THE LEADING EDGE

Newsletter of the Northern Illinois Rocketry Association, **Volume 20, Number 5**
NAR Section #117, Proud Winner of the 1996 and 1997 Rockwell Newsletter Trophy! **September/October 1997**

Important Information You Can't Live Without!

NIRA's President, Cheri Chaney, has resigned from her position due to a conflict with family and club meeting nights. It is unfortunate for NIRA that this has happened, since Cheri has done an excellent job of running the club for the last 2 years. We want to thank her for all the hard work and effort she put into the club. Cheri took her role seriously, and had a hand in MRFF, RCHTA, and spent many hours on the phone trying to locate a flying field for NIRA. Hopefully, you'll see her at a club launch, and if you do, be sure to thank her for the work she put into the club.

Vice President Mike Ugorek will be running the meetings in Cheri's absence, but the office of President will remain vacant until the January Officer Elections. If you'd like to participate in running the club, this is a great opportunity for you! If you are interested, please contact either Mike Ugorek or Bob Wiersbe, or talk to us at a meeting. We promise you'll get a lot of support to help you with the job!

NATIONAL MODEL and HOBBY SHOW

The National Model and Hobby Show (previously known as RCHTA) will be held at the Rosemont Convention Center in Rosemont, IL near the O'Hare airport, on Saturday, October 4th and Sunday, October 5th. Show hours are from 10 AM to 5 PM for both days.

The Northern Illinois Rocketry Association, will again be running the Rocket Make It and Take It booth sponsored by Estes. We will be again will be assisting the public in building "Windy City" rocket. This rocket is E2X Generic rocket (Pegasus, Athena, etc.).

If you are interested in helping the club on either day, please contact R. Michael Jungclas at (Home) 630-428-4507 (NEW) or (Work) 630-979-4571 or at jungclas@lucent.com as soon as possible.

On Sunday, October 12th, the club will sponsor a special launch from 2-5 PM at the Greene Valley Forest Reserve near Woodridge/Naperville, Illinois. Club members are welcome to bring rocket models for display, but flying will be limited to models built at the show and prearranged set of models. Please show up no later than 1:30 if you are going to help! This will give us time to get organized and be ready to put on a good show. See the map on Page 2 for directions to the field.

Guidelines for the RCHTA launch:

Primary task for the launch: RCHTA Windy City flights.

Secondary function: Demo for Forest Preserver District folks to show slightly broader range of rocket flights.

FLIGHTS to be scheduled at the 10/4 meeting and/or at the RCHTA show. Only flight proven, reliable models will be flown. We're looking for about a dozen rockets to show different aspects of the hobby. Examples:

Scale Model
Large model rocket with composite motor
Contest models
Glider
SciFi
Oddrocs etc.

NO OTHER MODELS WILL BE FLOWN AT THIS LAUNCH!

There will be a normal club launch on 10/19 at the Beaver Run Sod Farm in Harvard where you can fly to your hearts content.

However, please bring your rockets to display, we don't want people to go away thinking that rocketry is only limited to Windy City Specials.

Please come to help, with 2000 kits, we could be swamped. We really need your help to run this launch! All RCHTA and demo launches will be done from racks or pads well above the ground, so you don't need to bring your launch equipment.

It's Back!!

For the second year in a row the Leading Edge is the recipient of the Rockwell Trophy!! This Trophy is given to the Section with the Best Newsletter, and to have defended our title is quite a feat. Not many newsletters have won back-to-back, and it's even harder given the quality of the competition these days (some newsletters print in color!)

I think what sets us apart is the quality of articles that are contributed, and the number of different people who contribute on a regular basis. There was a time when almost all of the material in the newsletter was coming from just a few of the "old timers". That's no longer true, and it has really made a difference.

I'd like to thank all of you who have sent me articles, plans, photos, and given me feedback about how I'm doing. It's important to me to know what you like, what you'd like to see, and even that you're not happy that I hacked up your article (sorry Pierre).

I talked to Rick Gaff (one of 3 judges who decide who gets the award) just before he left for NARAM, and got the idea that we might have won it again. The Awards Banquet was the same night as our August NIRA meeting, and I'd hoped that Rick would have told someone to announce it if we'd won, but no one said anything.

There was no phone call the next morning from Rick like there was last year (it's pretty cool to hear a room full of people cheer for you!). At 5pm Rick calls, and asks me if I can pick up a bunch of stuff that Adam Elliott is driving back from NARAM. Among the items were "Bob Kaplow's motors, my motors, the LAC Trophy,...", but I didn't hear the rest. Leave it to Rick to find a new way to give good news.

We're going to do something different this year with the trophy. Since it's a "travelling trophy" (each winner keeps it for a year, then gives it back), we're going to let it travel from home to home in the club. If you'd like to keep the trophy for a month, come to the next meeting and let us know. This way, the trophy will be at every meeting.

T MINUS 1 - NIRA'S CALENDAR OF UPCOMING EVENTS

1997 CLUB LAUNCH DATES

Launches are BYOL (bring your own launcher). The location for our 1997 launches is unknown at this time. If you have questions prior to any launch, call the NIRA hotline at (630) 690-6353 and leave a message, I will call you back.

Sept 21 - Regular club launch. Beaver Run Sod Farm, Harvard. 12pm - 5pm.

October 12 - RCHTA Launch, Greene Valley Forest Preserve, 2pm-5pm. This is NOT a regular club launch, but a special launch for the people who built a kit at the RCHTA show and a demo for the Board of the Forest Preserve. Bring rockets to DISPLAY, but be prepared to help with the folks from RCHTA.

October 19, November 16 - Regular Club Launches. Beaver Run Sod Farm, Harvard. 12pm - 5pm.

STAFF

Bob Wiersbe - Two Time Defending Champion of Newsletter Editing (when do I start getting paid for this?)

Ric Gaff - LAC Newsletter Judge (beside the point, but I thought I'd mention it), Two Time Defending Champion of Newsletter Production and Shipping.

Adam Elliott - Deliver of LAC Trophy from Tucson to Wheaton

CONTRIBUTORS

Mark Bundick, Jonathan Charbonneau, Adam Elliott, Ric Gaff, Norm and Nathan Heyen, Bob Kaplow, Mike Jungclas, Steve Koszuta, Dave Miller, Jeff Pleimling, Mark Soppet, Richard Wartick, Bob Wiersbe

August Model of the Month Winners

Jonathan Charbonneau stands next to his impressive Wac-Corporal, the hands-down winner in Adult.

C.R. Herrig won in youth with his Mongoose, his first 2 stager!

Congratulations to the winners! (R. Wiersbe photo)

MONTHLY MEETINGS

All meetings start at 7:30 PM, and include refreshments, entertainment and a brief business meeting. Don't forget a model for "Model of the Month" voting. We need volunteer speakers to entertain the troops after the business meeting, so call Bob Wiersbe at (630) 690-5442 if you can help with ideas or can speak yourself. The location is the Glen Ellyn Civic Center, 535 Duane Street (usually on the 3rd floor, but check the board in the lobby).

Currently schedule meeting dates are: October 3, November 7, December 5.

Elections are coming up in January, but it's not too early to be thinking about lending a hand to run the club. We need someone to fill the vacancy left by Cheri Chaney when she stepped down as President. If you are interested, please call either Mike Ugorek (630) 653-5689, or Bob Wiersbe (630) 690-5442.

THE LEADING EDGE, published bimonthly by and for members of the Northern Illinois Rocketry Association, NIRA, NAR Section #117, is dedicated to the idea that Sport Rocketry is FUN! Articles, plans, photos, other newsletters, and news items of interest should be sent to Bob Wiersbe, 1835 Shetland Drive, Wheaton, IL 60187 (or electronically via Internet to wiersbe@lucent.com). Photos will be returned, other material returned if requested. Send membership applications (dues: $3/year, including a six issue subscription to the Leading Edge) and nonmember subscriptions ($5 per six issues) to Ken Hutchinson, 84 Jefferson Lane, Cary, IL 60013. Any item appearing in the Leading Edge may be reprinted by Sport Rocketry with proper credit given; all other uses require written permission of the Northern Illinois Rocketry Association. The Leading Edge is brought to you this month by the fine people of Unisource, makers of quality paper products for printers, xerography and offset printing.

Other Items of Interest

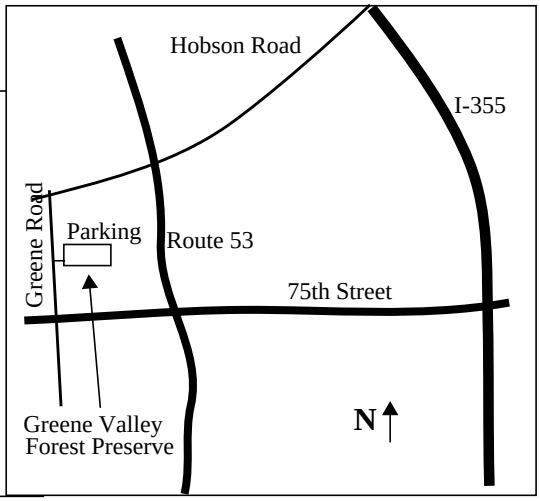
September 27 - High Power Launch, Rantoul Aviation Center, 10am. Contact Greg Smith at (217) 352-9655 for more information.

October 25 - High Power Launch, Rantoul Aviation Center, 10am. Contact Greg Smith at (217) 352-9655 for more information.

November 22 - High Power Launch, Rantoul Aviation Center, 10am. Contact Greg Smith at (217) 352-9655 for more information.

Map to the Greene Valley Forest Preserve Launch Site:

The entrance to the launch site is on Greene Road, between 75th Street and Hobson. There are several lots to park in, and we suggest that after you unload your gear you move your car to the next lot north. This will allow folks from the Hobby Show to be able to park faster.



July NIRA Club Launch Report
by Norman and Nathan Heyen

Since it looked like Harvard wasn't all that far from Freeport, I convince Nathan that he should come with me and go launch rockets. Not being able to come up with a good enough excuse, we loaded up the car (actually, since I hadn't unpacked from the previous day's launch at Bong, it wasn't that hard to do...) We've never been to a NIRA club launch before, so things were a little different, but being amongst friends, help was easy to come by. (Turns out to be about 70 miles, plus having to go through Rockford...)

After a 'brief' delay in rummaging around and finding the box of ignitors and plugs, we were ready. Many thanks to Rick Gaff and Steve Smith for the use of their launchers!

First up, a Custom Serval (that's a 'rv' on the flight card, not an 'xu' like some dirty minded LCO thought...). Nathan preps the rocket, gets a little help putting the rocket on the rod, and his name goes on the flight card. 5-4-3-2-1 and it's off! Hey first model rocket launch of the year! A C6-7 puts this guy pretty high and the streamer and tube fins make for a kinda gliding, tumbling recovery. No damage, a good way to start off.

OK, next up, the Big Bertha, painted a 'classic' black with all the decals and a C6-5. Straight up, pretty high, chute just like it is supposed to do and drifts into the grass. What's this? A huge mowed field? This beats searching for a rocket in the tall growth (more on this later...). No damage other than a spot or two of burned plastic parachute, but this is kinda fun.

Not much wind, so let's try something higher. The 'Goblin and a quarter' seems like a good choice. (It's a BT-60 based Goblin, about a 25% upscale of the old Estes Goblin.) Stuff a D12-7 and a streamer in and off we go again. Nathan is getting good at prepping rockets and likes being able to have his name announced and getting to actually 'push the button' to launch them. Again, a great flight, straight up and much higher. Even with a streamer this drifts out almost to the irrigation thingie (technical term) in the middle of the field. Hit a bit

Wind Power is no match for Pyramid Power!! (R. Gaff photo)

Adam Elliott's Silver Comet/V2 lifts off. (R. Gaff Photo)

hard, I think that even a 6"x60" nylon streamer isn't all that good of a choice.

How about something a little bigger? Out comes the Broadsword, still sporting the flat white base coat. A D12-3 looks about right, and it is. Again just about straight up and chute near apogee. Recovery down wind and no problem. This is getting really fun!

I decide to test fate and build an F22-5 blackjack for the Graduator. On the pad, the countdown begins and even the blackjack lights first time. And then the problems begin. At about T+1 second, the nose comes off. At about T+3, the chute fills and begins to gently lower the still flaming rocket to the ground. At T+5 (not much duration from 20') the rocket is on the ground, still burning. Eventually the smoke dies down and we get close enough to inspect the remains. The vote is a forward closure failure or blow-by. The kraft paper inside the tube is pretty much gone and it looks like just the paint is holding the tube in shape. This is going to take a 'bit' of work to repair... (After getting home and cleaning the mess up, it was a delay blow-by. The o-ring was a melted mass stuck to the inside of the forward closure. In retrospect, maybe I didn't have the o-ring in there quite right, it did screw together a little harder than usual.)

Hide the remains and get on with it. How about the Serval again? Another C6-7 and we are rewarded with another nice flight. This time the shock cord breaks and the nose cone and steamer lands to the west of the pads and the body east. Interestingly, the body tube has a better duration time than the nose/streamer... Oh well, easy to fix.

Another D12-3 in the Broadsword breaks our string of problems, great flight, and a no damage recovery. It's getting near 5 and hot so we pack things up. On a lark, I show Steve Smith my VB Extreme 38 and he convinces me that I should fly it. (OK, it didn't take that much arm twisting. And the wind is dying down a bit...)

Dig out all the stuff, promise myself to organize this mess and prep it with the altimeter and a G80-10. Off to Steve's Aerotech pad and we're ready. Get everyone's attention and request a lot of help tracking this thing. Even the copperhead co-operates and it's off in a second, and gone from my sight very shortly after that. All I notice is that it whipped off the rod to the east. Nathan has it all the way, Steve and a couple others try to point it out to me, but I never see the thing at all. Even with a fluorescent orange paint job and a dark chute, nothing. But they point out where it landed, give me a couple of reference points in the background and wish me luck.

To everyone that is curious what lies beyond the first row of trees, let me tell you it is not pretty. The trees grow along a very 'organic' creek and are the home to half the biting insects in the county. And the access to the creek is protected by raspberry bushes and weeds about my height. That's the bad news, the good news is that another grass field lies just beyond that mess and a bean field beyond that. The even better news is that the directions were excellent and as I got closer to the bean field, I could see the end of my rocket poking above the beans. (Fluorescent orange shows up real nicely against green...) And to top it all off, Nathan spotted something in the grass field, way off to the south. It turned out to be Tom Pastrick's swing wing glider. So we came back with an extra rocket for our endeavors. Tom was happy to get his glider back, I was happy to get my rocket back and Mom was not happy to see us with mud up almost to our knees... Oh, and the altimeter was beeping 2218'.

In short, it was a fun day, well worth the drive. We got to spend an afternoon together and fly some rockets. And of course, talk with the friends at NIRA. I understand everyone was invited to grab a bite to eat, but owing to the fact that we smelled really bad (I told you the creek was very organic), we chose to decline. Next time. Thanks to all that helped out. And yes, it did seem odd to fly rockets instead of take pictures of them. Eight flights in a little over two hours, not bad.

Yeah, that hurt. Lemme show you what I can do with this! (R. Gaff photo)

1997 IPMS National Convention
by Bunny

The International Plastic Modeling Society (IPMS), a 5,000 member organization of plastic model builders, held its annual convention in Columbus, OH, July 9-12. By the time the event was over, 1,042 people had signed up, and over 2,200 models were entered in the competition. The convention, the largest in IPMS history, dominate the Hyatt Hotel. I managed to race thru the event in about a day and a half, and came away impressed with the skill of the modelers there.

The competition entries took over the entire ballroom area, a space designed to seat 560 for dinner. Entries were placed on different tables corresponding to different competition classes. One table was devoted entirely to P-51 Mustangs; another; to ME-109's. Despite the number of models, I didn't see a shabby one in the bunch. Many had open access panels to show interior details in ammo bays, engine compartments and cockpits. Weathering, the painting and shading to make the model appear worn and used, was common.

I made an immediate beeline for the table reserved for space models, and came away with frankly mixed impressions. Models included both real and sci-fi birds. I think the classes were split for judging purposes. "Real" models included a couple of Bumper WAC's, two Sputniks, a Redstone converted from a Glencoe Jupiter C, a Loon (Navy test of the German V-1), a couple of very nice Lunar Modules, especially one of the Apollo 17 landing site, and a scratch built X-17 reentry vehicle. A 1/32 scale Apollo-Soyuz docking was neat enough to earn a Fine Scale Modeler photo shot. A teenager from Brooklyn managed to bring a 1/72 Shuttle stack and launch complex. The complex was scratch built and lighted, but I wasn't impressed. The stack wasn't detailed and the orbiter looked dirty to me.

Sci-fi offerings included a couple of scratch-built birds obviously from books I hadn't read or seen. At least one of those was nicely done with custom decals and numerous antenna, armaments, etc. Star Trek models dominated the rest of the offerings, with Star Wars a poor second. The only other bird I can recall right now was a Glencoe Von Braun shuttle, clean, but not very detailed.

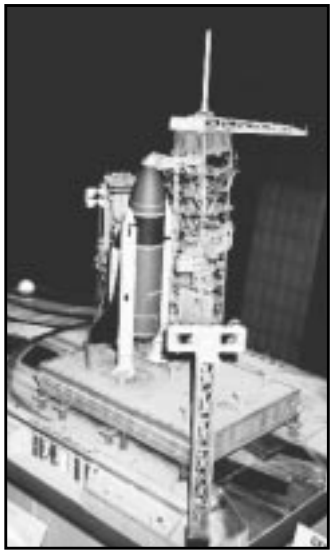
Just a few of the many models at the Spacemodeling Table.

Overall, the space models weren't nearly as well done on the whole as the airplanes. None of them would have been declared dogs at a NIRA meeting, but I don't think you'd have been as impressed with the rockets as with the airplanes.

Two non rocket models got my vote for Best In Show. A Titanic was modeled as it appears on the bottom. Ripped decks, toppled smokestacks, strewn remains, all were realistically shown in this massive diorama. A second vote went to a 5" long model of a Navy unmanned drone helicopter. Within its 3" long body, the modeler had faithfully done full detailing on the engine, including showing turbine blades in the 3/8" dia. motor.

Other model notes of interests: Airliners don't show much detail. Car modelers nearly all use mirrored bases to show the underside details. Someone went to all the effort to model every airplane used in the Korean War, from both sides! Despite my best efforts, I still don't get tank models.

After I got out of the ballroom, I found that about 50% of the remaining conference room space in the hotel had been overrun by plastic model vendors of all shapes, sizes and descriptions. It was as if someone had opened up 100 versions or more of "Bob's Hobby Shop", and disgorged hundreds of out of production plastic model kits. I saw tons of old Aurora kits: Snark, Aerobee, and others. Airplane guys must have taken all four days to cover the entire set of rooms, trying to find the best deals for whatever model lust they had. I stumbled across the Real-



This Shuttle and Launch Complex will be in an upcoming issue of Fine Scale Modeler. (M. Bundick photo)

This scratch built "RSS LOCKSLEY" sci-fi model was a National Award Winner. (M. Bundick photo)

Space model display, and walked away with their Atlas Agena D. The resin kit contains only about 8 parts, but had a very nice drawing that would be excellent sport scale documentation. I also got a Proton-MIR resin kit from Norway. A bit more difficult than the Atlas, I think this one's going to take a bit longer to sort out the photoetched interstage section.

If the convention comes near you, take a day to check it out. It's always worth some time to see what's going on in other modeling disciplines, and IPMS is a good organization. They've already got sites for the 1998 (San Diego) and 1999 (Orlando) conventions lined up. Also check out a fall issue of Fine Scale Modeler, which nearly always contains extra photos from the convention.

Kit Review - Estes Stingray
By Mark Soppet

It seems as if Estes is in a slump. Whenever they release a new E2X rocket, they take the same plastic engine mount, nose cone, and plastic parts tree and put them in the box. Then, they change the fin type and tube length and call it new. However, they sometimes get ambitious and try something new. The Stingray is one example.

First of all, the fin shape is new and unconventional. The model itself looks like a ship-launched missile, thus the name Stingray. Despite the fact that it builds in under an hour, I would recommend taking your time when building it, unlike when I built the Flash and the Banshee. Considering that it is more of a flying plastic rocket as opposed to paper and balsa rockets, the plastic cement will leave unsightly runs on the model.

As with most Estes rockets, I would recommend it for beginners and sport flyers. A "C" engine should make it into a nice ornament on the trees in Hoover.

NARAM 39 Report
by Bob Kaplow

The Sport Launch:

Lots of sport rockets were flown on Saturday and Sunday, with the volume tapering off during the rest of the week. Unfortunately, my footlocker wouldn't hold any big models, so I could only bring my small to medium stuff, a few super scaleup kits, and of course the silly stuff. The Alway brothers stopped off to tour "Bob's Hobby Shop" on their way to NARAM, and convinced me I had to convert my Wylie Coyote container for the launch. I just got it done in time, and flew it Saturday. As expected with an Acme product, it crashed, right into Mark Johnson's van. First time I've ever nominated myself for "Best Midwest Flight". I seem to have a thing for trustees named "Mark". Later in the week, Mark's van had a target on the window.

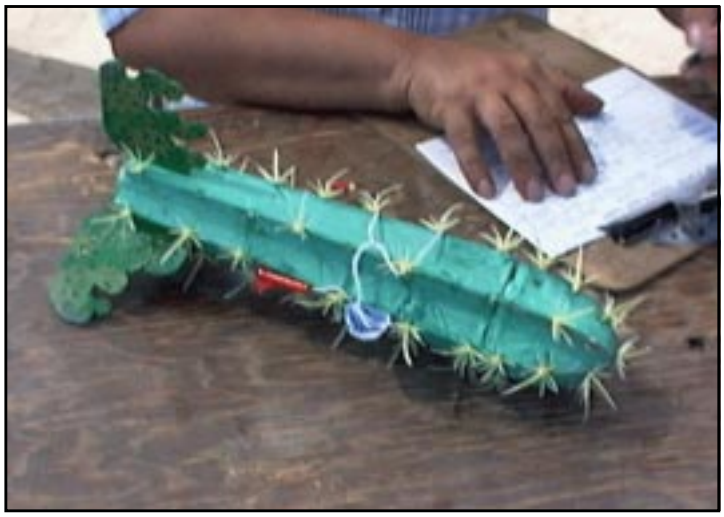
The Happy Meal made its annual appearance, along with an Intruder backyard roc that had been converted to D12 power. I flew the whiffle ball and bat, and the small end of the Skywriter series. The Bulls Space Probe made an appearance in Suns territory, making the slam dunk and landing upright on its feet! The Oberweis sundae lid, originally inspired by Tucson's own Tad Morgan made several flights to dispose of extra 13mm motors. The Super Ranger flew fine on D12 power, and my 3x Sprite zoomed into the sky on a D13 reload. My Maxi Streak suffered a nasty prang when the E11 blew its aft closure about a second into the burn. Twice the Great Pumpkin rose out of the sport range, bringing D12s to all the good little boys and girls (and bringing E15s to all the bad boys and girls). Ayatollah Potato Head made another NARAM appearance. Biosphere made two nice flights, with the addition of a cactus and some native dirt for the cactus scale event. Alas I was beat by Tucson native Ed Bertchy and his rocket eating cactus.

The Competition:

It was not a good meet for All The President's Men. We DQed out of every event we flew except the glider events on Wednesday. Monday saw me have two Rotacrocks fail to burn the elastic burn string, and Ric separate and lose his stupidroc.

Tuesday was altitude day. Both C Cl Alt and E DEL called out for motors with longer delays. The E15-7 delay is too short for a good egglofter, and the C6-7 is similarly too short for the cluster altitude event. While I expected many novel solutions to this problem, everyone seemed to just live with them. Perhaps that influenced the DQ rate in both events.

We had no C Cluster Altitude model (just as well, as this was THE event for prangs). Other designs varied wildly, and had MANY problems. The two most novel were the top two in C division. Chad Ring had a shotgun BT-20 model with 2 extra motor pods on the bottom, and two more at the top. 6 C10s were all ground started, and to everyone's surprise, it worked great. But he was beat out by Wally Etzel (sp?) who used 3 C6-7s and 3 C5-3s nicely fared in a triangle clustered model that was the slickest built of any model I saw. It soared to 716 meters.



Something special for NARAM 39 - A Rocket Eating Cactus

My E Dual Egglofter soared on an E6 to the highest flight of the meet, 712 meters, but damaged its chute, and scrambled both eggs. Prior to the meet, there was much concern about using E6s in DEL, but that flight showed that it can be done (at least if I can solve the recovery problem...) I wasn't the only one to break some egg: of about 10 dozen eggs on hand to start the day, there were less than a dozen survivors. There was only one qualified flight in team division, and in B division, only one flight points awarded to the only surviving egg which had a track lost. Trip Barber as usual had the best flight at 650 meters.

Wednesday our luck changed. Bunny made two good A RG flights on a Nymph, finishing third, only one second behind the Southern Neutron team. I made two good flights with my NARAM-30 leftover Gold Rush D BG, and then on the third flight nailed a thermal and it vanished to the west. I saw it for about 8 minutes before it vanished, and got a MAX. That left me in second, well ahead of most, but almost a minute behind the S-N team flying RC in the event. Alex Seltskis of London turned in the best performance overall in C division D BG. Nobody scored more than one MAX.

Wednesday afternoon we headed over to the Air Force Titan museum to see the neat hardware left behind by the cold war. As we were leaving we saw Trip Barber entering, obviously on a covert spy mission for the NAVY.

Thursday Ric got a DQ and two CATOs in SD, as the 1/2A2-6 motors had either very short or very long delays.

Thursday afternoon we were treated to a bus tour of the Air Force "boneyard", with row after row of aircraft in storage. We saw a bunch of D-21 drones that were part of the SR-71 program, hundreds of B52s being chopped up, and literally thousands of other planes in hot storage.

There were several interesting R&D reports including an A division entry on tube fin stability, Trip Barber's investigation of MRLOW as a safety criteria, Peter Alway's "Rockets of the World", Ducky Klouser's further analysis of streamers, Larry Shenowski's work with TV video for data collection, and two great team reports from MARS, Phobos&Diemos 32 pad launch system, and International Rescues mathematical analysis of thrust time curves, which showed that curves could be reduced down to 7 numbers, total impulse, burn time, and 5 eigenvalues that represent the shape of the curve. This report has great potential for simplifying motor data files for programs like RASP.

The most depressing day was probably Friday as the three best scale models of the meet all pranged. Bunny's Atlas augured straight in when he forgot to put the ejection charge on the reload, John Pursley's huge Saturn V was grossly under powered, and arched over and impacted about a second before the G42-4 ejected, and Bruce Markelewski TWICE pranged his Lunar Module that won last year.

That left Team division for (you guessed it) the S-N team flying an RC Bell X-1. This model caused a great deal of controversy, as it was launched at a safety code violating 45 degree angle. As LCO at the time, I chose to walk away from the range head rather than push the button. There was discussion of a change to the safety code allowing RC models to launch at the 45 degree angle, but until it's approved and in place for all, it shouldn't be allowed.

Pierre Miller collected the only other NIRA places with a 4th place in HD, and a 2nd in Scale with a very nice Mercury Atlas. If the Mercury capsule had been better, he might have had a first. There's always next year. Tom Pastrick and Adam Elliott flew the meet for NIRA, but took no places.

The best news for NIRA came at the banquet, where "The Leading Edge" was for the second straight year named the best section newsletter. Kudos to Bob Wiersbe and everyone else who

What starts in a perfect liftoff ends in a painful prang for Mark Bundick's Atlas. (A. Elliott photo)

Before and after photos of John Pursley's huge Saturn V. (A Elliott photos)

helped out the past year. Now we've got to lug the thing around another year. NOVAAR again won the section championship, while NARHAMS won the best section award.

The Prangs:

Aside from Wylie Coyote and the Scale models, prangs were dominated by Cluster Altitude models. Many went unstable. Some thrashed in the range area, attacking various RSOs and ensuring nominations. Peter Alway chose to attack the Launch Crue tent, earning an honorary NOVARR membership. Both Trip Barber and Jon Rains flew conical models that augured in, Trip barely splitting the difference between the shelter and the parked cars. But Bruce Markelewski did it again, tipping off the pad, and going cruise missile right at the sport range. He took out a V2 that was sitting on the pad waiting to fly. I've never seen that happen before! His two scale prangs also earned nominations. Bruce became the first back to back winner of the prang award, which was composed of about 50 used C6-7s, plus the usual wreckage collected during the week.

Manufacturers News (in reverse alphabetical order this year):

Vector Aero: Kevin McKiou displayed his latest 'Cuda S8E kit, retailing at $99.

Totally Tubular: Jim Fackert has added BT-52 (29mm MMT) and BT-55 to the line.

Saturn Press: Peter Alway had nothing new, but showed a work in progress on fantasy ships being written by Jack Hagerty, which should be out by NARAM-40.

Quest: Bill Stine showed new RTF kits, and an Area 51 UFO that should be out next spring. Also new is a launcher that uses a single 9V battery.

NARTS: Not a manufacturer, but NARTS was displaying it's wares in Bills Plumbing and Aerospace room all week, and taking orders.

Eclipse: Todd Schneider is planning a line of kits, plus transition sections in the future.

Cosmodrome: Mike Kruger has a line of mid to high power scale kits. His Nike Smoke was seen on the power line at the field entrance most of the week.

Apogee: Tim van Milligan announced a composite D10 (18mm) to be added to the motor line, along with a micro V2 and an SR-71 like kit coming soon. Resin cast transitions add to the newly introduced helicopter hinges that were popular in 1/4A HD this year.

Aerotech: Ed LaCroix talked about Econojets, HPR recertification, some very high thrust 38mm reloads, and finally a 2 lead ignitor. He also apologized for still not having all the current shipping product certified.

ASP: Andy Jackson had a room full of kits and supplies, including a new line of competition kits.

Atomic Hobbies of Phoenix and others did business from the field parking lot on the weekend.

Before the manufacturers forum, the NAR auction raised over a thousand dollars for the Bob Cannon memorial fund. I got some D13s still in their green tubes.

The Politics:

Election: Only two candidates ran for 3 offices: Pat Miller and Trip Barber were reelected. Vern Estes resigned since no candidate was elected to replace him, leaving the mountain region vacant. Steve Lubliner was appointed to fill the vacancy after surviving as CD of NARAM-39.

BATF: NAR policy suddenly changed at NARAM from "don't ask don't tell" to being the enforcement arm of the BATF. Trip insisted on participants signing a letter of compliance. He and others signed forms agreeing to comply with all applicable federal, state, and local regulations. Later in the week, when I asked, he had no idea what the state and local regulations for Tucson were!

The NAR is still waiting for the promised letter from the BATF detailing the attached garage exemption for model rocket motors. Bunny presented us with a timetable for NAR action that won't guarantee that we have this letter by the end of the year, which seemed insufficient to me. I guess it's up to those of us who need storage to carry this ball.

As a result of the Valuejet crash, air shipment of reloads is no longer possible. That means slow land shipment by mail, or pay thru the nose for FedEx.

Mfgr demo policy: After the last flight of NARAM-38, the NAR has tightened the demo policy. A manufacture demo must have advance S&T approval, the manufacturer must present a valid business license, get the NAR presidents approval, and the RSO has final say over any demo.

S&T/mess data: will not be released as it is not statistically significant. Having the MESS form on the web has roughly doubled the reporting rate, which was around 85 last year. This year's total already exceeds that number.

WEB/List server: Chris Tavares has done a great job as the NAR webmaster. Bunny indicated that the NAR is investigating a listserver for the NAR and for sections.

L3 certification: I think that the BoD now understands that it is unreasonable to wait for the majority of HPR fliers to get L2 certification before beginning to build an L3 process. The current numbers are 470 L1 certified members and 120 L2 certified members.

Pink Book: After yet another fubared revision cycle the contest board will publish yet another FUBAREd pink book, plus correct all of the typos from the 1995 revision. At the competitors forum, much was discussed, and the conclusion is that the current NPRM process is fatally flawed. Tom Lyon was chartered to develop a better revision process by the winter board meeting.

Other competition topics discussed were the just passed rule which eliminates DQs for self penalizing flights, but opens up a new loophole allowing an Alpha to qualify in RG. Other issues included altimeters for tracking, a new

and much improved point award sheet (the old one was designed for use with Jim Barrowman's 80 column card antique IBM 1130 computer system), provisional events, sport events such as craftsmanship, fantasy scale, ultra scale kit, old time events, competition motors, and getting more young folks involved.

The 1997 Pink Book will finally be coming to the NAR web site.

Future events: Trip Barber announced that NARCON would again be held in Champaign, IL on March 27-28 1998, and the NSL will be in Muncie on May 16-17 1998. No one has yet stepped forward to host NARAM-40. If you are interested, contact Trip Barber ASAP.

The People:

The highlight of every NARAM is renewing old friendships and meeting new folks. I had met some of our Tucson and Phoenix hosts in November 1995, when a business trip took me to Phoenix the week before an SSS launch. It was nice to see all of them again, and meet the rest of the group. They did a great job running NARAM, and have a really nice site. Now if we could just move NARAM to the winter! I got to meet a few more rmr folks as well.

Some old friends that have been absent lately showed up this year, including John Langford, Bob Sanford, Sid Maxwell, and G Harry Stine himself. Tom Beach and Joyce Guzik couldn't make most of the week, but arrived late Thursday to liven things up. Alas as with many west coast NARAMS, many of the east cost regulars weren't there this year.

The Other Side of Tucson, or Non Rocket NARAM Stuff

by Bunny

Ok, so you thought NARAM was all about rockets. Wrong. With the NAR nearing a comfortable middle age, attendance at NARAM brings families. And with that, folks are often looking for local attractions to occupy time, even "stealing" time during flying to check out the local attractions. So it was in Tucson, and for those reluctant families in tow, the south Arizona city provided more than ample attractions to tempt and treat.

C Cluster Altitude Carnage.

My top attraction had to be the Arizona Somona Desert Museum. A combination zoo, museum, and research center, Somona gives visitors insights into the desert environment. Displays are cleverly spaced between inside and outside, timed such that just when you need a break from the "dry" heat, an air conditioned room is just around the corner. You'll be quite surprised to see the diversity of life, along with the ingenious ways Mother Nature has come up with to conserve and find water.

The Bundick's also took a brief visit into the Saguaro National Forest, the forest being cactus flavor. The 100+ degree heat cut short our visit, but we must have seen hundreds of the ancient plants on our brief ride into the visitor center. Many of the Saguaro's are hundreds of years old, considered sacred by the local Indian population. The Saguaro fruit is used to make a local wine, which I sadly didn't get to sample.

Many NARAM attendees took in the Davis Monthan Air Force Base tour. Nicknamed the "Boneyard", over 6,000 decommissioned Air Force, Navy and Marine airplanes are stripped of immediately useful parts, sealed with a spray material and mothballed for potential future use. Two "residents" immediately caught my eye. Front row and center were a half a dozen or so D-21 recon drones, designed to be carried aloft by the SR-71 Blackbird. We were quite shocked to see in another section dozens of Titan II missiles. I hope the Air Force will eventually "do the right thing", unwrap the birds and put them to good use in a space mission of one sort or other.

Due to contracting a terrible head cold, I had to skip a planned tour of the Pima County Air Museum. Containing 190 different military and civilian aircraft, those who went told me that they were overwhelmed with the variety. I did manage to go with the family on a local trip to the top of Mount Lemon. Used for skiing in the winter, the 8,000 foot peak brought a few hours of comfortable touring to the baked Bundick's. We also visited a local Catholic mission. Dating from the 1600's, the artwork and architecture were inspiring, beautiful and amazing, given the sparse desert and mountains surrounding the house of worship.

Even though many of you reading about NARAM want to concentrate solely on the models and the rocketeers there, don't cut your visit short by not visiting the local attractions. We've always found something interesting and worthwhile to do at every NARAM site we've been to. Tucson just happened to be the first where the time ran out before the attractions. Maybe that's just the excuse for us to return a few years from now.

The Vostok and Aerobee-150 kits by Cosmodrome Rocketry on display at their tent, and the Vostok at lift-off.

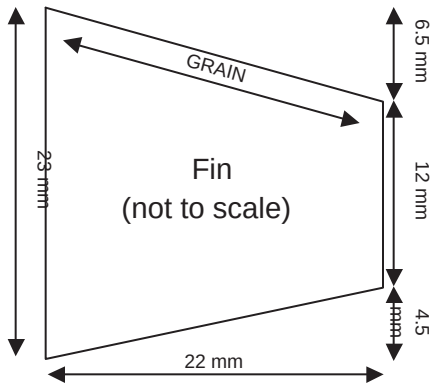
The Micro THUG

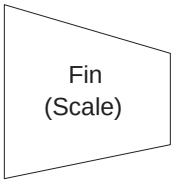
by Jeff Pleimling

My wife gave me a Binder Design Thug for Christmas a couple of years ago (see the review in the March/April 1996 Leading Edge).

I really like the finish I did on the Thug (it's painted as a 'Nike-Thug'), and would like to display it at work, but it's a little large to fit on my computer. Turning the 'upscale a kit' idea on its head, I decided to make a smaller version of the Thug. My first design was a BT-60 version (the Mini Thug), the only problem being that I didn't have a suitable nosecone.

I did spot a BT-50 nosecone that looked like it had the right shape. At that point, the Micro Thug was born.





The main problem with downscaling the Thug is that it is a stubby rocket - the nosecone is almost half of the total length. An 18mm engine mount would leave no room for the recovery system, so I decided to use a 13mm engine. To make a little more room for a streamer, I also modified the nosecone and gained almost an inch of space (see the drawing).

Binder Design included very nice computer cut vinyl lettering (I've redrawn it to scale - see below) and a 1x14" sticker of shiny silver/chrome for finishing the Thug. Although the vinyl lettering with the kit was gray, I used black lettering for the Micro Thug.

I flew the Micro Thug several times at MRFF this year (on both A3-4t & A10-3t engines). The Micro Thug actually seems to be more stable then the full sized Thug - probably due to the nosecone being proportionately heavier.

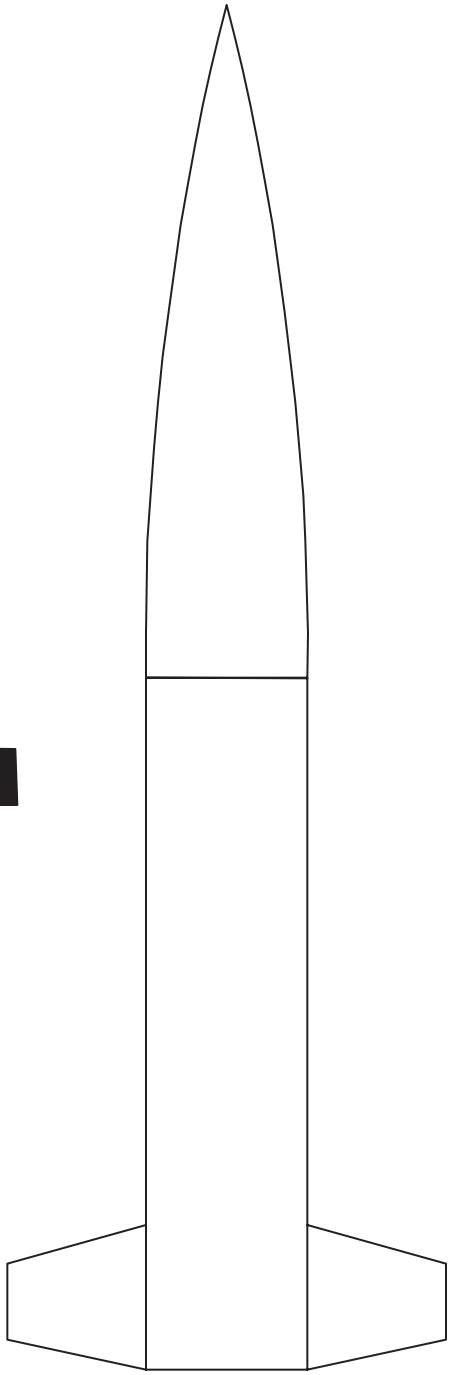
I'm still planning on building the Mini Thug, but at the rate I'm building rockets it will probably be sometime next century.

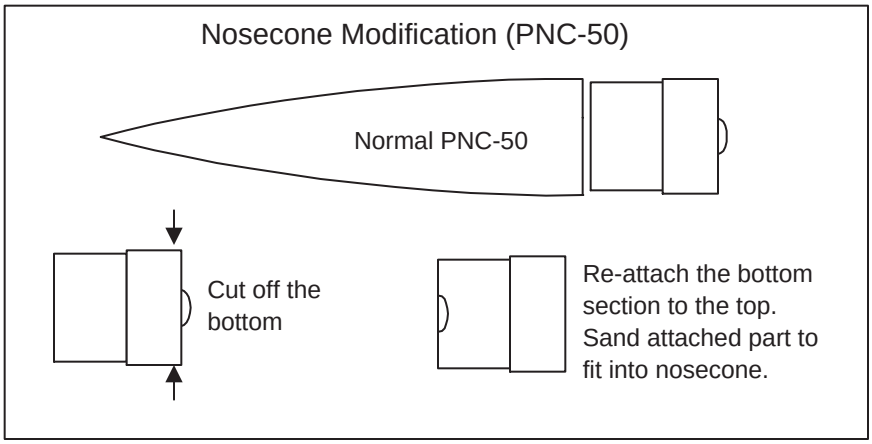
THUG

Lettering (original in gray)

Parts List

1 - PNC-50 (2 piece plastic)
1 - BT-50, 4.25" (108mm)
4 - 1/16" balsa fins
1 - BT-5, 1.75"
1 - 13mm engine block
2 - BT-5/50 centering rings
1 - Launch Lug
1 - Shock Cord





Technical Report: Plastic Fins Versus Balsa Fins

By Mark Soppet

As many of you have read, I recently performed an experiment with Alpha and Alpha 3 rockets with my friend, Tony Maro, at the November launch as we said good-bye to Community Park. Now that the results are in, I would like to share them with you for the good of rocketry.

The purpose of our little scientific adventure was to see whether plastic or balsa would make better rocket fins. Before we can do that, we must first examine the advantages and disadvantages of each fin type.

BALSA Pros: Light and strong, can be sanded into a streamlined shape. Cons: Porous surface, chance for misalignment

PLASTIC Pros: Smooth, precise alignment Cons: Heavy

After reading the listings, most of you have correctly assumed that the Alpha 3 was heavier. In fact, it was 11.4 grams heavier. And many of those people (including the science fair judge) would think that I should accordingly weight down the balsa-finned Alpha to make the two rockets even, right? Well, I didn't. There are two reasons behind this. Fist, adding weight to the Alpha could shift the center of gravity and render it unstable. Also, adding weight would defeat the purpose of the experiment, seeing if a balsa-finned rocket could fly higher than a plastic-finned rocket. It would now have been seeing if balsa or plastic was more aerodynamic.

Anyhow, I will now describe the experiment. Tony and I built an Alpha 3 and an Alpha, respectively. The only difference was that the Alpha 3 has a plastic fin unit and the Alpha has balsa fins. We then flew them at Community Park. Each rocket was flown three times using A8-3 engines. My dad used a paper Altitrak to find the altitudes in meters. The balsa-finned Alpha had flights of 42 m, 63 m, and 60 m. The average was 55 m. The Alpha 3, sporting plastic fins, had flights of 51 m, 38 m, and 42 m. The average was 43.7 m.

In conclusion, balsa fins can increase a rocket's altitude over plastic fins if they are sealed and sanded, as well as properly aligned. The main factor was weight. To go further with this experiment, I will fly a smooth-finned Alpha, a rough-finned Alpha, and an Alpha 3 in order to see how much of a factor aerodynamics of the fin played in the experiment. In the meantime, however, don't trash all of your plastic-finned rockets. If you are a beginner or if you have bad allergies, these fins would be better for you. Balsa fins would be better for competition flying and custom designs (Have you ever tried MAKING plastic fins?) But, I hope you enjoyed this report on my recent scientific follies. In the future, you may see reports on the differences in flight characteristics between 3- and 4-finned rockets (yes, I am using an Estes Viking) and T-tailed vs. V-tailed gliders. Until then, keep on flying 'em high!

July Club Launch

by Richard Wartick

This is my first attempt at writing a NIRA launch report, so bear with me -- and read! The town of Harvard looks much closer on the map than it does when you try the drive. When I left my neighborhood, the weather did not look promising at all, it was overcast and raining. The trip to the sod farm took more than an hour-and-a-half, but as it turned out, it was well worth the drive.

The open, flat terrain calls out for the launching of all kinds of rockets, with all sizes of motors. I do not pretend to have much experience in rocketry, so I enjoy watching what others fly, and observing what works best for them. This afternoon, for me, became a very interesting learning experience. The spectrum of motors used was wide, everything from a couple of little 1/2A3-4T's to a G80-10. Twenty five people flew a total of 138 flights under partly cloudy skies. In spite of the heat, 90 degrees or so, and a humidity reading more or less around 190 percent (not really, but my sunscreen started to drip off my sweaty arms and it felt that humid), everybody had a good time.

The single most popular motor was the C6 used with varied delay times. Greg Roman used three in combination with an E30-7 to launch his "Beavis and Butthead" rocket. Other used them as upper-stage motors combined with D12-0 boosters. Speaking of D12's, they were also quite popular. Nathan Heyen used a D12-5 to fly his "Goblin"; Bob and Jimmy Harkess used two D12-7's to power their "Impulse" rocket. Many successful flights were made with most of the other motors as well. Unfortunately, there was a cato, it was a D21-7 in Joe Nowak's "Little Wild Thing". I hope he can repair the damage.

Wind direction kept changing all afternoon, so rockets and boost-gliders went everywhere. The soybean field across the road claimed a few wayward vehicles. Tom Pastrick and several others spent some time look for their rockets. Most, if not all, were eventually found.

An afternoon of friends, fun, and flying rockets would not be complete without a good meal afterwards. A group met at the "Heritage House" restaurant to swap stories, talk about the upcoming NARAM, rest, and eat. I sat next to Rick Gaff, and at one point during the meal asked him what he does flight cards after the launch. He replied "Someone will take these, look at them, and write about it. Do you want to do it?" "OK," I replied. So, this article is my report. I hope we go back to the Harvard sod farm soon.

Eat Cheese Or Fly 97 Launch Report

by Steve Koszuta

This was the 4th annual Eat Cheese Or Fly waivered high power rocket launch held at Bong Rec. Area, Burlington, Wisconsin. ECOF-97 attracted 26 paid participants, and we flew 162 rockets. They ranged in power from 1/2A up to H123. The total impulse for the day was 3606 N-sec (an L motor). The average impulse was 22.26 N-sec (a baby E motor).

There were a couple of firsts this year - first time ECOF was hosted by WOOSH, in addition to NIRA; first time a motor dealer was on site (Al's Hobbies); first time with a 10,000' MSL waiver; and first time for participants staying overnight from out of state (Minnesota and Washington D.C.)

Bob Kaplow and family, from NIRA, were the first to arrive at Bong. Bob was blessed with the unenviable task of lugging all of NIRA's range equipment up to Wisconsin. The equipment took up all of the spare room in his minivan and Bob was relinquished to hauling his rocket supplies in a car top carrier. WOOSH would like to extend a great big thanks to NIRA for their support in the areas of equipment and volunteers. We got the range setup and operating just a little after the official start time of 9am.

The weather did not cooperate with us flying high impulse motors this year. The 10,000' waiver definitely was not needed! The cloud ceiling was low and rain showers shut the range down for about 30 minutes at one point in the afternoon. Dan Wolf had just set out the tracking scopes and had to cover them with plastic. Fortunately, Dan's electronic sensors and LCD readouts on the scopes were O.K.

We did fly two "H" motors though, and they were both for NAR level one certifications. Larry Stern from Minneapolis/St. Paul, Minnesota flew a H238 in a PML Endeavor for a perfect flight. Mark Meier flew a H123 in a THOY Phoenix, which had a nice recovery very close to the pads in spite of the wind.

"G" waterloft altitude was a fun event, but we wish there had been more participants. As it turned out, three people flew the event. Steve Koszuta won the event, even though he had the lowest altitude. Both other fliers DQ'ed by not recovering the water intact. The event did give us a chance to try out WOOSH's new hard-line phone system. By patching the phones into the PA, everyone was able to hear the trackers call-out their altitudes and azimuths. Thanks to the great eyesight of Dan Wolf, Gary Miller and Alan Rognlie, WOOSH is batting a thousand at closures in altitude events. Let's keep it going for MWRC-97!

Dan Wolf decided he would fly the cheese rather than eat it. He flew a yellow triangular box (which originally packaged a "Foamation" Cheesehead hat) on an Aerotech E30 motor. Dan did a cardboard cutout of the basic shape and added some clear fins to adjust the CP. The model was more stable in one axis than the other however, and when it rose to about 25', it went unstable. The stability of the rocketeer may have been in question too, with Dan wearing a Cheesehead hat while prepping, checking in and flying the rocket!

Jonathan Charbonneau of NIRA was the most prolific flier at ECOF, flying 20 rockets, mostly on "Questes" blackpowder motors. Jonathan always put down "Superman" as the flyer's name and was never without his cape.

Bob Craddock would have won our "longest distance traveled" award (if one existed!). He flew in from Washington D.C. to visit Kurt Schachner and hit a few hobby shops in search of the elusive "collectable model rocketry related item". I understand the trip was worth it. Bob did fly some rockets too. He flew replicas of the old Centuri V-2 and Aerobee 350 (built with all original parts). He also flew an original MPC Nike-Smoke given to him by G. Harry Stine.

Al Rognlie flew his original Estes Nighthawk quite a few times as well as his Estes Sea Dart.

Kurt Schachner kept his reputation as "Mr. Classic Kit" by flying an Astron Interceptor on a B6-4 and he flew a beautiful reproduction of the Estes Gemini-Titan cluster model on (2) A8-3's and again on (2) B6-4's.

Mike Hellmund, who previously worked at Estes Industries, flew the new North Coast F62 Darkstars in his "Maroon Moon" and "The Spike". The quick liftoff and thick black exhaust should make this a very popular motor. He gave one to Bob Kaplow, who immediately flew his "Uncola" with it. These motors were so new, Estes hadn't even begun distributing them by the launch date. They are now readily available at most hobby shops.

Rick Kramer really likes to build his kits with tube fins. He flew a nice modification of the Estes Skywinder with tube fins calling it the Tube-O-Copter.

John Guzik had a nozzle blow out on an Aerotech G64 halfway into the burn, in his Standard ARM kit. The rocket pranged very close to Bob Kaplow's van. Fortunately, his wife, daughter and dog were in the van at the time, not outside it like they had been earlier in the day.

Dean Roth made a few mid-power flights: a Rocket R&D Brutus on a G80-4 and a LOC Hi-Tech 45 on an F50-6.

For the third year in a row, David Miller designed the striking ECOF-97 commemorative badges. David also flew a plastic model conversion of the 1/144 scale Monogram Saturn V on an Aerotech E15. The extra long "bonus" delay caused the model to lawn dart into the soggy soil. The Apollo capsule was buried so deeply in the mud; David abandoned it and plans to convert the model into the Skylab version.

All in all, ECOF-97 was a very well attended launch, if only the weather would have been better.. but then again, what launch has there ever been where something couldn't have been better? Thanks to all the WOOSH and NIRA members who volunteered their time to man the range and do tracking duty.

Confused Stages: Stage 3
by Jonathan Charbonneau

In my last article I described the attributes of the eight fundamental configurations. I also said that a series stager isn't always the best. This stage of the series (pardon the pun) is intended to explain why a series stager does not always out perform a single stage.

To stage or not to stage. That is the question.[1]

The answer to the above question depends upon several factors. Sometimes, staging allows you to use smaller diameter engines due to splitting the impulse between two or three engines. Example: C6-7 is 18mm; B2-0/B2-7 combo is 10.5mm.

Another factor is which configuration is the given between the rocket's launch configuration, or its configuration just before burnout. If the former is the given e.g. Scale competition where the booster cannot be omitted, staging is better. On the other hand, if the latter is the given, and you can put all of the impulse in the upper stage, you're better off flying the upper stage alone as a single stager. If you're skeptical, you can prove it to yourself with the following experiment:

Materials: One multi-stage rocket (Hercules, Navaho, Zenith II, Commanche 3 or Mongoose) Two each: C6-5; B6-0; B6-6 engines One each: C6-0; C6-7; yellow engine spacer tube Two trackers with theodolites Launch pad Wadding and igniters Flying field

Fly the rocket in the following configurations

Flight #	Booster	Upper stage
1	C6-5	yellow spacer tube*
2	B6-0	B6-6
3	not used**	C6-5
4	C6-0	B6-6
5	B6-0	C6-7

* Tape and install as you would normally do a live engine. The yellow spacer tube will facilitate proper parachute deployment and protect upper stage engine mount from ejection charge of C6-5 in booster on this flight. Booster is to remain attached for duration of flight 1. Tape coupler if necessary, but remove tape before flight #2.

** For flight #3, only the upper stage is used.

What to expect: You should find that flights 1 and 3 have the lowest and highest altitudes respectively of the first three flights and that flight 5 has the higher altitude of the last two flights. It should become evident that for any given impulse, the sooner the booster is dropped, the higher the rocket will go. This is because an earlier drop time of the booster, the lower the average weight and drag which in turn equates to more speed and hence, more altitude.

Conclusion: Booster stages should be attached only as long as absolutely necessary and should be dropped as soon as possible.

Superman's Rules of Staging:

2-stager: Put short burning engine in booster; long burning engine in upper stage.

3-stager: Shortest burning engine in first stage; longest burning engine in third stage.

If two engines have equal burn times but different thrusts, treat stronger engine as having longer burn.

If first stage engine is too weak, switch with second stage engine.

As always, follow the NAR Safety Code.

Notes: [1] Rip-off of Shakespearian quote "To be or not to be..." From Hamlet.

Electronically Connected?

If you have any kind of connection to the Internet and can send and receive email, please send a brief message to wiersbe@lucent.com. I'll add you to the ever growing list of NIRA members on the Net. This way, you can be kept up to date with what's happening in the club. Also, if you have a web browser, check out the NIRA web page put together by Mark Bundick at:

http://ourworld.compuserve.com/homepages/Mark_Bundick/

Heard on the Street
(with apologies to the Wall Street Journal)

Dead, Cause Unknown - The Midori (ADEOS) satellite lofted by Japan failed on June 30 for unknown reasons. Space debris collision was initially suggested but that seems unlikely since a gradual power decline was observed before the failure.

Bulk Delivery - Seven more Motorola Iridium comsats were launched on June 18 by a Proton from Baikonur. The three-stage Proton-K rocket placed the payload and fourth stage in a 170 x 170 km x 73 deg parking orbit. The fourth stage made an initial burn to 170 x 516 km x 73 deg, followed by a second burn to raise perigee and change inclination to a 504 x 523 km x 86.4 deg orbit. It then dispensed the seven Iridium satellites, and made a third burn to place itself on a suborbital trajectory (to avoid leaving space debris around). The seven satellites will use their own on-board propulsion to raise their orbits.

Collision Course - The Russian space authority has successfully launched an unmanned supply ship, Progress M-35. It carries much needed material for repairing space station Mir, which was damaged when another supply ship crashed into it. Progress M-35 is scheduled to collide with Mir on Monday.

Long March, Leg #2 - China's Long March 3B launch vehicle made its first successful launch on August 19 from Xichang. The previous attempt failed shortly after takeoff causing numerous casualties. The CZ-3B placed in geostationary transfer orbit a Space Systems/ Loral communications satellite.

Take #2 - Lockheed Martin successfully launched the second LMLV-1 Lockheed Martin Launch Vehicle from Vandenberg August 23. The first vehicle, at the time called LLV-1, was destroyed in an August 1995 launch attempt. The LMLV is launched from the pedestal originally build for one of the Shuttle's solid rocket boosters. It uses a Thiokol/Utah Castor 120 first stage (a variant of the Peacekeeper ICBM's TU-120 motor), an Orbus 21D second stage from UTC/San Jose, and an Orbit Adjust Module with Olin/RRC thrusters.

Welcome to the Club - Erick Clark, Craig Jorgensen, Mark Lakomski, Rod Lindoo, Dave Lyle, Karl J. Mohr III, Michael Pennisi, Peter Petrou, Mick Sellergren, Walter J. Wilkins II, Brett Crapser, Tom McAtee, Harry Murrey, John Shaffstall, and John Zoellick have joined NIRA recently, Welcome!

NAR S&T NEWS

R40: NEW MOTOR CERTIFICATION

The following motor has been certified by NAR Standards & Testing as of January 19, 1997 for general use as a model rocket motor. It is certified for contest use effective April 19, 1997.

The following is an Aerotech reloadable motor, certified only with the indicated size casing and manufacturer supplied nozzle, end closures, delays, and propellant slugs. It is an "RC" motor, with no delay or ejection charge.

Aerotech: 24mm x 70mm RC Casing: E12J-RC (36 Newton-seconds total impulse, 30.3 grams propellant mass)

Additional Note: Consumers are reminded that the Aerotech D13 (18mm x 70mm reloadable motor) is NAR-certified. If this motor is decertified by Tripoli, it will still remain certified by the NAR.

R41: NEW MOTOR CERTIFICATION

The following motors have been certified by NAR Standards & Testing as of July 20, 1997 for general use as model rocket motors. They are certified for contest use effective September 18, 1997. Certification was delayed at the manufacturer's request.

The following are all single-use disposable motors.

North Coast Rocketry by Estes: 29mm x 103mm: F62-4, 6 (80 Newton-seconds total impulse, 51.5 grams propellant mass)

Jim Cook, Secretary for NAR Standards & Testing <JimCook@AOL.COM>

Jack Kane, Chairman

AIR FORCE DENIES STORIES OF UFO CRASH

Valles Marineris (MPI) - A spokesthing for Mars Air Force denounced as false rumors that an alien space craft crashed in the desert, outside of Ares Vallis on Friday. Appearing at a press conference today, General Rgrmrmy The Lesser, stated that "the object was, in fact, a harmless high-altitude weather balloon, not an alien spacecraft".

The story broke late Friday night when a major stationed at nearby Ares Vallis Air Force Base contacted the Valles Marineris Daily Record with a story about a strange, balloon-shaped object which allegedly came down in the nearby desert, "bouncing" several times before coming to a stop, "deflating in a sudden explosion of alien gases". Minutes later, General Rgrmrmy The Lesser contacted the Daily Record telepathically to contradict the earlier report.

General Rgrmrmy The Lesser stated that hysterical stories of a detachable vehicle roaming across the Martian desert were blatant fiction, provoked by incidences involving swamp gas. But the general public has been slow to accept the Air Force's explanation of recent events, preferring to speculate on the "other-worldly" nature of the crash debris. Conspiracy theorists have condemned Rgrmrmy's statements as evidence of "an obvious government cover-up", pointing out that Mars has no swamps.

Views from the Red Planet: Above, the Mars Pathfinder as viewed from the Sojourner rover. The airbags that cushioned Pathfinder's fall can be seen in the foreground.

Right, the Sojourner rover makes contact with a boulder on the surface of Mars. This rock was named "Yogi". The Mars Pathfinder successfully landed on Mars on July 4th, and has been sending back reams of data and pictures ever since. The landing site has been name Sagan Memorial Station, after the late Carl Sagan.

Scene from “Star Trek Meets The Night of the Living Dead”.