

# SDAR NEWS

January/February, 1989

THE LEADER IN SPACEMODELING

\$2.50

## CAT LOFTING: IS IT COMING BACK?

2.11



*Model Rocketry's Longest Publishing, Most Controversial Newsletter!*

January/February 1989

Volume 15, Number 1



## Cooperation, Not Confrontation

— or —

*What's Going On With  
Mark Weber, and "Little Eddie" Tindell ?*

We've been hearing a lot recently about turmoil within the Tripoli Rocketry Association. Now in the past, we here at SNOAR NEWS have pretty much adopted a "wait and see" attitude about Tripoli, preferring to let their folks work things out amongst themselves. In the past, the organization has been strong enough to withstand the power grabbing exploits of various people. But in the past six months, Tripoli has been rocked hard. We'll fill you in on a couple of the problems that you won't read about in the Tripoli newsletter, the Tripolitan. *(Continued on page 20)*

## Credits, Credits, Credits, Credits, Credits, Credits,....

### QUOTABLE

"Discovering SNOAR either advances puberty or delays it indefinitely"

Chris Favares, describing how J. Pat Miller Jr. will react to being named an honorary SNOAR member.

### COVER STORY:

What kind of man would do this? Why the kind of man that reads SNOAR NEWS, of course! A member of the Scottsboro "Blue Crew" displays his plans for a Katana payload section. *(Lee Olivette photo)*

### CREDITS:

The following people were unanimously re-elected or appointed to positions by the SNOAR Electoral College and School of Fine Hell Raising on December 30, 1989:

Editor: JD McNeil, Subscription Manager and Spy: Matt Steele, Vice President, Pleasure: Robyn Steele, Foreign Relations: Chris Pearson and Chas. Russell, In Charge of Big Things: George Cassaway, Paid Political Announcements: Moose Lagvine and Dan Kafun, Barbie Mattel's Personal Bodyguard and Secret Service (as if we didn't know...): Tony "Maddog" Williams, Musical Guests: Black Rose, White House Press Staff: Vince Huegels, Lee Olymer, Jim Backlas, Wasco Schafter, Alan Williams, Bob Guccione, Pink Floyd, Cabinet Members: Mike Wagner, Bob Geier, Bob Ferrante, John Alexander, Chris Martin, David Marcinski,

Southern Comforts: Marty Williams, Wayne Hendricks, John Kmetz Sr., Jimmy Williams, CD Steele, Jack Kobzoff, Terry "General" Lee, Onlookers: J. Pat Miller, Mary Roberts, Connie Pursley, John Pursley, Tim Barklage, and all the great folks at your nearest AK-47 retail outlet. Thank you, Mrs. Afghanistan, and please turn out the lights when you leave....

### IMPORTANT STUFF

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# 1988 USA/USSR Spacemodeling Competition

By George Gassaway

## Background:

Amidst the excitement of the shuttle Discovery resuming the shuttle program with its launch on September 29, several dozen model rocketeers and other interested parties converged on Wallops Island, Virginia for the first US/USSR Cultural Exchange Spacemodeling Competition. This marked the first of a series of contests between the two countries, and was the first time that a spacemodeling team from the USSR appeared in the US.

The contest could be seen as accomplishing several objectives. For one, a means of cultural exchange between the two countries. For another, a contest held just between the two countries would provide the contestants with a competition without performances by other countries affecting the outcome. That aspect was notable in the light that the Russian team was the overall winner in the 1987 World Championships in Yugoslavia. So the meet was a mixture of international co-operation (more so in the light of the new age of glasnost) and competition that was serious, but not to the intensely serious extent of a World Championships.

The contest itself was held at the area of Wallops which has runways, tracking stations, and other research buildings. The area where sounding rockets are launched was about 10 miles away. All contestants and most other participants stayed at the Refuge Inn on Chincoteague Island, which was about a 15 minute drive from the Wallops contest site.

The US team was, for the most part, the same as the 1987 Team in Yugoslavia, with Trip Barber as team manager. US team members arrived throughout the afternoon, most arriving by nightfall. There was the usual last minute work to be done with some scale models, but nothing too drastic. Bob Biedron's Ariane was still a collection of parts, needing a few more hours to put everything together (it's easier to admire the exquisite detail work of Bob Biedron's Ariane when you help put a few pieces on yourself. . . .). The difference between Bob's last minute assembly and so many other last minute models was that no parts had been scrimped, they were all there, and the model did not seem to suffer in appearance as a result.

About midnight the Russian team arrived, having flown into Dulles airport in Washington and transported by caravan to Chincoteague (about 4 hours drive). We got to see a few once they settled in, but most everyone managed to go to sleep at a sensible time. As with the US, the Russian team consisted mostly of the same as in Yugoslavia, but there were some changes. They had had a busy time, flying the European Championships about 3 weeks before and having to fly in the Russian national meet a couple of weeks later. For them, the Russian championships would determine the makeup of

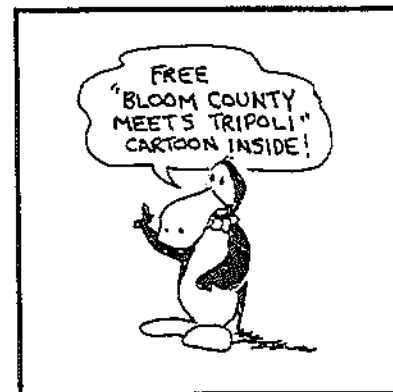
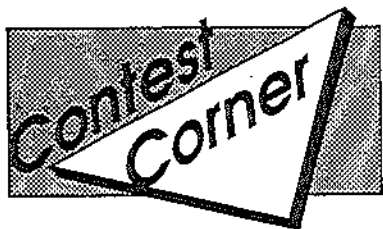
their 1989 team. As such, the US/USSR meet was not quite their most important meet for 1988.

The contest personnel were also noteworthy, such as Contest Director Ed Pearson. The FAI jury consisted of Fritz Gnass (Canada), Howard Kuhn (USA), and Albert Nazarov (USSR). Jim Barrowman was RSO, with G. Harry Stine as deputy RSO. The Scale judges were Ian Dowsett (UK), Serjan Pelagic (Yugoslavia), and Dr. John Langford. There were many others helping out, including Dr. Gerald Gregorek, Terry Lee, and Alan Williams. Pat Miller was protocol officer. Perhaps the most valuable player award should go to Yolanta Barnes (Phil's wife), who was supposed to be one of 6, then one of 4, but effectively ended up as just about THE interpreter for the contest. Just about anytime members of the US team needed to talk to a Russian, someone would try to find Yolanta to interpret. Otherwise, hand signals and the key words a few Russians knew had to suffice.

The activities officially began on Friday morning at Wallops with the opening ceremonies. Both teams stood by as the the US and Soviet flags were raised one after the other, accompanied by the national anthems. Following that were the raising of the flags of the other countries who had one or more representatives at the contest. There were several short speeches of welcome, including ones by Harry Stine, Pat Miller, Contest Director Ed Pearson, and the director of Wallops. After the ceremony, over at the contest site, Harry Stine began the practice flying with the dedication launch of a Carlisle Mark II in memory of Orville Carlisle. Harry mentioned the recent passing of Orville Carlisle, and as the model climbed up on a successful flight Harry said, "Orville, I wish you were here".

Friday's flying activities consisted of practice flights. The weather was great, partly cloudy with very low wind (though not a good direction). A few Parachute, Streamer, and Boost Glide flights were made by both teams, though not too many. Several of those flights were useful in working out recovery crew procedures. The most numerous flights were made by the R/C R/G fliers, getting models trimmed out and searching the area for lift. Thermals were just about everywhere, leading to some R/C R/G flights of well over 10 minutes, some flights brought down intentionally.

Shortly after lunch the practice was interrupted as many people, including the Russian team, left to drive about 10 miles to the launch area to see a Black Brant-XII being launched. It was an unexpected benefit to see the launch of a large sounding rocket.



Though hidden about 1-2 miles away behind a tree line, the Black Brant was easily seen once it launched. It flew into and out of the scattered clouds, the second stage ignition was both seen and heard, and the third stage ignition just heard (presumably the 4th stage fired too).

Friday night began the first of a series of special dinners, this one held at a Wallops dining hall. Members of both teams sat together, trying to communicate often without an interpreter. The Russian coach asked that each member of the US Team stand up to be identified. There was another reason for this, a corresponding Russian team member presented two bags of gifts every time a US Team member stood up. One bag contained numerous Russian mementos such as pins, key rings, booklets, and space photographs. The other bag contained a beautiful silver teapot. The US will have to find something special for the reciprocal trip to Moscow in 1990.

Due to the unique nature of the contest, the regular limit of one 3 person team per country was expanded to allow two separate 3 person teams per country for the parachute, streamer, and boost-glide events. Given that each country was limited to a total limit of 12 people overall to fly the 6 events, this allowed several fliers to take on an extra event or two. The Russian team chose to use the same 6 people for all three of those events. Another difference in the meet was the inclusion of recovery crew assistants provided by the contest officials. Dr. Bob Kreutz, Bob Zabriskie, and Paul Hans helped the US team on recovery, while Dave O'Bryan, Donna Buss, and Greg Barr helped the Russian team on recovery. The meet was held using the same rules that were in effect for the 1987 World Championships in Yugoslavia. Most notable of the special FAI rules was the 18mm rule, requiring all but scale models to measure at least 18mm diameter for at least 50% of their length (or 20% in the case of Scale Altitude). This is why relatively large models with boat tails powered by micro diameter (10-11mm) motors were used in most of the duration events. Critically important was the fact that once again the special micro composite motors developed by Art Rose and crew were made available again for this meet. Otherwise, the US Team would have been at an extreme disadvantage in at least half of the events. For the most part, the US models were of the same design as flown in Yugoslavia; indeed a number were actual leftovers. That was essentially the same for the Russians as well.

### S3A. A Parachute Duration

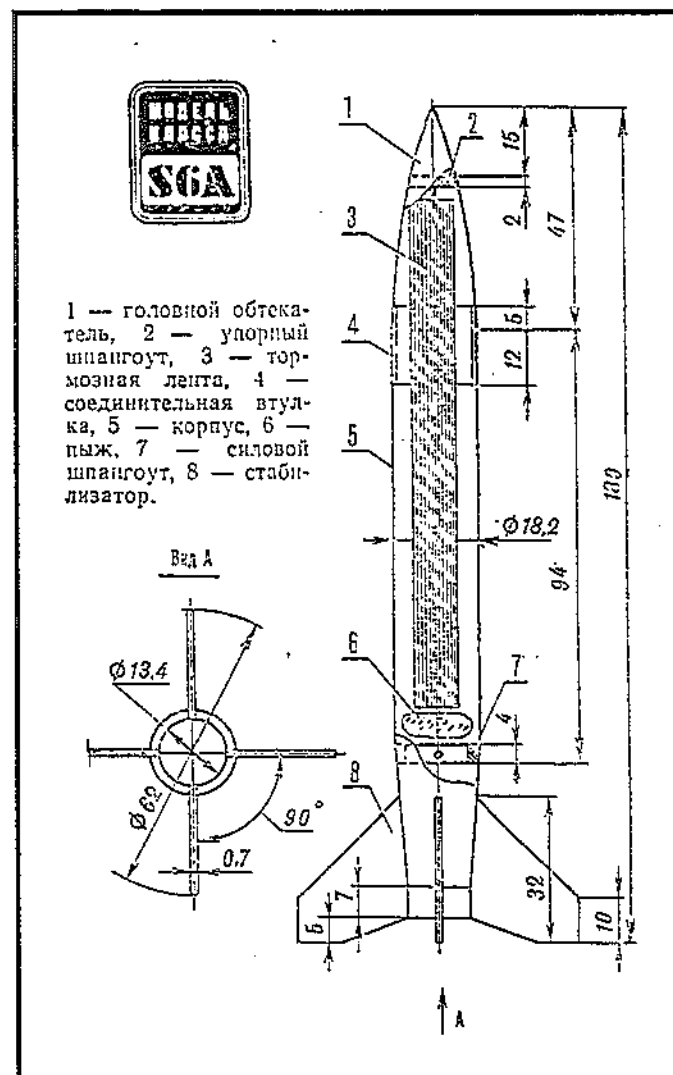
The S3A event (A Parachute Duration) was the first event of the contest, held Saturday morning. Most models were 18-19mm diameter, 8-10" long, made of fiberglass construction (in the case of the Russian models even the noses were fiberglass). Parachutes were generally 20-24" in size, from thin plastic. Most motors were micro size, both US and Russian. The weather was good, with clear blue skies and low winds. However, the wind direction was not good, causing the models to drift into areas with trees and generally not easy to recover models from. Round one was perfect, all 4 teams maxed (12 flights!). In round two, only 1 Russian maxed while 4 of 6 US fliers maxed. In the final round there were 2 Russian maxes to 3 US maxes. Round 3 was a nightmare for Chuck Weiss and Jeff Vincent. Chuck's model failed to deploy for a DQ. Jeff lost his first 2 models, so he was unable to fly the third round. Flying did go very smoothly for Phil Barnes, who managed to max out to win the event with a perfect 900 second score. Second place went to Sergey Ilijin of the

USSR with a total of 881 seconds. Third place went to Ken Mizoi, who flew with black powder Estes A3's, with a total of 860 seconds. (The high cost of the special micro composite motors led a few US team members to fly with black powder motors. Ken could afford to fly micro motors in just one event, and chose to use them in Boost Glide where they were much more critical.) The Russian "Gold" team won overall with a total of 2346, just edging out the US "White" team who scored 2300.

### S3A (A Parachute Duration)

	Rnd 1	Rnd 2	Rnd 3	Total	
Sergey Ilijin	240	300	341	881	2nd
Victor Kuzmin	240	120	256	616	
Alexandr Mitjuev	240	287	322	849	
CCCP Gold Team				2346	1st
Azim Domlatzhanov	240	199	360	799	
Alexey Koriapin	240	131	314	685	
Igor Shmatov	240	223	360	823	
CCCP Red Team				2307	

Below and on following pages:  
Typical Soviet SD and PD designs



Phil Barnes	240	300	360	900	1st
Ken Mizoi	240	260	360	860	3rd
Chuck Weiss	240	300	DQ	540	
USA White Team				2300	

Frank McMullin	240	300	252	792	
Jeff Vincent	240	300	NF	540	
Dan Winings	240	201	360	801	
USA Blue Team				2133	

**S6A A Streamer Duration**

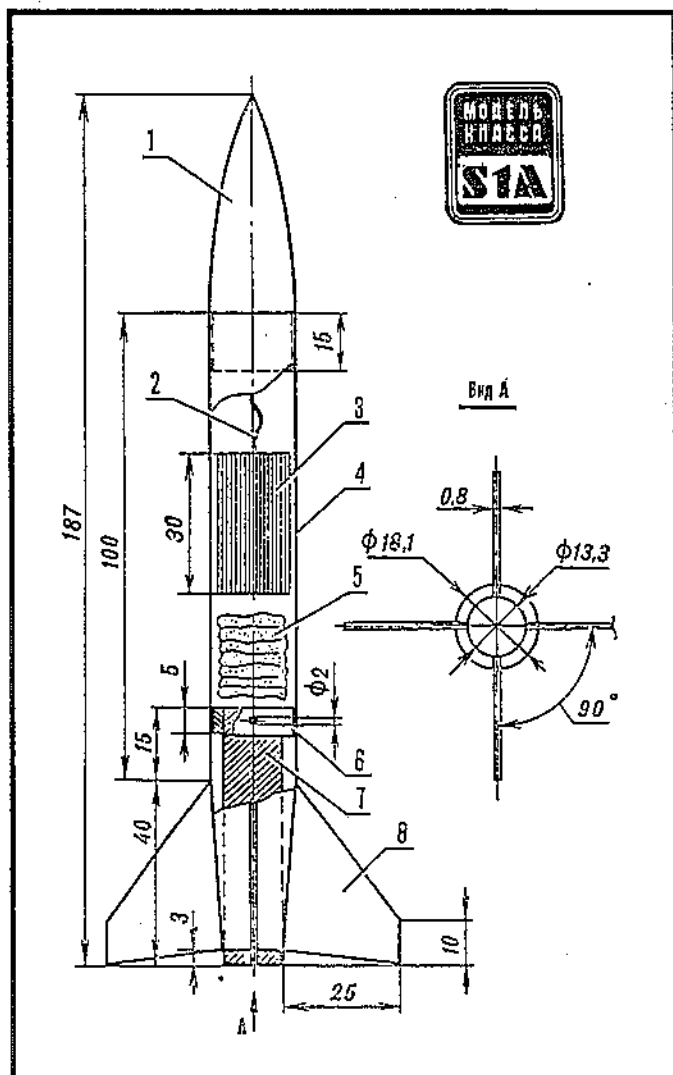
In the afternoon was the S6A event (A Streamer Duration). The models for the streamer event were very similar to the ones used for Parachute Duration. The US models used mylar-like streamers, some special materials kept secret even from other US team members. The Russian streamers seemed to be of a type not seen before, smooth one side and rough on the other. The wind had been picking up throughout the morning and was quite strong by the time S6A began. George Gassaway was picking lift for the US Team, and while things had gone well in PD, they went downhill fast for Streamer. Eleven out of twelve fliers made the 120 second max for round one, Harry Rose's model got caught in sink

and only managed 85 seconds. Problem was the Russians were easily maxing while the US models were not making it by much. As the flying continued the wind got worse - there were some pockets of lift which blew by, but George could not detect them by the methods which worked during more calm conditions. Ken Mizoi jumped in to help pick air too, but nothing was worked very well. The Russians kept managing to fly well, in some cases catching obvious lift. In addition, their models boosted significantly higher than the US models (on the order of 30% more) and seemed to have a good dead air performance capability. Overall pretty frustrating for the US Team. The top three places went to Russians, with Sergey Iljin with a totaling a perfect score of 540 seconds. Alexey Koriapin placed second with 535, and Alexandr Mitiurev was third with 508 seconds. The Russian "Gold" team won with a total of 1524 seconds. The top scorers from the US were Frank McMullin and Phil Barnes with respective scores of 375 and 371 seconds.

Saturday night featured a clambake outdoors at the motel, consisting of several types of seafood, chicken, and numerous "picnic" fare. For those NARAMs that have tried an outdoor picnic or barbecue, this was the one time something like that worked out well.

**S6A (A Streamer Duration)**

	Rnd 1	Rnd 2	Rnd 3	Total	
Sergey Iljin	120	180	240	540	1st
Victor Kuzmin	120	164	192	476	
Alexandr Mitiurev	120	180	208	508	3rd
CCCP Gold Team				1524	1st
Azim Domlatzhanov	120	169	170	459	
Alexey Koriapin	120	180	235	535	2nd
Igor Shmatov	120	150	DQ	270	
CCCP Red Team				1264	
Phil Barnes	120	118	133	371	
Art Rose	120	102	115	337	
Harry Rose	85	140	95	320	
USA White Team				1028	
Frank McMullin	120	135	120	375	
Chuck Weiss	120	150	DQ	270	
Fred Williams	120	94	98	312	
USA Blue Team				957	



**S4B B Boost Glide**

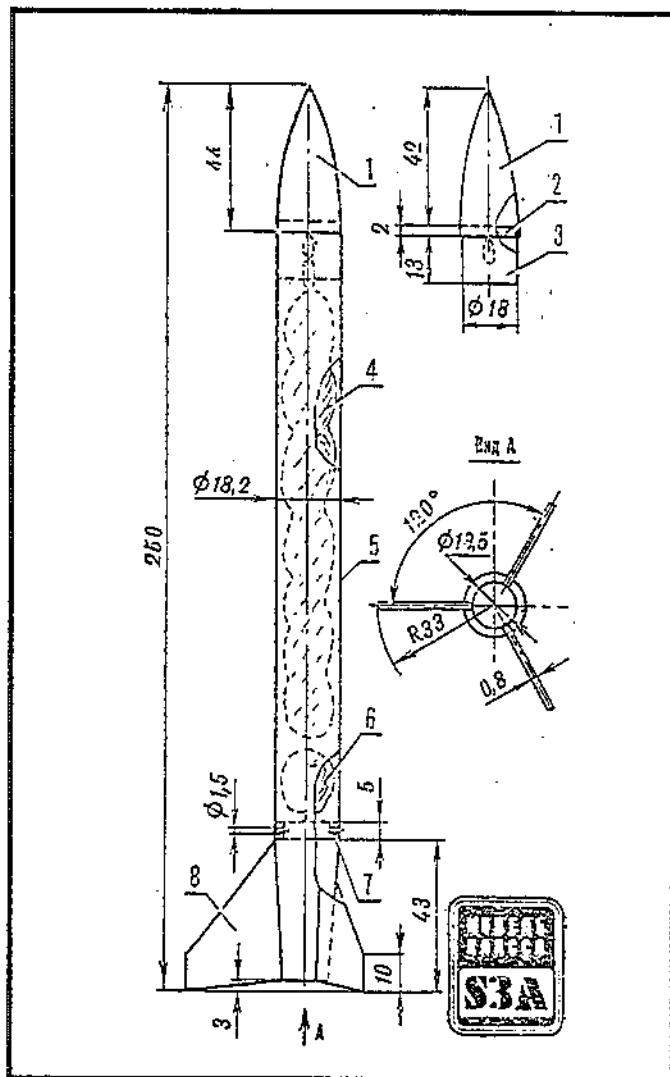
Sunday morning was the S4B event (B Boost Glide). This event had the extra complication of the rules requiring flex-wings to weigh at least as much as the fully prepped booster. The Russians pretty much used models which had been seen in Yugoslavia last year. Some of the US team models were of the double-fold type Art Rose and George Gassaway developed for Yugoslavia in 1987. Others were simply regular design flex-wings or regular canard flex-wings, with additional mass added to meet the rules.

The weather picked up almost where it left off Saturday, clear blue skies and high winds. The winds were strong to start with, and only got worse. The USSR got off to a good start, with 4 maxes (3 in one team), while the US had 2 maxes and 3 DQ's. At the end of round 2 one of the Russian teams had a lead of 262 seconds over the top US Teams. As well, there were two Russians with two maxes while George Gassa-

way was the only US flier with two maxes. Things fell apart for the Russians in round three while the US "Blue" team pulled things together. Art and Harry Rose put up long flights, Art's for 271 seconds (29 short of maxing, out of sight due to the fast downwind drift even with binoculars). One of the two Russians with 2 maxes had just a 117 sec third flight. The other top Russian, Iljin, was left waiting for one of his first two models to be returned, but in vain. George Gassaway was in the same situation without a model, until Phil Barnes once again risked life and limb to climb a tree to get the first flight model back without a scratch (just as he did in Yugoslavia in 1987). The newly recovered flex-wing was quickly prepped and put up to be lost forever on a 276 second flight, to win with a total of 696 seconds. Second place went to Alexey Koriapin with a total of 635 seconds. Third place went to Art Rose with a total of 565 seconds. The US "Blue" Team, consisting of Art Rose, Harry Rose, and George Gassaway, won with a total of 1556 seconds to the second place Russian "Gold" team's 1217 seconds.

#### S4B ( B Boost Glide)

	Rnd 1	Rnd 2	Rnd 3	Total
Sergey Iljin	180	240	NF	420
Victor Kuzmin	DQ	240	DQ	240
Alexandr Mitiurev	169	240	148	557
CCCP Gold Team				1217



Azim Domlatzhanov	180	195	DQ	375	
Alexey Koriapin	180	155	300	635	2nd
Igor Shmatov	180	240	114	534	
CCCP Red Team				1544	

Jeff Vincent	DQ	240	124	364	
Ken Mizoi	95	62	DQ	157	
Dan Winings	DQ	DQ	153	153	
USA White Team				674	

George Gassaway	180	240	276	696	1st
Art Rose	180	114	271	565	3rd
Harry Rose	DQ	93	203	296	
USA Blue Team				1556	1st

#### S8E E R/C Rocket Glide

The S8E event (E R/C Rocket Glide) was next, with the winds as strong as ever. The winds were probably over the FAI maximum allowed, but with weather looking poor for Monday there really was no choice but to fly in the winds then or not at all. Things were going poorly for the US Team even before the official flying; a trim test flight of one of George Gassaway's models went dead near transition and spiraled into the ground, smashing the model (later attributed to the battery pack not getting a proper charge). Phil Barnes' launch tower was blown over by the wind, damaging a back-up model that was inside it (though repairable if needed). Since the models had already been processed, each had only one undamaged model left to use for the event. On the first US flight of the event, it was George Riebesehl's turn to have trouble. His transmitter trim levers were not set, so the model was out of trim when it took off. After some hairy moments he got in under control to climb to a safe altitude, but it was likely to be DQ'ed for a bad boost. Not knowing one way or the other, he flew for all the time he could get, catching some lift and letting the model drift downwind to stay in the thermal. By the time he landed he had a flight of over 4 minutes, but the model landed out of his sight and sustained some damage. It went all for nothing as the flight was first DQ'ed, then since a Russian had also DQ'ed for a bad boost, the officials allowed both to re-fly. Great, but rather than repair his damaged model George Riebesehl chose to fly his alternate model (like Phil, he could have repaired it if necessary).

Now the flying began. Phil Barnes maxed his first flight easily, thanks to the high boost and wind penetration capability of his Dark Star-5 (not to mention Phil's ability to boost such a small model as the Dark Star-5 straight up). There was no doubt that his model and flying ability were well suited to flying in such high winds. George Gassaway had to boost his larger and lighter loaded model at about a 70° climb angle into the wind, resulting in a lower altitude than normal. The wind was higher than the regular glide velocity of the model, so the trim had to be adjusted to bring the speed up, making the model come down faster as well, for a first flight of 192 seconds. George Riebesehl made a good boost on his reflight to post a solid flight of 238 seconds. His model was similar in size to George Gassaway's but a bit heavier and better finished so it was able to handle the high winds somewhat better.

For the Russian team, things went smoothly in the first round only for current World Champion Victor Kovalev.

Despite the large size and low loading of their flop-wing models which used flat bottom airfoils, the Russian models were able to penetrate into the wind better than expected. They had some trouble and did lose some performance on re-trimming for a faster glide, but not by a huge amount. Kovalev was able to make a max at 300 seconds to tie Phil in Round 1. Vladimir Barysh had his first flight DQ'ed for a bad boost, his reflight (in agreement with George Riebesehl's reflight) was good for 255 seconds, 5 short of maxing. Vladimir Minakov couldn't win for losing. His first flight failed to deploy the wings and was down at 149 seconds. Since the wings were activated by burning thread and the engine charge had failed to go off, it was ruled a cato. However, the reflight lasted only 133 seconds, shorter than when the wings had been closed!

Round 2's flying was with only one incident. Minakov's model lost a wing tip panel near the end of boost, resulting in the model spiraling into the ground. Phil managed the highest time of the day, 346 seconds (24 short of the 360 max for that round), while both Gassaway and Riebesehl had flights of about 4 minutes. Victor Kovalev dropped to second behind Phil, on a 268 second flight as teammate Barysh had 232 second to temporarily tie for 3rd place with George Riebesehl.

Round three would definitely be the last round, with no flyoff possibilities. With Phil in the lead and the weather more rotten than ever, he chose to wait on the pad for a short improvement in the wind. George Riebesehl made a flight of 241 seconds, robbed of a few seconds extra by getting caught in the turbulence at low altitude over and behind the prep tent area as the wind flipped the model upside down. George managed a quick pull-out to miss the ground by a blade of grass or so, landing safely. (The US Team had been trying to use the enclosed tents for a bit of slope lift, which worked to a limited extent then became nasty at too low an altitude.) George Gassaway took some down trim out of his model to allow it to slowly drift downwind to a set of small hangers to try to slope soar them. That helped add about a minute to the flight which lasted 264 seconds. It was left too low to maneuver, so on trying to land to one side of the hangers the turbulence caught the model and flipped it to the ground, breaking the fuselage. Phil had been waiting but things never got any better. Finally he flew to a 240 second flight to win the event. He remarked that flight was the rottenest weather he'd ever flown in, which probably was true for most if not all fliers.

The Russian team ran into big trouble. Minakov's back-up model fell victim to the same as his primary, losing a tip panel on boost, then spiraling in to crash onto the runway. Victor Kovalev, in 2nd place and with a theoretical shot at winning, had the tube of his large piston launcher stick to the model and go up with it to about 20 feet. The tube finally burned off, but by then the model was horizontal and looking like it would crash. He did an excellent job to pull the model to vertical and fly the rest of the boost normally, but the trouble at launch led to a DQ for a bad boost. Barysh had a very poor flight, making just 159 seconds.

The results for the event were Phil Barnes first with 886 seconds, George Riebesehl second at 708 seconds, and George Gassaway third at 700 seconds. The team total was 2294 for the US, 1347 for the USSR.

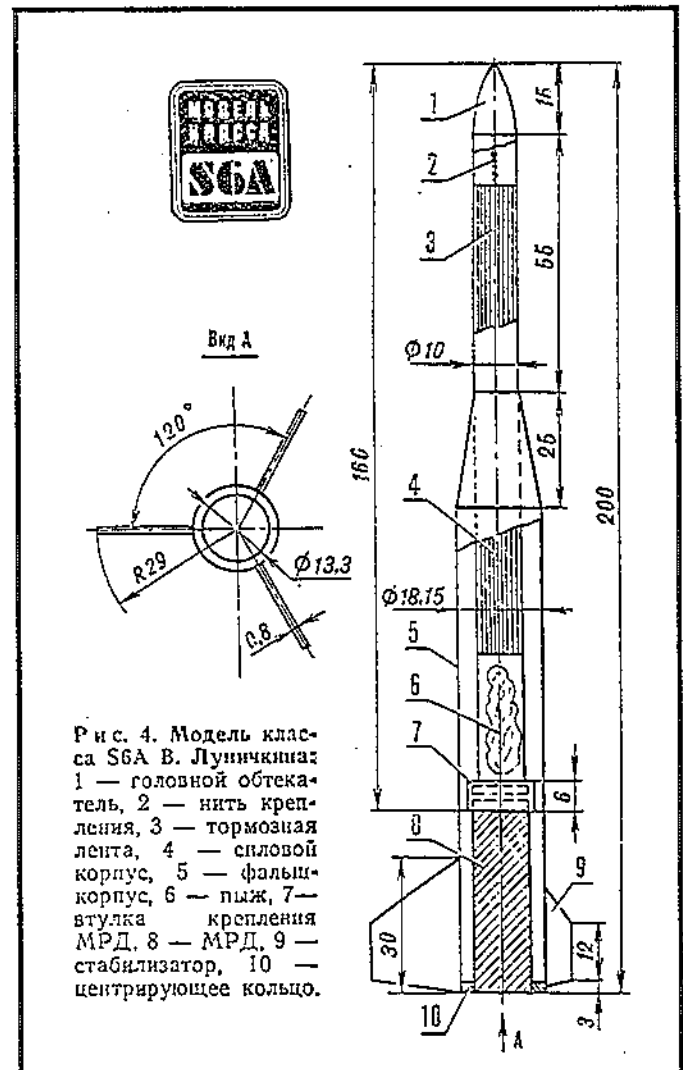
A local couple who run a tour boat at Chincoteague island heard about the contest, and offered their services. So, after the flying ended both teams made it back to Chincoteague in time to take a one hour boat tour before sunset.

After a good dinner at a local restaurant, most people

headed for the Wallops visitor's center. The visitor's center had a decent collection of displays, models, photos, and exhibits to show what Wallops does. Most interesting were the video displays showing launches of various NASA vehicles such as Delta and the Shuttle (not Wallops launches of course. . .), which certainly gave the Russians an opportunity to see what our launches are like. At the center's auditorium, John Langford gave a presentation on the Daedalus man powered aircraft project for which he was project director. (The Daedalus made its successful long distance flight last May. Watchers of a recent NOVA program about the flight may also have seen model rocketeers Guppy Youngren and Bob Parks who were involved in the project.) Before leaving, the scale models were picked up for Monday's flying.

S8E (E R/C R/G)

	Rnd 1	Rnd 2	Rnd 3	Total	
Vladimir Barysh	255	232	159	646	
Victor Kovalev	300	268	DQ	568	
Vladimir Minakov	133	DQ	DQ	133	
CCCP				1347	
Phil Barnes	300	346	420	886	1st
George Gassaway	192	244	264	700	3rd
George Riebesehl	238	229	241	708	2nd
USA				2294	1st



### S5C C Scale Altitude

Due to predictions of bad weather for Monday, the schedule was altered to fly both S5C (C Scale Altitude) and S7 (Scale) simultaneously starting in the morning and continuing until 1 PM or whenever the rain came back. Monday morning was slightly better than expected, overnight rain had stopped so there was just an overcast. The wind was about 5 mph at the start, increasing to 10-15 before flying ended.

Coming into the event Bob Biedron's BT-20 size C6 powered Astrobee-D had a static score of 681 points, in first place by a margin of 111 points above his closest competitor, Art Rose. Art and Jeff Vincent used small Nike-Tomahawk models as developed last year for Yugoslavia. The models featured BT-20 sized Nike boosters and 12mm diameter Tomahawk upper stages, with the capability of flying staged using micro motors. The Russian team had three identical models of a Soviet sounding rocket. Notably their team consisted of Sergey Ilyn, flying his FOURTH event (in addition to PD, SD, and B/C), and Kovalev and Minakov from the R/G team (unusual for R/C R/G fliers to take on scale type events). All of their models scored closely together, with Kovalev's leading the way at 545 static points

The overcast skies had a drastic effect on the flying of Scale Altitude. The cloud base ranged from somewhat below 1000 feet early to several thousand feet as the day progressed. Bob Biedron's fantastic static score was not likely to hold the lead when Art and Jeff flew their models on maximum staged power, but the overcast caused Art and Jeff to fly single staged on 6N-sec motors on their first flights just to get tracked. (With three flights allowed, it was also good strategy to fly carefully then go for broke later.) Bob flew first, on a piston launched flight that had a lot of tip-off, but was tracked to 354 meters. Not great, but it was a good flight and two flights left to improve the score. The next two flights made were better and better as the tip-off was reduced, but the tracks were lost both times. Unfortunately Art's first flight was not ballasted enough and went unstable on the first flight. Jeff got off a decent single staged flight but it went untracked. Jeff's second flight was a successful single staged flight which was tracked to 307 meters. Art repaired the damage from his first attempt to get in a tracked flight of 330 meters. Both Art and Jeff tried staging their third flights, but each failed to fire.

The Russian team had no alternate motors, just their 10 n-sec motors. Two models flew into the cloud base and were never seen again (not just track lost, no models to try more flights with). And ironically Ilyn's model went unstable, then stabilized to crash hard and destroy the model. The final results were that Bob Biedron won with a total of 1035 points, Art Rose second at 900 points, and Jeff Vincent third at 846 points. (Points are corrected from those handed out at the meet as they included flight points which are no longer used in Scale Altitude, just static score and altitude.) Of course, the US team won with 2781 points versus 1096 for the USSR.

### S5C (C Scale Altitude)

	Static	Best Alt.	Total	
Victor Kovalev	545	TL	545	
Segey Ilyn	540	DQ	0	
Vladimir Minakov	531	TL	531	
CCCP			1076	
Bob Biedron	681	354	1035	1st
Art Rose	570	330	900	2nd

Jeff Vincent	539	307	846	3rd
USA			2781	1st

### S7 Scale

The final event was Scale (flown in conjunction with Scale Altitude). As expected, the Russian team had their excellent Soyuz models, which featured a lot of detailing as well as in flight tricks to score many bonus flight points. And as expected the US did not field a full 3-person team, the scale team consisting of Bob Biedron's Ariane and Fred Williams' Saturn-1B. What was not necessarily expected was that the top model in static scoring would be Bob Biedron's Ariane, which had a 50 point lead. Bob's model was definitely worthy of its score, with the excellent level of details and the myriad of markings. This was a rare opportunity to have an FAI event judged by less biased persons than at some FAI contests. We can only hope Bob's future efforts are also subjected to similar fair judging. Fred Williams' Saturn-1B was not quite to the same level of the other models, but looked nice (it was about the size of the old Centuri 1B, modeled after the Apollo-Soyuz project flight).

Fred Williams put up the first scale flight, a good smooth flight on a D12. One by one, Soyuz models made it out to the pad to be launched, after intricate prelaunch prepping. The typical flight was to ignite 5 engines (1 per strap-on plus the center core), climb to about 100 feet where at burnout the strap-ons fell away to recover under their own chutes, then by radio command ignite the upper stage motor to fly a short time before activating the chutes to bring down everything else. The models came down in about 7 separate pieces. The wind direction caused about 42% of one model and 57% of another to be temporarily lost as pieces landed on a large hanger downwind (retrieved by Wallops personnel). Another model lost one piece in a tree, which the builder was able to retrieve by going up in a cherry-picker provided by Wallops. The flights were definitely impressive. A couple of models DQ'ed the first flights as one piece failed to deploy a chute, but they managed to make qualified seconds flights. (One again had a piece fail, but it was ruled a cato due to no ejection.)

Bob Biedron had a crew helping to get his Ariane ready for flight. For extra flight points it featured operable strap-ons powered by 1/2A3-2t engines, to be ignited just after liftoff and separate during coast. The model launched well and the strap-ons ignited, but at about 50 feet the model started pitching over and went unstable. It crashed onto the pavement before it could eject. Bob had made several successful flights of a boilerplate model, apparently the rush in completing the final assembly of the model had left the CG a bit too far back. The crash essentially destroyed the model, but there was reason to look forward to the World Championships. In developing the model Bob created molds which allow duplicate parts to be made, and he already had a second set (a better set) of parts made up for his next model. Had Bob's model worked, he probably would have slipped to second place, possibly third, due to the very high number of flight points the Russian models were able to score. The way the bonus rules are written, an SRB-dropping and R/C glide space shuttle could not score as much as a Soyuz potentially can. Bob will try adding a few more tricks to his Ariane for next year's World Championships in Rumania.

The final results for scale were; Arnis Bacha first with 917 points, Anatoly Klochkov second with 847 points, and Alexander Korchagin third with 690 points. The USSR team won



with 2,454 points to 574 for the US.

The Shuttle Discovery landed just before the last scale flights ended. Some people made it over to the Wallops cafeteria to watch, while most of the teams and key personnel stayed at the launch site to fly. News of the landing was relayed by radio to the launch site.

S7 (Scale)

	Static	Flt1	Flt2	Total	
Arnis Bacha	712	205		917	1st
Anatoly Klochkov	699	DQ	148	847	2nd
Alexander Korchagin USSR	690	DQ	Cato	690	3rd
				2454	1st
Bob Biedron	762	DQ		0	
Fred Williams	492	82		574	
USA				574	

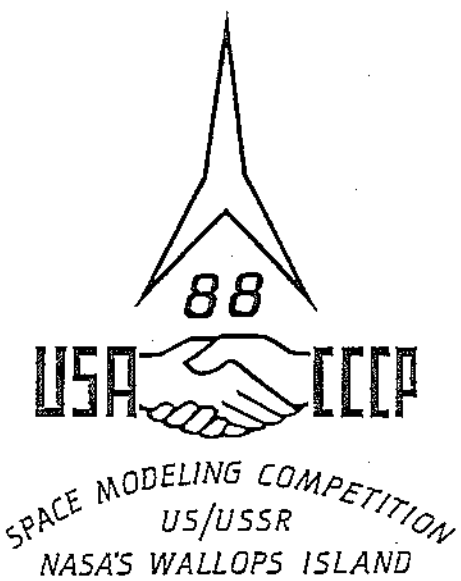
The Awards Banquet

On Monday night there was an awards banquet held at the Wallops dining hall. Certificates were handed out to virtually everyone who helped, as well as a specialized US/USSR meet pin and Wallops pin. Individual winners were given nice trophies featuring the contest logo, the winning teams for each event were given one plaque. After the awards there was some more socializing and trading at the motel before the meet was effectively over.

Nearly all of the US team members headed back home Tuesday morning. The Russian team headed for tours of Goddard, the Air and Space Museum, and a few other Washington DC areas of interest before departing on Thursday. A few DC area team members plus the Roses met the Russians again at a special dinner Wednesday night.

It is difficult to relate the experience of such a meet. It is easier to convey the contest flying activities which are the usual things to write about. Each person involved would have their own special views on what the meet meant, socially, politically, or as a contest. There are many people who are looking forward to making the reciprocal trip to Moscow in 1990.

Again, thanks must go to Ed Pearson for running a fairly smooth contest, and to Trip Barber for managing the US Team, and all the financial sponsors of the meet.



When the SNOAR News Editorial staff complained that they hadn't received a recent Top Ten list from Mark Bundick, I said, "Hey, NO PROBLEM!" So I got my good friends at Late Night With David Letterman to whip one up for us el' pronto.

So here it is...straight from the Home Office in Shakopee, Minnesota...it's our

**Top Ten Reasons for Subscribing to SNOAR News**

10. Has won the LAC Newsletter Award Honorable Mention more times than the average rocketeer has fingers.
9. Big guffaws and snappy patter.
8. Easy to assemble/ almost ready to fly.
7. Is an important part of a balanced breakfast including toast, butter, juice, cereal, and Vitamin A&D fortified milk.
6. More fabulous babes!!!
5. Tastes great! Less filling!!! Tastes great!!! LESS FILLING!!! TASTES GREAT!!!.... and so on....
4. Who cares about rockets anyway, we just need your money! (Oops, sorry. That was from an old California Rocketry list!)
3. Has beaten Diet Pepsi in head-to-head comparison taste tests eight years running, AND has a special 3D commercial in the works featuring George Michael, Don Johnson, Gloria Estaphan, and Terry Lee.
2. Best damn modroc newsletter in the Free World.

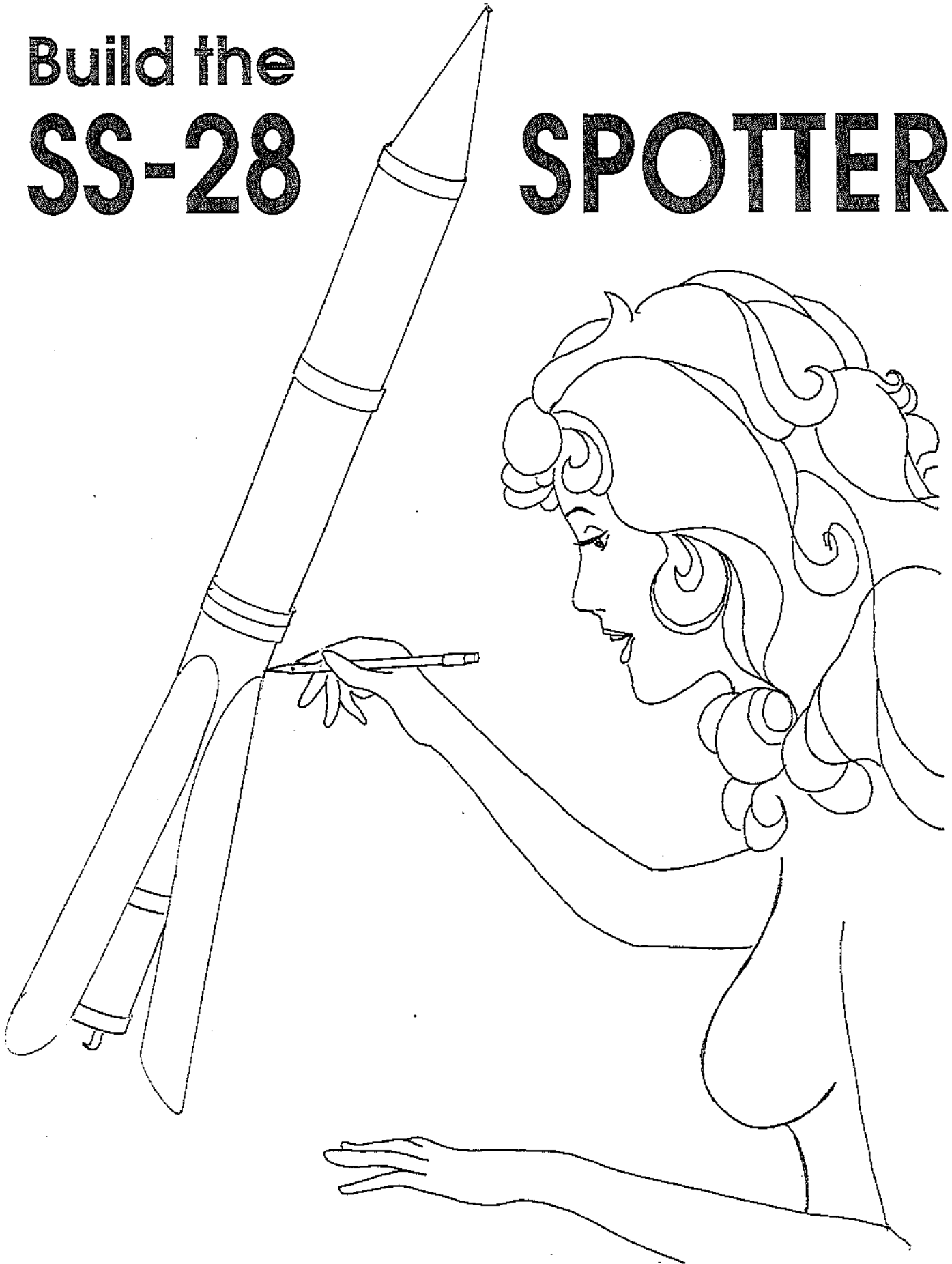
And the NUMBER ONE REASON FOR SUBSCRIBING TO SNOAR NEWS IS:

**Katloff! Katloff! Katloff!**

You asked for it, readers!

Build the  
**SS-28**

**SPOTTER**



*Greeting and salutations, American comrades!*

*I am pleased to be present here, for the first time in Amerika, plans for your buildink pleasure of glorious Soviet-engineered Spot-Landink model rakit.*

## SS-28 SPOTTER

*Is party-approved design that ALWAYS WORKS: You point it up; it comes back down! This is very important flight characteristic for Spot-Landink Competition, no?*

*To be buildink your own glorious SS-28 Spotter, you will need the followink parts (told not in my native millimeters but in Amerikan rocketeers' standard of measurement: Estes body tube sizes!):*

- (1) BT-5
- (1) BT-20
- (1) EM 520 (or is it 205? ...silly Westerners!) Mini-Brute engine mount or the homemade equivalent
- (1) Parachute kit or streamer
- (1) Medium screw eye
- (1) Expended "standard" engine casing wire or nylon shock cord mount
- (1) launch lug

*You will also be needink tape, epoxy, aliphatic resin or white glue, cynaoacrylate glue, pen or pencil, knife or razor blade, lead shot or bb's (for noseweight), primer, and paint.*

*Please watch Ms. Launch Rack '89, Barbie Mattel as she works on the model. Watch! Watch!*

*From Russia with love,*

*Antonov Villzms*

## How To Build The Glorious Soviet Spot-Landing Vehicle SS-28 Spotter

1. Assemble the engine mount. Mark the BT-20 for three fins. Cut a 1/4 X 3/4 inch ejection port on one of the marks, two inches from the end of the tube. Install the engine mount

2. Use the tube mitre guide shown to cut a BT-5 to the correct angle. A razor saw is helpful for this step. Wrap a sheet of medium grade sandpaper around a BT-20 and use this as a sanding block to shape the proper contours of the BT-5 tubular fins/body interface. Cut the other end of the "fin" at a 45° angle as shown.

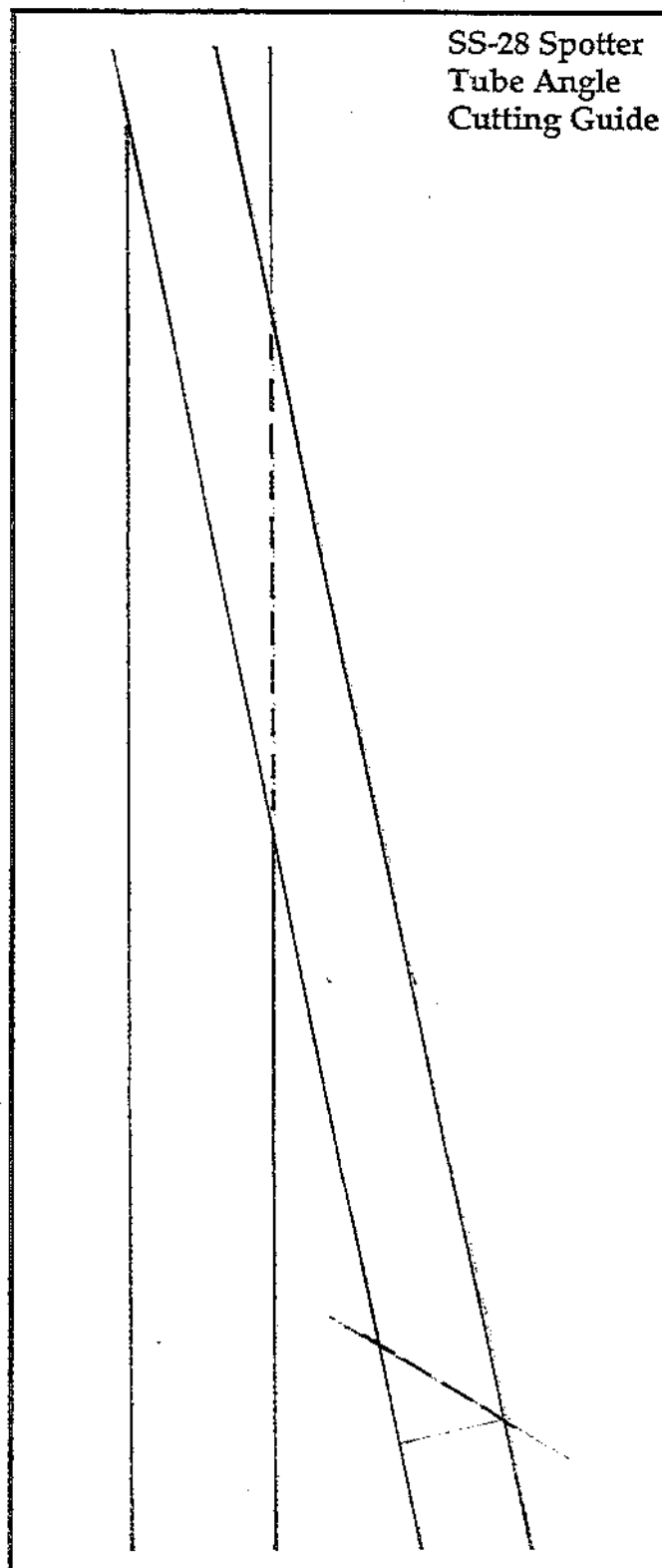
Repeat these steps for the other two "fins".

*Note:* You can now cut the BT-20 to length (nine inches), or wait until after you've attached the fins.

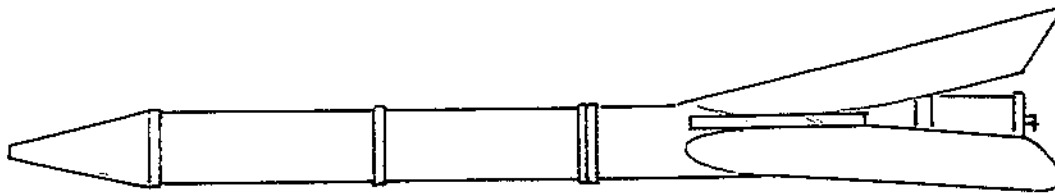
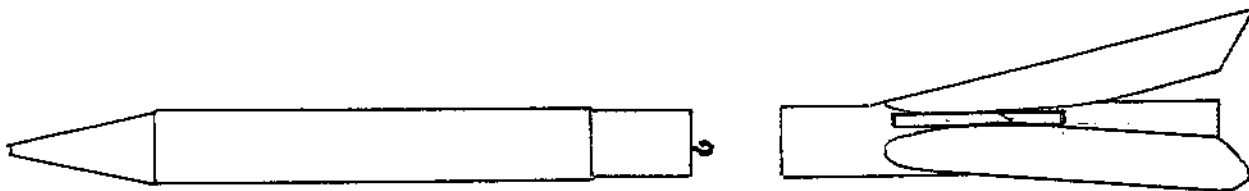
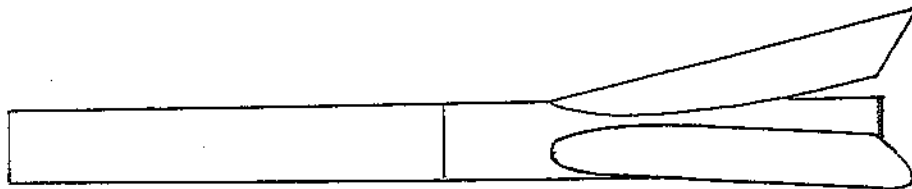
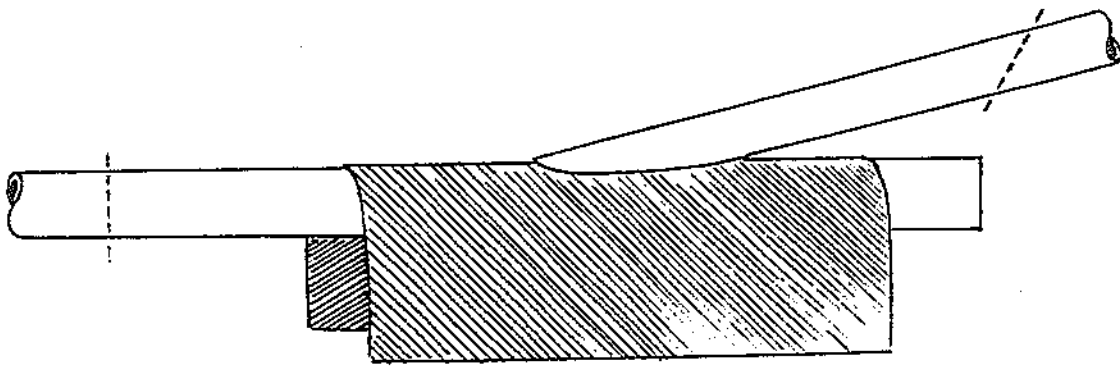
3. Attach the fins to the body with aliphatic resin or white glue. Alignment is critical, so take your time and do a good job.

Add generous glue fillets to all fin/body joints, paying special attention to the tube covering the ejection port, since this tube houses the recovery system. Cut the body into two 4 1/2 inch sections.

4. The original Spotter used a homemade balsa nosecone that was 1 1/2 inches long with a 1/8 inch blunt tip. If you're not into turning nosecones, feel free to experiment. For exam-



Building the SS-28 Spotter



ple, the old WAC Corporal kit nosecone might look good if you can find one, et cetera. Whatever you use, glue it in place; then give the nosecone a smooth coating of epoxy. (The nosecone will take a LOT of abuse.)

Fill the nozzle end of an expended standard engine casing with epoxy and set a screw eye in it. (This anchors the recovery system to the nose as the current rules dictate.) Allow the epoxy ample time to set before moving.

Attach the launch lug in the space between the tubular fins opposite the ejection port and recovery tube.

Wrap masking tape around both ends of the expended engine casing and at the area where the body tubes join. The lower wraps should be a very tight fit to insure that the body sections do not separate in flight. (If you plan to use a wire shock cord mount, you can glue the casing to the lower body after the wire is installed.)

5. Prime and paint The SPOTTER as you would any sport-type model. For that "segmented solid rocket booster" look, 3/16 inch wide ringlets cut from RB77 (or fabricated from Trim Monokote™, or plastic tape, or...) can be pre-painted and tacked on in strategic places with cynaocrylate.

The SPOTTER should weigh 80 to 85 grams (about three ounces) for "Maximum Ballistic Predictability" (MBP). This is accomplished by adding to the nose section lead shot or bb's which can be epoxied in place.

**WARNING: Do NOT attempt to fly your SS-28 Spotter without sufficient noseweight!**

The upper body tube can now be glued to the expended engine casing "nose block".

#### FLYING INSTRUCTIONS

Install the engine.

Make sure the shock cord is firmly anchored.

Tie the parachute or streamer to the shock cord.

Pack one square of flameproof wadding into the recovery tube, fold in the "chute or streamer, and slip another half square of wadding into the tube to hold the recovery system in place during ascent.

#### RANDOM NOTES

There are several construction and recovery mode options available to the fun-minded experimenter. But I'll let you discover those for yourself!

So get out to the field and practice, practice, practice. Learn how your SPOTTER will respond to different launch angles and atmospheric conditions.

Fly with an A10-3T and good luck!



TRACI  
WANTS  
YOU!

Yessirree, bub, Traci Lords, SNOAR club secretary, WANTS you! But not for the reason that you're thinking of!

Seems we're gettin' a bit on in age here at SNOAR NEWS International, and the boys were kicking around some ideas on how to celebrate the occasion. Fifteen years is a long time for a newsletter, and a really long time for a model rocket club. It's a wonder we're even alive after 5 LDRS meets, GLRMs, CARs, and all the McDonald's hamburgers that go along with a rocketry contest. One of the good ideas to come out of the session was to hunt up everyone who was a long-time SNOAR member, and find out what they're doing. Another, even more hilarious idea is to dig up old photos of club members circa 1975, just to embarrass them. You know, like Mike Nowak and his funny looking hat, Chris Johnston with long hair, and Philbert.....well, just being Philbert.

We're looking for info on the following people especially: Philbert, Alan Tuskes, Larry Chumlea, Mike Nowak, John Squirrek, Frank Peri, and Brian what's his name.

So, let's look up old friends and find out what they're doing now. And if you have any old pictures, forward them to Chris, Matt or Traci. Traci will then compile a "Who's Where" list, and then layout the photo pages. Be sure to send in some photos, at least as a defensive measure. Otherwise, who knows how we might get even with you!

# The 12th Annual International Modeler Show

by Matt Steele and Chris Pearson

The IMS Show is one of the largest trade and hobby shows in the country, and the biggest on the West Coast. Because we didn't have anything else to do that weekend, SNOAR NEWS correspondents Matt Steele and Chris Pearson attended the show, looking for signs of rocketry. We didn't find many, but we did find a number of things of interest to rocketeers.

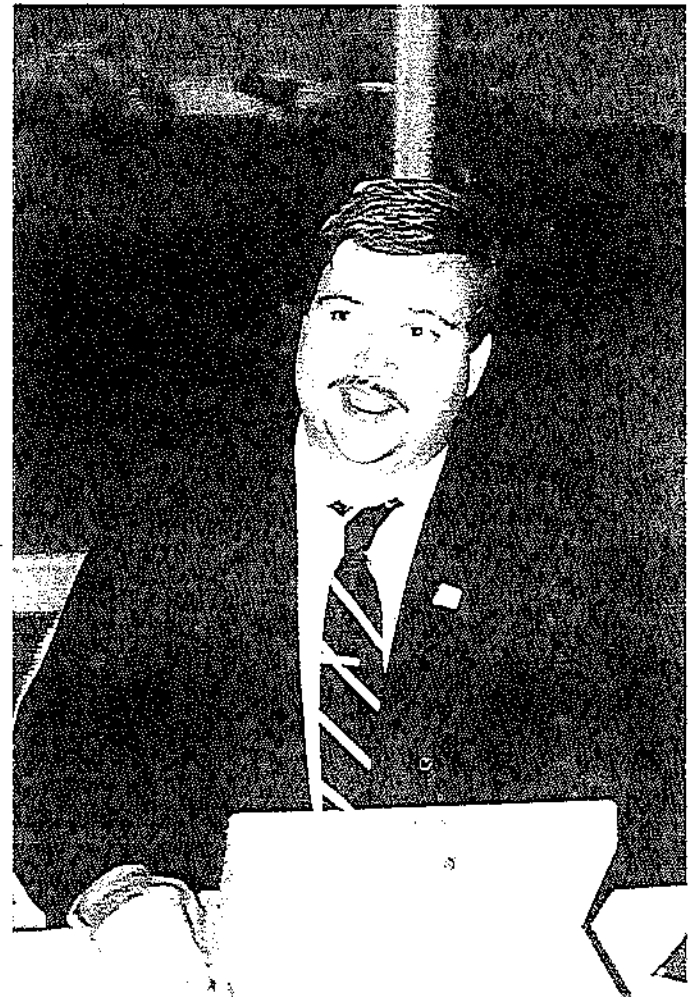
Chris and I did most of our looking on Industry Day, Friday, January 13, under the guise of North Coast Rocketry. This proved to be a wise move on our part. The following two days, that were open to the public, were swamped! Attendance at the show hit an all time high, and when we went back to shoot some photos on Saturday, we could see why. The place was so full, that they were limiting entrance to the show until some people left. And, the line to get tickets was al-

most a block long.

First of all, we scouted for rockets. Estes wasn't there, so the hunt turned to MRC. We found the MRC booth, but the emphasis was obviously on RC cars, as the rockets were pushed off into one corner. We also couldn't find anyone to talk to about MRC's future rocket plans, so we picked up a new MRC catalog, and moved along. The catalog is a nice step in the right direction, but it didn't really have anything new in it. Still, the MRC launch pad and launch controller are worth a second look, as they appear to compare well with the Estes versions.

Having looked for rockets and come up close to empty, we searched on. One of the first people we bumped into was an old rocketeer, Doug Pratt. Doug comes from way back, having survived being contest director of NARAM-19. Doug

Below Left: MRC's display on rockets consisted of three kits (none of which are new kits) and two packs of engines. Doesn't make you think that they're taking the hobby too seriously, does it? Below Right: Mr. Doug Pratt, former NARAM-19 Contest Director, would like to sign you up on CompuServe. Doug is the Sysop (System operator) for the model rocketry forum on CompuServe, which is a lot of fun. Everyone with a computer should be signed up.





Left: Chris Pearson and Frank Milo discuss the PIC adhesive line at the IMS Trade show. Frank is holding an NCR catalog, and wondering where we get our models. We're not telling, Frank!

Right: A representative from Byron's Originals displays the "Craft Cuddler". This plastic horizontal stand will be just perfect at the next LDRS.



Left: The Peck Polymers Blimp was on prominent display throughout the show. If you got one, where would you fly it, though?

now works for our sister organization, Academy of Model Aeronautics (AMA). He also has written a number of books on model airplanes and model rockets. We chatted with Doug, and asked about the status of any upcoming books. Doug said that Kalmbach is not very interested in updating his excellent Basics of Model Rocketry, but that he was working on a new book for TAB.

In our wandering around the exhibit hall, which was actually in two buildings to accommodate the size of the show, we met Frank Milo, who runs Penn International Chemicals (PIC). Frank, who is a NAR member, mentioned that the company would be moving from California to Daytona Beach, Florida. He was also glad to see the use of PIC adhesives in model rocketry, and wondered if there was something we needed that was missing. We couldn't think of anything, especially since PIC had introduced their "A+B Putty", 3/4 oz fiberglass cloth, and their microdropper tips recently.

Other companies promoting their adhesives included Pacer Technologies (Zap), Loctite, Satellite City (Hot Stuff), Krazy Glue, and Bob Smith Industries. There was a new odorless Hot Stuff being praised, but we couldn't get a sample to check it out. Loctite showed a unique aerosol "Decal and Paint Stripper" that looked useful for reworking old models, or repairing messed up paint jobs.

Advanced materials was another area of interest. One company promoting advanced materials was Aerospace Composite Products. ACP is the source for a lot of model rocketry's composites, since they are supplying Terry Dean's company Competition Specialties. If you need graphite products, this is a good place to look. Included in ACP's line are carbon fiber laminates, carbon and Kevlar mats, fiberglass, carbon fiber, and Kevlar cloth, carbon fiber and Kevlar tapes, glass/foam panels, carbon rods, and many more composite items. ACP also supplies SAFE•T•POXY, a lightweight laminating epoxy resin.

Another composites supplier is Model Research Labs. This is a source for some truly exotic materials, though most of them are geared for the model airplane world. MRL sells items like boron filament, kevlar thread, cloth and mat, carbon fiber tow, tape, solid spar material, sheet stock, cloth, and mat, and lightweight fiberglass.

Radio control was the big item at the show, of course. Cannon Systems was out showing their new "1991" ultra small RC gear. Futaba also had a big booth, emphasizing their complete line of radio products.

One thing that really caught our eye was the Byron Originals "Craft Cuddler". It's a rugged, lightweight horizontal stand that's perfect for boats, planes, and... high power rockets! It features velcro straps to tie down the vehicle while in position, and was fully adjustable. Chris was seen parting with cash to get one of these, muttering something about his next really big project that would use it...

But that was about it for the model rocket crowd. We did witness some nifty RC flying, including an electric RC airplane that weighed only 32 ounces, and flew INSIDE the exhibit hall! Peck Polymers has their inflatable blimp prominently displayed, and it was a real monster. But where would you fly the sucker? And, we saw some nice demos of control line, free flight, RC model cars, and ornithopters. But no model tanks...

With the show a memory, we headed out to downtown Palm Springs to mingle with the rich and...

Model Rectifier Corporation  
200 Carter Drive  
Edison, NJ 08817

Penn International Chemicals  
c/o North Coast Rocketry  
P.O. Box 240017  
Mayfield Hts., OH 44124

Loctite Corp.  
4450 Cranwood Ct.  
Cleveland, OH 44128

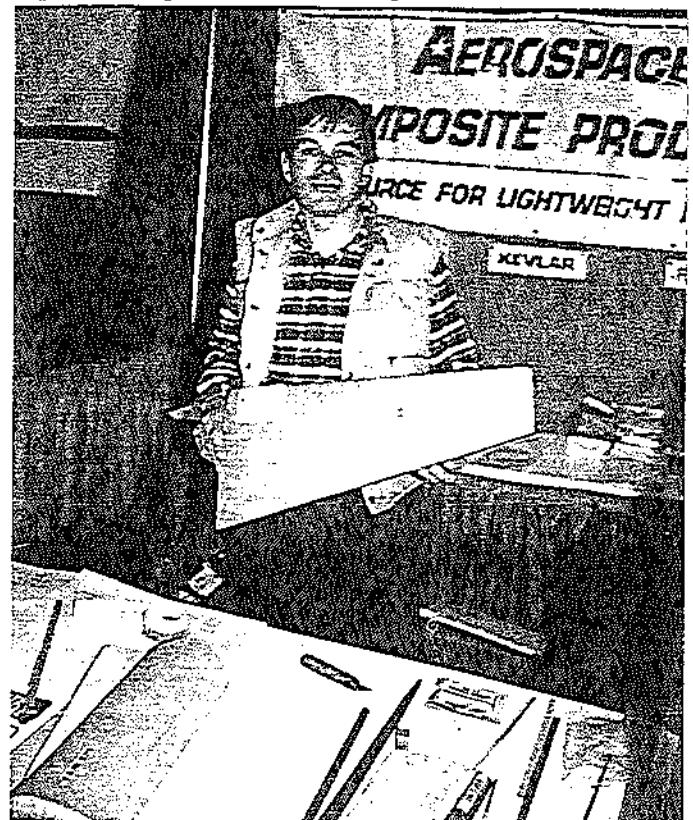
Aerospace Composite Products  
P.O. Box 16621  
Irvine, CA 92714  
(Please include a SSAE for catalog)

Model Research Labs  
25108 Marguerite #160  
Mission Viejo, CA 92692  
(Please include a SSAE for catalog)

Cannon Systems  
2828 Cochran St. #281  
Simi Valley, CA 93065

Byron Originals  
P.O. Box 279  
Ida Grove, IA 51445

Below: George from Aerospace Composite Products displays a wing reinforced with his products.





# COMPUSERVE COMPUTER LISTINGS

Got a computer? Here's the current files dealing with model rocketry on available on CompuServe. You can access these by signing up for CompuServe, or get a friend to get you a listing. Files included below are not all that are included in the CompuServe files, but merely the ones that were not time sensitive. There's a whole bunch of stuff!

<u>File Name/Type</u>	<u>Date/Size (K)</u>	<u>Description</u>
CP.COM/binary	30-Jan-88 20352	COMFILE EXECUTABLE CP CENTER OF PRESSURE CATT BARROWMAN
CP.PAS	30-Jan-88 15338	CENTER OF PRESSURE PASCAL CP CATT SOURCE CODE

CPPAS.DOC 30-Jan-88 17979  
CP.COM CP.PAS CP CENTER OF PRESSURE DOCUMENTATION CATT BARROWMAN

CGPAS2.DOC 29-Jan-88 12430  
CG.PAS CG CENTER OF GRAVITY CATT COMPLETE DOCUMENTATION

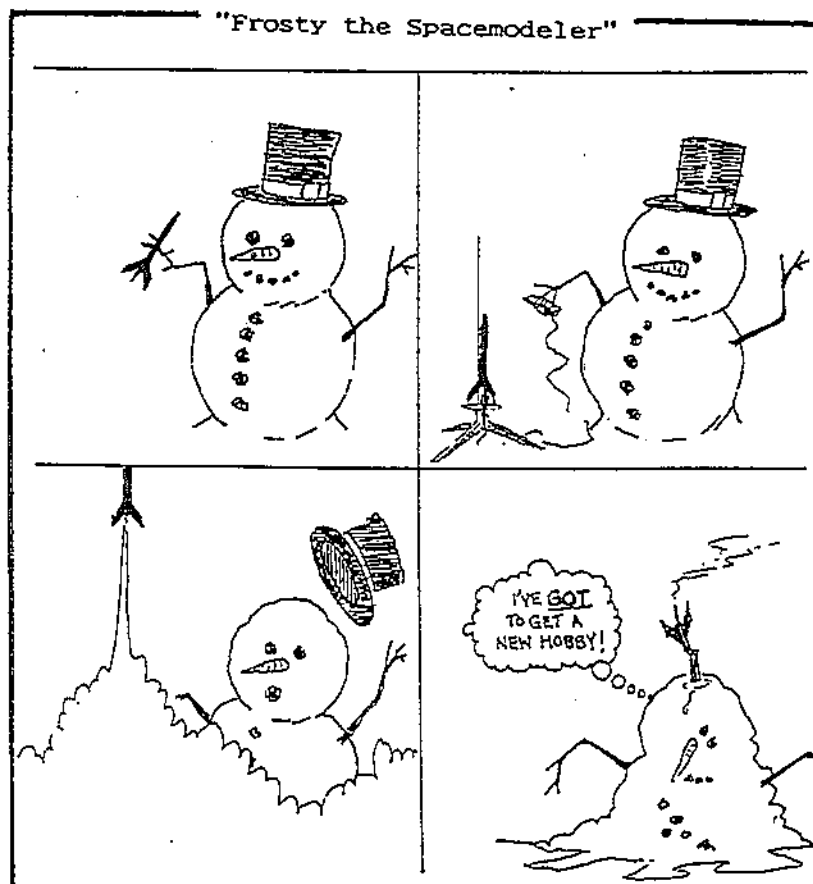
CTRANS.COM/binary 29-Jan-88 13952  
TRANSITIONS CONIC PASCAL CATT EXECUTABLE

CTRANS.DOC 29-Jan-88 2619  
TRANSITIONS PASCAL CTRANS DOCUMENTATION CATT

CTRANS.PAS 29-Jan-88 4468  
TRANSITIONS PASCAL SOURCE CODE CATT

## FAR SIDE - X

by Mr. Maddog



COJAN2.TXT 28-Jan-88 26044  
TRANSCRIPT CONFERENCE CO ROCKETRY NAR COM-  
PETITION FUN

CG2.PAS/binary 24-Jan-88 9472  
CG CENTER OF GRAVITY COMPLETELISTING CATT  
PASCAL SOURCE

NL/binary 22-Jan-88 1664  
NEWSLETTERS LIST EDITORS MODROC HAPPENINGS

CG.PAS 03-Jan-88 1578  
CG CENTER OF GRAVITY PASCAL CATT ROCKET CAD

CGPAS.DOC 03-Jan-88 3766  
CG CENTER OF GRAVITY PASCAL CATT

NEWROC.TXT 22-Nov-87(22-Nov-87) 12820  
ROCKETRY NEW ENERTEK MRC ESTES FSI

CPRES.BAS 09-Nov-87 4794  
BASIC COMPUTER PROGRAM FOR CENTER OF PRES-  
SURE CP CALCULATION ROCKETS FUN NAR

CGRAV.BAS 26-Oct-87 900  
BASIC PROGRAM ROCKET CG CALCULATION

OCT21.CO 25-Oct-87 22144  
ROCKET CO MILLER STINE FIELDS MANUFACTURERS

OCTCO.TXT 23-Oct-87 30995  
NAR ROCKETRY CONFERENCE FIELDS CLUBS COMPE-  
TITION MANUFACTURERS

TRANS.IMG 12-Oct-87 3262  
C64 COMMODORE-64 BASIC TRANSITIONS TABLE

MRATIO.IMG 11-Oct-87 2141  
C64 COMMODORE MASS RATIO WEIGHT CALCULA-  
TOR

ALTRK.IMG 09-Oct-87 1828  
COMMODORE 64 C64 SINGLE TRACK ALTITUDE

DELTA.IMG 02-Oct-87 2139  
COMMODORE 64 CLIPPED DELTA PLANFORM BASIC

SURVEY.TXT 12-Sep-87 4507  
ROCKETS SURVEY

NARAM2.TXT 09-Sep-87 7461  
NARAM NATIONAL MODEL ROCKET CHAMPION-  
SHIPS CONTEST COMPETITION TOP TEN FUN

CHAMPS.TXT 14-Aug-87 798  
NAR CONTEST COMPETITION CHAMPIONS STAND-  
INGS TOP TEN ROCKET FUN

LEM.RLE/graph:rie 01-Jul-87 3712  
LEM GRAPHICS RLE ROCKET CGA

SNOTES.21 28-Jun-87 5120  
SKYNOTES NEWSLETTER

SNOTES.22 28-Jun-87 2688  
SKYNOTES NEWSLETTER

SNOTES.234 28-Jun-87 8320  
SKYNOTES NEWSLETTER

SNOTES.25 28-Jun-87 18432  
SKYNOTES NEWSLETTER

RUSSIA.TXT 16-Jun-87 2629  
RUSSIAN SOVIET SPACE ROCKET PROGRAM BOOKS  
PICTURES RESOURCES SCALE DATA

SHROUD.BIN/binary 15-Apr-87 768  
MULTIPLAN SHROUD TRANSITION TEMPLATE SKY-  
NOTES

CONTES.TXT 24-Mar-87 3526  
NAR MODEL ROCKET SANCTION CONTESTS COMPE-  
TITIONS MEETS FUN

MAR87.CO 10-Mar-87(10-Mar-87) 17280  
CO CONFERENCE ROCKETS MRC HIGH POWER NAR  
PRESIDENT FISCHER MILLER

CLUBS.DOC/binary 16-Feb-87 9600  
NAR CHARTERED SECTION CLUB LIST ROCKETS

HOTSHO.RLE/graph:rie 15-Feb-87 1536  
RLE PICTURE HOTSHOT MRC MODEL ROCKET

STARFI.RLE/graph:rie 15-Feb-87 1664  
RLE GRAPHIC PITCURE MRC MODEL ROCKET STAR-  
FIRE

AMSPAC.RLE/graph:rie 05-Jan-87 3130  
RLE GRAPHIC AMERICAN SPACEMODELING COVER

CAMERA 18-Oct-86 590  
CAMERA

CLUSTE.TXT 09-Oct-86 3135  
MODEL ROCKET CLUSTER IGNITION LAUNCH HELP-  
FUL TIPS FLASHBULBS

CTRANS.BAS 22-Aug-86 1495  
MODEL ROCKET CONIC TRANSITION PROGRAM BA-  
SIC DRAWING

SNOTES.15 26-Jul-86 36410  
SKYNOTES CAROLINA SKYWRITERS NEWSLETTER

SNOTES.16 26-Jul-86 15820  
SKYNOTES CAROLINA SKYWRITERS NEWSLETTER

ROKETS.RLE/graph:rie 20-Jun-86 5635  
ROCKETS CHART SIZES COMPARATIVE RLE GRAPH-  
ICS PICTURE

ROCKET.CO 17-Mar-86 21820  
ROCKET SPORT ROCKETRY CO BUNDICK

POLICY.TXT 16-Mar-86 10570  
NAR POLICY ON HPR PLUS OPINION BY MARK BUN-  
DICK NAR TRUSTEE

SKYNOT.11 27-Feb-86 26825  
SKYNOTES CAROLINA SKYWRITERS NEWSLETTER  
ROCKETRY

SKYNOT.12 27-Feb-86(27-Feb-86) 14540  
SKYNOTES SKY NOTES CAROLINA SKYWRITERS  
ROCKETRY NEWSLETTER

SKYNOT.13 27-Feb-86(27-Feb-86) 31700  
SKYNOTES SKY NOTES NEWSLETTER ROCKETRY SKY-  
WRITERS

SKYNOT.14 27-Feb-86 24675  
SKYNOTES SKY NOTES NEWSLETTER CAROLINA SKY-  
WRITERS

SKYNOT.INT 26-Feb-86 1230  
SKYNOTES ROCKETRY CAROLINA SKYWRITERS CLUB  
NEWSLETTER

ADDRES.HPR 07-Feb-86 1225  
HIGH POWER ROCKETRY HPR ADDRESSES AND IN-  
FORMATION.

FINS.BAS 01-Feb-86 1735  
ELLIPTICAL FINS DESIGN PROGRAM IN BASIC

HPR.TXT 27-Jan-86 13375  
HIGH POWER ROCKETRY PROPOSAL ASCII FILE

HPR/binary 19-Jan-86 12928  
HIGH POWER ROCKETRY PROPOSAL NAR HPR CODE

MOTORS.LST 18-Jan-86 24220  
MODEL ROCKETRY ALTITUDE PREDICTION MOTOR  
DATABASE

ALT2.DOC 12-Jan-86 9350  
MODEL ROCKETRY ALTITUDE PREDICTION

ALT2.PAS 12-Jan-86 15430  
MODEL ROCKETRY ALTITUDE PREDICTION

MFILL.PAS 12-Jan-86 9705  
MODEL ROCKETRY ALTITUDE PREDICTION

MOTORS.BIN/binary 12-Jan-86 4736  
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DATABASE

MVIEW.PAS 12-Jan-86 5890  
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MODROC.BIN 11-Dec-85 10570  
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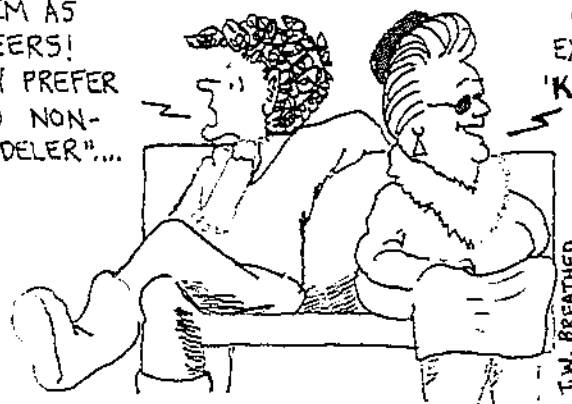
MODROC 21-Nov-85 23080  
CP CENTER OF PRESSURE PREDICTION FLIGHT ALTI-  
TUDE ROCKET

ADDRES.TXT 10-Oct-85 2290  
ADDRESSES ROCKET COMPANIES NAR

SUPRGL.TXT 12-Sep-85 5070  
GLUE SUPER GLUE CA CYANO CYANOACRYLATE  
ROCKET CONSTRUCTION

## BOOM COUNTY

OH MA, PLEASE QUIT  
REFERRING TO THEM AS  
AMETUER ROCKETEERS!  
I BELIEVE THAT THEY PREFER  
THE TERM "ADVANCED NON-  
PROFESSIONAL SPACEModelER"....



OH MY... LOOK AT THE  
EXHAUST PLUME ON THAT  
'K'-POWERED RAMJET!

T.W. BREATHED

## From Your Sometimes Sober Editors

(continued from Pg 2)

First of all, there's the Mark Weber angle. You'll remember Mark; he's the guy who took over as the head of Tripoli, only to be forced out a few months later, due to his conduct. Since then, he and Don Carter sent



out postcards under the Tripoli

name, saying that some Aerotech motors were bad and should be destroyed. They got caught on that little ploy. Now, Weber is back at it again. This time, at Central Blast 1, Weber held a meeting that was ostensibly intended to "overthrow" Tripoli and reinstall him as Tripoli president. What a joke! Not only did the proposal get very little support, someone got the whole thing on tape, allowing Tripoli to pursue a "Cease and Desist" order against Weber! What a fool!

But then, there are bigger fools out there. It seems that the attitude of Tripoli itself has shifted in the past eighteen months. Rather than working with the NAR, as it had in the past, Tripoli seems to be on a confrontation course with the NAR. This is incredible, considering the NAR changed its bylaws to accommodate its members who want to be active Tripoli members!

There has been no dialog between Tripoli and the NAR for the past year, despite the NAR's attempts to start one. Additionally, Tripoli sponsored LDRS-6 and LDRS-7, which were scheduled to be in direct conflict with NARAM-29 and 30, despite advance notice of the NARAM dates. Rather than allow rocketeers who would like to attend both events, Tripoli forced people to choose. Why would two groups who seem to have everything in common, except a few newton seconds, be so far apart?

The answer is Ed Tindell, the current Tripoli president. "Little Eddie" or "King Eddie" (as he has been derisively called by people who are almost never derisive!) is dead set against anyone or anybody from infringing on his power structure. To give you some insight into the man, here is an exchange of letters between Chris Pearson and Ed.

Dear Ed,

Happy New Year and all that stuff. I have learned from both Tom Blazanin and Gary Rosenfield that you have decided to hold LDRS-8 once again in Colorado Springs, and that once again the date chosen conflicts with the dates for other launches.

These arbitrary decisions on your part disturb me for several reasons. First, no one that I know of wishes to return to the Springs. It is a acceptable launch site, but it is too far from the hotel, has zero facilities, and Colorado Springs is right in the middle of nowhere as far as everyone is concerned. I mean, it is difficult for everyone concerned to reach. The Springs site was chosen because of the loss of the Medina site, and no other site was quickly available. There are better sites available now (such as the Vegas site), and the vote was to hold the launch at the Springs in 1989 only if no other site was available.

Gary Rosenfield did a great amount of work on the Vegas site believing that it would be held there in 1989. I have seen the site, and it is far superior to the Springs site in every way. If LDRS is not held there this year, he plans to hold a high-power launch in late August. The Las Vegas site holds many advantages over the Colorado Springs site. The best one being that there is other things to do in Las Vegas besides going to the launch. I myself would find it appealing to visit Las Vegas as a vacation in addition to going to LDRS. I'm sure many others would feel this way also. Many people don't want to go back to the Springs. I

was there four times in 1987, and don't have any desire to return.

Next, for the third year in a row, the dates chosen for LDRS directly conflict with NARAM. This year, as the past two years, Tripoli was aware of the NARAM dates a full year in advance of the launch. This prevents many potential LDRS participants from attending the launch and puts a great strain on the high-power manufacturers, several of whom attend both events. In the case of North Coast Rocketry, we decided to attend NARAM over LDRS in 1988 because of pure economic reasons. We will do the same in 1989. I have spoken to several other high-power manufacturers and they have doubts that they will attend LDRS this year, because of both the date conflict and the choice of sites. For LDRS 1 thru 5, we made sure that LDRS was at least one week before or after NARAM, out of consideration to the participants and manufacturers. I believe, along with others, that LDRS should be at least one, better yet, two weeks separate from NARAM. And at different sites each year. The Las Vegas site would be the best choice for 1989. It is not too late to change the date and sites. The sites should bounce between the East and West Coast, in order to give everyone a chance to attend.

I hope you will consider these suggestions and decide that the Las Vegas site and different date is the best course of action.  
Chris Pearson

Here is Tindell's reply:

Dear Chris,

Merry Christmas and a Happy New Year in return. I am in receipt of your letter of January 2 which voices your concerns about the choice of date and location for LDRS-8.

The decision to return to Colorado Springs is not arbitrary and was not made by me. At the General Membership Meeting at LDRS-7, I, as President, followed the "accepted tradition" of calling for a vote by the members present to fix the date and location for LDRS-8. Over 200 Tripoli members were present and they almost unanimously voted to return to Colorado Springs. The vote was not conditional on finding a better site. I was the one behind the podium arbitrating the discussion and I was the one who said, "How about Colorado Springs again?" People didn't just say "yes" Chris, they stood up from their seats and shouted "YES!!!" waving their arms. As President I have a responsibility to the members and it was clear to me that they wanted a return to Colorado Springs.

It is true that the launch site is a 1.5 hour drive from the hotel. But it is a very good site. We will use a larger pasture on a different part of the property for LDRS-8 which will take better advantage of the wind and the landowner will probably allow more use of vehicles on it as he doesn't care about the grass in this new pasture as much as the old one. We will have food and port-a-poties at the launch again. In terms of facilities what else do you want? I'll be happy to try and get it if it's equipment that's applicable to a rocket launch. There are plenty of stores on the way and even a small country store only a few miles up the road with all the basic necessities one would need. Speaking from experience (I had a K420 blow up at Lone Star 2) I am glad that the launch site is in the middle of nowhere. LDRS needs to be situated far, far away from civilized areas. With people flying clusters of K's and L's my main concern is the fact that distance equals safety. At LDRS-7, Bruce Kelly's Top Gun went unstable with 7 J motors firing all at once and one of the L750's in Ron Schultz's Mother Load didn't ignite until about 100 feet into the air. Imagine one of these rocket's plowing into a civilized area. The consequences, not just to Tripoli, but to advanced high power rocketry, is scary to think about. And it doesn't matter if we have insurance coverage or not. If someone gets hurt and can prove negligence, that's all it takes. I prefer more safety over more convenience.

All the work that Gary Rosenfield and Tom Blazanin did to arrange to have LDRS-8 in Nevada they did on their own in secret. I was never asked about it or told of their plans until the vote was called for during the General Membership Meeting. The vote actually called their hand because they did not want to announce their plans until they had everything ready. They did not have everything ready at that time. I have talked with Tom and believe it is possible that all the necessary arrangements could be made. But that doesn't change the fact that I was not kept informed of their activities or even asked by them if they could sponsor the launch. I am President and people owe me enough respect to at least keep me informed.

I beg to differ with you on the amenities available at Las Vegas and Colorado Springs. I have spent time in both cities. Most of the people who attended LDRS-7 were doing so at the start or end of a weeks vacation. I did so and enjoyed a whole host of tourist attractions and excursions. Many people commented on the fact that Colorado is a great starting/ending point for a vacation to or from almost any area of the country. If you will look at the enclosed LDRS-7 Flight Card Statistical Analysis you will see that LDRS-7 had one of the most evenly distributed attendance of any rocket launch on record. No one state or area of the country dominated the launch. It is not that hard to get to being served with good roads and a large airport. Most people also drove to the launch because they had a lot of equipment or motors they could not ship. Nevada is 1000 miles even further west. At 30 cents a mile nowadays it would cost people living on the east coast an additional \$300 dollars one way just to get there. And once you are there what is there? Nevada is well known for gambling and prostitution but not much else. I seriously doubt all those attending LDRS-8 on vacation with their wives and kids would care very much for that sort of thing. I am not trying to be prudish or anything but I have been to four LDRS's now and they are crazy enough as it is!

My predecessor, Tom Blazanin, was not in contact with the NAR, and I am not in contact with the NAR. I have no knowledge of the dates for NARAM and quite frankly am not concerned with NARAM. Like most Tripoli members I do not attend NARAM's and I cannot see catering to the few that do. That sort of thing would set a precedent to accommodate the NAR. Tripoli is separate from the NAR and will remain so. We have the right to plan our own activities when and where we choose. The NAR will not move NARAM to accommodate us because they would then set a precedent for accommodating us. If you decide to attend NARAM over LDRS, well, that is your choice. Tripoli is for it's members and I would assume that the manufacturer's would want to go where the members are flying. Tripoli has a responsibility to make it easy for every member to attend LDRS. I cannot give consideration to the manufacturers over the members. Tripoli is your organization too, I know that, but you are not a majority and it is foolish to assume that every manufacturer can attend every launch that is held. Tripoli did not exist during the early LDRS days and by the time LDRS-8 is held Tripoli will have well over 1,000 members. Things have greatly changed Chris. Advanced high power rocketry is no longer the hobby of a few elitist because Tripoli is succeeding beyond all expectations to reach out and let everyone participate.

Since LDRS-7 I have automated the business end of Tripoli here in Houston. I have talked to and corresponded in the last five months on a one-to-one personal basis with over half of the membership of Tripoli. My comments above, Chris, are a condensation of what the membership has told me they wanted. I have not received any complaints about returning to Colorado except for your letter. Speaking just for myself, I believe that large launches like LDRS, need to be held at permanent fixed sites, preferably in the geographical center of the country in states like Kansas or Missouri. I believe they should be permanent fixed sites so that Tripoli

can set a precedent with the authorities and landowners to make it easy to come back year after year. I believe it should be held in the center of the country so that the travel burden on everyone is equally distributed every year so everyone has an even chance of attending every year.

Like I tell everyone Chris, I'm more interested in building and flying rockets than I am rocket politics or rocket politicians. If a majority of the membership was to tell me Nevada I would support it 110% just like I am supporting Colorado right now. I just want to give the members what they want. I hope you can at least respect if not accept my point of view on this matter.

Thanks,  
Edward R. Tindell

Makes you wonder, doesn't it?

First of all, Tindell's comments about the membership wanting to hold the meet in Colorado Springs was nearly unanimous. Well, it was, by those who were in attendance, but that makes sense. It would be biased that way. How about the WHOLE membership, Ed? Did you think to ask them? No, I didn't think so, even though Tripoli sent out a mail ballot to all its members that could've included that question. Did you really carry out your duties as President, or did you just do what you wanted to do?

Secondly, it's dumb to lecture to Chris Pearson about high power safety. Who set the standard, Jerry Irvine?

The remarks about Las Vegas are stupid, also. That's like saying that all there is in Ft. Worth is drunk cowboys who smell. Granted, some do, but certainly that's not the whole picture. There is a large number of family oriented activities in Las Vegas, including beautiful canyonlands, Lake Mead, Circus Circus, Wet 'n Wild, and many many more things. Additionally, Las Vegas is one of the cheapest cities to fly to in the country, much cheaper than Colorado Springs.

The comments about the NAR are indicative of Ed Tindell's ignorance. Tripoli did interact with the NAR in the Tom Blazanin days. Most Tripoli members are NAR members or former NAR members, contrary to what Ed says.

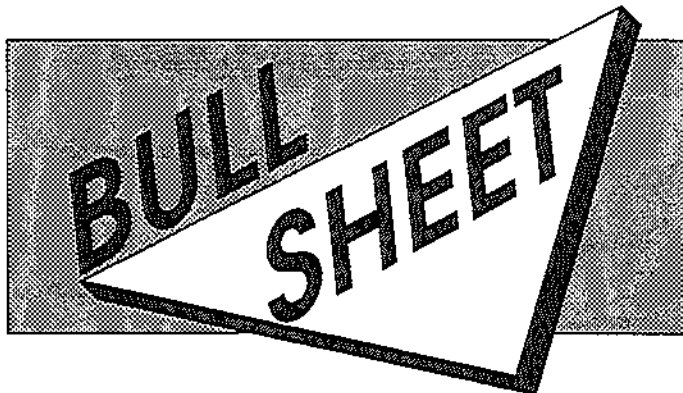
The NAR has been around for 30+ years, with its NARAM dates always the first full week in August. Since this has been the case for thirty years, it is unlikely to change, even if Ed Tindell would like it to. The precedent to have LDRS and NARAM separate weekends was in place for the first five years; obviously, it's a precedent he would like to forget, not reinstitute.

It is ignorant to not know or care about the NARAM dates. It is irresponsible to the Tripoli membership and sponsors, but Ed doesn't care. He'd rather have the confrontation, I guess. After all, he's got more newton seconds, even if he doesn't have the same number of members (either in the organization or attending large meets like NARAM-30).

Tindell's comments about Tripoli not being around in the early days are well taken. Who was around in the early days? Chris Pearson, not Ed Tindell! The LDRS meets posted an excellent safety record and provided the growth of the high power rocket scene that exists today. It was not an elitist meet (but Ed wouldn't know, since he didn't make the early ones). LDRS 1-5 helped the NAR see that high power rocketry was fun. LDRS 1-5 helped establish Tripoli, and did so without being confrontational with the NAR in the manner that has been seen recently.

All in all, you can see a power hungry individual who will ruin Tripoli if he is not replaced. Luckily, that just might happen. Three new Tripoli Board members were just elected, and informal polls indicate that Ed will not be re-appointed as President. The only question is, will he pick up all his toys, and refuse to let anyone else play?

We hope that Tripoli can withstand these problems and continue to grow.



**The official demise of Enertek** took place on January 27, 1989. An auction was held to liquidate Enertek's assets. Among the items available were: the incomplete launcher mold; 450 lbs of composite rocket propellant; 900 lbs of ammonium perchlorate; three development motor casing molds; the display prototype models, launcher, and launch controller; 17,000 product catalogs (some with water damage); trade show exhibit booth; and various model rocket kits, tools, and information. Paul Hans, reportedly Enertek's biggest investor, walked off with the whole deal for more than \$30,000. What will happen to the items is unresolved; there are still claims against the assets, despite the liquidation auction.

**Cox is ready to re-enter the model rocket market** by re-introducing their 1969 line of all-plastic rockets. By spring of 1990, expect to see the 1/144 scale Saturn V and Saturn 1B back on the shelves of hobby shops, as well as an 18" Nike Zeus, 8.5" Little Joe II, a 14" Honest John, an X-15, and the parasite glider Space Shuttle America. Supposedly, Cox has almost all of the original molds for the rockets, with only a few pieces to be replaced. Cox is also considering using the original packaging that their models used. Motors are not going to be produced in the Cox plant in Santa Ana, CA. Most likely this is because of a fatal motor manufacturing accident, ultimately resulting in Cox abandoning model rocketry. Instead, arrangements are being made to manufacture the motors in Canada, possibly by the Canaroc folks. No word on whether the Saturn V launcher and the plastic igniter will be produced; these were two products that, in the past, really set Cox apart from the other model rocket manufacturers.

**Damon Corporation announced on January 16 that it had agreed to be acquired** by Nomad Partners, a corporation formed by American Magnetics and Ballatine Partners for the purpose of acquiring Damon. The agreement culminated five months of struggle by Nomad, including a lengthy \$24 per share cash tender offer.

The agreement must be ratified by current Damon shareholders, and Damon is free for 30 days after the signing to continue to solicit better offers for the company. Nomad's financing is a standard leveraged buyout package: (a) \$50 million in equity capital from Nomad itself, (b) \$145 million in bank loans arranged by AG Becker/Paribas, and (c) \$180 million in junk bonds to be underwritten by Drexel Burnham Lambert.

During negotiations, Nomad indicated they planned to sell certain segments of Damon's businesses. This would probably include Estes Industries. There is considerable speculation that Estes may not be sold, now that potential buyer Odessey

Partners has appeared disinterested. It is too early to predict the effect of this take over on the model rocket market.

**MRC has released a new catalog.** There's not much of interest in it for the advanced modeler, though. It looks as though MRC is taking a solid aim at Estes' novice rocketeers. For a copy, write to: MRC; 200 Carter Drive; Edison, NJ 08817

**The NAR hit 5000 in December 1988!** There are now 2604 Juniors, 238 Leaders and 2197 Seniors for a total of 5039 members. First year renewal and overall renewal rates have increased, largely due to an increase in the number of Seniors. At this rate, the NAR should hit an all time high about the time of NARAM-31.

**Insurance is in the news again,** due to the AMA Insurance Committee recommending that the AMA drop the NAR from its coverage. This was quite a bombshell, to say the least. The AMA council, fortunately did not follow that recommendation, instead directing the NAR and AMA Insurance Committees to meet together and review the matter. It is likely that the NAR insurance will continue, although some changes are likely. The bulk of these issues are expected to be worked out by the time you read this. A full report will follow in an upcoming issue of SNOAR News.

**New Catalogs are on the way** in March for both North Coast and Lots of Crafts. Ravenna Rocket Research has also released a new catalog, sporting a large line of composite motors. No word on when these motors will be certified. Advanced Rocketry Components (Box 97904, Pittsburg, PA 15227), a new company headed by former Tripoli President Tom Blazanin, also has issued a new catalog available for two dollars. Oh, yeah, and the Estes catalog has hit the streets, too.

**Al Nienast, NAR C Division National Champion in 1979 and 1983, passed away in his sleep, Sunday January 29, 1988.** He was perhaps best known to his competitors for his series of swing wing rocket gliders, and his incredible egglofters which defied gravity. In addition to being a able modeler, he was a gentlemen and sportsman of the highest caliber. He will be sorely missed. Condolences may be sent to Mrs. Regina Nienast, 520 Cady Avenue, Tomah, WI 54660.

**Aerotech is busy introducing new motors.** Many of the motors are "re-engineered" versions of previously released motors. Most interesting are the new formulation "White Lightning" F41 (\$11.95) and G60 (\$15.95) which have been improved for even more effect. Also, in order to reduce manufacturing costs, the E28 has been replaced with the Enerotech/Aerotech 24mm E30 and 24mm E15 (\$6.95 each). New 18mm motors are also appearing, including a full 20 n-sec D, the D25 (\$6.95) and a low E, the E25 (\$7.95). Delays for all of the above motors are 4, 7 and 10 seconds. Also introduced are the 29mm F25 (\$10.95), F60 (\$10.95), G40 (\$14.95), and G80 (\$14.95). Aerotech has also re-introduced two popular motors, the 24mm F44 (\$11.95), and the 29mm F15 (\$11.95). Order these either direct from Aerotech or North Coast Rocketry.

New for 1989!

## The Big Brute

*The perfect high power demo rocket!*

Can be flown nearly out-of-sight on F motors, or punch it into orbit on a G! Features slow, realistic take-offs, and is perfect for the new White Lightning motors! Recovery is by colorful 36" rip-stop nylon parachute. The BIG BRUTE also incorporates our new Gorilla Shock Cord Mount System™ (patent pending). Dan Kafun designed this one!

Length: 35" Diameter: 4.0" Weight: 450 g  
Recommended motors: F20-4, F25-6, F41-6, F60-6, F80-10, G25-10, G40-10, G60-10, G80-10

Catalog # K-53

Price \$24.00



## LC-1 Launch Controller

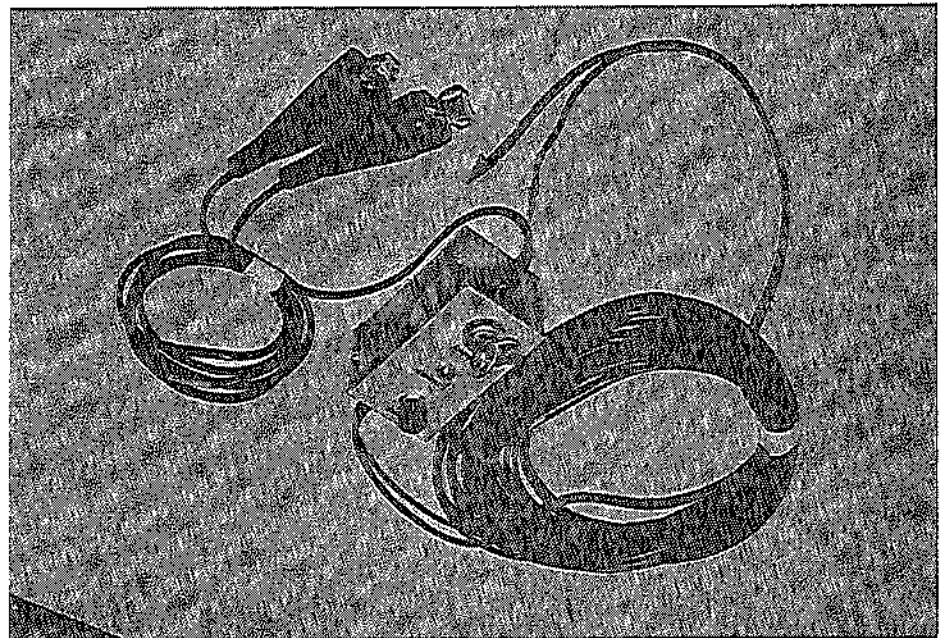
The North Coast Rocketry LC-1 Launch Controller is the heavy duty high power launch controller you've been looking for. There's no plastic parts here; it's all in a compact metal box, designed to be easy to carry and last a lifetime. The LC-1 has all features

that you would build into a launch controller: An audible continuity checker (who wants to squint in the sun anymore trying to see if the dim little light is on?); a heavy duty safety key that looks like a key; twenty five feet of cable from the box to the micro clips, so you can stand back far enough from those high power flights; high quality micro clips, with color coded heat shrink tubing protecting the solder joints; and heavy duty, plastic shielded battery clips. There's nothing wimpy about this launch controller. And, Chris personally puts 'em together and checks 'em out, so you know they've got to be good.

Order one today, and don't worry about a launch controller ever again.

LC-1 Launch Controller: \$50.00

To order, call (205) 883-6020 or write to address at right. Visa & MasterCard accepted.



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