PA.

More info posted for registration at  
[www.spaar.org/ramtec](http://www.spaar.org/ramtec). Hope to see  
you there for the start of the 2nd  
NRC contest year.

Carl McLawhorn Memorial Fly-Off VI  
Regional Contest, Sport & HP Launch!

Events:

Predicted Duration (using a SEMROC kit)  
E Boost Glide!!!!  
1/4A Parachute Duration (NRC event)  
B Eggloft Duration (NRC event, altimeter)  
B Payload Altitude (NRC event, altimeter)

October 21-22, 2018  
Weber Farm  
Grove City, PA

For info, go to <http://www.psc473.org/>



Best of luck to all the  
competitors heading off the the  
2018 World Space Modeling  
Championships!

Follow the action at:

<http://www.spacemodels.pl/>

## NARAM-60 Competition and Rocketry Festival

Events:

1/2A Parachute Duration\*  
1/2A Boost Glide Duration\*  
A Streamer Duration\*  
A Helicopter Duration\*  
A Payload Altitude\*  
C Eggloft Altitude\*  
B Cluster Altitude  
C SuperRoc Altitude  
Classic Model  
Sport Scale  
Research & Development

August 4-10, 2018  
Hudson Ranch  
Pueblo, CO

Rocketeer Reunion on August 4  
Keep tabs, new activities to be announced

For current info, go to  
[www.nar.org](http://www.nar.org)

## NARHAMS NRC Launches

Held in conjunction with the following  
Mt Airy Sport Launches:

September 15  
November 17

