

SNOW NEWS

October / November '88



Larry Rice
1653 Barnett Rd
Columbus OH 44227
Newsletter Exchange

SNOAR NEWS

NOVEMBER 1987

VOLUME 11 NUMBER 11

TABLE OF CONTENTS

Editorial: From Your Sometimes Sober Editors 1

Editorial: LDRS-5 2

Editorial: NARAM-28 3

Editorial: The Launch Back 4

Editorial: The Future of the LAC 5

Editorial: The Future of the LAC 6

Editorial: The Future of the LAC 7

Editorial: The Future of the LAC 8

Editorial: The Future of the LAC 9

Editorial: The Future of the LAC 10

Editorial: The Future of the LAC 11

Editorial: The Future of the LAC 12

Editorial: The Future of the LAC 13

Editorial: The Future of the LAC 14

Editorial: The Future of the LAC 15

Editorial: The Future of the LAC 16

Editorial: The Future of the LAC 17

Editorial: The Future of the LAC 18

Editorial: The Future of the LAC 19

Editorial: The Future of the LAC 20

Editorial: The Future of the LAC 21

Editorial: The Future of the LAC 22

Editorial: The Future of the LAC 23

Editorial: The Future of the LAC 24

Editorial: The Future of the LAC 25

Editorial: The Future of the LAC 26

Editorial: The Future of the LAC 27

Editorial: The Future of the LAC 28

Editorial: The Future of the LAC 29

Editorial: The Future of the LAC 30

Editorial: The Future of the LAC 31

Editorial: The Future of the LAC 32

Editorial: The Future of the LAC 33

Editorial: The Future of the LAC 34

Editorial: The Future of the LAC 35

Editorial: The Future of the LAC 36

Editorial: The Future of the LAC 37

Editorial: The Future of the LAC 38

Editorial: The Future of the LAC 39

Editorial: The Future of the LAC 40

Editorial: The Future of the LAC 41

Editorial: The Future of the LAC 42

Editorial: The Future of the LAC 43

Editorial: The Future of the LAC 44

Editorial: The Future of the LAC 45

Editorial: The Future of the LAC 46

Editorial: The Future of the LAC 47

Editorial: The Future of the LAC 48

Editorial: The Future of the LAC 49

Editorial: The Future of the LAC 50

Editorial: The Future of the LAC 51

Editorial: The Future of the LAC 52

Editorial: The Future of the LAC 53

Editorial: The Future of the LAC 54

Editorial: The Future of the LAC 55

Editorial: The Future of the LAC 56

Editorial: The Future of the LAC 57

Editorial: The Future of the LAC 58

Editorial: The Future of the LAC 59

Editorial: The Future of the LAC 60

Editorial: The Future of the LAC 61

Editorial: The Future of the LAC 62

Editorial: The Future of the LAC 63

Editorial: The Future of the LAC 64

Editorial: The Future of the LAC 65

Editorial: The Future of the LAC 66

Editorial: The Future of the LAC 67

Editorial: The Future of the LAC 68

Editorial: The Future of the LAC 69

Editorial: The Future of the LAC 70

Editorial: The Future of the LAC 71

Editorial: The Future of the LAC 72

Editorial: The Future of the LAC 73

Editorial: The Future of the LAC 74

Editorial: The Future of the LAC 75

Editorial: The Future of the LAC 76

Editorial: The Future of the LAC 77

Editorial: The Future of the LAC 78

Editorial: The Future of the LAC 79

Editorial: The Future of the LAC 80

Editorial: The Future of the LAC 81

Editorial: The Future of the LAC 82

Editorial: The Future of the LAC 83

Editorial: The Future of the LAC 84

Editorial: The Future of the LAC 85

Editorial: The Future of the LAC 86

Editorial: The Future of the LAC 87

Editorial: The Future of the LAC 88

Editorial: The Future of the LAC 89

Editorial: The Future of the LAC 90

Editorial: The Future of the LAC 91

Editorial: The Future of the LAC 92

Editorial: The Future of the LAC 93

Editorial: The Future of the LAC 94

Editorial: The Future of the LAC 95

Editorial: The Future of the LAC 96

Editorial: The Future of the LAC 97

Editorial: The Future of the LAC 98

Editorial: The Future of the LAC 99

Editorial: The Future of the LAC 100



Well, welcome to another year of SNOAR NEWS, and another honorable mention in the LAC newsletter award competition. Once again, SNOAR NEWS has been named as one of the best newsletters in the nation. And considering the competition (T-5 , Skynotes , WARP Rocket Report , NOVAAR Free Press and others) it was quite an honor to receive another Honorable Mention - our 7th if i'm not mistaken. Our heartiest congratulations go to Jack Sarhage and the rest of the staff of The Launch Back , this year's LAC Award winner. The staff here intends to work hard to bring the trophy back in 1987.

In this issue, we're bringing you coverage of two of the year's biggest events: LDRS-5 and NARAM-28. I would like to make a few editorial comments on LDRS, though.

While the majority of participants at LDRS-5 had well thought out, well engineered models, there was a noticeable increase in flight failures due to poor design and/or construction. Most of these failures were the result of "pushing the envelope" to its limits, or to motor malfunctions. While I can appreciate the desire that some folks have to be "bigger and better", I think it unconsciable that this be done at the expense of safety. Quite frankly, there were some rockets at LDRS-5 that should not have been flown. The many motor malfunctions of the Visijets and Composite Distribution motors at recent meets also prove that high power rocket motor manufacture is not something most anyone can do on the side in their spare time. It certainly makes one appreciate the fact that professional companies like Aerotech and Vulcan are providing reliable, safe motors for high power consumers. Meanwhile, the high power rocket flyers can not afford to grow lax with their safety concerns.

We would also like to congratulate Mark and Barbara Bundick and the entire NIRA section for a fine job with NARAM-28. It was a well organized, fun meet that should set the standards for those to follow.

Well, that's it for now - hopefully in the next issues we'll have some super surprises in store!

Matt & Mac

P.S. The new editorial office is located at 13011 Branscomb Road, Huntsville, Alabama 35803 Phone : (205) 883-6020

This is not a temporary address, we've moved to Alabama for real, so you can update your address book with ink rather than pencil this time.

Marrying the "MAN OF STEELE"

by Robyn Palmer Steele

One of the first things that I noticed about Matt Steele after he moved into the apartments was that he received a lot of strange mail- things like "SNOAR News", "Carolina Skywriters", "WARP Newsletter"... I mean, this guy was getting some wild mail! I thought maybe he was into some of this weird sci-fi stuff. (Warp News?!? I mean, really!) And there were all these packages that kept coming to the apt. complex office marked, "Class C Explosives"! But, I noticed other things too, like his blue eyes, and that he was pretty good looking and he drove a Mazda RX-7 (well, he told me that he bought it to impress girls, so it's a good thing I noticed it!) And we always had a lot to talk about whenever we ran into each other... (which was pretty often, since I managed the apartment complex where he lived). Things like his computer, since I was considering getting one; (instead I am getting Matt's as part of his dowry- pretty smart thinking eh?), his military service and living in Germany, and Ohio where he grew up (since I lived there some time ago too).

I figured that things were looking up when he asked me to water his plants when he went to Bulgaria for the Internats. (Although I didn't have the foggiest idea what the Internats were.) When he returned and asked me out for the first time, I really had no inkling of what exactly I was letting myself in for, I just saw the charm and good looks and personality of the man. (Matt wonders though, why I would have considered going out with anyone who even knew where Bulgaria was, let alone someone who had actually been there!)

However, shortly into our relationship, when things were starting to look quite serious, I got my first glimpse into Matt, the rocket man. When he took me over to his apartment to show me some pictures, I happened to notice all the rockets and trophies all through his place. I really didn't think much more about it, because 10 days later he had surgery on his knee and I was too busy playing nurse for the next two months. (Well, it started out to be only 24 hours, but I'm sure you all know how those kind of things go...) Oh, there were some hints during those two months of what might be in store; the WARP club Christmas party, a club meeting that I ended up playing hostess for, some tales of the Internats in Bulgaria. But there was nothing to really warn me of exactly what I was letting myself in for, until it was much too late for me to think about backing out. Maybe things would have been different if I could have seen him getting ready for a meet before things got serious. Disappearing into his rocket room every night for a week or more before the meet and not emerging until very late is not exactly my idea of a romantic evening. (And we won't even discuss the month before Naram! Do you know what it's like trying to plan a wedding when the groom can't think of anything but rockets!)

I've been attending all the meets since March, and I think I know now what's in store for the next 50 years or so, but to anyone who is contemplating marrying, or even going out with someone who considers himself a rocketeer, I suggest that you investigate him very carefully before making any commitments. (This especially includes offering to stay with someone for 24 hours following knee surgery.)

Make sure that they make a lot of money. Buying all those kits and motors and other supplies can get very expensive! And who else but a rocketeer would have to plan his own wedding around LDRS and Naram?!? In considering where to live, the first thing that must be looked for is a workshop and plenty of space to store all those rockets and trophies and kits and magazines and... Those countless late night phone calls from rocket friends all over the country can, at times, ruin even the most carefully laid plans for a quiet, intimate, romantic evening. (Thanks guys)

But, in all fairness, I have to say that things aren't all bad. There is the possibility for a lot of travel. How else could I get to go to Medina, Ohio and Rantoul, Illinois all in the same week? The thoughts of Yugoslavia in '87 are very tempting, and Anaheim next summer for Naram 29 sounds pretty good. (I know some great beaches and shops in Southern California.) Building rockets has taught him a lot of patience, (which he definitely needs with me) and I've met a lot of new people and made a lot of new friends from all over the country. I've certainly learned a lot more about model rocketry than I ever thought I'd want to know. I've advanced from staple technician to an analog-digital editor at SNOAR News (which just means that I got to type all the articles into the computer instead of just stapling them and putting the stamps on. I am really moving up in the world aren't I?) And the highest endorsement was when Mary Roberts of Estes told me at Naram 28 that they "think the world of Matt" at Estes. (If Mary can say that after the recent Snoar News, "Mary Roberts" contest, then he must really be ok!)

Considering all the pros and cons of becoming a model rocket wife, I will have to perfectly honest and admit that it is more than worth it. After all, I survived Naram 28, (coming away with the record for the most sleep ever at a single Naram) and I survived 2 months of Matt after knee surgery. The next 50 years ought to be a piece of cake! Besides, Matt has promised me my own NAR number as a wedding present, (now we can get one on the family plan) and who knows? Maybe one of these days I'll get really ambitious and try my hand at a little competition rocket building. Maybe give Matt a run for his money and a little competition in his own home. Maybe... maybe...(dare I even hope) become part of the famous Zunofark team. (What's the old saying about if you can't beat 'em...) At least life with Matt promises to be anything but boring!

Highlights of LDRS-5

by Matt Steele

LDRS-5 attracted the largest crowd yet to a high-power meet - over 200 people were estimated to have been in attendance. LDRS-5 also saw some of the largest rockets ever constructed using model rocket technology. Unfortunately, some of these models also demonstrated the limits of model rocket technology.

Some of the highlights of the two day extravaganza:

Biggest Collection: Ron & Deb Shultz won this category hands down, with a van full of models that would resemble some Third World country's entire defense system. Not only were the models large and numerous but they were incredibly well-painted works of art.

Best New Motor: Vulcan Systems brought some "Smokey Sam" H motors that resemble F100's with all the smoke they put out. There was no chance of losing these H-powered models in the air - the thick brown exhaust was clearly visible.

Motor most likely to cato: The Korrey Kline VisiJet. Korrey's motors suffered sporadic cato's (usually blow-through) all day Saturday, finally resulting in the RSO banning any further flights using them. The cato's were spectacular but a little frightening, and they had a nasty habit of starting small grass fires. Certainly manufacturing motors is not as easy as it might appear to be.

Model most likely to crimp: Ron Schultz' Exotica (17 feet tall). It did crimp, despite a motor cato. Anyone who has flown a Superroc knew that the couplers were too short to hold the bird together rigidly enough.

Most unique model: Korrey Kline's Monokopter, this time with parachute recovery!

The "LDRS is a happening event" award: A tie between Aerotech and North Coast who both produced T-shirts for LDRS-5. Certainly they will become collector's items.

Most Welcome Returnee: Doug Forrester, who brought out some beautiful birds after missing LDRS-4.

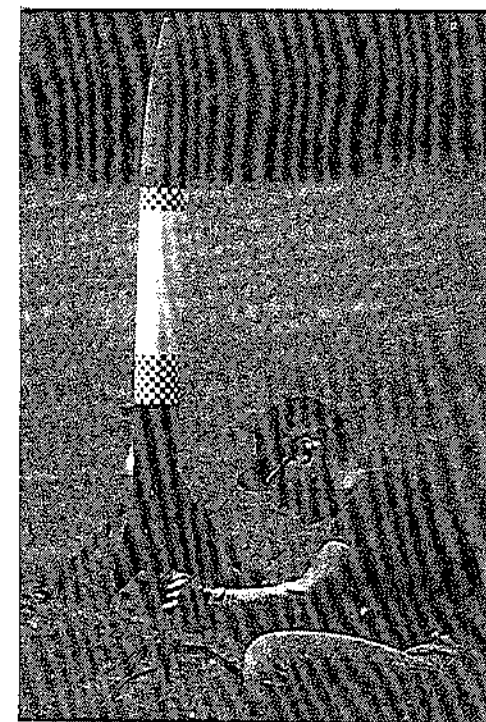
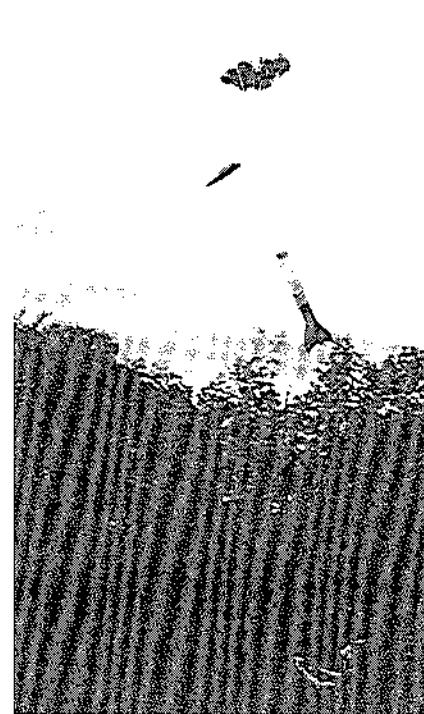
Least Welcome Returnee: Jerry Irvine, who was not permitted on the field until a compromise was worked out.

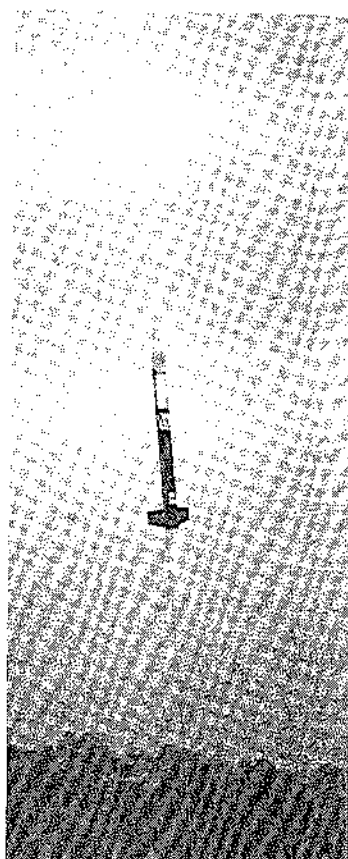
Most important visitor: Vern Estes, who attended as part of the NAR Blue Ribbon Commission's efforts to observe high power first hand. Jim Barrowman and Chas Russell were also present as part of the Commission, plus NAR president Pat Miller.

Right: Tom Blazanin and Don McPherson prep an H powered model.

Below right: Chas Russeli gets his Phantom 4000 ready to go

Below left: Chas' Phantom coming down with Chas ready to catch it





Above: Gary Rosenfield of Aerotech slides a special L powered bird onto the pad, seen taking off at right

Left: Jim Backlas did a good job as RSO at LDRS-5



Quotable Quotes

Overheard on High Power Flying Fields

"The computer says it will fly"

- "Crazy" Chuck Rogers before two disastrous flights at LDRS-5 and Lucerne

"I didn't say that! I said she had a nice personality"

- Chuck Mund, referring to an infamous California rocketeer's girlfriend

"I'd rather talk about Jesus than rockets, anyday"

- Don Carter

"Chuck, you sold me a defective motor!" - Curt Hughes, prepping a bird

"Curt, you've got it in backwards!" - Chuck Mund

"**** me! I'm embarrassed!" - Curt Hughes

"This ain't LDRS" - Bill Kust, RSO at the high power launch Z2, upon complaints of s-l-o-w flying

"That's for sure!" - Jim Backlas, LDRS RSO

"Chris, go to Lucerne and show them how to run a launch"

- Chuck Mund to Chris Pearson after a disastrous US Rockets launch

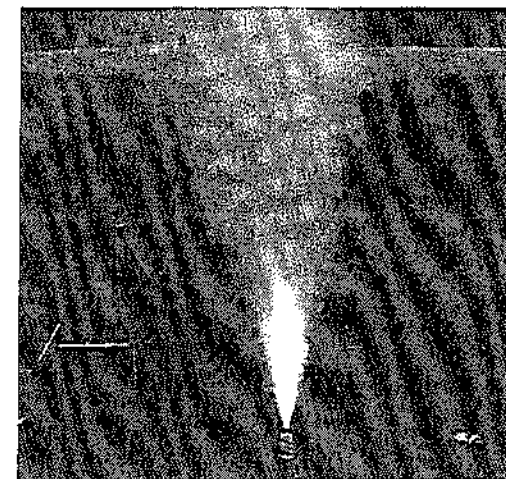
"Ah, This is a good one - A J200 cruise missile"

- Overheard watching a video of the last Lucerne launch

"Yep! There's a live I 500 motor somewhere out in that field"

- Scott Pearce, after a cato destroyed most of his cluster model

Right: A Visijet J static firing. Unfortunatley like too many of the Visijets, it blew just after this photo was taken



NAR Blue Ribbon Commission at LDRS-5

By Chris Johnston

Everybody expects LDRS to be the best high power meet of the year, (and they are always right!). One important thing that set LDRS-5 apart from previous meets was the presence of the NAR Blue Ribbon Commission. We have had NAR observers at LDRS before, of course, but never ones that had as much ability to have as much direct impact on High Power Rocketry. After the original proposal to the NAR board almost a year and a half ago, LDRS-5 was to be the first head-to-head meeting between the NAR Blue Ribbon Commission and the High Power Consumer's Commission.

Before LDRS, the only interaction between the two commissions was done in writing. The Blue Ribbon Commission responded to our original proposal and we commented on their response. The NAR commission's response to the proposal seemed to be pretty negative, with a lot of comment and criticism on the wording of the proposals and limits proposed. They were concerned with the high weight and total impulse limits proposed. NAR Blue Ribbon Commission chairman Jim Barrowman, members Vern Estes and Chas Russell, and NAR president Pat Miller attended, with Judy Barrowman acting as secretary at the Saturday night meeting.

We knew the impression of high power rocketry that the NAR commission developed during their visit to LDRS would shape their recommendations to the NAR board of trustees. We needed to reproduce the well managed, smoothly run range that has practically become the trademark of a SNOAR operation.

The commission members spent most of the day Saturday observing the flying and range operation procedures and talking to people around the range. Despite some engine problems (mainly with the Visi-Jets) and a recurring problem with small grass fires the NAR commission was impressed with what it saw. The two commissions finally met on Saturday evening for a discussion of the day's flying and, more importantly, the relationship between the NAR and high power rocketry. The representatives of the high power consumer's commission present at this meeting were Chuck Mund, Chris Johnston, and Bob Ferrante. Bob Geler, a major force in the generation of the original proposal, was unable to attend. Bob Ferrante helped put the original proposal together but his name hasn't been strongly associated with it (until now!). Tom Blazantin also attended, representing Tripoli.

Several points emerged from these discussions: The representatives of the NAR commission that attended LDRS seem to see high power rocketry as an extension of model rocketry. The major problem with the NAR absorbing high power rocketry involves legal liability. The NAR's insurance comes from the AMA (the model airplane organization). The AMA has been hit with some substantial claims over the last few years, mostly for things incidental to flying such as parking lot accidents. There was enough concern about liability that some of the AMA trustees were opposed to extending their insurance to the NAR the last time the issue was raised.

The NAR feels that they cannot afford to lose the AMA insurance. They are afraid that, if the AMA hesitates to include the NAR's present model rocketry activities in their insurance now they might be unwilling to cover the NAR at all if high power rocketry were included.

There was general agreement that a mechanism allowing NAR members to fly high power and amateur rocketry "legally" (without danger to their NAR membership) would be ready to be voted on at the February 1987 trustees' meeting. There will have to be some kind of "no mixing" rule set up. This rule will define how model, high power, and amateur rocketry mix. There is some debate about what the nature of the rule will be. It may require that NAR model rocketry activities not be held at the same place on the same day as high power or amateur events. Depending on what limits are set by the AMA, high power rocketry on NAR insured fields may be prohibited completely. (An NAR insured field is one for which a section has obtained an "additionally insured" certificate). An NAR section is insured for its' own activities wherever it is, but it takes the insurance with it when it leaves the field. An NAR insured field is insured all of the time, whether the section is using it or not. The problem with high power rocketry on NAR insured fields is the possibility of transferring liability to the NAR for an accident that does not involve model rocketry.

The "no mixing" rule will probably not be linked to joint membership in any other organization. There is no way to know which organizations will still be around in a few years, or which new organizations will form, so it does not make any sense to be too specific.

The joint commission meetings at LDRS-5 laid a solid groundwork for the peaceful coexistence of the NAR and high power rocketry. If the liability picture improves in the future, the NAR is positioned to take advantage of the improvement by expanding its' activities.



LOST YOUR ROCKET?

Find it with a radio-transmitter recovery aid, the

XIMTR-1

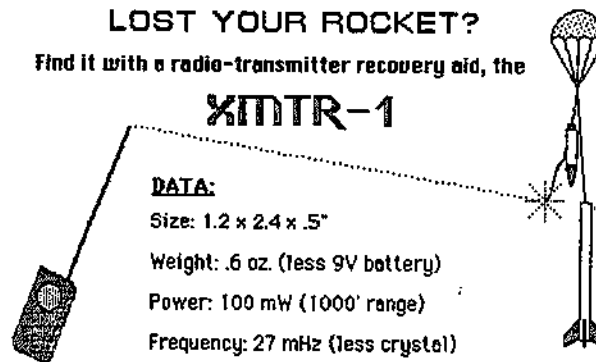
DATA:

Size: 1.2 x 2.4 x .5"

Weight: .6 oz. (less 9V battery)

Power: 100 mW (1000' range)

Frequency: 27 MHz (less crystal)



- Pulsed-tone signal can be received by walkie-talkie
- Assembled and tested
- \$25 each, or two for \$40

Order from: TRANSOLVE, 1197 Genesee, Mayfield Hts, Ohio, 44124

NARAM-28

The SNOAR contingent this year became "SNOARP", as Matt Steele flew for Salt Lake's WARP section, as did Chas Russell, to join WARP's Randall Redd and Gary Price. George Gassaway flew for the Alabama BAMROCS section. Matt's soon-to-be wife, Robyn, really joined in with the flying activities helping Matt and everyone else in "SNOARP-Rocs". All, except for George, had "double dipped" by attending LDRS, then driving to NARAM.

Going into NARAM, Matt and George were vying for the C Division championship, George's 5263 points leading Matt's 5123 by so little it was almost no lead at all. Both were strong leads over Larry Rice's 3722 and Dan Domina's 3644 totals, but not insurmountable leads.

Overshadowing age division titles was the section championship battle between NIRA and NOVAAR, which NOVAAR led 21863 to 21232 before NARAM. A big controversy arose over the East Meets West Team flying for NOVAAR, something which NIRA protested due to no one from the EMW team being listed as a NOVAAR member or having any ties to Virginia. Terry Lee made a tough decision on the matter before NARAM began, allowing EMW to fly for NOVAAR, although future rules may limit this.

NARAM-28 was held in Champaign-Urbana Illinois, with the flying at Chanute AFB in Rantoul about 20 minutes away. The University dorm used was pretty good for the price, even with the dorms only having a centrally located bathroom per floor. Otherwise the meeting areas, cafeteria, and other facilities were very good. NARAM was hosted by NIRA, with Mark Bundick serving as Contest Director. It was a well-run meet, with no major flying problems. The NARCON director was Connie Pursley. Some of the NARCON activity consisted of discussion groups at the dorm in Champaign, and some was at a special NARCON launch site located conveniently about 100 feet from the NARAM launch site. This allowed for good interaction between NARAM and NARCON on the field.

Chanute provided an interesting launch site, located at the far end of an inactive runway. The concrete runway provided good close parking with the launch area just off the end in a mowed grassy area. The surrounding areas varied, such as large display airplanes (like a B-36 and B-52), hangars, a flight line of varied inactive planes for training, and more. Models bounced off planes, models were retrieved from hangar roofs, but the dreaded corn rarely gave back anything that landed in it.

Monday's flying consisted of 1/2A Parachute and 1/2A Streamer Duration (flown in whatever order a contestant wanted, a concept which worked out very well). Skies were clear and thermal activity strong. Matt and George made use of their digital thermometers to help pick lift, along with watching the thermal poles and wind changes. George managed to get one flight of over 2 minutes in SD, plus another good flight, for 3rd place. Matt flew his PD model for a total of about 9 minutes, to take 3rd place, scoring the same points as George did. Meanwhile, Dan Domina got a 2nd in PD and 4th in SD to pick up some ground.

Tuesday had B Egg Duration and B Helicopter. George had his first B Egg bird lost after 6 minutes, then the 2nd flight snagged the chute for a DQ out of the event. Matt got flight points in Egg but little else. Randall Redd flew for a strong second place.



Above: The SNOAR, WARP, and Bamrocs contingent after a long-week of flying. (l-r) Chas Russell, Gary Price, Matt Steele, George Gassaway, and Randall Redd.

Not pictured because she took all these NARAM photos: Robyn Steele

oo

In Helicopter Roger Wilfong popped his model into the core of a strong thermal which George's Rotaroc had been helped by, giving Roger the win and George 2nd place. Chas Russell's Rotaroc was close behind in 3rd. Matt's model finished out of the money, but notable nonetheless by landing on the left wing of a B-52, the first (but not last) model to land on one of the planes near the hangars.

Wednesday featured C Eggloft Altitude, Design Efficiency, overcast skies, rain, and wind. After about an hour's delay, the rain stopped and flying began. Eggloft Altitude became a mix of choosing the lesser of two evils and some amount of luck. Recover the egg with a large enough chute to reduce the chance of cracking if it hit in a paved area (almost a certainty) yet risk losing it drifting too far away, or use a smaller chute to get the egg back and increase the chance of breaking when it hit a paved area (a rare time to wish a model would land in a tree!). George had a flight off a piston fly over 300 meters, but the model drifted off and was lost. Matt had a model with a moderate chute land on a hangar, but broke the egg anyway. Chas Russell had an egglofter land on the left wing of "Matt's" B-52, collapse the chute, then slide off onto the concrete below. There were altitudes in the range of 250-280 meters closing, but the winning flight was under 240 meters due to the smashed eggs. The winning C Division flight was by Dan Domina. Gary Price had a flight survive for 4th place.

Design Efficiency was not as affected by the wind. Trip Barber won easily, though it beats us what he does to make his altitude birds fly so well. Matt and Dan Domina tied for 4th place. As both Design Efficiency and C Egg altitude were being flown, the NARCON range was holding their own C (?) Eggloft event that used the NARAM trackers. This created a tracking



Clockwise:
Chas Russell gives his best "Trustees Quarterly" pose with his streamer model.

Randall Redd makes sure the wind doesn't blow over his large parasite F15 powered B/G.

Terry Lee has his slide wing R/G ready to launch.

Technology in action. Matt Steele checks launch site temperature and gets upwind lift reports by radio for his R/G flight attempt.



overload that backlogged flights to the point where one could wait 45 minutes for the model to be launched (and another 45 if it misfired). Obviously the tracking resources can only handle one contest at a time when both meets have more than a handful of entries (unless NARCON arranges for its' own trackers).

By Wednesday night the C division handwriting (or updated computer print-out) was on the wall, literally, in checking over the posted NARAM results and seeing how well Dan Domina had scored. He was still behind George and Matt, but had closed a lot and had the glide events and R&D to possibly score big in. Knowing that Dan is an AMA member heavily into free flight and past HLG champion, the glide events were his strongest suit.

Thursday had very light wind, but the cloud cover was not promising for thermal activity. Dan Domina flew B/G, R/G, recovered both models, and finished flying the second flights by noon to wrap up his flying. He didn't fly into strong lift, there was none, but he flew well and better than anyone else could to win both events (moving ahead of Matt and George in the process). Matt couldn't squeeze anything out of his B/G's, though the first flight of his R/G for 120 seconds was promising. Unfortunately on flight two the R/G's engine blew (the cato was during the only decent hint of lift all day), and it also caused severe wing damage. The damage was repaired, but the model was no longer its former self and only made an 80 second flight for 4th place, 40 seconds behind Domina's winning score. George was in trouble right off the bat by leaving his B/G's at the dorm, fortunately Robyn went back to get them. George lost an R/G into the corn, then had the second model fail to slide the wing to DO the event. Another B/G seemed lost in the corn, but the SNOARP recovery crew went in and Randall Redd somehow managed to find the glider, which made a second flight to take 4th in B/G.

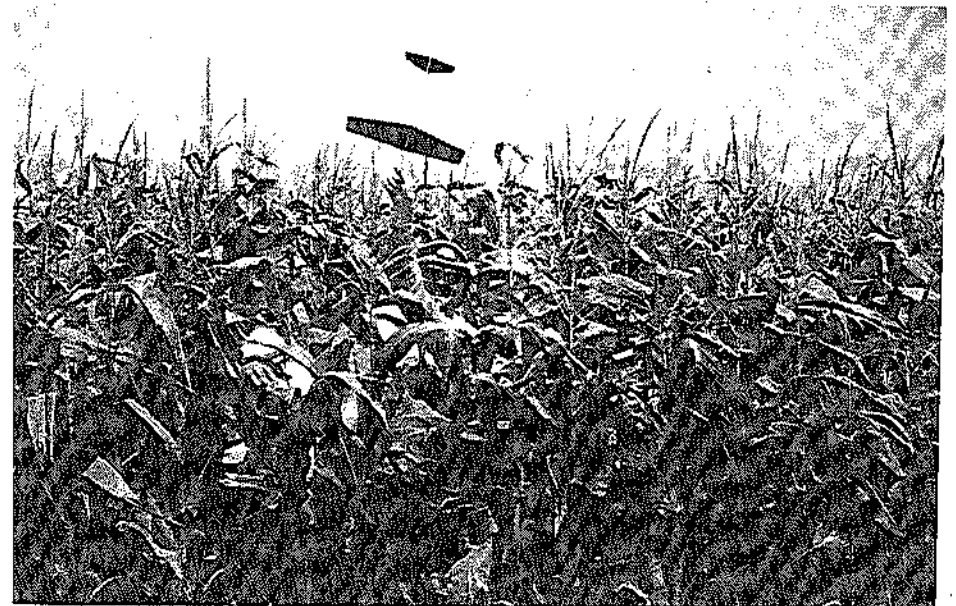
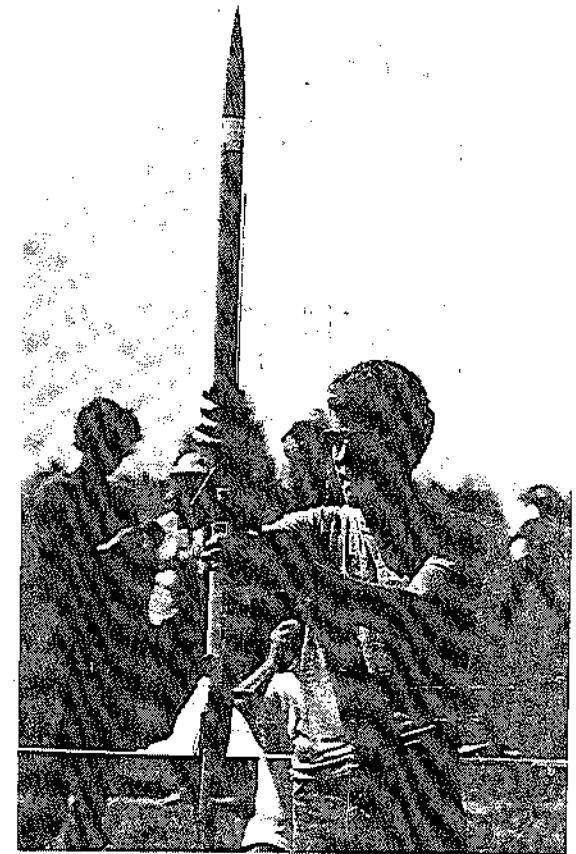
The section title race had been very close all week, at one point NOVAAR and NIRA both had over 25,000 points and were under 100 points apart. However, NIRA's high placings and large number of qualified flight points put in by their members in the glider events gave NIRA a commanding lead NOVAAR couldn't catch.

Thursday night were the R&D presentations. The winning report was by the Odd Couple Team's report in the floating-head piston. The essence of the floating head piston is a piston which becomes airborne with the model for a short distance (the piston head and tube pushing away from the vertical support post) until the pressure in the piston tube is enough to blow the model free from the piston tube. Second place went to Randall Redd, concerning home-made body tubes and their strength and weight comparisons with commercial tubes. Third place went to Matt's report comparing several well-known computer altitude prediction programs against known tracked rocket altitudes. Fourth place went to Dan Domina's device for measuring the deceleration stress when parachutes are deployed.

Friday had partly cloudy skies and high winds for the official Scale and Spot Landing events, plus the unofficial F B/G event. Scale was won by Bob Beidron's Nike-Tomahawk with Bruce Carey of Estes taking second with a Nike-Tomahawk as well. While the really top placing scale models got their deserved rankings, the rest of the pack was strange. The Odd Couple's 2nd place NARAM-23 model was down in around 8th, Matt's 4th place model

Right: Pat Peterson of the Drug Team reads their winning B Div. Aerobee 350 Scale model for flight.

Below: "We found it!" Four of the five people pictured on page 15 are somewhere in this photo, the "children of the corn". Randall Redd somehow managed to find George's B B/G model deep into the cornfield.



from the same NARAM was down in about 14th, and George's IQSY Tomahawk from Scale Altitude last year was in about 11th or 12th. George's model was where it deserved to be, but there's no way it was even as good as Matt's. We're really not sure what was going on with the judging, not in the sense of trying to screw anybody, but possibly not knowing how to judge after seeing the "obvious" top 2 or 3 models.

By now George knew he'd end up 3rd overall, although Matt had a shot if he could win spot landing and place high in R&D (results were not known at the time). Matt managed 2nd place in Spot Landing at about 26 feet, being helped by Chas Russell's "pathfinder" flight moments before which took 3rd place. Don Linder won the event with a distance of about 6 feet, remarkable considering the spot was about 150' away and 30-40" left of downwind in the 10-15 mph wind. This is definitely worth having at NARAM more often (and/or NARCON).

Only about half of the planned Condor (F power) B/G entries were flown due to the winds. Among those not flown was an impressive scaled up BT-60 size Concorde (July 1980 Model Rocketeer) by Gary Price. Randall Redd flew his semi-profile orbiter type glider piggyback on a large conventional F15 powered rocket. It worked great, it flew great, it landed in the soybeans far far away (not so great) and was lost. Most models either crashed or were lost, leaving only three places to be claimed. Terry Lee took 3rd using an F9 powered Rebel Yell slide-flop wing which at transition went into a very tight spiral glide to hit at about 26 seconds at high horizontal speed on the tarmac (smashing about 50% of the model in the process), but it did glide well enough for a "Midwest glide". The second place flight was little better, about 28 seconds. The winning flight was George's Synchronicity R/C Rocket Glider which flew with an E6 and a 1/2A clustered to bump it into F category. The boost in the high wind was difficult, but safely accomplished, then it was a matter of keeping the model headed into the wind as the glide speed was little more than the wind velocity. The flight lasted over 7 minutes.

The awards banquet continued the standards of recent years by having good food and being very entertaining (at least to those with fried-out rocket brains from a week's worth of flying: a videotape to a "sober" person might not make much sense. As such, it's impossible to relate most of it here).

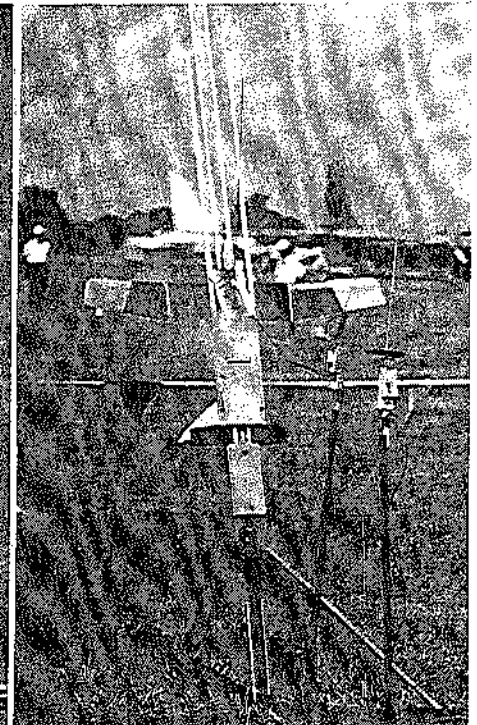
In addition to the interest in the NARAM and NARCON awards, there was much interest in the door prizes, handled by Claude Greenlee and Connie Pursley. Prizes were quite varied, such as back-issues of the Model Rocketeer/AmSpam, free NAR memberships, modeling supplies, and kits. The Muccio family made out like bandits. In addition to all the trophies and Estes certificates won by their son Peter and daughter Janna, Ed Muccio won \$100 and his wife won an assortment of NAR magazines, patches, and an NAR membership. George Gassaway won \$50, which was the start of his "Yugo" fund (NOT the car). Big winner was Fritz Gnass of Canada, who won a free trip to NARAM-29 in California next year.

There was not one overwhelming winner for the Best Midwest qualified flight award this year. That's not to say there weren't a few goodies, but nothing legendary (before the awards banquet anyway). The award went to the East Meets West team for their egglofter which shattered when it crashed onto a 12" wide concrete strip that extended 100 feet beyond the runway (for no apparent reason). It was among no less than THREE

Left: Bob Biedron gives his winning C Div Nike-Tomahawk the white glove treatment.

Below left: Terry Lee of the Omega-Alpha team hooks up the clips to an Asp that may be older than some of the NARAM A Division contestants!

Below right: George's R/C R/G flies in F B/G by use of an E6/1/2A cluster



egglofters which crashed into the same 12" wide strip, as though it was an egg magnet. A sure winner would have been a Saturday demo flight by a local rocketeer flying a heavy 2 staged model which failed to stage, pointed straight down at the range tent and went through the tent.

The "Win a Date with Mary Roberts" contest which ran in SNOAR NEWS before LDRS/NARAM really took on a life of it's own. There were actually a few entries received, including one from Bonnie Russell we still aren't sure about (trying to arrange an escort for Chas?) and Bob Kaplow. Since nobody sent actual money entry forms, Bob's \$100,000 play money entry form was declared the winner over Bonnie's xeroxed \$20 bill (maybe a GOOD color xerox next time?). Although it really was all a joke, Mary was a very good sport about it; at the awards banquet Bob was announced as the winner and received a kiss from Mary (anything more and both MRS Kaplow and MR Roberts would really had something to say about all this). Geez, the way that joke took off we're a bit worried what our next contest might do.

The trophies were nice this year, all topped with a NARAM-28 emblem. Estes provided merchandise certificates for the winners and placers. Fittingly, the National and reserve Champions in A Division came from NIRA and NOVAAR, Don Linder Jr. and Tim Marcy of NIRA taking the A and B Championships respectively as Wes Gimbert and Dan Mulholland of NOVAAR took the A and B Reserve championships. The good news/bad news story for Matt was that he did what he thought he needed to do to win the C Div championship, beat George, but Dan Domina passed both to win instead. Team Champs easily were the Odd Couple, Jeff Vincent and Chuck Weiss, reserve going to the Drug Team (Pat Peterson and Ben Roberto). NIRA won the section championship, with NOVAAR second and WARP a distant third.

LAC Newsletter Award was won by The Launch Rack. Honorable mentions went to the NOVAAR Free Press, Skynotes (Carolina Skywriters), and SNOAR NEWS (back to the honorable mention rut?)

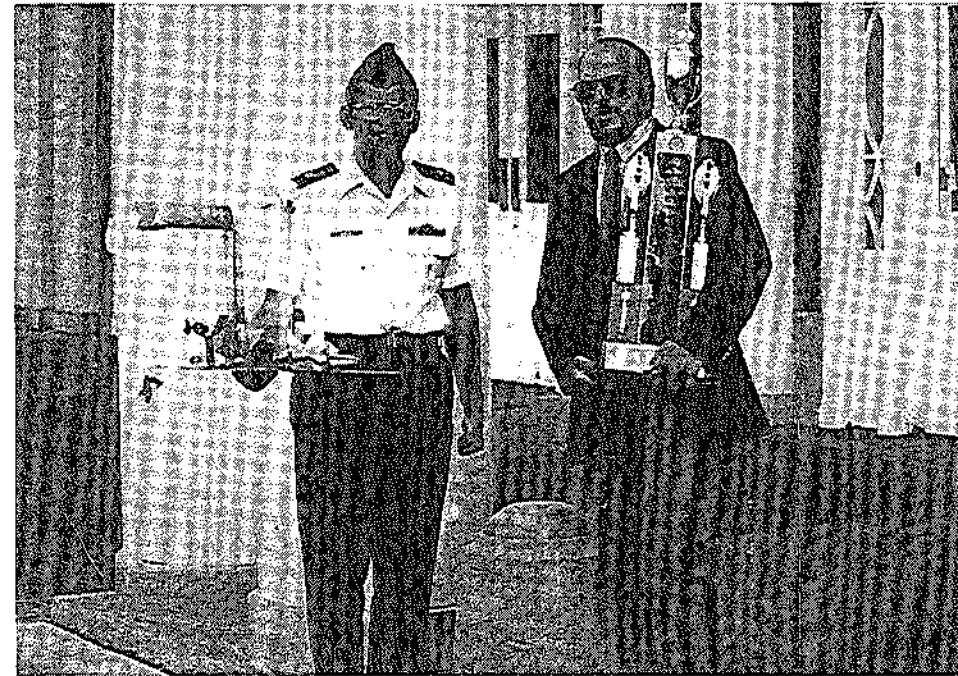
	<u>NARAM</u>	<u>Overall (national)</u>	
A Div Champ	Don Linder, jr.	Don Linder jr.	8866 pts
A Div Reserve	Wes Gimbert	Wes Gimbert	5597 pts
B Div Champ	Adam Nowotarski	Tim Marcy	8288 pts
B Div Reserve	Dan Mulholland	Adam Nowotarski	7783 pts
C Div Champ	Odd Couple Team	Dan Domina	7087 pts
C Div Reserve	Dan Domina	Matt Steele	6646 pts
Team Champ		Odd Couple Team	9497 pts
Team Reserve		Drug Team	5054 pts
Section Champ		NIRA	41478 pts
Section Reserve		NOVAAR	36747 pts

NARTREK Award of Excellence: Duane Lanterman

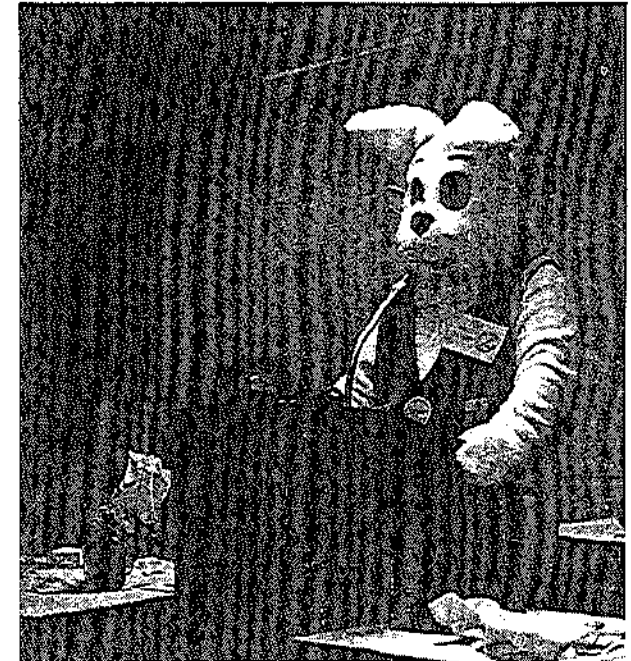
LAC Newsletter Award: Winner- The Launch Rack - Jack Sarhage, editor
 Honorable mentions- NOVAAR Free Press, Skynotes, SNOAR NEWS
 Artwork- T-5 Plans/graphics- Aunt Effy's Cabbage Patch

Galloway Award: Phil Barnes (three time gold medal winner)

President's Award: Bryant Thompson



Above: Chas Russell has the honor of transporting the Best Midwest Qualified Flight trophy, while Matt carries the LAC Newsletter award to the awards banquet.



Right: The REAL "BUNNY" made a special appearance at NARAM-28. He seemed to be related to Claude Greenlee somehow.

1987 United States Spacemodelling Team Selection Flyoffs

At least 20 people participated in the U.S. Team-selection process this year. It was the most competitive trials since the 1979 flyoffs which chose the team that flew on "home turf" at the 1980 World Championships in Lakehurst. Fritz Gnass, of Canada, also participated in the flying to gain some experience for his trip to represent Canada in Yugoslavia next year.

FAI rules are somewhat similar to the NAR international style rules, but with some important differences. One of the most visible is a requirement that all non-scale models have a diameter of 18mm or more for at least 50% of the model length. This has led to models with boat-tails, the most exotic and efficient of which are fiberglass body tube models which also have a lower weight than a conventional paper tube model. Another difference is that the max times for duration events increase 60 seconds every round, instead of at the start of flyoff rounds. As was done in the last selection flyoffs, the FAI limitation of 2 models for the first 3 rounds was not enforced. This allowed contestants to let their models go, flying and losing one model per round, if they brought enough models to fly. After all, in Yugoslavia next year the contestants will only be concerned with flying their models while most of the rest of the U.S. Team is downwind acting as a recovery crew (Only one model was lost last year in Bulgaria, a model which failed to deploy and went unseen).

S3A Parachute Duration: (Max: 240/300/360)

A Parachute Duration was flown on Friday afternoon, literally minutes after the last NARAM flight. The weather featured scattered clouds and thermals, but also relatively high winds in the 10-15 mph range. This made picking the right time to fly very critical, or at least it would seem that way. PD also had the most entries, with 16 fliers.

The actual flying often led to several minutes of waiting followed by seconds of frantic launch activity, as many of the ready fliers would wait for a cloud shadow to pass by or wait for some indications of lift. Then someone would ask for launch, followed immediately by one or two or four or six(!) others asking to launch, all within seconds of each other. Sort of like model rocket dominoes. Chas Russell did a super job as RSO getting many models launched less than 10 seconds apart. This led to at least a couple of occasions where there were too many fliers wanting to launch than the number of available timers could allow, there being as many as 6 models in the air at a time.

Nobody maxed out, but a few came close. There were at least a couple of models which failed to max due to going out of sight in the sky, even with the timers using binoculars (the wind was sending the models a long way during the 5 and 6 minute max rounds). Art Rose won with 2 maxes and a total of 867 seconds, with George Gassaway coming in second with 2 maxes and an 860 total. Chuck Weiss (the "other guy" in the Odd Couple team) took 3rd with an 852 total followed 1 second behind by Ken Mizof AND Trip Barber at 851 seconds each for 4th and 5th (Ken won a mini-flyoff with Trip to determine who came in 4th place, and thus the first alternate position).

S6A Streamer Duration: (Max: 120/180/240)

The Streamer, R/G, and B/G flyoffs were held Saturday in virtually perfect weather. The winds were very light, and the skies cloudless in the morning, with plenty of promise of thermal activity during the day.

Fourteen people flew in Streamer Duration. Most used the same boattailed fiberglass tubed model designs seen in PD on Friday, with whatever magical streamer material was their favorite, such as thick mylar, Micafilm, and tracing paper. While some models did make some use of thermal activity, the top results went to the models with the best combination of low descent mass and maximum streamer drag. There were only a handful of maxes in the event, mostly due to the increased max times of the 2nd and 3rd rounds.

The top results were turned in by Harry Rose with 411 seconds and his father Art Rose with a 351 second total, the only fliers to have all three flights of 100 seconds or more. Third place went to Frank McMullin's 294 total, Trip Barber took 4th with 293 sec, and Phil Barnes 5th with a 257 total.

S8E R/C Rocket Glide: (Max: 300/360/420)

Next up was the R/C Rocket Glide event. It was mid-day, and the thermal activity had already caused the sky to be dotted with cumulous clouds. As always in this event, the key is to be able to boost the model safely into a vertical or near-vertical E6 powered boost, then transition into a smooth glide and search for whatever lift can be found.

While 8 people planned to fly, Scott Doctor and Mark Schmitt wiped out their models on their first test flight. Ben Roberto had a model which for some reason rolled left on boost, and no amount of troubleshooting could solve it. Ben chose not to make an E6 attempt for the safety of the people present after a couple of really hairy D7 tests (he did later make a good flight on a model Phil Barnes let him fly).

This effectively left 5 people to fly for the 3 team positions. Phil Barnes showed why he's the two-time world champion by flying Dark Star-5 perfectly all three rounds, riding the 8 second E6 burn vertically until the model reached apogee as a small speck in the sky, then caught plenty of lift to keep his model high up. After he maxed, he'd aim his model near the launch site, put the model in a high speed dive then pulled out at a hundred feet or so to set up for landing (almost always producing a high pitched whistling sound from the model cutting through the air so fast).

George Riebesehl followed Phil's 1080 perfect score with 2 maxes and a 932 second total. "Jedi" George Riebesehl used essentially the same Dark Star-5 design as Phil, and as importantly his boosts were also very much like Phil's.

Having crashed in the 1982 and 1984 flyoffs, George Gassaway made up for it somewhat by taking third using a new R/G design called Synchronicity. The design was larger than Dark Star-5, giving a slower boost to a lower altitude (a bit easier to control), and trying to make up for it with a better glide. He managed to max the first round, but DQ'ed round two when the E6-0 ejected (the E6-0 provided unexpected pressurization of the unvented pod). He followed that up with a max in round three, for a total of 720 seconds.

Mike Micci also improved over previous team flyoffs, avoiding coming close to the ground on boost. His first flight was judged too wild though, and DQ'ed. The second flight was better, some aerobatics but not too much, for a time of 144 seconds, followed by a 36 second flight.

Matt Steele had his own version of Synchronicity, with a slide pod to reduce the tendency to pitch on boost. The plan was to test fly and trim the model during NARAM, but outside events and weather delayed testing until Saturday (making first flights of a new model or design on contest day is never a good way to start). The first test flight on a D12 saw the pod rip away from the model at ejection, causing damage that didn't allow time for more testing before the event started. The first flight, using a 1/2A with a D7 for a short boost burn, was DQ'ed for rolling and going horizontal (an E6 would have meant a crash). On landing the transmitter batteries went dead, possibly adding to the model's bad boost. Matt had to sit out round two. For round three once George Gassaway finished his last flight a switch of Matt's transmitter frequency module into George's transmitter (same kind) allowed Matt to fly round three. The plan was to roll the model on boost once it got vertical, but it got into a roll about 45 degrees from vertical, sure doom with the 8 second burn of an E6 unless the model could be brought closer to vertical. So, 2 seconds into boost the intended flight plan was dumped and Matt managed to first level the wings and then use up elevator to pull the model vertical for a somewhat low but safe boost, giving a qualified 164 second flight. He could only wonder what a third flight with the new knowledge would have been like.

Since neither Mike Micci nor Matt Steele had totals of 540 seconds (50% or more than the winning score), they were not necessarily guaranteed alternate positions on the Rocket Glide team.

S4B Boost Glide: (Max: 180/240/300)

The flying ended with B Boost Glide. Out of 12 fliers all flew flexwings of one type or another except for Trip Barber's solid wing models.

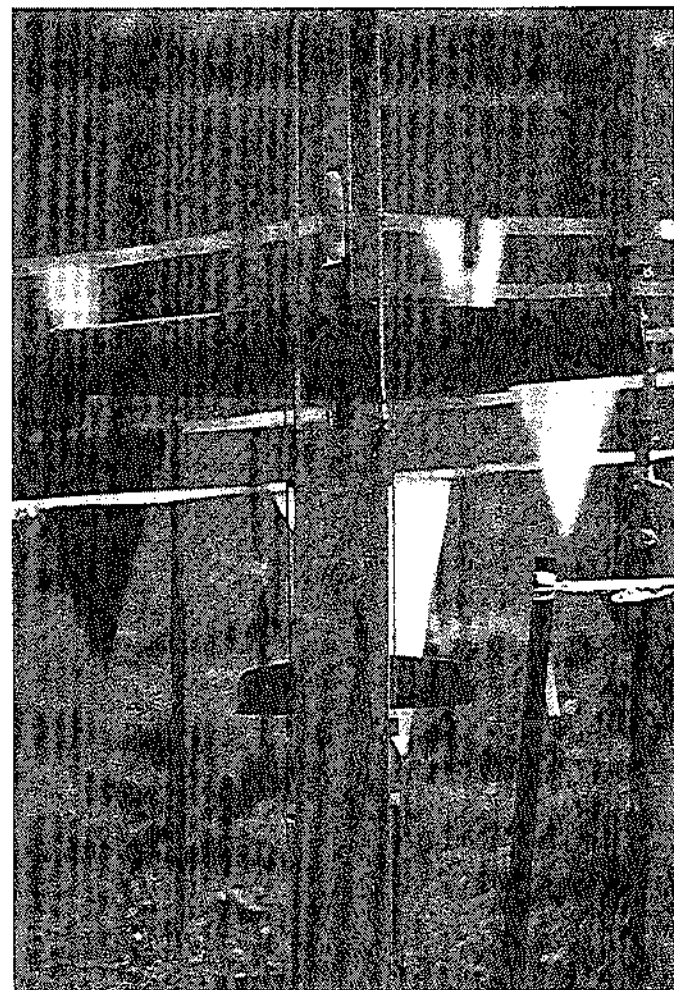
George Gassaway won by maxing all three flights for a 720 total, using new flex-wing concept. A fragile 12" lightweight single wing flexie was wrapped inside a spring loaded cocoon which protected the flexie during ejection then fell away to let the flexie deploy intact. This allowed a shorter booster and a nose cone to be used, increasing boost altitude.

Most of the other top fliers used canard flexies of a design perfected by Art Rose after studying some European canard models. No doubt about it, canard designs provide much greater pitch stability than a single wing flexie, and should become more and more popular. At least 6 of the fliers used canard designs. Dan Winings flew his canards to second place on 2 maxes and a 655 total.

DQ's or glider damage of some sort struck everybody else. After round one 10 of the 12 fliers had made 180 second maxes (unprecedented in U.S. Team flyoffs), while two DQ'ed. One of those DQ's was Harry Rose, who stuck to his guns and maxed the other two flights to move into third place. Canard fliers Jeff Vincent and Art Rose were tied with George Gassaway when round three started, but Jeff's model suffered ejection damage for a short flight and Art's model failed to eject at all (possibly a weak ejection charge that couldn't be proven for a reflight). Jeff came in fourth with a 481 total, Terry Lee fifth on 480 seconds, and Art Rose 6th at 420 seconds.



Above: The participants in the E R/C R/G event (L-R): Mike Micci, Ben Roberto, George Reibesehl, Phil Barnes, George Gassaway, Matt Steele, and Mark Schmidt.



Right: Phil Barnes' Dark Star-5 in its launch tower. This apparently was the same model Phil used to win in Bulgaria in 1985.

SIA Altitude & SSC Scale Altitude:

The team members for altitude and scale altitude were selected by resume, plus boilerplate models in the case of Scale Altitude.

Trip Barber, Matt Steele, and Jeff Vincent were named to the altitude team. The altitude team will have an interesting time coming up with the optimum method to stage the models, since to best meet the rules the models use an 18mm first stage that is just as long as the smaller diameter upper stages used.

The C scale altitude team consists of Matt Steele, Jeff Vincent, and Dan Winings. FAI rules now require that scale altitude models be at least 18mm diameter for at least 20% of the model length. So, now the scale altitude team members are considering what type of vehicle prototypes to model which will be able to fly the best and meet the FAI requirements.

Scale

Bob Biedron and Bruce Carey were named to the scale team. At NARAM, Bob's Nike-Tomahawk had easily taken first place. Bruce Carey's Nike-Tomahawk came in second place pretty solidly. At a later date, John Pursley was named to take the third scale team position.

Update

A few weeks after the flyoffs, a few changes were made among team members in some events.

George Gassaway had not planned to go to Yugoslavia, but was flying to gain experience for the future and possibly make the US team to fly in the US-USSR meet planned for next spring. With the postponement of that meet and his success in the flyoffs, he decided to commit to go to Yugoslavia. He dropped off the PD team to concentrate on a new flexie design and improving his rocket glider flying. Ken Mizoi moved into the open PD slot.

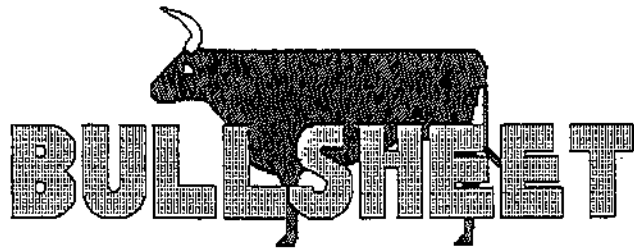
Dan Winings and Art Rose swapped events, Dan joining the PD team and Art took on the B/G team. Yet another new FAI rule requires flex-wing B/G's to weigh at least 50% of the gross launch mass of the model, in a poorly-conceived attempt to make solid wing gliders more competitive. Art Rose and George Gassaway are working on a couple of concepts for the B/G team to best handle the new rule.

1987 U.S. Soacemodelling Team (as of Sept. 15)

S1A (B Alt.):	Trip Barber, Matt Steele, Jeff Vincent Alternates: Mike Micci, Ken Mizoi
S3A (A PD):	Dan Winings, Chuck Weiss, Ken Mizoi Alternates: Trip Barber, Mike Micci
S4B (B B/G):	Art Rose, George Gassaway, Harry Rose Alternates: Jeff Vincent, Terry Lee
SSC (C Sc. Alt.):	Matt Steele, Jeff Vincent, Dan Winings Alternate: Art Rose
S6A (A SD):	Art Rose, Harry Rose, F. McMullin Alternates: Trip Barber, Phil Barnes
S7 (Scale):	Bob Biedron, Bruce Carey, John Pursley
S8E (E R/C R/G):	Phil Barnes, George Reibesehl, George Gassaway Alternates: Mike Micci, Ben Roberto
Team Manager:	Gerald Gregorek
Team Coach:	Art Rose

Quotes from NARAM-28

- "Does this make you a left-wing trustee?"
- George commenting on Matt's copter model which landed on the wing of a B-52
- "Way to 'prep' Trip!" - Chas Russell as Trip built a model in the dorm, where only 'prepping' of models was permitted
- "Think he'll finish any of them?"
- Matt at auction on Tom Hoelle's bidding on kits
- "I'll rent it out!" - Randall Redd at the auction, on why he paid \$16 for the "win a date with Mary Roberts" copy of SNOAR NEWS, suitably autographed by Mary
- "I'll tell you what, Jack Kane isn't going to replace Vanna White on the Wheel of Fortune"
- overheard as Jack displayed some of the kits at the auction
- "1/8A, it's to blow your nose with"
- Mark Johnson's explanation on what an 1/8A being auctioned could be used for
- "Why should I fly competition - it's stupid"
- Pat Miller
- "He could've been Steve Behrends' teammate"
- Overheard about NOVAAR's Dan Mulholland
- "Somebody, please fire me!"
- Mark Bundick emceeing the banquet
Audience - "Three-two-one-launch!"
- "It's an LDRS starter outfit"
- on Michael Stokes winning a \$200 collection of North Coast kits
- "Everything you need to fly rockets for a whole year"
- description of a door prize consisting of a range box with some engines and glue
- "Yeah, if you're Pat Miller"
- comment on above range box supplies
- "And the rich get richer"
- as Ed Muccio added a \$100 door prize to the Muccio family's NARAM loot
- "The official NARAM events end, THEN I start doing well!"
- George on winning F B/G and making the US Team



BULLSHEET

This Just In! The NFPA has voted to accept the NAR's proposed changes in NFPA 1122 regarding new definitions of model rockets (i.e. G engines and 1500 gram model launch weights). Wait for more details to follow next issue, the new changes are not in effect yet.

New motors from Aerotech: Aerotech has released three new motors incorporating dense tracking smoke and easier ignition. Motor data is as follows:

Motor Designation	Total Impulse	Dimensions	Burn time	Price
F30 (0, 5, 10, & 15 sec)	80 n-sec	1.125 x 3.75	2.7 sec	\$7.95
G45 (0, 5, 10, & 15 sec)	120 n-sec	1.125 x 4.75	2.7 sec	\$10.95
H90 (0, 5, 10, & 15 sec)	240 n-sec	1.125 x 7.75	2.7 sec	\$15.95

Note that the H motor is available only to qualified individuals, and is class B.

These motors are expected to be ready for delivery by the time you read this- no word as to when the F will be contest certified. Look for the G45 and G25 to be among the first G motors to be safety certified on January 1, 1987.

Contact: Aerotech, 1704 Castleberry lane, Las Vegas NV 89115

New Class B motors from Vulcan: Vulcan Systems Inc. has released information for their "Smoky SAM" class B motors, which were so popular at LDRS-5. Vital specifications include:

Motor	Max Thrust	Total Impulse	Dimensions	Burn time	Price
H 115-x	136	295 n-sec	1.5 x 6.75	2.57	\$32.50
I 230-x	263	585 n-sec	1.5 x 11.75	2.55	\$60.00
J 290-x	343	850 n-sec	2.06 x 10.0	2.94	\$100.00

Again, Class B motors are for sale only to qualified individuals, under NFPA 1122. No word yet on the possibility of Vulcan Class C Smoky Sam motors.

Contact: Vulcan Systems Inc., P.O. Box 6099, Colorado Springs, CO 80934

MRC Model Rockets: Yes, it seems like 1987 will see the introduction of Model Rectifier Corporation (MRC) into the model rocket market. No one is saying when, best guess is sometime around Jan-Feb with their line announced at one of the big trade shows. It also looks like they have changed their motors from the German Held motors to ones closely resembling Estes' standard A, B, and C motors. This is going to be the big story of 1987.

Insurance rates to go up: At least we'll HAVE insurance. The new prices (as of the first of the year) will be \$11 per individual (up from