ZOG-43

Official Publication of NARHAMS

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Official Newsletter of NARHAMS model rocket club
Editor: Alex Mankevich
Associate Editor: Thomas Henderson

ZOG-43 is dedicated to providing current information about NARHAMS' activities, outreaches, sport launches, competitions and club business. We aim to provide updates on model and real world rocketry, educational material, and some entertaining information. We try to appeal to model rocketeers of all ages, abilities, and interest. We like to share the talents and accomplishments of our members. The ZOG-43 is authored by real people, no AI-generated content here.

ZOG-43 is published bimonthly and is available to all paid up members of NARHAMS. Club membership is open to all, dues are 10 cents per week.

If you have any questions about ZOG-43, NARHAMS, subscriptions, or if you have any comments, correspondence, or if you'd like to submit an article or event photographs, 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 the NASA Goddard Visitor Center in Greenbelt, MD. Monthly sport launches are held at Old National Pike District Park near Mt. Airy, MD. We provide the launch equipment and there is no launch fee. NARHAMS welcomes all persons interested in rocketry to our monthly meetings and launches.

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

From the Editor:

NARHAMS typically ramps up its outreach activities in the springtime, and 2025 has been no exception. We are pleased to report on several outreaches recently conducted by NARHAMS. This issue showcases the numerous venues at which NARHAMS conducts its sport rocketry activities. Consequently, it becomes apparent how many lives are touched by NARHAMS as we share our skills, expertise and knowledge.

If you would like to take part in any NARHAMS outreach activity, kindly contact President Edward Jackson at narhamspresed@gmail.com. We often discuss our upcoming activities and outreaches at our monthtly business meetings.

Read the "NARHAMS Upcoming" page for two events that are planned for later this summer. We present a tribute to space and aero-modelling legend Mr. Otakar Saffek who passed away in early May. Finally, if you think you are hearing wedding bells, then turn to the "NARHAMS Miscellanea" page.

Contributing to this issue:

Reporters:
Alex Mankevich, Thomas Henderson, Edward Jackson, Alan Williams, James Miers and Zoran M. Pelagic.

Photographers:
Ole Ed Pearson, Eric and Thomas Henderson, Michael Cochran, Sarah Jackson, Faye Stec, Sally Cook, Raul Peña, George Crombie, Michael McLaughlin, David Zuchero and Alex Mankevich.

Covers Credits:

Front Cover: Modelers had their picture taken as they built their Alpha II models inside the atrium of the new Raptor Center during The Rockville Science Day on Sunday, April 27, 2025. Credit: Raul Peña

Back Cover: A scale model of the Space Shuttle (center) was launched during the June Goddard Launch. This flight was dedicated to Sally Ride who during June 1983 became the first American woman in space. Credit: Alex Mankevich

ZOG ROYAL COURT
(NARHAMS OFFICERS)

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VICE ZOG (Vice-President) Alan Williams

COLLECTOR OF THE ROYAL TAXES
(Treasurer) Sarah Jackson

KEEPER OF THE HOLY WORDS
(Secretary) Thomas Henderson

COURT JESTER
(Section Advisor) James Miers

Rockville Science Day
2025 Report

Reported by: Edward Jackson
NARHAMS President

Introduction

April 27th saw the continuation of Rockville Science Day (RSD) for their 34th year. This year the fair was well attended, boasting more than 120 vendors and exhibitors. Like previous years, NARHAMS was asked to conduct a build and launch for the general public to give the participants a fun activity to actively demonstrate STEM principles.

Rockville Science Day

This year NARHAMS had top billing on the webpage leading up to the day. Life Sciences occupied one gymnasium while Technology occupied the other. NARHAMS was in the new Raptor Center this year taking up the spacious atrium for the build session and later the upper Athletics Field for the afternoon launch.

The Setup

NARHAMS members started arriving at the campus around 9:30 to conduct room setup and rocket pre-prep. The tables were already set up with 18 tables arranged in two rows and two more tables in the center for our display. We elected to try to assemble all 36 rockets in one extended session this year since we had enough space to pull it off. We pre-cut the engine clip slot. We also glued the launch lug to the fin can with CA because this step is easy to both forget and get wrong. Again this year we cut kevlar cord for the shock cord mount because in years past the traditional shock cord mount had not had enough time to dry before the launch. Due to the wind that was blowing all day, we opted to replace the parachutes with streamers. The crew then set about preparing each build station with trays, glue, rags, and a rocket kit as they came from pre-prep.

The Build

At 12:00 the event for the day started and our build session began around 1:30. We had more interest (54 tickets handed out) than rockets as is the norm for this event, so we held a lottery 15 minutes prior to the first build session. We anticipated a crowded room, so I leveraged the use of our small personal PA to do assembly instructions while NARHAMS members and volunteers helped two tables a person. * Continued *

A modeler focused attention on the Alpha III as its decals had been meticuously affixed. Credit: Michael Cochran

Two brothers aged seven and eight years old got to build their Alpha III models side-by-side. Credit: Ole Ed Pearson

A green-shirted Magruder High School volunteer (R) assisted a table of modelers stationed in the Raptor Center's atrium. Credit: Michael Cochran

Paul Croarkin (R) seen pictured with Ole Ed Pearson. Paul was Zog-43 editor for NARHAMS in the 1970s. Paul was joined at the build and launch session by his son Finn. Credit: unknown

Rockville Science Day
2025 Report - Continued

NARHAMS provided additional space-themed and rocket-themed decals for the modelers to festoon their rockets. Credit: Ole Ed Pearson

An Alpha III took flight from the Athletic Field. All rockets were recovered, with one being fished out of a tree. Credit: Michael McLaughlin

Even with a loaded room we got through the build session with spare time to let the kids decorate their rockets. Raul and I moved to the athletic field to set up the launch range while the built rockets were prepped for flight and the atrium was put back to the way we found it. The launch time had also moved up from 4:00 to 3:30 so the single build session made it possible to get everything done without being too rushed.

The Launch

The weather for this day was sunny and windy. Forecasts predicted 15 to 30 MPH so the launch was close to being cancelled but the direction of the wind and the change out to streamers gave us confidence that we could pull it off. After some introductory announcements and the safety briefing, we started calling names of our builders for the first rack. The first rocket left the pad at a moderate angle into the wind then gracefully drifted back into the center of the field. We were able to retrieve all 36 rockets with only one rocket landing in the trees on the opposite side of the field. After the launch concluded, the Rockville Science Staff announced the winner of the 50/50 raffle. The raffle raised $2,115 for the Rockville Science Center.

Rockville Science Day is one of the more involved events that NARHAMS participates in and it would not be possible without the help we get. Thanks to everyone for helping with set-up and clean-up but I also want to take a minute to specifically acknowledge the following contributions: On hand from NARHAMS were Sarah Jackson, Ed Pearson, Alan Williams, Mike Cochran and Raul Peña. All helped with the build session and launch to help make a memorable day for some of the 3,500 people that attended RSD this year. Bob Eckman lent us three volunteers from McGruder High School to help with both the build session and launch set-up. Unfortunately, we lost track of their names.

An Aside Attributed to Alan Williams:

"This year we were able to handle 36 builders instead of roughly 24, and got the whole session done in less time. Dynamics of the larger room and some assembly tweaks contributed strongly. The afternoon flights also went very well. This, in spite of variable winds gusting from 15-35 mph and direction issues. Ed Jackson skillfully piloted the flights, and we only (had to recover) one of the 36 Alphas (from) the trees surrounding the track and field complex."

A little judicious flight timing by Edward Jackson between wind gusts carried NARHAMS through the challenging launch session. Credit: Michael Cochran

Raul Peña (L) jealously looked on as Michael Cochran (R) received a very expensive birthday present...it was his day. Credit: Sarah Jackson

Westchester Elementary School Launch Report

Reported by: Alex Mankevich
ZOG-43 Editor

Tom Bagg brought several volunteers to the Westchester Elementary School in Catonsville, Maryland, for a launch with fourth grade students on April 3, 2025. NARHAMSters Alex Mankevich and Johanna Bagg (Tom's wife), friend Steve Parkhurst and school volunteers Jessica St. John and Bethany Haywood joined Tom to launch about 120 flights.

The launch was organized so that there were six classes averaging about 21 students per class that constructed 117 Quest Astra III models with parachutes that flew on A8-3 motors. Several students added a variety of decals to their rockets or used a Sharpie to add some additional design or text. Tom switched to the Astra models from the previously built Alpha III models. Tom stated that the Astra is more in line with the skill level of a fourth grader insomuch as the Astra employs a screw-in motor mount (replacing the construction of a motor mount with an engine hook) and the launch lug is built into the plastic fin unit. The wider Astra is also less likely to drift into the trees as was common with the thinner Alpha III models.

This reporter won't sugarcoat it – the launch started off in the rain. Not sprinkles, drizzle or mist, but honest-to-goodness rain. The unfortunate first class of students had to endure the wet conditions along with the range crew for about four racks of rockets. The rain had stopped by the time the second class of fourth graders arrived on the launch range, and a slow drying period commenced. Naturally, it became easier for the students to get excited about the launch after the rain had stopped.

Tom allows the students chase after their rockets with the goal of catching the model in midair. That was working well until an energetic dog came on the range and invited himself to become part of the recovery crew. One could suppose that the whoosh of the motor, the bright yellow rocket descending on a colorful parachute's canopy, and the student chasing after the rocket were a combination that the dog felt too difficult to resist. We had a few flights where the student chased after the rocket, the dog chased after the student, and the owner chased after the dog. While that was happening, the students awaiting their launches were robustly singing the Baha Men hit song "Who let the dogs out? Who, who, who, who, who?" Eventually the owner was able to corral the dog and get it back on its leash.

* Continued *

The crew for the Westchester Elementary School launch. Tom Bagg (L), Johanna Bagg (C) and school marm Mrs. Brady (R). Credit: Alex Mankevich

An Astra III model leaped skyward on a column of smoke. This was one of about 120 flights for both students and teachers. Credit: Alex Mankevich

Tom Bagg switched to the Astra III model for this launch reasoning that this model is more in line with a 4th grader's skill level. Credit: Alex Mankevich

Some of the fourth grade students awaiting their turn to load their Astra III models on the launch rack. Credit: Alex Mankevich

The launch system worked well, and the battery held a good charge. We only had about six igniter misfires. There were a couple of off-nominal situations. One A8-3 motor had some mysterious debris inside the motor nozzle which precluded the insertion of the igniter wire. The other anomaly was the reemergence of instances in which an extraneous appendage on the yellow motor plugs precluded the proper seating of the plug in the motors' nozzle. This reporter found three yellow motor plugs with this manufacturer's defect over the course of this launch.

Overall, it was a successful launch with no launch system problems, limited igniter wire misfires, and no rockets needed recovery from the trees. There were no lawn darts and no hang-ups on the launch rails. Some modelers apparently did not tie their nose cones to the elastic recovery band. A few teachers also got to launch one of Tom's personal rockets.

Tom Bagg gave a safety briefing to each class of 4th graders that included the launch countdown routine. Credit: Alex Mankevich

An inbound Quest Astra III model with its colorful yellow body tube and arresting parachute canopy. Credit: Alex Mankevich

The fourth grade students were allowed to chase after their rockets. Implied in this privilege was the expectation that the student would hustle off the launch range once the model was recovered. Credit: Alex Mankevich

Tom Bagg used a bull horn to announce the launch countdowns. Credit: Alex Mankevich

Goddard Launch Report
May 2025

Reported by: Alex Mankevich
ZOG-43 Editor

Afternoon rain showers and high wind were a concern going into this launch. Happily, both held off until later that evening. On the downside, it became hotter than we had anticipated and the dreaded Mid-Atlantic summer humidity announced its return.

This launch was just one day short of "*May the Fourth be with you*" and two days short of the 64th anniversary of Alan Shepard becoming America's first astronaut in space. We did not have model of the *Millennium Falcon* to commemorate Star Wars, but we did launch a scale model of a Mercury Redstone rocket to honor Alan Shepard's flight.

Jack & Jill of America, Inc. brought about fifteen children between the ages of 6 and 9 to this launch under the tutelage of Tiffany Blacknall Benjamin. They began their day exploring oceans beyond Earth based on research from Dr. Lynnae Quick - a Planetary Scientist at NASA Goddard. Sarah Jackson and Ole Ed Pearson later helped them build their Estes Starship Octavius rockets for their launches to "ocean worlds".

The Washington International School "Red Devils" brought about six Quest Courier egg-lofting models to fly. Their efforts were supported by the University of Illinois. Unfortunately, their flights were on C5 motors which proved to be too powerful for the windy day. They lost models to the trees. Two models that went over the fence line were later recovered.

Scout pack #46 of Stephenson, Virginia, were there for a picnic and to view the launch. Their presence assured that this slow-paced launch had more spectators than flyers.

Ole Ed Pearson built a rocket that he dedicated as a memorial flight for John Marsh IV - the late son of Jay Marsh, long time NAR competitor and Academy of Model Aeronautics (AMA) Vice President for District IV, which includes Maryland. John first visited Goddard as a tot in the early 1980s with his dad from North Carolina. Ten plus years later John was the first junior member of the US Spacemodelling team at the tenth world spacemodelling championships in Poland. John won a gold medal in parachute duration.

John's memorial flight was with a beautiful (almost flawless) Alpha with a C6-5 carrying a 24" parachute. It climbed to about 1,000 feet, deployed the 'chute and was a speck in the sky. The wind caught it and the rocket was soon lost from sight. A suitable and fitting flight in John's memory.

Look at her intensity as she threaded a shock cord through the opening in an Estes Starship Octavius. She was one of 14 Jack and Jill club members from Washington's Nation's Capital Section. Credit: Ole Ed Pearson

The John Marsh IV memorial Alpha rocket stood out from the dark glass of the Goddard Visitor Center as it lifted off on a C6 motor. Credit: Alex Mankevich

Edward Jackson hooked up an Estes Astrocam. Credit: Ole Ed Pearson

The return of the dreaded Mid-Atlantic summer humidity forced visitors into whatever shade they could find. Credit: Eric & Thomas Henderson

May Goddard Launch By the Numbers:

Total Rockets Launched:	54
Adults in Attendance:	104
Youths in Attendance:	69
Total Visitors at VC:	173
First Time Flyer Certificates:	42

Old National Pike District Park Sport Launch - May 2025

Reported by: Alex Mankevich
ZOG-43 Editor

NARHAMS decided at its May 2025 business meeting to host both a Saturday and a Sunday launch during May. Sarah and Edward Jackson, along with Alex Mankevich, offered themselves to run both days of launches. The May 2025 sport launches overlapped with the American Rocketry Challenge (ARC) finals held at Great Meadow, Virginia on Saturday May 17th. Several NARHAMSters were at the ARC finals serving in various capacities.

Both days of sport launches were windy, but not near the 20 mph limit. Pop-Up tents were set up on Saturday, but the modelers found themselves holding down the tents' frames so that they would not blow away. No tents were erected on Sunday due to the persistence of the winds. The theme for the May launch was gliders, but the persistent high winds stopped any gliders from being flown.

The launch range had not been mowed and the field was covered with large patches of white clover. Some of the clover was eight inches deep and any launch equipment or model that fell into the clover was at risk of "disappearing" into the vegetation.

Scout pack #465 out of Bethesda brought about seven modelers to the Saturday launch. They primarily flew Alpha III models on A8-3 motors. They smartly exchanged their models' parachutes for streamers. Edward Jackson allowed the scouts to attempt to catch their models as they were descending, but the windy conditions made those attempts quite challenging. Sarah Jackson commented on how very well behaved and polite the scouts were.

Miles Irby flew his Estes Taser model three times on A8-3 motors on Saturday. Mike Kelley conservatively flew five flights on "B" and "C" motors. He later braved a Aerotech F24 motor for his Estes Argent flight using a Jolly Logic chute release system.

Faye and Bill Stec joined the action on Sunday. They flew a combined eight flights. They had to dedicate a portion of their time attempting to recover Faye's two-stage Estes Hyper Bat model.

The tally of flights for two days numbered at 110 flights. The amount of propellant burned totalled to 807.2 grams (1.77 lbs.) which is the equivalent of a one-liter bottle of your favorite diet soda. As for power, 648.9 N-sec of total impulse was flown, placing that into a "J" motor range - which requires Level 2 certification to fly.

Fabrice Derullieux prepped a streamer for his model. A streamer was a smart choice for a recovery device on the windy day. Credit: Alex Mankevich

Mike Kelley's Estes Argent model leaped off the away pad on Saturday on an Aerotech F24-4W motor. It was the most powerful motor used for the two days of launching. Credit: Alex Mankevich

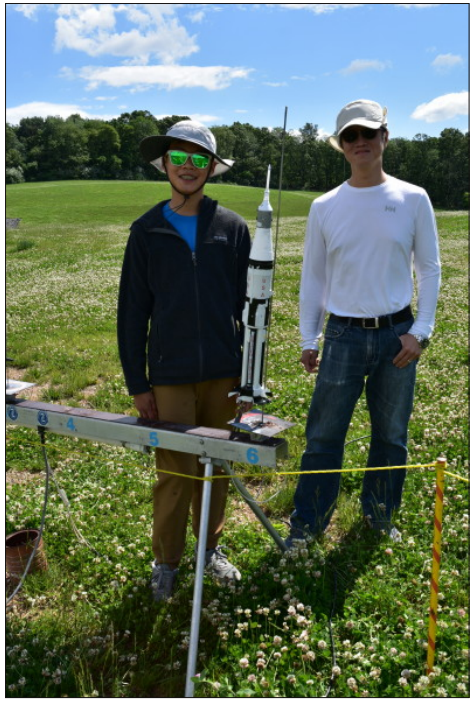
Members of scout pack #465 waited in the distance for the descents of their Alpha III models. Credit: Sarah Jackson

MOTOR MULTITUDES:

MOTOR	COUNT
A8	41
B6	24
1/2A3	8
C6	8
C11	7
D12	6

Old National Pike District Park
Sport Launch - May 2025 - Continued

Bill Stec (L) and Edward Jackson (R) wrestled with the recovery pole as they attempted to recover the upper stage of Faye Stec's Estes Hyper Bat which flew on a B6 staged to an A8. They were able to recover all but the nose cone and the parachute. Credit: Faye Stec



Arion Lin (L) and his dad (R) flew a gorgeous Saturn 1B scale model on Sunday using a C11 motor. Credit: Alex Mankevich

An "Ed Wood's Revenge" saucer in flight on a B6-0 motor. Credit: Eric & Thomas Henderson

NARHAMS President Edward Jackson traversed a large patch of white clover. White clover is a fast-growing and fast-spreading perennial plant known for its white, ball-shaped flowers which spread effectively across open fields. It typically blooms from late spring through early fall. Most clover plants grow between 4 to 8 inches tall. Credit: Alex Mankevich

Faye Stec's Baby Bertha soared upwards as its B6 motor spewed out a cloud of exhaust smoke. Credit: Sarah Jackson

Sarah Jackson's green-colored mini Honest John did its best to blend in with the tree line as it flew on an A10 motor. Credit: Sarah Jackson

We Did the Math:

Total Flights:	**110**
Smallest Motor:	**1/2A3**
Largest Motor:	**F24**
Most Used Motor:	**A8-3 (41 flights)**
Propellant Burned:	**807.2 grams**

Goddard Launch Report
June 2025

Reported by: Alex Mankevich
ZOG-43 Editor

The ZOG-43 Editorial Staff Thomas Henderson (L) and Alex Mankevich (R) at the launch control panel. Credit: Eric & Thomas Henderson

DJ Emmanuel (L) congratulated two young modelers on earning their First Time Flyer certificates. Credit: Michael Cochran

Rain was a concern heading into the first Saturday of the month. We were looking at a likely chance of rain and even thunderstorms throughout the afternoon. Fortunately, the showers moved out by 11:00 am and we were able to "enjoy" a typical sunny, hot, humid, muggy June afternoon. We set up on the concrete pad in front of the Delta rocket due to the overnight rain and the possibility of rain later that afternoon.

The count of visitors was lower than average, but that was likely due to the uncertainty of the weather. Cub scout pack #29 of the National Capital Area Council brought about ten flyers who mostly flew Alpha III models.

There was practically no wind, so the descents of the models were somewhat random. A few models went into the trees towards Greenbelt Road. There were a few separations of the nose cones from the body tubes and we later discovered some engine mounts that were not glued into the body tubes.

Sarah Jackson, Ole Ed Pearson, James Miers and Michael Cochran spent time assisting the modelers in assembling and preparing their models. Thomas Henderson handled the check-in duties. Edward Jackson performed the firing officer and color commentary duties. He promoted July's upcoming Goddard Contest and the other activities of NARHAMS.

A scale model of the Space Shuttle was launched which Edward Jackson dedicated to Sally Ride who during June 1983 became the first American woman in space (see the back cover).

Scouts from pack #29 on the safety check-in line. They mostly flew Alpha III models. Credit: Alex Mankevich

Sarah Jackson (L) assisted modelers assembling their models along with Michael Cochran (background). Credit: Ole Ed Pearson

A scale model of a Patriot missile launched from the middle of the launch rack. Credit: Michael Cochran

Firing Officer Edward Jackson:

"On rail number three we have an Alpha III."

June Goddard Launch By the Numbers:

Total Rockets Launched:	**78**
Adults in Attendance:	**119**
Youths in Attendance:	**56**
Total Visitors at VC:	**175**
First Time Flyer Certificates:	**15**

AMERICAN ROCKETRY CHALLENGE

The American Rocketry Challenge Recap

Reported by: Alan Williams
NARHAMS Vice-President

Preceding the actual contest flying, and during the Friday night American Rocketry Challenge (ARC) briefing, Contest Director Trip Barber brought up about fifteen veterans from years past. These included Ole Ed Pearson, Jennifer Ash, Chris Kidwell, Alan Williams and several others. They were each presented with a large unique medallion signifying at least 20 years working during the ARC finals.

There were over 115 NAR members from around the country supporting all range flight operations. Among them were more than thirteen NARHAMS members past and present such as: Firing Officer Jennifer Ash, Check-in Officer Jim Miers, Chief Timer and rocketry legend Jim Barrowman, other rocketry legend and Information Officer Ole Ed Pearson, his assistant Sally Cook, former NAR President Ted Cochran, Bruce Canino, James Duffy as P.A. master announcer and producer, Tom and Maria Ha, Mark Wise, Assistant RSO Tom Lyons, and somewhere in there was Vice-Zog Alan Williams handing out about $1,000 as special awards judge. The big surprise was how the ugly weather stumbling through the area managed not to affect the field, range, or display tents. There was almost no mud, and Saturday was a lovely sunfest, though with some gusty winds at times.

The contest itself was the 23rd in-person national championship of the program. (Two years had been “distributed” to remote fields because of the COVID pandemic.) A record thousand-plus schools and other youth organizations participated at various levels this year. 120 of those progressing to flight trials were chosen for the finals, with the last twenty of them being alternates. That group would fill in for teams that had to drop off the championships for one reason or another.

The contest simulates engineering teams creating sounding rocket vehicles designed to a strict set of physical and performance targets. Each year the parametric of size range, payload, altitude, and performance in altitude and flight duration are changed. No kit designed by a company to fly in this contest is allowed. All parts used must be “Off the Shelf items” widely available or designed and built expressly for the contest only by the team members. Absolutely no adults are allowed to have anything to do with the actual design, fabrication, assembly, or flight operations of the team entry.

This year the model would be lofting two standard hen’s eggs to a top altitude of 815 feet, with each egg held sideways, and a flight time of 41 to 44 seconds. Performance targets changed as the contest day progressed. The payload and altimeters had to safely fly and land the unbroken eggs after separating from the powered section of the model. * Continued *

Major General Robert W. Claude (L) and NAR President John Hochheimer (R). Claude is the Mobilization Assistant to the Chief of Space Operations, Headquarters United States Space Force. He gave the initial welcoming talk at the onset before the contest started. He then stayed all day and was on hand for the awards ceremony. Credit: Ole Ed Pearson

Ole Ed Pearson was surrounded by United States Space Force Guardians. The Guardians performed as the Color Guard (flag bearers) during the opening ceremony. They are assigned to Joint Base Anacostia-Bolling, Washington, D.C. Credit: Selfie from Guardian (foreground)

AMERICAN ROCKETRY CHALLENGE

The American Rocketry Challenge Recap

Each segment was required to have a separate parachute and land safely. The rocket could use any combination of approved solid rocket motors with power totaling no more than eighty newton-seconds. It could have a liftoff mass of no more than 650 grams. There were other specifics of length, diameter of sections and things like rocket finish as well.

All in all, a daunting set of rules, especially since the fliers would range from 6th to 12th graders, and many had never done this rocket stuff before joining their teams!

The top Team was Boy Scout Troop #74 from Montville, New Jersey, with a combined score of 31.84 (ARC Scoring is sort of like golf, where a perfect altitude and duration would figure as a score of 0.00. If a team qualifies for a second flight, the two score totals are added together. The lowest total score wins.). The Scouts won despite fielding only two of three members and attending only their first championships. They won $20,000 and will represent the USA at the international finals during July's Paris Airshow.

Second place was Rockville Maryland's Charles E. Smith Jewish Day School, scoring just slightly lower at 32.6 points (again, a larger number means a lower place). They netted $15,000 for their work.

The top 25 teams were invited to Marshall Space Flight Center's Student Launch Initiative, where grade school and college students can fly larger rockets with more powerful motors, higher altitude targets, and complex active payloads. A very experienced cadre of NAR high power fliers is a big part of that program too.

The Aerospace Industry Association partners with us to inspire the next generation of aerospace engineers for America. This year brings the total of contestants in the program history to something like 102,000. Thousands have reportedly gone on to join the sciences and engineering fields. Some are even astronauts! Not bad for a contest that just looks like zooming fleets of flying kitchen paper tubes and raw eggs!

About 15 veterans of the ARC Finals were each presented with a large unique medallion signifying at least 20 years of service. NARHAMSters included Ole Ed Pearson, Jennifer Ash, Chris Kidwell and Alan Williams. Credit: Sally Cook

The Granite CAP squadron rocket team on Capitol Hill, May 16 meeting with Congress. The team qualified for the final round and ended up in 28th place. Credit: David Zuchero

ARC volunteers around the table from the right: George Racker/OR, Chris Flannigan/CA, Steve Humphrey/NJ, Keith Vinyard/MO, James Duffy/TX (partially obscured), Matt Steele/UT and Mark Wise/MN. Credit: Ole Ed Pearson

How Fared the Maryland ARC Teams?:

Six teams from Maryland qualified for the 2025 ARC Finals. They were: the Charles E. Smith Jewish Day School of Rockville, the Cumberland Civil Air Patrol of Cumberland, the Civil Air Patrol – Granite Cadet Squadron of Woodstock, the Explorer Post 1010 of Rockville, the Landon School of Bethesda and FIRE Rockets of Upper Marlboro.

The Charles E. Smith Jewish Day School, the Cumberland Civil Air Patrol, the Civil Air Patrol – Granite Cadet Squadron and the Explorer Post 1010 qualified for the flyoff rounds.

The final placements were as follows:

Charles E. Smith Jewish Day School	2nd.
Cumberland Civil Air Patrol	11th.
Civil Air Patrol – Granite Cadet Squadron	28th.
Explorer Post 1010	38th.
Landon School	66th.
FIRE Rockets	79th.

Arbutus Elementary School Launch

Reported by: Alex Mankevich
ZOG-43 Editor

Avid readers of the ZOG-43 know that NARHAMS regularly participates in “build and fly” sessions. The Rockville Science Day is a prime example of a “build and fly”. Readers may also be aware of another event that often takes place during the months of June through August. These happen on days when the temperature is in the middle to upper 90s and the humidity is oppressive. These are known as “fly and bake” sessions. The Goddard Contest held in mid-July at the NASA Goddard Visitor Center is the classic example of a “fly and bake”.

So, without further ado, a “fly and bake” session was held by Thomas Bagg at the Arbutus Elementary School on Thursday June 12, 2025. Mr. Bagg presented a rocket talk to the students on May 2nd. He followed up with a rocket build session on May 22nd. Fifty-eight fifth grade students ultimately flew Astra III models on A8-3 motors. Mr. Bagg allowed the students to chase after their rockets, and many were successful in catching their rocket in mid-air owing to the negligible wind conditions.

Forgive me if I forgot to mention that it was hot and humid on launch day. The launch range is actually a cluster of three baseball fields which comprise a flat, open (read: shadeless) grassland for rocket launches. Thomas set up an EZ-Up tent for his wife Johanna which served as the rocket distribution station. The school set up three additional tents to provide shade for the student modelers. The range crew smartly brought ice-cold water bottles.

Amazingly, there was only one misfire in 58 launches. We had only one airspace intrusion by a helicopter during the launch. However, three parachutes were not tied to their recovery cord, so the nose cones and rocket bodies landed as their parachutes drifted off.

Maryland Delegate Eric Ebersole representing District 44A of Baltimore County attended the launch activity. His presence was appropriate since Delegate Ebersole has a background in teaching. Mr. Bagg gave Delegate Ebersole a Crayon rocket to launch.

The Arbutus launch concluded Mr. Bagg's 2025 busy schedule of outreaches at the Westchester Elementary School, the Baltimore Lab School and the Arbutus Elementary School.

Maryland Delegate Eric Ebersole (L) at the launch rack with Thomas 'Rocket Man' Bagg (R). Ebersole's Estes Crayon rocket flight capped off the day's launch activities. Credit: Alex Mankevich

A fifth grade student zeroed-in on catching the inbound Astra III model. The lack of wind allowed many students to catch their rockets in mid-air. Credit: Alex Mankevich

Johanna Bagg watched over a portion of the 58 Astra III models which were prepped for flight. Credit: Alex Mankevich

Several of the fifth grade students at Arbutus Elementary School showed off their rockets at the conclusion of the launch. Thomas 'Rocket Man' Bagg is at the front row left. Credit: Alex Mankevich

Old National Pike District Park Sport Launch - June 2025

Reported by: James Miers
NARHAMS Section Advisor

June saw our third launch since returning to Old National Pike Park, with the added benefit now being back in Frederick County, we are allowed to set up canopy tents again. The shade they provided made the heat, 31 degrees C (88 if you prefer your degrees in F), more bearable for the forty or more people who showed up throughout the day to enjoy some quality time flying rockets. In truth, most of our guests were done and left by noon as the heat really started to ramp up – most of the afternoon's flight activity was from club members.

We set up launch operations on the track separating the park's two upper fields, which put us close to the gate and in the best position with regards to the wind, which was light and from the southwest. We did not have a single rocket come down in a tree, although a number of the smaller models got lost in the clover, so folks spent much of the morning wandering over the field in search of models. I believe most of them were eventually recovered.

We posted a range duty sign-up sheet at the login desk, and many of the twelve club members present happily volunteered an hour of their time to help out, which gave myself and the Jacksons time to get out and fly some of our own stuff.

The actual flight card count showed one hundred and four launches on impulse classes from 1/2A through G (neither of the two G impulse flights ended particularly well). We had only one multi-motored flight, a staged model flown by NARHAMS member Brett Jurd. Tom Flint posted the highest number of flights for the day at eleven total. Robin Houston got in three very impressive flights with FAI competition streamer duration rockets. We had two flights with cameras, both rockets being modified kits brought by guests, and both flown on A motors (somebody definitely wanted to get that camera back). Alex Mankevich made two night-launch qualification flights, looking forward to September. Fabrice Derullieux brought the undoubted largest rocket of the day, a beautifully finished Aerotech G-Force. Regrettably it suffered a hard landing on its second flight. A science teacher from Hagerstown, who had been in touch with me via email, came to observe our launch activities with respect to an ARC team his school is trying to put together. He talked at length with several of our club members who answered questions and gave him some valuable advice, and we launched a representative ARC model on an E28. It flew over 290 meters (or 960 feet if you prefer) with a sixty gram payload, which tells you something about how this year's contest could be flown.

It was a good day's launch for all our members present, despite the heat, and I'm sure there were a lot of kids, and their parents, too, had a great time spending the morning with us.

Launch Manger James Miers (R). Credit: Alex Mankevich

A yellow painted Big Daddy model. Credit: George Crombie

MOTOR MULTITUDES:

MOTOR	COUNT
1/2 A	8
A	16
B	33
C	21
D	11
E	8
F	3
G	2

Ice-cold ARC water bottles consumed:

20

Some of the 25 non-member modelers loaded their rockets on the launch rack. Credit: Alex Mankevich

A model made of a stack of Pringles cups took flight. Credit: George Crombie

Fabrice Derullieux's Aerotech G-Force rocket before its demise. Credit: Alex Mankevich

The placement of shade-producing pop-up tents at the check-in station was welcomed on the hot day. Credit: Alex Mankevich

Nike Missile Site BA-79 Open House - *"A Magnificent Failure"*

Reported by: Alex Mankevich
ZOG-43 Editor

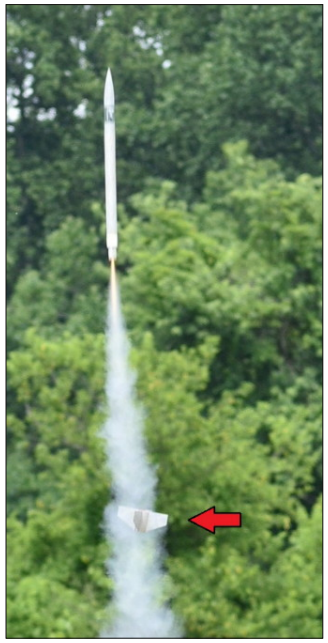
The Maryland Wing, Civil Air Patrol (CAP) collaborated with the Patapsco Heritage Greenway to host an Open House at the BA-79 Nike Missile Site near Granite, Maryland on Sunday June 22nd. The event included exhibitors, site tours and a historical video. The missile site employed Nike Ajax and Nike Hercules missiles in underground magazines to defend the Baltimore region against long range, nuclear-armed Soviet bombers. The site was active from 1954 to 1974.

The CAP originally invited NARHAMS to only provide a table display. Shortly before the event, the CAP's David Zuchero asked NARHAMS to substitute for the Civil Air Patrol Granite Cadet Squadron to do a demonstration launch. Ole Ed Pearson, Alan Williams and Alex Mankevich met to select the models, their launch sequence and narrations for their flights. The planning group was adamant that all the NARHAMS models were to land within the boundaries of the site's asphalt surface. Any models landing on the surrounding grass or drifting beyond the site's fence line would render the demo launch a failure. Ole Ed was tapped as the launch narrator.

NARHAMSters participating in the Open House were Edward Jackson, Ole Ed Pearson, Alan Williams, Michael Cochran, Chris Greco and Alex Mankevich. The CAP graciously gave NARHAMS one of its longest tables on which to display. Alan held down the fort at the display while the rest of us were at the launches. Alan noted that NARHAMS was the only non-local heritage organization presenting a display.

The Civil Air Patrol Granite Cadet Squadron advised NARHAMS on the morning of the event that they would like to perform their own demo launch after all. NARHAMS gave the cadets the 1:00 pm time slot and the NARHAMS demo launch was moved to 3:00 pm. The cadets principally launched Alpha III models. NARHAMS originally intended to launch that model, but decided to swap out the Alpha III for Edward Jackson's competition-quality helicopter model.

NARHAMS' fleet of Estes Razor, Ed Wood's Revenge saucer, Estes Destination Mars Leaper, Estes Intruder saucer and Ole Ed's Marine Corps payload model all performed and landed to the parameters determined by the planning group. However, the helicopter model flying on an 1/2A motor caught a thermal and drifted beyond the fence line. It was a magnificent flight, but since it exceeded the parameters of the planning group's objectives, the whole NARHAMS demonstration launch was declared a failure. Magnificent, yes, but a failure nevertheless.

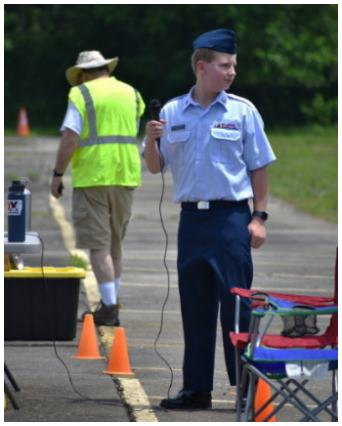


The fin unit (arrow) separated in-flight during the launch of the Marine Corps payload model. Credit: Alex Mankevich

Ole Ed Pearson (center) distributed coins to the CAP cadets that participated in their demo launch. Credit: Alex Mankevich

The NARHAMS display showcased a variety of models which represented the scale, fun, sci-fi and competition categories of model rocketry. Credit: Ole Ed Pearson

David Zuchero (pictured) built the 1/2 scale Nike Hercules on display at the missile site. Credit: Ole Ed Pearson



Cadet Dawson narrated the beginning portion of the CAP's demo launch. Credit: Alex Mankevich

Ole Ed Pearson was engaging and entertaining as the NARHAMS demo launch's narrator. Credit: Michael Cochran

Alex Mankevich (L) and Ole Ed Pearson (R) discussed the line-up of models poised on the NARHAMS demo launch rack. Credit: Michael Cochran

Real World Rocketry - April to June 2025

Reported by: Thomas Henderson
ZOG-43 Associate Editor

This article covers events from April 28 to June 25, 2025.

Blue Origin launched New Shepard booster 4 and capsule RSS First Step on mission NS-32 with six passengers to suborbital space on May 31. Passengers Mark Rocket and Jaime Alemán became the first space travelers from New Zealand and Panama, respectively. SpaceX launched new Dragon capsule Grace on private mission Ax-4 for Axiom Space with a crew of four to the International Space Station on June 25. The crew, commanded by NASA veteran Peggy Whitson, also included Shubhanshu Shukla and Sławosz Uznański, the first ISS visitors from India and Poland, respectively, as well as Tibor Kapu of Hungary.

Members of the amateur New Zealand Rocketry Association launched their Meraki II rocket to suborbital space on April 18 and successfully recovered it after a thirteen-minute flight. The launch was not reported before the previous issue of Zog-43 went to press and is therefore included here.

A Firefly Alpha rocket failed to orbit a technology demonstrator satellite on April 29 after a malfunction during staging resulted in a second-stage performance shortfall.

An ISRO PSLV rocket also failed to orbit a radar imaging satellite on May 17 due to a problem with the third stage.

SpaceX flew its Starship-Superheavy reusable rocket on its ninth test flight on May 27. The booster, the first to be re-flown, broke up during the landing burn. The orbiter achieved its intended near-orbital trajectory but lost attitude control before re-entry. Starship orbiter 36, intended for the tenth test flight, exploded on its test stand on June 18.

Space Epoch and Honda completed successful hop tests of reusable rockets on May 28 and June 17, respectively.

Also on June 17, CMSA completed a pad abort test flight of its Mengzhou next-generation crewed capsule.

Other launches included 30 SpaceX Falcon 9s, ten CASC Long March rockets of various types, three Rocket Lab Electrons, two ULA Atlas Vs, and one each of LandSpace ZhuQue-2E, Galactic Energy Ceres-1S, CAS Space Kinetica-1, Arianespace Vega-C, and Roscosmos Soyuz-2.1b and Angara-A5. The Kinetica launch was a return to flight after a third-stage failure last December.

Honda's reusable rocket lifted off on a test flight on June 17, 2025. Credit: Honda

Upcoming in July and August 2025:

- August 12: Launch of Terrier-Improved Malemute sounding rocket from Wallops Flight Facility.

- August 15: Second flight of Blue Origin New Glenn reusable rocket.

- August 17: Launch of two Terrier-Improved Orion and one Black Brant IX from Wallops.

NARHAMS Upcoming

Goddard Contest

WHEN: Saturday July 19, 2025 12 noon – 3 pm (Sorry, there is no rain date.)

WHO CAN PARTICIPATE: This event is open to the public. All model rocketeers are welcome.

COST: FREE

EVENT: This is a spot landing contest. Your objective is to launch a model rocket that comes closest to reaching the center of a circular "Moon" marked on the ground.

WHERE: NASA Goddard Visitor Center, Greenbelt, Maryland
(I-95 Exit 22A, Baltimore-Washington Parkway Exit for Route 193 East; then follow signs to the Visitor Center on ICESat Road)

AWARDS: First through fifth place trophies and model rocket kits for the top finishers in the youth division and the adult division.

REGISTRATION: Register at the launch site on the day of the launch.

CONTEST RULES:

1. The contest is open to all model rocketeers.
2. Contestants must follow the National Association of Rocketry (NAR) Safety Code
3. Modelers must provide their own model rockets, wadding, engines, igniters, and prepping tools. The Visitor Center will provide the launch equipment suitable for 1/8" and 3/16" diameter straws (launch lugs).
4. Contestants may fly either as an individual or as part of a team. Entry into both team and individual competition is not permitted.
5. Model rockets must use a single (NAR classification and safety certified) engine for each flight. "D" class engines or greater are prohibited.
6. The total weight of the model rocket with motor must be less than five (5) ounces.
7. Model rockets must pass preflight safety, motor, and weight inspections at the launch site prior to launch.
8. Model rockets must land safely and must use either streamers or parachutes or gyrocopter-type devices for their recovery.
9. Model rockets must not separate into two or more unattached parts during flight.

Greenbelt Labor Day Festival

Mark your calendar for Saturday, August 30, 2025, 10:00 am to 4:00 pm – NARHAMS has again registered for a booth at the Greenbelt Labor Day Festival Information Day. We invite members to join us there to meet the public and promote the hobby of sport rocketry, the NARHAMS club, the NAR, and the American Rocketry Challenge (ARC). And please plan on bringing models and possibly other equipment or accessories to share with the public, in accordance with the following guidelines, which are best practices for any public demonstration:

• Every rocket should be completely built and finished (paint, decals, etc.). A bit of patina or other surface imperfections are OK, even expected, but everything should be in flying condition. Certain contest models will be unpainted, but everything should appear neat and professional.

• Each rocket should tell a story. Have something interesting to say about it.

• Assume anything you bring will be handled by the public and could be lost or damaged.

• Every rocket on display should have already flown at least once.

We should have lots of variety. Some suggestions being - a few simple beginner models, Scale models, Contest models, Staged, Clustered, Payloader, Camera rocket, Flying saucer, SF/Fantasy model, Odd-rocs, Representative ARC rocket, Helicopter recovery, Rocket glider/Boost glider and Night launch model with functioning lights.

Participants do not need to spend the whole six hours there. We understand there could well be personal schedule conflicts or other reasons for arriving late or leaving early.

NARHAMS members considering attending should contact Jim Miers (miers.jc@gmail.com).

NARHAMS News

May Business Meeting

The theme for the May business meeting was a Youth Engagement Session. Alex Mankevich provided the beverages and refreshments.

NARHAMS will do a display during the Nike Missile Base BA-79 Open House in Granite, Maryland on Sunday June 22nd.

NARHAMS will host both Saturday (05/17) and Sunday (05/18) launches in May at Old National Pike District Park.

The renewal of the FAA waiver for model rocket flights at the NASA Goddard Visitor Center is in its processing stage.

The For Rocketeers of Greatness (FROG) awards for Charis and Robin Houston and for James Duffy have been made. Plans are to present the recipients with their FROG awards at the American Rocketry Challenge on May 17th.

The membership voted to approve the purchase of a new PA wireless.

Sarah Jackson (L) held up her Estes Super Big Bertha that she built in memory of Shirley Ramos. Fabrice Derullieux stood to the right. Credit: Ole Ed Pearson

June Business Meeting

The theme for the June business meeting was Level 1 Qualification. James Miers provided the beverages and refreshments.

Prior to the start of the business meeting James Miers gave a comprehensive Power Point presentation about the process of achieving Level 1 certification. James weighted the pros and cons about choosing to purchase a L1 kit or to DIY. He stressed the advantage of using the NAR website for information, specifically the check-list of tasks to be performed.

During the business meeting James Miers volunteered to be the grillmeister for the July picnic. The Jacksons will provide the meat for the hot dogs and burgers. A sign up list will be created to organize the food and commodities to be brought.

We had an on-line discussion with an educator about getting youth involved with model rocketry.

We discussed having members prepare lists of unbuilt kits that are on hand within the section. Sarah Jackson will accept the lists of kits from members to make a consolidated list.

We discussed displaying a "NARHAMS.org" banner at the monthly Goddard launches so that the visitors can learn more about NARHAMS and its rocketry programs.

We scored a donation of a pack of C6 motors from the June Goddard launch. Look for this pack at December's Holiday Party raffle.

James Miers gave a presentation about the process of achieving Level 1 certification. Credit: Ole Ed Pearson

NARHAMS Miscellanea

NARHAMS Webmaster Gets Hitched

Chris and Polina Kidwell were married on Saturday, April 26, 2025. The blessed event happened in Clearwater, Florida. We like that Chris' pink tie matched the color of the floral pattern of Polina's dress. Don't they both look radiant? Congratulations to the newlyweds! Credit: unknown

Groups.io

NARHAMS uses Groups.io to update its members regarding its activities, meetings and launches. Launch cancellations or postponements will be announced in this group.

Click this link - https://groups.io/g/narhams

If you are already a member, login to access the group.

To start your membership, click the blue button "+Join This Group" on the webpage.

NARHAMS Club Merchandise

Click this link:

https://www.cafepress.com/shop/narhams

NARHAMS has an online store for club merchandise. No more waiting for a group buy to get neat stuff for yourself. Show your pride in your club membership.

There is a huge variety of items. Shirts, hoodies, hats and more!

End your loved ones' gift shopping dilemma. Point them towards the CafePress link whenever you have an upcoming birthday, graduation, anniversary or holiday.

NARHAMS Nostalgia

The overgrown grass at the July 2019 sport launch managed to make the the tall Jim Filler look small. Credit: Alex Mankevich

The tall grass during the June 2017 ECRM framed the Eastern edge of the contest range. Credit: Alex Mankevich

As a primer for NARHAMS' return to sport launches at Old National Pike District Park (ONPDP) the ZOG-43 takes a nostalgic look back at the signature field condition of our past launches at the park.

Each Spring the upward sloping field to the East of the range head was allowed to grow wild. The grass had become waist high or even shoulder high by the months of June and July. This overgrowth was a nuisance during our East Coast Regional Meets (ECRMs), which were held on Father's Day weekend. Fortunately, the grass was normally cut in time for the August launch.

Several unfortunate modelers spent hours wading through the stalks and thickets in search of their models. An added concern was what critters were lurking out there as the modelers were traversing back and forth in the tall grass? Gnats? Stink Bugs? Bees? Spiders? Ticks? Oh, my!

Edward Jackson fearlessly waded through the tall grass at the June 2019 ECRM. Credit: Alex Mankevich

Bill Stec was able to find and recover his model from the tall grass during the July 2022 sport launch. Credit: Alex Mankevich

Lest We Forget - Otakar Saffek

Reported by: Dr. Zoran M. Pelagic
CIAM Space Models Subcommittee Chairman

Dear Spacemodellers,

Yet another sad news came in this morning, our dear friend, long time NAC (National Aeronautics Club) of Czechoslovakia (later Czech Republic) Delegate, CIAM (FAI Aero Modelling Commission) Vice-president, former Space-Modeling Subcommittee Chairman and double World Champion in S7 (scale competition), Space and Aero-modelling legend, Mr. Otakar Saffek passed away on Saturday, May 3rd, at the age of 93 years after losing his fight with a long illness.

Otakar Saffek started as an aero-modeller in the 50s, mostly specializing in control line flying. In the community there is a legend for many decades that Otakar was the first ever person to fly a looping maneuver with a F2B (control line aerobatics) model.

When the space age came in, Otakar Saffek was one of the first to start organizing people and forming the spacemodelling sport not only in his home country of Czechoslovakia, but in Europe. It was his devotion and energy that made the first ever International Spacemodelling competition - the famous “Dubnicky Maj”, held for many decades in Dubnica nad Vahom possible. Otakar became the leading person in Czechoslovak spacemodelling and served many times as team manager of the Czechoslovak team.

As a competitor he achieved two consecutive World Champion titles in S7 Scale (Vrsac 1972 and Dubnica nad Vahom 1974) with winning team gold in 1972. Both titles are even more valuable as Otakar was the first ever champion of S7 and the first spacemodeller who had defended his title.

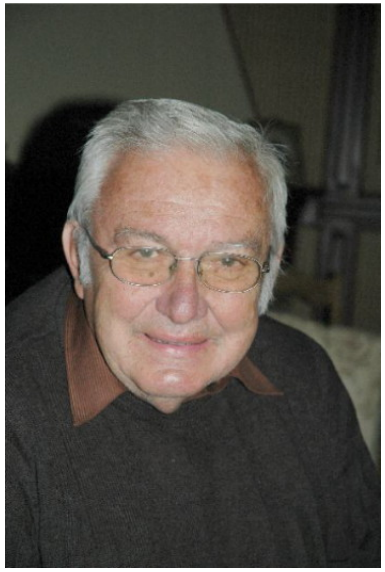
After retiring from competition Otakar Saffek continued an already perfectly started career at CIAM. For several decades Otakar held the positions of Space-Modelling Subcommittee Chairman, 3rd, 2nd and 1st Vice president, where he was active until 1996. During this time, he served at many Jury positions at numerous World and Continental Championships. His help and devotion helped to shape not only spacemodelling, but aero-modelling to the status that we have now.

By profession a journalist, Otakar Saffek was Editor-in-Chief for the famous modelling magazine "MODELAR", which helped to promote aero-modelling not only in Czechoslovakia, but as well in whole Europe as it was, and still is, a popular magazine among all aero-modellers.

For his outstanding services to CIAM, Otakar Saffek was in 1993 awarded the FAI Aero-modelling Gold Medal, at the time the 5th person to receive the award.

With his passing we didn’t just lose a friend, we also lost one of the founding members of our sport, him being the last one from former Czechoslovakia. His contribution to our sport and his devotion will not be forgotten and his work will forever be written with golden letters in aero-modelling history.

May our friend, Otakar Saffek, rest in peace in the blue skies.



Otakar Saffek in his later years.
Credit: unknown

1992 - FAI Jury L-R: Otakar Saffek (Czechoslovakia), Taras Tataryn (Canada) and G. Harry Stine (USA) at the 1992 World Spacemodeling Championships in Melbourne, Florida. Credit: unknown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