SoJARS **Altitude!**

South Jersey Area Rocketry Society Official Newsletter **NAR Section #593**

VOLUME 3, NUMBER 2 **= $1.00 =** **MARCH / APRIL 2001**

New Officers Take The Helm!

President's Corner

By Art Treiman

Well, as we go into spring SoJARS has had a pretty successful winter. We had way too many cold and windy launches, but plenty of black powder and AP was burned and nobody got frostbite, so I guess we did okay! March was a bust but the GCC sports schedule is a lot more SoJARS friendly than it was last spring so we should be able to fly thru the season. I don't have much new to discuss but I do want to mention a few safety related issues because, in our enthusiasm to fly, we are occasionally letting our guard down.

First, please remember to pay attention to launch rod angles, especially in windy weather. Gloucester County (according to today's paper) and the area around GCC have seen near 100% population growth! Tanyard road is clearly more heavily traveled than it was two years ago and rockets must be kept off the road at all costs (even if it means losing your rocket). Secondly, please remember to check for aircraft overhead as this has slipped by in the past. Finally, please remember that there is no smoking in the prep or launch areas. Black powder is highly flammable and the open flames of cigarettes are a violation of the safety code. If you wish to smoke at a launch, please just step back five or 10 yards from the prep area. Always remember, fly safe!

See you all soon,
Art

John, Barry, Art, and Jeff. Jack not present for photo.

Editorial

By Joe Libby

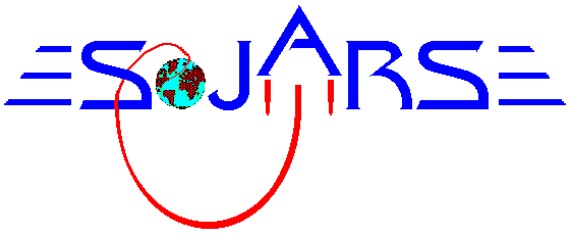
I am getting very itchy to fly. Something! Soon!! Both scheduled December launches were scrubbed and the March un-launch was without a rain date. As Art mentions in his President's Report, we did manage to have launches in January and February, but I couldn't make either of those. So, I haven't flown a thing since my Junk Mail lawn darted in November! However, I've still been an active rocketeer. I managed to purchase & build a Mach Buster from the sadly now-out-of-business RocketVision. I also did another scratch built, this time a little oddroc. And of course I repaired Junk Mail.

But back to the business of Editoring. First, congratulations to our new and retuning leaders, photo on this cover.

President: Art Treiman
Vice-President: Barry Berman
Treasurer: John Coles
Secretary: Jeff Gage
Range/Safety: Jack Komoroski

As for this issue, first, you'll note the masthead has been updated to reflect our new officers. Next, the Calendar section should be up to date as of March 17, so I cut our March 4 launch, which was scrubbed anyway. While we don't have a date for June yet, Tom is planning a couple of contests. I therefore included it from now in case some of you want to get in some practice beforehand. Contest details follow Launch Report. Another fresh update is that RATS X has been cancelled. However, as you'll see, there are other large and/or high power events not too far away.

Continued on Page 3



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Please visit the frequently updated **SoJARS** website at http://www.sojars.org or call the **SoJARS Hotline: 856-424-5905**

Calendar of Events

SoJARS Meetings

Unless otherwise specified, all meetings take place at the Cherry Hill Public Library, 1100 North Kings Highway, Cherry Hill, NJ. (856) 667-0300. Directions are available on our web site. For 2001, all meetings will be held on the 4th Tuesday of the month, 7:00pm - 9:00pm, in Room A.

Tuesday, March 27.
Presentations: Multi-panel Parachute Construction.
Russ Mozier, who makes his own parachutes, will teach us how to design, lay-out, and construct multi-panel parachutes.

Tuesday, April 24.
Presentations: Rocket Videos
Joe Libby will show video he's taken of our October, November, January, February, and March launches.

Tuesday, May 22.
Presentations: Ariel Photography.
Art Treiman will entertain and educate us with a talk on ariel photography.

Tuesday, June 26.
Presentations: TBA

SoJARS Launch Dates

Unless otherwise specified, our launch area is at the Gloucester County College. Directions are available on our web site.

Sunday, April 15, 12:00pm to 4pm.
Raindate: None.
Theme, Funtest, Vendor: TBA

Sunday, May 20, 12:00pm to 4pm.
Raindate: May 27.
Theme, Funtest, Vendor: TBA

Sunday, June ??, 12:00pm to 4pm.
Raindate: ??.
NAR Sanctioned Contest: B SuperRoc and 1/2A Boost Glider duration.

GSSS, NAR #439

Launches: March 31, April 28, May 19, June 23, July 28, August 25, September 29, October 27, November 24, December 29. All run 10am - 3pm.
Location: North Branch Park, near Somerville, NJ
GSSS Hotline: (908)-658-9417
Website: http://www.robnee.com/gsss/

Calendar of Events
Continued

PARA, NAR #520
Next Launches: March 11 & April 8, 11:00a - 4:00p.
Location: a farm 9 miles north of Doylestown, PA
Phone: You may call Chuck Arkens (215) 855-5599 or David Stoetzer (215) 699-0587 the night before or the morning of the launch for verification.
Website: http://users.erols.com/dstoetz/para/

Garden State Tripoli, TRA #74
Next Launch: RATS X CANCELLED.
Location: Cederville, NJ.
Website: http://www.njtripoli.com/

Deleware Tripoli, TRA #106
Next Launch: March 31 & April 1, 2001.
Location: Harper Farm, Rhodesdale, DE
Website: http://www.detripoli.org/

Maryland Tripoli, TRA #68
Next Launch: March 17 & 18, 2001. Several M flights and level 3 cert flights are planned.
Location: Higgs Dairy Farm, Price, MD
Website: http://www.mdtripoli.org/

METRA, TRA #94
Next Launch: TBA.
Location: Rickey Farms, Vernon, NJ.
Web: http://www.users.nac.net/jdcluster/Metra.html

MARS, TRA #105
Next Launches: March 10, 11, 24 & 25; April 7, 8, 28 & 29; May 19, 20, 26 & 27; June 9, 10, 16 & 23.
Location: Sod Farm, Allentown, NJ.
Website: http://www.njtripoli.org/

NARAM - 43
Dates: August 4 – 10, 2001
Location: Geneseo, NY
Contests planned: 1/2A Boost Glide Duration, 1/2A Flex Wing Duration, A Altitude, A Streamer Duration, B SuperRoc Altitude, C EggLoft Altitude, D Helicopter Duration, Sport Scale, and Research & Development.
Website: http://www.naram43.com

Altitude! Deadlines
Submissions for publication are accepted continuously by the editor. The Deadline for the May/June issue will be May 6.

Editorial
Continued from Cover Page

We received some good submissions for this issue. In the Member's Forum Bob Ross relates another excellent tip (what an understatement!). We also hear the sad news from Pat Flanagan about Edmund Scientific closing their retail store. That prompted me to print the history of Edmund Scientific/Optics from their website. We also have a couple of helpful Q&As from John Coles, plus a few FYIs, most importantly the New NAR Safety Code. In comparison, it is really just a more concise version of the original (ie, same basic content in less words). A copy is reprinted on the last page.

An important last minute entry is that we have a table at the East Coast Hobby Show at the Fort Washington Expo Center next weekend (as I type this), March 24 & 25. Thanks to Patrick Flanagan for arranging it on such short notice, and to those who plan to volunteer to be there. Be sure to take notes & photos for the next newsletter!

One thing we could have used in this issue is some photos from the winter launches, but none came my way. So we just have the meeting photos I took in January and February. We also have no Launch Report from February, though we did fly on February 18. However, I think we still have some great stuff in this issue. Enjoy!

Launch Reports

January 28, 2001
By Art Treiman

Well, mother nature finally gave SoJARS a small break and let us fly on January 28th. While it was far from the "typical" launch (if there is such a thing!), a really cold but nice time was had by all. The biggest uncertainty going into the afternoon was whether it would be too windy to fly. Well, club Meteorologist Bob "Weatherman" Jonas certainly took care of things in a very big way. Although he didn't bring anything to fly, we were all greeted by a funny looking tower in the center of the field. Picture a nice aluminum tripod with a 15 foot rod going straight up, topped with all sorts of "doo-hickeys." Then, sitting back in the parking lot on his tailgate was Bob, a laptop, and a radio downlink receiving instant digital weather conditions! I can say without a doubt that our launch weather was sunny, 43 degrees w/ north winds at about 10 - 13 mph, with occasional lulls to 8 mph and gusts to 16. Humidity

and dewpoint have escaped my memory of the day, but we sat with a constant readout at the LCO table and I feel pretty secure in saying there probably are not a lot of other clubs with that kind of equipment monitoring their launch conditions!!! Kudos to Bob!!!

Anyway, watching and not flying was the theme for many of us. As Mike Rossbach (I think) noted, most of us had not flown for months and were aching to either watch of fly. I came along just to watch also so Bob and I served as RSO. At about 12:20pm an ultramodern motorcycle roared into the parking lot with a guy wearing a black body suit and helmet that looked like a spacesuit. I looked over at Tom Mitchell and said "that's gotta be Darren." Tom didn't argue. It was Darren. He was just out for the ride and stayed about a half hour before departing.

The cold weather and high winds didn't put too much of a damper on things, however due to the smallish crowd we didn't do flight cards so most of this is coming from memory. Most memorable were John Gramicks AP powered birds on all sorts of F motors. Ditto for Mike Rossbach. Pat Flanagan flew some more of his scratch built nice ring and tube fin designs. Randy DePasquale flew all sorts of nice stuff (as always), but most impressive was the launch system that he is working on. Paul DeCrane succeded in windy conditions where I failed in the past, flying an Exoskell in the winds to a very low altitude and getting it to land after the parachutes opened (always a challenge with those heavy 18mm birds).

Mark Gage flew his first flights as a Sojarian... welcome aboard! Steve Bastow's Corkscrew flew well as always. And finally, Tom Mitchell flew his very cool Peter Alway designed pseudo-scale Saturn IV. Chris Taylor came down and flew a nice digital camera design (that actually worked!) Steves Bastow & Childs also made a few nice flights apiece, while Henry Rosenblatt warmed the bench as a part of the audience. I don't know who is crazier... those who came to fly in the freezing cold or those of us who came and sat in the cold and watched! Anyway, I know I may have missed a couple folks who were there, but w/ frozen fingers cards would have been tough and only Tom Mitchell got me his flight log. Anyway, see you all in February!

June Contest

By Tom Mitchell

I would like to remind everyone that we will hold our first sanctioned contest this June! We will hold 2 events: ½A Boost Glider Duration and B Super Roc Duration. The rules for both are included below. What this means is that anyone in our club who is a NAR member can get NAR points and be listed in the standings at the end of the season! Those members who are not NAR members can still compete, but won't get any points from the NAR. (I'll keep 2 sets of result; 1 set of official results that I will send to the NAR, and "unofficial" results for bragging rights within the club.)

Since I need to know how many people will be flying in the contest, anyone planning to compete must contact me before the contest. You will need to fill out an entry blank before you fly. You can get one for me, or download one from http://www.nar.org/cabinet/cb-1-70.pdf.

Good luck,

Tom Mitchell tmitchell@citnet.com

33 SUPER-ROC DURATION COMPETITION

33.1 Super-Roc Duration Competition comprises nine events open to single-staged model rockets whose body length is no less than the minimum allowed for the classes of the event. The purpose of this competition is to achieve the greatest duration possible with the longest rocket possible without impairing the structural integrity of the rocket.

33.2 An entry that comes apart, bends so as to crimp the body, or has a similar structural failure prior to ejection shall be disqualified.

33.3 Entries with bodies or significant structural parts made from hard or potentially unsafe material (e.g., hardwood doweling or fiberglass shaft) shall not be allowed, under the provisions of Rule 1.1.

33.4 Super-Roc Duration Competition shall be scored as follows: the length in centimeters of the model, as measured from the tip of the nose cone to the end of the motor nozzle, up to the maximum length for that category, shall be awarded as static points. No additional points are awarded for any length beyond the maximum. The achieved duration of the model in seconds shall be awarded as flight points. The static points and flight points thus obtained shall be multiplied to determine the total points for each flight. The contestant achieving the highest score is the winner.

33.5 This competition is divided into classes based on the permissible total impulse of the motor(s). The following classes of Super-Roc Duration Competition are established:

Motor	Min cm	Max cm	Weighting Factor
1/4A	25	50	13
1/2A	50	100	13
A	75	150	13
B	100	200	14
C	125	250	15
D	150	300	16
E	175	350	18
F	200	400	19
G	225	450	20

36 BOOST GLIDER DURATION

36.1 Boost Glider Duration Competition comprises nine events open to any model rocket, one portion of which returns to the ground in stable, gliding flight supported by aerodynamic lifting surfaces which sustain that portion against gravity. If the entry is staged, the gliding portion must be part of the uppermost stage, and must not be deployed until that stage has burned out. The entry may separate into multiple pieces; only the gliding portion is timed. Models whose gliding surfaces are made of flexible materials (e.g. plastic film or cloth) are prohibited from this event. The purpose of this competition is to achieve the longest flight duration time.

36.2 An entry that descends with parachute and/or streamer recovery device(s) permanently attached to the gliding portion of the model shall be disqualified. However, other portions of an entry may deploy parachutes and/or streamers for recovery purposes. (If the glider entry accidently rips the motor pod's recovery streamer and the streamer attaches itself to the glider, the entry may be qualified depending on the RSO ruling that the entry still glided and was not disqualified for other reasons)

36.3 This competition is divided into classes based on the permissible total impulse of the motor(s). The following classes of Boost Glider Duration Competition are established:

Motor	Weighting	Multi-Round Maximum
1/4A	18	45
1/2A	17	90
A	18	120
B	19	180
C	20	240
D	22	270
E	23	300
F	25	300
G	26	300

Members' Forum

Bob's Modeling Tips – 2001
#2: Estes Honest John Fins

By Bob Ross
NAR 75320
Tripoli 7904

The Estes Honest John kit is a classic which builds into an excellent model. I was lucky enough to find one of these a few years ago and bought it instantly. Fortunately Estes has recently re-issued the kit so that many of us can once again build this impressive model.

Although the kit builds into a relatively large rocket, one of its drawbacks is that the fins are very fragile. They are made of vacuum form plastic and will typically not survive a landing unless you are very lucky. Also, if you choose to fly on something larger than a D engine, the fins may not be able to take the stress of flight. E and F engines can fit into the stock 24mm engine tube; however, the model is so big, many convert it to a 29mm tube. I did not do this and am sorry I didn't.

Preparing the Honest John Vacuum Form Fins

Similar to the vacuum form Atlas pods described in the last *Altitude!*, try filling the interior of the fins with balsa wood prior to gluing them together. To not confuse anyone, there are 4 fins, which are made up of 8 vacuum form pieces. These should be cut out of the molded plastic sheets as described in the kit. After sanding, each of the 8 pieces can then be "filled" with balsa wood. This is done by cutting 16 large, ¼" thick balsa wood pieces to fit into each upper and lower sloped portion of the fins. The balsa wood inserts are glued into the fins using a water based contact cement (Elmers makes one). If you use a solvent based contact cement or any other type of plastic cement, it will melt the thin styrene plastic and ruin the fin.

Once dry, the balsa wood should be cut and sanded to match the thickness profile of the fin so that when the two halves are pressed together the plastic edges of the fins meet as if the balsa wood filler was not there. This takes a lot of shaping, takes a bit of time, and creates quite a mess. When done, glue the fin halves together by spreading 15 – 20 minute epoxy on the balsa wood filler parts. Epoxy is used instead of a wood glue since wood glues are water based and may cause the balsa wood to warp. Epoxy cannot do that.

After the epoxy has cured, glue the edges of the fin halves together using a liquid plastic cement.

Attaching the Honest John Vacuum Form Fins

To enhance the attachment of the fins to the rocket body, use three short wooden dowels as pegs on the root edge. Drill a ½" long, 5/32" diameter hole into the center of each fin (where it's thickest). Then drill two ¼" long, 3/32" diameter holes about 1-1/4" on each side of the center one. Make sure you drill straight and do not come through the surface of the fin. Trust me it takes a while to patch a break-out smoothly. Cut 4 pieces of 5/32" and 8 pieces of 3/32" wooden dowel material to fit into the holes so that at least ¼" sticks out of the fin when inserted. Epoxy these into place (12 pieces in all) and let dry.

Mark the location of the pegs on the rocket boattail and drill 3/16" holes for the center pegs and 1/8" diameter holes for the outer ones. The slightly larger size holes gives you a little "wiggle room" when positioning the fin. Test fit each fin to where it will be placed on the boattail. You should label each fin to a set of holes for a matched set.

Cut 12 pieces of about .050" sheet styrene plastic into 3/8" circles (they do not have to be perfect). Cut 12 pieces of about 1/32" plywood into similar 3/8" circles (again not perfect). Drill 5/32" holes into 4 of each and 3/32" holes into the rest. Bend each of the "washers" slightly down the middle.

Put a bead of plastic tube cement down the middle of the fin's root edge and position it on the boattail. Put more tube cement on the interior of the boattail where each peg comes though. Slide a plastic washer on so that it's bend matches the inside of boattail. Add some more glue to the top of the washer and slide a wooden washer on top of the plastic one. Do the same for the other three fins. When completely dry (this is where the real paranoia comes out) put a drop of epoxy around the top of each wooden washer to form a fillet between it and what's left of the peg. These fins aren't going anywhere !!!

Somewhat for cosmetic purposes, you can add some plastic filler to the gap where the fin meets the rocket boattail. Although tedious, it does make the rocket look better when painted. Remember to add some additional nose weight to counteract the weight of the balsa wood fillers, epoxy, and pegs.

That's about it for this issue. If you have any comments, questions, or suggestions, don't hesitate to contact me via e-mail, at the meetings, or at the launches. Have fun building !!

Edmund Scientific Closing

The following is a string of emails that relate this sad news…

From Pat Flanagan:

Hey, I just heard the news... Edmund Scientific is going out of business. A massive liquidation sale of all items is going on. Those who don't know where that is, it's in Lawnside on the Gloucester Pike between White Horse Pike and Black Horse Pike. (btw, they sell limited amounts of rocketry stuff, small Estes kits and Quest motors)

From Joe Libby:

Hi Pat,

That is bad news. Where did you hear? I just got their catalog yesterday and then went to the web site http://www.scientificsonline.com/ and found no indication of going out of business. I will call them today. I love that place - even if I've only been there a couple of times.

From Pat:

My father's girlfriend told me that she saw the sign outside.

From Joe:

Well, I called today and the bad news is Edmunds Retail Store in Barrington IS closing. According to the employee I talked to, Edmunds in Barrington is returning to their roots, manufacturing optics only. All the other stuff they have is being sold to Science Kits, Inc., up in Towawanda, NY (btw Buffalo & Niagra Falls). This is the company that's been their catalog mail order distributor for some time. SO, the good news is the Edmund Scientific's "Scientifics" Catalog and mail order service will still exist. I called them to confirm this (800-728-6999). They'll have all the old Edmunds stuff and then some. Their website is www.scientificsonline.com/ You just won't be able to buy anything from the Barrington location since that site will just be an optics manufacturer now. The retail store's doors close end of February (I wasn't given a specific date). They're already shipping some goods up to Towawanda, but they are still open for business and a big liquidation sale is planned for next Thursday - Sunday, February 15 - 18…

[*Store hours, phone, & directions followed – JL*]

Though I was only there twice, it was a trip there that "launched" me back into rocketry (see my BAR story in the first newsletter).

Edmund Scientific: A Brief History

Reprinted from scientificsonline.com

During 1942, Norman W. Edmund, an amateur photographer, turned to an order-by-mail advertisement to find a specific lens he needed for his hobby. Difficulty in finding the lens prompted him to place his own ad offering specialty lenses in a photography magazine. The lenses sold out almost immediately and the Edmund Salvage Company was born.

Business boomed in the years following World War II. The company's inventory of surplus optics increased dramatically and specialty optical items were added. To advertise new items, Mr. Edmund mailed a monthly newsletter to his customers - the foundation for today's Edmund Scientifics' catalogs.

In 1948, the company moved to its present home in Barrington, New Jersey. The building has grown over the years to accommodate the successful business. A recently dedicated 20,000 square foot addition was designed as a customer communications center and service facility, and is the home for a unique service team of optical engineers and technicians.

The coming of the space age saw an Edmund Scientific lens go to the moon as a critical component in the first color TV camera to record the Apollo landings. In response to customer inquiries for an affordable compact telescope, Edmund Scientific developed the Astroscan® Telescope 2001, winner of the 1976 Industrial Design Award.

From the Manhattan Project in the 1940's, to the Sputnik Watch in the 1950's, to the Moon in the 1960's, to Desert Storm in the 90's, Edmund Scientific lenses have played an important role in America's history.

Q & A Section

RockSim Design Question

John:

I'm beginning to get the idea of how to use this program (RockSim). I seem to be stuck however, on putting outboard pods on the fins (a la the Super Vega). I plan to make it easy on myself and put them on the outside edge of the fins (as opposed to "built-in" to the fin like on the Vega). How do I get Rocksim to do this?
Barry

Barry,

As for putting on the outrigger pods - the short answer is: "You don't."
RockSim isn't set up for this, and there's no workaround I've ever heard of. The problem is that the aerodynamics of outriggers is not defined mathematically, so Apogee couldn't calculate their effect on CP. Therefore, they didn't program this capability into RockSim.

The good news is that, simply put, ANY surface area placed behind a rocket's CP will tend to move the CP aft. As long as the mass of the object(s) doesn't move the CG too far aft (and a few short lengths of body tube don't weigh much) you'll actually increase the static stability margin. So putting outrigger pods on the actual rocket shouldn't be a problem. You just won't be able to create a WYSIWYG simulation.
The best you can do from a modeling point of view is to add the 2 dimensional area of the outriggers to the fin planform. With RockSim v4.0 and up, the ability to define fin profiles of almost any shape, makes this a simple proposition.

Hope this helps,
John
PS: WYSIWYG = What you see is what you get.

More RockSim Questions

John:

By the time you read this I will have (1) designed 5 butt-kicking rockets that I can't WAIT to build, and (2) already arrived at my own answer to the question I asked you Friday about how to attach pods to the end of fins (you CAN'T!). Good thing Katie changed her mind and doesn't want them.

I have another question though: Isn't there some way to just scale everything up by 1.6 (or whatever) by just a click. If you have to increase the BT's "by hand", and change the NC manually, how do you get the fins accurately to increased scale?

My other problem is how to open the files you sent me.
Barry

Barry,

I WISH that RockSim had a scaling feature, but it doesn't. I'm attaching the Excel spreadsheet that I use for scaling models. By plugging numbers into the left-hand side, and selecting larger or smaller body tube sizes across the top, it automatically calculates the scale factor and the new dimension for each object. Just select the closest size body tube and round the other dimensions to the nearest 1/16 inch or so. Towards the bottom are some standard numbers

(1/16, 1/8, 1/4, etc.) for scaling fin thicknesses and such.

The last sheet of the workbook is a chart showing the scale factors as you go from one BT size to another. I usually base my scale factors on the engine diameter (i.e., 18mm to 24mm is 1.33x) and choose BTs that approximate this scale factor (BT-5 to BT-20, BT-60 to BT-70, etc.).

[*Editor's Note: due to the complexity and detail of the spreadsheets I decided not to try reprinting them here. Feel free to contact John for a copy of his <Scale.xls> Excel file - JL*]

As for how to open the RockSim .rkt files I sent you: one fault of RockSim is that .rkt files cannot be opened by double-clicking them. RockSim will start and then crash if you do that. You need to move the .rkt files into RockSim's "Designs" folder, start RockSim, and select the file from the "File: Open" menu (or button, of course).

Now, I'm also assuming you have RockSim v4.0 on your computer. If you have v3.x, you won't be able to open files made with a later version.

RockSim is a pretty intuitive program. By tinkering and designing like you're doing, you start to learn its capabilities and limitations pretty quickly. Then there are some non-intuitive work-arounds for other design issues that you learn by trial-and-error or by reading rec.models.rockets and the Apogee website.

John

Parachute Questions

[*For those who missed the February meeting, our ever creative, odd-rocketeer John Coles fabricated his own parachute with the skin from a cheap umbrella and braided nylon. Of course, John has not one but two sewing machines at his disposal, and who knows what other fun tools in his mad (rocket) scientist lair… ah ha ha ha ha ha ha ha ha (hear chilling evil laughter) - JL*]

John

I've got some questions about your umbrella parachute:

1. Where did you buy the umbrella so cheaply?
2. What is the normal ratio of shroud line length to chute size?

Pat

Hey Pat,

1. I buy them at Family Dollar for $3.99.
2. Typically 1:1, that is, the exposed length of the shroud lines is equal to the diameter of the parachute. Be sure to allow about 2" - 3" for sewing to the 'chute and another 1" - 2" for gathering the lines together. You can go up to 1.25:1 and get *slightly* better efficiency (the parachute opens just a little wider), but at the cost of weight and space for the additional shroud line.

John

FYI

New NAR Safety Code

Reprinted from NAR Website News Flash 2/13/01

On February 10, The National Association of Rocketry Board of Trustees approved a new NAR Model Rocket Safety Code [*See last page – JL*], which is significantly clearer and easier to understand than the previous Code, as well as being quite a bit shorter. This new Code is the authoritative document for governing model rocket activities conducted in the US. Nothing in the new Code contradicts or changes any specific requirements of the old Code, so those who fly under the old one are still following all the provisions of the new one.

The Board also authorized manufacturers of model rocket products to distribute a simplified, shortened version of this Code (the "Basic Safety Code") with products intended for beginning, first-time model rocketeers.

My thanks to all the NAR volunteers who were involved in the development of this new Code, for your enthusiasm and assistance.

Trip Barber, NAR Vice President

NARAM-43 Website Active

The NARAM-43 website is now up and running. Point your browser to: http://www.naram43.com/

Satellite Spotting Website

By Barry Berman

Here is the URL to JPass, a Satellite Spotting Service of NASA:
http://liftoff.msfc.nasa.gov/RealTime/JPass/

You type in your zip code, and it calculates the passes visible from your location for Mir, Shuttle, International Space Station, Hubble, etc. Enjoy!

Meeting Minutes

January 23, 2001

By Jeff Gage

Attendance

Art Treiman, John Coles, Barry Berman, Jeff Gage, Tom Mitchell, Bob Ross, Russ Mozier, James Bell (Welcome home James!), Steve Bastow, Joe Libby, Paul DeCraene, Randy DePasquale, Bob Jonas, Bruce Canino, Peter Menard, Darren Wright. (My apologies to anyone whose name I have omitted or misspelled. Jeff)

President Art Treiman opened the meeting at 7:10pm.

Orders of Business

December minutes were approved.

Treasury Report

The treasurer reported $729.00 in the treasury. Joe Libby also reported approximately $50 cash in his cash box. (Tee shirt, hat sales, etc.)

Upcoming Launches

Date	Theme
28 Jan	Rain (snow) date for January
18 Feb	Normal launch
25 Feb	Rain (snow) date for February
11 Mar	Normal launch
25 Mar	Rain date for March

Preparations for attending NARAM 43 were discussed. The dates are August 4th to 10th, 2001.

General consensus is that at least one NAR sanctioned launch should be held by our club as a "practice run" prior to NARAM. May 2001 is the most likely date for this launch. Events discussed were:

1. B or C motor SuperRoc duration and
2. 1/2A Boost Glider. Both events lean toward duration, as the club has to acquire tracking devices for altitude events. Mention was made that NAR members would receive points for these events, but Non-NAR members would accumulate only club points. Let the sawdust fly! Launch fees for the event will remain at $5.00.

Alternate Fields

The question was raised whether GCC will pave our launch site. Information suggests that the opposite end of the current parking area will be used for the parking expansion project. (Whew!)

The search continues for alternate launch sites. Anyone having a possible lead, please contact any club officer.

Range Ops Report & Failure Debriefing

Since December was "uncooperative", there is no report.

PR Committee

A brief discussion was held about contacting Cub/Boy Scout troops and 4-H clubs in the area to promote our hobby via "visit committees". If anyone has contacts for groups that may be interested, please contact any club officer.

Newsletter

Thanks to Joe Libby for another great looking newsletter! Color letterhead, color photos, great articles. All that at great price, too (i.e., FREE!). Comparable issues cost $100.00 for 40 to 50 copies. Thanks Joe, and thanks to your generous "contacts" as well.

Model of the Month

We had 3 entries in this months Model of the Month contest. Paul DeCraene entered his very nice looking D/E powered "Red & White Convertible". Tom Mitchell showed his "Shotput" and Bob Ross took first place with his 'sturdy' Estes "Redstone". Paul and Tom shared a tie for second place. Nice work guys!

Group Project

A brief discussion was held in reference to putting RockSim charts/images etc. in the bimonthly newsletter. Sounds like a great way to stir up some interest in an exciting project. As always, the project team is looking for members to join in the effort. A $100.00 contribution gets you on the team.

Elections

Well, the votes are in and tallied with 39% of the membership casting their votes. (no recounts, thank you very much). It was a tough race, but here are the results:

President	Art Treiman
Vice President	Barry Berman
Treasurer	John Coles
Range Ops	Jack Komorowski
Secretary	Jeff Gage (yours truly)

Congratulations to all officers, incumbent and newly elected. May they lead us into another prosperous and fun-filled new year. [*Photo on Cover Page – JL*]

Dues, Members

John Coles informs us we have 58 members as of this date. Wow! John will also graciously accept $12.00 for the calendar year 2001 from those members who have not renewed yet. New SoJARS membership cards are looking good and available.

Meetings

An effort is being made to keep the business portion of our meetings to one hour. The remaining time is being reserved for lectures, demo's and jawin'. (January's business meeting lasted exactly 1 hour and 2 minutes. Well done Art!)

Other Business

Remember, February's meeting at the Cherry Hill Public Library is on MONDAY, Feb. 26th.

Due to the fact that someone, (who shall remain nameless) had a momentary lapse of memory, the drawing for the ATF/NAR benefit raffle (which is for the SeaHawk rocket kit and motors) has been postponed until the February meeting. Raffle tickets will be available during the business meeting and just prior to the drawing. Good luck everyone.

Lectures

We had two lectures at this meeting:

Jeff Gage gave a brief lecture on tying knots. Copies of the drawings for the 8 best knots to use for model rocketry were passed out to all members present. Jeff also brought a "knot board" with 8 screw-eyes showing an example of each knot as it might be used to connect a nose cone to a shockcord/Kevlar cord. Jeff will continue to brings copies of the drawings to all meetings and launches for anyone who like a copy.

Darren Wright continued his lectures on hi-power rocketry by explaining some finer points of using epoxies. Darren used a PML Excalibur as a demonstration piece. The Excalibur features a 2 ½ diameter Quantum body tube designed for F size motors. PML is noted for their complete kits. Darren explained how and where fillers are used with the epoxies, how to create very smooth fillets and how to glue internal parts in stages. As always, a lot of information was presented.

Meeting Closed @ 9:35pm

February 26, 2001

By Art Treiman

Attendance

A. Treiman, J. Coles, S. Bastow, B. Ross, J. Libby, N. Rowley, B. Rowley, J. Duffy, P. Flanagan. Meeting was opened at 7:10 pm.

Orders of Business

Previous minutes from January were approved. Well done by Jeff Gage (his first minutes!)

Treasury Report

As of 2/28 we have $617 in our account and additional in the cash box.

Upcoming Launches

March 4th with no rain date.

April and May dates pending.

Tom Mitchell reviewed our pending contest. He will be considering getting us NAR Sanctioned so we can earn official points.

Range Ops Report & Failure Debriefing

Discussion of the launches was limited due to the small number of launch participants at the meeting. Keeping rockets away from Tanyard Road and

avoiding smoking at the launch and prep area were discussed.

Newsletter

The Newsletter was distributed; next deadline is by the first week of March.

Model of the Month

Design of the month went to John Coles "Harold's Purple Crayon Rocket." A purple crayon bank beautifully converted. We can't wait to see this fly.

Lecture Calendar

Tonight- Bill Rowley on Motors.

March: HPR Kit Demo by Darren Wright and Parachute Construction by Russ Mozier.

April: Video- launch video and other video by Darren and Joe Libby.

May: Arial Photography by Art.

June and onward... looking for volunteers and topics.

Dues, Members

Reminder for 2001 dues to be paid. Most have already paid but there are still a few renewals outstanding.

Other Business

ATF Raffle... Drawing was held under the close supervision of all of us. The winner was Joe Libby! Congratulations and thanks to all who participated.

Social event is now looking like a late spring Barbeque on a non-launch Sunday afternoon. We will be getting pricing from local parks.

Launch fee relief was discussed. In light of our healthy bottom line the following changes in our launch fee structure were all passed:

1. Flyers 17 and under will pay no launch fee. It was felt that the $2 fee contributes very little to the club's bottom line but could be an impediment to flying for a younger person. As we want to do everything possible to encourage kids to fly it was decided there would be no launch fee for this age group. Annual membership for an individual teen or 13 and under w/o parent will remain at $6.
2. Same day single launch fee remains at $5.
3. We now have the SoJARS "Ticket to Fly!" This is a 4-launch ticket that can be purchased at meetings or at the field for $15. This means that the launch fee will be $3.75. This number was chosen so that all but the smallest launches will meet our field costs. It will reduce paperwork by the Treasurer at the field and give a break to the flyers. Tickets are available from Art or John.
4. New flyers are still free the first time.

A committee was formed for the encouragement of outreach and to welcome new members. The "Outreach and New Members Committee" will be headed by Barry Berman. Those interested in being part of it please contact Barry. It's dual mission will be to coordinate our outreach efforts as well as to make sure that those who come out as a result of our outreach feel welcomed. This came from a recent rmr discussion about the importance of a continuous infusion of "new blood" to keep a club vital. Making new members feel welcome is a key part of this.

The new NAR safety code was discussed. It is much simpler than the old code while preserving the importance of safety. Check out the NAR website www.nar.org for a copy.

Reminders were made about the up coming Hobby Show at Ft. Washington and the Sci-Fi convention in Philly this summer.

Lecture

The meeting ended w/ Bill Rowley's fine talk on motors. For those that missed it, it was worth the wait!

NAR Model Rocket Safety Code

Revision of February, 2001

1. **Materials.** I will use only lightweight, non-metal parts for the nose, body, and fins of my rocket.
2. **Motors.** I will use only certified, commercially-made model rocket motors, and will not tamper with these motors or use them for any purposes except those recommended by the manufacturer.
3. **Ignition System.** I will launch my rockets with an electrical launch system and electrical motor igniters. My launch system will have a safety interlock in series with the launch switch, and will use a launch switch that returns to the "off" position when released.
4. **Misfires.** If my rocket does not launch when I press the button of my electrical launch system, I will remove the launcher's safety interlock or disconnect its battery, and will wait 60 seconds after the last launch attempt before allowing anyone to approach the rocket.
5. **Launch Safety.** I will use a countdown before launch, and will ensure that everyone is paying attention and is a safe distance of at least 15 feet away when I launch rockets with D motors or smaller, and 30 feet when I launch larger rockets. If I am uncertain about the safety or stability of an untested rocket, I will check the stability before flight and will fly it only after warning spectators and clearing them away to a safe distance.
6. **Launcher.** I will launch my rocket from a launch rod, tower, or rail that is pointed to within 30 degrees of the vertical to ensure that the rocket flies nearly straight up, and I will use a blast deflector to prevent the motor's exhaust from hitting the ground. To prevent accidental eye injury, I will place launchers so that the end of the launch rod is above eye level or will cap the end of the rod when it is not in use.
7. **Size.** My model rocket will not weigh more than 1,500 grams (53 ounces) at liftoff and will not contain more than 125 grams (4.4 ounces) of propellant or 320 N-sec (71.9 pound-seconds) of total impulse. If my model rocket weighs more than one pound (453 grams) at liftoff or has more than four ounces (113 grams) of propellant, I will check and comply with Federal Aviation Administration regulations before flying.
8. **Flight Safety.** I will not launch my rocket at targets, into clouds, or near airplanes, and will not put any flammable or explosive payload in my rocket.
9. **Launch Site.** I will launch my rocket outdoors, in an open area at least as large as shown in the accompanying table, and in safe weather conditions with wind speeds no greater than 20 miles per hour. I will ensure that there is no dry grass close to the launch pad, and that the launch site does not present risk of grass fires.
10. **Recovery System.** I will use a recovery system such as a streamer or parachute in my rocket so that it returns safely and undamaged and can be flown again, and I will use only flame-resistant or fireproof recovery system wadding in my rocket.
11. **Recovery Safety.** I will not attempt to recover my rocket from power lines, tall trees, or other dangerous places.

LAUNCH SITE DIMENSIONS

Installed Total Impulse (N-sec)	Equivalent Motor Type	Minimum Site Dimensions (ft.)
0.00--1.25	1/4A, 1/2A	50
1.26--2.50	A	100
2.51--5.00	B	200
5.01--10.00	C	400
10.01--20.00	D	500
20.01--40.00	E	1,000
40.01--80.00	F	1,000
80.01--160.00	G	1,000
160.01--320.00	Two Gs	1,500