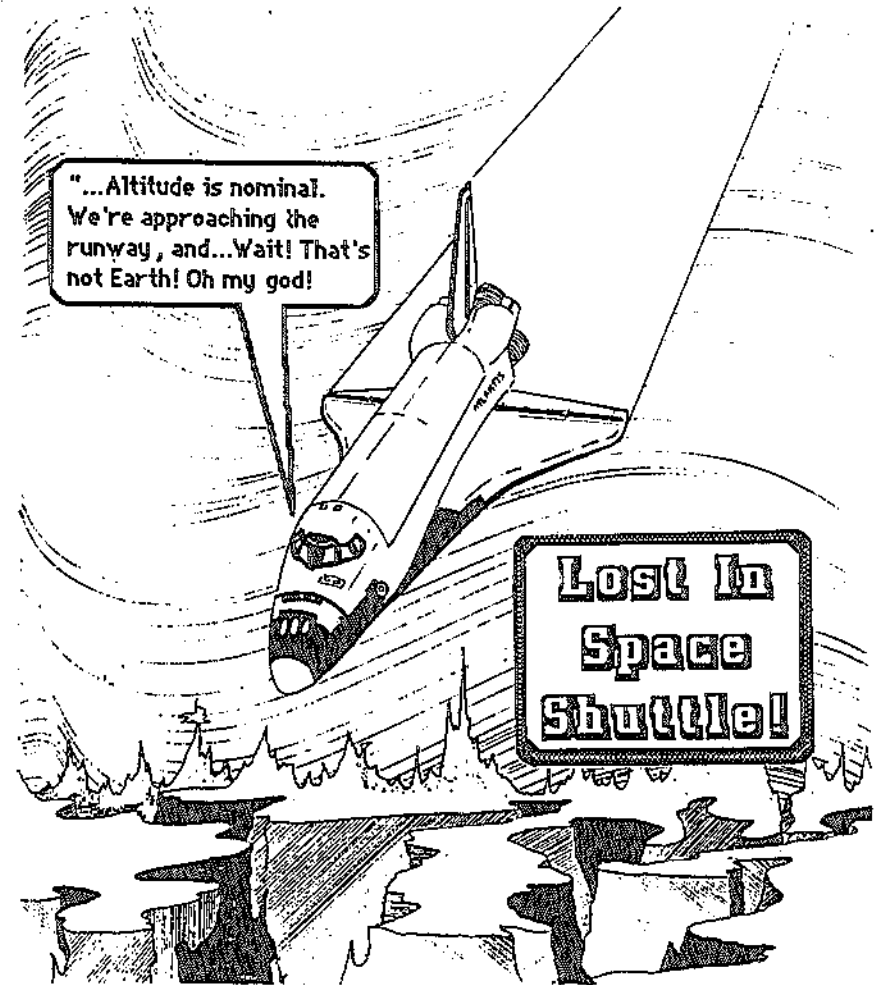


SNORR NEWS PRESENTS:

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JULY/AUGUST 1999

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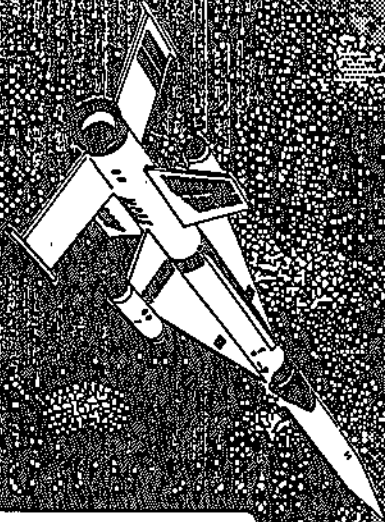


SNORR NEWS

THE LEADER IN SPACE MODELING

5655 S. FALLWOOD DR. #31

SALT LAKE CITY, UT 84118



TOP

HASTEN

# SNOAR NEWS

JULY/AUGUST 1985

VOLUME 11 NUMBER 6

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## COVER STORY:

Yes, even the big boys prang every once in a while! Yessiree, did NASA think of this when they named the Atlantis??? Or, is this the LDRS of 1999?

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Chris Johnston, Bob Geier, Mike Wagner, Deb Schultz, Ron Schultz, Wayne Hendricks, Chas Russell, Larry Peters, Ceri J. Warner, Chuck Mund, Terry (Cosine) Lee, Moose, Crabs, and septillions of others. **SNOAR NEWS** is an amazing publication. Please pay attention when you see that this is a double issue with extra pages. Hopefully, we'll hand out enough at LDRS and NARAM to offset the increased postage costs for the rest of you who are sitting at home. Hey, we're blowing the big bucks to be there! What about you?

**SNOAR NEWS** is published by SNOAR, NAR section #337 (The greatest section ever!) and is the official newsletter of that club. Incredible, isn't it? We even accept art submissions on yellow-lined paper. If we didn't, Tony would never get anything published! We'll also take normal submissions.

This is VOLUME 11, NUMBER 6.

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PUBLISHING FUNDS: COURTESY NORTH COAST ROCKETRY.

## FROM YOUR SOMETIMES SOBER EDITORS:

We're right in the middle of flying time, and we know that you're more interested in gettin' those birds into the air rather than reading about the latest scam, so we'll just let the issue ride this time.

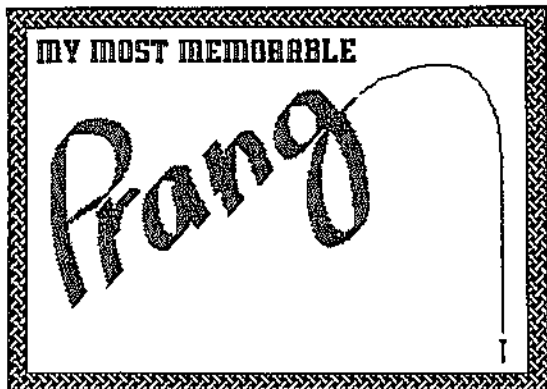
A few notes about things going on. This is the July/August issue, since things are pretty busy around here. As a result, the next issue will appear in September, hopefully with LDRS and NARAM coverage, to be edited by George. Matt, Chris and Terry Lee will return in October with Internats coverage, if they get through the Athens airport successfully. After that, who knows?

This is the special "Prang" issue. It details various mistakes that many people have made over the years...maybe you can learn something from them. Remember that none of them were intentional. Don't take things wrong...if anything, this issue shows the need to fly safely and smartly.

With that in mind, go fly!

Matt and Mac





Written and illustrated by Tony "MadDog" Williams

Author's note: Asking any long time rocketeer to tell about his most memorable prang is comparable to taking a small child to the candy store and saying "You can have just ONE of anything!" There are SO MANY to choose! I've chosen to relate the following incident because (a) it happened at a well attended NAR-sanctioned competition, (b) the results WERE impressive and, (c) I still have all of the "remains". You couldn't say that about a "dirtlofter".

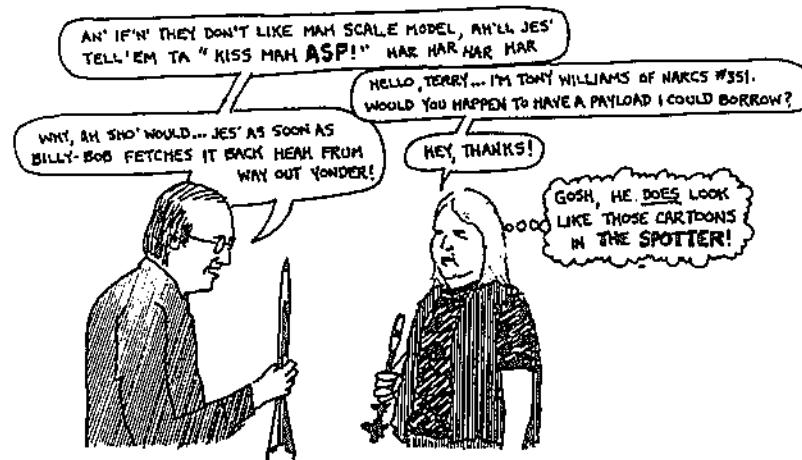
### SINGLE PAYLOAD AT NGRM '76

It was my first contest outside of Alabama and things weren't going too well... My flexwing booster had gone unstable (a stock ASC kit, no less)... My high performance streamer bird failed to piece due to extreme piston tipoff... The pride of my competition fleet, an E60 powered Dual Egglofter, had turned in an impressive flight, altitude-wise, only to separate the chute from the egg capsule ("Bad Form" as the British would say). I was late in arriving for the meet and had missed the scale and plastic model turn-in time. And since I didn't have a Hawk rocket glider to fly, my one last chance at salvaging some points at this North Georgia Regional Meet was Single Payload.

Despite my misfortune in the previous events, I was confident that my new "leadlofter" would out-perform the rest. While most of the contestants were using simple C6 boosted RB-77 models, I had chosen to go the B14-0/B3-5m route ("piston staging", I called it.), with one of the sleekest, shiniest little Mini-Rocs you had ever seen.

Still wet-behind-the-ears as a NAR contestant, I had neglected to procure an official NAR-FAI payload for the meet. I assumed that payloads, like eggs for egglofting, were to be furnished by the officials. Needless to report, I was quite perturbed when I presented my otherwise fully prepped model at Safety Check-in, and was told, "We don't have any payloads. Why didn't you bring your own?"

My search soon led me to one of the most legendary modroc competitors of all, the one and only Terry "General Cosine Beapureguard Cottonmouth Asphalt So-many-nicknames-we-can't-print-them-all-here" Lee.



With Terry's payload weight fitted inside my hot new rocketship, I was ready to "grab some sky" and walk away with the trophy! Ignition, and lift-off was picture perfect, straight off a slightly modified CMR Boom Tube piston.

Separation occurred at first stage burnout. The booster tumbled to the ground, while the upper stage headed to the stratosphere.

UNFORTUNATELY, the AVI B3-5m had failed to ignite! The resulting trajectory was a beautiful parabolic arc, terminating in the asphalt parking lot..... just a few paces away from Tracking West.

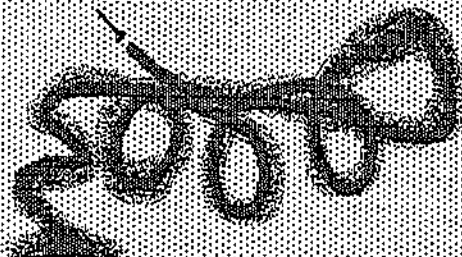
The model burst open on impact and bright red tracking powder literally marked the spot. The payload section, which had been crafted from two CMR plastic nose cones, had, shadooby, shattered, shattered into many tiny pieces. But the real surprise was the flattened mushroom slug of lead that once had been an official NAR-FAI lead payload weight. It WAS impressive. Yeah, it really wowed 'em when I plunked the sucker down on the Return table!

Terry graciously accepted financial retribution for the ruined payload, and it now rests on display along with the entire upper stage of the ill-fated vehicle in the MadDog Model Missile Archives.

POSTSCRIPT: In 1979, the National Association of Rocketry switched to an official payload that was non-metalic, consisting primarily of sand. B14's, mini-B's, AVI, and NGRM are all long gone. I'm glad that Terry's still flying rockets.

## MY MOST MEMORABLE

# PRANGS



## SLIDER BITS

by George Gassaway

One of the best prangs I've seen was at ARC-1 in 1973. The model was a 24" span Condor Boost-Slider powered by two clustered ES's in side-by-side fixed pods. On the first attempt, only one ES had ignited and the model stuck on the rod. The next attempt it got both engines going and took to the air. At about 100 feet it began to arc on its back, and at 200 feet it was parallel to the ground. It continued the half-loop to go down behind a row of trees at great speed. We heard a WUMPI from the crash followed by the sound of the ES's thrusting off under the last second of their burn. Everyone headed for the crash site beyond the trees, which seemed to be near some railroad tracks. The crash site was hard to determine though, as balsam and spruce pieces were scattered all over a 100' area around the railroad tracks. The pieces were very small, and the wings were missing. Someone found one of the ES pods, and someone else noticed a scorch mark on a railroad tie. Apparently it hit right between the rails. As for the wing, the only theory was that it ripped off just as it went behind the trees and fluttered to land in some very tall weeds near the tracks. I've never seen a model so completely destroyed.

The most impressive prang of one of my own models was the first flight last year of a 1/72 R/C Shuttle with ET, SRB's, and minimal fin area. It was powered by an F15 and had R/C orbiter separation by holding up elevator and up elevator trim. It turned out not to be stable enough in pitch, it pitched away from the wind onto its back at liftoff. Down elevator brought it back to vertical but it also rolled and was soon out of control. Rather than let it get up a lot of straight line velocity, up elevator command was given and an attempt was made to move the trim lever up to separate the orbiter before the crash. The shuttle did two 180 degree "tailslides", flipping around to fly tail-first until the thrust stopped the reverse direction of flight and set it moving nose-first again until the second tailslide. It finally stabilized and crashed under thrust into the ground at about a 45 degree angle. The nose of the ET punched a respectable hole in the soft ground. The whole flight never got higher than 50 feet and lasted about 4-1/2 seconds. The shuttle took to the air three weeks later with bigger fins, and was successful.

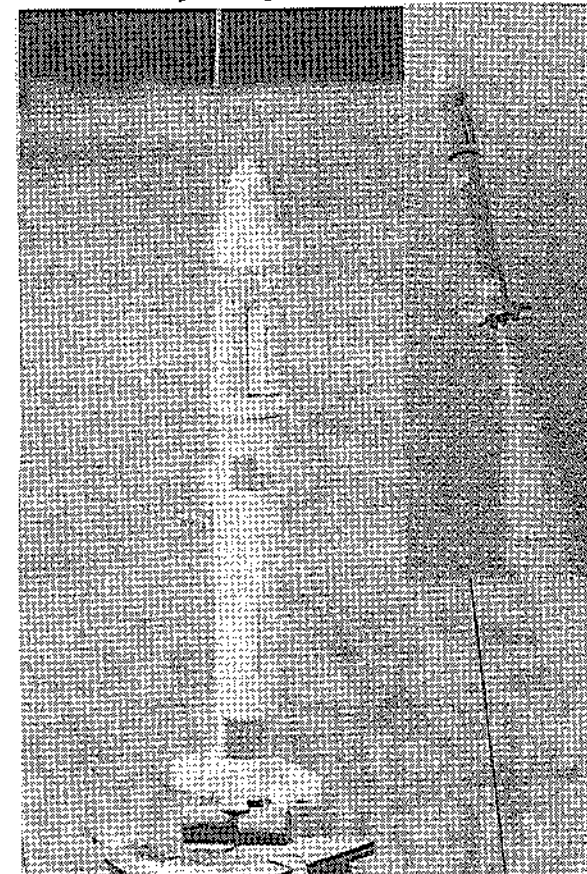
## PLASTIC MODEL BITS

By Matt Steele

When I think of a good prang, I think of one that is different from the "Hoo-boy, it hit the ground pretty hard there, huh?" type. Lord knows I've had my share of those, including a D12/ES RC BG that I flew into the ground at maximum velocity, but the prangs that I truly get off on are those that hit things on the way up. After all, it's pretty damn hard to miss ol' mother earth, isn't it? I think the prang that most impressed me, as well as a stadium full of spectators, was when my Project Pilgrim hit a light tower during boost at the Neil Armstrong demonstration in Wapakoneta, Ohio.

I had been pretty proud of the Project Pilgrim plastic model. Mike Nowak and I combined a Pilgrim Observer kit and an Airfix Saturn V to get a good looking model that had a lot of difficulty. (Of course, it's no longer a Jager conversion) We built the model to boost with the AV1 E24, which made for smoky, low flying flights, perfect for contests. It had a good track record, beating Steve Behrends and others at Grandson of MAR. So, when the annual demo came up to commemorate man's landing on the moon, it was a natural choice to make a flight.

BELOW: The Project Pilgrim on the pad, and in flight.



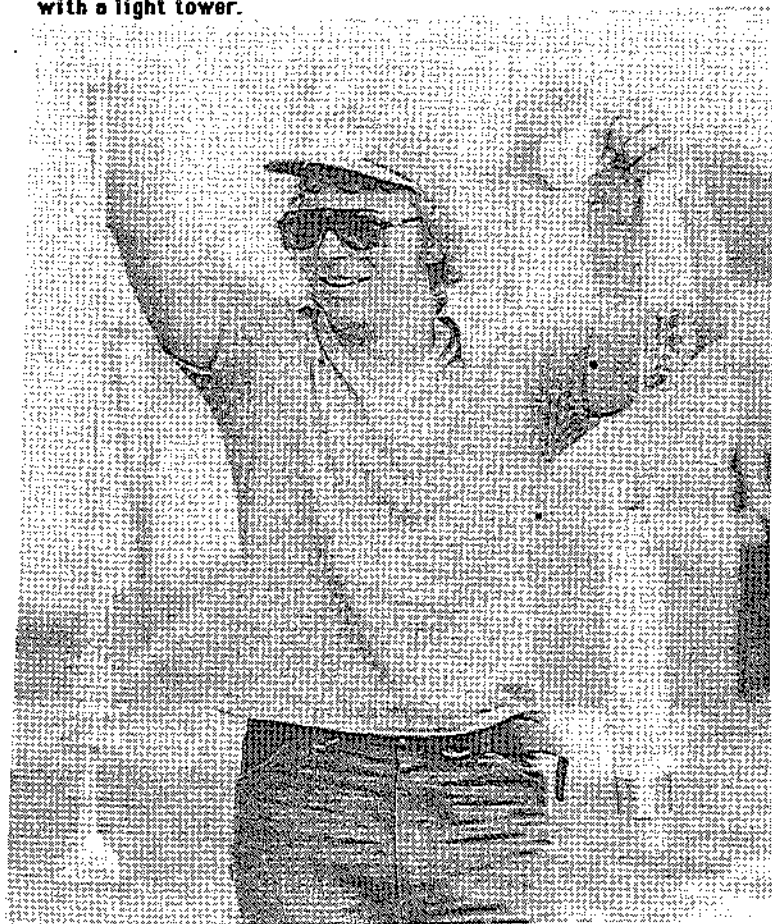
Chris Pearson helped me prep the model for a flight near the end of the demo. The Project Pilgrim lifted off slowly, gained airspeed, and promptly collided with the top of a very high light tower! Small bits of plastic showered to earth, mixed with glass from the broken light. The crowd gasped, and the guy on the PA started talking about how safe model rocketry was. I walked over, stunned, to try and pick up some of the larger pieces. In the course of less than two short seconds, my masterpiece was turned into plastic dust! It was a prang I will never forget!

## FRISBEE FUN

By Mike Wagner

I had the thrill of a hand launched D12 powered Frisbee go off in my hand with about 20 people watching. Seems that the launch system didn't work right, and as I was getting ready to throw it, it ripped itself out of my grip and sort of fluttered around under power. The worst part of it all, was some guy was attempting to photograph it, only to discover that he had no film in his camera!

**BELOW: The aftermath of the Project Pilgrim's intersection with a light tower.**



## LUG PROBLEMS

By Chris Johnston

Probably the two best prangs I've seen involved models under power. My first encounter was with Matt's UFO Invader at MMRR-76. This plastic model required a lot of nose weight to make it stable, and Matt had put plenty of that in the nose. What he failed to do was glue the launch lug on securely. When the motor ignited, the lug jammed and the model broke free, zeroing in on yours truly. Only my quick drop to the ground prevented a rocket powered lobotomy. The UFO Invader was dug out of the ground about 10 feet behind the spot where I was laying. The nose cone was over 6" into the ground. Since then, I watch Matt's plastic models really close.

At NARAM-22, the Zunofark team E5 powered streamer duration bird lost a launch lug before it left the pad. The result was a couple of 360 degree loops, a touch and go landing on the range tent, and a couple of more loops before crashing. You sure can't beat those long burn FSI engines for prang fun!

## SUPER ROC PRANG

By Chris Pearson

Well, I had a D12 powered Super Roc launch when I was holding on to it! It seems that the wind was blowing strong that day, so I was holding the model until launch. The trusty RSD indicated that another bird was going to fly, but all of a sudden, the Super Roc got real hard to hold onto! The tail section hit my hand, ripped off, and flew by my face with the motor still burning. Of course, everyone else was busy hitting the deck and avoiding the various body tube hurtling through the air.

## BUSINESS SLOW AT N.A.A. "ALL STARS" SPERM BANK

(Elizabeth, PA) NAR headquarters spokesperson Doris Meyer admitted today that the newest department of the NAR Technical Services, it's "celebrity" sperm bank, hasn't quite lived up to the great expectations of the NAR Trustees who set it up.

Originally conceived as a "great service to future generations of the specemodeling public", the NARTS sperm bank supposedly receives its deposits from national champions, trustees, and carefully selected members of the NAR.

"We only stock the cream of the crop, uh, pardon the expression!" quotes NARTS Bank Manager Jon Rains, who, for obvious reasons, has never been asked to make a deposit.

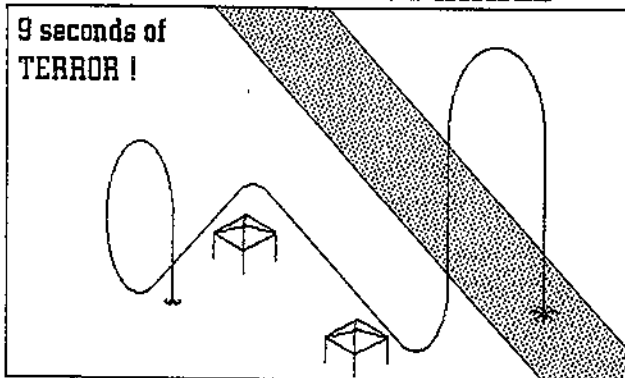
But business has been slow. "Actually, the supply far exceeds the demand at the present time," says Rains. "We're hoping that interest in the '85 World Championships will do something to stimulate business...assuming, of course, that some flyer manages to win a medal or at least qualifies or something."

"Right now, it looks as though no one is interested in bringing another "Pool Face" or "G. Herry" into the world. Last month, our only request for a withdrawal turned out to be from a law firm working on a paternity case. We had to turn that one down," lamented Rains.

# HISTORY OF THE "BEST MIDWEST QUALIFIED FLIGHT" TROPHY

**QTR**

## "ALL-TIME GREAT PRANGS"



COMPILED BY GEORGE GASSAWAY AND MATT STEELE

The "Best Midwest Qualified Flight" Trophy has been annually presented by SNOAR to the best prang of a NARAM. The original concept started out from a Steve Behrends comment about the reluctance of midwestern RSO's to DQ anyone "unless the model hit someone, and if it did hit someone, we'd have to look and see who it was first, before DQ'ing it". The trophy was first presented at NARAM-19. Below is a short history of trophy winners and memorable "national class" prangs.

**NARAM-16:** Trip Barber's F100-F7 staged flight. The model made a normal boost on the first stage, but the F7 second stage went unstable at an altitude of about 500 feet. It was entertaining to see a model unstable at a safe high altitude, until the F7 upper stage stabilized itself pointing straight down. It crashed about 200 feet from the launch area at high speed, in front of the Porte-John.

**NARAM-17:** Jim Hartman's Pan-Am Space Clipper plastic model conversion entry. Jim built a great model which was in first place after static judging. Unfortunately, the offset thrustline caused the model to pitch down as it left the pad, settling into a horizontal flight path at burnout. It seemed destined to hit the ground just past some power lines when it seemed to explode in mid-air. It actually hit one of the power lines and shattered, with pieces raining down to the ground.

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**NARAM-17, Part 2:** Mark Bundick's Klingon conversion. Mark knew the Klingon would pitch down at liftoff, so he angled it on its back. But it pitched far more than expected, flying at about 10 feet above the ground and finally hitting the ground near burnout.

**NARAM-18:** (If at first you don't succeed, PLEASE give up!). Mark Bundick's Klingon pitching problem was solved by the Klingon going unstable about the yaw axis this time around, going wild over the launch area.

**NARAM-18, Part 2:** Bruce Blackstone's Valkyrie. Bruce tried D20-F7 power for the first flight. The D20 popped the model up to about 50 feet, then it literally stopped in mid-air until the F7 cut in. It cruised under power slowly from vertical, to horizontal, and finally crashed in near slow-motion fashion. Bruce later tried the Valkyrie with an engine with higher thrust, an F100. It shattered from the stress.

**NARAM-19:** Bob Bruce's 2-stage sport model powered by an E and D12. It wasn't stable, and crashed into the ground. But it had a mercury switch staging system. The upper stage ignited on the ground and rose up into the air for a short flight of its own, the model rocket equivalent of "Flight of the Phoenix".

**NARAM-19, Part 2:** Jim Hartman's E Superroc popped the engine and streamlined in, crashing just a few feet from an unsuspecting modeler downrange.

**NARAM-20:** John Squirek's C Superroc model. The engine popped and the model came down to hit the foot of the official (and not well-liked) NARAM-20 secretary, Mrs. Harry Stine.

**NARAM-20, Part 2:** PS'N Team's Aelius Space Systems entry. It was second in static with a good shot at winning with its D12/C6 tandem power. But, at 100 feet it went neutrally stable, looped, and stabilized horizontally to crash in a golf course about 400 meters away.

**NARAM-21:** Jim Hartman's eggofter: Jim had a nicely painted two stage eggofter that had a great first stage boost. There was a pop, and the second stage arced over, and then ignited, pointing down. A first in egg re-entry studies!

**NARAM-22:** Keith Campbell's attempt at running a NARAM.

**NARAM-23:** Mark Bundick's E R/C B/G's get wiped out in practice. One, powered by twin E5's does a half loop under power into the ground to destroy the model and punch a nice hole in the ground. The other survives boost, but spirals into the ground with "more control in one direction than the other".

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**NARAM-23, Part 2:** Chris Cox's model DQ's when it prangs into the garbage can.

**NARAM-24:** The Blues Brothers F-18 Plastic Model powered by twin D12's. One D12 cato'ed just after liftoff, blowing some parts and causing the model to thrust about wildly in the air from the good D12. But, the chute held up, it landed safely, and was going stably before the D12 blew, so it was ruled a qualified flight, taking 4th place.

**NARAM-24, Part 2:** Tom Pastrick's F104 Plastic Model entry. Tom had a good shot at a C division reserve championship if his model worked, which would have given him second place in Plastic Model. The F104's rear ejection shock cord broke, allowing the model to fall to the ground. The model did not hit the ground though, it was cushioned by the hood of a Camaro.

**NARAM-25:** Jim Willkerson's F7 powered Predicted Altitude model went all over the place when it went unstable. Honorable mention goes to the daily rain that pranged the meet scheduling and led to flying four events during a 4-1/2 hour period starting early Friday morning.

**NARAM-26:** Tom Pastrick's Sea Venom Plastic Model entry turned out to be underpowered on a C and crashed before ejecting the chute. Once again, a Plastic Model DQ stood between him and the C division reserve championship.

**NARAM-26, Part 2:** Warren Sisco's Mirage model was powered by one D12. Unfortunately, the model had two D12's which were supposed to ignite. It went wild over the launch area.

## WORLD-CLASS PRANGS:

**1977- U.S. Team selection flyoffs:** Guppy Youngren, Bernard Biales, Geoff Landis, and Phil Barnes crash their R/C B/G's for a variety of reasons in the E Boost-Glide event. This was the worst day in R/C B/G history. The next year Guppy flew to a World Championship, and Bernard and Geoff's flights also helped to secure second place for the U.S. Team. In 1983 Phil won the E R/C R/G event in Poland.

**1979- U.S. Team selection flyoffs:** Bernard Biales made a test flight on an F7 which became the most infamous prang known. The model did one loop, missed hitting the ground by just a few feet, banked off to the right, buzzed the prep area at about 30-40 feet, pulled vertical, did a 180 degree turn to the left, and crashed vertically into the nearby canal just before burnout. The tail section was visible sticking above the surface of the water. The radio gear had to be scooped out of the mud. This was the "Nine seconds of Terror" flight.

**1980- 4th World Championships at Lakehurst, N.J.:** Great Britain's Paul Clark entered a model of the WWII German "NATTER" rocket

fighter plane. The first flight had a screwy barrel roll boost, but qualified. In an attempt to score more flight points, he flew it again. It took off and started to pitch up on its back, but also started a roll. It went past vertical and headed for the ground, but the roll had brought the model upright so the pitch-up tendency caused the model to pull up. It pulled up to a horizontal glide path just as it touched the ground, skidding to a stop as the recovery system came out. The flight path was similar to a stunt plane doing a portion of a Cuban Eight maneuver.

**1980- 4th World Championships at Lakehurst, N.J.:** Guppy anxiously prepares his F7 powered RC BG for a flyoff with Bulgaria's Jordan Pavlov. Guppy seriously damaged the delicate model chasing a thermal down wind to max in the third round. A standoff ensued at the end, as Guppy barely was ready to fly at the end of the flyoff round. Guppy got permission to fly, but at ignition, the pod stripped, and tossed around the prep and spectator areas for an agonizingly long 8 seconds. One of the worst public prangs ever.

**1983- 5th World Championships, Nowy Sacz, Poland:** The US Scale team crashes and burns during flying. John Pursley's 1/96th Saturn V failed to ignite 3 of the five engines on board, barely clears the pad, and belly flops to the ground, where it shatters. Rob Justis follows suit with a 1/100th Space Shuttle that goes unstable and impacts under power.

**1984- U.S. Team selection flyoffs at Allentown, Pa.:** After the official flying was over, Phil Barnes and Chris Morgan made a tandem R/C B/G flight with two R/C B/G's back-to-back sharing a single F10 powered pod. Phil was the designated boost pilot. The model(s?) climbed up slowly and arced upwind, rolling slowly. There was no control, a radio glitch or just perhaps no roll control due to the dihedral of both glider wings cancelling each other out. Whatever the cause, the model continued past horizontal and to a downward path still thrusting. It/they crashed about 1000 feet away, destroying both gliders with unknown damage to the radio gear.



"DUMP BUNNY NOW...  
BEFORE HE DUMPS  
ON US AGAIN!"

# Adventures In Real Life Rocketry

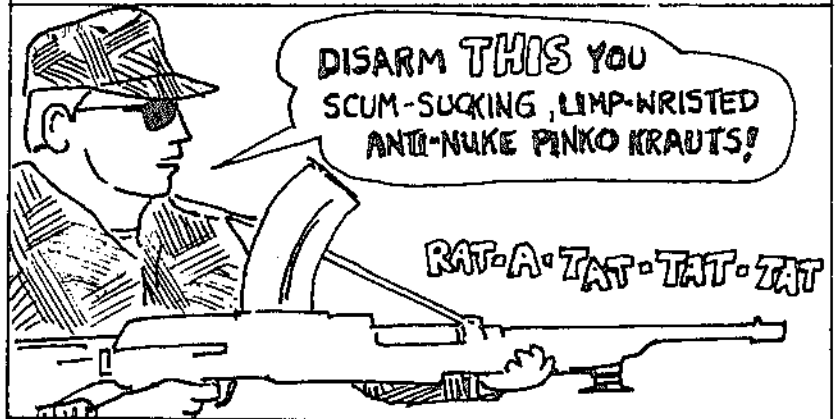
Starring  
Cap'n Matt  
Steel



"AS SOME OF YOU MAY ALREADY KNOW, I RECENTLY HELPED UNCLE SAM DEPLOY SOME NIFTY NEW PERSHING II MISSILES IN WESTERN EUROPE.... THIS WAS A REAL TREAT FOR A FUN-LOVING GUY LIKE ME!



"LOCAL RESISTANCE TO THIS PEACE-KEEPING MISSION WAS COUNTERED IN A TYPICALLY COURTEOUS MILITARY MANNER



"AFTER ALL, I WAS A "GOOD WILL AMBASSADOR" FROM THE GOOD OL' U.S. OF A. AND I WAS EXPECTED TO CONDUCT MYSELF AS AN OFFICER AND A GENTLEMAN AT ALL TIMES....

OCTOBER FEST!  
UN YOU VILL  
HUNJAY IT!



"IN ADDITION TO INSTALLING THE NEW MISSILES, I ALSO HELPED TO RE-EVALUATE THE EXISTING N.A.T.O. DEFENSE SYSTEMS....

EAST BERLIN,  
HERE SHE COMES!



KA  
BOOM

"ANYWAY, IT WAS A LOT MORE FUN THAN BEING STATIONED WITH THE MARINES IN BEIRUT!"

STEELE!  
YOU'RE LUCKY THAT  
SECOND STAGE  
CATOED OR...





# THE ATLAS LAUNCHER

By Matt Steele

The "Atlas" launcher/display stand is the result of a number of years of searching for an easy-to-construct, yet impressive looking launcher. Scale launchers are seldom seen (as evidenced by the four Super Scale entries at NARAM-25), and are usually nearly impossible to construct. Although I have built my share of scale launchers, I have usually found they are too fragile for too bulky to bring to anything but a national meet. Nevertheless, there's no reason that you can't enjoy having a scale-like launcher without the hassle. That's where the Atlas launcher comes in.

The key to constructing the launcher is the Atlas HO scale Pier Girder #82 (Atlas Tool Co., Hillside, N.J. 07205). This set is usually available for about a dollar in any local hobby shop which features model railroad supplies. The design is loosely based on the A frame Asp launcher, with a few twists. The primary function of the design is to serve as a display stand, but it will also function as well as a model rocket launcher.

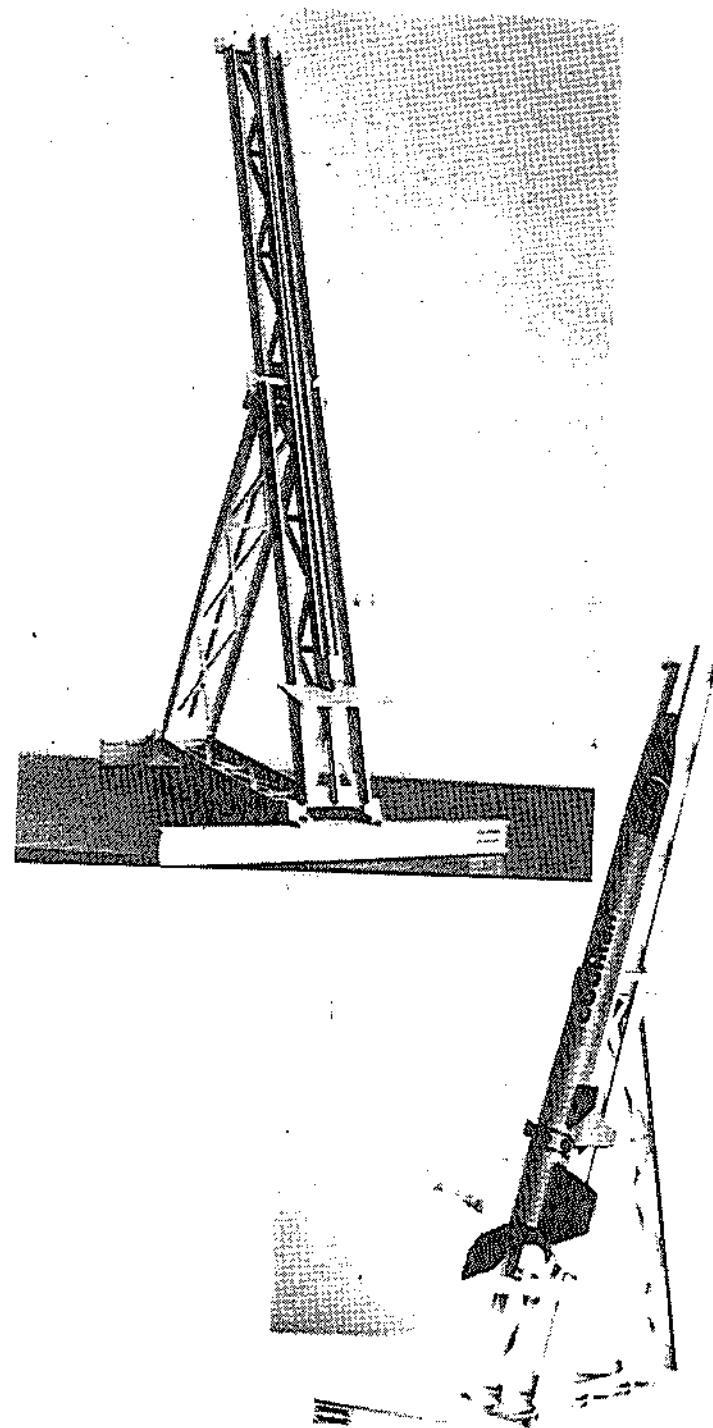
Besides the HO model railroad parts, other parts you will need for construction can also be found at your local hobby shop: Plastruct "I" beam (5/8" x 11" long); Plastruct "H" beam (3/8" x 15" long); a 2" x 1" x 1/8" brass plate (usually cut from a larger sheet of 1/8" brass); Plastruct square tubing (1/4" x 6" long); and either a 12" brass rod or a 36" launch rod, both 1/8" in diameter.

Construction is pretty easy. Cut the top tabs off of one of the four pier sections. Cut two 1" long sections and a 3" section of the 1/4" square Plastruct. A miter box is quite helpful here. Cut a 1/8" wide slot in each section of the square Plastruct sections that you just cut. Glue the 1" sections to the end of the 3/8" Plastruct, and the 3" section in the center. Take the sections with the tabs cut off and butt it up against another section of the girder on a flat surface. Glue them together, using one of the many brands of cyanoacrylate glues available. Then, take the "H" beam and fit inside the central beam running in the girder sections. Align the top edge of the "H" beam with the top of the girder section and glue.

Set the tabs of one section into another and position the mainframe so as to form an equilateral triangle. Glue into place. Cut out a 4" x 7" section of the "I" beam. Center both sections on the bottom of the launcher, with the larger section towards the rear, and glue. The remaining section of 1/4" square Plastruct is glued into the "H" beam, and serves to hold the launch or display 1/8" rods. Either rod can be friction fitted into the square Plastruct by using masking tape. If you really want to be slick, a two-section rod would work well. Cut a 1/8" slot into the mainframe at a 45° angle and install the blast deflector. Suggested colors for painting would be Pectra Rebel Gray, flat black, or primer (flat) red. Some decals from various model kits can be used for a nice effect; I used a couple of the red and white "WARNING" decals that come with the Centuri Model Missiles decal sheet. Be advised, all measurements are approximate, and up to your discretion. Use the photographs as a guide. And launch within 30° of vertical!

That's all there is to it. The launcher might take you all of two hours to construct, but the results look like considerably more time was invested. Of course, for larger models, the design can be scaled up as necessary. Just remember not to enter in in Super Scale!

**ATLAS SPORT LAUNCHER/DISPLAY STAND** - Top: Overall view of launcher; Bottom: Side view, with Estes "Courier" kit.



# Streamer Dreamer 17

By Matt Steele

The Streamer Dreamer series was designed with high power streamer duration in mind. At the time of their construction, the existing records for D and E power Streamer Duration were quite "soft". So, with that in mind and a handful of Aerotech motors in hand, it was off to the flying field.

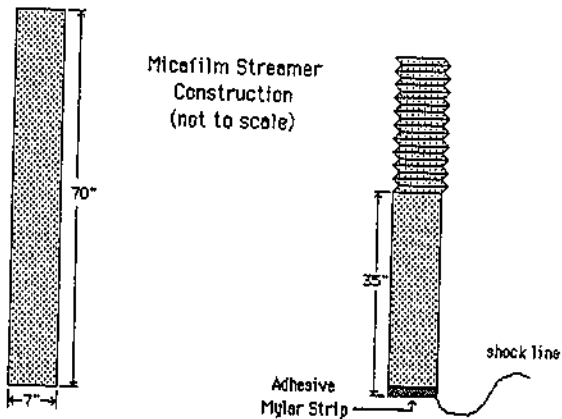
The D powered version, Streamer Dreamer-17, was flown on a cold and partially cloudy day during the WARP Winter Wonder Blast. It was a winter blast too, as there were plenty of light snow flurries falling to the ground, along with the rockets. A D7-8 was prepped and installed in the SD-17. There was a slight break in the clouds, and the countdown began. A quick flash from the ignitor, and the model was airborne immediately. The long sustainer burn of the D7 and eight second delay carried the model effortlessly to apogee. Just visible at the top, the SD-17 ejected its bright silver Micafilm streamer, and began its slow descent. Three minutes and two seconds later it landed and was the proud owner of a new record.

It was a similar, but warmer, situation a few weeks later for SD-18. This time, under E6-8 power, the SD-18 became the E Streamer Duration record holder with a time of five minutes and three seconds.

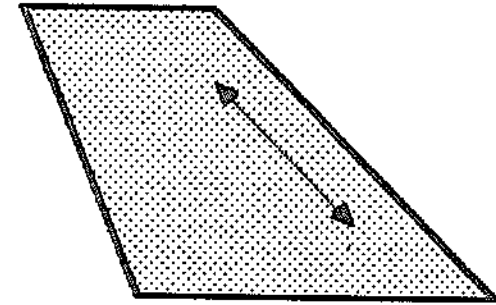
Construction is simple for a D/E powered design. The Aerotech endburning motors aren't sledgehammers, so strength isn't as critical as it might seem. Use warp-free 1/32" plywood for the fins, and fine-sand them before using Zap-A-Gap to glue and fillet them in place. The shock line is 1/8" wide elastic about 30" long, and glued into the fin root / body joint. A key design element is the use of a 3/4" wide strip of adhesive mylar just ahead of the fins. This keeps the shock line from pulling out of the fin root / body joint.

The streamer is made of a 7 x 70" sheet of silver Micafilm (Micafilm is a model airplane covering which does not have any adhesive on it). It should have about 3/4" wide zig-zag "accordion style" folds ironed into it for the top half of the streamer, this provides a high drag whipping action. Attach the shock line across the bottom of the streamer, with the shock line reinforced with adhesive mylar strips so it will not pull free.

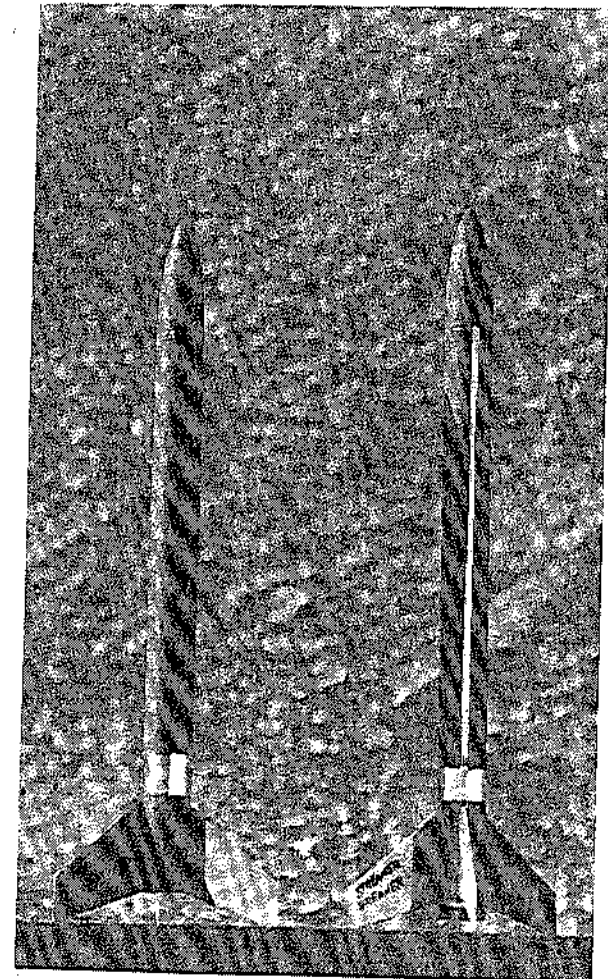
Paint the model a bright color, such as red or orange. The original models used Pactra polyurethane red. Good luck and good flying!



## FULL SIZE PATTERN

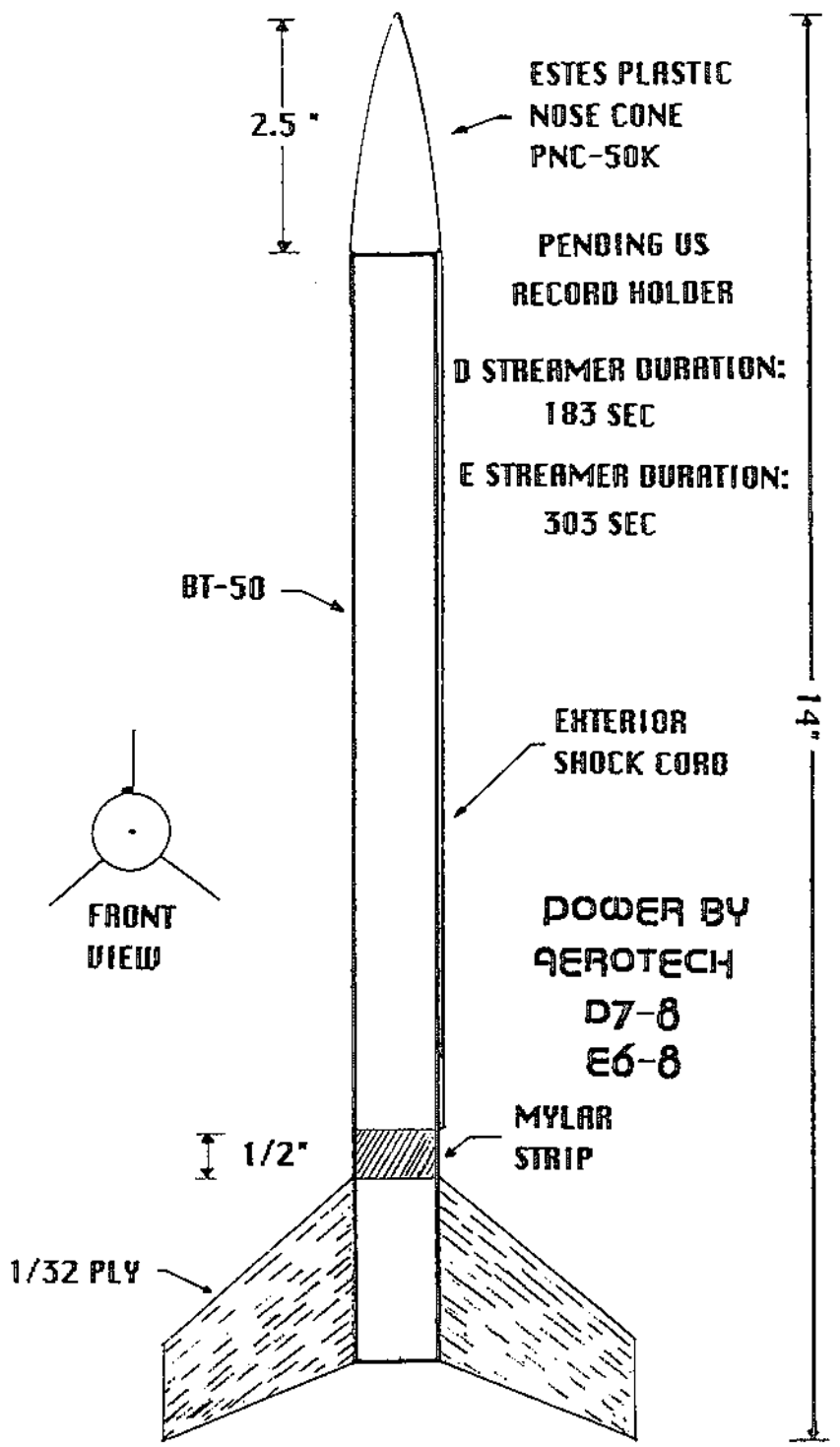


1/32 Plywood  
(3 required)



# MIDCON III

by Deb Schultz



Midcon was held on the 12th of April, 1985 in Warren, Michigan, at the Midway Motor Inn. The convention was hosted by the Great Lakes Association of Rocketry, who were very punctual in setting up and distributing information about all aspects of rocketry.

While overlooking the information and signing in, I caught Jim Backlas wandering across the street, looking for a cheap thrill motor lodge room. He must have caught wind of the Midcon's room prices, which were on the order of \$75 a night! This could have been a major reason why only 30 people showed up. And, 10 Canadians to a room isn't too bad, eh?

Friday evening was very nice, as the refreshments were quite good, and the GLAR people were good hosts. Most of us romped in the pool, jacuzzi, sauna, or whatever for the rest of the night. Jim, of course, forgot his swimsuit, and was seen sporting a K-Mart special, complete with tags. Chris and Heidi thoroughly enjoyed the big bubble bath. The night concluded with tapes of various LDRS's and a NASA film.

Saturday morning consisted of all sorts of meetings, six dozen doughnuts, and gallons of coffee. Vince Bonkowski had a rather nice showing of plastic models. New insight in electronics and rocketry was very interesting by Gary Flatt. Chris Pearson had his usual superb presentations of high power rocketry. Everyone kept sniffing his motors, so maybe there's a market for aftershave, or something.

On Saturday afternoon, a horde of about 70 Boy Scouts descended on the convention. My husband Ron, Gerald Kolb, Joe and Sam Phillips, and others helped the little guys build an unpainted Zinger or Alpha. Two hours later, with fingers glued to noses, nose cones glued to body tubes, and fins not glued on very well, they crowd went out to test fly their creations. The flights allowed them to complete their patch for aerospace.

We broke for dinner, and my husband and I celebrated our 15th wedding anniversary, and Jim celebrated his 31st birthday (Editor's note: Congratulations to all!) No, there was no cake with a rocket on it, and no, Chris did not use G25's for candles.

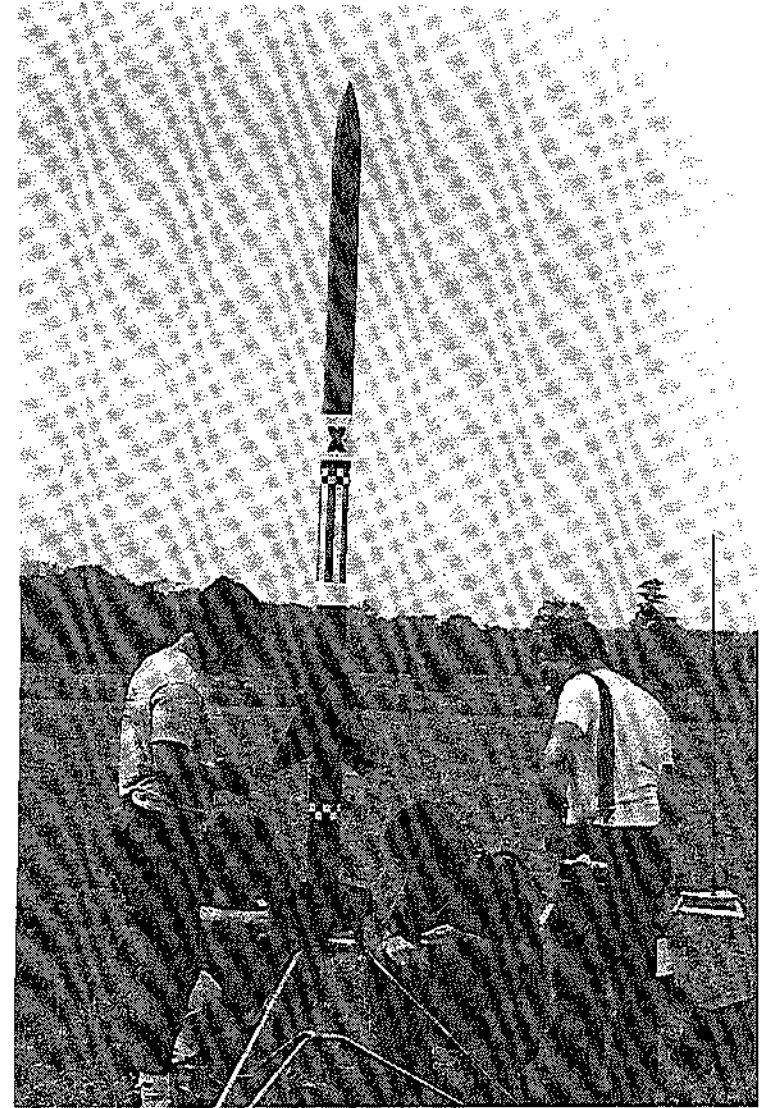
The manufacturer's sale happened later that night. Lots of Crafts and North Coast Rocketry made a big showing of new kits and nose cones. Sales were slow, due to the small turnout, but some people did come to save on shipping costs. Gordon Vickers became the first to own a LOC Magnum kit, and Barbara Schultz bought the most from everyone.

Sunday featured a speech by Mark Bundick on the NAR's position on opening up the high power arena. He was even seen purchasing something in a brown paper bag. No one knows what it was, but sources indicate that it won't be legal even when the NAR raises the limits.

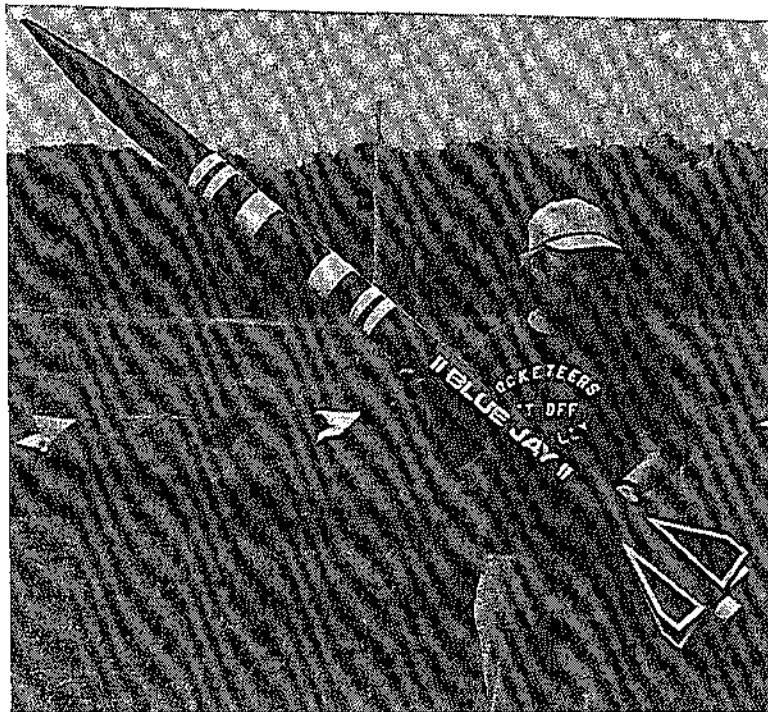
With that, Midcon III concluded. There were some problems with the rooms (like who was to get the rooms with the sunken bathtubs?), but overall it was fun. Same time, next year? We'll see.

# HIGHLIGHTS FROM LDRS-3

**BELOW:** The magnificent "Grand Slam", built by Doug Forrester. This bird featured paper/fiberglass construction, 7 motor power, and an out-of-sight flight!



**Above:** Bill Barber, Paul Rainfield, Mike Nelson, and Gordon Backers all help prep an Experimental Rocket Systems two stage I powered model. On the opposite page, top: Moose poses proudly with his Delta 300H, a camera carrying vehicle. Lower: Doug Forrester again, this time with the "Blue Jay", a J powered vehicle.



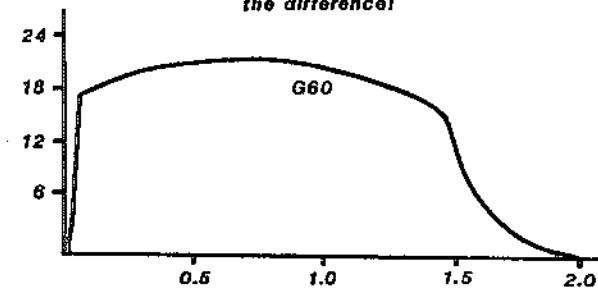
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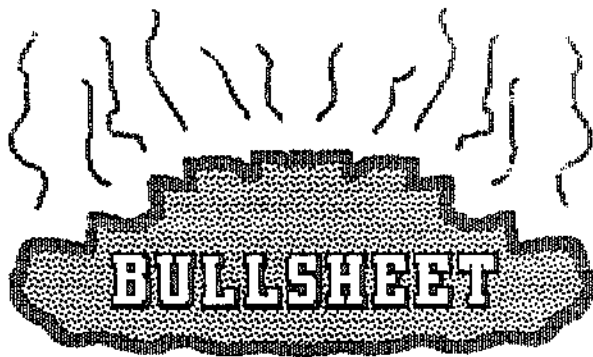


SPECIFICATIONS:	G60
Total Impulse:	120 n-sec
Burn Time:	2.0 sec
Initial Thrust:	17.0 lb
Peak Thrust:	20.5 lb
Motor Diameter:	1.125 in
Motor Length:	4.25 in
Initial weight:	95.5 grams
Propellant Mass:	58.7 grams
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## THE MINI D MOTOR EXISTS!

And, not only that, but you can buy an 18mm E motor as well in the near future. In a big, big news release, Gary Rosenfield has indicated that the D10 (20 n-sec) and E9 (25 n-sec) motors will be released for sale in the very near future. Gary says he hopes to have the motors safely certified by NARAM, and you can be sure to see some demos fly at LDRS-4. These beauties are the same size as the standard Estes engine, and the D can send a small model over a mile high and past the speed of sound! Gary reports that test flights have been spectacular! Another bonus is the extremely light weight of the motors; the D weighs in at 19 grams, or less than an Estes mini-A! Delays will be 0,2,4,8 and 12 seconds. Of course, these goodies don't come cheap: \$8.95 for the D, \$9.95 for the E. Not since the legendary Enerjet D21's have we seen such power in a small package!

And, there is even more motor news from Vulcan! Scott Dixon will premier a number of new motors at LDRS-4. With a 24mm diameter, Vulcan will release the E26 (progressive burn 1/3, neutral 2/3), E30 (neutral burn 1/3, regressive 2/3), E62 (2/3 neutral burn, 1/3 regressive), F52 (1/3 progressive, 2/3 neutral) and F54 (2/3 progressive burn, 1/3 regressive). With a 29mm diameter, comes the F30, F67 (neutral burn 1/2, regressive 1/2), F39 (3/4 progressive, 1/4 regressive), F150, G38, G44, G58 (3/4 progressive, 1/4 regressive), and G100. A number of the motors will have segmented grains, or double cast grains. Price for the G44 will be about \$14.00. All other prices have not been firmed up, but Scott promises that they will be less than the equivalent Aerotech motors. Vulcan is in the process of developing 18mm and 13mm high power motors as well (Scott was behind the extremely rare 18mm Pro Tech E45 used during the Czech World Championships). Vulcan is also developing a small digital electronic multiplexable timer that will have a 0-256 sec capability. Price is expected to be in the \$45 range. Look for a demo at LDRS-4 also.

And even more on motors, this time from FSI. I'm sure most of you saw the ad from FSI that hinted at composite motors coming from FSI. Well, it's a good bet it won't be the Son-of-Thunderbolt. Seems that Herold Reese approached both Vulcan and Aerotech about a custom designed line for FSI. For a number of reasons, both companies turned him

down, although Aerotech may allow FSI to market the E10, F80, and G65. As we went to press, nothing was firm on this deal. We'll keep you up to date as this develops.

So far, it's been a big disappointment, as the first issue of the renewed California Rocketry appeared. Poorly reproduced, and out of date, the issue certainly does not measure up to previous efforts. No one has seen an issue of High Power Rocketry in a long time, either. On a related front, Jerry Irvine has circulated a letter to the LDRS Committee that continues his propaganda campaign. In the letter, Jerry implies that "he and his colleagues" are responsible for the recent turn of events in the high power arena. This is quite laughable, as Jerry Irvine has done as much as anyone to hurt the hobby with his questionable business practices and unsafe flights! Jerry proposes, among other things, that the proposed high power safety code be allowed permit "cruise rockets, turbo copters, and other vehicles reliant on lift for part of their upward motion." Yeah, right, I can't wait to see an H powered turbo copter. Is this man really thinking? Jerry ends the letter with two suspicious looking signatures of Charles Rogers and Tom Johnson. It's my opinion, and that of others, that Jerry signed them himself. Will this "\$%&\*" ever end?

The NAR now has a trustee who is taking up space. That's right, NAR Trustee Jay Apt has been named to the astronaut corps. This is a significant first, as Jay was actually a NAR member before becoming an astronaut. Think he'll launch a G from the shuttle payload bay as a promo for the NAR?

In the bundle of joy department, Bob and Gail Koenn are the proud parents of another son. Maybe that's what has happened to Space Coast Rocketry. And, SNOAR's own Mike and Karen Wagner are expecting sometime around Christmas. Well, that's one way to increase club membership! Congratulations to all!

Things went very well at the NFPA meeting, so the path towards the expansion of model rocketry is on it's way. Harry Stine, and Gary Rosenfield traveled to talk to the fire officials, and they were enthusiastic about the changes The FAA is also in the decision process on the issue, so the NAR will have to sit back and wait until the organizations get through with the process.

## **NOBODY WINS!**

(Houston, TX) In an exclusive pre-election survey, SNOAR NEWS has projected nobody as the big winner in the next trustee election. In pre-election polling, it was discovered that most NAR members don't give a flying {DELETED} about who's in charge. When asked "Who are you going to vote for?", most NAR members answered: "Nobody." Tied for last in the poll were Pat Miller, Matt Steele, Vern Estes, Ronald McDonald, Don Carlson, Manning Butterworth, Jay Apt, Tony Williams, Bambi Woods, John Pursley, Bob and Doug McKenzie, Terry "Ah will never be President of the NAR" Lee, John Alexander, and "Not Mark Bundick, for {DELETED} sure!"