

Zog-43

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ECRM-46, 2019 CanAm Cup,
Apollo Contest,
Launches, and more...



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Zog-43
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Official NARHAMS Newsletter
Editor: Don Carson

ZOG-43 is dedicated to model rocketeers of all ages, abilities, and interest. We are committed to providing the most current, up-to-date information on model and real world rocketry, and to provide educational material, as well as, entertaining information.

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

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About NARHAMS

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

We are the oldest continuously active model rocket club in the United States, first established as a high school club in 1963, changing our name to NARHAMS when chartered as a NAR section in 1965. NARHAMS is the only seven time winner of the NAR "Section of the Year" award (1997, 1998, 1999, 2001, 2004, 2006, and 2007).

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

NARHAMS welcomes all to our monthly meetings and launches.

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

From the Editor - It Is Time To Fly Lots Of Rockets

Don Carson, NAR #11069

This year's ECRM featured 30 contestants/teams plus many more sport flyers. We were treated to a weekend of spectacular flying weather. For many, it was the last time to get in some NRC flights before the contest year ended. For others, it was a time for some last minute practice before the US Team flyoffs and NARAM. Finally, some people just enjoyed being able to fly rockets all weekend long.

We also had folks challenging the NARHAMS Wall of Daring. John Shafer and daughters Natalie and Rachel were all vying to hit the 43m target. All three did well, see the results deep in this issue.

We have a very unusual homage to the Apollo Program from a retired hobo shop owner. What he has done is simply amazing.

As is usual for this time of year, we have plenty of Sport, Outreach, and Competition launch coverage. There is also lots of news about the coming year's contests calendar, check the Competition Corner for the latest facts and rumors.

NARAM-62 will be held on the East Coast, yay! The NAR has also announced that NARCON will be in Tucson, Arizona on March 6-8, 2020. The National Sport Launch will be held May 22-25, 2020 in Alamosa, CO. Start making plans!

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

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: At the Apollo 11 Moon Landing Contest, flyer attempted to land their models as close as possible to the American flag.

Photo: W. Webster

Back cover: An FAI E-powered Radio Controlled Rocket Glider in the skies over Muncie, Indiana.

Photo: D. Carson

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Sarah Jackson

COURT JESTER (Section Advisor) Jim Miers

The 46th Annual East Coast Regional Meet ***Weekend-long Regional Contest, Sport Launch and NRC Launch***



Buf Fairchild's Estes 1/100th E-powered Saturn V.
Photo: E. Pearson



Jim Baird's upscale Interceptor.
Photo: E. Pearson



(L) Jim Filler inspects
 Glenn Feveryear's D-
 Region Tomahawk.
Photo: L. Carson

(R) Charis Houston
 prepping her
 boilerplate 2-stage
 Doorknob model
 for flight.
Photo: K. Johnson



Kevin Johnson's Father Day gift - an Estes 1/200
 Saturn V on a Quest D16-4.
Photo: K. Johnson

ECRM, Continued



Kevin Johnson chats with Dave O'Bryan, making a rare appearance at a regional, no doubt planning more FAI practice.

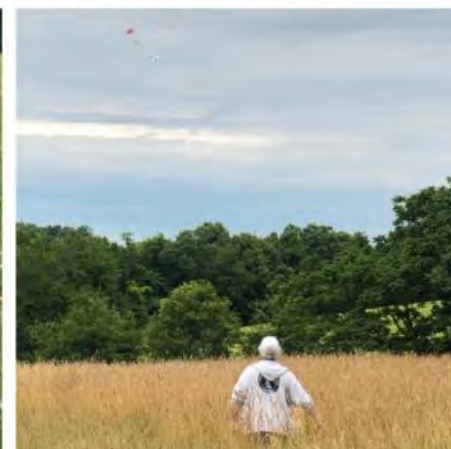
Photo: L. Carson



Esther Johnson gets a break at rocket launches. Everyone wants Pau.

Photo: L. Carson

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When Brad Grant first started in rocketry, the Estes Astron Starlight was his favorite. He reprised the model at ECRM.

Photo: E. Pearson

Sport Launch Numbers

1/8A:	2	1/4A:	0	1/2A:	6
A:	45	B:	52	C:	50
D:	15	E:	8	F:	5
		G:	0		
Cluster:	0	Staged	14		

ECRM, Continued



Scott Alexander watches his 1/2 BG arch skyward.
Photo: L. Carson



Mark Wise and Jim Filler keep a watchful eye on the range.
Photo: L. Carson

(R) Them Filler Boys
have got this covered.
Photo: L. Carson



Cumberland Ed is go for launch, while the Shafer sisters await their turn.
Photo: L. Carson

ECRM, Continued



Recovering a Rocket: from digging pieces of Glenn Feveryear's Apollo Command and Service Module Plastic Model Conversion out of the dirt...

Photo: L. Carson



To searching the tall grass...

Photo: L. Carson



To retrieving them from tall trees. Hey wait, is that a pruning saw duct taped to the top of the recovery pole?

Photo: L. Carson



Buff Fairchild emerges from the weeds victorious with his Estes Tomcat.

Photo: E. Pearson



Murphy's Lawyers' Steve Humphrey preps his B Payload bird.

Photo: L. Carson



Scott Alexander and Bruce Canino on break.

Photo: L. Carson



Johnny Rocket Glider, planting gliders across the continent, hoping to grow a forest of them from sea to shining sea.

Photo: L. Carson

Continued next page

ECRM, Continued



Sometimes it takes a family to raise a rocket.
Photo: L. Carson



Ole Ed downsized his hat collection with a giveaway of rare and collectible rocket competition hats from around the world.

Photo: L. Carson



Ole Ed got some flying in too!

Photo: L. Carson



There was the traditional feasting.
Photo: L. Carson



Maddie is delighted to be bringing home the gold.

Photo: L. Carson



And this is how it begins.

Photo: L. Carson

Continued next page

ECRM-46 Meet Champions

Place	Contestant	Number	Total Points
A Division			
1	Stokker, Maddie	103403	40
2	Feveryear, Noah	99730	25
B Division			
1	Alexander, Sarah	88663	17
2	Houston, Charis	103205	0
C Division			
1	Stokker, Alan	100432	102
2	Feveryear, Glenn	24931	59
3	Canino, Bruce	39989	52
3	Bock, Gregory	44161	52
4	Giugliano, Ed	23456	38
5	Alexander, Scott	84112	26
6	Shafer, Rachel	95758	25
7	Wise, Mark	34702	21
8	Williams, Alan	14137	20
9	Shafer, Natalie	95759	17
10	Shafer, John	99360	10
11	Dall, Betty	99808	8
11	Pearson, Ed	5694	8
12	Jackson, Ed	99776	2
13	Jackson, Sarah	101372	1
13	Miers, James	60876	1
13	Fineran, Ellen	96977	1
14	Carson, Donald	11069	0
14	Grant, Bradley	85260	0
14	Jackson, Tom	101538	0
14	Mankevich, Alex	86018	0
14	Pena, Raul	88644	0
D Division			
1	Murphy's Lawyers	788	115
2	Them Filler Boys	043	82
3	The Flying I-Beam Kids	473	42
4	QFPB	413	0

1/4A Helicopter Duration

Place	Contestant	Number	Flight 1	Flight 2	Total	Points
A Division						
--	Stokker, Maddie	103403	ROT	UNS	0	0
C Division						
1	Stokker, Alan	100432	27	31	58	25
2	Feveryear, Glenn	24931	15	19	34	20
3	Bock, Gregory	44161	17	16	33	17
4	Giugliano, Ed	23456	9	12	21	14
D Division						
1	Murphy's Lawyers	788	12	24	36	25
2	Them Filler Boys	043	19	13	32	20

Open Spot Landing

Place	Contestant	Number	Flight 1	Flight 2	Total	Points
A Division						
1	Feveryear, Noah	99730	6.52		652	25
2	Stokker, Maddie	103403	7.44		744	20
B Division						
3	Alexander, Sarah	88663	50.0		5000	17
C Division						
1	Shafer, Rachel	95758	5.5		550	25
2	Williams, Alan	14137	8.05		805	20
3	Shafer, Natalie	95759	9.99		999	17
4	Feveryear, Glenn	24931	10.72		1072	14
5	Stokker, Alan	100432	10.98		1098	12
6	Shafer, John	99360	11.49		1149	10
7	Pearson, Ed	5694	12.72		1272	8
8	Giugliano, Ed	23456	13.37		1337	6
9	Wise, Mark	34702	15.17		1517	4
10	Jackson, Ed	99776	15.47		1547	2
11	Jackson, Sarah	101372	16.8		1680	1
12	Bock, Gregory	44161	18.66		1866	1
13	Canino, Bruce	39989	19.78		1978	1
14	Miers, James	60876	27.5		2750	1
15	Alexander, Scott	84112	50.0		5000	1
15	Fineran, Ellen	96977	50.0		5000	1
--	Dall, Betty	99808	NEJ		0	0
--	Grant, Bradley	85260	EJ		0	0
D Division						
1	Murphy's Lawyers	788	6.33		633	25
2	Them Filler Boys	043	14.97		1497	20
3	The Flying I-Beam Kids	473	50.0		5000	17

A Boost Glider Duration

Place	Contestant	Number	Flight 1	Flight 2	Total	Points
A Division						
6	Stokker, Maddie	103403	8	18	26	10
C Division						
1	Alexander, Scott	84112	48	61	109	25
2	Stokker, Alan	100432	44	46	90	20
3	Wise, Mark	34702	44	32	76	17
4	Bock, Gregory	44161	44	RB	44	14
5	Canino, Bruce	39989	13	22	35	12
7	Feveryear, Glenn	24931	25		25	8
8	Giugliano, Ed	23456	10		10	6
--	Carson, Donald	11069	NG		0	0
D Division						
1	The Flying I-Beam Kids	473	NG	76	76	25
2	Murphy's Lawyers	788	UNS	75	75	20
3	Them Filler Boys	043	UNS	35	35	17

B Payload

Place	Contestant	Number	Flight 1	Flight 2	Total	Points
A Division						
6	Stokker, Maddie	103403	145		145	10
C Division						
1	Stokker, Alan	100432	258		258	25
2	Bock, Gregory	44161	215		215	20
3	Feveryear, Glenn	24931	UNS	213	213	17
4	Canino, Bruce	39989	195		195	14
5	Giugliano, Ed	23456	181	159	181	12
7	Dall, Betty	99808	126		126	8
--	Carson, Donald	11069	UNS	UNS	0	0
D Division						
1	Them Filler Boys	043	269		269	25
2	Murphy's Lawyers	788	178	191	191	20

Plastic Model Conversion

Place	Contestant	Number	Prototype	Static	Flight 1	Flight 2	Total	Points
C Division								
1	Canino, Bruce	39989	Jupiter-C	460	90		550	25
2	Stokker, Alan	100432	Moon Liner	420	110		530	20
--	Feveryear, Glenn	24931	Apollo Spacecraft	725	UNS		0	0
D Division								
1	Murphy's Lawyers	788	A4-B	500	90		590	25
--	Them Filler Boys	043	F-104	525	UNS	UNS	0	0

Apollo 11 50th Anniversary Moon Landing Contest

The Date: July 20, 2019

The Place: Goddard Space Flight Center

Attendance: 302 adult visitors and 120 youth visitors.
44 First Time Flyers!

The Competition: 106 flights (111 competitors), 39
flights landed inside our "Moon" circle

Seniors - 37 Flyers

Winners:

1. Evan Bestie - 2.15 m
2. Ed Fatula - 3.76 m
3. John Shafer - 4.39 m

Juniors - 74 Flyers

Winners:

1. Alex Fatula (dad was second for seniors) - 4.21 m
2. Talon Hoover - 4.61 m
3. Hunter McCracken - 6.1 m



Mearsuring from the Landing target.

Photo: W. Webster



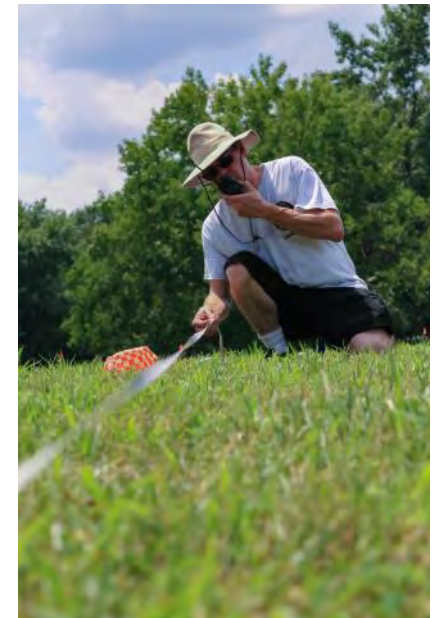
Rockets in the foreground and rockets in the background.

Photo: W. Webster



Hopes and dreams riding on a colorful rocket.

Photo: W. Webster



Radioing the results in.

Photo: W. Webster

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Apollo Contest, Continued



Senior Winner Evan Bestie.
Photo: A. Mankevich



All the winners with their trophies.
Photo: A. Mankevich



Junior Winner Alex Fatula.
Photo: A. Mankevich



Juniors loading a rack up.
Photo: E. Pearson



A wide view of the contest range during the March Through Time demo launch.
Photo: A. Mankevich



Charis Houston tries her hand at local competition.
Photo: W. Webster

Continued next page

Apollo Contest, Continued



Local CAP squadron members performed color guard honors during opening ceremonies.

Photo: E. Pearson



The team relaxes before the start of the event.

Photo: S. Cook



Closeup of Lunar diorama designed/made by Bill Boublitz and Bruce Mitchell.

Photo: E. Pearson



Drifting with the wind.

Photo: W. Webster



Contest Director Jim Filler addresses the audience prior to handing out the prizes and trophies.

Photo: A. Mankevich

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Apollo Contest, Continued

A Letter to the Editor re the Moon Landing Contest

Dear Editor:

Am trying to choose to be happy and not proud (a deadly sin) with the club at Goddard's (our) annual Apollo contest.

Arrived there to see the completed range setup. It was sweet. The addition of the water station was welcome and prescient.

The number of club members/volunteers who showed gratified. And we had at least four travel from Pennsylvania and New Jersey (to help not fly). They worked behind the scenes to prepare (making/getting giveaways, acquire equipment, advertise the event, setup and breakdown) and at spear's tip—doing an incredible job there with the public.

The organization and execution was awesome, and diligence was required for success. The meet ran like clockwork completing on time, with public talks buying time for range breakdown, prize setup and result tabulation. We finished ahead of schedule by two minutes!

It was a hot contest—in the low 100s. I sort of remember Jim saying it hit 108. This number refers to the number of contestants.

Jim refers to Jim Filler who stepped up again to be Apollo Contest CD. He too is like the tip of the spear—leading two dozen of us—a team paying forward.

This was for praise and appreciation, and generalized not to spoil the Apollo Contest article. But I will say, a day later reflecting on the observations and outcomes, I am happy and also very proud of NARHAMS.

Sincerely,

Ed Pearson





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Outreach: Swansfield Elementary School Launch of May 2019

By: Alex Mankevich – NARHAMS President

Model rockets were flown again by the fourth grade class at the Swansfield Elementary School in Columbia, Maryland after a one year hiatus due to school renovation. Marolene “Laine” Malcotti, a GT Resource teacher, spearheaded the efforts to organize this launch day and to procure the rockets and their necessary components. Alex graciously accepted Laine’s invitation to speak to the entire 4th grade in their auditorium about rocketry, space travel and the wonders of space exploration. The launches followed Alex’s Powerpoint presentation.



launch range. A nearby hospital sometimes generates medivac helicopter flights, but there were no helicopter excursions happening on this day.

The Starhawk is a forgiving model rocket and it can accommodate a minor amount of fin unit or motor mount misalignments, and yet can still produce a stable flight. This nature of the Starhawk factored into the day’s launch as one entire class managed to

glue the fin unit so that the engine hook rested in the one-piece fin unit’s built-in launch lug. Fortunately, Alex was able to “break the glue” and reposition and secure nearly all the misaligned fin units so that the launch rod could slide through the launch lug.

A Swansfield Elementary School launch is similar to a TARC launch in that the scheduled events happen at their scheduled times. The classes of students will arrive at the launch range at their appointed times. If a class had its launches concluded ahead of schedule, there is no “getting ahead”, since we wait for the next scheduled class to arrive at its scheduled time. A lunch



break is factored into the schedule. Laine graciously sponsored lunch for Alex. The imperative aspect of the day’s action is that all the launch activity must conclude by 3:00 pm in time for the students to catch their bus rides home.

The students actually constructed their rockets weeks ahead of the launch date. Laine was assisted by Tara Diventi to perform the final preparation of the students’ 113 rockets by installing the motors, recovery wadding and igniter wires. The rockets were organized into several boxes that were sorted into the individual 4th grade teacher’s classes.

Launch day on May 22nd offered no threat of rain (thankfully) and we had very little wind. Practically all the rockets were Quest Starhawks flying on an Estes A8-3 motor with streamers as their recovery device. The System 2 launch rack and PA system were pressed into service for this launch.

The Swansfield launch range is in the flight path of airplanes descending into BWI-Thurgood Marshall airport. Frequent launch holds were called to allow several 737 jets to clear the airspace above the



After the smoke had cleared and the blast deflectors cooled down, it was a pleasure to hear some of Laine’s fellow teachers complement her on all of her efforts to make launch day happen. All the teachers agreed that the students were very excited about the model rocket launch. Alex later received a space-themed “thank you” card from Laine and Tara for his efforts.



2019 CanAm Cup Milestones

By Ed Pearson

Every contest has high points. Here are four highlights from the CanAm Cup, June 7-9, 2019, Fremont, Michigan and the Muskegon Waste Water Treatment Plant. (Disclaimer: Some subjective content).

New Sheriff in Town. Taras Tataryn (Canada) has been an FAI judge in all 13 previously held or attempted U.S. world cups since 2007⁽⁴³⁻¹⁾. But that has not been his first choice; he would rather have been a contestant. Taras has refereed the cups to meet the FAI requirement of having judges from at least two different nationalities. For this meet Saverio Prato, also of Canada, stepped up and spelled Taras as judge. Saverio ably handled the job with aplomb (yeah, some dinosaurs still write this way). He was alongside two U.S. judges. Well, how did Taras do?

There were seven scheduled events⁽⁴³⁻²⁾. Taras entered five and achieved high honors in four (two firsts and two seconds). He was declared meet champ.

Also notable was the efforts of Drs. James Gearhart (VA) and Steve Kristal (MI). James took second or third place in all five events he entered, and Steve took a first, a second, and a third in the official events he entered.

Official Events? CanAm scheduled scale modeling (S7) as an event. This was a first for any U.S. World Cup. Alas, only U.S. competitors entered the event, so scale fell short of the requirement of having competitors from different nationalities. Since bad weather was forecast for Sunday's time slot (correctly by-the-way), scale was not flown,

Continued next page



Bob Zurek of Illinois (left) and Matt Johnson (Ohio) time an S3-parachute flight. Photo: E. Pearson



Matt Steele (left) of UT launches his S6 (streamer duration) while RSO Brian Muzek (AL) judges the flight.

Photo: E. Pearson



Chris Flanigan (left) of CA launches an S9 (helicopter) model as onlookers watch.

Photo: E. Pearson

CanAm, Continued

just shown, and thus was unofficial.

(R) Static judging of scale Sat night at contest hotel in Fremont, MI. Chris Flanigan puts nosecone on his model. Curiously, three of the four models used Indian prototypes.

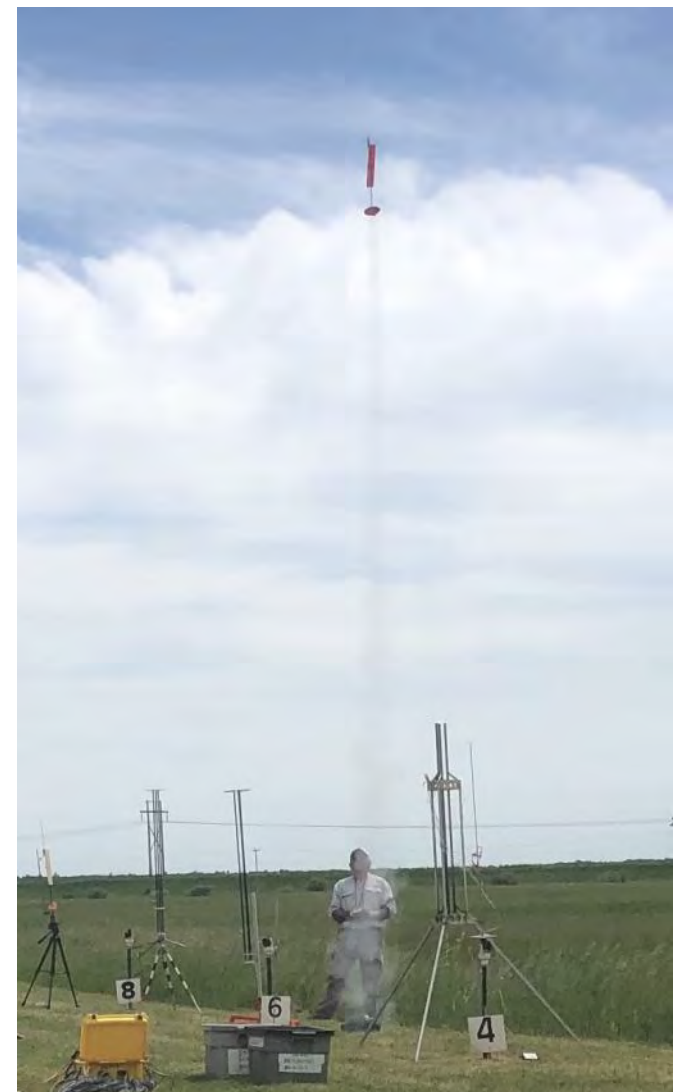
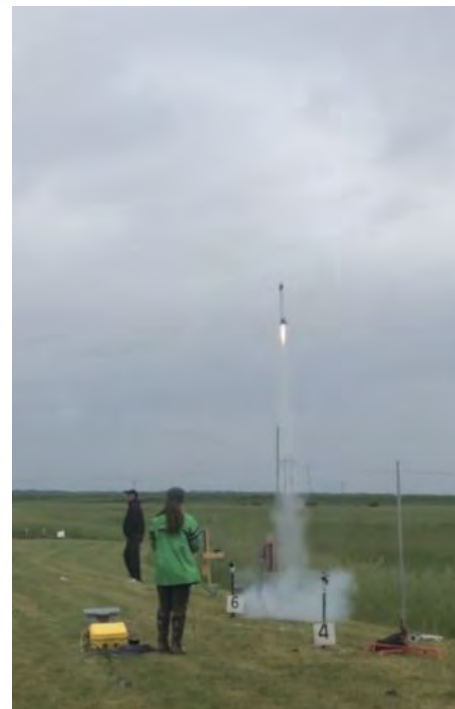
Photo: E. Pearson

The scale entries deserve recognition. Dr. Mike Nowak (of Ohio and CanAm's organizer) entered a Saturn V model, which would have been first in static judging if the event was official. Chris Flanigan (CA) brought a PSLV-C35 (model of an Indian vehicle that put two satellites in different orbits on the same mission). Dr. Steve Kristal also modeled an Indian rocket—SLV3-E2 (first Indian designed launcher to put a spacecraft in orbit). Trevor Harrison scaled an Indian Rohini RH-75 sounding rocket. Trevor, who was on last year's U.S. World's team, was one of two Junior Division CanAm entrants.

The Other CanAm Junior. Rebecca Zurek made her first FAI contest appearance. She hails from Illinois, is a high school junior, and learned of spacemodeling (the FAI euphemism for international-contest model rocketry) at a NARCON. Any growth (new participation) in U.S. spacemodeling, particularly new juniors, deserves recognition and is appreciated. Rebecca entered four events. Kudos too to her dad, Bob, for supporting Rebecca's rocketry interest.

Kudos to Ryan Too! The E-powered radio-control rocket glider event (S8E/P) was almost unofficial—only two Canadian flyers. But Ryan Woebkenberg took a chance the rain-threatened event would be held, got up in Indianapolis and was on the road to Muskegon at 4 a.m. Sunday morning. Ryan arrived in time. Rain barely held off and with multiple-country participation, the event was held. Ryan then earned first place after four rounds. His competitors were Richard Duczmal and Kevin McLeod.

The dramas of E-rocket glider and scale, the participation of a new junior, and Taras's contest flying show that U.S. Cup-Spacemodeling is still tenuous and in its infancy—despite a dozen years experience. Hats off to everyone



Taras Tataryn of Canada launches his S4 (flop wing/swing-wing rocket glider) garnering in a second place. Taras ended up as meet champ though.

Photo: E. Pearson

(L) Rebecca Zurek (IL) launches her S2/P (egglofter) in the Junior Division.

Photo: E. Pearson

Continued next page

CanAm, Continued

involved and that means to Mike, his family, the SMASH NAR-section, the contestants, and volunteers (e.g., the Ha's drove in from Indiana to help) to make CanAm possible. It took everyone to have CanAm occur.

Note that the waste water plant (contest site) Director made a surprise visit to watch and ask participants questions. Contest results can be viewed at the Cupnavigator.com website.

Footnotes:

⁴³⁻¹ Six Capitol Cups, three Great Lake Cups, the first three CanAm Cups, and an Arizona Cup attempted earlier this year.

⁴³⁻² S2/P, S3A, S4A, S6A, S8E/P, S9A and S7.



Dave OBryan launching his first place streamer duration model. Rebecca Zurek and Brian Muzek looking on.

Photo: E. Pearson

Misty...Lucy Prato (left) guides pilot Richard Duczmal (Canada) over uneven territory during his S8EP (E RC glider) flight. That haze is residue exhaust gas from the boost..

Photo: E. Pearson



The S8EP contestants: (L-R) Richard Duczmal, Ryan Woebkenberg (IN), and Kevin McLeod (Canada).

Photo: E. Pearson

The 19th Steel City Smoke Trails Contest

By Jim Filler

Photos: J. Filler

SCST-19 was held near Grove City PA on June 1st & 2nd. As always it was hosted by NAR Section Pittsburgh Space Command. Contest events flown were; NRC; 1/4A Parachute Duration(PD), A Boost Glider(BG), B Payload Altitude, B Eggloft Duration; and C Rocket Glider(RG) Multi-round, which is not an NRC event but is a NARAM 61 event. Sport flying is also a part of the weekend.

NARHAMS members Mark Wise, Jennifer Ash, and Matt & Jim Filler attended. Jennifer flew as QFPB (Qualified Flight, Pool, then Beverages) team, or as I call them the peanut butter team. If you want to know what it really means, ask Jennifer. :-). Conditions on Saturday were windy and hazy. QFPB placed second in 1/4A PD, third in B Payload, and third in A BG. Mark flew in one NRC event, A BG and placed third in C Div. Matt & Jim flew as team Them Filler Boys. Having completed the max score for 1/4A PD last fall at Ramtec, we decided not to fly that event at SCST, but fly C Eggloft altitude for NRC since we had no score for that event on the national scoreboard. See the link here: <https://www.nar.org/nrc-scoreboard/>

Anyone that has been to that field knows it is a good size field. I would say bigger than Great Meadow in size by a small margin. Them Filler Boys took 4 tries to get a score in this event after also failing at Ramtec last fall. Flying the new Quest Q-Jet C12 motor off of a piston these things are launching like cannons to what appears to be a great altitude. I can't tell for sure because we keep overflying the fields to get one back to read the altimeter. On the last try we decided to fly a C6-5 with a smaller chute and were able to get a returned flight. Them Filler Boys did not fly C RG with conditions being windy. We did manage to finish first in A BG, B Payload Altitude and B Eggloft Duration in team division.

Mark and Jennifer also both flew a number of sport flights because rocketry is fun damn it!!! Jim Filler flew his Cineroc 808 clone camera on top of a Deuces wild with a pair of Quest C6-3's, the Chinese made motors that are smoky. Here is a link to the video (<https://youtu.be/4qkW071gtO8>). Are you interested in buying one of these cameras that is ready to fly? Just contact Jim.

A storm came through Saturday night after the flying was done. This left an already muddy field what I call soupy on Sunday. A group of us went out to dinner on Saturday night at a great new place in Grove City called Timber Creek. Sunday flying was stopped for about 30 minutes with a rain cell pushing through. We wrapped up flying and the meet CD announced the results and handed out trophies for meet winners and some kits for door prizes. Thanks to PSC, Rod Schafer the CD and Steve Foster our hosts.



The Flying I-Beam Kids.



Bruce Canino preps his C Rocket Glider.

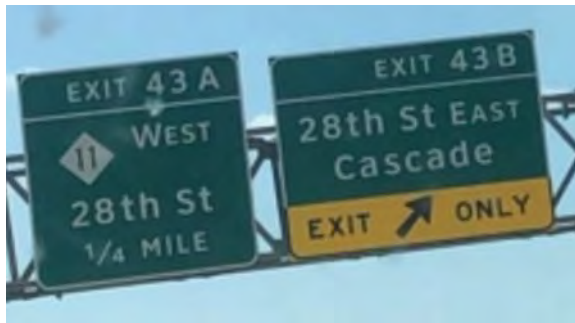


The NARHAMS' tent.

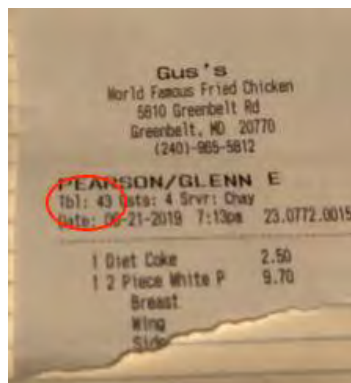


Bubbles everywhere.

More 43 Sightings



On the road to the CanAm Cup with Dave O.
Photo: E. Pearson



Jef and Ellen Fineran set a date with Diane and me to eat. We go to Gus's - a chicken (spicy) place and talk about rockets. A week later I am reconciling the bill with my statement and see we were sitting at table 43. Small world - note they only have seven tables.

Photo: E. Pearson



Breakfast at SCST-19.
Photo: J. Filler

NARHAMS' Jim Filler Makes and Sells a Cineroc (Video) Camera Clone!

Jim makes these in small batches and plans to have more ready to sell on Ebay after NARAM. Drop him an email if you are interested and he will send you a link when he has more ready.



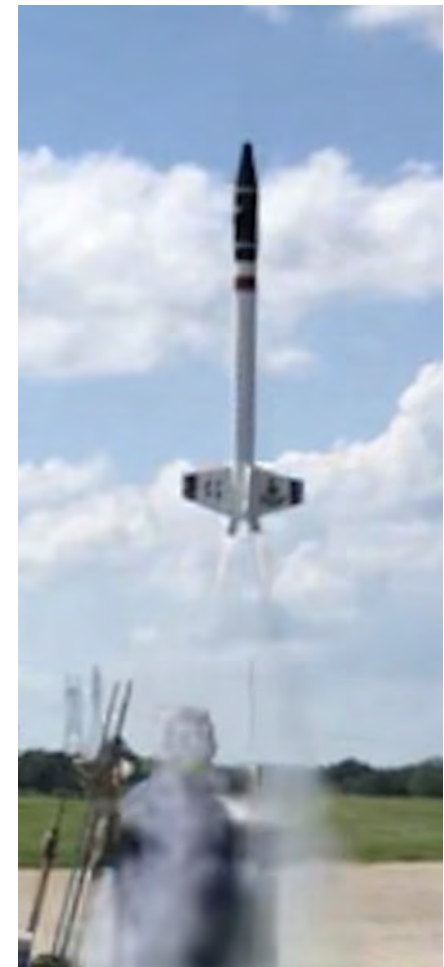
Looks like the real thing, but its better!
No film to develop.



Expanded view of the Clone.



Close up of the Video camera.



**Sample Video
Click Here**



July 2019 Mt Airy Sport Launch



(L) Buff poses with his Saturn V model in tribute to the Apollo 11 50th anniversary.

Photo: A Mankevich



(R) Faye Stec of Pennsylvania watches her B6-4 "Hello Dragon" model (a pink Estes Dragonite) lift off.

Photo: E. Pearson



Chris Greco poses with the upper stage of his Rheintochter rocket. Its flight was spectacular.

Photo: A Mankevich



The peanut gallery of launch spectators swelled with the addition of the students from the National Student Leadership Conference.

Photo: A Mankevich



A special visitor - Allen Gardenghi.

Photo: E. Pearson



NAR #308

Allen Gardenghi's triple digit NAR Membership Card.

Photo: A Mankevich

Continued next page

July Sport Launch, Continued



(L) The Filler Boys ready a ¼ A helicopter duration test flight. (R) Jim Filler retrieves his helicopter model in the tall field grass east of the range head.

Photos: A Mankevich



Alan Williams (R) reads Rachel Shafer's altimeter. Rachel was shooting for a 43 m altitude to put on the Wall of Fame. Her "Ironman Mark 48" (own design) reached 42.6 m. Natalie Shafer (middle) observes.

Photo: E. Pearson



Tom Benvengi and his Saturn V model, a tribute to the Apollo 11 50th anniversary.

Photo: E. Pearson

(L) A Saturn V model goes a bit less than nominal.

Photo: A Mankevich

Toothpick Model of the Saturn V, Launch Umbilical Tower and Crawler-Transporter by Greg Kelly, Photos: D. Kelly

By Alex Mankevich - NARHAMS President

Earlier this year as the promotion of our 2019 Apollo Contest got underway, spaceflight enthusiasts from across the country became aware of our plans for celebrating the 50th anniversary of the Apollo 11 mission at the NASA Goddard Visitor Center.

Cate Maynard, the Tour Coordinator and Scheduler at the NASA Goddard Visitor Center sent out a list-serve message to those who follow the GSFC Visitor Center happenings. As a result, she shared with NARHAMS an email that she received from model maker Greg Kelly of Minneapolis, Minnesota. Greg had run a hobby shop in California for over four decades, and later retired to Minnesota. Cate shared Greg's email with us, which reads as follows:

"Hi Goddard Space Center,

Just saw the contest for landing close to the moon. Wish I were there participating. I designed many rockets. Even a football rocket. Jerry Rice would have had a hard time catching it. I ran my legendary Kelly's Hobby Shop in Tustin, Ca. for 43 years. I taught model rocket classes to 100's of kids. I am all



Greg Kelly detailed the Saturn V S-1C first stage by carving its 'USA' lettering.



Greg concentrates on the structural support tubes of the launch escape tower. Another of Greg's toothpick models is the pink 'Peppermint Twist' seen the background.



Modeler Greg Kelly poses with his completed Saturn V - Launch Umbilical Tower - Crawler-Transporter toothpick model.



The Saturn V model build began with the construction of the five F-1 engine nozzle extensions.



excited about the 50th Anniversary of Apollo 11.

I made this launch complex from 1,000's of toothpicks. It is static, showing interior views of the Saturn V motors.

Hope you have a great contest!

AO-K.

Greg and Dana Kelly Minneapolis".

Mr. Kelly has crafted numerous small-scale replicas of several subjects including local landmarks. He has earned widespread admiration for his replica of the U.S. Bank Stadium at which the Minnesota Vikings play.

Greg started the Saturn V - Launch Umbilical Tower (LUT) - Crawler-Transporter project at the beginning of October 2018 and finished at the end of March 2019. He spent an average of two hours a day, clocking in about 60 hours per month and estimated that he ended up totaling 360 hours of build time. Greg mostly used Tacky and

Continued next page

Goddard Protocol, Continued



A close-up view detailing the track's tread shoes and one of the two control cabs on the Crawler-Transporter.

Titebond Quick & Thick as his mainstay glues. All the photos accompanying this article were taken by Greg's wife Dana.

He built the Saturn V first - an overwhelming project. But, what the heck, it was the start of a cold, dark Minnesota winter. Greg started with the F-1 engines nozzle extensions. The scale is a little smaller than N gauge. The escape tower was extremely difficult to make. Greg had to sand and shave the toothpicks to achieve exact sizing.

After the Saturn V was completed, Greg went on to constructing the Launch



(L) The internal framework of the Launch Umbilical Tower includes the elevator shaft which rises to the top.

(R) The five J-2 engine nozzles of the second stage are seen at the top and the five F-1 engine nozzles of the first stage are seen anchoring the base of the in-progress Saturn V model.



The crawler-transporter was made from a wooden vegetable crate which was clad with very smooth cardboard. The individual tread shoes were painstakingly carved.



Greg is pictured placing one of the eight tracks on the crawler-transporter. The treads were made from carved wooden coffee stirrer sticks.

Umbilical Tower (LUT). He first made the boxes, then the internal framework and then the elevator which rises to the top. Extra special care went into making the tower's extender arms. They were made from cardboard cereal boxes, then painted with a flesh shade to most resemble the shade of a toothpick. He also used a lot of bamboo skewers for the box sides and horizontal members.

Finally, construction began on the crawler-transporter. Greg used a wooden vegetable crate for the container, then clad it with very smooth cardboard. He recessed out the area for mounting the Saturn V rocket. The underside of the crawler was practically another model, as it was separately built. The crawler's treads were made from wooden coffee stirrer sticks - each one cut with a very sharp single edge razor blade (Greg's favorite tool,



by the way). Finally, the crawler's two control cabs were added. There is one cab placed on each side of the crawler.

Close examination of the Apollo-themed model reveals the detail Greg put into the Saturn V fins, engine fairings, nozzle extensions and the Launch Escape System (LES). Greg states that you can see through the model to view the inner details of the J-2 and F-1 motors.

The Launch Umbilical Tower (LUT) depicts its service (extender) arms and at its top you can view the heavy-duty crane. The elevator shaft was included at the tower's center. The tread belt "shoes" on the crawler-transporter tracks were painstakingly detailed. Greg added artistic flourishes in the form of a carved Apollo 11 mission patch attached to the crawler-transporter and 'Old Glory' placed on top of the LUT's crane.

Greg and Dana are so happy to hear of NARHAMS' interest regarding Greg's project. They both express their hopes that NAR members will love his tribute to the 50th Anniversary of Apollo 11.



Greg Kelly takes the completed three-section model out of its Vehicle Assembly Building (Greg's home).

Annual July Cookout Meeting Highlights

By Ed Pearson



Top row: The July meeting is typically a cookout/potluck-dish get together. Jim Miers did the grilling; Jim Filler showed his scale models intended for the Goddard Apollo contest.



Bottom row: We discussed/showed souvenir lanyards for the contest (Alan Williams and Jim Baird shown); we also discussed an errant flight at ECRM; Mary McCoy and Diane Pearson enjoy a lighter moment..



Outreach: Westchester Elementary School Launch Report

By: Alex Mankevich – NARHAMS President

Tom and Johanna Bagg again lead the students in their annual model rocket launch at the Westchester Elementary School in Catonsville, Maryland. It was a pure pleasure to see and to talk with Johanna following her stroke earlier this year. Johanna is making good progress under Tom's care, so she was able to sit in the sun and take in all the launch activity on May 24, 2019.

Launch day was sunny and warm. However, the persistent wind decided it wanted to play the part of spoiler. Alex combated the wind's intention by bringing along his anemometer field unit. Although we never measured a wind speed exceeding 12 mph, a persistent 8 mph wind needed to be dealt with. Tom had directed us to set up the launch range deeper into the field than we normally do, in anticipation of what the wind would do to the inbound, featherweight rockets.

Tom brought out System 3 along with an "Alan Williams" style of a hand-held portable PA system. This worked out well, although Alex had the System 2 PA system standing by in reserve. Tom's friend Steve Parkhurst was on hand to perform the altitude tracking of all the flights. Tom starts off the Westchester Elementary School launches with a stern warning to the students about paying attention to the launch activities. Tom takes his range safety seriously, and the students are to pay attention to his instructions for loading their rockets onto the launch rack and for their conduct around the launch control panel.

About 100 Estes Alpha III models had been prepped to fly on A8-3 motors. Tom's tradition is to reward the teachers with their own launch of one of



The students get to launch their own rocket at the control panel under Tom's close supervision.

Photo: A. Mankevich



Just a thought here – maybe we could have synchronized launch lug sliding as an ECRM event next year?

Photo: A. Mankevich



Johanna (background) was well enough to soak in some sun and to take in the launch action.

Photo: A. Mankevich

Outreach, Continued

his personal rockets. A student chosen by the teacher served as a “runner” to retrieve the rocket after its flight.

The previously mentioned wind was determined to be pesky. All the Alpha IIIs descended on parachutes. Practically all the descending rockets drifted the entire length of the considerably spacious launch range, and some even went beyond. “Beyond” is a euphuism for the poison ivy-infested trees. Nevertheless, most of the students were very excited. Many of the students were noisily cheered on by their fellow classmates.

Tom manages launches that are infectiously upbeat and exciting. Another upbeat note to a Westchester Elementary School launch is the gourmet sandwiches the school provided as a reward for our launch efforts.



Tom Bagg personally checks over each of the constructed rockets. Here the queued rockets are lined up waiting their flyers to take them to the launch rack.

Photo: A. Mankevich

June 2019 Goddard Launch - Cancelled By: Ed Pearson

Once again, there was no waiver for the launch. We don't know why. The consequence of disappointing hundreds of people (Julie of the VC said 200) was evident. One was a lady crying because her grandson could not launch, that was unexpected. A first for me; I've experienced anger—but not the tears, and we didn't have an answer.



Alex provided a presentation for the folks who stayed.
Photo: E. Pearson



Visitors, Gabe and younger brother, Bear, hold Saturn V models they made.

Photo: E. Pearson



A pretty full lot. Plenty of people came to launch and watch.
Photo: E. Pearson



(L-R): Wayne Gordon, Alex Mankevich and Michael Cochran.
Photo: E. Pearson



June Meeting Highlights

By Ed Pearson



NARHAMS met June 1 at the College Park Airport. We talked about TARC, Goddard launch protocols, ECRM, the Apollo contest, and showed giveaway lanyards and water bottles. Alex showed a presentation dollar case he made to support the Apollo contest as prizes.



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.

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

July 2019 Goddard Launch Report:

By Alex Mankevich



The Goddard Range Crew intrepidly set up shop on a muggy, hot (i.e. typical) mid-summer's day at the NASA Goddard Visitor Center. June's launch was cancelled due to the unavailability of the FAA waiver required to permit model rocket launches in the Capital region's flight restricted zone. So, once again we tried to kick off the start of what we hope to become our first two-consecutive-months' launches at Goddard for this year.

We knew in advance that we would have to shuffle our range crew's responsibilities since Sarah and Ed Jackson would not be available for this launch. Alex noted that Ole Ed Pearson looked "tanned, rested and ready" at the NARHAMS' annual summer picnic the night before. So, it was an easy pick to do an "Ed-for-Ed" swap for Firing Officer and launch narration duties.



John Bonk produced this patriotic-themed Mosquito to celebrate Independence Day.

Photo: A. Mankevich

Mike Cochran brought along his son Ian, so that was a much-appreciated addition to our crew. Ian is a veteran of numerous Goddard Launches. Ted Cochran's presence meant that we had an experienced hand at the Safety Check-In station. Jim Miers had assured us that he would be in attendance for this launch. Alex flittered about doing the event photography, launch pad assistance and minor repairs at the Safety Check-in Station.

We had a valid FAA waiver in place for this launch. All the launch and PA system equipment performed flawlessly. The weather had predicted storms for the afternoon hours, but as it turned out, the rains did not arrive until after the launch had concluded. The winds were very light, so the landing zones for the in-bound rockets were somewhat erratic.

Ole Ed completed his Firing Officer duties about 1.5 hours into the launch. Jim Miers was then recruited to fill Ed's shoes. Jim fearlessly took to the microphone and control panel. It was apparent that Jim



(Above) Several rocketeers are seen waiting in queue in front of the four-stage Javelin sounding rocket to be called up the launch rack.

Photo: A. Mankevich



(Left) Ole Ed Pearson swapped out for Ed Jackson to start off the day's Firing Officer duties.

Photo: A. Mankevich

Continued next page

July Goddard Launch,

intended to channel Ole Ed's style as our newest Goddard Firing Officer engaged with the young modelers, especially in the moments leading up to their rocket's countdown.

As the launch wore on, we recognized NARHAMster Tom Bagg in the launch queue. Tom had brought Johanna with him. Johanna was able to enjoy the launch action and to say "hi" to the range crew. The Baggs met up with Johanna's physical therapist. Since it is a small world, the physical therapist turned out to be the same specialist that treated Ole Ed back in the day. Tom helped out by twice retrieving the rockets that flew over the fence onto the Space Flight Center's grounds.



Jim Miers deftly guided the rocketeers during the later stages of the day's launch. Launch Pad Assistant Michael Cochran is seen behind Jim.

Photo: A. Mankevich

Several rounds of colorful rockets adorned our launch racks throughout the day. We had to swap to a 3/16" launch rod to accommodate a Big Daddy model flying on a D12 motor. We had one interesting motor CATO which split the casing, however all that action occurred right at the launch rack, so nobody was endangered. Eighteen First Time Flyer certificates were awarded. We totaled 65 flights for the day which ended at 3:00 pm.



Ted Cochran checked-in the rockets and did launch pad assignments at the Safety Check-In station.

Photo: A. Mankevich



NAR at the AIA Gala! Jennifer Ash



Everyone at the NAR table, along with John Langford and his wife. John is the President of the American Institute of Aeronautics and Astronautics (AIAA), and was sitting at the head table.

On May 21, The Aerospace Industries Association (AIA) celebrated 100 years of existence at a black tie gala in Washington DC at the National Building Museum. The NAR was given a table of 10, so John Hochheimer invited TARC supporters from the area that have been to all 17 TARC's. From NARHAMS, Ed Pearson and I were invited. Ed likes to say we went to the prom.

This was held the Tuesday AFTER TARC, so it is fitting that the AIA president started out the evening with a video of the finals. Our speaker was Colin Powell, who entertained us with an engaging and funny speech.

Ed's words to a few people, "Is this the bus to Bethesda?"



Ed and I at the "prom".



Bits and Pieces

The Next 3 Months

<i>Date</i>	<i>Time</i>	<i>Event</i>	<i>Location</i>
Aug 3, 2019	5:30 - 9 pm	Monthly Meeting Topic: Open Building Session Refreshments: Open	College Park, MD
Aug 4, 2019	1 - 2 pm	Goddard Public Launch	Greenbelt, MD
Aug 17, 2019	12 - 4 pm	Sport Launch Theme: Open Launch Manager: Open	Mt. Airy, MD
Sep 1, 2019	1 - 2 pm	Goddard Public Launch	Greenbelt, MD
Sep 7, 2019	5:30 - 9 pm	Monthly Meeting Topic: Elections / Night Launch Show And Tell Refreshments: Open	College Park, MD
Sep 21, 2019	2 - 9 pm	Sport & NRC Launch Theme: The John McCoy Night Launch Launch Manager: Jim Filler	Mt. Airy, MD
Oct 5, 2019	5:30 - 9 pm	Monthly Meeting Topic: Range Safety Review Refreshments: Open	College Park, MD
Oct 6, 2019	1 - 2 pm	Goddard Public Launch	Greenbelt, MD
Oct 19, 2019	12 - 4 pm	Sport Launch Theme: V-2s Over London And Halloween Rockets Launch Manager: Open	Mt. Airy, MD

Welcome New/Renewing Members

New Members

Buffkin Fairchild, Bruce Mitchell, Chandra Serfoss,
Bill Stec, Steven Stec, John Thompson

Renewals

Michala Alexander, Michele Alexander, Sarah Alexander, Scott Alexander, Bill Boublitz, Ted Cochran, Sally Cook, DJ Emmanuel, Edward Jackson, Bradley Lowekamp, Chuck Schofer, Isaac Schofer

Congratulations!



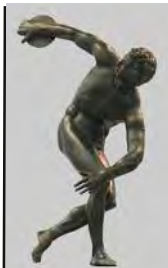
The Shafers Tackle the Walls of Daring
43 METER WALL

<u>Date</u>	<u>Alt.</u>	<u>Delta</u>	<u>Rocketeer</u>	<u>Rocket</u>
07/13/19	43m	0	John Shafer	Ironman Mark 46
07/13/19	43m	0	Natalie Shafer	Ironman Mark 47
07/13/19	42m	1	Rachel Shafer	Ironman Mark 48



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Competition Corner: New Contest Announcements!

NAR and FAI Contest Plans

Big News on the NAR front! We have an East Coast NARAM! NARAM-62 will be held at the National Warplane Museum in Geneseo, NY. This has been the site of previous NARAM and National Sport Launches. More Rocketry Festival activities will be announced in time.

The NARAM contest events will include all the National Rocketry Competition (NRC) events plus A Flexwing, D SuperRoc Altitude, Sport Scale and R&D. Details are listed to the right.

The NAR has also announced the 6 National Rocketry Competition (NRC) events for the 2019-2020 Contest year. They are:

- 1/2A Parachute Duration*
- 1/2A Streamer Duration*
- 1/2A Helicopter Duration*
- 1/2A Boost Glider*
- 1/2A Altitude w. altimeter*
- B Payload Altitude w. altimeter*

This is a very flyable set of events. Hopefully this will encourage more to experience the fun of competing in the new NRC system. Many people have commented that flying NRC events is more fun and less stressful than the old style of contests. Basically, you fly what you want when you want - easy peasy.

Also Big News on the FAI front! FAI Cups are being planned around the country. The current plans are still being formed but we are looking at:

- Arizona Cup - March 4-5 (the Wednesday/Thursday before NARCON)
- FIRE - Open International Meet - Events TBD - possibly the last weekend in April
- CanAm Cup - June 6-7, 2020, Muskegon, MI
- NARAM-associated Cup - July 2020, Geneseo, NY

Lastly, upcoming local opportunities to fly some NRC events are (details on the NAR website):
NNRS Open Launch, 9/1, King George, VA - not far away from DC
NOVAAR MARS 2019 9/7-8, The Plains, VA, 1/2A NRC events plus Open Spot Landing (OSL) and Set Duration (35 seconds) - No Altitude events.
NARHAMS September Sport Launch, 9/21, Mount Airy, MD



Carl McLawhorn Memorial Flyoff - 7

Events:

All NRC Events can be flown
Plus
Predicted Altitude (Any SEMROC Kit w/
altimeter)
F Dual Eggloft Alt. (w/altimeter)

October 19-20, 2019
Weber Farm, Grove City, PA
More info: <http://www.psc473.org>

Rocketry Festival 2020

NARAM-62 Events:

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

July 25 - 31, 2020
National Warplane Museum
Geneseo, NY

For current info, go to
www.nar.org

