

# THE LEADING EDGE



Newsletter of the Northern Illinois Rocketry Association,  
NAR Section #117, TRA #36

Volume 16, Number 6  
November/December 1993

# T MINUS 1 - NIRA'S CALENDAR OF UPCOMING EVENTS

## 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 Mark Bundick at 708-293-9343 if you can help with ideas or can speak yourself.

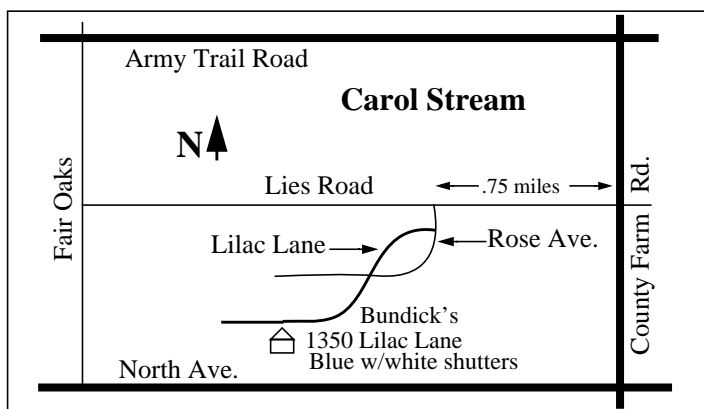
December 3, 1993 - Regular Monthly Meeting. Help with choosing the 1994 events.

January 7, 1994 - First meeting of the new year! Start the year out right, be there! Officer elections will be held at this meeting. See the ballot on page 10.

## 1993/1994 EVENTS

Well, another launching season will be over by the time you get this. We'll still be getting together over the winter months for various and sundry things, so keep watching this space.

**December 12, 1993 - NIRA Holiday Party, Sunday December 12, 1993 2-6 PM.** Join the NIRA gang at the Bundick's for some Christmas fun, food and games. Please RSVP to Bunny by calling 708-293-9343. If you can, please bring a food or beverage item to share (definitely not required, however!) Also bring your rocket stories, photos and Xmas wish list to compare with the rest of the gang. Stay as for as much or as little as you can, but come out for the end of year fun. See map below.



January 16, 1994 - We'll be doing something, so come to the January 7th meeting to find out what!

On The Cover - Some sideline scenes from Labor Day. Clockwise from upper left: the Slouber clan serving up lunch and rockets, the check in line, Dave Price and his Box-O-Gliders, and Bob Kaplow doing some rocket shopping.

## CONTRIBUTORS

Mark "Bunny" Bundick, Ric Gaff, Ken Hutchinson  
Greg Roman, Bill Thiel, Bob Wiersbe

## STAFF

Lawrence Bercini - Editor Of Newsletters Past  
Bob Wiersbe - Editor Of Newsletters Present  
Lawrence Bercini - Editor Of Newsletters Future  
Mark Bundick - Ghost Editor

THE LEADING EDGE, published bi-monthly 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, other newsletters, and news items of interest should be sent to Bob Wiersbe, 1835 Shetland Drive, Wheaton, IL 60187 or electronically via Internet at [hrbob@ihlpb.att.com](mailto:hrbob@ihlpb.att.com). Send membership applications (dues: \$3/year, including a six issue subscription to the Leading Edge) and non-member 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 American Spacemodeling with proper credit given; all other uses require written permission of the Northern Illinois Rocketry Association. Do any of you beside Mike Guslick actually read this???

## MODEL OF THE MONTH

Well, I finally have the September and October Model of the Month winners, and photos to boot! The September winners were Ron Husak with his Rocket Glider, and Bill Thiel with his Honest John. Mark Bundick took top honors in October with his scratch built Atlas-Centaur. Congratulations!



## **The Ed and Bill Show**

### **(Or The August NIRA Launch)**

**by Bill Thiel**

The window is open for the launch. The rain stopped at about 12:30pm. The rain stayed away for three hours after which time it came down in bucket fulls (good thing we were inside of Hardee's refueling our motors).

Jonathan was the first to launch, and the rocket (an unknown MRC model on a B14-7) was lost in space. Bill was next off the pad with a Big Bertha which promptly pranged. Ed was next with his 1/10 semi-scale Patriot, and then sent up his CATO. Ron was up next with his Helio\*copter. Trent was having trouble with his launch controller, so the Thiel's let him use their rack to launch his Bandit.

Now some of the higher power rockets were launched. Ed used an E15-10 to power his Cheetah. Ron followed with his Toxic Avenger powered by a D12-3. Bill and Ed sent their Super Big Bertha's up using D12-7 and D13-4 motors respectively. Ken started his day off with his Bandit Cubed. Jonathan sent his second unknown MRC model on a B14-5 (how many of these does he have???? - Ed.) this time for a good flight. Brad was next up for the higher power flights with his Phoenix.

The only Catalog Scale flight was made by Bill with his Mosquito that was enlarged five times. The Mosquito had a good stable flight but ran into trouble on the recovery phase of the flight. The shroud lines from the parachute got tangled up with the top of a light pole. Best terminal altitude/best catalog scale on one flight! The body tube and fin section came down after the rain softened the glue that held the shock cord mount and it let go. The nose and chute remained at the top of the pole.

Ed was back from summer camp where he got some help with the Boxcar RCRG. Ed was slope soaring off Boot Hill and gained some practice with the RC gear. Now was the BIG test - a rocket powered flight. The launch was good, but there was an up-link failure (xmitter was turned off when he lost continuity on the igniter and was not turned back on). The Boxcar was in free flight till it pranged. It is now under repair.



Ken sent up the first dual motor rocket, the Impulse, with two D12-3 motors. Ed followed with his I.S.Q.Y. Tomahawk using an F14-4. The rocket arced nicely into the wind and he was able to recover it by Short Street and the creek. Ken doubled the count of motors for his next rocket (2 C6-5's and 2 B6-4's) in his Black Adder. The last flight of the day was by Ed using his Super Big Bertha with a D12-3 motor.

The final tally: Trent - 1, Brad - 1, Jonathan - 2, Ken - 3, Ron - 4, Bill - 10, Ed - 11, Total flights - 32. Ed and Bill Thiel combined to make 21 of the 32 flights!

## **Ten Things I've Learned About Scale Models This Month**

**by Mark Bundick**

1. Dividers are a really helpful tool.
2. With sufficient plastic bits and patience, you can make convincing details.
3. Use materials that don't need filler and avoid all that sanding.
4. Don't build after 10 PM; you'll just screw something up.
5. Plastic sheet doesn't like to turn into round shapes without some heat.
6. Nose cone turning requires a strong dowel.
7. Pretend the plans and drawings are a Waldo book. Look at them over and over to find new stuff you'll forget to model.
8. When you're just starting out, worry more about finishing a model and less about winning.
9. You can have fun with your scale data packet.
10. When you get stuck, get help from Bob Biedron! :-)

## **Reader Feedback**

Mike Guslick writes: Just got The Leading Edge yesterday! I've really got to hand it to you guys, you have a great newsletter. Every issue I've gotten (about 4 so far) is written with a real flair for humor and camaraderie (if that's the right word). And yes, I do read the little comment below the publication notice. I look forward to getting my next issue!



Two of the reasons Ed and Bill Thiel put up so many flights: they come with boxes full of prepped rockets, and they use a rack.  
(Photos by Ric Gaff)

# September Club Launch

by Ken Hutchinson

Oh, what a beautiful morning, oh, what a lousy afternoon! That is how it seemed to me as I was driving through the rain to the September NIRA launch. Once I got there I found out that those of you who live farther south didn't even have the beautiful morning. By this time the rain was a light drizzle which soon enough petered out. There was a modest breeze to test the legs of those who dared to fly high and the turnout was also modest, but we managed to launch 67 rockets during this, our third?, rain shortened outing of the year.

In theory, this was to be our section meet, but no one was prepared with the official paper work, so the results will be unofficial. In the A streamer duration event the standings were: Bob Kaplow 1st 43.39s, Tim Marcy 2nd 37.46s, Jonathan Charbonneau 3rd 19.61s, and Ron Husak 4th 18.54s. In open spot landing: Ron Husak 1st 9tmf, Bob Kaplow 2nd 69tmf, Kleve Slouber 3rd 82tmf, Tim Marcy 4th 169tmf. I have spot landing flight cards for Jonathan Charbonneau and Lionel Slouber but no one recorded the results. What's a 'tmf' you ask? Why, Tim Marcy Feet, of course! Who needs a tape measure? Half A rocket glide garnered one entrant, Bob Kaplow, with 9.91s. If someone had brought eggs for C eggloft duration we would have done a lot more parachute chasing.

Bill and Ed Thiel took most flights honors again with 16 and 13 respectively. Those motor makers gotta love you two! Bill made several Astrocam flights, lost the nose of his Helio\*copter, and treated us to two Mosquito flights--normal and jumbo size. Ed had Estes E15 motors cato in his Equinox and his Terrier/Sandhawk. Ed had a bad day with E motors. An E25 let loose in his Green Crayon. Tim Marcy's ancient Mars Lander was also heavily damaged when a C5-3 did the same.

Ed had far more luck conducting chad staging experiments with his X-15 and UFO models. Would you believe a UFO flight with a D12 staged to a C6? I joined this effort, not to compete

with Ed, but because Ric Gaff saw me prepping my modified Bandit and described it as ordinary. Not being one to disappoint Mr. Gaff, I added a motor to create what Bob Kaplow described as "Bandit, Bandit, Bandit with motor, motor". Worked pretty well, actually.

Lionel Slouber flew his stock Bandit, while father Kleve sent up his Nike Smoke and Honest John. Tom Hulina came out to fly his Patriot and to help Brian Hulina fly his Scout III and Patrick Cannon his Athena. Ric Gaff flew his Astra once. He must have spent the rest of his time talking to Bob Wiersbe and Mike Jungclas, I don't have any flight cards from either one of them. Jonathan Charbonneau made some sport flights with his Stinger and Patriot among others. Ron Husak also kept his pad busy with several models including the Toxic Avenger. Bob Kaplow flew his Echo on what I took to be an F7 since it seemed to burn for such a looonng time. The flight card says D18-4. Was that the delay train I heard hissing so loudly for four seconds?

Perhaps the most anticipated flight of the day was one of mine. It wasn't because of anything I did however. Remember Ed Thiel's E15 cato's? While that was going on I was putting two E15-4's into my Estes Impulse. Same date codes as Ed's, possibly bought from the same hobby store. There was much debate and even more advice. Being, as Ric Gaff put it, "too susceptible to peer pressure", I decided to chance it. Everyone wanted to hear, ER, see this.

And they worked! Thing is, if you spend many hours writing flight simulation software you should use it Sunday morning not Monday morning. A four second delay was way too short, the chute came out at 80mph. Bob Kaplow was heard to exclaim "OOPS, wrong failure mode!" The body strained itself through the branches of a small tree, and I was last seen chasing the nose/parachute. After a long search I managed to find the nose cone for Bill Thiel's Helio\*copter. Shortly thereafter Mike Jungclas drove up in his car and told me that the body had survived reasonably well, while the nose cone had been found

Photos by Ric Gaff



Ken loads his Impulse on the launcher, and the successful lift-off with 2 Estes E15-4 motors.

The melted remains of Ed's Terrier-Sandhawk after an Estes E15 cato.



by a passing bicyclist! So, the Impulse will fly again, I WILL do the simulations first next time, and I'll see you at the next launch.



Bob Kaplow is all grins after a successful flight with an FSI motor.



Ed's Crayola prang draws a crowd of eager young colorers.

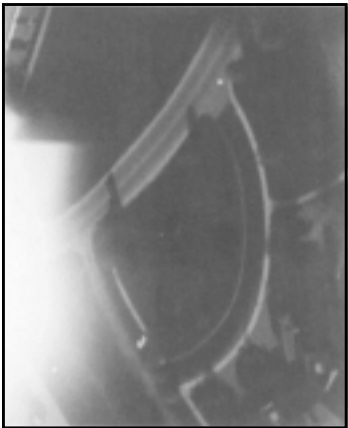


Tom and Brian Hulina launch a Patriot, while Patrick Cannon watches.



Ken Hutchinson and recovery crew were beaten to the catch by a rocket eating tree (obviously a novice!). Ken had 2 other flights narrowly avoid landing on top of a roof by crashing into the side of the building.

Photos by Ric Gaff



An Astrocams view of the entrance to the park. (Photo from Bob Wiersbe)



Kleve Slouber (left) and Tim Marcy (right) pose for catalog pictures.

# **NIRA Invades Michigan or Falling Leaf Finale Contest**

**by Bunny**

Looking for a personal rocket change of pace, I journeyed up to Jackson, Michigan for HUVAR's annual fall open meet September 25-26. Many thanks to Buzz Nau, half of this year's National Champion Ren and Stimpy Team, and all around HUVAR's slave/president, for getting me all the scoop on the contest on very short notice. The site, Jackson Community College, had served as host to previous MASCON conventions and other launches.

The weather was a bit nippy, though the rain managed to hold off for most of the contest. The field, while a bit small, managed to work because the wind prevailed along the long dimension. Contestants supplied their own launcher; mine was in the shop, and the Michigan crowd graciously let me borrow time on various HUVARS setups.

D SD was a hotly contested event, but not by your truly. I flew an Estes kit, the name of which escapes me right now for about 50 seconds and took an unexpected 4th place on a single flight. Winners did over 5 minutes in total. Nothing exotic in designs, streamer or model, appeared; Estes D's were the only engines I saw used.

1/4A PD caused me to put forth more effort. I flew a small 13mm model with swept fins, but messed up my chute deployment on flight #2, putting me out of the running. Andy Tomsach flew nice vellum models with straight vellum cones off piston launchers for the win. Andy also had a nice cradle for holding the model during prepping made out of scrap balsa and tubing.

I screwed up Spotlanding royally. I tried to launch my MRC IronMan upwind and drift back. I didn't count on the model playing "cruise missile for a day", and sat there stunned after the launch wondering what sort of abuse I'd take for DQ'ing out of spot landing. ("NAR Trustee and VP DQ's Spotlanding in Spectacular Prang" roars the headlines) Fortunately the chute deployed before the bird hit the ground, leaving me with flight points, but my abuse quotient in the manageable level.

I finally hit my stride in the glider events, winning both. In B BG, Andy Tomsach, who just happens to be a free flight model airplane flyer, too, pushed me quite hard. I flew an off the shelf bird left over from three or four NARAM's ago, a straight BG conversion of the Jetco Thermic 20 HLG. But it boosted well, and I did nearly three minutes total. Not bad for the weather. Andy's HLG conversion of a Thermal Piglet did OK, but he missed out on the better weather.

Andy would have beaten me in 1/2A RG save for hitting a tree about 15' off the ground. His auto-elevator model flew very nicely, and featured a novel finishing technique. Andy colors his wing and tail surfaces with Rit cloth dye then puts on 3 coats of clear dope. The result was quite smooth, evenly colored, and faster than tissue. My win was expensive, since my second

flight landed on a roof and went unretrieved. Both my flights were with small slidewings.

The HUVARS crowd announced a novel Sport Scale rule; if you don't have a model, you get to judge. As a results, out of seven contestants there were seven entries! I'd planned to have my 1:55 scale Ariane ready, but it ran into problems. So I snarfed data on the Atlas Centaur from "Rockets of the World", and cobbled up an OK model around BT-60, lots of Plastruct pieces and the Estes clear Fin unit. Ren and Stimpy's Standard Missile and Pete Alway's Saturn 1, Block 2 tied for first, I snuck into second, and Roger Wilfong's Sandhawk took third.

I didn't try to fly Drag Race, but the competition looked stiff, people flying without nose cones, etc. to increase drag and reduce altitude. I did try Precision Duration with my Big Bertha, but these guys had flown the event several times before, and the best scores were only a second or two off their predictions. Oh, well; more flight points.

When the dust settled, I ended up winning the meet by 42 points, 1,082 to Ren and Stimpy's 1040. That's less than a 4% difference, folks! I didn't think it was much of a margin, but I've received a fair amount of E-Mail abuse about it. (I think the Michigan guys must have been a bit surprised that a Trustee could fly rockets. They forgot my three campaigns in Virginia and eight here with NIRA!!) I intend to go back in the spring or summer for other contests out there (a) to give them a fair shot at me again, but more importantly because (b) I had a good time at a relaxed meet. If other members are interested in flying that kind of contest, just let me know and I'll get you the info.

## **October Club Launch by Bob Wiersbe**

Well, we finally had a NIRA launch where it wasn't cloudy and raining. Instead, it rained the entire day and night before the launch so the field was nice and soggy for us. But it takes more than mud and puddles to keep us from launching rockets!

The wind was cooperating for a change too, blowing towards the open fields. Ric Gaff managed to land a rocket in the golf course on the driving range, and I think one of mine landed in the creek at the edge of the field.

We have had a lot of spectators at the last couple of launches, and we've picked up some new flyers. Someone who I didn't recognize wanted to fly an Aerotech Mirage, and was very disappointed when we told him he couldn't. Still waiting for that rule change...

People were flying a lot of scale models, I remember seeing a Saturn V, V2, Honest John, 2 Terrier-Sandhawks, Atlas-Centaur (it flies great, Bunny!), Patriot, and a clustered Gemini-Titan. The Terrier-Sandhawks were having recovery problems, both of them had the chute tangle around the Sandhawk fins, but they landed without damage.

Bob Kaplow was flirting with disaster using FSI D18 motors in

the upper stage of his FSI Echo. Bill Larry flew his recently-recovered-from-the-roof-of-the- retirement-home Cheetah on an F16, and had it land in the field this time. Mike Jungclas put in a couple of Pegasus test flights to see how they work on A8-5's. We'll be building these kits at RCHTA and flying them next month.

Ken Hutchinson flew his recently repaired Impulse, but only with 2 D12's this time. He wouldn't let us talk him into using Estes E15's after last month's flight. Ken's launch system seems to be evolving a little each month. Not only will it handle multiple clips for clusters (and has power to spare), and tell you it's safe to hook it up, but now it's operated by wireless remote control. It takes a while to get used to someone pulling a tiny transmitter from their pocket and launching a rocket 50 feet away. What's next Ken, automatic igniter hookup?

Run Husak was flying his Cyclone again, and Ric and I tried to talk him into doing an article about it. Apparently, Ron has developed some nice techniques for building low-cost, nice looking rockets. So how about it, Ron? The address to send it to is on the inside front cover, in very small print. While I'm at it, that offer goes for ANY of you out there reading this! If you're got something you'd like to share, write it up and send it in.

The "fun" event for the day was Chicken Eggloft, and most everyone chickened out. The idea was to have the shortest flight (timewise) launching an egg with a B motor. I flew my egglofter first, using a B6-0 motor, a 24" chute, and just taped the egg into the bottom half of an easter egg capsule.

Bunny used the same CHAD method of attaching the egg, but he used a streamer for recovery. I cheered his flight, hoping the egg would break, but the soft ground didn't cooperate. Bunny's time was 10.15 seconds, mine was 12.5 seconds. His comment to me afterwards was "Age and treachery will overcome youth and skill darn near every time (grin)." Lesson learned.

My last flight was my Black Rocket on a D12-3. It worked just fine, that is, until ejection. The conversation at that point went like this: Me - "Uh-oh, no chute." Bill Larry - "Maybe the nose will drag it out." Me - "No, you don't understand, I forgot to put it in!" These moments of forgetfulness will always stand out in my mind, like the time I forgot to put the fin units on my Space Shuttle....

Perhaps the most interesting flight of the day was made by Ken "I Stage On Impact" Hutchinson with his mercury switch staged Nike Tomahawk. In Ken's own words: *"I used a C5-3 in the first stage this time, fairly good first stage boost and should have been plenty of negative G's at burnout to light the second stage, but it slowly arcs over and I'm thinking 'Oh no, it's going to lawn dart' but no, the nose points down, nothing happens. The first stage chute pops, the second stage is hanging, spinning, nose down and nothing happens. Obviously a misfire, a disappointment, but safe. Then it hits the ground and bingo the second stage shoots up at about a 30 degree angle and makes a perfect flight on its A8-whatever. The spectators are asking me how I did that while the NIRA crowd rolls on the ground, laughing."*

## 1993 Chicago RCHTA Trade Show Highlights

by Mark "Bunny" Bundick

Estes: Winners of Bunny's "new product award". You'll want their handy new tool set. Consists of two plastic "wedding cakes" where the layers are different body tube sizes. You slip the tube over the appropriate layer, then use the markings moulded into the device to mark the tube for either 3 or 4 fins. Also included is a plastic angle with English and metric measurements. You can use the angle to draw lines for the fins, use the fin holder to glue on them, and it also has a convenient pencil holder and stop for drawing lines around the circumference of the tube. Yours for only \$5; great devices that every serious rocket builder will want. Mike Hellmund says they'll be available in two months. Not too much new on the Estes kit front; Optima and Super Big Bertha were re-released under new names, and the Strato Blaster was on display.

Quest: Winner of Bunny's "new kit award". The X-30 NASP was expected from rumors prior to the show. It's about 20-24" long, and nicely done. Unexpected was their HL-20 lifting body. It shows its Centuri X-24 Bug ancestry, but ejects the engine mount on a streamer, and glides back. Gotta have one of these for more launch field grins.

Other manufacturers: North Coast showed new packaging, and hopes to clear the DOT hurdle to ship their E-F engines in January. THOY showed new 18mm engine powered models in response to distributor requests for same. Custom had some new packaging, and apparently did a brisk business; kudos to them for plugging away. Aerotech was absent, an expected situation by those of us in the know.

DML, a plastic armor kit company, will have for January release a 1/35 V-2 with the best moulded detail I've seen. About 14" tall, you guys will be converting these for a while. Kinda expensive at \$28, but outstanding detail will make you forget the money. Kitbash into V-2 #59 or #60 perhaps, Pete?

Glencoe Models, suppliers of the Jupiter C plastic kit, will release some old 1950's stuff from the Disney/Chester Bonstell space stuff of that era. A space station, a winged rockets/spaceplane and a Mars vehicle. Nice stuff that could stand a bit of kitbashing to add some more details. Revell/Monogram had the latest US spy plane complete with a Mach 14 twin ramjet powered penetration drone. Pretty good sized models, you guys will be converting these, too, but with less success, I suspect, than the V-2.

In the "nice to have, but too expensive" category, I saw a very nice \$5,000 computer controlled lathe/milling machine combo. Also a \$26,000 laser cutter that was happily reducing a sheet of 1/8" aircraft plywood into little locomotive cutouts. For only \$300, the company will cut out your own set of parts. Sorry, Bob Biedron. I couldn't find any photo-etching stuff, but I did raid the latest price list from Alumite.....

NIRA manned the consumer "build a rocket display" and went

through 500 Pegasus kits. When Mary Roberts found we ran out of models, she gave us a 12 kit bulk pack of Bandits from the Estes booth. Kudos to Mike Jungclas for an outstanding management job getting the thing set up, and to all the NIRA-ites who helped out, and to Steve Weaver who manned the NAR booth during the trade days selling Sport Rocketry to hobby shops.

## What it Really Means

There is a Glossary of Hobby Rocketry Terms maintained by Jack Hagerty for the rec.models.rockets newsgroup that defines in detail most, if not all, the terms used in rocketry (it was published in the March/April issue of High Power Rocketry). One night, while the White Sox were losing and Michael Jordan was about to announce his retirement, this parody of some of the glossary was written. Enjoy!

Advanced Rocket - An old rocket.  
Air Start - Turning on the compressor to fill the tires.  
Amateur Rocket - A rocket that hasn't made it to the pros yet.  
Experimental Rocket - A rocket with an attitude.  
AP - Associated Press.  
B/G - A member of a 70's disco band.  
Baffle - To confuse. (See also Ejection Baffle)  
BAR - Place to get a drink.  
Base Drag - Riff played on a guitar.  
Black Powder - Pepper.  
Boattail - The back end of a boat.  
Booster - Someone who supports a local sports team.  
CA - The State of California.  
Capacitive Discharge - Letting go of excess employees.  
CATO - The Green Hornet's sidekick.  
CHAD - An actor from 90210.  
CHAD Staging - The actor from 90210 actually on stage.  
Chuff - What CHAD does while on stage.  
Cluster - A bunch of grapes.  
Composite - The process of building a compost pile.  
Copperhead - A poisonous snake.  
Core Sample - Survey done on the central group.  
Ballistic - Somewhat like a ball.  
Cruise Missile - Missile capable of carrying a party.  
Delay Train - Holding up a train by standing on the tracks.  
(Should only be done while the train is standing still.)  
Delay Charge - Holding back the cavalry.  
DQ - Dairy Queen.  
Effective Exhaust Velocity - The maximum velocity of a runner before he is exhausted.  
Ejection Baffle - The state of confusion after being tossed out of a game.  
Ejection Charge - Going after the ref when tossed from a game.  
Fillet - A type of steak.  
Hang Fire - Lighting the candles on a cake.  
Igniter - A device used to ignite something. (See the exhaustive 2 part article in American Spacemodeling!)  
Impulse (Relative) - A desire to buy something for a family member.  
Impulse (Specific) - A desire to buy a particular item for yourself.

Impulse (Total) - The total effect when Relative and Specific Impulse are combined.

Kitbash - Bad review of a new kit.

Krushnic Effect - What happens to pop/soda cans when they are stepped on.

Land Shark - A character from Saturday Night Live.

Lovelace Effect - When a person falls in love with lace.

Model Rocket - A model of a rocket.

Newton - Person who discovered gravity.

Ogive - What to say when you want something from someone.

Payload - The amount of money required to pay employees.

Prang (Auger In) - The act of using a RASP (see below).

RASP - Tool used to enlarge a hole.

Red Baron - A famous German pilot from World War I.

Reynolds Number (Rn) - The dimensions of a piece of aluminum foil required to cover a sandwich.

RSO - Predecessor to the USO.

Shred - To tear lettuce into little pieces.

Silver Streak - Movie starring Gene Wilder and Richard Pryor.

Solar Igniter - An igniter that uses sunlight to ignite.

Thermalite - A light, warm, winter undergarment.

Tiger Tail - The long thing at the rear of a tiger.

Through The Wall (TTW) - The description of a door.

Waiver - A person who waves.

YABAR - Something that Fred Flintstone says.

Zipper Effect - What happens when your shirt gets caught in your fly.

## Tis The Season

by Bunny

The approaching holiday season means you can take a few minutes and save yourself some money. By scrounging all those wrapping paper tubes lying around, you can give them another life as your next rocket! Using leftover tubes for model rockets is a time honored tradition. Harry Stine notes the early Denver area modelers scrounging every tube they could during the late 1950's. If you're willing to do a bit of extra finishing work, you can end up with a large supply of tubing material.

Wrapping paper tubes have advantages over toilet paper and paper towel castoffs due to their length. Larger diameters are highly prized for bigger birds. But whereas toilet paper and paper towel tubes are pretty consistent in thickness and construction, wrapping paper tubes vary from the sturdy to the flimsy. By varying the number of wraps around the mandrel, tube manufacturers get a tube that fits their price range. Less paper equals lower cost to the wrapping paper guy, but less sturdy tubes for us modelers. Squeeze the tube gently to get an idea of how "mushy" it is. Mushier tubes are not as highly prized as stiffer models. I save some mushy tubes for use as stuffers in larger diameters.

There are a couple of ways to strengthen mushy tubes. You can get a roll of self-adhesive brown paper tape at Office Max or other office supply outlets. By applying this around the tube in a spiral layout, in about 5 minutes you beef up the tube and give a slightly higher quality paper finish. If you can swipe discarded nylon stockings from the wastebasket, you've got the raw



material to solve any ‘mushiness’ problem. Stretch a part of the stocking without runs over your tube. Apply two coats of clear dope, trim off the excess and you’re done. The tube will be incredibly strong, and ready for finishing.

Many wrapping paper tubes are made of lower quality papers and tend to be quite fuzzy. Some have giant spirals, while others have a substantial overlap. You should examine the seams closely to get an idea of how much finishing work you’re in for. I begin by sanding lightly the entire tube with some 240 to 320 grit paper. If the tube has overlapping seams, I try to sand down the ridge of the overlap even with the rest of the tube surface. If it has gaps, I just try to sand off any fuzz.

To fill in the gaps, use your favorite method. I’ve taken a liking to spackle as a first coat. It’s light, cheap, widely available, and easy to sand. At this stage, you’re not working on a museum quality finish, you’re striving to fill in major gaps. Later filler applications will use something more substantial.

Once the major gaps are finished, you must decide how to proceed. You can apply your personal favorite tube finishing approach. I’ve tried a bit more spackle, followed by several coats of a sandable primer. Since these tubes are of poorer quality paper, that might mean many coats. Not having the time, and not rating tube sanding as one of my favorite pastimes, I’ve learned to cheat.

I cut a piece of silkspan, a model airplane covering, that’s as long as my tube and as wide as the tube circumference plus about 1/4” extra. Apply a coat of dope to the tube; let dry. Apply another coat of dope, and attach the silkspan while the dope is still wet. If the tube starts to dry out while you’re working on it, just apply more dope. Let dry. Apply a third coat of dope just to seal things down, and you’re done. A strong tube with good finish ready for construction that needs only one coat of primer for a good finish without spirals.

While pulling tubes out of the wastebasket has drawbacks, you can get a good supply of sport rocket building materials as cheap as they come. With a little time spent during Chicago’s cold winter finishing them off before you need them, your home-found tubing supply will be waiting for you the next time you want to knock out a model or two. Happy rocket oriented holidays!

## **A Pegasus Parade**

**by a cast of several**

NIRA ended the 1994 flying season on a high note launching a fleet of Pegasus fresh from the RCHTA show. It was a cold, cloudy, wet day, but that didn’t stop 23 youngsters (and their parents) from journeying out to Lisle for the launch. White Lightning, Blue Thunder, or black powder, it doesn’t matter, they all look their best in the dreamy half light of an overcast November afternoon.

Mike Jungclas had taken the time to put together “flight kits” - an A8-5 motor with the igniter installed, and enough wadding

for 1 flight wrapped around the motor. NIRA members were on hand to help the youngsters prep their rockets, and get them loaded on the rack. Ric Gaff and Mark Bundick took turns as LCO, they would do the countdown and let the rocket owner press the button on “Ignition!”

Aside from two misfires, one chute separation and one model hanging on a light pole, EVERY Pegasus we flew worked perfectly. Estes provided enough motors, igniters, and wadding so that everyone could make 2 flights. Mike just happened to have an unbuilt Pegasus to replace the one that hung on the pole.

Congratulations to all of you who successfully built and flew your Pegasus rocket: Jimmy Viktora, Kyle Saginus, Cezary Danilewski, Bill Piva, Lauren Stauffer, Christina Sorrill, Wesley Sorrill, Sara Graening, Michael Graening, David Deplaris, Nick Deplaris, Mike Deplaris, Tyler Bartholomew, Chris Gruendner, Tim McDonald, Mike McDonald, Karl Brower, Darryl Kozel, Mike Lewin, Donald Kraus, Steve Kraus, Bryan Kraus, and Jim Jilek!

We had quite a crowd with all the Pegasus flyers and their parents, and they had fallen into the habit of exclaiming WOW! at the launching of a C or D. Then Bill Larry let loose with an Aerotech E15 in his Cheetah, and the crowd was awestruck. A little of everything happened, Ed Thiel’s ISQY Tomahawk pranged big time, Bill Larry’s Sandhawk catoed, and Arthur Peterson’s Initiator took a huge core sample.

There were also a lot of great flights, including Ron Husak’s Cluster Phobia (a Saturn V salvaged from Bunny’s basement and highly modified) on 2 D12-3’s, Kevin Smith’s SR-71 Blackbird (complete with a shoestring catch on a full run), and Dave Price’s plastic Megaphone. Ken Hutchinson liked the way the smoke boiled from the base of the Megaphone and trailed into the sky, so he decided to fly his Quest Space Clipper. The parachute didn’t deploy fully, and Ric Gaff accidentally punted it trying to save it from a hard landing. The model and foot both survived nicely. Ken’s battered Impulse made another fine flight with 2 Estes E15-8’s and his Black Adder (with 2 A’s, 2 B’s, and 2 C’s) put on a pretty good show.

The Thiels were putting up flights all day (as usual), and Ed’s CHAD staged UFO gave new life to a tired flock of geese that had wandered near the range looking for a place to land. Ed was flying his Estes CATO and decided to add some blue tracking powder to make it more interesting. Something went wrong, and the section containing the powder impacted in front of the launch controller for the rack, leaving it covered in blue.

Ed and Ken had a CATO drag race (Ed won), and opened the door for a whole new class of fun competition. B Maximum Dispersion and C Le Mans CATO were just two of the ideas kicked around after the launch.

Hats off to all of you who helped with setting up the range and prepping rockets, and a special word of thanks to Mike Jungclas for organizing the RCHTA building session and the launch this year. You did a great job, Mike!!

# Metamora HPR Launch

by Greg Roman

"I love the smell of ammonium perchlorate exhaust in the morning, it reminds me of victory" (Apocalypse Now, revised) The Heart of Illinois Tripoli Rocket Club hosted a high power launch on October 23 and 24th. Their launch site was on a recently harvested farm in Metamora, IL., 12 miles northeast of Peoria and a 2+ hour drive from Chicago. It was an excellent location since the nearest tree line or road was a mile in any direction from the pads.

The weather was unusually warm. The cloudless sky with its low October sun angle made it easy to spot my small Estes kits which I stuffed with Aerotech D and E motors. My scratch built Sidewinder, which clusters three D12's made three flights, as did my LOC/Precision Graduator on F100's.

There were no other NIRA members present, though some of you attended Heart of Illinois Tripoli in the past and can attest to the quality of the site. Unlike Danville, the Metamora site features no long launch lines and no shortage of recovery space.

There were many flights with H and I motors. White Lightning and Silver Streak propellant sure make a pretty flame and exhaust plume. The roar of those motors burning grabbed the attention of everyone around.

The most spectacular flight of the day belonged to John Halberslaben of Deerfield, WI. He flew a LOC/Precision Bruiser EXP with a K550 ant two H220 Silver Streaks. The rocket was 9 feet tall and weighed 23 pounds. It flew 3000 feet and had a perfect recovery.

The Heart of Illinois Tripoli club hosts a launch at this site the first Sunday of every month, year round. They have a 10,000 foot waiver at all events. Call Bill Gangloff at (309) 697-9403 in advance to confirm launch dates and get directions.

The guys from Cluster R were there selling parts, kits, and hotdogs. They usually attend the launches so if there is a special class B motor or any other item you want, call them at (309) 698-0726 and they can sell it to you at their shop located 1 mile from the site.



Greg Roman's Graduator and shadow.



John Halberslaben is dwarfed by his LOC/Precision Bruiser EXP.



Greg's Sidewinder on 3 D12's.

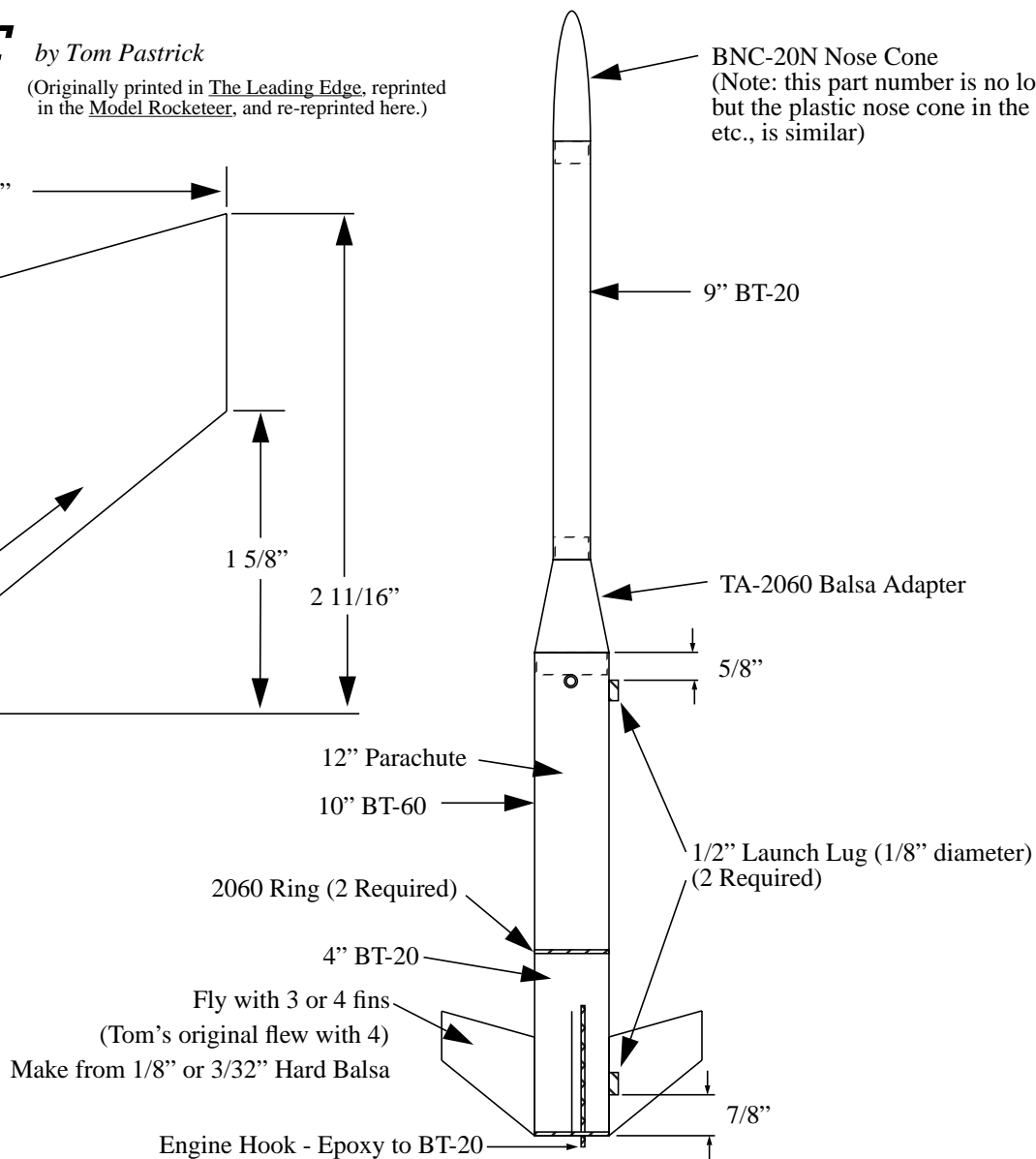
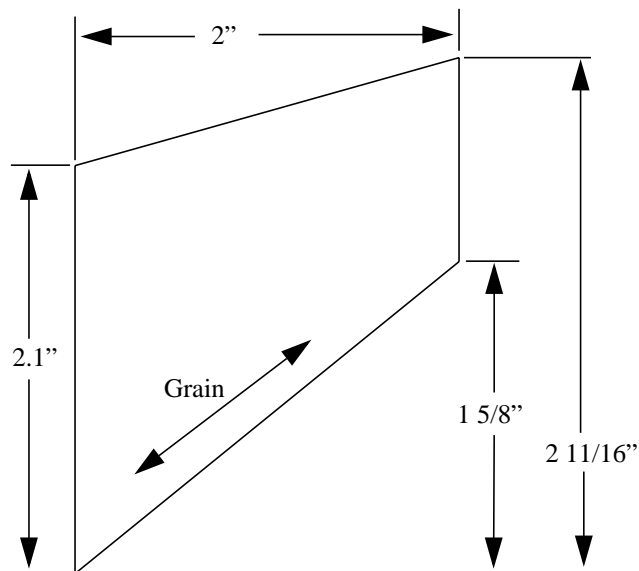


The LOC/NESS MONSTER stands on a pedestal of fire & smoke.

# TOPKAT

by Tom Pastrick

(Originally printed in *The Leading Edge*, reprinted in the *Model Rocketeer*, and re-reprinted here.)



## 1994 NIRA Officer Election Ballot

### Candidate

Mark Bundick

☐

Ed Thiel

☐

Ken Hutchinson

☐

Bob Kaplow

☐

### Office

President

Vice President

Sec./Treasurer

Safety Officer

*Write in Votes - Please Print or Type*

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

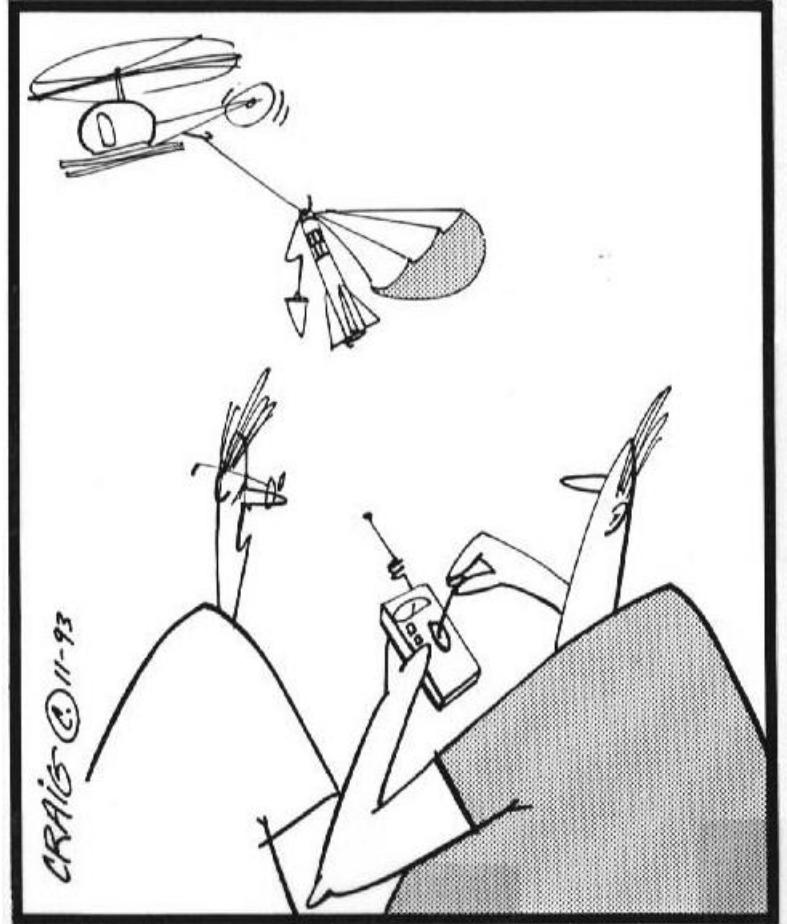
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Send to: Ken Hutchinson  
84 Jefferson Lane  
Cary, IL 60013

Either check the box after the candidates name,  
or write in the name of the person you wish to run  
for a particular office.

Ballots must be received no later than January 6, 1994 in order to be counted. Photocopies or hand written ballots will be accepted. Allow 5 days for the U.S. Mail to deliver your ballot. You can also bring your ballot to the meeting on January 7.

# STITCHES by Jim Craig



*"I checked.....it's not even Midwest Qualified for Helicopter Duration."*

*THE LEADING EDGE*  
C/O Bob Wiersbe  
1835 Shetland Drive  
Wheaton, IL 60187