Model Rocketry

The Leader In

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Larry Rice

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MAT M. STEELE

"New Directions In Space"
NEWS

SNOR
SNOAR NEWS

THE LEADER IN SPACEMODELING

STILL COSMIC COMICS

STARTING FRANK, THE STUFF FROM THE COURT
AND THE SET-UP IN THE LEGACY

NOT ALL STRIKED
NINE YEARS AGO, WHEN I
HAS FURIOUS
SHAMBOO FROM THE
PAGES OF...

FLAP, HURL-UPS, GUFF, SPOOF EFFECTS, COUNTERED,
PHOSPHOR BULBS AND NUCLEAR BOMB OUTBURST.

THE SPARKER BY MEMBERS
OF THE SNOAR ORGANIZATION
MISSIONED AS MARTIANS.

GET ME THE 1975 MODEL!

WHAT OF ALL, I MISS ALL MY BROTHERS, FANS, LIKE AARON
RAYMONDE, MACINTOSH, MR. BERRY, MR. SCROGGIE, MR.
ASSOCIATION AND, MR. LEE, MR. LEE, AND SO ON.

HAS IT BEEN WHAT? IT ALL? ALL
THE HUMILIATION? ALL
THE CIRCLES SET UP AND VISUAL.
GAS? ALL THE FEVERED
ATTACKS AT MEDICES RIGGERS?
AND NAHA YA SAY, KATE?

BEATS ME!

FINIS
SNOAR NEWS

SPECIAL TENTH ANNIVERSARY ISSUE!!!
VOLUME 11 NUMBER 2

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COVER STORY:
SNOAR NUDIES, ANYONE? That one got your attention, didn't it? Ten real beauties for ten long, hard years of publishing. Artwork by Tony 'Haddog' Williams. For Tony's side of the story, see page 5.

CREDITS:
EDITORIAL DIRECTOR, PUBLISHER AND SUBSCRIPTIONS DEPARTMENT: Matt Steele, 5655 South Fairwood Dr. #31, Salt Lake City, UT 84118.
PUBLISHING FUNDS: COURTESY NORTH COAST ROCKETY. ASSOCIATED EDITORS: George 'Fat Cat' Gassaway, Tony 'Haddog' Williams, and Chris 'Norton Freak' Pearson. EDITORIAL STAFF: See page 6 of this issue. SNOAR NEWS is created by MAC, the wonder word processor. This newsletter is now published RANDOMLY. Current publication plans call for eight issues this year. This is VOLUME 11, NUMBER 2. SNOAR NEWS is published by SNOAR, NAR section #337 and is the official newsletter of that club. SNOAR, SNOAR NEWS AND IMPACT copyright ©1985, all rights reserved. SUBSCRIPTION PRICE IS STILL $7.50 IN HARD CURRENCY (no cocaine, please). You know, it's really too bad no one pays attention to this part of the newsletter. How do you know that we don't have anything important to say in this section? For instance, we used the term "all rights reserved", and yet, you probably don't know that that means. It means we, the editorial staff, have the right to come on in your home, play with your computer, go through your drawers, and eat anything in your refrigerator. How do you feel about that? By the way, reproduction without permission IS NOT allowed. Sure, copyright laws are pretty much disregarded, but just be warned: fuck with us, and you're asking for trouble. POSTMASTER: Why the hell are you reading down here? No wonder the Postal Service is losing money! And the rates just went up again? Go thumb through Playboy! This is a respectable publication. There's no "Forum" letters here! Go ahead! Check it out. See? I told ya so!

FROM YOUR QUITE DRUNK EDITORS:

TEN YEARS IS A LONG TIME...

As SNOAR NEWS celebrates its tenth anniversary, I would first like to thank the people who really made it happen for so long:

Jim Gazur: Jim was the first editor of the newsletter, and the person responsible for the legacy. Jim was also responsible for the catchy name for the newsletter. It has been a name that has served well, even if it wasn't catchy or clever.

Alan Tuskes: Alan was the gifted genius that made SNOAR NEWS a unique newsletter at a time when all other newsletters looked like last year's LAC winner. With his own blend of humor and wit, SNOAR NEWS began to acquire a reputation as an unusual newsletter. It also began to gather awards.

Chris Pearson: Chris edited the newsletter for the longest period of any editor, and left no sacred cow unturned (our unspoken). Under Chris's editorship, SNOAR NEWS became embroiled in a number of controversies, but both Chris and the newsletter persevered. During this time, SNOAR NEWS influenced the NAR like no newsletter ever has.

I would also like to thank Mike Nowak and Chris Johnston for all of their efforts. Mike was instrumental in supporting the newsletter in its early days, and even today, some of his work stands as the best we've ever published. Chris Johnston, while never a full editor-in-chief, has consistently supported the newsletter, assisting each editor in a number of ways. Without his help, SNOAR NEWS would be a vastly different newsletter.

There are a number of other people who have made SNOAR NEWS what it is today: the contributors. Below is a list of people who have been published in SNOAR NEWS; it reads as a real "Who's Who" in the hobby.


It is not easy to keep a club newsletter going for such a long time. It
A LETTER FROM DR. PREZ...

I am mildly surprised and mildly honored that SNOAR NEWS would ask me to write a brief article for the 10th anniversary issue of its publication. What can I say? SNOAR NEWS is and has been...well, let me just say with all due diplomacy that SNOAR NEWS is and has been SNOAR NEWS.

My first experience with the pages of this publication was in 1976 when, as a rookie Trustee, I jumped into NAR politics for the first time. Let me think back now. Hmmmm, my first recollection is the Pittsburgh lawsuit...er...my second recollection is the Phoenix lawsuit. Then there was the dual eggloft episode. Oh, yeah, I seem to remember something about a SNOAR lawsuit against the NAR. I got that one right after returning from my honeymoon.

I do remember more recently the "Dump Bunny" campaign and, of course, so does Bunny. I got an especially good chuckle out of that one since I set SNOAR NEWS up. I just wanted to announce what I had known for six months that Bunny wanted to retire. And SNOAR NEWS came to NAR2N with all those "Dump Bunny" buttons and pages a 'blarin'. I guess SNOAR NEWS got the last laugh with the "Dump Bunny" button carefully concealed inside the NAR Newsletter trophy. But...then again, there is the matter of the SNOAR flag of which I officially plead no knowledge thereof.

As you can see, I am not one to remember the bad things in the past. I would say in the final tally, SNOAR NEWS and I are fairly even. I sort of miss the good old days when I used to plot at night just before drifting asleep as to what I could do next to get SNOAR NEWS!

J. Patrick Miller, President, National Association of Rocketry

ABOUT THIS MONTH'S COVER....

Mr. Maddog of Hollywood explains. Not long ago, I was approached by SNOAR NEWS Executive Editor and Master Programmer of the Holy Word Processor at the Center of the Known Universe, one Matt Steele, to do a "TIA" cover illustration for the Tenth Anniversary Issue. I graciously declined, saying, "No, no, no, no, I don't do that smut no more." And quickly forgot about it.

Soon thereafter, I was confronted by a licensed representative of the SNOAR "family" who suggested that it would be in my best interest to produce such a cover. Again, I rejected the assignment and proceeded to express my views concerning the positive role of women in today's enlightened society, the exploitative perpetuation of derogatory dangers of sexual stereotypes, and the inherent sociological dangers of promoting "soft core" pornography in leading model rocket periodicals.

And, while I suspected that much of my argument went over said representative's head (not unlike Scott Dixon's L780 powered flight over the heads of the LD5-3 participants), I must admit that his rebuttal was swift, succinct, concise, and sleazily articulate: "Da Management wants da cover by Friday...OR ELSE!"

So, call me insensitive, if you will, to the advancement of female rights. Denounce me, if you must, for crimes against decency in NAR section publications. I'll understand. But...

I was only following orders.

Matt and Mac

SNOAR REUNION AT LD5-3

Six original SNOAR members gathered at LD5-3 to fly and watch. From left to right are: Jon Randolph, Jim Gazur, Matt Steele, Chris Johnston, Mike Nowak, and Chris Pearson. Each played a large role in the success of SNOAR.
SPACE MODELING: WHAT’S AHEAD?

BY MATT STEELE

The recent NAR board of trustees meeting has produced a historic
committment to high power rocketry, and the expansion of the scope of the
hobby as we know it. At the February meeting in Washington, DC, the board
voted to:

* Increase the model rocket weight limit to 1500 grams (3.3 lbs).
* Allow model rocket motors up to 625 grams of propellant (to allow
  the motors to be DOT Class 3 Toy propellant devices).
* Allow motors up to a full G class (150 n-sec).
* Allow model rockets to carry up to 125 grams of propellant (i.e. the
  G motors).
* Establish a minimum burn time table for model rocket motors to
  safely limit burnout velocities, average thrust and model kinetic energies.
* Change the safety code to a two part code, with a more stringent
  code for models 30 n-sec or greater. Changes include a 10 meter minimum
  launch distance, and a one minute misfire wait.
* Limit the sales of E, F and G motors to those individuals 18 years
  old or older in an attempt to insure adult supervision of such activities.
  This was not intended to restrict people under 18 from flying high power
  motors, but to insure that their use is supervised.
* Pursue these changes through the appropriate regulatory agencies,
  including the National Fire Protection Association (NFPA), the FAA, and the
  FAL.
* Continue the dialog with the High Power Consumer Group (headed by
  Bob Geier, Chuck Mend, Chris Johnston and Jim Dunlap) to determine
  appropriate programs for those modelers who wish to fly models larger
  than allowed by the new guidelines.

This clearly is the most significant step the hobby has taken since its
inception. It must be understood that this is only the first step in the
process. In April, Harry Stine and Dana Boles will address the NFPA on
these proposed changes in an attempt to get them to change their code. This
code governs model rocket activities in 45 states. If that is successful,
then the FAA will petition to change their regulations so that
notification will not be necessary. Additionally, the United States will
propose similar changes to the FAI this year that may change the scope of
space modeling on an international level.

It is anticipated that it will take five years to fully implement all of
these changes. Don’t despair, though, as it should be possible for NAR
members to fly large models within a year. The question of additional
insurance and other legal factors need to be considered before the high
power program can be put in place.

As a result of these sweeping changes, model rocketry and space
modeling in the late 1980’s and early 1990’s promises to be a very
exciting time. As NAR membership continues to grow, and the space
shuttle continues to gather interest, space modeling should expand and
diversity. There is a number of areas in the hobby that seem to be ready
to grow at a high rate, especially with the new horizons that have been
opened for experimentation.

Giders seem to offer the largest area for expansion, and will no
doubt evolve closely along the lines of the AMA programs. In the late 70’s
and early 80’s, model rocketeers finally developed the technology to fly
high power boost gliders. Radio control became widely available to model
rocketeers for the first time, and revolutionized the high power glider
events. With the increased weight limits, all sorts of new types of gliders
should appear. For example, who will be the winner of the first G 86
competition??

Radio Control gliders are just beginning to catch on, but in later
years, RC should be an integral part of the hobby. Currently, radio control
is used to guide fast boosting, slow gliding models to hunt and find
thermales. The end result is maximum duration. This area will continue to
grow, and one whole branch of the hobby will constitute a large portion of
people who talk of thermal cores, transition altitudes, and complex
airflows. Radio control will also develop into other areas, no doubt closely
paralleling AMA Pattern and FAL sailplane flying. In the foreseeable
future, pilots will be logging flight plans with panels of judges who will
allocate points on the basis of flight maneuvers. All those loops, dives, and
spins is that the RC flyers do now for fun will someday be part of the
competition. Perhaps the most interesting application of Pattern RC 86
will be controlled maneuvers on boost. If you think that this is a joke, I
ask you to consider again! At Lakehurst during the World Championships,
Guppy flew a demonstration of what could be done under power. After
launch, Guppy rolled the model 90 degrees crisply, then another 90
degrees, and twice more, for a perfect four part 360 degree roll during
boost. The entire time, the model continued it’s arrow straight boost up.
As if that wasn’t enough, Bob Parks flew a "Cuban Eight" maneuver on boost
at the World Championships in Poland. On 8 power, Bob boosted the model
up to about 100 meters, then looped it wide to the left, brought it straight
up again, looped it wide to the right, and brought it straight up again, all
before engine burnout. The result was a fantastic sideways figure 8, traced
out by the F7’s smoky exhaust! It was an incredible sight! Future RC
Pattern 86’s will no doubt bear little resemblance to today’sduration
birds. Instead, the model will probably use 6 or even 7 channels to operate
ailerons, flaps, spoilers, drag brakes, drop pods, landing gear, parachute
systems, and such. Radio control spot landing will also be a popular event. Radio Control looks to be an expanding part of the spacemodeling hobby, especially with the introduction of the Aerotech end burners, which are well suited for radio control models.

Large engine technology will also be an integral part of the hobby as it grows in the upcoming years. High power altitude models will continue to grow in popularity, and the average model rocket will be larger in size. The introduction of small, light, yet powerful composite motors, combined with the advent of high strength materials, will result in the common perception that these rockets are much more than "toys".

Sophisticated electronic packages, including microprocessors, will become more and more prominent as the size of electronic components continues to shrink. Boosted dart technology will improve as a method of sending payloads skywards. Real time video is now possible with new, lightweight cameras and power packs, which will make the Cinoroc a true antique. Imagine viewing burnout from a clustered G model as it happens! (Imagine looking at the leaves as your expensive camera lands in a tree!)

Egglofting will continue to be popular, especially with the addition of the eggloft duration events. The introduction of smaller, more reliable composite engines has made the return of dual eggloft as a contest event a more realistic possibility. Many clubs are flying an unofficial event called Multiple Eggloft, in which the altitude of the model is multiplied by the number of eggs successfully recovered to determine the winner. Up to five eggs have been launched successfully in one model under the 453 gram weight limit! With the continued emphasis on safety, it is quite possible that this event will also be added to the Pink Book. How many eggs will fit into a 1500 gram model? A dozen?

Scale should also see an increase in popularity, and will really benefit from the weight limit increases. For the first time, scale will be comparable to the big birds that the model airplane guys fly. Full size Super Loki Darts and Arcas's will be possible, and the level of detailing should be breathtaking. Flights should also be breathtaking, as such large models will be able to use radio control to add considerable realism. RC flight, in-flight spin motors, staging, and a number of other "tricks" will now be possible. For the past few NARAC's, there have been a number of outstanding models in the younger age divisions. As these modelers move into the older age divisions, the models should grow larger and more complex. Additionally, the Sport Scale event has added a great number of scale modelers to the hobby's ranks, and some of these modelers will rival Scale modelers in terms of being impressive. The added emphasis will be on flight simulation and flight points, and models will be required to fly like the real thing in order to get maximum flight points.

Other areas that we may see growth in include the emphasis of research and development, static spacemodeling, electronic detoxification, and improved materials techniques. The use of fiberglass, Kevlar, graphite, polyurethane, and vacuum-formed plastic will continue to become commonplace. Plastic model will be open to a number of conversions that were overweight before. For example, the Revell 1/32 F14 kit will now be legal for conversion.

There is no telling what will happen, but the future looks bright. It's all up to you readers out there, to decide what's going to the hobby next. Remember, the sky's the limit!
damage was done by any nose cone. Everything, however, penetrated the
Turkey (Squawkwick). With a D engine, balsa and the CNR vac-formed plastic
nose cones did no damage, except to the Turkey (Squawkwick), but
hardwood, injection plastics, glass, plywood, and sheet
steel. F motors wouldn't even stay on the guide wires, though they did
have one with a balsa nose cone that snapped a support 2x4 it hit, and
imbedded itself in a nearby tree.

After Trip's report, the Board went into closed executive session for
over three hours. That gave us plenty of time to examine, (on a low boll, in
fact) the many models hanging in the AMA building. We even managed
to find the one rocket, as delta wings B6 brick labeled the "Hush Schnell"
which Terry "Cosvan" Lee identified as a NARAM-9 bird (owned by Clyde
Howard). That was well before my time.

The meeting picked up again after dinner, and promptly went into
another two and a half hour closed session. Chuck, Jon Rainis, and myself
spent much of the time tracking down a matrix printer. Jon fell asleep,
and Chuck and I stared yet again at the all-too-familiar model exhibit.

The results of the Board's marathon session were significant, with the
highlights reported elsewhere in this issue. Some of the safety code
changes include prohibition of targets in the air, flying through clouds, or
in 35 mph winds, and requiring a countdown. My notes fail me as to
whether hardwood nose cones were prohibited, so keep that possibility
in mind until the official minutes appear.

After all of that was done, Chuck and I presented the LDNR
commission's proposal to the board, asking for an additional merger of
high power rocketry (H motors and above) with the NAR. After a short
discussion, the Board agreed unanimously to continue the dialog with high
power rocketeers by forming a commission, much like the Blue Ribbon
Commission, to discuss our proposal. Since this was exactly what we had
hoped for, we were pleased with the Board's new openness towards high
power users.

At 11 PM, the discussion turned to Howard's F4I report. The possibility
of the USA/USSR dual meets was discussed. The Soviets want
you-pay-for-us, we-pay-for-you arrangement since they can't get money
out of the country. Pat had ideas for financing, but needed to know
specifics that Howard couldn't give. Prospects for a US World
Championships are a little more tenuous, as none of the Europeans want
to spend the bucks to come over here if they can find a European host country,
and several have volunteered. Pat was linked, so Howard said he'd keep
pressing.

The meeting adjourned at about 12:30 AM that night. I wasn't crazy or
dedicated enough to stay for the second day, so I had to get back to school.
The Board meeting was certainly productive, and it looks as though things
may be progressing for both the high power flyers, and the NAR.

*Quotable Quote from the Meeting*

"I misused my position. Shoot me! Shoot me!" - Mark Bundick

(That's what we've contended all along. Do we get the first shot??)
HOW TO TRIM CONVENTIONAL BOOST/GLIDERS

BY TONY WILLIAMS

In the past, we have presented our favorite methods for adjusting flex-wing B/G's for optimum performance. This time around we have something for all you 'balsa butchers' out there......

Proper trim starts with careful wood selection. All balsa for the flying surfaces should be as light, strong, uniform, and warp-free as possible (and considering current balsa prices, this isn't asking too much).

The same applies to construction techniques: build it light and strong. Any variances in airfoil, warps, or misalignments should be corrected before trying the methods described below.

STEP ONE (Static Balance): Start to trim the glider in pitch (Figure 1) by balancing it at its proper Center of Gravity (This will sometimes be indicated on the plan, but usually you'll have to 'guesstimate' it -- Try the middle of the wing root chord and work from there). To accomplish this add weight to the nose and/or remove weight from the rear by gently sanding the "tail feathers". The flat bottom of the wing should now be near horizontal.

Next balance the glider in roll (Figure 2) by holding the glider's nose and tail between two fingertips. It will usually turn "belly up". Remove weight from the lower (heavier) wing tip with light sanding.

FIGURE 2

STEP TWO (Shoulder Toss): Locate a large flat grassy area and wait for a calm day before you start chucking your new glider around. Flying in the early morning or late afternoon will help. Grab the glider just below the trailing edge of the wing, lift it to shoulder level, and give it a slow push into the wind at about the glide speed you expect. If all is right, it should glide straight for at least 20 to 30 feet.

Repeat shoulder toss and adjust the glider for a smooth glide with a definite tendency to circle to the left (reverse this if you are left-handed). Determine turn with rudder adjustments (bend the back edge by breathing heavily on the surfaces while applying firm, but gentle pressure, or crack and glue in place). Correct stalls or dives with the elevator edge bent up or down and/or with small additions or deletions of nose weight.

STEP THREE (Full Power Hand Launch): This step takes practice, so don't be discouraged by your first few launches. Hold the glider as shown (Figure 3).

FIGURE 3

13
Using a sort of "three-quarters sidearm" motion, throw the glider with a "lifting" motion so that it turns away from you in a tight clockwise turn and recovers into its glide with little loss of altitude. (Again, lefties, remember to reverse these directions.) If it goes too much to the right and does not climb, add left rudder. If it goes too much to the left, add "up aileron" to the trailing edge of the right wing (this is called "washout").

Making appropriate adjustments from this point on is part of the art of Hand Launch Glider flying. Every glider is a bit eccentric and requires special twists and bends to achieve that "perfect" trim. Don't be afraid to experiment with the various elevator-rudder-aileron trim combinations. Remember these basic rules and you can't go too far wrong.

RUDDER controls turn in climb and glide, but is more effective in climb.

ELEVATOR controls stalls and dives (or loops and climb) and is effective at any speed.

NOSE WEIGHT also controls stalls and dives but has little effect on the climb.

UPAILERON in the right wing keeps the left wing up in the climb and helps the glider resist spins during glide (makes the glider turn more flat rather than banking) — more effective at high speeds.

STABILIZER TILT (achieved when attaching the stab or by twisting the fuselage boom) is effective for making the glider turn toward the high wing tip in glide, but does not affect boost.

A minimum of a dozen good hard hand launches is recommended for obtaining good glide trim. The more the better.

STEP FOUR (Powered Flight): If you've done everything right so far, powered flight shouldn't be much of a problem. Most erratic boosts can be "tamed" by adding nose weight to the pod, by using a longer pod, or lengthening the pod pylon (for severe cases, try two or even all three methods). Problems normally associated with boost (poor transition, death dives, etc.) have probably been taken care of in the hard launch sessions. Also, if you have enough rudder warp, the glider will roll during boosts and that will help even out any pitching tendency during boost (many large boost and rocket gliders must have rudder warp or they may not boost properly).

That's it! Good luck and good flying!
HIGHLIGHTS IN SNOAR HISTORY

The following is a list of honors, awards, and happenings that have accumulated over the years:

1974:
- SNOAR forms from the remains of the North Royalton Rocket Society and other area clubs.

1975:
- SNOAR NEWS first appears, with Jim Gazur as editor.
- Jim Gazur takes the B Division Reserve Champ at NARAM-17.
- Alan Tuskes takes over editing and publishing SNOAR NEWS.

1976:
- Alan Tuskes sets record for most engines clustered in one model (25).
- Philibert places in Plastic Model at NARAM-18.
- Honorable Mention, LAC Newsletter Trophy, SNOAR NEWS.

1977:
- Chris Pearson takes over as editor of SNOAR NEWS.
- Nowak/Steele Team becomes Team Reserve Champs at NARAM-19.
- Larry Chumley becomes A Division Reserve Champ at NARAM-19.
- Honorable Mention, LAC Newsletter Trophy, SNOAR NEWS.

1978:
- PSN Team (Pearson, Steele & Nowak) become SNOAR's first National Championship Team at NARAM-20.
- Honorable Mention, LAC Newsletter Trophy, SNOAR NEWS.
- John Squirek becomes the second SNOAR member in two years to be the A Division Reserve Champ at NARAM-20.
- SNOAR is Reserve Champ section.

1979:
- PSN Team takes Reserve Championship Team at NARAM-21.
- Bob Ferrante is third overall in A Division at NARAM-21.
- Honorable Mention, LAC Newsletter Trophy, SNOAR NEWS.
- KentCon '79 is hosted by SNOAR, Matt Steele and Mike Wagner, Chairman.
- SNOAR is third in the nation in section standings.

1980:
- Zunofark Team (Johnston, Gassaway, Steele) wins Team National Championship at NARAM-22.
- Bob Ferrante wins the A Division National Championship.
- SNOAR NEWS is awarded the LAC Newsletter Trophy.
- SNOAR is Reserve Section Champ.
- SNOAR hosts KentCon '80, Matt Steele and Mike Wagner, Chairman.

1981:
- Zunofark Team (Steele, Gassaway) wins Team National Championship at NARAM-23.
- Honorable Mention, LAC Newsletter Trophy, SNOAR NEWS.
- SNOAR hosts KentCon '81, Mike Wagner, Chairman.

1982:
- Zunofark Team (Steele, Gassaway) wins Team Reserve Championship at NARAM-24.
- KentCon '82 hosted by SNOAR, Mike Wagner, chairman.
- LDRS-1 held, sponsored by SNOAR and Chris Pearson.

1983:
- Zunofark Blues Band Team (Steele, Gassaway, McCarthy) wins Team Reserve Championship at NARAM-25.
- LDRS-2 is held, sponsored by SNOAR and Chris Pearson.

1984:
- Zunofark Team (Steele, Gassaway) wins Team National Championship at NARAM-26.
- Honorable Mention, LAC Newsletter Trophy, SNOAR NEWS.
- LDRS-3 is held, sponsored by SNOAR and Chris Pearson.

1985:
- Who knows???

WHAT'S IT ADD UP TO?

5 National Champions

7 Reserve Champions

2 Section Reserve Championships

1 LAC Newsletter Trophy

6 Honorable Mentions, LAC Newsletter Trophy

AND A WHOLE LOT OF FUN!!!
QUOTABLE QUOTES...
THE BEST OF!

These are some of the gems that SNOAR NEWS has brought to light in the past years. Some are serious, some are humorous, but all are sure to bring a reaction. After all, that's one of the things that has made us unique!

"What good is model rocketry if it doesn't get you laid?"  Jim Backlas

"What the National Association of Rocketry doesn't need is another one of G. Harry Stine's 'fascist' programs"  Elaine Sadowski at PittCon-12.

"It's time that the NAR leadership get their act together. It's time that the Board act upon problems instead of ignoring them or engaging in petty bickering over trivial items."  Don Carlson, in his ill-fated editorial that led to his resignation as editor of the Model Rocketeer.

"You can all go fry ice!"  G. Harry Stine at NARAM-19.

"Just don't stand there with your hands in your pockets, go out and fly some rockets!"  Matt Steele speaking to John Alexander at any meet.

"Who flew the G??"  Mark Bundick, at the NARAM-22 Inquisition.

"Aw, now it's time to vote on whether or not we are going to vote."  Jay Act, at the 1979 Trustee Meeting.

"Model rocketeers often greet each other with open hands to show they still have all their fingers and thumbs."  Houston Post reporting on NARAM-21.

"How many bunnies does it make to make a SNOAR flag???? Just one!"  SNOAR.

"If you print that, I'll cut your balls off!"  Jeff Flygare, Estes Rep.

"I had more control in one direction than another!"  Mark Bundick aftergrading a pulse RC BB at NARAM-23.

"Shit, man, I live for this!"  Scott Dixon at LDRS-2.

"Hades Rakety is bery bery good to me"  Mr. Maddog Williams.

"And now it's Miller time!"  Matt "The Man of"  Steele.

"If we didn't bitch, who would?"  SNOAR NEWS motto.

"Until the next lawsuit, keep 'em flyin'!"  Man of Steele and Norton Freact.

**BULLSHEET**

The dates for LDRS-4 have been set, so start making those plans and motel reservations now! THE rocketry get-together of the year will be held on July 13-14, 1985 at the usual field in Medina, Ohio. This year's edition promises to be as exciting as the last three, as Meteor 7 will return for an encore, and Meteor 8 is under construction as we speak. Make plans to come to the place where it all got started, and participate in a big way. Contact Chris Pearson for more details at: 37541 Grove Ave #202, Willoughby, OH 44094. LDRS-4 will be presented by SNOAR and North Coast Rocketry.

**Experimental Rocket Systems is working on another big bird, this time being a 3" diameter Astrobee F for big motors. The sport scale model is about 10" long. The Astrobee F is slightly different than the Astrobob D, so this could be an interesting model to add to your collection when the weight limit goes up. No word on a release date or price yet.**

**Quick! Run out to Radio Shack right now while there's time, and buy this! The name of the item is a "Continuity and Tone Generator Chassis" and it's a great continuity check for custom launch systems. And...it only costs $1.99 F O S, run out and buy it, and if you can't make it work, wait and we'll tell you how to do it in an upcoming issue. Come on, you can part with $1.99.**

**It's just like the old days, as the first Top Ten list has come out, and SNOAR is number two in the section point standings with 1729 pts on 4 weighing factors. How did this happen, you ask? Well, SNOAR flyers George Gassaway and Matt Steele are currently number one and two in the country in C division standings. Also chipping in points is the Honorable Carl J. Warner, who is currently 11th. While we don't expect these standings to hold, it does look nice!**

**Current events for SNOAR include MIDCON '85, set for April 12, 13, and 14 in Warren, Mich...uh, that state up North (you guys were losers, again And to BYU, too). Cost will be $85 per room for the convention, which will include lodging at the Midway Motor Lodge. A $25 cash prize will be given for the best "rocket video" (MTV watch out! And they thought they were kidding about launching a rocket to take over their satellite). Topics for the convention seminars include RC BG and High Power Clustering. For more info, contact GLAR HQ, 11351 Dale, Warren, MI 48089.**