

Club News and Notes

(Flying) Field of Dreams – Ken Hutchinson has an article on page 8 about the field search. At this point, we are planning on holding the July launch at East Branch, but Ken still hasn't heard back from the Forest Preserve on this idea. Hopefully this will be known by the July meeting. No matter what, information should be on the NIRA website and on the infoline when plans firm up.

As was discussed at several meetings, the East Branch site isn't perfect and while NIRA will discuss other sites with the Forest Preserve it would be a good idea for all members to be on the lookout for possible fields. As we've found out yet again, a second field would be handy at times.

Anyone who has a possible non-Forest Preserve location should let Rick Gaff or Ken Hutchinson know about it.

Hobby Show – For the past many years, NIRA members have run the Rocketry Make-It-Take-It booth at the International Model and Hobby Show (formerly known as RCHTA).

Several times in recent years, the club has helped to make over 1000 rockets on the weekend that the show is open to the public. Last year, the show moved to early September and, possible as a result, we helped to make only about a thousand rockets.

This year, in yet another change, the show is shortening both the number of industry only days and eliminating one of the public days. This year the show will only be open to the public on Sunday, September 8th. The show's website (<http://www.ihobbyexpo.com>) does mention the Make-It-Take-It booths, but obviously there will be changes to how NIRA is involved with the show.

Park Forest R/C and Rocket Demo – The last issue of the Leading Edge mentioned the annual r/c and rocket demo put on by the Suburban Aeroclub. At the May meeting, John Boren (a NIRA and Suburban Aeroclub member) updated us on the status of the show.

At this point, the show will be definitely at a different location, if it's held at all. The hobby store that sponsored the demo has been sold and the original flying site has also be repurposed.

John will hopefully be able to provide final information at the July meeting. The original date for the demo was July 20th.

(Club News and Notes continued on page 11)

Joint Statement on ATF Litigation May 23, 2002

On April 30, 2002, a hearing was held in the Federal District Court for the District of Columbia, Washington DC regarding the NAR and TRA's request for a preliminary injunction against the Bureau of Alcohol, Tobacco, and Firearms (ATF).

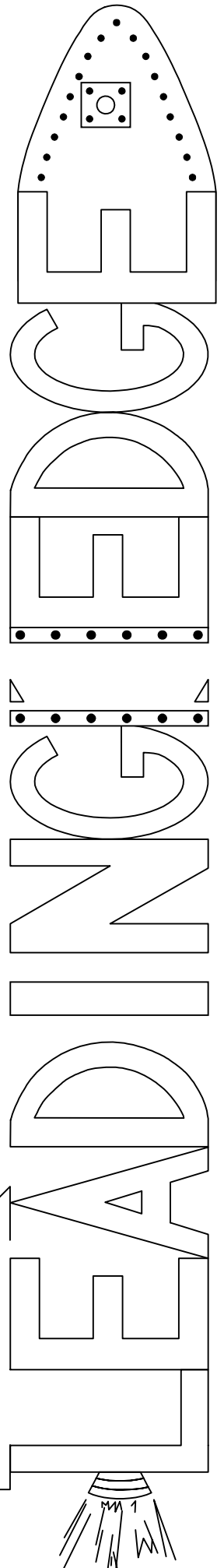
A preliminary injunction motion is one of the more difficult motions to win in Federal court. These motions ask a court to stop a government agency, technically empowered by Congress to do a job, to stop doing something because the agency is acting contrary to governing law. Courts are extraordinarily careful to review these motions before granting them. In order to win such relief from the court, the plaintiffs must establish that they face irrefutable actual and immediate harm from an agency's action, that such harm outweighs any harm to the agency if the injunction should issue, that the public interest warrants issuing an injunction, and that the preponderance of evidence is that there is a strong likelihood that the plaintiff will win the pending court case on the merits of that case.

Our counsel made strong pre-hearing arguments on both points in their document filings. In addition, they argued a strong persuasive case in court. In fact, during the court argument counsel brought into the court room actual used rockets and an EZ-Access kit to specifically demonstrate what ATF is trying to regulate. It was clear that Judge Walton better understood our positions and the difficulties being faced by our hobby. He sympathized with our plight, i.e. that is that the hobby is being over-regulated by ATF apparently beyond its statutory authority. However, Judge Walton unfortunately denied our request for an injunction because he did not believe that our harm was sufficiently great especially in the near time frame that this case will be decided on the merits. In essence, the Judge signaled that we appear correct on the law, and that he will rule quickly when our final papers are filed, but for now he did not want to tell ATF that it must stop regulating our hobby.

We believe the next phase in our case will be to receive from Judge Walton a ruling on the ATF's motion to dismiss the lawsuit. We believe that ruling forthcoming in the next 30 to 60 days. The next step beyond that ruling would be a ruling on motions for summary judgement, which are scheduled to be filed by ATF and NAR/TRA over the course of the next 2 months. Assuming that matters proceed beyond that point, the court would move next to the trial phase if we do not succeed in our summary judgment motion, or if we win on summary judgment then it's up to ATF to comply with the Judge's order or to appeal to a higher court.

Our counsel has done a tremendous job in preparing for and pursuing this case. Our thanks to Joe Egan, John Lawrence and Marty Malsch for their extensive legal preparation and for the hospitality

(Joint Statement continued on page 10)





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THE LEADING EDGE is published bimonthly by and for members of the Northern Illinois Rocketry Association (NIRA), NAR Section #117, and is dedicated to the idea that Sport Rocketry is FUN!

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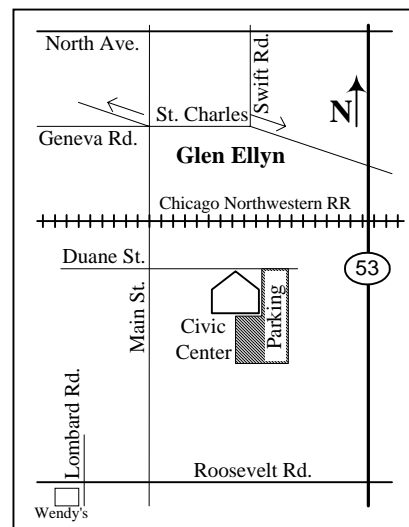
CLUB MEETING DATES

All meetings start at 7:30 pm. Bring a model for 'Model of the Month.' We always need volunteers for pre-meeting lectures, contact Rick Gaff if you want to schedule a date. The location is usually the Glen Ellyn Civic Center, 535 Duane Street (check the board in the lobby for the room number).

July 5

August 2

September (time and/or place to be determined)



CLUB LAUNCH DATES

Launches are BYOL (bring your own launcher). Call the NIRA infoline for pre-launch information: 630-830-1587.

As the article (and map) on the front shows, our new launch field is probably East Branch Forest Preserve but the arrangements are not final at this time. **Please** call/check the website before coming!

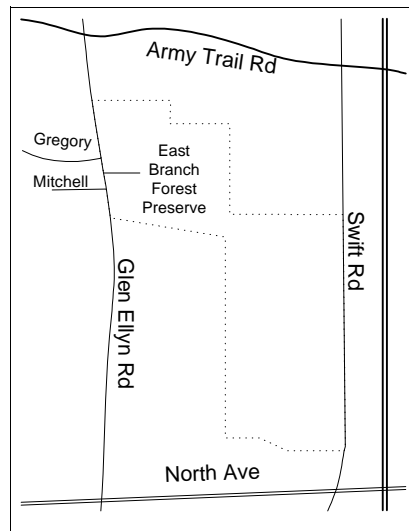
July 21, 2002 - Location: TBD

August 18, 2002 - Location: TBD

September 15, 2002 - Location: TBD

October 20, 2002 - Location: TBD

November 17, 2002 - Location: TBD



Model of the Month Winners! (photos by Jeff Pleimling)

April – Cody Pinchot wins the youth category with his Estes Bullpup while Todd Bavery took the Adult category with his Binder Sprint.

May – Victoria House with her winning scratch built, D engine cluster 'Broadway Flyer' and John Boren with his Starship Excalibur clone.

April Showers... by Ken Hutchinson and friends

...bring May flowers. May showers just get your rockets wet! NIRA has become semi-nomadic due to the loss of our normal flying field at the Greene Valley Forest Preserve. We have been relying on the good graces of our friends at the Beaver Run Sod Farm way up in Harvard Illinois to keep us going in the interim. In spite of their help the April launch was washed away by the fuel for those May blossoms. The May launch turned out a little better. Never warm, occasionally wet, sometimes calm, sometimes windy, May 19, 2002 wasn't the poster child for the lovely spring weather we expect from the fifth month. It was exactly the sort of May day that convinced us years ago to move MRFF from May to June!

I arrived late, as usual, to find the launch in full stride with around 30 people on the field. I ran into our newest member (he joined on the field), **Jeff Spidle**, almost immediately. He was in the process of letting Cally Soukup borrow his launch pad to fly a Fat Boy, I think. The rocket hung up on the pad and burned a hole through the blast deflector. What a nice NIRA welcome for Jeff! Actually the motor may have been a partial cato, the rocket did eventually leave the pad, went up about 50 feet, and the ejection charge went off as soon as the thrust stopped. Jeff went on to make several nice flights, he even remembered to put a parachute in for the second flight of his Orbital Transport clone! Jeff has also raised the bar for all the rest of you new NIRA members, he brought coffee and donuts for everyone!

Cally wowed the crowd by flying a Saint Louis Arch. An SLA isn't so much a rocket as the combination of a rocket and one or more rolls of crepe paper or in this case ribbon. The ends of the ribbon are taped to the rocket's fins. The rolls stay on the ground (more or less) and the unwinding ribbon trails behind the rocket forming a lovely arch as the rocket arcs over under the added drag. As Cally discovered it really only works with new ribbon from a factory wound roll. If



Cally Soukup and the grounded results of a "Saint Louis Arch." (Ken Hutchenson photo)

you attempt to reuse the ribbon by rewinding it on the roll you end up with an ugly wad chasing your rocket around the sky.

John Boren returned as a NIRA flyer after an absence of fifteen or twenty years. He had a nice flight with his upscaled Centuri Point. The tree that was kind enough to catch it for him on the way down was also gracious enough to give it back. **Bob Wiersbe** didn't find one of John's other flights as amusing though. In Bob's own words "You also missed the 'flight' of John's Perseus II. Two D motors, one of which catoed on the pad and the other which worked and tried to lift the stricken vehicle into the sky (kind of hard to do when the parachute has already deployed). To add injury to insult, the rocket decided that it would smack into my nice, new van before the working D blew its ejection charge. It left several very nice white streaks on the green paint (hey, John does a good job finishing his models!). Someone found the motor casing, so hopefully John will be able to get replacement motors and a new kit from Estes. Me? I'm waiting for a replacement van from John!"



Bob Wiersbe's C11/E9 two stage rocket. (Ken Hutchenson photo)

Bob treated us to several nice flights of his own using the new Estes E9 and C11 motors. If you are as out of touch as me you haven't heard of the C11 yet either. It is a D12 with only enough powder to make C class total impulse. Great for getting a big load moving. Bob had a stunning flight with a two stage rocket using a C11 booster and an E9 upper stage. Black powder doesn't get much better than this! My own efforts

to imitate Bob were foiled when I found the Estes E9's would not fit the motor tubes in my Estes Impulse. Grrr, maybe they will shrink a little on a less humid day. Anyway, Bob says it is the first launch in almost two years where he has actually flown a rocket. Let's hope he doesn't go two years before flying another one.

Rick Kramer brought out a nice collection of odd-rocs. Food containers of all shapes and sizes darted this way and that, all afternoon. It was a great day for them, they tend to be impervious to water. Check out the "I can't believe it's not a rocket" aisle of the local supermarket. Throw in a few AOL CD-rocs, season lightly with a couple of spool-rocs, and you have a very entertaining afternoon. Don't worry, Rick brought some tube fin rockets too, for desert!

John Hojek's daughter had a problem with one flight of her Alpha. It went up about 20 feet and took a sharp turn to complete its mission cruise missile style. As Rick Gaff observed "You don't see that happen with an Alpha very often." Dad blames thrust vectoring from a partially melted



John Boren's upscaled Point at liftoff (with John in the background) (Ken Hutchenson photo)

motor nozzle, daughter blames dad for touching her rocket before the flight. We don't know how the Hojek's will resolve the dispute but the rest of the afternoon went well for them.

Todd Bavery was flying with us for the first time. He got perfect flights from his Horizon, Diablo, and Canadian Sprint. Todd claims to be all set to try for his Level 1 certification. Mat Miller's Initiator didn't do as well. It flew just fine and then landed on a power line on the way down. If the wind and the power line can chew through the shock cord before the rain has too much time to work on it perhaps the farmer can retrieve it relatively intact. Let's hope. **Charles Hammerslough** should have arrived on the field with the nagging feeling that he was forgetting something. As he unpacked his long winter's harvest of new and restored rockets he realized that his motors were still at home. Jeff and Cally lent him some propulsion while Rick Gaff supplied a pad so the day turned out fine in spite of the oversight. According to Charles "My 6-year old daughter Shira, and my friend's 3- and 4-year old girls have been talking about rockets nonstop since Sunday."

Martin Schrader squeezed in a few flights after he was done impressing people with his PVC pipe rocket stands. He had just finished tweaking the nose of someone who's rocket had hung up on the rod when his Flat Cat did the same thing. Martin was saved from ignominy when another boost glider did likewise moments later. Apparently wind acting on the large lateral area of the boost gliders rather than sloppy launch rod cleaning was to blame. Martin reloaded the Cat and got a fine flight out of it. He also had a boiler plate version of a new scratch built fantasy model, the Space Truck. It was the last flight of the day and had a perfect boost but then failed to eject a parachute. The engine kicked. Steve Piette and Adrian Butler each provided some excitement by flying street legal H powered models. I put up a couple of old things after giving up on the E9's. My first "high power" model, an ancient Phantom 1800, made its last flight on a F20. The nosecone bashed a large soft

(April Showers continued on page 11)

Project Orion: The True Story of the Atomic Spaceship By George Dyson Reviewed by Ken Hutchinson

What would you do with 50 million small atomic bombs and a huge steel plate? In today's international climate I probably don't want to know the answer some would give but at the height of the Cold War the answer was surprising: send a colony of several thousand to Alpha Centauri!

I don't know if Jack Hagerty's *Spaceship Handbook* covers project Orion. The flight to Jupiter in 2001, *A Space Odessey* almost used an Orion engine but Kubrick eventually decided that *Dr. Strangelove* had done enough to associate his name with the A-bomb. I first heard of Orion in the writings of Jerry Pournelle and Larry Niven. It is featured prominently in the conclusion of their joint science fiction novel, *Footfall*.

The idea is both simple and seemingly absurd. On one side of a large steel plate you bolt a crew capsule. Through a hole in the center of the plate you throw small nukes at rates between 2 per second to 1 every two seconds. When they explode you get a good solid kick in your backside. Surely you would blow yourself up wouldn't you? Contrary to expectation the answer is that you will blow yourself, well, UP! You need a pretty good shock absorber system between the plate and the crew but that could be built. The plate doesn't get blown to bits, it doesn't melt, and the best data available at the time says it won't even ablate very much. By squirting a thin film of oil over the plate between booms you can eliminate the ablation. And unlike other launch systems this one likes to be big. They talked about building smaller test versions of course but the smallest one that they considered interesting weighed 8 million pounds, half a million more than the thrust of a Saturn V!



Well known physicist and space enthusiast, Freeman Dyson, is the author's father and one of the principal early Orion researchers. Unfortunately there was a Burt Freeman also working on the project and the author rather confusingly calls them both "Freeman". The project ran from 1957 through 1965. The book covers the whole period with heavy emphasis on the first few years when the concepts were developed. The later years were chiefly a struggle for funding that ultimately failed and are rightfully slighted. There are lots of interesting bits of information in the book. The nuclear technology is covered to the extent permitted by the still classified nature of much of the

"propellant" design. These small nukes would be highly prized by today's breed of terrorist and so must be kept secret. The lives of a few of the project leaders are covered in some detail. I was surprised to learn that one of them, Ted Taylor, has a recurring nightmare very similar to one that I have. The material is covered at a level the general reader can follow which means that the technically oriented will be looking for more. There is an extensive bibliography of program documents but good luck, many are still classified.

Project Orion: The True Story of the Atomic Spaceship

Author: George Dyson
Format: Hardcover: 320 pages
Publisher: Henry Holt & Co, Inc.
Publication Date: April 2002
ISBN: 0-80505-985-7
List Price: \$26.00

NASA held the program at arm's length while it was alive. It was funded chiefly by the Air Force. The fact that it used bombs and that these guys planned to launch it from the surface of the earth made it a tough sell to a civilian space agency. Wernher von Braun didn't care for the idea at first although he became enthusiastic when he understood it fully. It remains the only known method to generate large thrust with a very high specific impulse. As a result NASA has become interested in it again recently. The mission to Alpha Centauri was considered fanciful even at the time but the concept could be quite useful in exploring the solar system. It also appears to be one of the most plausible methods of building a device that could intercept and deflect an approaching asteroid. As our knowledge of the history of life on earth has increased we have come to realize that this could be a very handy tool to have at our disposal. Modern versions would be assembled in orbit and nuclear operation started well away from the home planet. The original project team was quite serious about exploring the solar system. They expected to be on the crew for a mission to Saturn by 1970!

I think that most NIRA members will find this book interesting reading. Many will want to have it in their personal libraries. Non-rocketeers might find it a fascinating glimpse into a quasi-military Cold War research program. It is a good book but if it has a major flaw it is that it could have been a great book with more work and better organization. You should be able to find a copy in the science section of the local Barnes and Nobles, that is where I found mine. 🌟

Quest Rockets Put to Good Use by Sandra Arntzen

More than 50 Naper School students and Girl Scouts were happy recipients of a donation of Viper rocket kits. The rockets supplied were residual kits that the Northern Illinois Rocketry Association (NIRA) received from Quest Rocketry in support of the RCHTA hobby show last year.

At Naper Elementary School in Naperville, Illinois, a mini-course was held to introduce students to Military Aviation and Rocketry. According to the Mini-course organizer, it was by far the most popular course for the year. The class was limited to 20 students, however 5 additional students bypassed the lottery system by forging nametags in order to participate. Manuals and handouts for both groups were put together using esteseducator.com, a comprehensive resource of educational rocketry materials for non-profit use. A launch is being planned for this group of students, pending approval of a request to use School District property. The school-wide budget for mini-courses at Naper School is significantly less than what it would have taken to purchase necessary materials for a Rocketry class, so the donation was greatly appreciated by students, staff and organizers.

In addition to the mini-course, several Girl Scout troops at Naper School received Viper kits. The bulk of the rockets went to Daisy Troop #1701 (Kindergarten) and Brownie Troop #558 (1st Grade). The rockets were assembled and decorated over the course of several meetings. The final products were aesthetically "interesting" due to the age level of the girls, but appear flight worthy nonetheless! The troops will put their rockets to the test on June 5th at the DuPage County Council's Camp Greene Wood.

A thank you "packet" has been put together for Quest, and will be mailed once we add some photos of the June 5th launch. Thanks also to NIRA for allocating the kits, and to Bob Wiersbe for arranging their delivery! 🌟

New Flying Saucer Kits

Art Applewhite Rockets is proud to announce new 7.25" Flying Saucer Kits. These kits fly on C11-0 and D12-0 engines. They feature heavy duty engine mounts with engine hook, 3/16 Basswood fins, 110 pound card stock shrouds and simplified construction. They come in two styles, the ever popular USAF fantasy scale and a Bright White version for easy customization. Other colors and styles are available on request.

These rockets fly low and slow and are crowd pleasers.

Either kit (including Priority Mail shipping) is \$10 each.

Art Applewhite NAR#80632
Chief Rocket Scientist, Art Applewhite Rockets
www.artapplewhite.com 🌟

[Editor's note - Art allowed us to print a Micro-Maxx version of his saucer in the last issue]

**Rocket Review: Quest Tracer
(AKA - Toddler Rocketry)**
Norman Dziedzic (NAR 72426)

I found the Quest Tracer when looking for a rocket to build with my 2½ year old son, Wesley. My basic requirements for this endeavor were a simple rocket with a single colored or white body tube, a one piece plastic fin-can and a standard cardboard motor mount tube. The Tracer met all of these criteria.

The parts were packaged neatly in a bag and the included instructions were clear and concise. Besides the aforementioned parts, there were a plastic nose cone, centering rings, motor hook, kevlar shock string & elastic cord, sticker, and parachute kit included with the model.

Setting Up

There were a few steps I completed before working with Wesley. First, I assembled the plastic nose cone which required toxic plastic cement. Also, I soaked the leading edge of the body tube and trailing end of the motor mount with CA glue to harden them (CA instant adhesive is nothing you want a toddler near!). I did test fits on the rings and tubes sanding where necessary for an easy fit. I cut most of the parachute out from its plastic sheet (I left two of the six sides to do with Wesley), and finally, I cut the slot in the motor mount for the motor hook with a hobby knife as instructed in the directions. When building, however, I decided to leave off the motor hook so he couldn't scratch himself or his little sister with it. This also let the model sit on its aft edge without tipping over which is a nice feature.

One Thing at a Time

When working with a toddler, it's best to start with a wide open work area and present them with only the immediately required parts to assemble. We started with a sheet of wax paper, a couple cotton swabs and some wood glue. First he got to squirt out a big puddle of glue. Then I gave him a cotton swab and inconspicuously, put the glue bottle away as I told him to dip the swab in the glue. He held the swab as I rotated the motor mount (MMT) to make a circle of glue around the out-

side. Then he pushed a centering ring (CR) over the glue into the position noted in the instructions. This was repeated for the other CR with the addition of the kevlar shock cord being placed between CR and MMT as shown in the instructions. Then the motor mount was set aside to dry.

The fin can assembly method for this rocket is perfect for a toddler. First, you shove the fin can up onto the body tube above its final position. Then you wrap tape around the body tube and finally pull the fin can down for a friction fit. Wesley loves tape so this step was easy. It did take a little more tape than recommended but after a couple test fits and tape additions, it felt plenty strong to withstand the recommended A, B & C motors. The launch lug is molded into the fin can so that is automatically taken care of.

For assembly of the MMT into the body tube, Wesley again poured some glue and dipped the swab while I helped him position the glue inside and rotated the body tube for him. He got to push the MMT assembly into the body tube and we finalized the position by pressing the aft end of the rocket against the wax paper to make the MMT flush with this end of the body tube. Later, I put a fillet of glue around the aft centering ring/body tube joint.

Aw 'Chute

Our last assembly task was to make the parachute. As mentioned above, I left two edges of the parachute for him to cut out as he's learning to use scissors and this would be good practice. If we messed up, I have plenty of other 'chutes to use. Cutting went fine so we moved onto the self adhesive shroud line anchors. The instructions emphasize that these are meant to be stuck down once and only once. By this time Wesley was getting pretty antsy so a couple of the anchors had to be moved resulting in one stripped shroud line during the first flight. The parachute kit includes pre-cut carpet/button thread type shroud lines which I attached later since it required tying the thread to holes in the anchors and keeping the loop lengths equal.

Some final touches I made were to tie one end of the elastic shock string to the kevlar shock anchor and the other end to the loop in the nose cone. I also attached the parachute to the nose cone by placing the shroud line loops through the anchor loop and then threading the 'chute through the loops and pulling.

Relinquish Control

When it comes to decorating the model, I suggest giving up

Quest 'Tracer' Specifications:

- Length: 15.0" (38.1 cm)
- Diameter: .984" (25 mm)
- Weight: 1.38 oz. (39g)
- Recovery: 12" Plastic Parachute
- Fins: 4 fin (plastic Fin-Can)
- Maximum Altitude: 1000 ft. (305m)
- Recommended Engines: A6-4 (first flight), A8-3, B6-4, C6-5, C6-7
- Suggested Retail Price: \$7.29

all control to your toddler to give them a real sense of ownership. Besides the provided sticker, Wesley's Tracer now has been decorated with yellow paint, markers, stickers, glue drips, scotch tape and a blue feather. (The pictures shown were taken before these improvements) Al-

though we treat our models w/kid gloves to protect them, give your toddler full control and access to their model. If they "break" it, well, there's an excuse to build another model.

When practicing with scissors, Wesley decided it would be fun to cut the shock cord on the Tracer. At first I tried to discourage him but then I realized I had already told him it was his rocket. Changing the rules is very confusing and frustrating to a toddler so snip it went. It's easily fixed so no big deal.

Launch Time

Although the minimum recommended motor for the Tracer is an A6, the park in front of our house is small so I used a 1/2A6-2 for our first two flights. I also knew that Wesley had been spooked by the noise and flame of some F20 Econojets last fall so I wanted to make the launch as calm as possible.

With Wesley still a little gun shy, I had to press the button so we counted down and launched. The Tracer lumbered up to about 40 ft. with the ejection firing on the way down. As previously mentioned, one of the shroud lines became detached. Also, the 'chute didn't open due to the cold temperature and short down trip but the model is light and landed safely on the grass. A second flight was pretty much identical to the first.

Summary

This is probably the perfect rocket kit to use when introducing a toddler to model rocketry. The fin can, with the molded-in launch lug, guarantees there will be no alignment errors while the cardboard motor mount gives the toddler a chance to actually do some assembly and see how the main parts of a rocket go together. The parachute can be a little tricky with the adhesive anchors and the plastic material is stiffer than what Estes uses so cold weather can be a problem.

All in all, Wesley and I had a great time with the Tracer and I'm sure we'll be building more models together in the future. 🌟



Wesley and the Tracer he built!
(Norman Dziedzic photo)

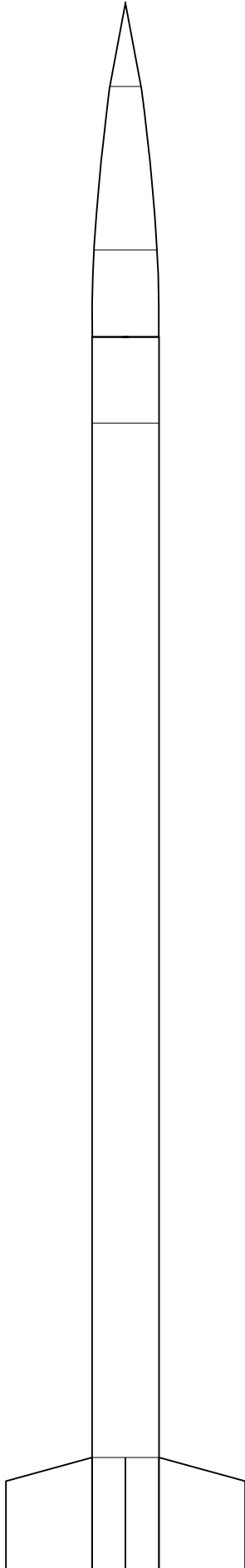


Waiting for the first flight.
(Norman Dziedzic photo)

S-310

1/7.5 scale model of the Japanese Sounding Rocket

Designed by Mark Kotolski (NAR 35707, TRA 3609), Plan #032499



Parts List:

- A. Nose Cone, LOC PNC 1.52
- B. Body tube, LOC BT 2.52 x 29.5"
- C. Centering Rings, LOC CR 1.14-1.52 (2 needed)
- D. Motor Tube, LOC, 1.14 x 6"
- E. Fins, 1/8" Plywood (4 needed)
- F. Shock Cord, Elastic, 3/8" x 10'
- G. Shock Cord Mount, LOC
- H. Parachute, 18" Nylon
- H. Launch Lug, 1/4" x 1" (2 needed)

Recommended Motors:

E16-7 E23-8 F20-7 F25-9 F40-10 F50-9 F52-8
G25-10 G40-10 G54-M G64-10 G80-10 G104-M G125-10

Prototype Specifications:

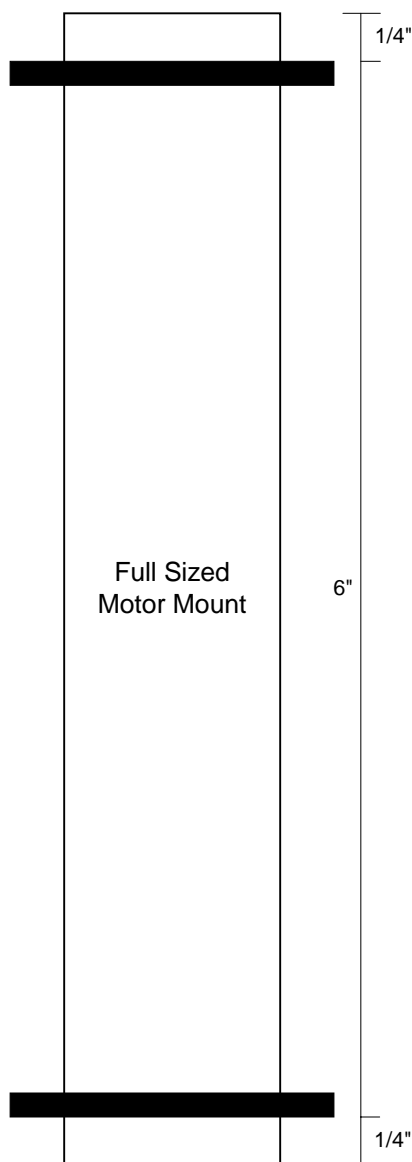
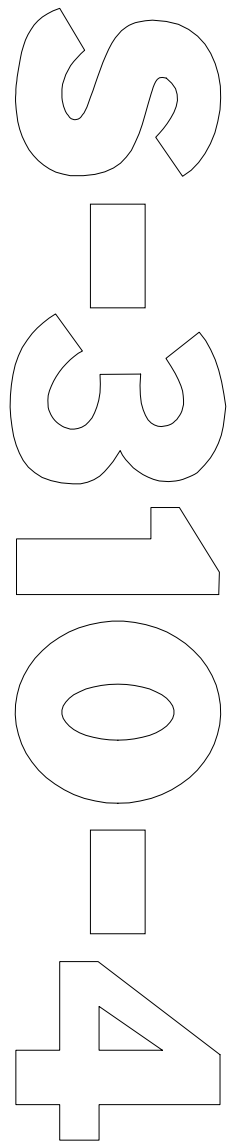
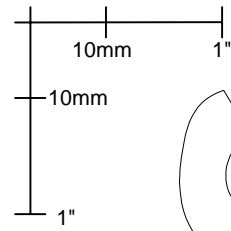
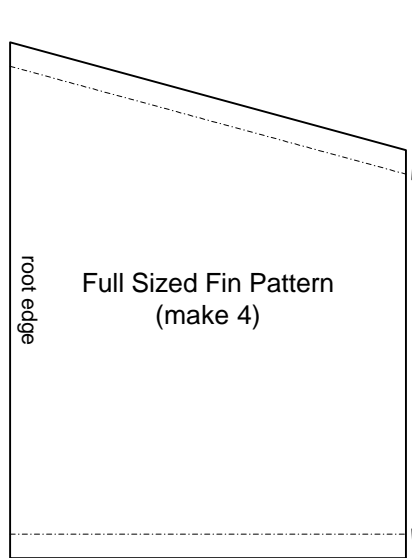
Length: 37.5"
Diameter: 1.6"
Weight: 10.56 oz.
CG: 29.6" from tip of nose cone

Construction:

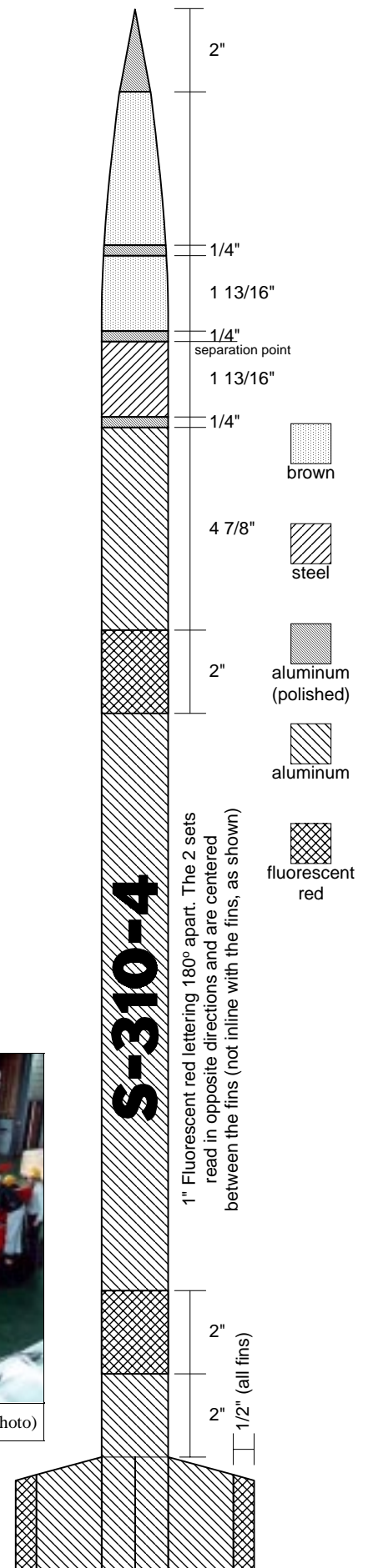
- Use the two centering rings and 6" motor tube to assemble the motor mount as shown.
- Cut the body tube to length and mark it with four fin lines and a launch lug line.
- Epoxy the motor mount in place with the motor tube end even with the body tube end.
- Install the LOC type shock cord mount.
- Cut four fins from 1/8" plywood. Sand a wedge taper into the leading and trailing edges of the fins as shown on the fin pattern.
- Epoxy the fins to the body tube.
- Epoxy the launch lugs to the line drawn earlier. Position the bottom lug 3" from the rear of the tube and the other lug 12.5" from the top of the first lug.
- Apply epoxy fillets to all fins and lug joints for strength.
- Attach the shock cord to its mount and the nose cone.
- Attach the parachute to a loop tied in the shock cord about 6" from the nose cone.
- Sand and seal the fins until the desired finish is achieved.
- Before flying, check the CG of the model. It should balance at the point, or forward of a point, 29 5/8" from the tip of the nose cone.

Painting and Details:

- Paint the entire nose cone brown. Model Master FS30117 Military Brown was used on the prototype.
- Paint the top 2" of the nose cone and the 1/4" wide nose cone bands using Testor #1181 Aluminum.
- Paint the entire booster section silver and let dry. (The prototype model was made silver by using Silver iron-on Monocoat.)
- Paint the top 1 13/16" of the body tube steel (Model Master).
- Paint the 1/4" tube band with Testors #1181 Aluminum.
- Use 1/16" wide black striping tape to duplicate the tube segment line at the top of the fins.
- Use Fluorescent red Trim Monocoat for the 2" tube bands and the 1/2" wide fin tip segments.
- Use the full size pattern of the S-310-4 to cut two sets of of the letter from the fluorescent red Trim Monocoat. This will be centered between the red bands as well as centered between the fin lines.



The 21st S-310 is prepped prior to launch. (ISAS photo)



Space Launch Report for March-April 2002 by Tim Johnson

During March-April 2002, twelve rockets blasted into orbit from Planet Earth. They included three Ariane vehicles, three Soyuz/Molniya boosters, two space shuttles, and one flight each by Atlas, Proton, Rokot, and Long March. The latter vehicle, a CZ-2F, orbited Shenzhou-3 for China's crewed space flight test program. Altogether there were nine government launches and three commercial launches.

During the period, Lockheed Martin completed its last Titan and loaded propellants into its first Atlas 5. Boeing's first Delta 4 moved to the pad. NASA focused its space shuttle replacement concepts. India tested its first hydrogen fuel engine.

Shuttle/ISS

Space shuttle Columbia flew the third Hubble Space Telescope repair mission (STS-109) from Kennedy Space Center (KSC) Launch Complex (LC) 39A on March 1. It was Columbia's first mission since July 1999. The crew performed 5 space walks to upgrade Hubble's solar arrays and optics. Columbia landed at KSC on March 12.

On March 21, Soyuz-FG No. 3 launched Progress M1-8 (ISS-7P) with supplies to the International Space Station (ISS) Expedition-4 crew (Yury Onufrienko, Carl Walz, and Dan Bursch) from Baikonur LC 1. It docked on March 24, five days after Progress M1-7 was undocked and de-orbited.

Atlantis began the STS-110/ISS-8A mission with an April 8 liftoff from KSC LC 39B. The orbiter carried seven astronauts, the 12,623 kg S0 Truss, and the 885 kg Mobile Transporter to ISS. During the flight, astronaut Jerry Ross became the first human to fly seven times into space. Atlantis undocked from ISS on April 17 and landed at KSC on April 19. STS-110 was the 13th shuttle mission to ISS.

On April 20, the Expedition-4 crew moved Soyuz TM-33 from Zarya to Pirs. Five days later, Soyuz TM-34 lifted off from Baikonur LC 1 on the ISS-4S Soyuz taxi mission. Aboard were Yuri Gidzenko, Roberto Vittori (ESA), and Mark Shuttleworth of South Africa, the second self-paying space tourist. Soyuz TM-34 docked to the vacated Zarya nadir port on April 27. The crew was expected to return in Soyuz TM-33 after several days.



Soyuz TM-34 being checked out.

(Energia photo)

Arianespace

Kourou was busy with two Ariane 44L launches and one Ariane 5G flight. Ariane 511 (V145) boosted ESA's \$2 billion Envisat environmental monitoring satellite into sun synchronous low earth orbit (LEO) from ELA 3 on March 1. It was the first Ariane 5 launch since Ariane 510's second stage failed on July 17, 2001. At 8,111 kg, Envisat was the heaviest Ariane payload to date.

Ariane 4110 (V149) boosted 1,512 kg Astra 3A and 2,600 kg JCSAT 8 into geosynchronous transfer orbit (GTO) from ELA 2 on March 29. Eighteen days later, Ariane 4111 (V150) launched 4,692 kg NSS 7 into GTO from the same pad. V150 was the 150th Ariane mission.

Shenzhou 3

On March 25, China launched Shenzhou 3 atop the third 2.5 stage CZ-2F launcher from Jiuquan. The 7,800 kg, three-part spacecraft entered a 335 km x 42.4 deg orbit. This, the first Shenzhou since January 2001, had an active escape tower and an outfitted descent module. After a retro burn by the propulsion module, Shenzhou 3's descent module returned to Earth on Apr 1. The orbital module then maneuvered to a higher orbit.

International Launch Services

International Launch Services (ILS) performed two launches. AC-143, an Atlas 2A, boosted NASA's 3,192 kg TDRS-I into GTO from Canaveral SLC 36A on March 1. It was the 60th consecutive Atlas success. TDRS-I suffered fuel pressurization problems after launch, however, stalling it short of geosynchronous orbit (GEO).

On March 30, a Krunichev Proton-K with an Energia Block DM3 fourth stage orbited Intelsat 903 for ILS from Baikonur LC 81/23. After three DM3 burns, the 4,726 kg satellite entered geosynchronous orbit.

Other Launches

On April 1, a Molniya-M launched Kosmos-2388, possibly an early warning satellite, into a 12-hour elliptical orbit from Plesetsk LC 16/2. A three-stage Rokot/Briz boosted the NASA/German GRACE gravity mapper into LEO from Plesetsk LC 133 on March 17.



Ariane 511 with the Envisat satellite. (Arianespace photo)



Shenzhou 3 spacecraft on its CZ-2F booster. (China photo)



The first Atlas V in a 'Wet Dress Rehearsal' (Lockheed Martin photo)

Space News

AV-001, Lockheed Martin's first 191-foot tall Atlas 5-401, rolled to Cape Canaveral SLC 41 on March 11 for four days of wet dress rehearsal (WDR) testing. An Atlas 5 solid rocket motor failed during a test in March, but AV-001, which does not use solids, is set for a July inaugural.

Lockheed Martin completed its last Titan 4B on April 11 in Littleton, Colorado. The delivery closes the long-running production line that assembled more than 500 Titans. Since the first Titan 1 ICBM flew in February 1959, 360 Titans have been launched, including 212 on space missions. Still to fly are three Titan 2s and five Titan 4Bs.

Boeing erected its first Delta 4 at Canaveral's SLC 37B on April 30. The rocket will endure months of testing before its first launch, now planned for late August.

India tested its first indigenous cryogenic motor for its planned GSV-3 rocket in March. The new 14,000-pound thrust third stage engine will replace the Russian RD-56M used on the first GSV flight in 2001.

Loral, Japan's last H-2A commercial launch customer, may soon cancel its commitments, leaving H-2A with only one planned government launch.

NASA focused its Space Launch Initiative (SLI) to 15 concepts on April 30. Many of the Boeing, Lockheed Martin, and Grumman-Orbital Sciences designs use two reusable stages to put either crewed vehicles or payloads into orbit. SLI has also begun to fund new reusable kerosene booster engine work. 🌟

Aardvark 2.6" AMRAAM Review by Mark Soppet

For my first high power rocket, I picked Aardvark Rockets' 2.6" AMRAAM. Its affordable price and sport scale design really caught my eye.

After opening the kit, I noticed the other features in the kit which made it a winner. The tubes are a high quality, heavy duty craft paper, and they have slots cut for the fins. If you are ordering this kit directly from the manufacturer, you have the choice of a 29mm or 38mm motor mount. Mine had the 38mm mount. My kit did not include a parachute or shock cord, but that move saved me seventeen dollars. I utilized the rocket club's resources to make my own Kevlar shock cord and obtain a parachute.

The kit does have a few pitfalls. There is no ejection baffle provided, although the experienced rocketeer will, most likely, build one from scratch. If you build the kit according to the instructions, there will not be enough room to include the recovery system. The solution is to cut the tube coupler (I reduced mine from 8" to 4") and to mount the forward fins and stuffer tube as far forward in their slots as possible. The coupler fits tightly inside the body and needs some sanding to fit properly.

The customer support behind Aardvark kits is phenomenal. When I got my decal sheet I discovered that the decals were stuck to their protective envelope, and they were yellowed and cracked by the time I peeled them off. I contacted the head Aardvark, Dr. Kenneth Johnson, about getting a replacement set.

Dr. Johnson was more than happy to help, and after a few weeks my new set of decals had arrived. In the meantime, I was able to download the Rocksim file for the model from Aardvark's website, www.aardvarkrockets.com, and locate the center of gravity and center of pressure.

However, my new sheet of decals turned out just as bad as the first one. The moment I dipped the first decal in the water, the ink started swirling off the decal's surface. I decided to stop after that one decal, and see if there was any way to salvage the other ones.

The rocket leaves plenty of room for any experienced rocket builder to make improvements. I fashioned a crude set of Kaplow Clips for the motor mount and painted the rocket light gloss gray, with a gloss white nose and dark gray fins. A rocketeer with more courage might wish to airfoil the fins or even clip the fin tips, as the Air Force has done on new-production AMRAAMs.

Aardvark Rockets 2.6" AMRAAM:
Length: 54.125"
Diameter: 2.6"
Weight: 17.774 oz
Recovery: parachute (optional)
Fins: 8 plywood (2 sets of 4)
Motor Configuration: 29 or 38 mm
List Price: \$49.00 w/recovery option,
\$32.00 without

I have flown the rocket once, but the flight was not an unqualified success. After a slow liftoff and straight boost on an H123W, the rocket ejected its parachute early. Half the shroud lines tore out of the parachute and the rocket

hit the ground. After inspecting the rocket, there was a slight crimp in the upper body tube and a cracked aft fin. It is a testament to the rocket's sturdy design and materials that the damage was so minor. It also justified my liberal use of epoxy in building the rocket.

Analysis later showed that the launch failure was not attributable to either the rocket or engine. It is another case of user stupidity. I'm just thankful that Dr. Johnson and company have designed such an impressive and tough rocket. I will repair it, and it will be flying again in the fall.

Due to the text-only instructions that are not always clear, I would not recommend this kit to a new rocketeer. But after building a few Estes "Challenge Series" kits, you'll be more than ready for the 2.6" AMRAAM. If you are entering into high power rocketry and need an imposing, military sport scale rocket, look no further than Aardvark Rockets. 🌟

NIRA's New Home? - A Field Report by Ken Hutchinson

Over the winter the DuPage FPD decided to convert our old flying field to an off leash dog park and equestrian trails. We have been using the sod farm site up in Harvard as a back-up so far this year. Members of the field search committee recently met with FPD ranger Al Gorski to discuss arrangements to fly at the East Branch Forest Preserve. East Branch is a little northeast of our monthly meeting location, the Glen Ellyn Civic Center. It lies between North Avenue on the south, Army Trail Road on the north, Swift Road on the east, and Glen Ellyn Road on the west (see the map on page 2). It will be a good site for rocket flying although new NIRA members will have to learn a skill we older types last used when we flew at Community Park in Lisle. The new flying site is adjacent to a large water hazard (i.e. pond).

NIRA members who would like to look the site over are welcome to since the park is open to the public. Park in the paved lot whose entrance is off of Glen Ellyn Road just south of Army Trail. You will see a barn to the south, you want to head for the barn. Don't hang around the barn, the house, or other nearby buildings. They are posted No Trespassing. The flying area will be located on the top of the grassy knoll a little southeast of the barn. Once we get final approval to use the site we will enter through the farm entrance which is a little south of the presently open entrance. Currently it is chained shut so don't try to use it now. There is a parking area on the south side of the barn which we will use and the FPD will bring in a chemical toilet for us.

These arrangements are still contingent on final approval from the FPD administration. While we expect to fly there for our July launch, members are advised to check the web site at www.nira-rocketry.org for any last minute change in plans. How 'bout June? Presently we hope to return once more to the sod farm for a two day launch with an active waiver and who knows, maybe even nice weather. People who can't make the July meeting should check the web site again in case these plans have to change. 🌟

Igniters Made Easy by John Boren

Today was my first experience making my own igniters using the Unique Rocketry system method.

I received my small bottles of chemicals second hand so the Conductive Igniter Primer and Igniter Man Pyrogen were all dried up. A little Acetone and we were in business. In fact I'm sure I thinned them both out too much but I still ended up with nicely coated ends.

The one thing I learned real fast, was the fact that taking a pair of wire cutters and stripping off the ends of the twisted wire pairs is for the birds. I told myself there has to be a power tool way of doing this. Within five minutes I had the answer. To the rescue came my Flexible shaft Dremal Tool and the small metal wire brush wheel bit. This is the bit that is about the same size and shape as a Cut Off disk bit, but is instead made of a very fine wire brush.

To easily strip the installation off the ends in only about five to seconds do the following. Hold the Dremal Tool, or better yet the end of the Flexible shaft in one hand vertically. Turn on the tool and set it's RPM to at least half speed. Grab a piece of twisted wire pair and simply push one end into the turning wire brush. It takes no more than ten seconds to completely remove the insulation from the end of the wire no matter how tightly you have them twisted. After a few attempts you will find your own technique on how to position the twisted wire pair against the spinning brush.

I completely removed both ends of thirty twisted pairs of wire in less than ten minutes without nicking or cutting through the wire, or without messing up the twisting in the wire. For my igniters I used 30 AWG wrapping wire but I've also tried my method with phone wire and the insulation doesn't have a chance against the mighty wire brush.

The last thing I tested during my first making of igniters was to see what would happen if you dipped the end of a Copperhead igniter into the Pyrogen. I can only say it's the difference between Night and Day. Happy ignition. 🌟

Confused Stages – Stage 25

by Jonathan Charbonneau

You have finished your rocket. Painted carefully and went through the trouble of aligning the decals well. You must feel proud about the work you put into building and finishing your rocket and look forward to flying it.

You anticipate the first flight. It's in your mind, you can just see it take off on a plume of flame and/or smoke and race into the heavens at more than 300, 400, 500 or 600 mph. Perhaps super sonic! *But wait a minute!* Have you given any thought about that rocket's recovery system!? Real thought!? This is what this stage is about.

As important as it is to design the rocket to withstand the rigors of flight, it is equally important to equip the rocket with a recovery system that is well constructed and properly matched to the rocket. You want to get it back. And you want to get it back undamaged, so that you can fly again, and again, and again ...

The first step is to choose a recovery device. There are seven basic types: featherweight, tumble, break-apart, streamer, parachute, helicopter and glide. It is beyond the scope of this article to go into detail about each of these, but I will go into detail on parachute and streamers as these are the most commonly used.

Streamers:

Streamers are often used in smaller sized rockets and in rockets that fly extremely high. The pros are: they're easy to make, can fit into a minimum of space, inexpensive and minimal drift. Cons: harder to see at higher altitudes, cannot be used on large rockets or with heavy payloads.


Streamers can be made from crepe paper, plastic, mylar, tracing paper or rip-stop nylon. Streamers included in kits may be of any of these materials depending upon the manufacturer. Tracing paper is good for streamer duration events but requires

(Joint Statement continued from page 1)

in welcoming us to Washington, DC. And our thanks to Elaine Coppage at Egan and Associates for her work in making our administrative arrangements.

As always, we appreciate the comments, input and support of NAR and TRA members in this fight. If you want to see this effort continue, you can make donations online to the legal fund. Your contributions are absolutely essential for our effort to succeed. We urge you to make a donation to the Legal Defense Fund today, in whatever amount you possibly can contribute. Your support and generosity will be recognized and acknowledged, and you'll be able to say "I supported the fight for an unregulated sport rocket hobby".

As we have further developments, we'll report them here and in our publications, as soon as possible.

Mark B. Bundick, NAR President
Bruce Kelly, TRA President 

frequent replacing. Mylar is tricky in that it's strong if cut cleanly but tears easily if cut jaggedly or sloppily. Plastic is durable but sometimes doesn't deploy properly. It develops a memory after sitting in the rocket for a long time. Rip-stop nylon is the ultimate in strength and durability, but due to its thickness, it is difficult to fit into a smaller airframe.

Parachutes:

The parachute is by far the most used of all the different types of recovery devices. It is the most effective at slowing the decent of a load to a soft landing. Leonardo DaVinci was the inventor of the parachute.

Parachutes are made of plastic (Estes), mylar (The Launch Pad) or rip-stop nylon (Aerotech). The pos and cons of these materials are the same as with streamers made of these materials.

Some parachutes have spill holes. A spill hole can provide a more direct descent and/or reduce the swaying motion. Some parachutes are 'X' shaped. This shape is another way of reducing sway and/or drift. The best way to reduce drift is to fly on calm days, because given the altitude at ejection, the amount of drift is directly proportional to the speed of the wind. The reduced drift of parachutes with spill holes is due to the decent rate being faster. The same is true of 'X' form parachutes.

Spill hole and 'X' form 'chutes are none-the-less better shapes because the rocket doesn't sway very much under either of these. Less sway equals less damage.

2 Stage Recovery:


2 stage recovery is a recovery technique used in high performance rocketry. A rocket that is

equipped for 2 stage recovery has 2 recovery devices: a drogue which is ejected at apogee and consists of a streamer or a small 'chute and a main which is ejected as a pre-determined low altitude. The drogue allows the rocket to descend fast but under control, minimizing drift. The main provides a soft landing.

A rocket using this method requires a timer or altimeter with 2 output channels. This is therefore complex and should only be attempted by rocketeers who know how to use timers or altimeters successfully. It is worth learning because it does combine the pros of a fast descent with the pros of a slow and gentle descent.

One way to gain experience is to have a timer or altimeter deploy the rocket's 'chute at apogee and have the second channel eject tracking powder, confetti or some toy parachute (Aeromax 2000) at a predetermined low altitude. When doing this, use the engine ejection charge as a backup for the rocket's 'chute just in case the timer or altimeter fails.

Most important! Always be sure to do your best as constructing and installing the recovery system well. Don't take short cuts as they can and often do lead to disaster. If in doubt, err on the side of safety. Make sure the recovery system is robust enough to handle the stresses it is expected or anticipated to undergo. If you have any questions about whether or not a particular parachute or streamer is right for your rocket, do not hesitate to ask an expert.

Keep on flying and always follow the NAR safety code. 

Press Release: Pro150's Ready for Certification

Cesaroni Technology Incorporated (CTI) is pleased to announce the development and successful test firing of the first Pro150® "O" class reloadable motor system. Originally developed for a commercial research contract with Blacksky Corporation, the HPR version of this professionally engineered product will set a new standard for the sport rocket industry with design and construction techniques normally only seen in large motor systems.

The first of these motors scheduled for certification firing, the O5100, is the smaller of two systems to be offered, using a three grain set containing 29.2 pounds of propellant. Performance specifications are as follows:


Motor type: Pro150® O5100-P
Initial weight: 52.3 pounds
Propellant weight: 29.2 pounds
Initial thrust: 1400 pounds
Peak thrust: 1465 pounds
Total impulse: 6754 pound-secs (30045 Ns)
Burn time: 5.9 seconds
Specific impulse (delivered): 231 seconds

The propellant grains use a combination of traditional center-perforate construction, with tri-form neutralizing slots running the length of the

core to boost initial impulse and create a more regressive time-thrust profile. This motor delivers lots of thrust off the pad for safe launch velocities with large heavy vehicles, then gradually regresses to reduce dynamic stresses and lessen the chance of separation at burnout.

The larger four grain version of this motor will produce total impulse close to the HPR limit of 40,960 Ns, with a similar burn time. Longer burn variants are planned for later release. It was believed that the primary use of these motors will be in extremely large and heavy rockets flying to moderate altitudes and thus this high thrust series was scheduled for the first certification tests and delivery.

These motors will be offered through a limited distribution network, as it is important that they are only purchased and flown by those capable of launching them safely and at appropriate launch sites. CTI will custom anodize the castings in any available color, and will begin accepting pre-orders immediately in order to plan production. Delivery of first articles is scheduled for mid to late summer.

Retail prices for Pro150® motor hardware and reload kits will be released soon. 

Welcome to the Club!

Grace Dziedzic and Jeff Spidle have joined NIRA in the past few months. Welcome to the club!

If you've joined recently and I somehow missed your name, please let me know! 🌸

BSD Rocketry Moves

(ROL Newswire) -- BSD High Power Rocketry is moving to Arizona! Production and ordering will move to Glendale, Arizona effective June 1, 2002 in order to better serve customers and dealers.

Expect a two week delay on any order placed at this time, until production is back up and running in Arizona. Any orders received in the Washington location will be forwarded to the new location.

Mark Saunders is the contact in Arizona for dealers and customer orders. He can be contacted at info@bsdrocketry.com. BSD founder, Scott Binder will continue providing technical assistance to BSD customers at scott@bsdrocketry.com. Both Scott and Mark will continue travelling to launches with the BSD display booths throughout the 2002 launch season. Plans include a booth at LDRS 21 in Amarillo, TX.

BSD High Power Rocketry can be reached at (623) 486-5655. The new address is
P.O. Box 5487,
Glendale, AZ 85312.

Visit BSD's website at
www.bsdrocketry.com 🌸

Editor's Ranting and Ravings

Not a great name for a section, but this stuff isn't really news, just stuff I want you to know about.

Deadline for Next Issue - the deadline is the NIRA meeting in July (the 5th). This is the normal deadline - the meeting day for the 'cover month.' If you're not done by then, let me know and I can work around it until you're finished.

I would like to get the July/August issue out as soon as possible (to get the field location to members), so please get your articles in as soon as possible!

Tardy Issue - and I do mean this one... I'm sorry for the lateness of this issue (I try to have them done by the end of the first month, not the second) but a combination of vacation, work and a lack of articles conspired to make this issue the latest I've put out as editor.

If I have the articles, I hope to be back on track for the July issue. As I said above, I'd love to have the next issue in your hands by July 21st - the date of our next launch.

The Leading Edge needs Articles - This should go without saying, but almost all of the articles for the Leading Edge are written by NIRA mem-

(Club News and Notes continued from page 1)

4-H Judging - Every year, the Kane County 4-H asks for NIRA's assistance with the judging of model rockets as part of the 4-H program. This year, they need judges on July 8th and 15th.

If you are interested in helping out with the judging, please see Rick Gaff or Bob Kaplow.

NIRA Donates - At the April meeting, the members in attendance voted overwhelmingly to give Victoria House a \$100 donation to assist with her upcoming Youth Ambassadorship to France and England.

Victoria is a long time NIRA member as well as winning many Model of the Month contests.

April Model of the Month contest -
Cody Pinchot - Estes Bullpup (Youth Winner)
Todd Bavery - Binder Sprint (Adult Winner)
Martin Schrader - 'Pretty Kitty' highly modified Quest Flat Cat

Joe Franck - PML Tiny Pterodactyl
Bob Kaplow - Ayatollah Potatohead
Jonathan Charbonneau - VB Extreme 38
John Boren - cloned Centuri Saturn IV

May Model of the Month contest -
Victoria House - 'Broadway Flyer' (scratch built cluster rocket) (Youth Winner)
Luke Bretscher - PML AMMRAM
Elizabeth Bretscher - Estes Sabre
John Boren - cloned Centuri Starship Excalibur (Adult Winner)

Bob Wiersbe - 'Hobby Show' Viper modified for E engines

Bob Kaplow - '1040A' Paper Tiger made from tax form

Martin Schrader - Aerotech Initiator
John Boren - cloned, upscaled Centuri X-24 Bug
Greg Cisko - Aerotech Warthog 🌸

(April Showers continued from page 3)

spot in its age-brittled cardboard tube at deployment. Rick Gaff threatened to fly something but didn't carry through. He played LCO all afternoon instead.

Several people complained about the air traffic overhead. At one time there were three planes in a row traversing the field and just as we were about to proceed a fourth ambled by. In theory a "notice to airmen" or NOTAM is issued by the FAA when we call in a launch to warn them off. Either private pilots can't read or else they regard a NOTAM as the equivalent of a giant "kick me" sign on NIRA's back. I suppose the truth is that most of them don't bother to check for NOTAM's before spinning the prop. He who doesn't read has no advantage over he who can't read.

Next month we plan to return to the sod farm one more time for a two day "MRFF-Lite" launch on Father's Day weekend. It is a good place to fly something a little larger than we can handle at sites closer to home. We should have the waiver activated next time but if that isn't your style bring out that three stage model you have always been afraid to fly. It should be a great weekend. After that, it looks like we will have a new flying field at the East Branch Forest Preserve in DuPage County. Details aren't quite final yet so check the NIRA website for the latest word.

Finally, why are some people's names printed in **bold type**? I discovered a relatively easy way to put together a launch report. Ask the folks on the NIRA email server to contribute their favorite memories of the day! Thanks for the help guys, this report is much fuller and more interesting because of your contributions. 🌸

Leading Edge's 25th Year

This is the 25th year that the Leading Edge has been published! If that's not a record for a NAR section, it should be.

It actually hasn't been published for 25 consecutive years, however. It was originally started in 1974, but it evidently skipped 1975-1978. In 1979 it was restarted by Mark Bundick, Bob Kaplow and Rick Gaff (all of whom are still member of NIRA) and has been published continuously since then.

I have seen only seen the April issue from 1974 but it has interesting information. I've reprinted a page of it on the back of this issue—including the article that talks about the changing of the club name from the Glen Ellyn Rocket Society to the Northern Illinois Rocket Association.

I've also changed the cover logo on this issue to closely match the logo used from June/July 1979 (Vol 2, Num 2) to November/December 1979 (Vol 2, Num 4).

As the rest of this year progresses, I hope to bring you more of the history of the Leading Edge and of NIRA. 🌸

G.E.R.S. RECORDS H.I.R.A. II

at the March meeting of the Glen Ellyn Rocket Society the members voted to change the name of the section to the Northern Illinois Rocket Association.

The name change is a part of the sections program for improving the services and membership of the section. The changes were the idea of Joe Rogers and Bill Schmidke, with help from the other officers. They include mandatory MAR membership, increased publicity, an improved rocket range, more demonstrations and contests, and a new system for taking in new members. The members voted almost unanimously in favor of the changes.

The plan for mandatory MAR membership was put into effect after it was noted that every section member would greatly benefit from the magazine published by the MAR, the Model Rocketeer, the \$1,000,000 liability MAR membership insurance, and the right to participate in MAR sanctioned competition, to establish official national and world records, and to legally launch at North Park. Present members who have paid their dues and who are not MAR members do not have to join the MAR for the rest of the year, but are asked to.

Tom Cieslica, the newly appointed Public Relations Officer, is handling the publicity and membership drive. He is busy writing press releases that are to be distributed to newspapers and radio and television stations. We are situated in one of the most populated areas of the country and should have no trouble reaching potential members through a little publicity. We could become as large as some of the huge sections on the East Coast.

Our rocket range will be greatly improved. A 300 meter and two 150 meter baselines have been set up for tracking, the new Centuri Sky-Trak trackers have been built, the Larve's Miltipod launcher has been repaired, and range forums have been printed, enabling us to track every model launched at North Park. This tracking system will be available every Sunday afternoon. In addition, the range store will be open, enabling modelers to

purchase engines, chutes, etc., that they were unable to obtain in time for the launch.

More demos will be held, at Tom Cieslica's suggestion, also to bring in more members and expose the public to rocketry. We will continue to hold the Labor Day and July 4th demos, but in addition we will hold other smaller demonstration launches.

Up until now we have had very few MAR sanctioned contests, but since G.R.S.-1 last summer we have held sanctioned section meets about once in every two or three months. We will continue having them, and also a larger meet every year.

Our new system for taking in new members is designed to give an introduction to rocketry before the member actually joins. It works like this: the potential member is given an introductory membership for two months. During this period, the new member has all of the benefits of membership but does not have to pay the membership fee. At the end of two months the member has the choice of becoming a permanent member or dropping rocketry. This should help new members understand that rocketry is all about before they make their decision.

The section name was changed after it was observed that the public tends to be led to believe that our section is only a local thing. We want to show that members from all over are welcomed.

GIESLICA APPOINTED PR OFFICER

At the February meeting of the Society, Tom Cieslica was appointed Public Relations Officer for the section. Tom wants to publicize section activities in outside newspapers as the main part of his job. He has been in rocketry for 5 years, and in the club for 3.

WORKS-2 REGIONAL MEET ANNOUNCED

See page 2



Jeff Pleimling, Editor
245 Superior Circle
Bartlett, IL 60103-2029

This may be your last newsletter! Check your label for the expiration date.
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