The Upstate Rocketeer

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NYSPACE '95

Event Coverage by Dan Wolf

This was the fifth year for NYSPACE, the New York Spacemodeling Championships and Exhibition. Born during a time when contest flying was a major activity among the then three chartered New York state sections, NYSPACE has now evolved into a waivered sport launch on the spacious field at the National Warplane Museum in Geneseo. And oh by the way - there also happens to be an NAR sanctioned regional meet going on too. To illustrate that point, over 30 flyers made sport flights on the sport range, while only 13 people flew the contest. Here's how the contest flying went, followed by the sport flying.

Contest Flying

As MARS was virtually the only New York state section flying (for the second year in a row), the competition flying was very relaxed, with an atmosphere more like a local meet than a regional. Officially, two sections were represented as Dave Wixner from NORROC did make two flights in A Boost/Glide. Other competitors from out of town included Ken Mizoi and Charlie Sykos (representing the J-P-K team), and Kent Smith from the Blastoff Section in Erie, PA. MARS members flying the meet included John DeMar, Jay King, Ray Lewis, Ed Norris, Ferenc Roka, Jeff Ryan, and Brett Templar in C Division. Laura and Lisa DeMar flew as independents in A division, while John Viggiano represented MARS in the Team division as part of the International Rescue Team.

Flying started at around 10:30 on Saturday, and most competitors managed to get a few duration flights in the air before the altitude flying began a few hours later. The weather was fairly cooperative on Saturday, with a moderate breeze and sunny warm skies. Sunday things took a turn for the worse, as the winds picked up to the 15 to 25 mph range.

PRIDE & JOY— Andy Schecter poses with his Terrier-Sandhawk before one of its two flights at NYSPACE '95. Andy plans to fly it as a two-stager at an upcoming launch. Photo by Patrick Finan. ➢

This made flying difficult, and even suspended it at times. Here's an event by event account of the contest flying:

A Boost/Glide

Jeff Ryan needed only one flight with a "Turnup" to take first in C Division. Even though the glider separated from the pod prematurely, Jeff still managed a time of 89 seconds. The RSO ruled that the separation happened during the delay phase, and that since the pod recovered safely, it was a qualified flight. (Plans for the Turnup are slated to appear in an upcoming issue of *Sport Rocketry*). John DeMar flew his

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Inside this Issue:

Op / Ed

Rhymes of the Range

Sadly, it's the end of an era. MARS is no longer meeting on High Power Road, perhaps one of the best-named streets on which to hold meetings of a rocket club. (Well, "High *Impulse* Road" would have been even better, but let's not mince matters.) My place of employment, RIT Research Corporation, has moved four doors south. Our new address is 125 Tech Park Drive. Tech Park Drive is one block south of High Power Road; both are off John Street in Henrietta. You may also enter Tech Park Drive from Baily Road.

Not exactly a rocketry-related address, but the new facility should suit our needs admirably. We were outgrowing the conference room at our old address; people were crowding around the table and standing along the walls. I hope we can continue the momentum even after NARAM, though I suspect the excitement over the coming Nationals is responsible for the dramatic upswing in meeting attendance. I would be delighted if fate proves me to be a liar on this score.

About the Nats: this is the biggest thing to ever happen in rocketry in the seven-county area. Not just hobby rocketry, but all of rocketry. It's an Event, with a cap "E." Rocket enthusiasts owe it to themselves to participate in it. And that doesn't necessarily mean taking the entire week and flying the contest, though that's perhaps the best way to acquire "The NARAM Experience," as Dan likes to call it. We have a waivered sport launch starting Saturday, 22 July, and running all week. Rockets of all sizes, from 1/4A through K, are expected. Multi-level NAR Certification will be available on-site. Here's the perfect opportunity to fly that larger bird. It's also a great opportunity to see the big ones fly.

What's the best hobby store you've ever visited? If it's rockets you're after, our NARAM Range Store promises to beat it cold. Merchandise from every major manufacturer is expected. It's the ultimate in convenience — buy it, build it, and fly it, all in one place!

But the range store won't be the only opportunity to buy things. Collectable stuff will be among the bargains available at the NARAM Auction, one of the many "NARAM At Night™" activities. There'll even be a catered cookout at Letchworth one evening.

Another NARAM tradition is the Banquet, held on the last evening. Dan has arranged a buffet feast, and previous events catered by the same outfit have been stupendous! Door Prizes are often a part of the banquet, so get your rabbit's foot ready and your lucky silver dollar all shined up. The Banquet is scheduled so that people from the area who have to work that week can attend.

Don't let the fact that NARAM is a week-long event stop you from joining us — as an area resident, you have the option of participating in as many or as few of the events as you like. If you haven't registered already, please contact Dan at 458-3848, even if you only want to come out for the weekend, or participate in one or two of the "NARAM At Night" activities.

Submissions have been understandably sparse in these pre-NARAM months, but there's some good news. Patrick Finan has joined the *UR* editorial staff as Photography Editor. Not only will Patrick be taking many of the photos, but he'll be coordinating the preparation of the pictures for publication. I'd like to thank Patrick for helping out, and I know he will bring his professional skills to bear on this job. Please let Patrick know if you have photographs of a MARS event — you might get your picture in the *Upstate Rocketeer*.

Have fun & fly 'em high!

John

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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 (the author and the issue of *Upstate Rocketeer* in which the material appeared), 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 Dan Wolf

Manufacturers News . . . . Here's a clarification on the status of Apogee Components (from George Gassaway's post on the rec.models.rockets Usenet news group). Although Apogee has dropped most of their kits, Apogee will continue to sell the following egglofter kits: "B"-Liner (13mm), Streamliner (18mm), and Over-EZ (24mm). Presumably the Apogee Nova Cone egg capsules will still be available as well. Apogee will also continue to sell the 1/2A-A Maxima and B Maxima B/G kits. Apogee also continues to sell parts, but is not restocking (when they're gone, they're gone). or example, the 18mm Blackshaft is already history. or those looking for the other Apogee kits, Countdown Hobbies acquired the remaining stock of the streamer, parachute, and payload kits.

Some of the much anticipated North Coast Rocketry composite motors are now certified. AR Standards and Testing has certified the 29mm x 152mm F30-6, F30-4 and F30-P motors at 73 Nsec total impulse. NCR has also announced the release of two of their new kits. The 7' tall, 2.7" diameter Avenger and the 47.5" long, 1/12 scale Bomarc scale model are both said to be available now.

Aerotech and Hypertek are moving forward with their hybrid motor systems. The Hypertek team made several flights at the Spears Range April launch with their system. The launch saw several "firsts" for Hypertek including:

1. The first public launching of the first production model of Hybrid Model Rocket Motors.
2. The first launching of a non-manufacturer owned or built Hybrid-Powered Model Rocket.
3. The first launch of a CLUSTER of Hybrid Rocket Motor and Solid Rocket Motors.
4. The first launch that went out of sight, and not recovered (due to high altitude winds).
5. The first launch of a Hybrid Rocket Motor powered "LIVE" video feed and recorded (on the ground) flight.

Meanwhile, Aerotech's hybrid has been approved for Beta Testing by the TRA Board of Directors. Here's portions of an "information release" posted on Compuserve's Modelnet by Aerotech Marketing Director Ed LaCroix about it:

"The RMS/Hybrid is a reliable, versatile and cost-effective means of powering your high-power rocket vehicles that will grow with you as you expand your rocketry horizons. Each RMS/Hybrid motor is capable of delivering a range of programmable time-thrust profiles, and is easily converted to conventional solid propellant operation with Aerotech's standard RMS High Power reload kits!

"A hybrid propellant rocket motor employs separated propellant ingredients in two different states of physical composition. In Aerotech's RMS/Hybrid motor design, pressurized liquefied nitrous oxide (N_2O) is employed as the oxidizer while cellulose ($[C_6H_{10}O_5]_n$) is utilized as the solid fuel (patent pending). Advantages of hybrid propellant technology for the high-power rocket enthusiast include markedly lower cost per flight than solid propellants, less restrictive shipping regulations and elimination of the need to comply with various aspects of the federal explosive laws that currently plague the purchasing and storage of large solid propellant rocket motors.

The RMS/Hybrid motors use a high pressure aluminum alloy cylinder to store the liquefied nitrous oxide oxidizer prior to flight. The cylinder/valve assembly is mated to a standard RMS 54mm motor casing and aft closure via a specially designed forward closure/N_2O injector. The forward closure design includes a provision for a combustible Pyrovalve (patent pending) which restrains the flow of N_2O until the moment of ignition. Like the original solid propellant RMS, each RMS/Hybrid precision machined anodized aluminum rocket motor can be safely flown again and again with easy to use RMS/Hybrid reload parts kits and fuel grains.

"After purchasing an RMS/Hybrid motor, the owner can choose from a series of forward closures configured with either 2, 3, or 4 injection ports or "jets". Owners will also find the replaceable fuel modules inexpensive and easily installed in a few minutes. The nitrous oxide required for use in the RMS/Hybrid is widely available at auto performance shops at low cost. And the flight cylinders used for storage of N_2O are easily refilled by the user or (future) RMS/Hybrid dealer prior to flight. No special ground support equipment is required to launch rockets powered by RMS/Hybrid motors!

"RMS/Hybrid motors reflect the same reliability, quality and professional design that have become the trademark of Aerotech's solid propellant RMS products. By making most of the expensive parts of the motor reusable, the cost per flight is greatly reduced. In addition, RMS motors produce far less non-biodegradable waste than single-use motors. The basic design of the RMS motors also permits performance characteristics simply not feasible with single-use motors.

"Because RMS/Hybrid motors are of modular design, each reliable and durable motor can use a range of RMS/Hybrid reload parts kits and forward closure injector assemblies. Each RMS/Hybrid motor can also be varied in length to give you a wider range of performance options. RMS/Hybrid means unprecedented user interaction, savings and enjoyment!"

NAR News . . . . The NAR Contest Board is putting the final touches on the new Pink Book. The final draft is currently in the hands of the Contest Board for final review. The long awaited Pink Book is scheduled for printing at the end of March, with distribution set for April. No word yet on how the distribution will be handled.

The first edition of the NAR Newsletter is in the mail. Called the *Model Rocketeer*, this bi-monthly publication is to be mailed to NAR members in alternate months from *Sport Rocketry*. It will allow for more timely publication of information of important to members such as launch and contest schedules, motor certification news, current regulatory news, etc. The first issue contains the proposed Model Rocket Sporting Code rule changes to be voted on by the members to take effect during the 1995-1996 contest year. The *Model Rocketeer* is edited by Mark Johnson.

Tripoli News . . . The big news from Tripoli is that the Board of Directors approved the new multi-level certification system. The new certification system has three levels. Level 1 is for H & I motors. Level 1 also allows staged and clustered rockets up to 2560ns. Level 2 is for J, K and L motors, with Level 3 being M, N, and O. All currently certified members will be certified to Level 1 under the new system. Higher levels require more than simply making a successful flight. Level 2 involves a written exam. Level 3 requires a more thorough presentation and examination of the certification rocket. There are now 6 month waiting periods between levels as well. More details will be provided in a future issue of the Tripoli Report.

In other Tripoli news, the board authorized the production of a video, which will be professionally produced, to be used by Prefectures and members to promote Tripoli and safe rocketry.

Lastly in Tripoli news, because the BATF has not responded to proposals by Tripoli (and others) for relief from the BATF regulations, the board agreed to seek legal relief if no word has been received by March 31, 1995. There were many other things that occurred at the TRA board meeting. Details will be forthcoming in the Tripoli Report (or see Dan if you can't wait).

Regulatory Update . . . To follow along with the above planned actions by the TRA board, neither the HPRMDA or the NAR is in favor of such an approach at this time and they are asking the TRA board to reconsider. The meeting between the BATF, NAR, TRA and HPRMDA representatives never took place because the BATF doesn't do business this way. Instead, they asked the rocketry community to put their concerns in writing. A joint letter from the three groups was sent to the BATF last September. According to Bunny, "the agency is currently involved in an internal debate on what changes, if any, to make in its approach to HPR activities . . . . We're told, by sources believed to be reliable, that the agency has three different internally generated proposals under consideration." Speculation is that they may contain some relief from storage constraints.

It is believed that the proposed NFPA 1127 draft, which includes some relief from the storage regulations is the key to moving the BATF. Once this document is accepted, it will be a good tool to move the BATF to change their regulations. It is expected that this process will not happen overnight, and is probably still several months away.

Miscellaneous News . . . In the "whatever happened to" department. The March Issue of *Hobby Merchandiser* magazine contains an article on model rocket safety by none other than Douglas Kirk. There is also a sidebar piece on the Estes Space Shuttle starter kit. It is also mentioned that Kirk is writing a handbook on model rocket safety (according to a post on Compuserve's Modelnet by Kevin Funk).

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NARAM-37 Report

by Dan Wolf

The planning and work for NARAM-37 continues with no major problems (translation: it's still too early for sheer panic to set in). Seriously, since the last newsletter report, much work has been accomplished by the committee. The schedule has been reviewed by the college and we have also worked out many of the details with them. We now know where we will be staying, eating and meeting. The banquet menu has also been established.

Other accomplishments we've made include securing the tents, tables, chairs, and portable toilets and paying all necessary deposits on these items. A preliminary set of "ground rules" has been developed and approved by the committee. Mailings to 46 NAR Sections, 100 previous NARAM attendees, and 100 western New York NAR members were sent out. Also, solicitation/invitation letters were sent to 75 vendors. All told, over 750 NARAM applications have been mailed. Every NAR member also found a NARAM-37 information sheet/application stapled in the middle of their March/April issue of *Sport Rocketry* magazine. That issue also had the MARS section profile article. *Sport Rocketry* editor Steve Weaver has also informed us that the May/June issue will have our "Your Travel Agent Recommends . . ." article with the pictures printed in color.

Other accomplishments in the last few months included ordering the patches, securing a second (and lower cost) trophy quote, establishing fun event rules, and having "online" access of NARAM information both via a WWW page on Internet and in the Modelnet library on Compuserve. The most manpower intensive parts of the NARAM task lie ahead of us, but we have much of the groundwork in place and that should help to make the task easier.

We have received six contestant applications and three sport flyer/observer applications so far. We also have ten of the one hundred minimum we need to sign up for the meal plan. These early applicants have allowed us to operate without needing any seed money from the NAR!

The next scheduled meetings of the committee are 5/23 and 6/27. We will be discussing NARAM contest procedures and other operations issues. All MARS members are welcome to participate. ➢

legendary "Baby Beakers" to second place with one 75 second flight. John's first flight was disqualified for pod separation under power. Jay King took third with his Schecter Rockets glider that he's been flying at various club sport launches in recent months. Ed Norris was fourth.

In the Team division, the IR team edged out the JPK team by one second. Both had one flight DQed, the JPK team because of a Red Baron when their "sling pod" didn't. The IR team, after shredding their custom "Emmenthaler" glider on the first flight, showed no shame by flying their backup model, an Estes Manta, for the second flight. John "points is points" Viggiano, showed no guilt in accepting the first place ribbon for flying the pseudo legal ARF glider kit.

A Flex-wing Multi-round

John DeMar had two easy maxes to take first is C. It was the first time John had flown flex-wing and it gave an indication that we may see a fly-off round in this event at NARAM. Jeff Ryan took second by getting his flexie to glide on the third and final flight. In Team Division, the IR Team again took first place, needing only two flights to do so. The JPK team suffered a "no glide" on their first flight. Both the JPK team's second flight of 79 seconds, and Jeff's third flight of 75 seconds were on Sunday. Both gliders were probably aloft for the maximum time, but the stiff winds caused them to go out of sight of the timers while they were still in the air. There was little variation in models entered in this event. Most flexies were the standard 12-14 inch size, with BT-5 boosters.

1/2A Parachute Duration

This event saw two great flights and several mediocre ones. In A division, Lisa DeMar edged out her sister Laura 22 seconds to 16. In C Division, Brett Templar found some good lift to take first place with a single flight of 294 seconds. In spite of the fact that the model was up for nearly 5 minutes, Brett had no problems in recovering the model, as he flew it on Saturday. Jeff Ryan on the other hand had to settle for flight points (his times would have given him 2nd place) as he lost both of his 40+ second flights in the winds Sunday. That allowed Ed Norris to take second, with Ray Lewis in third and Ferenc Roka in fourth.

In Team Division, the JPK team had one good flight of 244 seconds that stayed on the field and was returned. The fact that these 4+ minute flights were returned on a day with moderate winds bodes well for duration flying at NARAM (as long as we don't see Sunday's weather!).

C Eggloft Altitude

Eggloft proved to be a mediocre event. There were three flights over 200 meters (all on composite motors), but only one of those flights was qualified. John DeMar DQed his C10 powered flight when the composite motor's ejection charge blew the rocket apart rather than deploying the parachute (the dreaded hibachi effect). This flight was over 240 meters. John still took first place in the event by flying his heavy backup model on a C4-5 to 139 meters. In Team Division, the JPK team took first with the only qualified flight over 200 meters, using a small light weight model and a composite motor.

D Super Roc Altitude

D SR was a disappointment as many competitors elected not to fly the event. The combined A-C-Team division only had six entries. The JPK team took first with a D7 reloadable motor powered model. This Apogee Components motor has no ejection charge, as it is intended for R/C use. The JPK team used an Adept altimeter in their maximum length, 24 mm (LOC motor tubing) diameter model to deploy the chute. The D7 gave the model a nice gentle boost and the altimeter worked perfectly. This was the only maximum length model to fly successfully. Ferenc and Ed used larger diameter but shorter models (in the 200 meter range) to put up qualified flights to take 2nd and 3rd places respectively. Kent Smith showed us what a D13 reload would do in a maximum length stock Estes tubing model (no reinforcing). The model crimped and went unstable almost immediately after liftoff.

Sport Scale

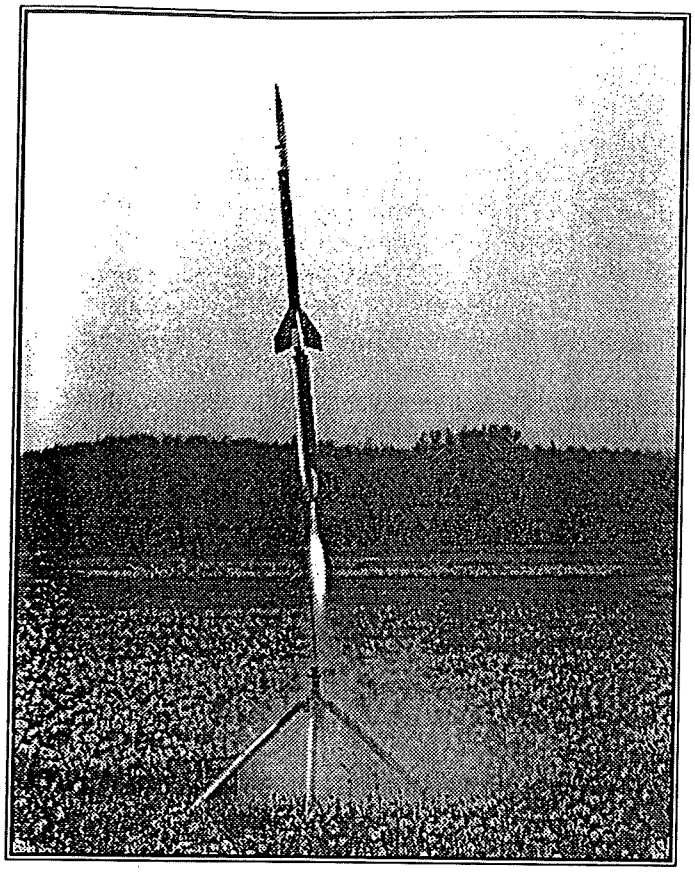
As a traditional NYSPACE event, Sport Scale had a nice assortment of entries. John DeMar flew his beautifully detailed peanut scale Astrobee D to first place in C Division. John almost dropped out of contention when he was unable to find the tail section of the model in the grass after extensive searching. Eventually his daughter found it to save the day and give Dad first place. Ray Lewis took advantage of the new rules that allow for more points for mission by flying a Russian U-750VK Dvina two stage rocket. The model was about 4 feet tall and flew with a three D12 cluster in the bottom stage and 1 D12 motor in the top stage. The electric staging system worked perfectly and both stages of the Dvina were recovered with no damage. The extra mission points moved him from third to second place. Jeff took third with his Goddard L-16 rocket and Ferenc took fourth with an Estes Patriot. Lisa DeMar flew a Nike Apache to fifth place. Jay King entered a LOC Graduator as a Black Brant II, to finish 6th. Jay flew the model with a G motor, making his "H" certification at the same time.

In Team Division, the JPK team took top honors with a nicely done and perfectly detailed Nike-Tomahawk. The E powered flight was nearly perfect. The IR team's SLV-3 was a close second. A lot of work went into making this scratch built model and it looked very impressive. The first flight, on an F25, went very well, recovered nominally, but ejected the engine. The second flight, on an E30, was not as nice but at least was a qualified flight. The quality and variety of entries in Sport Scale at NYSPACE each year continues to be outstanding.

In total points, the winners in A, C, and Team Divisions were Lisa DeMar, John DeMar, and the JPK team. Although the contest was not super competitive, there were some good

HEP CAT — Jay King readies his Schecter Shadow Cat Boost Glider for a nice flight in Sparrow B/G at NYSPACE '95. (See Jay's review in the January/February issue.) Photo by Ferenc Róka. ➢

flights and the meet did help serve the purpose of preparing both the contestants and the club for NARAM.



LIFTOFF! — Andy's beautiful Terrier-Sandhawk captured at one of its two liftoffs at NYSPACE '95. Photo by Patrick Finan. ➢

Sport Flying

The sport range was the place to be at NYSPACE '95 as there was almost twice as many flights there than on the contest range. About 120 sport flights were made during the weekend, with 90 of them coming on Saturday. Thirty different flyers brought rockets to the pads with motors from 1/2A through I power. To no one's surprise, the bulk of the flights were made with Estes kits (and Estes motors). Half of the flights were made with Estes kits. Still, more high impulse flights were made at this launch than at any previous NYSPACE.

Ray Halm was the most prolific sport flyer, as he made 18 trips to the pads over the two days. Most of those were to fly his Astrocam on a variety of engines. Coming in second in number of flights was Doug Caskey with 12. Doug's scratch built, three D12 cluster model, Tesla's Revenge, was one of this writer's favorites. Ray and Doug are members of Buffalo's NORROC section. They and other NORROC members made several launches with NCR Phantom 4000s, with several of them getting their "H" certification on "G" powered flights. Pat Finan made nine flights at NYSPACE '95, including a couple of nice "G" powered flights of his Astrobee.

On the "serious" high impulse side, Wayne Anthony and Ken Mizoi returned to pick up where they left off last year. Wayne again made a number of flights with his Super-8 movie camera rocket including a couple of Smokey Sam H flights and some I powered flights. By far the most impressive was the I65 powered flight. This full 640 Ns, 54mm, 10 second burn motor boosted the movie camera rocket straight and true for a high altitude and very crowd pleasing flight.

This year, Wayne and Ken brought Charlie Sykos along to join in the fun. Charlie's flights of his LOC Caliber and Expeditor were particularly enjoyable to watch. The Caliber flew great on an H97 and then on an H180 and the Expeditor flew even better on an I161 and then on an I211.

Andy Schecter also got in on the high impulse flying. Andy flew his much anticipated 8+ foot tall Terrier-Sandhawk with an I357 in the lower stage and an H97 in the Sandhawk. Andy used John Cato's graphite shaft coupling technique between the two stages. Liftoff of this 8-pound model on the I357 was impressive. The second stage motor failed to ignite, however. Fortunately, Andy used an Adept altimeter to deploy the main recovery system in the upper stage and both stages recovered successfully. Andy re-prepped the model and tried again. This time, as the booster fell away, the Blackjack H97 ignited perfectly and the Sandhawk upper stage flew and recovered well. Unfortunately, due to operator error in prepping the booster, there was no deployment of the parachute on the lower stage, making for an interesting recovery as the booster hit

(penetrated) the ground, graphite rod end first. Still, a most impressive series of flights and Andy has already made repairs on the booster and vows to get it right at NARAM.

On Sunday, Andy flew more conventional models, at least for him. The "Et tu Brute" made an impressive flight on an I284. The altimeter worked perfectly, as the rocket descended from 3000 feet to 250 feet on a streamer. Then the altimeter deployed the chute, and the model landed on the north side of the field.

Andy had one other flight Sunday worth mentioning. That was his "Mach Schnell," a 24mm (minimum diameter) G110 powered rocket. This through the wall, G10 finned, fiberglassed model was designed to break the sound barrier. We don't know if it did or not, but it took off fast, flew straight, and held together for a very impressive and exciting flight.

All in all, it was a good weekend for the sport flyers. The 6000' waiver was more than sufficient and kept everybody happy. The separate sport range meant no waiting and everyone seemed to enjoy themselves. Our thanks go to NORROC for manning the sport range for much of the weekend.

In summary, NYSPACE '95 was another successful launch. While the first three NYSPACE gatherings were heavily competition oriented, NYSPACE '95 was another step in the evolution from competition to sport flying that started at NYSPACE '94. Sport flights and sport flyers outnumbered their contest counterparts by almost two to one this year, so the emphasis of NYSPACE has clearly shifted from the early years. Whatever the emphasis is, NYSPACE continues to be the premiere New York state launch for rocket enthusiasts.

Sport Flight Statistics

Total Number of Flights 118
Most Times to the Pad ..... Ray Halm, 18

Engine Use:

1/2A 3	E 11
A 4	F 11
B 8	G 14
C 34	H 7
D 30	I 7

Kit Flown, by Manufacturer:

Estes 55
Aerotech 14
North Coast Rocketry 7
LOC 5
Quest 3
Custom Rockets 2
Scratch Built 32

(contest results on next page) ➢

January and February Building Sessions

by John Viggiano

During the chilly months, it's a little tough to schedule a sport launch in advance. Flying in the thick of winter is a catch-as-catch-can proposition. Rather than hibernate, we decided to try something a little different this year. Building sessions were held on the third Sundays of January and February, in lieu of our regularly-scheduled sport launch. The turnout was gratifying, and we will likely continue this next winter.

At the January session, two generations of Wolfs were present, making it a family-oriented event, as well. Dan and Mary worked on several rockets together, and even brought some popcorn to share.

Bill Owens used the opportunity to begin construction of his Edmonds Canard kit, an all-balsa rocket glider. John Viggiano finished up an Estes Broadsword, and started on an FSI Eos. The unanimous consensus was that it was great to get together while doing some building.

The February session included entertainment — Bill Owens brought a video of the Discovery Channel's popular *Wings* series. This was highlighted by a profile of the remarkable North American XB-70 Valkyrie, a trisonic long-range heavy bomber that was never put into production.

Patrick Finan brought a bunch of really cool scale-like ("this is what that rocket would look like if it looked like this") models. Some included parts scavenged from a Monogram Saturn V kit. All were nicely done, and demonstrate what one can do with a little imagination.

Not one to let an opportunity to build slip by, Patrick assembled a LOC Modular Baffle Unit, which is a wadding eliminator for larger rockets.

Bill Owens worked on an Estes Gyroc, a true classic. John Viggiano worked on some of the details of the X-15 PMC article which appeared in the last issue, and took some photographs for Ferenc's article on the *In Action* and *Detail and Scale* books, which also appeared in the last issue.

Afterwards, we braved the outdoors to test fly the Broadsword John had finished building the month before. Now nicely painted, it was ready for a test flight, which was photographed by Patrick. Afterwards, some members joined Ferenc at Oregano's for some pizza.

The building sessions were fun, and provided us with a way to ensure continuity during the Rochester winters. Look for them on next year's calendar. ➢

NYSPACE '95 Contest Results

A Boost/Glide (WF=18)	1st	2nd	Total	Points
C Division				
1. Jeff Ryan	89	-	89	540
2. John DeMar	PS	75	75	324
3. Jay King	19	17	36	216
4. Ed Norris	14	15	29	108
5. David Wixner 13	13	26	54	
6. Ferenc Roka 25	-	25	54	
Team Division				
1. Int'l Rescue Team	NG	22	22	540
2. J-P-K Team	21	RB	21	324

A Flex Wing (MR, WF=22)	1st	2nd	3rd	Total	Points
C Division					
1. John DeMar	MAX	MAX	-	240	660
2. Jeff Ryan	NG	NG	75	75	396
Ray Lewis	UNS				
Team Division					
1. Int'l Rescue Team	MAX	102	-	222	660
2. J-P-K Team	NG	79	-	79	396

1/2A Parachute (WF=7)	1st	2nd	Total	Points
A Division				
1. Lisa DeMar	17	5	22	210
2. Laura DeMar	8	8	16	126
C Division				
1. Brett Templar 294	-	294	210	
2. Ed Norris	43	28	71	126
3. Ray Lewis	18	28	46	84
4. Ferenc Roka	41	-	41	42
5. Jay King	8	12	20	21
Jeff Ryan	NR	NR	-	21
Team Division				
1. J-P-K Team	244	-	244	210
2. Int'l Rescue Team	8	4	12	126

C Eggloft Altitude (WF=18)	1st	2nd	Best	Points
A&C Division				
1. John DeMar	SAF	139	139	540
2. Ed Norris	113	-	113	324
3. Jeff Ryan	93	-	93	216
Ferenc Roka	NC	-	FP	54
Lisa DeMar	TL	-	FP	54
Kent Smith	SAF	-		
Brett Templar	SAF	-		
Team Division				
1. J-P-K Team	215	-	215	540
2. Int'l Rescue Team	TL	145	145	324

D Super-Roc Alt (WF = 17)	Len./Alt.	Len./Alt.Best	Points
A-C-Team Combined			
1. J-P-K Team	300/123	- 1146	510
2. Ferenc Roka	201/165	- 933	306
3. Ed Norris	191/134	- 841	204
Jay King	CR	-	
Kent Smith	CR	-	
Laura DeMar	SAF	-	

Parachute Spot Landing (WF = 4)	Distance	Points
A & C Divisions		
1. Jay King	3.6	120
2. Ed Norris	5.3	72
3. Ferenc Roka	9.1	48
4. Jeff Ryan	22.8	24
5. Laura DeMar	28.5	12
Ray Lewis	50.0+	12
Team Division		
1. International Rescue Team	20.05	120
J-P-K Team	SAF	

Sport Scale (WF=20)	Static	Flight	Total	Points
A & C Division				
1. John DeMar	695	85	780	600
2. Ray Lewis	525	250	775	360
3. Jeff Ryan	630	104	734	240
4. Ferenc Roka	490	90	580	120
5. Lisa DeMar	392	85	477	60
6. Jay King	0	70	70	60
Team Division				
1. J-P-K Team	735	108	843	600
2. Int'l Rescue Team	690	80	770	360

Total Points

A Division

1. Lisa DeMar.....324
2. Laura DeMar.....138

C Division

1. John DeMar.....2124
2. Jeff Ryan.....1437
3. Ed Norris.....834
4. Ferenc Roka.....624
5. Ray Lewis.....456
6. Jay King.....417
7. Brett Templar.....210
8. David Wixner.....54
9. Kent Smith.....0

Team Division

1. J-P-K Team.....2580
2. International Rescue Team.....2130

Sections

MARS™..... 8232
Independents..... 3042
NORROC..... 54
Blastoff (Erie)..... 0

Abbreviations For Scoring & Disqualifications

FP - Flight Points
MAX - Flight had maximum time for round
NC - No Close
NR - No Return
NG - No Glide
RB- Red Baron
SAF - Safety DQ
SEP - Separation
TL - Track Lost
UNS - Unstable

MARS™ Club News

Meeting reports by Bill Owens

Another full house of nine rocketeers got together for the MARS February meeting, despite the usual chill weather. After the usual socializing, Dan Wolf started things off with the report from the NARAM Committee. Among the high points, the 1941 Historical Aircraft Group will be building a permanent structure, which may force us to move one or both of the ranges. Dan has confirmed that we will be staying in the Ontario dormitory, which is very convenient to parking and to the Letchworth dining area, where most of the meetings will be held. And after much discussion, it was decided to ask Bill Fenzel of North Side Hobbies in to work with Bill Spadafora of NARTS on the range store arrangements, primarily because sales on the campus will require a NY State tax ID, which NARTS lacks.

It was decided that Pat Finan, as membership chair, should keep the address list (being absent, he was a perfect volunteer!). Jeff Ryan reported that he is gathering parts for the new club launch system, and it will be ready for NYSPACE to be part of our NARAM rehearsal process. Jay King was not available to report on technical publications, but it was noted that the MARSCON '93 proceedings are now available from NARTS. Finally, there was some discussion of a plan to offer the *Upstate Rocketeer* to NORROC, for distribution to their members; this was approved unanimously, with the requirement that any subscription requests go to MARS. Space will be provided for NORROC-related information, events and announcements.

John Viggiano regrettably had to announce that fundraising, in the form of Tops register tapes, is still running behind schedule. Please bring yours, and your family's, and your neighbors', etc...

In new business, John brought up an offer from the Compuserve Modelnet sysop to give each NAR section six months of free access to Modelnet, with the intent of encouraging more participation. After brief discussion, it was unanimously decided to give the flag to Dan, since he's been acting as our unofficial but very effective liaison to Modelnet for several years now.

John also reported the sad news that due to family commitments, Mike O'Brien will be giving up rocketry. All the members present expressed their regret at this turn of events. Bill Owens announced that he has taken a new job in Syracuse, and will be moving there this spring, but will continue to be an active member of MARS as much as possible.

There was some discussion of the Hypertek beta test program, which is encouraging NAR Sections and Tripoli Prefectures to use the new hybrid technology by giving them the necessary launch equipment, contingent on at least four members purchasing motors. Given the expense and commitment needed, it was decided that MARS won't try to get in on the program. Dean Oberg passed around some information on the rocket-lofted balloon project he is involved with, including some details on the planned electronic payloads.

The meeting adjourned relatively early, giving the more distant members time to trek home and the closer ones the opportunity for some refreshments at the usual eatery.

March Meeting

Once again, MARS members turned out in force, equalling the February total of nine attendees for the March meeting. Most of the opening discussion focused on the interesting equipment Andy Schecter was setting up on the table. It turned out to be his program for the evening, which showed us how to laminate fiberglass reinforcement onto fins and body tubes. He demonstrated covering all three fins of an experimental supersonic rocket with 0.043" G-10 fins, using finishing epoxy and lightweight fiberglass cloth. Andy's presentation was too detailed to relate in its entirety, but amongst the more crucial details:

- less is definitely more for the epoxy; excess just makes a mess
- when covering a body tube, start in the center of the cloth, work towards both ends of the tube, then wrap around the tube each way
- sand all the surfaces to be covered with coarse paper to give the epoxy something to bite into
- trim the overhanging edges of the fiberglass with a knife blade, then sand to feather them in
- a Ryobi or Bosch detail sander makes for much quicker work, especially on fins
- when layering fiberglass over fiberglass, shake some flocking onto the first layer before the epoxy cures to give the second layer something to adhere to
- Kilz spray paint helps fill the cloth pattern quickly before final painting

Andy brought a mostly-finished model for display, and the finish was very nice. We're looking forward to seeing it fly.

Regular club business included a decision to designate Pat Finan as the official club contact; unlike last month, he was present and willing to be volunteered. Jeff Ryan reported that construction of the new club launch system is underway, and on schedule for use at NYSPACE in May. It was brought up that the DX/Local meet, scheduled for June 11, did not yet have a slate of events. Bill suggested one, and after considerable discussion a selection was approved: B HD, 1/2A RG, Sport Scale, Random Duration and Drag Race. On the topic of contests, it was decided that given members' plans, ECRM 22 will be the club's last official meet. Bill Owens noted that NORROC has been invited to be the opening act at this year's Niagara Falls Airshow, and is looking for additional flyers to help out; contact Bill Fenzel for information.

Given the club's commitment to NARAM-37, it was decided that we would not have a table at this year's St. John Fisher Science Days, but the topic will be revisited next year. Once again, John Viggiano had to report that fundraising is behind; please remember those tapes! Dan Wolf had a very nicely formatted table of current contest points standings as of

3/7, and noted that MARS has three members in the top 20; Jeff Ryan in 8th place, Dan in 10th and John DeMar in 18th. *[Hey! What about the International Rescue Team?! — Editor]* As a section, MARS stands 5th out of 21 competing.

Once again, the meeting broke up early with members heading off home, no doubt planning their new fiberglass-reinforced projects.

April Meeting

Continuing a very welcome trend, the April MARS meeting was the biggest in recent memory with 12 in attendance! Dan Garrett, Brett Templar and Lloyd Wood, three familiar faces from past launches, made up a contingent from the Honeoye Falls area, and plan to lead other new members into the fold. With such a crowd, it's a good thing that we'll be holding the next meeting in a new location, at 125 Tech Park Drive. Don't worry, it's just up the road near the corner of John St. and Baily Road.

John Viggiano got some of the members involved in the newsletter distribution by doing the folding, labeling and stamping just before the meeting began. Those in attendance received the added bonus of getting their copies on the spot. Hugh Hastings also announced that he is near completion of a new mailing list database. Membership Chairman Pat Finan announced that MARS now has 35 active members, with several prospects in the near future. Remember, with NARAM-37 looming on the horizon your participation in the club is more important than ever!

Jeff Ryan reported further progress obtaining parts for the new club launch system. He has obtained the sanction for NYSPACE '95, and is applying for DX/Local. Dan Wolf announced that there will be no NARAM committee meeting in April, as most tasks appear to be on schedule; we will also be receiving a half page of ad space in the new NAR newsletter's second issue.

In old business, John brought up the issue of a club flag, which most felt was especially appropriate for NARAM. After some discussion, $60 was approved for the flag, using the previously discussed design with the addition of "NAR #136" along the bottom to further identify the club. New business started with a welcome of our new members, and worked into a discussion of a possible schedule of social events for our 1995 calendar. John suggested a picnic at the April sport launch, and a Red Wings baseball game in the fall. John also presented the possibility of forming a relationship with the Middlesex Advanced Rocket Society in England, and it was decided that Bill Owens will send them a letter suggesting a newsletter exchange and further contacts.

With the NARAM committee's success in obtaining patches, there was discussion of having a section patch, and possibly also a section membership card. Both ideas will be pursued and brought up again for discussion at a future meeting.

Bill Owens reported on the utilization of the MARS/NARAM World Wide Web server, which has had over 1600 accesses from some 180 sites in the three months it's been available on the Internet. Andy Schecter brought up two issues which he has been concerned about at recent launches: safe launching distances and waiver policies. It was agreed that the new launch system will provide for appropriate distances, and that given the larger and larger crowds of flyers at our launches more formal safety and compliance checks will be carried out. Several club members present volunteered to act as LCO and RSO at future launches, which we believe will enable us to maintain our excellent safety record.

Ferenc Róka showed around his new Edmonds Deltie, which appears to be a very nicely done kit. He also mentioned a communication from Al Jensen in Syracuse, who is hoping to form a new club there. Some discussion also took place regarding the choice of cover designs for the NARAM program, with the general opinion favoring a large Mars Lander featured centrally, and a small NARAM logo below. Pat will be working on final versions for a future meeting.

Finally, just before adjournment Dan Wolf was able to present his program, which covered the techniques involved in reinforcing glider wings with tissue and dope. He talked about the selection of the proper tissue (most favor Japanese, which is lightweight, tough, and available in a variety of colors), showed how to prep the balsa surfaces with a first coat of dope and a light sanding, and demonstrated his methods for working out wrinkles and trimming the tissue with fine sandpaper. After a few minutes, he had managed to cover all four wing surfaces very nicely. With several glider events coming up this spring and summer, the presentation was particularly timely.

➢

April 8th Sport Launch

by Dan Wolf

After shivering at the March 19th sport launch, many club members must have looked at the weather forecast and decided to stay home for this one. This time though, the weather was better than predicted and it was a pretty good day for a launch. Even though it was overcast, winds were very light, making recovery relatively easy. A total of four people turned out, Hugh Hastings and his nephew Henry, Dan Wolf, and John Viggiano.

Hugh had his Estes Mean Machine, rebuilt with an 18mm mount after a D12 motor catoed in it the last time out. Hugh decided that maybe 18mm composite D motors would be a better choice. A test flight on a C6-3 showed why D power was needed. It worked, but for a low altitude flight. The next launch, on a D21-7, was very impressive and resulted in a nice flight.

Hugh and Henry put up a lot of flights at this launch with an interesting assortment of E2-X kits and others. Henry had fun flying a Super-Shot on a B6-4, a Dagger on a C6-5, a Solar Warrior on an A10-3T, and a Bandit on a C6-7 among others. All flights were successful, and even the C powered ones landed within a short walk of the launch site. Besides the Mean Machine flights, Hugh had a couple of nice flights of a scratch built boost/glider on A8-3s. The B/G was a "kit-bashed" Wizard from a plan in the Estes newsletter. Hugh also flew an Alpha III on a B8-5 and a C6-7.

Dan brought out a few gliders to test fly for the upcoming contest season. Dan flew two "Turnups" on 1/2A3-2Ts. Both glided well, one for 60 seconds, and the other for 90 seconds. A burned through shock cord on the pod prevented Dan from making additional test flights though. Dan's other flight of the day was an AeroTech Initiator on a G33 reload. This three second burn Blackjack reload is the only reload for the small Aerotech "E-F-G" 29mm case that comes with the propellant in two slugs. The flight was perfect, and again, easily recovered.

John Viggiano flew an Iris on a C6-7. Although it looked a lot like the Estes kit, this one had a hardwood nose cone that John turned himself. The flight featured a perfectly straight boost and nominal recovery.

John's other flight of the day was part of an unintentional drag race between his Eos scale up and Hugh's Gnome. Hugh flew the Gnome on an A10-3T while John's Eos flew on an H128 reload! The Gnome was the first off the pad, and it probably had the lowest altitude. We're not sure which one touched the ground last, however. When the Eos took off, everyone quit looking at the Gnome. One thing is for sure, the Eos definitely was going the fastest when it hit the ground. With no recovery system deployment, the Eos did a "St. Louis" arch to the far south side of the park (I'm convinced Parma Town Park does not like Eoses). Postmortem of the remains revealed the recovery failure was due to an insufficient amount of ejection charge powder. The damage to the rocket was extensive.

As always, it was a fun launch and all those who attended had a good time (well maybe all, except for John). Plan to join us next time, no matter what the weatherman says. ➢

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
- ❑ 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 in this area, are listed below.

22 - 28 July 1995, NARAM 37, Geneseo, NY, The Nats.
Events: 1/2 A Altitude, 1/2 A Parachute Duration, A Boost Glide, A Flex Wing (Multi-Round), C Streamer, C Eggloft, D Super Roc, Giant Sport Scale (Div. B, C, T), Peanut Sport Scale (Div. A), Open Spot Landing, Research & Development. Fun Events: G Hairy Stein, Team Rendezvous, Ping Pong Ball Spot Landing, Radio Controlled Glider. There will be a separate range just for sport flying. Join us for a week of rocket flying fun!
Contact: Dan Wolf, 458-3848.

☞ *NOTE NEW LOCATION FOR MARS MEETINGS*

RIT Research Corporation is no longer on High Power Road. Too bad; it was a great address at which to hold meetings for a rocket club! We've moved three doors south, to 125 Tech Park Drive, which is still off of John Street in Henrietta.

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 Parma Corners Park, Route 259, Parma. Contact John Viggiano at 359 - 3869 for more information on these club functions.

Upstate Rocketeer
c/o John Viggiano
35 Mickens Bend
West Henrietta, NY 14586