



Newsletter of the Northern Illinois Rocketry Association

Volume 13, No. 4

July/August 1990



## T MINUS ONE - NIRA EVENTS

#### **MONTHLY MEETINGS**

include ΑII meetings start 7:30 PM, and at brief business refreshments entertainment and а of the meeting. Don't forget a model for "Model Month\* We volunteer speakers voting need entertain after the business troops so call Ric Gaff at 708-298-7896 if you can heio with ideas or can speak yourself.

6. 1990 - World Championships NIDA members "Jedi" George Riebesehl. Jr. and Roberto share "Captain Video" as recent World photos, models and memories of the Championships in Kiev, USSR.

August 3, 1990 - Lawrence Bercini will provide NASA/Space Videos for your viewing pleasure.

September 7, 1990 - Currently Open

#### 1990 LAUNCH DATES

All launches other activities start 2:00 at PM. Онг launch site is located Ackerman Park, intersection of St Charles Swift and Roads Glen Ellyn. BYOL (bring own NAR Insurance required or else RSO must inspect and launch your model.

July 15. 1990 NAR Sanctioned Section Meet featuring Landing, Peanut Scale, Open Spot Random Duration and 1/2A Streamer Duration. Αn excellent opportunity to try real NAR competition. **Trophies** prizes and be awarded the winners. See our "Basic Techniques\* article to find out how easv it is to be an NAR competitor!

19. 1990 Structural Separation: Unlike event, ali parts counted be STRUCTURAL part of the model, such as nose cone. The winning flight one which can separate into the highest number of unattached parts. The model must be be reassembled for a second flight.

September 16, 1990 - Sports Scale and Rendevous October 21, 1990 - Team Duration November 18, 1990 - Uglyroc

#### OTHER INTERESTING ITEMS

July 14-15, 1990 - Chicago Air and Water Show, Chicago's North Avenue Beach is the best spot for commentary.

July 20, 1990 - Astronaut Charles Walker speaks at Harper Community College, Building J, Room 143 on "Space Exploration" at 7:30 PM. Free admission. Call 708-830-5860 for details.

July 21, 1990 - "A Celebration of Space", 3-10 PM, Our Lady of Ransom School, 8300 Greenwood, Niles, 708-699-0889. Speakers, telescopes, rocket videos and launch. Free admission.

August 4-11. 1990 National Sport Launch. NARAM-32. **USA-USSR** Team Flyoffs. Dallas. TX: 3.3 Sport models S∞tt Hunsicker, Box 551592, Launch: Contact Dallas, TX 75355

September 3, 1990 - NIRA's 27th Annual Labor Day Demonstration Launch, Newton Park, Glen Ellyn. Bring out your flashiest models and help carry on this grand NIRA tradition!

October 18-21, 1990 - Chicago Model Hobby Show. This year, NIRA will not only man an NAR/NIRA booth, and help with a special Estes demo.

CONTRIBUTORS: Lawrence Bercini, Bunny, Ric Gaff, Bullet Bob Kaplow, Rich McBroom, Tim Marcy, Leon Rathburn, Dennis Wacker

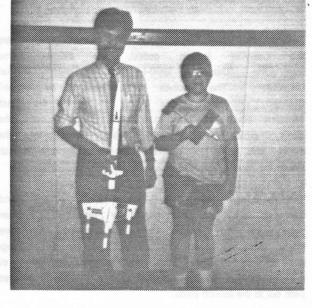
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# MODEL OF THE MONTH WINNERS



Congratulations Bunny SPEV honors in our May of Month the Model for Adult Category. Youth Category, congratulations go to Sam Mulvy and his Tornado. Way to go, Bunny and Sam!



Model of the Month winners for June are R/G Division Pink Super Lawrence Bercini the with his Vega Adult Division. Congratulations, Andy and Lawrence!

### **GENTLE REMINDERS**

The following members are responsible for refreshments at the upcoming meetings:

July - Harland Pell August - Mike Jungclas September - Dave Price October - Ric Gaff

#### LAUNCH RSO/LOG KEEPER

the RSO at be people have signed up to forget; this means club launches. checks, safety for our "Box Score" project, flight logs the coverage the launch compiling "Leading Edge".

> July - Mike Jungclas August - Lawrence Bercini September - Currently open

#### MRC DEMO KITS

kit(s) completed your MRC Don't July launch. than according directions build exactly Lawrence craftsmanship. good collecting the models at the July launch.

#### **BOX SCORE UPDATE**

We are progressing slowly, but surely towards our goal of 500 flights this flying season. With our May launch and the Boy Scout demo, our new launch total is 125. Let's all get involved in this simple club project by posting an extra flight or two at each club launch function.

#### **CLUB RECORDS**

Don't forget about the NIRA duration records! A few members set some records at the June Launch. Their records will be published in the next "Leading Edge". If you want to see your name beside their's in this space, see Ric Gaff or Lawrence Bercini at the next launch and get your flight "officially" timed.

#### WELCOME TO THE CLUB

We'd like to welcome these new faces to the NIRA ranks: Bill Callen, Chicago, IL; Nathan Gilkerson, Newark, IL; Dawn McBroom, Bristol, IL. (Sorry we missed you last time, Bill!)

ON THE COVER - Judy Kaplow questions the stability of the modeler as well as the model flying skeleton being displayed by Harland Pell.

# DANVILLE HPR LAUNCH

#### by Rich McBroom

names the half dozen or so Danville official launch called. the name was \*Danville 1990-1 Mega Power Rocket hosted by Tripoli Launch". The launch was April 21-22, Best Chicago, and took place at the Danville. IL the Western Redwood Inn in proximity of the flying field motel. this has to be the most convenient launch site in the country.

The moming of the 21st dawned cool lt had overcast. with ал extremely low ceiling. it the day before. and appeared tha! we might get more at time. Given this, things any to a slow start, the muddy conditions field necessitated making straw covered а path out to the launch pads.

With œiling the range set up and the slowly lifting, the first flights into the got air shortly after 10AM. Relatively low impulse models or high drag birds lead the order way in to stay under the clouds. As the day things kept improving, and by day's end, we were seeing J's and K's being flown.

NIRA members on hand included Mark Bundick Ric Gaff, Lizzie and Bobby Jenny tow), McBroom and The manufacturers and yours truly. well distributor segment represented On was Hand DARE Dockets, LOC/Precision, North Coast. Rocketflite. **Rocket** Research. Ravenna. Plasmajet, Public Missiles and THOY.

you telling about flights that caught apologize for the many fine flights undoubtedly missed. İt а pleasure was seeing the CSAR/MIVARS crew hand and flying on rockets. interesting Jim Breckinridge had "King magnificent LOC Viper" with professionally painted king cobra coiled around rocket's length. He also had along an 1220 powered for his first ever by an Lubecki flight. Steve brought along "Flashlight-O-Roc", though tried to and that it would him fly just great H, he prudently stuck with an E30 for aood Davis fliaht. Curtin and Larry successful flying, with Larry making confirmation flight on Sunday. Congrats, Larry.

Tom Secrist had а beauty with his NCR/Eneriet 2650 three F41's. Thought using not flying. and Fred williams were seen hanging Hegwood adding ogling color Chris about and rockets. Pearson had some outstanding fliahts. including his The Meteor had ten D12-Meteor. CHAD staged to ten D12-7's. more What a fliaht! Fire. smoke D12's going and fact, one of them hit you Chris?). Bobby lawyer contacted yet, thought it was great fun and kept the casing LOC\*, souvenir. The from Ron Schultz. \*Doc making some great flights. His "Jaws" 1250 was great, though he tempered this with f "Boss unstable flight 0 his Hog\* G100's. it's comforting to three know pro" has even "rocket problems once while.

Svetlik Tripoli Chicago's Tom own had an "Liberator" K900. awesome flight his and а He then proceeded us the mettle his to show "Road Warrior\* original design by power when three G50's it mispranging one of the ianited. had rocket back Sunday, and it fine. Who this time went iust says cardboard rockets can't take it? Not Jack Svetlik's US Rockets "CCV" tioned off and its chute the The iust above Bob Lazzari-Joe Kristie Team suffered а with their landing in the separation rocket parking lot. The damage wasn't bad and thev another flight with only **Rockets** 1140 cato. Meanwhile, Bunny had substantially better luck. His NCR Phantom 4000 HD had nice flights on Vuican H115 1200 motors.

The Wackers' were also making some great fliahts. Dennis' "Up In Smoke\* went like blazes H115; boattails really work! Philip Wacker and teamed Kenny up on "Blackhawk beautiful G100 flight of DARE а Bobby Warrior". Мс Broom was another Divisioner using the Rocketflite G100 effect in his \*Delta One". own He showed up flying man by it four more times go for five five old tricks was up to my going three five on Saturday (quit snickering, Bobby).

My near minimum diameter 1115 flight shreaded at max-q, and my "Lucky Seven" (a misnomer if there one) got good ignition on its six was cluster, only to failed to airstart It streamlined in from H70 core engine. waaaaav But my NCR/Enerjet 2650 flew great on up there! three F30's, and my AAA Aerobee-Hi flew fine a single F30-5.

well attended The Saturday evening meeting was began with Tripoli presentation from Chicago Prefect Ken Vosecek Tripoli President to Chuck Rogers. Then we drew for manufacturers and distributors were most generous, and many fliers left happy. Next on the agenda was a talk by Mark Bundick, NAR Vice President, on the NAR's Advanced High Rocketry Commission present had study. Everyone interest in the subject, especially fliers were members of both the NAR and 1 felt that Bunny was most and provided much insight the NAR's into position. Α segment of those attending were rather vocal, almost hostile. Some Tripoli liners view the NAR's committee as an invasion of their "turf". However. a veteran of many as NAR Board meetings, Bunny had little trouble handling the situation. (Hmm. ľď never addressed a group on a volitle issue in a BAR before! - Bunny)

President Rogers podium Tripoli Chuck took the next. He too had deal with rather heated discussion. Tripoli's its share of had problems and he touched bases on most of I thought this meeting was positive too and things adjourned rather late. Some hit for much needed rest, but others spent more the night and early morning shooting the breeze.

Sunday was a beauty, but found Bunny and Ric having to go back to Chicago for the NIRA launch! The field had dried up overnight, there only wasn't a cloud in the sky, and there were winds. Tracking was operational, with Chuck Rodgers and Tom Blazanin heading the show.

Sunday was Earth Day, and Martha Sienkiewicz was appropriately using the ultimate Worked biodegradable wadding, lettuce. great. ı personally recommend adding too. some croutons and a dash of bacon bits, though it's not really necessary. (Did a waiter perchlorate? Ed.) fresh ground ammonium

Martha and her son Caz had some really great H flew his and I flights. Jim Breckinridge 1160's, with three and the boost Alas. the shock mount failed ∞rd awesome. rocket had a hard landing. Damage wasn't extensive, and I'm sure Jim will have it flying again. number of experimental Ravenna and J motors were flown. and while some failed, the ones that worked, really screamed.

Sunday brought high tech electronic also LOC/Precision photographic payload flights. and Rocketflite teamed up to construct "Intercept". The two stage model had four G100's each stage with radio controlled perfect had upper stage ignition. The flight а staging and recovery. Thad Johnson flew EZI-65 with an altimeter payload. Lovett Reddick had a "Magnum" filled to the brim with electronics. Propulsion was provided by a four G25's outboard and in the core, two D12's tracking. capacitance Α smoke discharge auxiliary system ignited the engines, the main chute had electronic ejection, and there was even a back-up ejection system. perfect flight resulted.

Chuck Mund found a new use for FSI's E60 motor. his "Initiator". He CHAD staged them to F's in He had three flights, all with the same E60 would profile. The button was pushed; the loft the rocket to about 30 feet. cato. would ignite and take over. "Ker-blam. zoom, whoosh". I loved it!

I even managed to get in a few good flight. only problem was an Aerotech G42 which cato'ed spectacularly. My two stager, F80 to F7 worked fine. But my best flight was my Phantom with J125 power. This dass was my first J Chris flight, and maybe it worked great because NCR Pearson let me fly it off the pad. expected. the 10 second delay was too short sale!), the model (Hey! The motor was on and was still dimbing at ejection. Even SO, tracked 2,400 and was to over meters recovered it intact.

The absolute kicker was Rich Zarecki's IV. This rocket had to be seen to be believed. and built like a tank! Rich combined a Vulcan K575 and VEET-1 electronic ejection for a stunning flight. It was. my opinion. prettiest flight of the meet. The crowd must have thought so too, if their cheering when the chutes opened was any indication.

The last flight of the meet was Ken Vosecek's ESI-65 powered by an I160. This was the only rocket Ken got to fly all weekend, and it was a beauty. Thanks, Ken, for all the hard work (an understatement, I know) you did in order to make Danville happen. Thanks too to all who came out to fly. Tenative dates for the next Danville launch are October 27-28, 1990. See you next-fall!



Spectators inspect Rich Zarecki's scale Arianne IV.



Achtung! Der Blue Max!



Bobby McBroom indicated his opinion of Ric McBroom's recovery technique for the "Lucky Seven". Says dad, "Guess which way your allowance is going!"

## APRIL NIRA LAUNCH

#### by Lawrence Bercini

a combination of beautiful weather. rebroadcast of the NIRA segment of recent and an ad in the Chicago Tribune which attracted boatloads of spectators NIRA's first launch of the season. The NIRA folks had assortment of sport models to and both Team Kitbash and Federal **Express** flying to do, there was a lot going on.

Glen Thiel set the most the for rest of flying when his Gemini Titan nearly very landing passing police car. He followed that by hanging his Explorer Aquarius in the tree. then sent his Astrocam into я "squirrelly" flight over crowd picture of the the to take а typical Astrocam fashion put up he perfect flights of his Gemini Later Titan, Star Rider, and Chicago Watertower.

Bullet Bob had а similarly mixed day with **PAK-57** and Maxi-Sprite using "bury nose" Of the recovery systems. course, ubiquitous Meal saved Bob's day with perfect flight, which also appealed to the crowd.

Jim Christensen and Tim Marcy were going for the and E's and wowing spectators and with birds. some pretty Tim's Jayhawk and Black Brant II had gorgeous Starburst twin D flew perfectly, but Li'l Hustler stoke the show when it tore the sky under E15 power, and proceeded to land right back at the pads!

clan Matthew Price wasn't idle. UFO throughout the day. Ву now, this model probably earn the title of "most flown David was experimenting rocket". with different motors his no-moving parts bi-wing rocket glider. He came to prefer the 1/2A motors since the model didn't юор until **AFTER** boost engine. Dave also posted crowd with that pleasing flight his hair curler rocket. of flying didn't eject Unfortunately, his megaphone and will require a complete overhaul.

try I had a gaggle of new rockets The to out. X-16. Martian Patrol and S∞ut performed Vega famously Both the Super and Alien Explorer were delights to watch. The Vega also yours truly the opportunity revisit his to

childhood, when I had to climb a small tree to recover it

Chris May, Meanwhile. а new NIRA UD progressively powerful fliaht more with Super Kleve his Nova. Slouber demonstrated nice D18 fliaht from his **Uranus** original design, plus other good fliahts from Bull Pup and Helichopper. The spectators really got a kick out of the Helichopper! Mark Leprechaun took hard landing. а but his Nike Apache flew without a hitch.

Only two of the four Kitbash model made to launch day. Tom Howe's "Triad" was only points ahead of Mark Slusar's "NIRA Trident\* following static **Both** judging. models appeared stable designs, so everybody knew would be а The "Triad" close race. boosted A3-4T, but the bird failed The resultant prang the was funniest since someone stuck their model in MAR. ΑII at the central supports shattered upon impact, but the central power pods outboard stuck three straight of ground. lt resembled dart а game advanced stage. Tom dubbed "Kit the result Αll "NIRA Trident\* Smash". the had to do was successfully to win. which it did indeed to perfection.

Others were busy trying to finish "Federal Express\*. The object was to speedy delivery of mail "ocean". The across an shortest time to perform this simple sending models simulated two separate across а ocean, each model carrying а piece of win. After couple flights, would а of it obvious everyone needed more practice. Most landing flights either 100 in the foot wide "ocean" or too high performance to be landing The competitors ideal spot fights. ranked as follows.

6th - Slober/Slouber - 193 sec.

5th - Howe/Howe - 174 sec.

4th - Price/Price - 145 sec.

3rd - Slusar/Bercini - 137 sec.

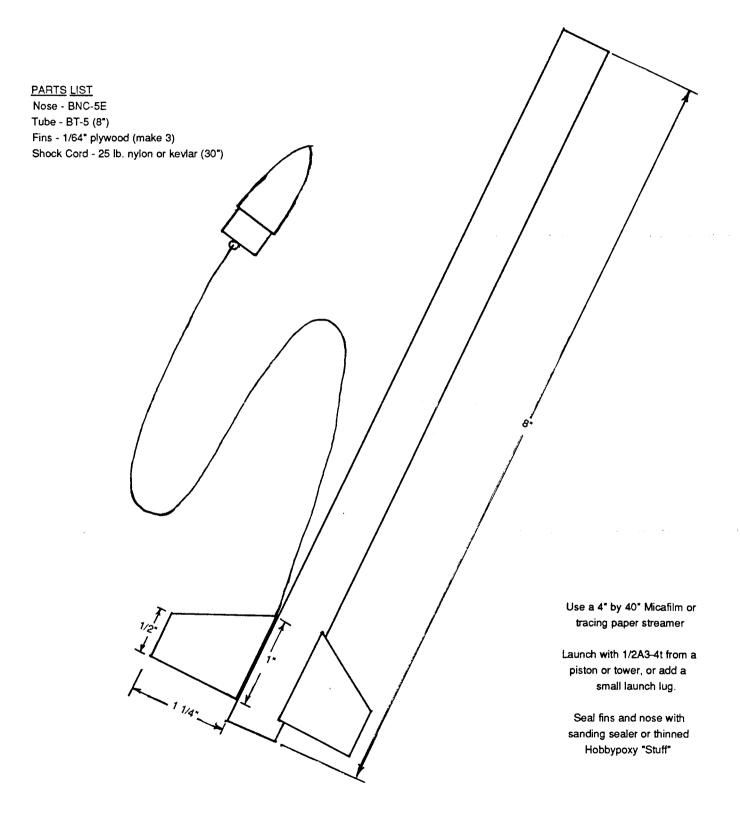
2nd - Price/Price - 126 sec.

1st - Mays/Marcy - 115 sec.

It was a great beginning to the flying season. See you at the next launch.

## A 1/2A STREAMER DURATION DESIGN

by Tim Marcy



## BASIC TECHNIQUES

## A novice's guide to turning sport models into competition birds

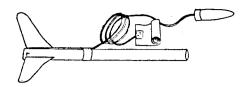
by Mr. Strato

Attention first vouna people and time competitors! Take look back at this а "T Minus 1" and of the July 15 take note sport NIRA section meet. While vou flying for hand at sport. you trv your can competitive flying, Competition too difficult fun and is really not at all In the events at the July Section can be flown with available Estes kits.

Perhaps difficult the most event to be flown Peanut Scale The idea of this event is to actual model that resembles an missile rocket, substantiated with documentation describing shape of the real the and color rocket (a color photo will do nicely). In Peanut Scale, model than your must not be longer cm (11.8")or contain а diameter larger 2 cm (.78"). The rules also suaaest more points be given to smaller models.

Current Estes offerings kits for this event are Bullpup and Iris. Better choices are discontinued Mini-Scale Pak models; the ISOY Tomahawk and Exocet. This kit is still easy find in hobby shops. But remember you must also present documentation. Many NIRA members access data on real rockets. Try calling Bunny (708-293-9343). Bob (708-428-1181) Lawrence (312-561-8098), who either have data can identify books and magazines that have it.

Streamer Duration requires the simplest three fins. nose cone OΠ top of а tube and а streamer to recover should be as lightweight possible. using 1/2A3-4T in a BT-5 model а is better 1/2A6-2 а **BT-20** bird. Performance by shock greativ improved external cord ลก То install requires little mount. one change from kit instructions. Build the entire model except the shock cord mount. After painting weight!), paint adds the (remember scrape paint away from one fin-body joint, and glue piece joint. braided fishing line the Fillet of along Braided the joint well. fishing line is available at sporting goods stores. Nylon chalk hardware store can be substituted. line from а used motor into the model. Temporarily Insert fishing the line to the body tube until you tape the model hangs horizontally. Then wrap tape ail around the body tube at that place to hold the line in permanently. Αt other end of the line, tie the rubber shock chord. See the diagram below for further details:



Good kits are the Ninja, Laser, Meanie and Micron, but prefer the Skinny with Mini built only of the three tubes supplied the kit. Replace the Estes plastic streamers: thev don't give good durations. Better choices crepe paper, wrapping tissue or Micafilm (a model airplane covering material sold in hobby shoos). Wider streamer work better so to make vours 3.4 wide and 15-20" lt's to have that also а smaller streamer easily out of the tube, than a big that jams and doesn't eject.

Open Spot Landing has no model or recovery restrictions. The device objective to land VOUL model's nose as close to а pre-set target on the ground as possible Thus, you need model which has predictable flight path. regardless of wind or weather conditions **UFO** While the now discontinued is predictable, will the only work İÌ target is near the pads. Better choices of kits miaht be the Big Sparrow. Dasher. Bertha and Rascal Remember. duration isn't the objective. so you the can use smallest recovery device that's safe to cut down on drift.

Duration is а new event. unfamiliar NIRA's craggy old time competitors Geritol. Ric. -Bunny). On the day of the by some random means, time between 30 а 120 and seconds will be selected This time target time competitors. becomes for Unfortunately, nobody has а good enough idea kind of model should be first this also must be the duration event the contest. can't practice you Bunny) know the time, either. Bunny thinks a Big Bertha type model is the wav to OO. whereas prefers something little yours truly more efficient. along lines of Firehawk. of the Sizzler Calypso. Regardless model idea of how l'uoy need some with different motors and recovery devices

will You find competitive rocketry fun and rewarding try plenty of people once you it. there to answer your questions. You might even make some new friends in the process.

# BOY SCOUT DEMONSTRATION

by Leon Rathburn

NIRA was asked by Cub Scout Pack 156 to come out do rocket demo launch at their Crossover Picnic. Leaders Paulette and Don Macabee heard about our group "Wild വ Chicago" The Pack graciously provided with us Bobby and Rick McBroom. Ric Gaff. Lawrence Bercini, and Leon Rathburn from NIRA were Dan Pasholk, Dennis Wacker and Ken Vosecek Chicago. Tripoli The demo was enioved the calling all. especially kids out the countdowns. The dub got \$75 in donations \$41 cash and \$34 in checks. Here's list of а some models I remember flying

First, flew three Alpha III's with three engines examples of as power. My dad gave us an Express. A real egg was used and didn't break. It got great applause. We had an Exocet and Phoenix. both scale V-2 was a scale model that went "kaboom" like real thing.

There was а Flat Cat. lt was glider (Shucks! Red recovery. Baron! Ed.) Lawrence flew Mosquito to show featherweight recovery and а Scout show to tumble recovery, neither could be tracked. Rick's helicopter Rotaroc stayed up for 5 minutes. found it when a blackbird perched on rotors!

My Tornado using break-apart UFO recovery and my drag recovery were popular. was Lawrence's Yankee Clipper which used streamer recovery. One of the oddrocs was Flying Pencil. Lawrence made this to write the on Bobby's Scorpion said "Help! getting of here!" as it clouds. pierced the lost my Star Seeker, but my SCRAM went fine.

When Tripoli launched their last rocket. hit the house at the demo Harland said. "Big make big thumps and little rockets make little thumps." total 40 rockets of were flown.

the Rathburns were lookina for Later. something shop in Elgin, they saw craft at a family from the demo buying rockets to make and We got someone else into fly themselves. Yea! the fun of rocketry. The demo really paid off!

## MAY NIRA LAUNCH

by "Bullet" Bob Kaplow

launch The May steady winds featured Despite NIRA north. this. members put flights. and set new records in Α Paper Airolane Duration. Bill Callen led all fliers. 10 fliahts. This marked his first flying since the 70's. He succeeded "LARRY" in joining the club, first getting his Magnum stuck in tree St. across Charles road. then hanging Astrocam on the lines. Many power thanks to Dave Price who went back and retrieved the remains both models days later.

The Price family was active making as well test flights in PAD with Matt finally official flight of 27 seconds to take the iunior division. Kleve Slouber managed to better Bunny in Senior division with times of 50 and 28 seconds respectively. Kleve's first flight was Red Baron that would have qualified Helicopter Duration Bunny had to suffer through Red Baron and а missing ejection charge before finally getting his second place flight.

Jedi, obviously preparing for FAI S13A (International Paper Airplane Duration), brought out an old D.R.U.G. Team RG. which slid its wing paper to release the airplane. After Red Baron he managed a flight of 15 of the other A PAD flights were Barons, unstable, or otherwise not qualified.

Finally, Ric Gaff terrorized everyone with his Mosquito. a parasite design consisting of а CHAD staged superroc carrying two inflatable Minnesota sized mosquitoes. They were supposed be released ejection, which unfortunately occurred after impact.

Regards to Mike Jungclas, who made an appearance returning from two separate extended business trips to the UK (burn your don't want them to send you back. Mike!). We also had an unusually large number spectators, due to the publicity efforts of Lawrence Bercini, and perhaps the Wild Chicago being rerun that weekend. Hopefully. some of them will be joining us in the future.

## HEARD ON THE STREET

Rumors and such, with apologies to the Wall Street Journal

Part 101 Held Hostage - After 5 years, the NAR has finally managed to get action on its petition to change FAR Part 101. FAA has placed the NAR's petition regulatory on its schedule. and has promised Congressional members. including Illinois Senator Dixon. action NPRM an within 12 months. Also letter to Senator Dixon from William Pollard, FAA Associate Administrator for Traffic, are these statements.

such a change is of great interest the NAR and its members and other model enthusiasts. there is no safety problem resolved. Consequently, we could petition resources the NAR which to were assigned to higher priority safety rulemaking projects. However, some of those safety efforts were recently completed, allowing more flexibility to consider other projects."

and the rest of the NAR anxiously **NPRM** awaits the proposed language. some sort of further contact between NAR and the FAA prior to the NPRM publication. Thanks to Bunny for working with Senator Dixon's Chicago office to get rolling at last!

World Championships Notes Congratulations George Ben Roberto and "Jedi" Riebesehl on their performance the recent Championships. RC RG in a Jedi finished 8th in man "winner take all" finished flyoff. 15th overall. US Δrt winners included silver medal in BG and Bob Biedron's bronze Scale. Look for a complete article next issue.

What's in a Number Finally, explanation for an those mysterious engine codes found motors. Want to know when the motor produced? Look for the cryptic two number. code on the motor and decode as follows: The first number is day of month. The letter is the year of manufacture. (T is 1990) The second number is month of year. Example: 1051 to January 10, 1989. Th*anks* to Rov Green of GAMMA for this tip!

Mir **Happenings** The Soyuz TM-9 spacecraft currently docked at the Mir space station will subject of an EVA repair session Some loose insulation might block instruments designed align re-entry, the capsule for

the lack of insulation forced Soviet controllers orient Mir to to prevent Soyuz from overheating sunlight. This disrupts Mir news, experiments. In other docking of the Kristall unit to the station been completed. Kristall is designed to produce high quality chrystals for Soviet electonics. Docket was originally postponed after one the craft's attitude control engines failed.

**Shores** Tripoli of Tripoli Headquarters up and running at new address: Tripoli Rocketry Association. Inc., P.O. Box 40475. Petersburg, FL 33743-0475. Some delays are reported on membership processing, so give those guys at least a couple of weeks to process your application.

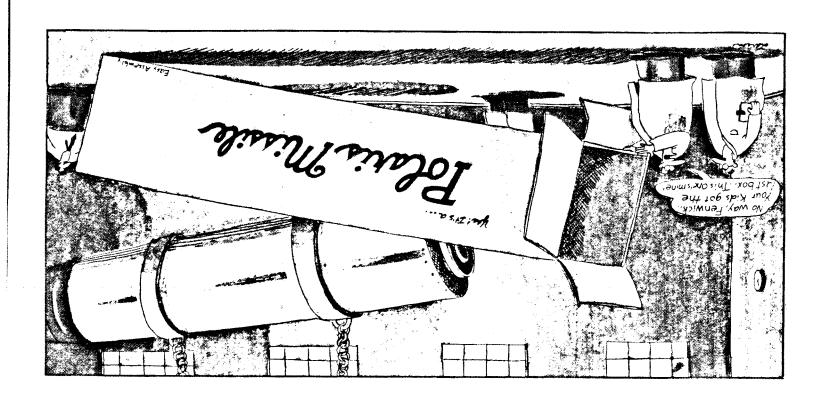
**B** Landings Federal Express now lists 24 airports nationwide which to it Class motors. including Chicago's O'Hare International. lt will not deliver these door-to-door, as Flying Tigers used Remember, only those who are in compliance NFPA #1122 are qualified to be Class B explosives.



#### ATTENTION NEWSLETTER EDITORS

If you are exchanging newsletters with the Leading Edge, the correct address is:

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