The Upstate Rocketeer

Official Publication of MARS™, the Section 136

Monroe Astronautical Rocketry Society, of the NAR®

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National Sport Launch

Over one hundred rocketeers participated in the National Sport Launch held this past Memorial Day in Amesbury, Massachusetts. The fifth NSL, and the third to be held as a separate event (the first two were held in conjunction with NARAMs 33 and 34), NSL '95 marked the first National event to be held in the Bay State since NARAM 5 way back in 1963. (Until recently, rocketry was overzealously regulated in Massachusetts.) CMASS was the host section.

Members of MARS in attendance were Dan Wolf, John Viggiano, and Ferenc Róka, while the NORROC contingent included Ray Halm and Doug Caskey.

I arrived Friday evening, just in time for the Flyers' Briefing at the Haverhill Comfort Suites. I had planned a short vacation on nearby Cape Ann just prior to the launch, but had to settle for just a lobster dinner there. Ray and Doug arrived late that evening, and Dan and Ferenc showed up the next day.

The launch site was about 15 minutes from the hotel. Getting there was easy, thanks to some much-appreciated efforts by the host section. Once you exited the expressway, signs (some adorned with balloons) blazed the path. It was a big help in finding the field, because New England roads twist, turn, and make it easy to get lost. Not a problem with the signs and balloons.

The field itself was large, though not as large (or as flat) as Geneseo. A set of large high-voltage transmission lines runs near one edge of the field, close to the New Hampshire border. The largest pads are situated in the very center of the field, maximizing their distance from the closest boundary (and, hence, the impulse level which may be flown from them).

I alternated large and small rockets, starting out with my brand-new Pathfinder 1.6 scaleup on an F25. (Chris Tavares accused me of stinking up the hotel the night before with my painting, but I plead not guilty, as the true culprit was apprehended subsequently.) NSL '95 was underway for me with a beautiful flight.

NSL-'95—National Sport Launch Manager Chris Tavares launches John Viggiano's Mini Viper IV this past Memorial Day weekend in Amesbury, MA. Photo by John Viggiano. ➢

I met with Doug and Ray just before noon, and lent a hand with the video work. Doug managed to put a rocket on the power lines (well, it was a high-power rocket, after all), but managed to get it down without breaking the safety code. (Please ask Doug if you need the details. All I've got to say is it was one creative solution.) Except for a damaged shock line, Doug, the rocket, and the power lines were all okay.

Dan and Ferenc showed up a little later, with the rear end of the van sagging under the weight of all the rockets they had brought. Dan started off with his Electric City and an I161 for a really nice flight. Ferenc flew his FSI Nova on an E5, the mini Steam Engine. It worked beautifully, despite the strengthening winds. I think my best flight of the day was my Yo-Leven, flown on a single H128 reload.

After grabbing a snack, the MARS contingent headed to the NAR Town Meeting/Association Meeting at

text continues on page 5; photos continue on page 4.

Inside this Issue:

Op / Ed

Rhymes of the Range

NARAM-37 was a wonderful experience. MARS was host to nearly two hundred people from all over the country (and even a few foreign participants), and our efforts were well-received. It was a lot of work, though.

Nevertheless, it undoubtedly made our club stronger, generating interest in our activities on both local and national levels. It really gave me a terriffic feeling to see how we pulled together as a section on so many things, whether it was doing any of the thousands of things that needed to be done, or the bonding which took place during the ubiquitous all-night building sessions.

The driving force behind NARAM-37 has left the Flower City. Dan Wolf, whose dream to host a Nats inspired us all, accepted a position with a firm in Milwaukee. I know Dan is glad to be back in the Midwest, but it is with misty eyes that I wish him all the best in his new position. Good luck, Dan, and I hope we see you from time to time on the MARS field.

Some of the flap a couple of years ago regarding two very different engines with the designation "E15" could have been avoided with an improved engine designation system. Estes's *entrée* into territory beyond the D impulse category, delivering 32 Newton-seconds impulse, carried the same moniker as the established Aerotech product, which is certified at a full 40 N-s. We think there is a way to avoid this confusion.

One proposal suggests that the impulse delivered by a propellant actuated device replace the letter code, which conveys this information to within a factor of two, which is admittedly too coarse. However, the letter code for the impulse category is a very useful device, and we should not abandon it. On the other hand, it is nice to have some idea of where the total impulse of a given device falls.

Our suggestion permits this. It works with the existing letter codes in a manner that complements them. It does not attempt to replace the letter coded impulse information which has worked so well for us.

This is how it works: Use the integers between 0 and 10 to indicate where within the impulse category a device falls. If it is only a sneeze over the minimum in its category (a 20.5 N-s E, for example), assign it the digit "0." If it delivers between five and 15 percent of the impulse in the category above the minimum, assign it a "1," and so on. Engines which delivered an impulse of 95 percent or more above the minimum in its category would be assigned a "10." Put the digit determined this way in parenthesis after the impulse category.

The computations are easy to perform. Simply subtract the minimum impulse for the impulse category, and divide this difference by the difference between the maximum and minimum in the category. Multiply this number by 10 and round to an integer.

For example, consider the Aerotech E15-. With an impulse of 40 Newton-seconds, it delivers the maximum impulse in the "E" category. Its designation under this system would be: E(10)15-. This indicates that the rated impulse of this device is between 95 and 100 percent of the way from minimum to maximum in the "E" impulse category.

As another example, consider the Estes E15-. It is rated at 32 Newton-seconds impulse. We compute:

(32 - 20.01) / (40 - 20.01) = 0.5998.

Multiplying this by 10 and rounding yields 6. The Estes E15- would be rated as an E(6)15-. It would be more difficult to confuse the two propellant actuated devices with this system. On the negative side, it introduces another number into the system. However, it provides as much information on the delivered impulse as one is likely to need under most circumstances, in as compact a manner as our imaginations can conjure.

Have fun & fly 'em high!

John ➢

Upstate Rocketeer is published by MARS™, Section 136 of the National Association of Rocketry, as a service to its members and rocket enthusiasts in Central and Upstate New York. Domestic subscriptions are currently $6 per year. Please write for information on subscriptions outside the United States.

Submissions from all people are welcome. We prefer electronic form; please contact us for details. We accept photographic slides, prints, and Photo CD.

Editors of other newsletters and journals are welcome to reprint material which appears in *Upstate Rocketeer*, provided they extend to us a reciprocal privilege and they cite the source, unless the article, plan, or what-have-you indicates something to the contrary. Please contact the author if that's the case.

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As The Rocketry World Turns...

news and rumors heard 'round the hobby, by John Viggiano

NAR News . . . . At the Association Meeting held during NARAM-37, the following trustees were elected from the following regions: Marc McReynolds (Pacific), Mark Johnson (Middle America), and George Gassaway (Southland). All were elected to three-year terms. George will continue to serve as Association Secretary. Two Bylaws proposals were also voted on, with mixed results. The proposal to permit foreign members, once forbidden because of our afilliation with AMA/NAA/FAI, passed. The proposal to exclude manufacturers from the Board of Trustees was turned down for want of a 2/3 majority (though most voters supported it).

At the NARAM Awards Banquet, NAR Comptroller Stu McNabb was presented with the President's Award, while the Galloway Award, the hobby's highest honor, went to Mike Platt, president of the High Power Manufacturers and Dealers Association.

More news on NARAM-37 will be in the next issue of *Upstate Rocketeer*.

1996 National Events have been announced. National Sport Launch '96 will be held in Argonia, Kansas. NARAM-38 will be hosted by Laünch Crüe, in Evansville, Indiana, the first week of August 1996, and is scheduled to have a rather full card of events. Finally, negotiations continue for the National Rocketry Convention, NARCON. The latest word is a May 1996 date in Tampa, Florida is being looked at.

The NAR has announced its preliminary plans for a new high-impulse rocketry certification program designed to conform to the requirements of NFPA-1127, and offer better consistency with the new Tripoli program. It consists of three tiers: H-I, J-K, and Complex. For H-I certification, a modeler must successfully fly a model powered by an H engine. For the J-K level, the modeler must fly a rocket powered by a J engine and pass a written examination. The questions on the exam will be drawn from a pool published (with answers) in advance. Complex certification is awarded to modelers successfully flying a staged or clustered model posessing a total impulse of at least 75% of their certification level.

Manufacturer's News . . . . Biggest manufacturer-related news of the year: Estes Industries has acquired the North Coast line of large and high-impulse rocket kits and engines. NCR President Matt Steele joins Estes as Marketing Director. Dan Kafun, also of NCR, joins Estes as an R&D Engineer. The NCR line will be marketed through a separate catalog, ala Centuri/Enerjet. New kits and other products are to be rolled out at the National Hobby Show, to be held the last weekend of October in Chicagoland. *Upstate Rocketeer* plans to have at least one reporter (and possibly two) on hand for the kick off event. No word yet on the availability of NCR's long-awaited (going on three years!) line of Impulse rocket engines.

The wait is over! Competitors can once again purchase the phenolic-impregnated Blackshaft tubing, Nova nose cones, and related construction supplies they have grown accustomed to. A new company, Eclipse Components, has been started by Colorado enthusiast Todd Schneider, who purchased the line from Ed LaCroix. Some products have been dropped. The transition sections and pre-cut fins are conspicuous by their absence from the catalog. The 18mm ID Blackshaft is gone; a slightly-lighter-than Estes kraft tubing replaces it in the product lineup. Also available are sheets of Waferglass fin material, NAR payloads, engine blocks, couplers, centering rings, and recovery supplies. Contact Eclipse at (719) 598-6105, or via e-mail at 102100.1566@compuserve.com.

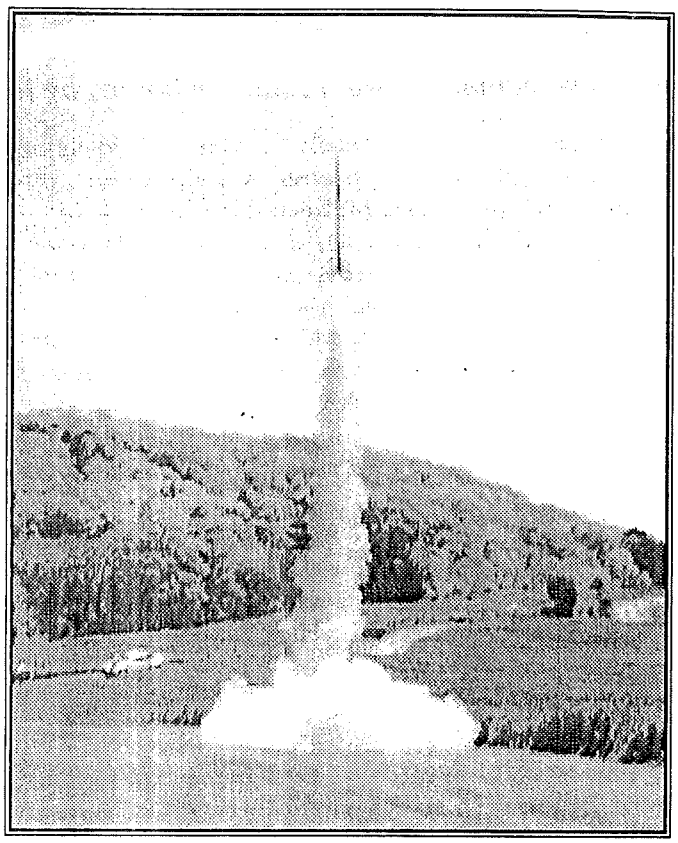
Former Estes R&D Engineer and International Rocketry Competitor Tim Van Milligan has authored a book, Model Rocket Design and Construction. Published by Kalmbach Books, Tim's work joins an established line-up of hobby-related books, including some on model rocketry, and should enjoy hobby shop and bookstore distribution. The book contains chapters on the basics, glider design, helicopter recovery, staging, clustering, high-impulse rocketry, and construction tips from master modelers. Priced at $17.95, it is available from Tim at 708 Piedra Drive, Suite C, Cañon City, CO 81212. (Please include $2.50 shipping and handling.)

NASA News. . . . For the first time, the U.S. Immigration and Naturalization Service, after some prodding by the U.S. State Department, will officially allow two aliens from space to land in the United States.

It seems that U.S. entry visas for cosmonauts Vladimir Dezurov and Grennady Strekalov were forgotten before the launch of Mir-18. They were launched from Kazakstan on March 14 and are scheduled to land either in Florida or California in early July aboard the Space Shuttle Atlantis (STS-71). The U.S. State Department has, for the first time, asked for a waiver for "aliens from outer space." The INS has agreed not to arrest the cosmonauts for illegal entry into the United States.

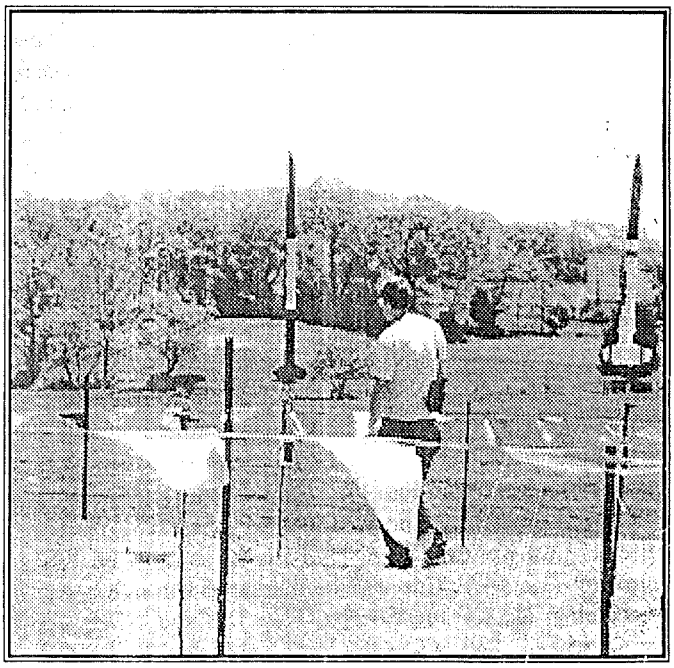
One Year and Counting: The Mars Pathfinder is planned for launch during December, 1996. Lofted by a Delta II-7925 launch vehicle with a Payload Assist Module (PAM) D upper stage, the trip to Mars is expected to take 6 to 7 months. The craft will be surrounded by inflatable air bags for landing after a parachute descent. A cost cap of $170 million has been imposed on the project, in order to demonstrate the principles of "faster, better, cheaper." Mars Pathfinder is the first in a new series of Discovery missions, and is intended as a demonstration of technologies to be used in planned future missions. A tiny 12 kg micro-rover will be one of the instruments deployed on the martian surface. ➢

HMM. . . I WONDER WHAT THE BIG ONE LOOKS LIKE —NAR President Mark "Bunny" Bundick (left) shows off his 1/65 scale Juno II, while Mike Lane, of the NARCONN section, poses with his "medium-sized" Sprint scale-up. Photo by John Viggiano. ➢

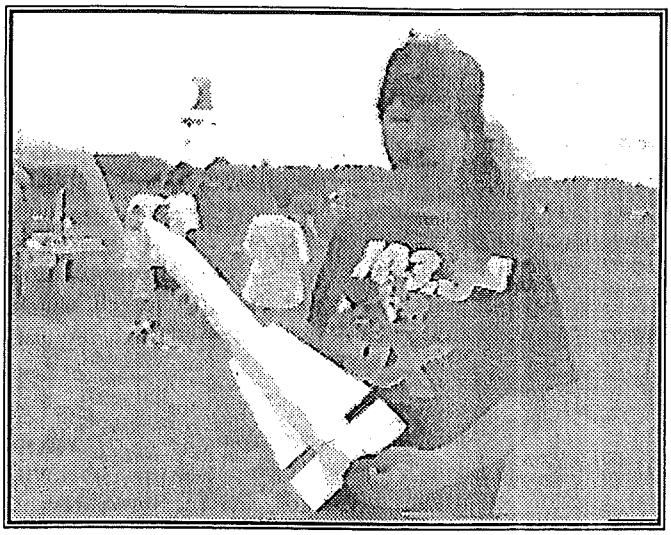


FIRST SOLO FLIGHT—John Viggiano's Yo-Leven lifting off with a single H-180 reload. This is the first solo-engine attempt for the Yo-Leven, which seems to like flying with single engines almost as much as with airstarts. Photo by John Viggiano. ➢

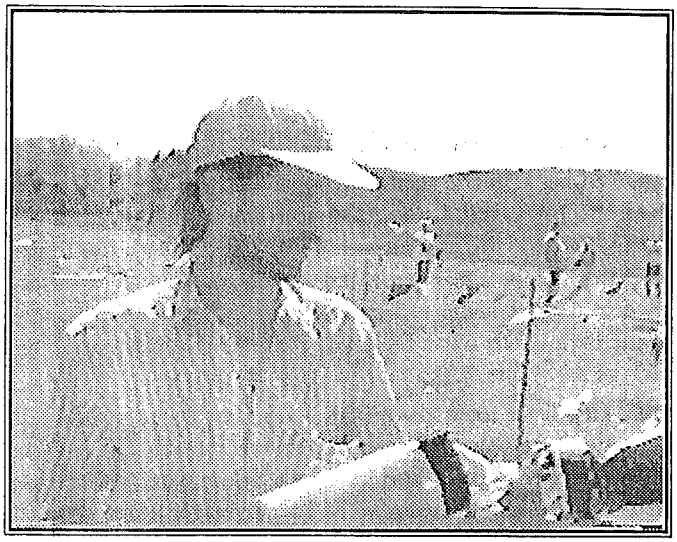
BEST-DRESSED—Voted "Best Dressed of NSL-'95" by a panel of newsletter editors, NARCONN member and MARS friend Wayne Anthony takes a break from flying rockets. Photo by John Viggiano. ➢



Dam Wolf readies his SPEV-HP for a beautiful flight. Plans for this rocket were featured in the November 1992 issue of the Upstate Rocketeer. *Photo by John Viggiano.* ➢



Ray Halm, from the NORROC Section, flew his beefed-up Estes Phoenix several times during the weekend. It flew quite nicely with the 24mm Aerotech reload. Video field by John Viggiano. ➢



OUCH!—Doug Caskey shows his Phantom-4000 after a prang caused by the launch lug binding on the launch rod. Although the rocket took to the air, there was not enough time to deploy the parachute because of low altitude. Video field by Ray Halm. ➢

Amesbury's Lafayette Club (which sported duck pin bowling downstairs). Unfortunately, we were unable to raise a quorum, so no official business could be transacted. Discussions were held on several topics, and the official business was deferred to the following evening.

Sunday was a little windier, and the launch rods were angled accordingly. Highlights of my own flying included the Yo-Leven on a G160 Silver Streak and two airstarted A8-3 engines (the airstarts could clearly be heard), my heavily modified and lengthened LOC-IV, Thunderbore, on an I161-M, the Pathfinder scaleup on an H97-MJ reload, and my 42cm flex-wing glider on a 1/2A. Dan flew his Microbrick Electric City (decorated beautifully in Purdue colors) on a reloadable I, while Ferenc treated us to his LOC Forté, a favorite of ours, on an F.

After dinner, we were again unable to raise a quorum for the Association Meeting, the only disappointing aspect of the weekend. The entire New York State contingent viewed the two days' worth of videos we had collected thus far.

The forecast for Monday was not promising, with showers and high winds expected. Nevertheless, we found conditions not as bad as we had feared on our arrival at the field, so Ferenc and I made several more flights with smaller birds, starting out with a drag race on FSI Micros. Around noon we said our goodbyes, and headed home. We had to drive through some extremely bad weather near Albany (we later learned that a tornado had passed nearly), but most of the trip was pleasant.

Hats off to CMASS for a very well-run event! As the section with the most NSL experience, their preparation and professionalism made for a terriffic time.

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John Viggiano prepares for the maiden flight of his Pathfinder scaleup on a G75 reload. The Pathfinder follows John's EOS scaleup, which is similar in size. Photo by Doug Caskey. ➢

Notes from Niagara

Reminiscence and observation, by Merrell A. Lane

Remember those Series III "Shorty" Motors?

Well back in the sixties we were limited to a few motor sizes, the 1/4A to B. I noticed that in the lower power ranges the majority of the engine casing was empty. With the limited power I felt that even a few grams could make a difference in performance, so I carefully measured the empty area of the casing, left what I felt was a safe length, and cut off an inch or so.

I got a little more performance from my rockets and I felt I should share this idea with the powers that be. So, I wrote a letter to Vern Estes and G. Harry Stine, who was at that time the President of the NAR. I received replies from both stating that the model rocket safety code specifically prohibited any modification to model rocket motors.

Well, it was interesting that in the very next Estes catalog was the announcement of the new Series III motors, which were one inch shorter than the regular motors. Later, the Series III motors were replaced with the Mini motors.

Also interesting to note was that for some time the highest impulse engine was a B. Estes did introduce a C in the early sixties. The motor was packed to the top with propellant and there was no room for a delay or ejection charge, so the C was only a booster motor. Later, with some fine-tuning of the propellant formula and enlargement of the inside diameter of the motor casing, there was enough room for a C to have delay and ejection charges.

A Stine connection in Western New York?

While I was in Houston at NARAM-36 I was talking with G. Harry Stine and mentioned I was from Niagara Falls. Harry asked me if I remembered the Stine Drug Stores. I replied, "Yes, there were about three in the Niagara Falls area." He mentioned that they were owned and operated by his grandfather. He further explained that although he never lived in Niagara Falls, he had visited the area several times.

The drug stores are now owned and operated by different people and are no longer called Stine's. But it is interesting to find out that yes, Virginia, there is a Stine connection with Western New York.

No Matter How Far You Roam, Be Good!

As many of you know, I am a Funeral Director in Niagara Falls and live over the funeral home. My wife, Pat, and I have a great relationship, but every so often, after being together 24 hours a day, day in and day out, we need a break. So Pat, being the understanding person that she is, sends me off to a convention or something I enjoy even more, a Model Rocket Meet.

Several years ago I attended one of the first high impulse launches was held in our part of the country. It was held at a coal strip mine in Zelienopole, Pennsylvania, a small town near Pittsburgh. It was the first of the famous "Z" launches. This was my first exposure to high impulse rocketry and it was exciting. The size of these rockets was unbelievable. I was used to thinking a three-foot rocket was big; imagine how I felt when I saw twelve-footers and even bigger. Clustered Gs, H, and I motors, WOW! One of the biggest rockets even had a TV camera and transmitter. A van with a receiver and VCR recorded the flight for playback. This was in the early 80s and was real high-tech stuff. I also met LOC/Precision founders Ron and Debbie Schultz, along with Gary Rosenfield, who had just started Aerotech, which had made the launch possible with his new high impulse motors.

While at the launch I also met Art Nestor who lived in Zelienople. He had come to see the big stuff, too. Art was in his thirties and was a long-time member of the NAR and was advisor of Pittsburgh's Steel City section. Art was impressed, but a little unsure of these big rockets.

Several years went by and I went to NARAM-31 in Manassas, Virginia, in 1989. While there, I met again with Art. He had come down to compete for a few days. He even brought his Section Flag and flew it in the Prep area while he was competing. Al had brought his wife and two daughters with him, and during the next two days I got to know them quite well. Art has a collection of almost all the Estes catalogs except for the very first couple of years. NARAM-31 included an "Old Rocketeers Convention," and Al had brought several vintage models, including a very rare Estes Thor-Agena B model. Art has been very innovative with the Astro-Cam, and was one of the first to develop the rear-facing, or look-down, camera. He also writes articles for *Model Rocket News* and *Sport Rocketry*.

A few more years went by and my oldest daughter started school in Pittsburgh. On the way back from one of the family outings to see how Jennifer was doing we stopped at the Zelienople Burger King, where I had had coffee with Ron and Debbie Schultz and other rocket enthusiasts during the first "Z" launch a decade earlier. This time, we stopped in for some lunch. As we approached the counter, a nice-looking blonde woman behind the cash register asked, "Aren't you Merrell Lane?" If only you could have seen the looks on my wife's and younger daughter's faces! They turned around and looked at me with a look that just said, "Who is this girl?"

Here we were, hundreds of miles from home, and some woman called me by name at the local Burger King. I wasn't sure whether my wife Pat was thinking that I had become so famous that here in Southern Pennsylvania they knew me, or that there was some dark secret I had to hide. Luckily, my relationship with my wife was secure enough for her to not get *too* rattled. The girl came over; at first I didn't remember who she was. She introduced herself as Art Nestor's wife, and mentioned that she was the manager of the Burger King. We talked for a few minutes, then got back on the road to Niagara Falls.

We still get a big laugh when we think of the Zelienople Burger King. You can draw your own moral for this story.

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INSURANCE REMINDER — Your NAR insurance expires at the crack of midnight, New Year's Eve. Here's a New Year's resolution you can easily keep throughout 1996: Be insured each day of the year. (With a sport launch planned for New Year's Day, this is important.) We need five insured members for our section to be insured, and we can't insure the site owners without section insurance. So it all boils down to everybody renewing their insurance before that damn ball drops in Times Square. Give yourself a present, the peace of mind that comes from NAR liability insurance. You'll help yourself, and you'll help the section, as well. Do it the first week of December, so you don't forget!

COMING NEXT ISSUE — It promises to be the Big One, folks, with all the glamour, glitz, and glitter appertaining unto a NARAM Souvenir issue. See the pictures. Read all about it. Ray Lewis begins a two-part article on his cool SAM scale project. Find out how Jay King got talked into charing a MARS committee while helping with an article.

This is planned as a super TRIPLE ISSUE (to make up for this skin-and-bones issue) that you'll want on your coffee table. (That means color photos and everything!) Don't miss it!

The issues which follow will have the respective themes of High Impulse Rocketry, Scale, and Winged Flight.

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Join MARS™ Today!

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Home Phone: _____ Work Phone: _____

Are you a member of the NAR? _____ If so, your membership number: _____

Please indicate the committee on which you would like to serve:

- ❑ Membership
- ❑ Newsletter (Pick Me!)
- ❑ Club Programs
- ❑ Contest & Records
- ❑ Equipment
- ❑ Technical Publications

Please check all areas of interest below:

- ❑ Amateur Radio
- ❑ Boost Gliders
- ❑ Building Workshops
- ❑ Computers
- ❑ Contests
- ❑ Electronics
- ❑ High Impulse Rocketry
- ❑ Photography
- ❑ Plastic Modeling
- ❑ Radio Control
- ❑ Rocket Collectibles
- ❑ Scale Modeling
- ❑ Social Events
- ❑ Video
- ❑ Writing
- ❑ Other _____

How did you hear about MARS? _____

Dues are $10 per calendar year for adults, $5 a year for Juniors / Leaders (under 18 years). Please make checks payable to: Ferenc Róka / MARS, and mail completed application to:

Patrick Finan, Membership Chair
144 S. Fitzhugh Street, Apt. 5
Rochester, NY 14608

or bring it to the next club function. Welcome to MARS!

Upstate Rocketry Calendar of Events

Rocketry related events in the Upstate New York area, or of interest to rocket enthusiasts of this area, are listed below.

Tuesday, 12 December, 7:00PM, MARS Meeting.
Elections will be held, so please attend. It's important.

Monday, 1 January, 2:00, New Year's Day Launch.
Bring your new birds and christen them for the New Year. Awards for the best "First Flights" of 1996. This event is planned for Colby Farm; come to the December meeting for details.

Tuesday, 16 January, 7:00PM, MARS Meeting.

Sunday, 21 January, 1:00, Building Session.
Bring your own tools and supplies for our "it's too cold to fly, so we might as well build rockets" get together.

Tuesday, 13 February, 7:00 PM, MARS Meeting.

Sunday, 18 February, 1:00, Building Session.
Bring your own.

Tuesday, 12 March, 7:00 PM, MARS Meeting.

Saturday, 16 March, 1:00 PM, Sport Launch (hopefully in Geneseo; rain date 17 March). Bring a Green rocket, and the Luck o' the Irish will be with you. Of course, if you loose it in the grass, it might not be *good* luck . . . .

Friday - Sunday, 22-24 March, Argonia, Kansas
National Sport Launch, hosted by the good people of KOSMO. If you're interested in attending, please contact a club officer.

Tuesday, 9 April, 7:00 PM, MARS meeting.

Saturday-Sunday, 13-14 April, Middletown, MD
ECRM-XXIII Regional Contest. A MARS contingent may attend this traditional event. See John Viggiano if you're interested.

Sunday, 21 April, 2:00, Sport Launch.

MARS Meetings are normally held the 2nd Tuesday of the month at 7:00 PM at the RIT Research Corporation, 125 Tech Park Drive, Henrietta. MARS Sport Launches are normally on the 3rd Sunday of the month at 2:00 PM at Benson's Farm, Livonia. Contact John Viggiano at 359 - 3869 for more information on these club functions.

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