

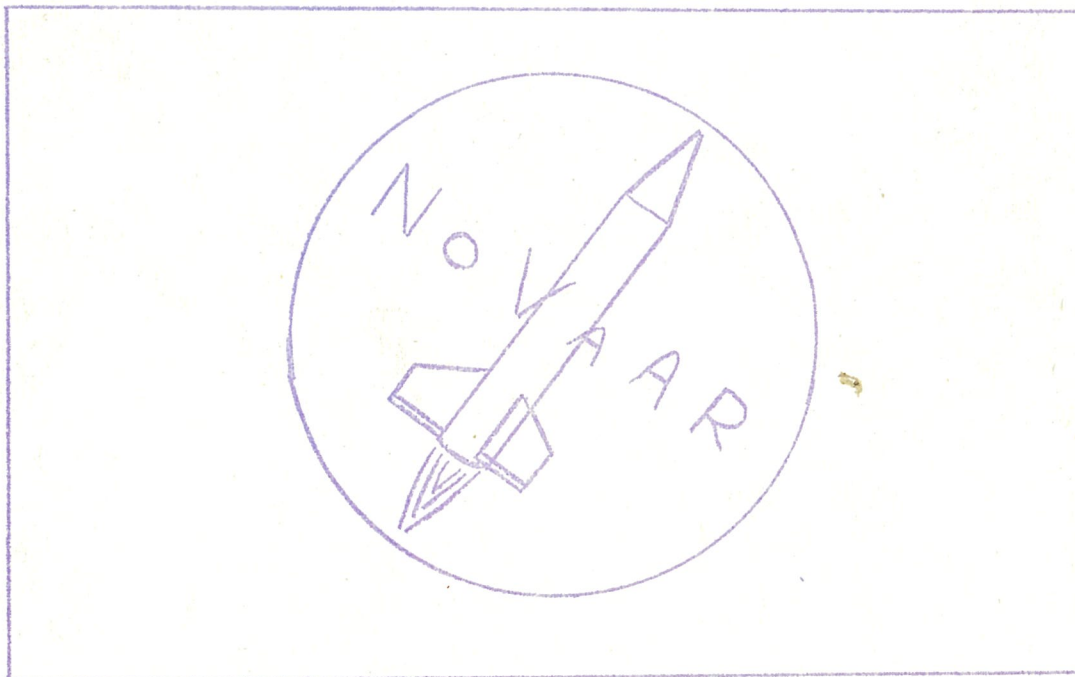
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Vol. 1 No. 1 -- February 1, 1971

THE OFFICIAL NEWSLETTER OF
THE NORTHERN VA. ASSOCIATION
OF ROCKETRY

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STAFF

Co-Editors-----Randy Thompson
Paul Shelton

Reporters-----Mike Burzynski
Steve Hudson

CLUB CALENDAR

February 13-14 - NOVAAR I Section Meet
February 16 - Section meeting, awards presented for section meet
March 2 - Section meeting
March 16 - Section meeting
March 30 - Section meeting
April 13 - Section meeting
April 17-18 - *ECRM V* - Camp A. P. Hill, Va.
April 27 - Section meeting
May 1-2 - Proposed Area Meet with LARS, Fort Meade, Md.

ATTENTION

All members of NOVAAR. As this is our first newsletter we have not yet come up with a name for it. Anyone who has an idea for a name should write it down on a piece of paper and give it to either Paul Shelton or Randy Thompson. All names received will be judged, and the person who comes up with the best name will be given a new kit or an engine or two.

Also, we are interested in any new ideas for a new section flag. For those of you who don't know what our club flag now looks like, a picture of it is shown on the cover of this newsletter.

MARS V CONTEST COVERAGE BY RANDY THOMPSON AND PAUL SHELTON

At approximately 7:00 A. M. on Saturday, October 24, 1970, Randy Thompson, Paul Shelton, Gregg Max, and Matt Brown arrived at the Aberdeen Quality Court Motel. After a quick breakfast we proceeded out to the MARS V launch field. There we met another NOVAAR member, Don Larson. Arriving shortly afterward was Howard Kuhn, followed by Mike Burzynski, Tim Fornshill, Bill Clugston, and Jeff Nelson. Little did this group of NOVAAR members know that some 32 hours from then, they would have taken second place at one of the largest regional meets on the East Coast. The first rocket, a demo, was launched about 9:30. This demo launching seemed to set the pattern for the rest of the meet as many times the competition was held up by the launching of demos. The first event, Class 2 P/D, began about 10:00. Many rockets with large chutes were lost because of the power of the B engine. The best time of our club was 160 seconds, turned in by the Burzynski-Fornshill Team. Next on the schedule was Drag Efficiency and Robin Egg Loft. These events were delayed when it was discovered there were no communications between the launch area and one tracking station. Finally, after an hour delay, these events were begun by using walkie-talkies for communications. In Drag Efficiency, the Kuhn Team took a first with 205 meters and Don Larson took a third with 182 meters. After his Elo blew up on the launch pad, Randy Thompson, flying a hastily converted Estes Drifter, took a third place in Robin E/L with 180 meters. The Kuhn Team also took a third place with 163 meters. This terminated the first day of flying and the

MARS V - continued

NOVAAR members headed back to the motel for a banquet and Cinerroc films. The day didn't end there for several NOVAAR members as the balloon war continued on until the wee hours of Sunday morning. After some 180 water balloons and having someone threaten to call the cops on them, the rest of the NOVAAR group turned in at 4:00 A. M.

Many rocketeers were at the launch field early on Sunday to get in some last minute pre testing before the Condor event, which was scheduled first. Some of the gliders on the pad held together and glided, which proves that Condor B/G,s can be built. Unfortunately there were many mishaps, such as one Condor taking off, hitting the ground in the launch area, and taking off again. When one Condor landed on a house roof almost a mile away, it was decided by the RSO and the GD to terminate the Condor event because of the danger involved. Unfortunately, no NOVAAR members had a chance to fly their Condor birds, even Gregg Max who had stayed up to 4:00 that morning to finish building his. The events flown were Class 2 S/D and Sparrow R/G. Most of the club was plagued with broken shock cords and separated streamers. Matt Brown took a fourth place with 40 seconds. In Sparrow R/G, Don Larson took a first with 19 seconds and the Burzynski-Fornhill team took a third with 8 seconds. In the last event of the day and the meet, Open Spot Landing, several NOVAAR members landed their rockets fairly close, but none were close enough to place. The awards were given out and Don Larson found himself in second place in D division. NOVAAR tied with Gemini for second place overall, each having scored 276 points, only 39 points behind the winner, NARHAMS.

So congratulations to all of the NOVAAR members who attended MARS V and helped to make it a successful meet for the club.

TYPES OF ROCKET GLIDERS: BY MIKE BURZYNSKI

Anybody that desires to win in rocket glider has to build a variable geometry glider. There are three proven designs.

Conventional Flop Wing: This is the simplest of all variable geometry gliders. It employs a folding wing that unfolds at ejection. The wings are held on by a flexible hinge (cloth) and elastic is used to bring the wings to gliding position. The burning string system is so far the best system to activate the wings.

Thin Flop Wing: A very unusual flop wing. It is essentially a flop wing that folds back its wings. With a little work it can be flown so that the air pressure holds back the wings and when it slows down the wings spring open.

Burzynski Swing Wing: Probably the system that has the most potential. It employs a conventional swing wing, and is activated by a burning string.

In building rocket gliders there are five steps that you should follow:

1. Build large tail surfaces.
2. Keep weight concentrated.
3. Put engine pod on bottom.
4. Use a light and reliable system to activate wings (burning string system).
5. Ejection ports total area should be at least one square inch.

Thin Rocket Gliders: It is a lot different than flying boost gliders. To get the best glide the rocket must weather cock so that the engine pod is on the bottom, in a flying position. If all goes right it is possible to 25 seconds on a 1/4A engine, with the Burzynski Swing Wing. If it goes wrong you will still get about ten seconds.

SAFETY CHECKING AT MARS V

MARS V, a meet? Well, yes, in some respects it was a very good meet. A meet well run? Well to that question I will have to answer NO! At MARS V people came to see competition, but instead, were greeted with launch after launch of demonstrations. They saw how not to set up communications between tracking stations and launch control. Most of all, the people were shown very poor safety checking of rockets. Let me show you three examples of safety checking at MARS V. A boy places his Orbital Transport or Condor, whatever you prefer, on the launch pad. It is powered by an F-100 engine which just happens to be sticking out two to three inches from the rear of the body tube. Ignition, result, the rocket leaves the rod, ascends twenty feet in the air, does a one and a half, hits the ground, takes off again and lands finally on the tent located in the launching area. This shows a lack of careful safety checking on the part of somebody. The next two examples show just the opposite, too much safety checking. A boy brings his Egg Lifter up to the safety check table. The engine is shown to the safety checker as a C engine, legal in all respects. But safety check is not satisfied. So he removes the engine cap and pours out some of the powder. I guess I don't have to point out that that was very unreasonable safety checking, and it should never have been allowed. In still another instance, an egg is brought back to the return table to be examined for breakage. The examiner is not satisfied so he scratches and scratches the egg well until he finds, what he says is a broken egg. Inspection of this type, in any form is ridiculous. The Condor event at MARS V was killed by an RSO, and CD, who up until that time were allowing anything on the launch racks. What will become of Model Rocketry if there are people having to do with safety check who kill an event or kill someones chances of being a winner just because they are too set in their ways to reform.

WHAT TO LOOK FOR AT ECRM-5

For a couple of years one section obviously has been in control of Model Rocketry on the East Coast. This of course is the NARHAMS section, who has managed (by one way or another) to remain in control over all other sections on the East Coast. Some of their tactics have been to have so many people at a meet that they win on their flight points, or limiting their regional meets to only a few sections, sections they are sure they can beat. Now that the contest point system has been changed in the pink book supplement, it doesn't matter how many people a section has at a meet because a person must place in an event to get any points at all. Our section has an excellent record as far as contests go (in our first contest, CAR I, we placed second behind NARHAMS, in our second meet, MARS V, we tied for second, only 39 points behind the winner, NARHAMS) and we can improve our reputation with a win at ECRM. Some of our members feel that if we do win at ECRM our section will have taken over as the dominating section on the East Coast. I see no reason why we can't win at ECRM. The biggest event is of course Scale. With a weighting factor of 8, first place is worth 120 points and second place is worth 72 points, so everyone can see we have got to have good scale models. Next events of importance are Sparrow B/G, Hawk B/G, and Swift R/G, each with a weighting factor of 6. That means 90 points are possible in each one for a first place. The other events, Parachute Duration (weighting factor-2), Parachute Spot Landing (1), and Chase 2 S/D (1) are not really going to be important unless it is a very close meet. The contest is either going to be won or lost in the first four events mentioned.

For about 2/3 of our club, this will be their first regional meet. I am sure they will find that a meet of this type is much different than a small scale section meet. There are about 10 times as many contestants, so the competition is about 10 times as tough. In each event you are only allowed one chance, so that one has got to count. One word of warning, in Hawk B/G a C engine will literally rip apart a standard boost glider, so build your Hawks strong. Test all of your rockets - except Scale - before the meet. Remember a broken shock cord or an ejected engine results in a DQ, and we can't give away any points because of this. So let's make this a good meet and prove that NOVAAR is NUMBER 1.

NARHAM SONG BY TIM FORNSHILL
SING TO THE TUNE OF "HELLO DOLLY"
second line - This is NOVAAR, NARHAMS

Oh hello NARHAMS
Would you like to get together and compete
Will have fun NARHAMS
Lots of fun NARHAMS
And this won't be the first time that you've sponsored a meet
Oh we'll fly B's NARHAMS, C's and D's NARHAMS
And will even fly some Condors if you do
Oh please don't wait NARHAMS
Golly don't hesitate NARHAMS
NARHAMS were going to beat the pants off you

LETS HEAR IT FOR A GREAT SONG, BOO!!!!

NOVAAR "WAAHH" MEET BY STEVE HUDSON

If you read the December issue of Model Rocketry magazine you probably saw the article on the Maryland Funny Meet, which wasn't very funny after all. Well grab your chairs folks, and read this about the NOVAAR "WAAHH" Meet. (WAAHH is pronounced "WAW").

The boys from AAR and SSB might think its tough to land their birds on the edge of a 2 foot circle; well try landing the pod of a glider in a box! No one succeeded; in fact, the Burzynski-Fornshill team missed by such a distance that the total was -60! The standings in Hornet B/G-S/L were: (1) Howard Kuhn -32.5, (2) Jim Turtora -30.3, and (3) Burzynski-Fornshill team -60. The second "WAAHH" event was Class 00 F/D. The object, of course was to shoot a rocket into the air with a 1/4A engine and get the longest duration time. Everybody DQ'ed due to engine ejections and parachute failures except one, NOVAAR President Randy Thompson. His rocket turned in a brilliant 10.5 second duration after going only fifteen feet into the air. Randy used a CMR 27 inch parachute on his bird. The big "WAAHH" of the day was CHICKEN EGG LOFT. If I've kept you in suspense to what Chicken E/L is, I'll tell you now. The object is to get your bird into the air and make the shortest parachute duration possible without breaking the egg. The minimum parachute size was seventeen inches. The Schicken* part of the event was whether you had the guts to put a 7-second delay on your C engine egglofter. Howard Kuhn tried the event but wasn't very successful as his rocket went into OBLIVION, as in our NOVAAR vocabulary, or in other words, pranged. The Burzynski-Fornshill team shot their bird, and got a fantastic 9.9 seconds! Their egg was fine, too. The amazing "WAAHH" bird of Randy Thompson's proved to be fantastic than the 2.9 second duration of Marc Yalon in Class 1 Non-F/D; Randy got an amazing, almost impossible 6.7 seconds using a c6-5. Imagine, 1.7 seconds of thrust for 5 seconds of delay-6.7 seconds. WAAHH!!!!!! The bird smashed on a slide at the adjoining playground, but the egg survived, giving him the contest. Jim Turtora came in second with 19.6 seconds and Paul Shelton came in with the Chickenest time all the day, 25 seconds! Paul was awarded the Chicken Award (a hollowed-out egg with a shock cord neck, all painted gold with the word CHICKEN painted on the egg in blue). At the awards presentation, Jim Turtora was awarded with six Estes Scouts and three Estes Marks as prizes.

The demonstration birds of the day proved very WAAHH. The Steve Hudson 1/45th Scale Joe II, with a cluster of three B4-2's washed out by only igniting one engine. The bird a one and a half, smashed to the ground, and injured anfin and the escape tower. Randy Thompson D engine Pinhead powered by an Estes D-13, gave the final WAAHH of the day by blowing up! A huge fireball rose skyward as assorted debris floated back to earth.

So, if you ever think about having a Funny Meet, think twice. Don't have Non-Scale, have Scale S/D. Don't have B/G Non-Duration, have Condor B/G E/L F/D!!! But anyway think twice. Have a NOVAAR "WAAHH" Meet!!!!

NOTES FROM THE PRESIDENT

*The section meet will start at 10:00 A. M. on Saturday Feb. 13. Class 2 S/D and Hornet B/G will be flown together, next will be Class 1 S/D and Sparrow R/G flown together, and then Open Spot Landing. We will start at 2:00 P.M. on Sunday, Feb. 14. Class 0 P/D and Hawk B/G will be flown together first, followed by Robin Egg Loft.***

*Money and applications must be in to me by Feb. 10, 1971. Also, anyone who has not put in his 1971 NAR membership will not be allowed to fly in this meet. People will be needed to help with tracking, measuring, and communications.***

*Paul and I hope to put out a newsletter every two months, but we can't do it by ourselves. If you want to have this newsletter every two months, YOU have to submit material to be printed. Write news stories about any news pertaining to the club, (launchings, meets, etc.); info about building different types of competition birds; cartoons; editorials are especially welcomed. Remember, its up to everyone to keep the newsletter going. Material may be submitted anytime to either Paul or myself.***

* **ECRM V is only 75 days away. x Start Building and testing rockets. ***

Parts List

HOW NOT TO BUILD A ROCKET BY STEVE HUDSON

- 7" length of $1\frac{1}{2}$ " diameter Reynolds Wrap tube
- 8" McDonald's Plastic Straw
- Snow Cone cup
- $\frac{1}{8}$ " Cardboard
- Masking tape
- Rubber band (any length)
- Sandwich-size Baggie
- Thread (green preferred)
- CR RB-74

CONSTRUCTION

- 1 Using masking tape, build up RB-74 until it fits in the Reynold's Wrap tube. Glue in with wheat paste so that $4\frac{1}{2}$ " of it sticks out of one end.
- 2 Take engine (either $\frac{1}{4}$ A3-4 or Enerjet DL4-7). Glue with nozzle towards end of tube flush with larger tube, 4" from top of tube.
- 3 Put thread shroud lines on the Baggie. Make three, six inches long, two, seventeen inches long, and 1 two inches long. Bring ends together so they are even, and tie together. Tie this to one end of a cut rubber band. Tape this rubber band to the inside of the larger tube.
- 4 Take 4 foot piece of nichrome wire, insert in engine, and hang excess over the side. Pack Baggie and rubber band over the engine, remembering to put flame-proof wadding on top. Glue the snow cone cup to the top of the large tube.
- 5 Cut out fins. Sand one to a symmetrical airfoil, one rounded, and leave the other one square. Glue fins on any way you want. Glue straw perpendicular to vertical axis of rocket. Bird is finished.

Helpful hint: Don't mess up your bird with such things as sanding sealer, or paint.

REMEMBER: The Club has engines to sell to help pay for the trackers. We have the following types of engines: $\frac{1}{4}$ A6-4; A3-0; A3-3; A8-5; B6-0; B4-4; and B4-6. Help the NOVAAR treasury by buying these engines!!!!

THE NEWTON KID

By Steve Hudson

NAR # 18487

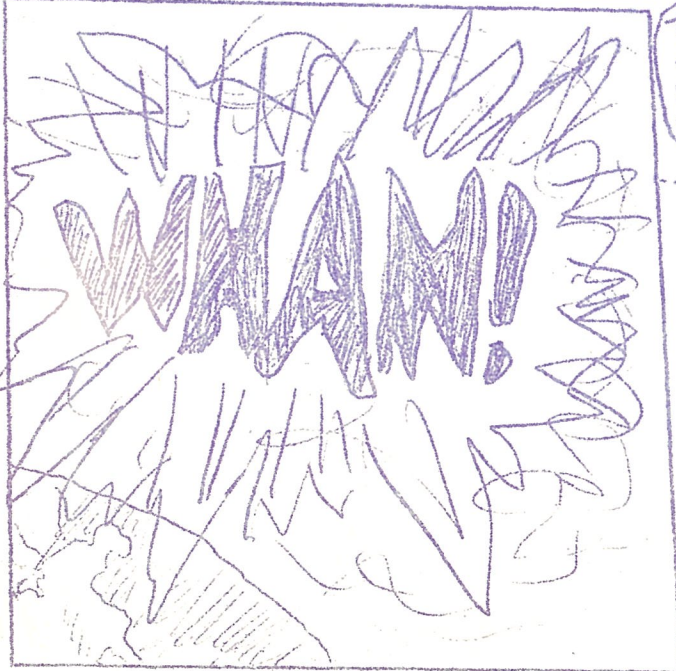
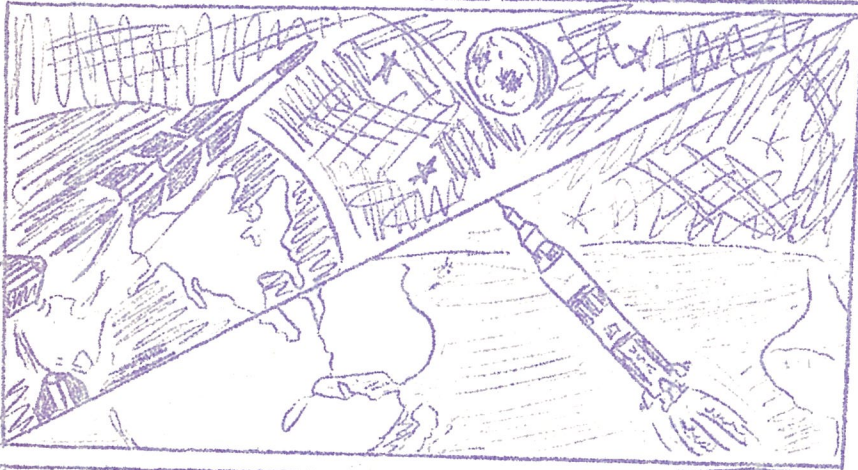
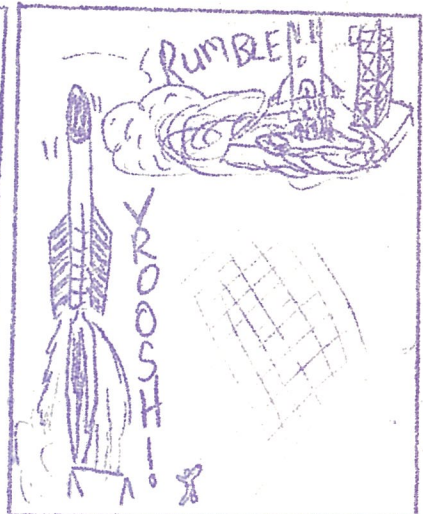
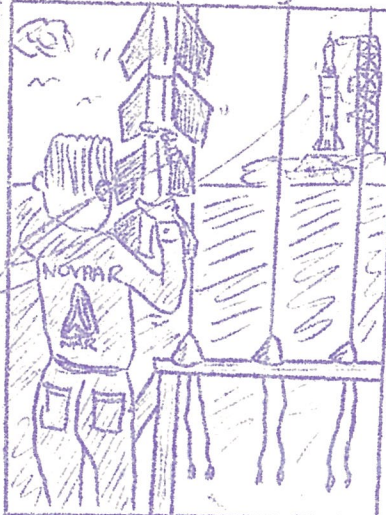
One day, we find Bill Klugston, the Newton Kid, with his latest PowerWaaahh

CAPE KENNEDY SPACE CENTER

Here it is—the Klugston 5-stage, F-engine "Super-Waaahh!"



1/27/71



That's the last time I use an m-80 for the upper stage!



Steve Hudson 18487