

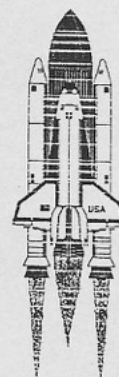
Newsletter of the Huntsville Area Rocketry Association

MAX-Q



Vol. 1 No. 4 August 1987
Serving the Spacemodeling Community of Northern Alabama

1987 Section Reserve National Champions



HARA ON ASCENT

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and more!!!

HARA Wins 1987 Section Reserve Championship at NARAM-29!!!

With a "come from behind" effort, the fledgling Huntsville Area Rocketry Association moved from 8th place in the club standings to 2nd in the NAR competition standings to take the 1987 Section Reserve Championship for 1987 with a total of 18,524 points. The section championship went to NIRA (Chicago) who took home the 1st place trophy with a total of 42,727 points. HARA's win comes largely from the combined efforts of Lee Olyniec (who sent his models to be flown by proxy and ended up with the trophy for the B Division Reserve National Champion) and the Zunofark Team of Matt Steele, George Gassaway and Chas Russell, the new 1987 Team National Champions. Between Lee and the Zunofarks, HARA gained an additional 10,000 plus points to overtake clubs throughout the country and win the Reserve Trophy donated by the Northrop Corp. (For more information on NARAM-29 see story on page 2.)

MAX-Q is the official newsletter of HARA, NAR Section #403. Articles, photographs, suggestions, comments, etc. are actively solicited from all members for the MAX-Q. MAX-Q subscriptions are included as part of membership dues of \$6.00 per year. Non-HARA subscriptions are available for \$5.00 per year. HARA President is Vince Huegele and MAX-Q is produced and published on a Mac II, Abaton Scanner and Laserwriter+ by Robyn Steele, Graphic Solutions, 555 Sparkman Dr. Suite 1612, Huntsville, AL. 35816, (205) 830-6645.

NARAM-29

Anaheim, California

by Robyn Steele (with help from Matt!)

Southern California in August is hot and dry. What little green was in the hills in the spring, is long gone by August and the hills are a dry, dusty, deserty brown. The beaches are crowded with people trying to escape the heat and the freeways are bumper to bumper even when it is not rush hour. But this is LA and those who came to NARAM 29 came to fly rockets first and to enjoy the surroundings second. (Well, at least some of them did!) There are some rocketeers who never miss a NARAM no matter where the location. These hard core NARAMites come to see friends that they haven't seen since the last NARAM, make new friends and fly rockets. Then there are the first timers or those who can only come to a NARAM if it is relatively close to home. At NARAM-29, there was a good mixture of both. Housing and meals for NARAM -29 were provided through the University of Cal, Irvine dormitories and our stay there coincided with the week long high school cheerleading camp. We saw more short skirted, screaming, bouncing, look alike, dress alike cheerleaders out to prove who had the most school spirit than anyone could possibly digest in a week's time. In addition to the NARAM, NARCON-4 was also held. (Or NAR Convention) Organized and overseen by Connie Pursley, the NARCON was also a great success for those who wanted to participate but not necessarily at the NARAM level. NARCON participants competed in kitbashes, in spot landing and PD competition and various other events and had a great time.



Ric Gaff and Tom Beach of NIRA prepare to fly Tom's "rocket man model". Rocket Man made several successful flights and finished the week by attending the banquet formally dressed in a grass shirt & bikini top. photo: R. Steele

NARAM-29 began bright and early on Monday the 3d of August with 1/2 Parachute Duration and A Streamer Duration. (At the Awards Banquet on Friday night trophies are given for the top 4 places in each division. C Division and Teams are grouped together for the individual event trophies but are separated for the overall championships) In 1/2A PD A Division, Brent Austin took 4th, Donald C. Linder (NIRA) 3d, Andy Linder (NIRA) 2nd and John Skarin took 1st place. Our own Lee Olyniec who was proxy flown was the only qualified flight in B Division so he took 1st. C Division saw Joyce Guzik 4th, Thomas Hoelle 3d, Stephen Lubliner 2nd and Nicholas Riviuccio with a first place. Though they didn't receive a trophy, our own Zunofarks took first out of the teams flying in 1/2A PD. In A Streamer, in A Division, we saw Donald Linder (NIRA) come in 4th place, Tim Barklage with a 3d, Andy Linder (NIRA) 2nd and Brad Nestle take the 1st place. B Division with only the two competitors during the week had Lee Olyniec (HARA) with 2nd place and Andrew Apel (NIRA) with the first place. C Division scored Nicholas Riviuccio with a 4th place, Don Linder (the senior) (NIRA) with 3d place, East Meets West Team (NOVAAR) 2nd and Dan Domina (independent and last year's C Division Champion) with a first place finish.

The two events flown on Tuesday, August 4th were A Boost Glide and B Eggloft Duration. (Eggloft being, of course, one of our all time favorites. It's so much fun to see



William and David Moser with William's plastic model of the space shuttle photo: R. Steele

those egg capsules coming back oozing smashed egg!)

A Boost Glide saw the following results: A Division, Andy Linder (NIRA) with 4th place, William Moser (KYNAR) who regularly attends our HARA meets and does so well had a 3d, Tim Barklage 2nd and Donald Linder took home the 1st place trophy. B Division with it's battling duo saw Lee Olyniec with the 2nd place and Andy Apel (NIRA) with a first. C Division ranked Thomas Hoelle 4th, Dan Domina 3d, Zunofark Team (HARA) 2nd (although first in Team standings) and Don Linder Sr. (NIRA) 1st place.

B Eggloft Duration had more than it's share of smashed eggs. (I think there is something inherently sadistic about this event, but I haven't quite figured out exactly what it is!) Before this event was over, the trash can near the judges table was full of broken eggs, as there was a lot of asphalt near the flying field. Those fortunate few who survived with their eggs intact were, in A Division: William Moser (KYNAR) 4th, Tim Barklage, 3d, Donald Linder 2nd and Brad Nestle with a 1st. B Division saw Lee Olyniec (HARA) with 2nd place and Andy Apel (NIRA) 1st. C Division rounded it out with David Moser (KYNAR) 4th, Tom Hoelle, 3d, Tom Beach, 2nd and East Meets West Team taking 1st. The East Meets West Team's model was in a thermal only 100' off the ground that nearly doubled its time. A 14:45 flight finally thermaled awayn, out of sight! (Zunofark took second in teams and fifth overall. With Matt's track record in eggloft, I think he was just glad to get a qualified time period!)

Wednesday was another hot, clear California day. Wednesday had the only altitude event of the meet, D Eggloft Altitude. Additionally, C Helicopter Duration was flown. The Altitude event was flown in the morning so as to not tie up the trackers all day and between getting a good, closed track and getting back an unbroken egg, very few participants got qualified flights out of D Eggloft Altitude. In A Division, there were only two qualified flights. Andy Linder (NIRA) took 2nd place and William Moser (KYNAR) took first with 365 meters and an unbroken egg. B Division had no qualified flights and C Division gave Stephen Lubliner 4th, Tom Pasterick 3d, David Moser 2nd place and the East Meets West Team a 1st place. (Zunofarks did not get a qualified flight with 1 broken egg and 1 flight that kicked the engine.)

Most participants breathed a big sigh of relief when eggloft was finished and they could move on to helicopter. C Helicopter was a lot easier, both on participants and models. Taking home trophies in A Division were Andy Linder (NIRA) 4th place, Donald Linder (NIRA) 3d, Tim Barklage 2nd and William Moser (KYNAR) with 1st place. B Division battles continued with Andy Apel (NIRA) in 2nd place and Lee Olyniec (HARA) with the 1st place award. C Division ranked Don Linder Sr. (NIRA) 4th, the Zunofarks (HARA) 3d, Stephen Lubliner 2nd and Sid Maxwell with the 1st place in Helicopter Duration.

Wednesday evening was the annual NAR BBQ and auction. (2 different events) The BBQ was held outdoors with BBQ chicken and ribs and assorted salads and other fixings. The auction, ran by Connie Pursley raised over \$1,250.00 for the NAR and \$175.00 for the Internats team. Items of note were an unopened Cineroc donated by Estes that went for \$160.00, a Czechoslovakian motor (there are only 3 others in the country) that sold for \$41.00, various models, motors, old catalogues, & a copy of the Model Rocketry Handbook autographed by G. Harry Stine, the author (who attended NARAM-29, I might add) just to mention a few. The auction was a



G. Harry Stine, author of *The Model Rocketry Handbook*, attended NARAM-29
photo: R. Steele

lot of fun and a great success!

Thursday morning, August 6th was hot! Maybe that was a contributing factor, maybe not, but we saw a lot of shreds and prangs in the two events flown Thursday. Thursday's scheduled events were D Boost Glide and Plastic Model Conversion. The Plastic Models had been judged the evening before for the static points, so all that needed to be done today was just a qualified flight to finish out the judging. There were some pretty impressive plastic models from all Divisions ranging from William Moser's shuttle model to the Pilgrim flown by the Zunofarks (and featured on the first color cover of *American Spacemodeling*) Unfortunately, a lot of those models failed to achieve a qualified flight- with chutes failing to open or just out and out pranging.

Donald Linder (NIRA) was the only A Divisioner who achieved a qualified flight with his F-15 jet model. In B Division both Lee Olyniec and Andy Apel had qualified flights with their F-14 and V-2 models with Lee taking 2nd and Andy the first place award. C Division was extremely close with only 10 points out of over 900 separating 1st and second place. The Dual Egglofter Team took 4th place with a jet, Sid Maxwell came in 3d with a Saturn V, Zunofark Team was 2nd with 905 points and Dan Domina took the first place trophy with 915 points and a model of an old Lindberg Mars Protse. Matt chose to catch his model rather than take the chance of having it damaged upon landing and that made the difference in the points.

The other exciting event of the day was D Rocket Glide. There were some pretty spectacular shreds and prangs in this event, certainly enough to keep me on my toes. One of the first and most spectacular shreds of the day was a model that George Cassaway sent for Matt to fly for the Zunofark Team. It was a pretty impressive looking model and knowing George's past record, one would expect a lengthy glide, right? Wrong! 20 feet off the pad, it shredded into at least 25 differ-

ent pieces, each of which came fluttering down at a different speed. One spectator pointed out that the tail section was gliding, but the RSO declined to give it a qualified flight based on the tail section only. This was only the first of many shreds of the day, however. One glider flown by Kat Seiko very nearly took out a NAR trustee, C.R. Tavares, who had to really scramble to get out of its path. One spectator noted, "It would have been a qualified flight if only he had hit him!" Needless to say, that flight did not place. Those who did place in the event included (in A Division) Donald Linder (NIRA) 3d place, Tim Barklage 2nd, and William Moser in 1st place. Lee Olyniec was the only B Divisioner with 84 seconds so he got the first place trophy. C Division ranked Don Linder Sr. (NIRA) in 4th, the Zunofark Team 3d, (in spite of George's shred), Dual Egglofter Team (NIRA) 2nd and Dan Domina in 1st place.

Thursday evening were the Research and Development presentations. Only one A Divisioner entered this event and his project was so good that he won the event over the 6 C Divisioners that entered. Tim Barklage gave his R&D report on the angle of rotation of helicopter blades and took home the first place trophy. It is rare that an A Divisioner will undertake an R&D project, but to win over the adults is truly remarkable. Our hats are off to Tim. Also placing was the Dual Egglofter Team (NIRA) in 4th, Fred Williams in 3d and Mark McReynolds 2nd.

Friday morning was the first cloudy morning that we had, but it burned off by about 11 am and the rest of the day stayed sunny and hot. Scale for the C Divisioners and Sport Scale for the A & B Divisioners was the only event for Friday. All the models were judged on Thursday evening with their static scores posted and now all that remained was to fly

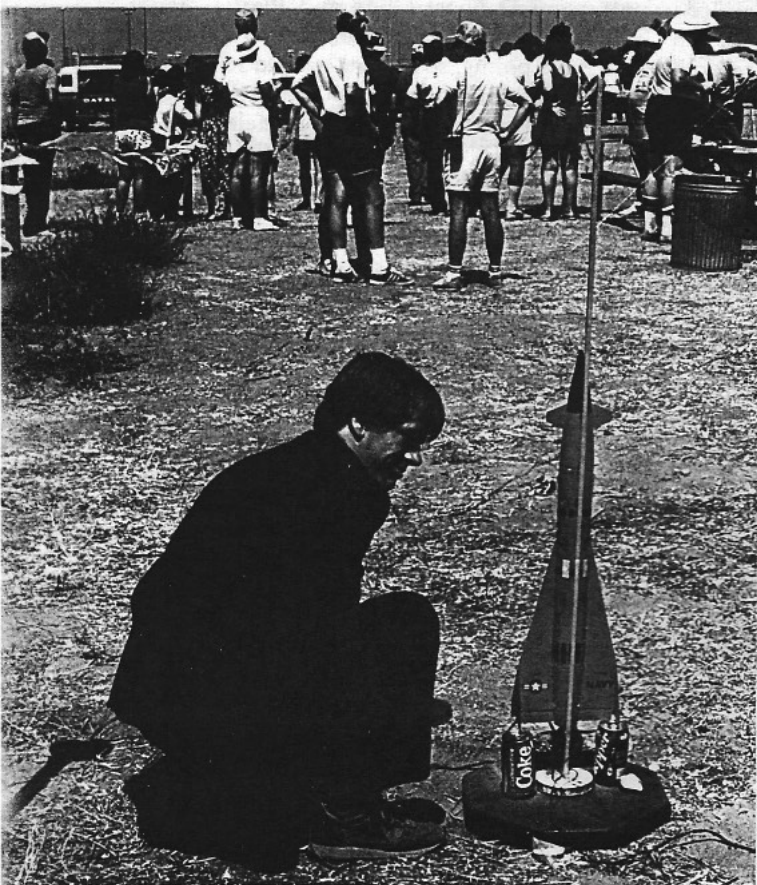


Matt carefully hooks up the ignitors on his plastic model of a *Pilgrim* prior to a successful launch and recovery. photo R. Steele

them for qualified flight. This event went a little smoother than the plastic models although there were still those inevitable prangs and chutes failing to open. In A Division, Andy Linder (NIRA) took 4th, Donald Linder (NIRA) 3d, William Moser (KYNAR) 2nd and Tim Barklage took 1st. B Division had Andy Apel and his *ASP* with the 2nd place and Lee Olyniec with an *IQSY Tomahawk* won the first place trophy. In C Division, Don Linder Sr. (NIRA) was 4th with a *D Region Tomahawk*, Zunofark 's (HARA) with their trusty *Vostok* took 3d, Fred Williams 2nd with a *Saturn 1*, and Tom Beach won the first place award with a superb model of the *Little Joe II*.

Flying was now officially over and so the Zunofarks (Matt and Robyn) & a few others headed for the beach. Hey, when in California...!!! We managed to get ourselves full of sand and salt and a little sunburned on gorgeous Laguna Beach before it was time to head back and get ready for the banquet, so it was definitely a good day!

The banquet is traditionally one of the high points of a NARAM. Folks usually get dressed up, there is good food, good company, excellent door prizes and a lot of trophies to be given away. Door prizes ranged from a trip to NARAM-30 paid for by the NAR (I just knew that was the one that Matt or I would win) won by Ric Gaff of NIRA, to well stocked range boxes, to cash, (\$50 & 100 bills), to the North Coast starter kit (about 4 kits complete with glues, parts etc.) won by Andy Linder of NIRA. Andy probably was the most excited of all the door prize winners. His, "Hey that's me!!!" when they called out his number, was the most enthusiastic response of the night. The kits are bigger than Andy who is about 12 years old! (Andy's mother spent the rest of the banquet trying to figure out how in the world they'd get it all home after NARAM, and Andy's brother Donald was overwhelmed with envy, since his mother wouldn't let him buy any North Coast kits the night before at the range store because they had no room in the car to get them home!!!)



Fred Craven, complete with tuxedo, prepares to fly his *J Hawk* photo: R. Steele

In addition to the NARAM trophies, other awards were also given out. The NARCON participants also received trophies for their efforts. Dan Kafun of SNOAR, who you may remember came down to our June contest and helped judge sports scale, won the Kitbash contest. One of the best and most looked forward to presentations, is the "Best Midwest Qualified Flight Award" (otherwise known as the Prang Trophy) This was initiated by Matt Steele several years ago and with the help of Bob Kaplow of NIRA, pieces of pranged rockets had been gathered all week and hot stuffed together into some semblance of who knows what to give out as an award. The pieces included broken egglofters with the egg still inside, engine casings, pieces of D Rocket Gliders, nosecones, you name it, if it pranged, there was a piece of it somewhere on the trophy.

Contenders for the prize included the East Meets West Team who not only pranged their plastic model, but buried the nosecone of their scale model 2 inches into the asphalt! Since they won last year, we figured that they were trying too hard to be the first back to back winner of the Prang Trophy and so they only got honorable mention. Other qualifiers included Kat Seiko, with his D Rocket Glider nearly taking out Chris Tavares, Connie Pursley who built a rocket out of a plastic NAR cup which promptly hung up on the launch rod and Bob Sanford of Aerotech who won the coveted prize with his, "\$11.00 worth of terror!".

Other awards included Lee Olyniec as NARTREK Achiever of the Year, presented by J. Pat Miller and the Howard Galloway Award donated by Rockwell International. This is the highest award that one can receive in the NAR and it goes to the individual or individuals that have made the most significant contribution to the NAR in the past year.

This year it was presented to a group including Jack Kane, Chris Tavares, Dane Bowles, & G. Harry Stine and others who worked so hard to get the laws changed in the state of Massachusetts to allow model rocketry within the state.

The LAC Newsletter Award was also presented. This is an award that goes to the best newsletter put out by a club during the past year and is picked by 3 judges. The winner of this years LAC Newsletter Award is T Minus 5 of Huron Valley (MI) Association Of Rocketry (HUVARS). Honorable Mention went to SNOAR News and I was told by one of the LAC judges that if the MAX-Q had put out one more issue, we would have also received an honorable mention. But hey, wait until next year!

Awards were also given out for the Meet Champions, or those who had scored the highest number of points at NARAM itself. Meet Champions included: in A Division, 2nd place (or Reserve), William Moser and Meet Champion, Tim Barklage. B Division, Reserve, Andy Apel, Meet Champion, Lee Olyniec, C Division, Reserve, Don Linder, Meet Champion Dan Domina and Teams, Reserve, Dual Egglofters, Meet Champion, the Zunofarks.

Let me also mention that, not only were trophies presented for all these awards, but also gift certificates. Mary Roberts of Estes Industries had a gift certificate for every trophy given out. North Coast Rocketry also gave out gift certificates to the Championship and Reserve winners, to the winner of the Prang Trophy and to the Kitbash Award winner. William Moser, for example won over \$75.00 worth of gift certificates, Lee Olyniec won over \$100 worth and others did equally well. Some of these folks won't have to spend any money on rockets now for the rest of the year!

The highlight of the evening, was of course, presentation

of the Championship Awards. These folks had worked hard all year, worked hard at the NARAM and now came the payoff. The 1987 A Division Champion is Donald C. Linder of NIRA with Tim Barklage the Reserve Champion. (Note: Although they did not give out an award for this, William Moser ranked 3d in the nation in A Division.)

The 1987 B Division Champion is Andy Apel of NIRA, with Lee Olyniec of HARA as the Reserve Champion.

C Division Champion for 1987 is Dan Domina and Fred Williams is the Reserve Champion and the 1987 Team Champions are the Zunofark Team consisting of Matt Steele, George Gassaway and Chas Russell, with the Dual



Matt and Dan Kafun (SNOAR) ready the NCR Orbit with a Smokey Sam F engine. Several Smokey Sam's were flown at NARAM for Standards and Testing, which is required by the Nar before they can be sold commercially

Egglofters Team of Bob Kaplow and Alan Jones being the Reserve Champions.

One of the big surprises of the evening came when they announced the 1987 Section Champion and Reserve. NIRA won (again) the Section Championship with 42,727 points, but our own club, HARA came from 8th place going in to NARAM to win the Reserve Section Championship with 18,524 points! A beautiful trophy donated by the Northrop Corp. and a \$50.00 gift certificate from Estes accompanied this honor. Not bad for a new club!!! This year Reserve, next year, perhaps the Section Championship! (Hey, why not!)

With the end of the banquet, NARAM-29 began winding down to a close. People began packing and making preparations to leave the next day. It had been a long, hard, satisfying week, but already talk had turned to, "Next year in Huntsville!" Nearly all of these folks are planning on being here, along with many, many others who couldn't make it to California and there is a lot of excitement over the opportunity to come here. So gang, we know what needs to be done and we've got a year to do it! Let's make NARAM-30 the best NARAM ever and show these guys how it should be done!

HARA Members

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• Hall, Chuck 3120 Andros Dr., 35805	883-6369
• Hendricks, Wayne Box 4922, 35815	n/a
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• Wingate, Jason 2908 Azalea Circle, 35805	539-6707
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Please check this list for correct spelling of your name, correct address & phone number etc. If you are a HARA member and your name is not on this list, please contact Robyn Steele 883-6020 or 830-6645(W).

Countdown 1988 Contest Season

AUGUST:	2-7 August: NARAM 29 Anaheim, California 15 August; Sport Launch 20 August; Meeting 7:30 P.M.
SEPTEMBER:	7-14 Sept.; 7th Annual World Spacemodeling Championships Belgrade, Yugoslavia 17 Sept.; Meeting 7:30 P.M. 19 Sept.; Sport Launch
OCTOBER	3 October; Sputnik 1 NAR Open 15 October; Meeting 7:30 P.M. 24 October; HARA-AIAA Rocket City Classic #6, City Wide Contest
NOVEMBER:	19 Nov.; Meeting 7:30 P.M. 21 Nov; Turkey Shoot 1; NAR Open
DECEMBER:	17 Dec; Meeting 7:30 P.M.
JANUARY:	21 Jan; Meeting 7:30 PM
FEBRUARY:	18 Feb; Meeting 7:30 PM
MARCH:	17 Mar; Meeting 7:30 PM 19 Mar; Spring Fling II; NAR Open
APRIL:	21 Apr; Meeting 7:30 PM 23 Apr; Sports Launch
MAY:	19 May; Meeting 7:30 PM 21 May; Redstone-1; NAR Open
JUNE:	16 June; Meeting 7:30 PM 18 June; June Jam II; NAR Open
AUGUST:	8-12 August; NARAM-30 Huntsville, Alabama

Sputnik-1 Events (Oct 3d)

Predicted Duration
Sport Scale
D INT Boost Glide* (C Div)
A INT Boost Glide* (A&B DIV)
1/2A Boost Glide
B INT Streamer Duration*
1/2A INT Parachute Duration*

* Only 2 flights will be flown in the International Events

Meetings will be held at the
Alabama Space & Rocket Center
Launches will be held at the Old Airport

1988 HARA Contest Season

List Of Events

Sputnik-1 Open, October 3, 1987

- 1-Predicted Duration
- 2-Sport Scale
- 3-D INT BG* (C Div)
- 4-A INT BG* (A&B Div)
- 5-1/2A INT BG*
- 6-B INT SD*
- 7-1/2A INT PD*

Turkey Shoot-1 Open, Nov 21, 1987

- 1-Predicted Duration
- 2-Sport Scale
- 3-D INT BG* (C Div)
- 4-A INT BG* (A&B DIV)
- 5-B INT PD*
- 6-B INT SD*
- 7-1/2A INT PD*
- 8-Drag Race

** Only 2 flights will be flown in International events*

Spring Fling-2 Open March 19, 1988

- 1-Predicted Duration
- 2-Sport Scale
- 3-1/2A INT BG
- 4-A Helicopter Duration
- 5-B SD
- 6-D INT BG (C Div)
- 7-A INT BG (A&B Div)

Redstone-1 Open, May 21, 1988

- 1-Predicted Duration
- 2-Sport Scale
- 3-D INT BG (C Div)
- 4-A INT BG (A&B Div)
- 5-A Helicopter Duration
- 6-1/2A INT SD
- 7-1/2A BG

June Jam-2 Open, June 18, 1988

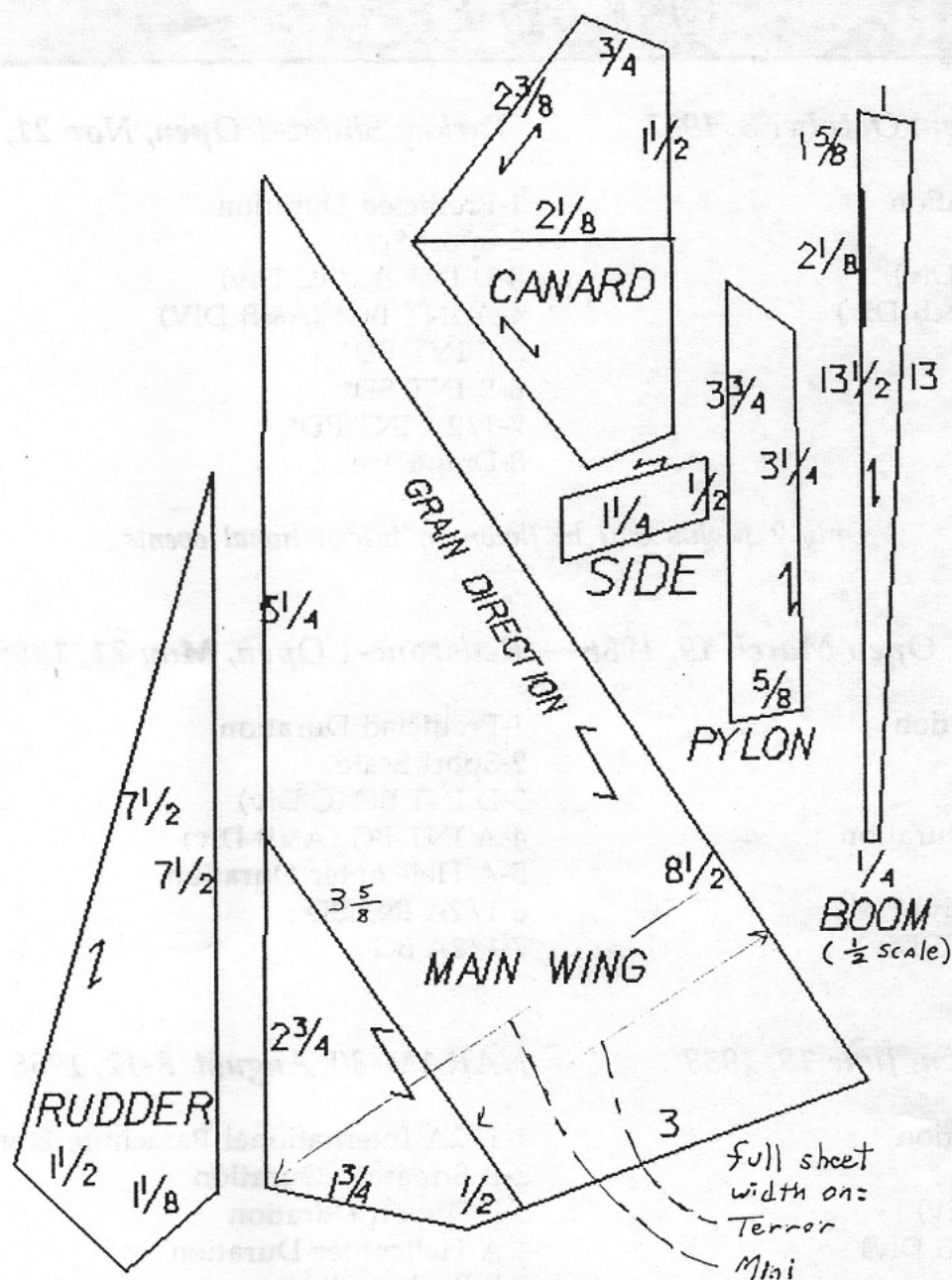
- 1-Predicted Duration
- 2-Sport Scale
- 3-D INT BG (C Div)
- 4-A INT BG (A&B Div)
- 5-1/2A INT BG
- 6-1/2A INT PD
- 7-1/2A SD
- 8-Open Spot Landing

NARAM-30, August 8-12, 1988

- 1-1/2A International Parachute Duration
- 2-B Streamer Duration
- 3-B Eggloft Duration
- 4-A Helicopter Duration
- 5-B Rocket Glide
- 6-D International Boost Glide
(flexwings & RCs allowed)
- 7-Predicted Altitude, F Altitude
- 8-Research & Development
- 9-Sport Scale (A&B Division)
- Space Systems (C Division),
- 10-Parachute Spot Landing

Saturday will be the flyoffs for all those rocketeers interested in trying out for the 1989 U.S. International Team.

Terradactyl



Parts List

Terradactyl

Mini Dactyl

Body Tube	18" BT50	6" BT5
Nose Cone	BNC 50	BNL 5
Engine Hook	2 3/4	1 3/4"
Streamer, Shockcord	accordingly	accordingly
Boom, Pylon	1/2" balsa	1/8" balsa
Wings, Canards, Rudder	1/8" X 3" X 36" balsa	1/16" 3" X 36" balsa
Launch Lugs	3/16"	1/8"

plans
and
instructions
courtesy
Vance Heegele

Instructions

One of the best performing, highest reliability boost gliders is also one of the easiest to build and fly. The *Terradactyl* D engine model and the *Mini Dactyl* version are both competitive and fun. The design is simply scaled up or down accordingly. The dimensions for the *Terradactyl* are given on the pattern in inches, with the pattern pieces being full size for the *Mini*. Check the *Mini* dimensions by verifying the wing span is the width of the balsa sheet. (3")

Begin construction by marking off the balsa piece dimensions on paper for patterns. Cut out the patterns and lay them out on the balsa sheet. Trace the shape noting the grain direction in each piece. Cut them out with a sharp knife. Check each piece for uniformity and fit.

The *Terradactyl* version should be assembled with epoxy but the *Mini* can use white glue or CA.

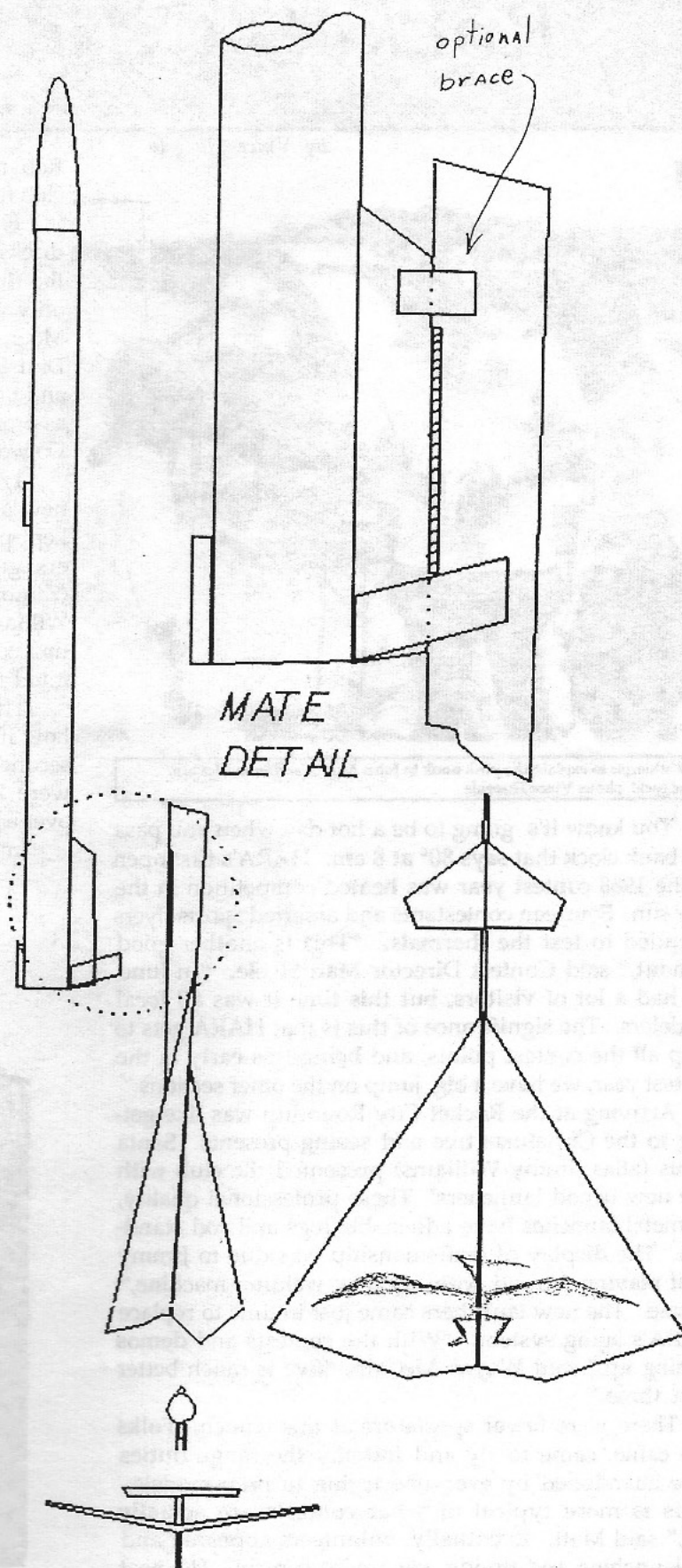
Also, the *Terradactyl* wing requires two pieces, so if you're building that model, put the wing together first.

Join the wings together and prop the edge up on the boom span until set. This will give the right dihedral. Glue the boom in the middle, carefully checking the alignment. While this is drying, put the canard pieces together flat, with the dihedral angle. Flip the unit bottom up and attach the rudder, again noting alignment. Apply glue and center the canards in their boom slot. Sand all edges round except where the boom connects to the pod.

Install the engine mount on the booster pod as you would for any rocket. For the *Terradactyl* version, a 2050 ring as an engine block with the hook is recommended. Glue the standoff to the pod rear and align like a fin. Attach the side pieces. Test, fitting all this together as well as how it mates to the glider will assure a better assembly. Install the recovery system in the pod as usual except shorten the shock cord length. Attach the launch lugs and the booster is completed.

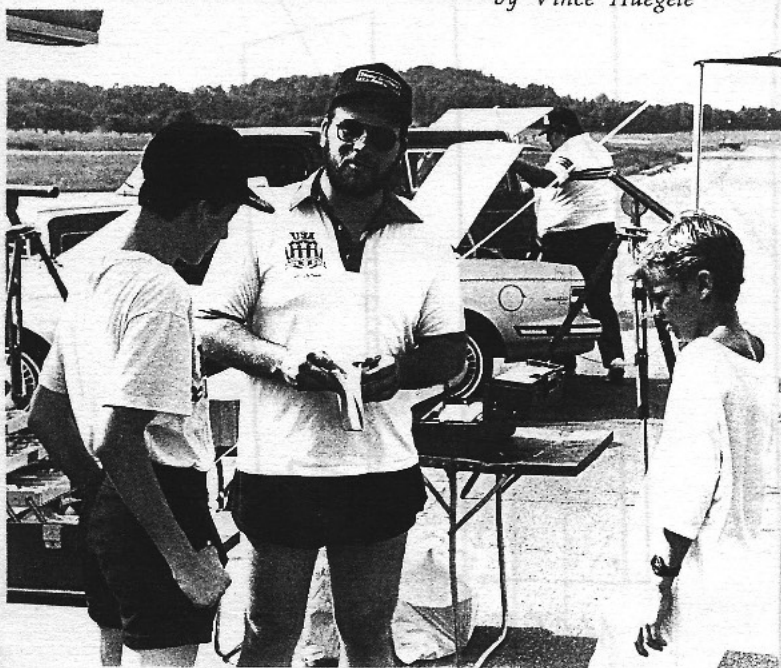
Mate the glider to the booster and inspect the fitting. The *Terradactyl* may need braces above the canards on the glider to keep the upper standoff in place. Mark the position and attach these now. Adjust the fitting so that the glider doesn't wiggle around in the ascent configuration, but falls off the pod when tipped upside down. Customize the glider with magic marker coloring, although you can paint the pod.

Prep the booster like a streamer model. Use a D12-3 for the "*Terrordactyl*!" and a 1/2A6-2T for the *Mini*. Use a standoff on the rod to support the booster while you attach the glider and ignitor clips. Launch, but be warned! Flight times can be one minute on the *Mini* and four minutes on the "*Terror*!"



Rocket City Roundup

by Vince Huegele



Matt attempts to explain the pink book to John Anglin and John McCain. Good luck! photo: Vince Huegele

You know it's going to be a hot day when you pass the bank clock that says 80° at 8 am. HARA's first open of the 1988 contest year was heated competition in the July sun. Fourteen contestants and assorted sports flyers attended to test the thermals. "This is another good turnout," said Contest Director Matt Steele. "In June, we had a lot of visitors, but this time it was all local modelers. The significance of this is that HARA gets to keep all the contest points, and being this early in the contest year, we have a big jump on the other sections."

Arriving at the Rocket City Roundup was like getting to the Christmas tree and seeing presents. Santa Claus (alias Jimmy Williams) presented the club with five new tripod launchers! These professional quality, all metal launches have adjustable legs and rod stand-offs. The display of craftsmanship was due to Jimmy "just playing around with my new welding machine," he said. The new launchers came just in time to replace HARA's aging system. "With the contests and demos coming up," said Wayne McCain, "five is much better than three."

There were fewer spectators at this launch. Folks that came, came to fly and initially the range duties were abandoned by everyone trying to prep models. "This is more typical of what contests are actually like," said Matt. Eventually, volunteers appeared and the launching and timing was under control. The heat wore on everyone, but was fought off with the aid of

Robyn Steele's cooler/concession stand (to help out the club funds).

Flying began in Predicted Duration as Wayne Hendricks and Matt (for the Zunofarks) aced their times in the first two rockets off the pads. Vince Huegele was only one second off. In A Division, Scott and John McCain were four and six seconds away respectively. B Division had two entries for the day, Marty Williams and Lee Olyniec. (Lee was flown by John McCain acting as proxy.) Lee's prediction was one second from actual. Do we need to go into fractions of seconds?

1/2A International PD introduced modelers to the new Municipal Golf Course. The wind, unfortunately kept parachutes coming down there all day. Three flyers got maxes in the thermals; George Gassaway (Zunofarks) and Wayne Hendricks in C and Marty Williams in B. Vince was third and John Kmetz, in his first contest, placed 4th. John Angelin and John McCain rated for A Division.

There's not much to say about B Streamer except how it ended. John McCain edged out Matt Sias by 6 seconds. Lee had a DQ to give it to Marty. The adults were Zunofarks, Wayne and Dana McCain in times over a minute.

In 1/2A BG, Matt Sias was the sole survivor in his



Jimmy Williams (alias Santa Claus) sets up the new tripod launchers he made for the club. photo: Vince Huegele

division. With a single flexie flight, recovered on the golf driving range, Zunofarks took first at 127 seconds, Vince's *Dragonfly* caught some good lift for second and Dana, also with a *Dragonfly* was third.

This contest offered A International Boost Glide for A/B Divisioners and D Boost Glide for C. Again Matt Sias was alone in A. Marty had twice the time of Lee. George had two maxes with his RC model and then only 126 seconds on the third flight flying for the Zunofark Team. Vince was second with a *Terradactyl* with 230 second and an all too familiar story. "I followed this one real closely," said Vince, "and I saw just where it went. In the trees." A subsequent search around the Plush Horse was negative as Vince lost his third bird in this event. (Ed. Note: Vince says he was looking for his model, but as long as he was gone, and given the reputation of the Plush Horse, well, draw your own conclusions!) The McCains put on a show with their orbiter gliders boosted on large rockets. Several flights had the glider in ad close to the booster, suggesting a new spot landing event. Dana's glider set down 30 feet from the *Mean Machine* that lofted it.

As the day wore on, Matt and Vince set up the tracking stations for the altitude events. Wayne Hendricks was closest in Predicted Altitude by 4%. Matt Sias and John Angelin covered A with Lee ahead of Marty in B. Vince and George rounded out C Division.

Wayne was also the Master Egglofter, getting 197 meters in a CMR *Robin*. Vince used a Real Lemon plastic lemon to house his payload and reach 155 m. Dana got her egg back after 59 m. Zunofarks scrambled

both flights on the runway to DQ. Marty Williams, with a Zunofark *Two Minute Egg* design, qualified with 133 m. "It's messy and really bad in the heat," said Matt. "No more egg events until NARAM-30."

For the final event, the parched participants drug themselves out to the launchers one more time for the drag race. Judges had an easy time in the first heat, with misfires deciding the losers. Marty and Matt Sias squared off in the finals with Marty advancing to meet Vince who edged out the Zunofark Team. Vince's mini-model had the lower inertia to take off just a little faster, thus making him the drag king of HARA.

The awards presentation offered special surprises. There were trophies for the winners: Matt Sias, Marty Williams and Zunofark; and ribbons for remaining places. But not only were there Estes kits to be distributed, but NCR engines and customized shuttle belt buckles (courtesy Jimmy Williams).

"This time I gave out prizes according to points rather than places," said CD Steele. "Highest scorer got first choice of the loot. We went down the list until everything was given away. We had just enough items for everyone to get something, so it worked out real well."

For all their efforts in the heat, HARA rocketeers probably have the first points of the contest year in the nation, thus automatically being in the lead. "The 5404 section points should keep us ahead for a good while," said Matt. "We have a strong shot at being number 1 next year."



June Jam Contest Winners include: (left to right) Wayne Hendricks, John Anglin, Vince Huegele, Dana McCain, Scott McCain, Wayne McCain, A Division Champion Matt Sias, C Division Champion Zunofark member Matt Steele, John McCain, Zunofark member George Gassaway and B Division Champion Marty Williams.

Rocket City Roundup Contest Winners!

Name/Event Performance NAR Points

Predicted Duration

(Prediction/Actual) %

A Division

- 1) Scott McCain (28/32) 12.5% 100
- 2) John McCain (28/34) 17.7% 60
- 3) Matt Sias (35/25) 28.6% 40
- 4) John Anglin (45/15) 66.7% 20

B Division

- 1) Lee Olyniec (32/33) 3.0% 100
- 2) Marty Williams (38/42) 9.5% 60

C Division

- 1) Wayne Hendricks (48/48) 0% (TIE) 100
- 1) Zunofark Tm (32/32) 0% (TIE) 100
- 2) Vince Huegele (43/44) 2.3% 60
- 3) Dana McCain (30/24) 20% 40
- 4) Wayne McCain (35/53) 51.4% 20

No other qualified flights

B Streamer Duration

1st Flt/2nd= Total

A Division

- 1) John McCain 32/37 = 67 120
- 2) Matt Sias 28/33 = 61 72
- 3) Scott McCain 37 = 37 48
- 4) John Anglin DQ/17 = 17 24

B Division

- 1) Marty Williams 64/51 = 115 120
- 2) Lee Olyniec 77/DQ = 77 72

C Division

- 1) Zunofark Tm 91/104 = 195 120
- 2) Wayne Hendricks 58/49 = 107 72
- 3) Dana McCain 40/47 = 87 48
- 4) JK 26/23 = 49 24
- 4) Wayne McCain 49 = 49 24
- FLT) Vince Huegele DQ/35 = 35 12

1/2A International Parachute Duration

1st Flt/2nd/ 3rd = Total

A Division

- 1) John Anglin 12/8/15 = 35 200
- 2) John McCain DQ/5/DQ = 5 120

B Division

- 1) Marty Williams DQ/38/MAX = 158 200

No other qualified flights

C Division

- 1) Zunofark Team 82/92/MAX = 294 200
- 2) Wayne Hendricks 111/MAX/58 = 287 120
- 3) Vince Huegele 109/87/48 = 244 80
- 4) John Kmetz 26/36/27 = 89 40

1/2A Boost Glide Duration

1st Flt/2nd= Total

A Division

- 1) Matt Sias DQ/14 = 14 200

No other qualified flights

B Division

- 1) Lee Olyniec 19/17 = 36 200

- 2) Marty Williams 4/8 = 12 120

C Division

- 1) Zunofark Team 127 = 127 200
- 2) Vince Huegele 47/31 = 78 120
- 3) Dana McCain 14/12 = 26 80
- 4) Wayne Hendricks 6/10 = 16 40

A International Boost Glide

1st Flt/2nd/3rd = Total

A Division

- 1) Matt Sias 13/25/29 = 67 240

No other qualified flights

B Division

- 1) Marty Williams 13/DQ/43 = 56 240

- 2) Lee Olyniec 9/17/ DQ = 26 144

D International Boost Glide

1st Flt/2nd/3rd = Total

C Division

- 1) Zunofark Team MAX/126/MAX=666 280
- 2) Vince Huegele 230 = 230 168
- 3) Wayne McCain 136/19/24 = 163 112
- 4) Dana McCain 46/39/45 = 130 56
- FLT) Wayne Hendricks 22/42/31 = 95 28

Predicted Altitude

(Prediction/Actual) %

A Division

- 1) Matt Sias (206/149) 27.7% 100
- 2) John Anglin (527/214) 59.4% 60

B Division

- 1) Lee Olyniec (165/148) 10.3% 100
- 2) Marty Williams (180/200) 11.1% 60

C Division

- 1) Wayne Hendricks (252/262) 4.0% 100
- 2) Vince Huegele (123/142) 15.5% 60
- 3) Zunofark Tm (151/124) 17.8% 40

No other qualified flights

C Eggloft Altitude

(Best Flt in meters)

A Division

No qualified entries

B Division

- 1) Marty Williams 133 140

No other qualified flights

C Division

- 1) Wayne Hendricks 197 140
- 2) Vince Huegele 155 84
- 3) Dana McCain 59 56

No other qualified flights

Drag Race

(1st/2nd place only count for points)

A/B Division

- 1) Marty Williams 10
- 2) Matt Sias 6

C Division

- 1) Vince Huegele 10
- 2) Zunofark Tm 6

POINT TOTALS

A Division

- 1) Matt Sias (HARA) 658
- 2) John Anglin (HARA) 304
- 3) John McCain (HARA) 300
- 4) Scott McCain (IND) 148
- 5) Jeff Yeager (IND) 0

B Division

- 1) Marty Williams (HARA) 950
- 2) Lee Olyniec (HARA) 616

C Division

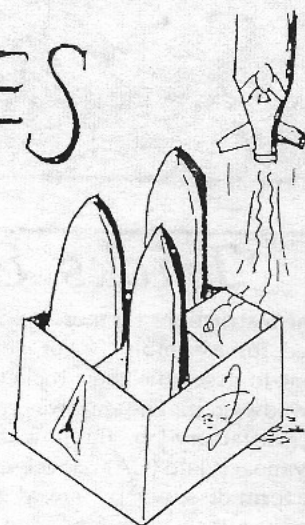
- 1) Zunofark Team (HARA) 946
- 2) Wayne Hendricks (HARA) 600
- 3) Vince Huegele (HARA) 594
- 4) Dana McCain (HARA) 280
- 5) Wayne McCain (HARA) 156
- 6) John Kmetz (IND) 64
- 7) John Carroll (IND) 0

Section Points:

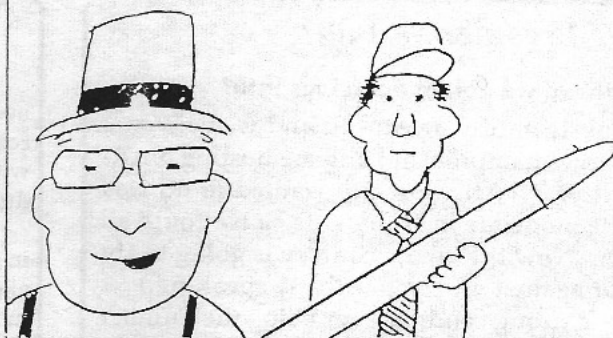
HARA 5404

BARDLES & JAMES

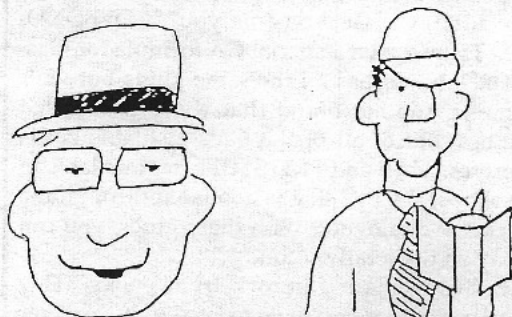
PREMIUM
ROCKET
COOLER



SINCE THE COOLER BUSINESS
IS JUST A PASSING FAD, ED
AND I HAVE DECIDED TO SELL OUT
IN FAVOR OF A MORE PROMISING CAREER
- HIGH POWERED MODEL ROCKETRY !



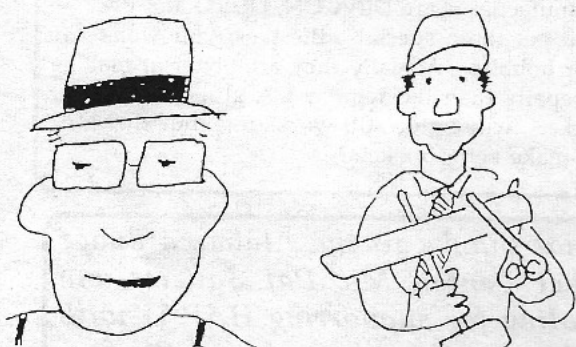
WE INTEND TO OFFER A FULL
LINE OF ROCKETRY PRODUCTS,
INCLUDING COMPOSITE ENGINES,
JUST AS SOON AS ED FIGURES
OUT WHERE THE O-RINGS GO.



IN THE MEANTIME, LETS LOOK AT
A FEW HELPFUL SUGGESTIONS.
ED TELLS ME THAT EPOXY WORKS
A WHOLE LOT BETTER IF YOU USE
A LITTLE FROM BOTH TUBES INSTEAD
OF JUST ONE



WHEN TRIMMING GLIDERS, TRY
TO USE THE SHARPEST SCISSORS
YOU CAN GET. CLIPPING THOSE
WINGS CAN BE REAL TRICKY.



AND FINALLY, WE HOLD IGNITORS
IN PLACE WITH A QUICK SQUEEZE
FROM ED'S HOT GLUE GUN. KEEP
THOSE CARDS COMING IN, AND WE
APPRECIATE YOUR SUPPORT



Wadding Scraps

From the President's Pad:

What have we gotten ourselves into?

The club is hardly a year old and we've won a section reserve championship and are hosting NARAM-30 next year. All we really wanted to do was organize the modelers in Huntsville so we could all fly together. Now the whole country is going to fly with us. (Or against us, competitively speaking.)

HARA is a strong candidate for being the number 1 club next year in contest points. First of all, the NARAM will be here so we'll have the "home field" advantage as well as having the whole club in town. Second, HARA's strength lies not in World Class fliers like Matt and George, but in the large number of young A & B Divisioners. For club standings, a lot of young people making good flights is better than one guy being fantastic. Next, our club has a strong momentum that continues to build. We have been 'on ascent' since last October and should be at Ultra Mach numbers by next August. Finally, this is Rocket City! If any place should have a NAR section that is prominent in the model rocketry community, it should be Huntsville.

Therefore, I would like to commit this club to the pursuit of winning the Section National Championship for 1988. (Say it with a Boston accent and it sounds like JFK announcing the moon landing goal.)

To achieve this goal, we will need the regular participation of all HARA members. We are already in the lead, and by working together, we can finish ahead and win.

Having thrown down the gauntlet, don't think this year is going to be all a blood and guts battle to be number one. We have a good opportunity and should take advantage of it. But a club is more than just a competitive team. That's just one part of it. In our meetings and launches, be them demo, sport or contest, we work to improve and enjoy ourselves and our hobby. Through a club, a single person can see and do more in modeling than he or she could alone. One can explore all aspects of rocketry by observing the interests of others. We want to do all of this in HARA.

The Countdown has started. Next summer, the space station will be developing, the shuttle will be flying and NARAM-30 will be soaring. How can you not be involved in rocketry this year?

Pres. Vince Huegele

Tricks & Tips

The instructions for most model kits will say, "white glue needed for assembly." For years, most rocketeers were content to assemble their rockets with glue from a bottle with a cow on it. The stuff was easy to use, easy to clean and did a satisfactory job. But now there are alternatives.

Cyanoacrylate (CA) adhesives have been around awhile in the form of 'super' or 'crazy' glues when one drop would allegedly attach your fender to the car. That didn't help modelers much, until someone changed the CA formula. Now there are CA glues that work on the porous materials that modelers usually work with. And they do about everything.

One common line of glues is called ZAP and another is HOTSTUFF. The thick heavy version of CA is called SLO ZAP, the thinner is just ZAP CA. What rocketeers like is the ZAP A GAP which is medium thick, very fast and bonds nearly everything. If these glues aren't quick enough for your needs, apply ZAP KICKER glue accelerator that instantly cures the adhesive. Get some on you? Z DEBONDER will get it off. There's even a special CA formula for plastic. The HOTSTUFF brand has all the same kinds but with HOTSTUFF names. Another brand that we've found that seems to be the best out of all of the CA's available is the PIC line of adhesives. ZAP and HOTSTUFF are available in the local hobby shops, the PIC line is available through the North Coast Rocketry catalogue. With these glues, you can put a fin on to stay on in literally seconds.

Another adhesive seeing use in rocketry is epoxy. This stuff is difficult to use in that you have to "make" it. You get a tube of resin and another of hardener. When you're ready to build, you squirt equal amounts out and mix together. Then slop it on your fin, engine mount or car fender. In a few minutes when it dries, it's glued for eternity. Although required only in high powered rocket assembly, epoxy is great in any application when you want a reliable, permanent bond, like a shock cord or engine mount. Hobby epoxy manufacturers are DEVCON, DURO and PIC.

Once you get these special adhesives, you won't use them just for hobbies. Actually they are better at making household repairs than the regular CA glues are. As for building rockets, white glue still works fine, but shouldn't better glues make better rockets?

A special thanks to the Alabama Space and Rocket Center, Ms. Pat Saucier and Dave Dooling for supporting HARA with our monthly meeting place among the fantastic ASARC surroundings. We are the envy of clubs throughout the country!!!

and more Wadding Scraps

**Next HARA meeting-
September 17th 7:30**

Editor's Notes:

As club members, this is your newsletter. Whatever the quality of the newsletter, it is because of your contributions and participation. We need input from you; articles, photographs, building tips, model plans, ideas, suggestions, cartoons and whatever else you can think of. We'd like to hear about the activities of the Butler High Aerospace Team or the local Scout launches or the building tip you've discovered in building your D Boost Glider. We'd like to print that great photograph that you took at the last launch or the cartoon you drew. If you have questions on building, send those in and we'll try to print a questions and answer column too. Essentially, we want you to get involved with MAX-Q! Please send any contributions, ideas, suggestions, questions etc. to: Robyn Steele 13011 Branscomb Road, Huntsville 35803 or call me at 883-6020 evenings and 830-6645 days. Deadline for submissions to the next issue of MAX-Q is October 15th. Thanks!

Robyn and MAC II

Parts is Parts

R.C.'s Hobbies now has body tubes, nose cones, parachutes and other individual Estes parts along with the complete kits and engines. They also have MRC rockets and engines. Remember, HARA members get 20% off at R.C.'s with your membership card. See the yellow pages for a map of their location.

Launch Site Sought

Although the old airport is great for rocket flying, it is becoming a busy place. The traffic through the middle, the soccer players, the track runners, not to mention the golf course and RC airplanes all make the field occasionally congested. With the expected expansion of the city, HARA officers want to begin now to consider alternative launch sites.

Anyone knowing of a farm, field or schoolyard, public or private within reasonable distance of Huntsville that could be available and appropriate to fly in should contact the officers or mention it at the next meeting. "It's hard to beat the old airport," said HARA President Vince Huegele, "particularly for convenience. But we want to be aware of all our options in the area so we can have a back up launch site if the airport is unavailable."

NASA Demo Planned

The MSFC picnic committee has given HARA permission to set up an exhibit and stage a launch at the NASA center's picnic September 12th.

The display area will be in BLD 4 and the planned exhibit will show various models, launcher and firing systems and a TV showing videos of recent launches.

Details of the launch are still tentative, but the emphasis will be on scale models. The softball fields near the picnic area will serve as the flying area. Volunteers are needed to man the booth and help in launch proceedings. Contact Vince Huegele or Wayne McCain for more information.

A big round of applause to all those who helped out with the timing and range duties at the July contest. We cannot run a contest without timers and range officers and we had some especially good help. A BIG, BIG vote of thanks goes to Jimmy Williams for the fantastic launchers he made for the club. They are absolutely stupendous and we appreciate the time and effort and hard work that went into them.

We will continue to need help with timing and the range table at all of our contests, and we would appreciate all club members who can pitch in and help out so that it is not a burden on any one person. Additionally, the club needs to prepare for NARAM-30 and become proficient in timing, tracking and range duties. Everyone needs to help so that everyone can also fly. THANKS!

HARA

1028 Antietam

Huntsville, AL 35803

