

# THE LEADING EDGE IS BACK!

NEWSLETTER OF THE NORTHERN ILLINOIS ROCKETRY ASSOCIATION  
N.A.R. 1984-85 NATIONAL SECTION CHAMPIONS



NOV. / DEC. VOL. 8 NO. 6



## EDITORIAL from Jedi

Well, it's cold outside again. It gets dark at 4:30 PM. What a drag! No more rockets, either. Right?

Wrong. Even though Tom Pastrick might be at Ackerman Park with his cross country skis, chasing **Pregnant Whales** through the snow, most of us pack up our launch systems and turn our attention to indoor activities. (Who else besides me flies indoor model airplanes? - Bunny) But that doesn't mean we should forget about our hobby for the next six months.

Winter is a great time to build models, either for competition, or just fun. I'm sure most NIRA competitors remember building that stupid helicopter or streamer model at the last minute for a contest last summer. Well, now is the time to crank out some "cannon fodder" models for use next season. Or build that crazy sport model you've been meaning to, but never seem to have found time to build. Or even build, (dare I say it?) a radio controlled sailplane.

If building gets boring, how about coming out to the NIRA meeting? Enter the "Model of the Month" contest. Remember we give trophies now, and the same people can't win two months in a row. Listen to our new "Discussion Group" series. The December meeting will feature Bunny talking about scale modeling. Come just to shoot the bull.

That's not all we have planned. We are discussing another building program for Estes, details to be announced soon. Also, we are going to man a display booth at the Hobby Show in January. Help us pass out some flyers, and don't forget we need your best models for display. Finally, we have the National Championship Contest to organize and run in August. This huge task will require the full resources of NIRA, so everyone should plan on helping out. This is our chance to show the nation what NIRA can do as host of the NARAM. We can all take pride in this event, so come on out to the Nats.

Get involved. Let's see what kind of members really make up the best section in the nation!

## T MINUS 1

REGULAR CLUB LAUNCHES  
Ackerman Park, Glen Ellyn  
St. Charles and Swift Roads  
Sundays at 2:00 PM

Dec. 1      Dec. 22  
Note the change to December 1 from the 8th so as not to conflict with the NARAM planning meeting.

Tom Pastrick insisted, so mark those dates on your calendar!!! Dare you fly in Chicago's first snow-fall???



WE MAKE  
*Excitement*™

NARAM-28 PLANNING MEETING  
Sunday, December 8, 2 PM  
Bob Kaplow's in Palatine.  
Call 934-1160 if you need directions. TOPICS: a status report and range operations. Bunny will supply handouts; you supply your own munchies.

MONTHLY NIRA MEETING Dec. 6  
G.E. Civic Center 7:30 PM  
More planning for the HIAA Trade Show in January, and NARAM-28 in August. More nominations for officers. Don't miss "Model of the Month". Also, don't miss Bunny's talk on Scale!!!!

MONTHLY NIRA MEETING Jan. 3  
G.E. Civic Center 7:30 PM  
Maybe an Estes build-up???  
Final HIAA Assignments. And the all-important Election.

# MODEL OF THE MONTH WINNERS !



The Model of the Month Winner for September is Mike Schwakop and his nicely built Estes X-16. Congratulations, Mike!



The Model of the Month Winner for October is Ric Gaff and his winning Centuri Vulcan. Congratulations, Richard!



**THE  
LEADING  
EDGE**

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**COVER PHOTO:** Harry Porterfield and the NIRA P.R. Director interview Bullet Bob's range box.

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NIRA'S 22ND ANNUAL  
LABOR DAY LAUNCH  
or Film at 6

by Bunny and Jedi

NIRA's annual rite of fall madness went off without a hitch. Even after a full weekend of contest flying in Tomah, NIRA managed to put on a three hour show for the many spectators and the Channel 2 News crew that showed up. The 1985 version of the Labor Day Launch (LDL) had two things missing from recent demonstrations by the club. First, we had great weather. Winds were less than 5 MPH for most of the event. Secondly, we flew over 100 rockets during the demo. That had to be some sort of record.

You knew the LDL was off to a good start when Harry Porterfield of Channel 2 and CBS showed up about 1:35. He spoke with most of the NIRA regulars, and shot lots of footage. Two minutes of it showed up on the news that night. What great PR for the club!!! Thanks, Harry and Channel Two.

Bunny led off the launch with a Patriot that set the tone for the day. It worked perfectly and landed not too far downrange. While most of the models were standard Estes kits (not a bad idea for demos), there were a few weirdos. Ric Gaff flew his **Pyramid**, and Tom Pastrick tried his **Sputnik II** oddball rocket. Both flew perfectly. Bullet Bob did his Happy Meal for the third or fourth year running, then followed with his **Long John Silver** version. The crowd wasn't sure what to make of it.

Tom Pastrick's **Bomarc**, the nemesis of many a C Division Sport Scale competitor, met its end by flying away, one of the few losses of the demo. Tom plans to build a bigger version, powered by D12's. Bullet did it for the crowd again, lofting an egg successfully. Tommy P countered with a **Pregnant Whale** and 36" parachute to end the demo. It worked great and got a healthy round of applause.

The Heipp family provided a fair amount of cannon fodder for this launch. Bill's **Phoenix** on D12-3 power went off three times, each flight a beauty and rewarded with rounds of applause. Their newcomer spirit resulted in a rousing cheer each time a rip-snorting model took to the skies. The Rip-Snorting Model Award had to go to Larry Mika. He flew a home design with an E60-6 that got everyone's blood moving, put a blue cloud of tracking smoke a couple thousand feet up, and resulted in one lost model! Oh, but what an impression the flight made!

There were a few bad spots. Amy Rambow's **Orbital Transport** misfired three times before making a successful flight. Tim Marcy's **Satellite Killer** stripped off its launch lug and parachute at liftoff, before arcing into the crowd, scattering everyone, but thankfully missing everything. Gerry Glowienke's **Screaming Eagle** spun fitfully on the margin of stability before planting itself near a crowd

of spectators. Again, no harm; no foul. Finally, Larry Mika got to retire his 1/7 scale **Nike-Tomahawk** after the D12 played fireball. The resulting hard landing crimped both the Nike and Tomahawk tubes to put out of commission about 300+ hours of scale modeling work. Ouch.

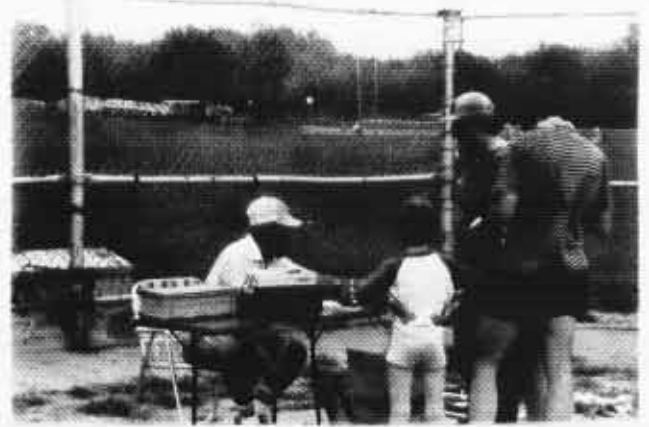
We raffled off five rocket kits and a bunch of small, styrofoam gliders. Bunny snarfed from Bruce Carey at NARAM. We also got a bunch of names to try and recruit. All in all, it was a pretty nice way to spend a Labor Day afternoon, particularly if you were a rocketeer.

A special thanks to all who helped or flew models: Ken Busby, Bullet Bob, Barb Bundick, Colan Ellingson, Devin Ellingson, David Friesema, Gary Glowienke, Jerry Glowienke, Jedi George, Bill Heipp, Steve Heipp, Rich Heipp, Scott Jones, Andy Linder, Don Linder, Donny Linder, Tim Marcy, Greg Maryniak, Maureen Maryniak, Bill Maxwell, Larry Mika, Amy Rambow, Joanne Rambow, Mark Schmitt, Ron Schwarzkoph, Mike Schwarzkoph, B. J. Tuleja, Bill Tuleja, Henry Veldenz, Ric Gaff as the Carnival Barker, Tommy P. as the RSO, and Bunny as the MC.

See you next year. Let's make the 23rd Launch even better!!!



Another happy winner!



Tom Pastrick, Ace RSO, hard at work.



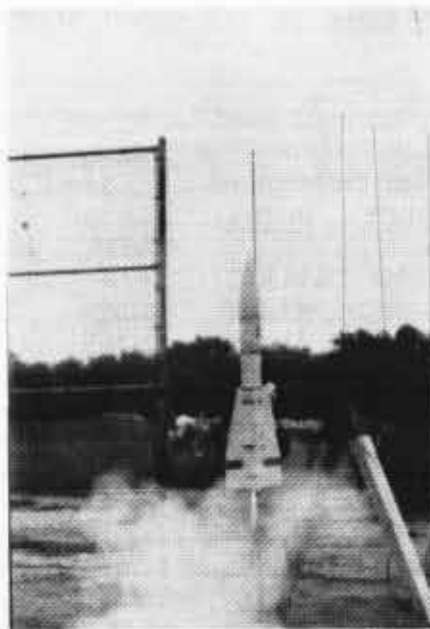
"So Harry, got any openings at CBS for a production assistant?"



Bunny calls the shots.



Larry Mika's E60 model stuns the crowd as it roars skyward.



One of the more than 100 rocket flights takes to the Glen Ellyn skies.

# VERTICAL I A Russian Payload Rocket by Bunny

While in Houston for the Nats, I visited with Rob Justis, my old teammate and twice member of the Internats Scale Team. I managed to "borrow" Rob's extensive collection of scale data. It included a lot of Communist rockets, but this one caught my eye. Its ping-pong ball payload, antennas, hatches and access panels made it so weird, it had to be built.

The "BEPTNKAJI - I" seems to be a liquid fueled, high altitude payload carrier. Note the vanes in the nozzle, the tunnel down the side and the turbine pump exhaust ports at the base. The article, in Russian, mentions "1300 KT" and "487 KM". While the latter number indicates a height sufficient for orbit, the mysterious "8-9 M/cek" gives us a number way below orbital velocity! With thrust of 23,000 kilotons, it can't be that big a rocket.

Anyway, the data presented here should get you started on one weird Sport Scale model. I've started mine, so I'll offer some comments. I used BT-60/BT-55 combination and, you guessed it, a ping-pong ball for a nose cone. It looks right, and we are talking Sport Scale. When I get through installing the Ping Pong Ball, I will add noseweight. The fins are very small.

Fins will be made of three thickness of .03 sheet plastic with the tapered edges done in Hobbypoxy "Stuff", sanded down to the correct wedge shape when dry. The tunnel shown along side the booster will be Plastruct tubing, though you could use the traditional wooden dowels. Other bumps and protuberances will be spruce.

For hatches, I'm using .010 sheet plastic with rivets simulated with a pin. The turbine pump exhausts come from an 1/8 dowel sliced at

an angle. The booster is covered with weld lines running around the circumference. I'm applying strips of mylar to simulate those.

The payload had a multicolored flag on it, presumably because many nations lofted payloads it. Barb translated the color chart for me. I've got enough decal sheets to kill a horse, and should be able to simulate the flags by cutting bits from those sheets. And I have red rub-on letters for the "BEPTNKAJI - I" down the side.

A B4-2 should do for starters, and then, if it's stable enough, a C6-5. The model is pretty small, even at 1/40 scale. Don't want to lose it at Ackerman. I'll also be using a 3/16" rod, mainly because I'm worried about the stability of this thing with those small fins.

I always thought Sport Scale was an event to get us building the weird rockets we wanted to fly in scale, but couldn't get the data on. "BEPTNKAJI - I" certainly fills the bill. I'll be back with a flight report next spring. And thanks to Rob and the Federation of Rocketmodelers of Bulgaria!

	Actual Dimensions		BT-60	BT-70
	Meters	Inches	Version	Version
Scale Factor			40.964	30.040
Overall Length	21.250	836.400	20.418	27.843
Main Motor Diameter	1.660	65.338	1.595	2.175
Upper Motor Diameter	1.400	55.104	1.345	1.834
Payload Diameter	1.600	62.976	1.537	2.096
Upper Motor Length	2.500	98.400	2.402	3.276
Transition Length	2.400	94.464	2.306	3.145
Main Motor Length	15.250	600.240	14.653	19.981
Payload Length	1.100	43.296	1.057	1.441
Fin Root Length	1.400	55.104	1.345	1.834
Fin Span	1.070	42.115	1.028	1.402
Lower Fin Break Point	0.350	13.776	0.336	0.459
Fin Thickness	0.060	2.362	0.058	0.079
Lettering Height	0.800	31.488	0.769	1.048
Lettering Width	0.600	23.616	0.577	0.786

# ПАКЕТИ „ВЕРТИКАЛ—1“





# SHOOTING STAR - 10

A QUITE DECENT  
TOTALLY VISUAL  
REPORT, I MUST  
SAID



Secret NIRA photos reveal Al Nienast's recovery secret.



Belker watches as Bob hot stuffs his finger to his model.



"I plan to fly with a B4-2, and 18" Estes photo.

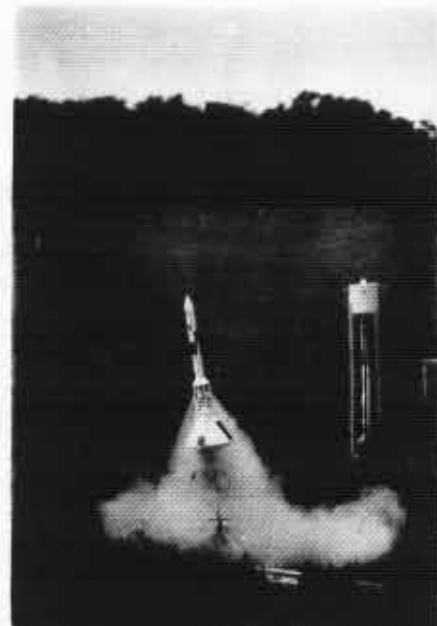


The DRUG Team's Sport Scale Aerobee 350.



Don Linder's Sport Scale Titan ready for launch.





"Since I didn't find apogee-perigee numbers, I assumed it wasn't orbit capable."

Liftoff! (or Abort?)



Tom Beach and the Sudden Impulse Team's unique Sport Scale Little Joe capsule.



"If this sucker works ..."



Bob and his fine HD model did quite well this contest season.

(Editor's Note: Bunny copied this useful article from the COMPUSERVE's "ModelNet" Bulletin Board. Thanks to Bunny and Fred for a really helpful article. - Jedi)

After some extensive testing, I have found a set of super glues (alphacyanoacrylates) that really do a job for 1/2A to C powered model rockets. You'll find different brands of super glues at your local hobby shop. Basically, they all come in three grades: thin, gap-filling, and thick. Some common brand names and grades include:

THIN: Zap, Hot Stuff, Jet

GAP FILLING: Zap A Gap, Super Jet, Hot Stuff Super T

THICK: Slo Zap, Slow Jet, Hot Stuff Special T.

ACCELERATORS: Zip Kicker, Hot Shot, Jet Set.

I used products made by Pacer Technology: ZAP CA, ZAP A GAP, SLO ZAP, ZIP KICKER and Z-7 DEBONDER.

ZAP CA is the most familiar kind of quick drying glue. Applied sparingly to parachute shroud line connections, it virtually eliminates recovery failures. I also use it on shock cord knots to prevent them from coming loose, or to make a quick fix if the rubber breaks. When assembling engine mounts, I use ZAP CA to "tack" pieces together once I am satisfied with their positioning. It has also been used to fix broken fins in the field.

ZAP CA's main disadvantages are drying too fast on items needing adjustment, e.g., fins, being very brittle, failing to bridge

## SUPER GLUES FOR MODEL ROCKETRY

by Fred Fischer  
COMPUSERVE ID# 70655,404

gaps in joints, and bad adhesion when applied in quantity to porous wood and paper. It sounds

contradictory, but I must point out that ZAP CA does have its uses in limited areas and circumstances.

SLO ZAP is better suited for many jobs in assembly. It takes 2 to 5 minutes for SLO ZAP to set. You have time to position each piece precisely. I use it for launch lug placement, building engine mounts, assembly of nose cones and scale fixtures, and making permanent repairs "back at the base". SLO ZAP is a little thicker in density and adheres well to porous materials.

ZAP A GAP helps do the big jobs of reinforcement. On fins and lugs, I use it instead of white glue fillets. On engine mounts, I use it as the primary glue for assembly and reinforcement on tubes and centering rings. Wherever a space needs to be filled, ZAP A GAP fills the bill. I have even used it to fill gaps and scratches in plastic for smoother finishes. However, it is difficult to sand and requires a good deal of effort to polish it properly on plastic.

I noticed that once I have achieved a good fit with SLO ZAP or ZAP A GAP, I sometimes bump the pieces out of alignment. ZIP KICKER is a curing accelerator for all of these glues. It comes in a pump spray bottle for easy application. A light mist on the joint will cause instant curing of the quick glues. It's a real time saver when you are working to finish a model on a deadline!

Z-7 DEBONDER remove dried quick glues from work surfaces and your skin. If you don't like the work you just did or you accidentally attach yourself to the model, this stuff will save the day.

Another advantage of using these glues is their light weight. I built two Estes Alpha III kits, one using aliphatic glue and the other using all of the aforementioned glues. The quick glue rocket ended up after painting about 1/2 oz. lighter than the conventionally built rocket. It translated into flights that were on the average about 10% higher in altitude using simultaneous launches and engines from the same package. It may not seem like much, but for contests, that can be a winning edge.

WARNING ABOUT ALL OF THESE GLUES!!! They can cause eye irritation and can bond body tissue in seconds. Don't ever open a bottle of these glues while looking down the spout! If you should get glue on or around your eyes, do not use the Z-7 but instead flush the area with water and seek medical attention. (I always wear goggles when I use these glues. - Bunny) If you should glue your fingers together, the Z-7 will break down the glue. In any case be sure to wash your hands when done using these glues.

These quick glue products can be bought at hobby stores, predominately in radio control hobby shops. I hope this study and tutorial is informative and useful for all small scale model rocketry. I hope to do testing on D to F engine kits next year. Please address your comments and suggestions to me via Compuserve's EASYPLEX Electronic Mail.

## NIRA ELECTIONS

At the November meeting, the club began its annual election process by opening nominations. Nominations will also be accepted at the December meeting, so keep those thinking caps on, folks.

A ballot will be printed and distributed prior to the January meeting to allow members to vote by mail. The current nominees are:

### PRESIDENT

Tim Marcy

### VICE-PRESIDENT

Ric Gaff

Tony Lentini

Tom Pastrick

### SECRETARY/TREASURER

Bullet Bob Kaplow

Don Linder (the Elder)



Bunny and Barb at home on the range.

## NIRA NEWSLETTER EXCHANGE NOTICES

The following newsletters have been received by ye olde editor since our last issue. Thanks to these sections and hard working editors for exchanging with the **Leading Edge**: SNOAR News (SNOAR), Midwest Rocketeer (WWAR), and WARP Rocket Report (WARP). T-5 (HUVARS)



NIRA salutes flying food containers.



Pat Peterson and the DRUG Team's ugly-roc.



Belker licks her chops at all the tasty rockets.

SEE HOME-

LIFE IN THESE  
PARTS SURE ARE DIFFERENT  
NOW THAT THOSE DAG-  
NAP ROCKETEERS  
MOVED IN.

I'LL SAY WHAT  
THE HELL IS THAT  
THING? DOES IT EAT  
MUCH? DOES IT MAKE  
A LOT OF NOISE? WHERE  
THE HELL DID IT COME  
FROM?



SHORT HAVEN'T THEY  
EVER SEEN A FLYIN' ROLL  
BEFORE? I GOT ALL MY ROCKET  
SUPPLIES FROM THE GLEN ELLYN  
TOY + CARD SHOP 476 MAIN  
IN GLEN ELLYN MY DADS  
WOULDN'T HAVE IT ANY OTHER WAY



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