

Altitude!



South Jersey Area Rocketry Society Official Newsletter
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Cold Weather Rocketry

By Ed Blair

Although I am still new to flying rockets, I know how cold weather can affect things. I have spent many years duck hunting. Fair weather, rain, ice, and snow. Yes just like the Postman. Except for one thing, the worst the weather got the better it would get. Shooting a gun in fowl weather is much like launching a rocket when it is cold. Anytime you bring in moisture, a little dirt, and freezing temperatures things can go wrong in a heartbeat. You must make sure things are kept clean, the gun barrel, the chamber. Just like the body tube, and motor mount areas.

I have learned one important item.

I have built a PML Phobos. This type of rocket uses a Piston Ejection System. One thing you have to be sure of is that the Piston can move freely. In talking with the Tech People at PML, they have told me that if you plan on flying in cold weather you need to follow some steps. One is under normal temperatures be sure the you sand the Piston good enough so that it slides freely and without any resistance.



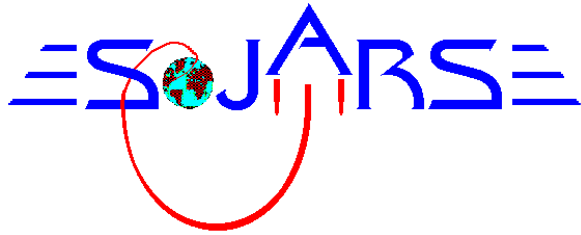
If you plan on launching it in the cold you need to remove the piston prior to taking it out into the cold. Let it adjust to the temperature and insert the Piston into the Rocket Body. Make sure it moves freely. If not, sand it down so that it does. After you do this for the first time in the cold it will be ready for the hot days of July to the cold days of January.

Take a little time to look over your rockets. Look down the body tube and in the motor mount area. If it is dirty use different size bottle washers or some type of stiff brush and scrub it out. Check your shock cords and parachute lines. If they are bad replace

them. Remember that if they break the rocket will hit hard. And when any item is cold and it hits something hard, it breaks.

If you have a reloadable casing take time in the house where it is warm and make sure it is clean. Bring some Baby Power for your parachute; this will help open more freely under adverse conditions. Also remember the way hot and cold can affect anything and can make it expand and contract.

Most of all remember yourself! Wear clothing that is layered. You can always take it off, but if you do not bring it you cannot put it on.



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Altitude! is the Award Winning* Official Newsletter of SoJARS, the South Jersey Area Rocketry Society, NAR Section #593. *Altitude!* is published bimonthly for the benefit of SoJARS members. Information contained in *Altitude!* may be used by anyone as long as proper credit is given.

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

Email address: SoJARS@rocketryonline.com

* NAR's Best New Newsletter '99-'00; Honorable Mention '00-'01 and '01-'02.

Calendar of Events

SoJARS Meetings

Unless otherwise specified, all meetings take place at the Woodbury Public Library, 33 Delaware Street, Woodbury, NJ, (856) 845-2611. Directions are available on our web site. For 2003, meetings will all be held the 4th Tuesday of the month, 7:00pm - 9:00pm, in the Board Room.

Tuesday, November 26, 2002.

~~Tuesday, December 24, 2002~~ – NO MEETING.

Tuesday, January 28, 2003.

Tuesday, February 25, 2003.

SoJARS Launch Dates

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

Next Launch: TBA

GSSS, NAR #439

Launches are usually held on Saturdays each month, 10am - 3pm: Nov 23, Dec 21.

Location: North Branch Park, near Somerville, NJ

GSSS Hotline: (908)-658-9417

Website: <http://www.robnee.com/gsss/>

Garden State Tripoli, TRA #74

Next Launch: TBA.

Location: Cederville, NJ.

Website: <http://www.njtripoli.com/>

METRA, TRA #94

Next Launch: Nov 2-3, 2002.

Location: Barron Farm, Wawayanda, NY.

Hotline: 973-694-5695

Web: <http://www.metrarocketclub.org/>

PARA, NAR #520

Next Launches: Nov 3, Dec 1, 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) 412-4348 the night before or the morning of the launch for verification.

Website: <http://www.para520.org>

Calendar of Events

Continued

SPAAR, NAR # 503

Next Launches: Nov 3 (SPAARSPAM), Dec 8.
Location: Cocalico High School in Denver, PA
Website: <http://www.spaar.org>

Deleware Tripoli, TRA #106

Next Launch: "DARE 2" originally to be held Oct 4 – 6, is rescheduled for spring, 2003.
Location: Harper Farm, Rhodesdale, DE
Website: <http://www.detripoli.org/>

Maryland Tripoli, TRA #68

Next Launch: TBA.
Location: Higgs Dairy Farm, Price, MD
Website: <http://www.mdtripoli.org/>

Team America Challenge

Around April 2003.
Specific dates and locations will vary by state, but we are hopeful that SoJARS will be called upon to host South Jersey's Fly-Offs.

Altitude! Deadlines

Submissions for publication are accepted continuously by the editor. The Deadline for the January / February issue will be January 4.

President's Report

By Art Treiman

This month I'm writing to ask you to ask not what SoJARS can do for you, but to ask what YOU can do for SoJARS! You see, elections are coming in Febuary (normally it would be January) and we need people to step up to the plate. As we've grown, SoJARS does A LOT of things, and a lot of things need a lot of people to do them. We've been without a secretary for a year now, and we desperately need one. All positions are open to anyone who wants to run. A volunteer organization such as ours can't function without volunteers.

I'd also like to mention the Team America Rocketry Challenge. This event, which I've discussed previously, just completed its enrollment. There are over 600 teams with several thousand students participating! Now that's outreach! There are several teams in New Jersey, although not many are located near us. Hopefully we'll be hosting some

qualifying launches in the near future. We'll keep you posted.

That's about all. Please consider stepping up as a club officer and helping to keep SoJARS the terrific group that it is.

See you at the field,
Art

Editorial

By Joe Libby

It's been a busy couple of months for the Libby's, but somehow I squeezed in a little time to put together this issue. For those looking for the September / October issue, I apologize. I hate to give excuses, but my old computer had to be retired and I thought I was clever and replaced it with an iMac (which I am enjoying by the way) which required learning a whole new system, especially a new way to keep the newsletter looking the same... but you don't need to hear this. Bottom line, the newsletter's back!

In this issue front page honors go to a fine submission from one of our newest members, Mr Beginner's Luck (see Contest results!), Ed Blair.

Jack provides another helpful, and entertaining I have to add, piece from the field, so to speak. Bob Ross provides a cool FYI fro CNN. Barry shares an errie experience (was that on or about Halloween, or a full moon?).

Finally, though technically still unofficial, Steve Flynn provides us with the results of our Open Skies 2002 Contest. Thanks to Steve for a fantastic job as Contest Director. Though probably not appropriate to go into details publicly without his consent, suffice it to say Steve has had some serious stressors lately. Yet, he still came all the way down to our neck-of-the-woods, ran the contest, stayed to the bitter end, collected, reduced, and submitted all the data, and did it all with a smile and jovial attitude. Hear-hear, Steve. Thank you.

Member's Forum

Tips, Hints, and Other Things You May Have Wanted To Know (or didn't want to know)

By Jack Komorowski

I have noticed, over the past launches, that there is great interaction between our members. It goes like this: "Does anybody have any have any C6-5's to swap or sell?" Or, "Anybody have an extra chute?" "Who has some CA?" "Where is some masking tape?" All of this fine dialog between friends, (we are

that), got me to thinking. (Yes, I do that on occasion, but don't tell anyone). Just what does a well stocked range box have? Outside of the obligatory sandwich or two, cold drinks, fruit, and other snacks, it might be helpful to actually have some rocketry related stuff in there. Yes, seriously, I would not kid you. I base this on experience, lots of experience, (and my waist line shows it).

A well stocked range box should contain the following: Adhesives. This can be 5 min epoxy, (a good choice) and/or CA, of the medium to thick type. CA accelerant, yellow glue, or wood glue like Titebond. Contrary to popular opinion, that "white glue" for kids is just that - for kids. Leave it at home. You need strength, and strong setting adhesives, especially for anything in the "D" and up category. You will also need an assortment of 'chutes that have been pre-made, and in various sizes. Streamer material. Shock cords. Ah, shock cords! How we burn through them! Go to a fabric shop and get some of the sewing elastic and get several packs of it. For anything over a "D" use 1/4", minimum. Also, it is wise to use a shock cord that is, at least, one and a half times the length of the rocket. Igniters. For what you are flying, BP or composite, have several packs of each on hand. Chances are good that you will need them, (or I will, ha,ha). Engine hooks, for those rockets that use them. Spacer rings for adapting a shorter engine to a longer motor tube, etc. Masking tape and scotch tape are very useful as we know. (Also useful is duct tape, used to keep errant parents in their chairs, or where ever they may need to be taped to. Kids, have you noticed that parents never stay in one spot for long? They are always wandering around looking at each other's rockets).

Over looked, but very useful, is carrying your own launch rod that is at least 4ft long. There are many times when a rocket, of any size, needs the extra length to let the rocket build up enough momentum to fly stably. For rockets of "D" and up, really, use a 1/4" inch rod, a six footer if you can get it, but a four footer is fine. A 3/16 is just not for the D's and E's. Note here: Do not sand down a stainless steel rod. Just wipe it down with WD-40. Sandpaper and emery cloth, various grades, to use to sand regular rods and igniter clips. Extra igniter clips.

Tools. No range box is complete without the following: Pliers, long-nosed or regular, for getting those motors out after they have swelled from the heat. Scissors, and a hobby knife with extra blades. A small screw driver set, flat blade and phillips. Several wooden dowels, of various thickness and length: for use in lightly tamping in wadding, and to push engines out from the front. Wooden clothespins: to use as rod stand offs, and keep igniter clips from touching each other. Another overlooked item is the launch lug. Carry different sizes for what you are flying: 1/8, 3/16, or 1/4. You can also use

the dowels to wrap sandpaper around to sand the inside of tubes, or to use to sand the root edge of a fin replacement, or to sand down the area where a fin will be attached, removing any paint that may be there. Hint: Never glue fins on a painted body tube; you will not get a good bond. Here is a tip: on flush mounted fins that have a space between the engine tube and the airframe tube, punch pin holes along the line where the fins root edge will be. When you place the fin against the airframe tube, the adhesive will fill in the holes and act as "rivets," giving you a stronger bond. You should also fillet each fin, adding strength, as well as streamlining.

There may be other items that you may wish to put in your range box, but this is a good start. The rest is up to you, it is your range box after all. It pays to come out to the flying field well equipped. You have the piece of mind knowing that if you need to make on-the-field-repairs, you can do so. Extra engines? You have them. Igniters? You bet. Better to have things than not. Now when you are out for a fun day of flying, you can feel secure that you have what you need. By the way, anybody have any engines to sell or swap?

Bruce Barkoff Certifies Level I

From the SoJARS newswire
(aka Jim Szypula)

SoJARian Bruce Barkoff certified TRA level 1 at Price, MD, on 10/27/02 with a beautifully detailed PML 1/4 scale Patriot on an Aerotech H180W, medium delay, motor. Bruce won't be able to make the SoJARS launch on the 24th at Sorbello Farm as he'll be camping with Boy Scouts - ironically in the area.

Amateur Rocketeers Shoot for Space

Submitted By Bob Ross

(CNN) Federal officials have given final clearance for the launch of what engineering hobbyists hope will be the highest amateur rocket flight beyond the edge of space.

The Civilian Space eXploration Team (CSXT) plans later this month to blast its unmanned Primera rocket from a dry Nevada lake bed to a height of more than 60 miles.

Fifty miles high, widely accepted as the edge of space, is the minimum altitude for which the U.S. Air Force awards astronaut wings.

"The rocket is ready and so are we. This is the culmination of years of work by a wonderful team," said CSXT founder Ky Michaelson, a retired stunt man who holds numerous rocket-powered speed records.

Michaelson, also known as the Rocketman, and his group had to scrub a June attempt because Mother Nature turned nasty at the Nevada launch site.

"Last time we had a problem with windstorms," said Michaelson, adding that they were preparing this time around with a specially equipped van. "So if we have any wind problems we'll shut the door instead of hang on in the tents."

CSXT postponed the original September 2001 launch date because of the 9/11 attacks. The Minnesota-based group tried to cross the space threshold in 2000, but the earlier rocket fizzled out at 40,000 feet when wind shear tore off a fin.

The upgraded model is a 17-foot, 511-pound, single-stage vehicle, powered by solid rocket fuel similar to that in the detachable boosters that push the space shuttles into orbit.

The Primera is expected to reach its lofty goal within 90 seconds, traveling greater than five times the speed of sound, which would break CSXT's previous world record for amateur rocket speed of 3,205 mph.

The flight time should last 10 minutes, after which the rocket will be about 25 miles downrange.

The Bureau of Land Management, which oversees the remote desert location where CSXT will send off the Primera, and the Federal Aviation Administration approved the September launch.

"All systems are go. We're more confident than ever," said program manager Jerry Larson.

"Our obstacles [in June] were high winds and narrow launch windows. Historically the winds are less in September. And our launch windows are much broader. I like our odds for making history," he said.

The launch is scheduled to take place sometime from mid-to-late September, but the exact date and location will not be announced until just before liftoff for security reasons, CSXT said.

Previous amateur launch milestones include a 1996 shot by the California-based Reaction Research Society, which sent a rocket payload up 53 miles.

The SoJARS Zone

By Barry Berman

OK, go ahead and hum that "Twilight Zone" tune to yourself while reading this. I promise, it'll help.

Ever have one of those rare moments when something weird happens that is way against the odds? Nothing big, of course, like hitting the Powerball for 96 mil, or anything else that would be really useful. No, just a little thing, sort of like the universe "clearing its throat," so to speak, or saying "ahem" and keeping random chance actually random. Sort of a "balance of weirdness."

The other day I was in my office calling a patient, and thanks to the diligence of my staff, I had two possible phone numbers to choose from: a home number, and a cell phone. I dialed the first three digits of the home number, glanced away for a second, and then accidentally finished by dialing the last four digits of the cellphone number. What a surprise when instead of the patient's mom, I heard a familiar voice on the other end of the phone answer, "Cooper Family Medicine...!"

It was SoJARS president, Dr. Art Treiman in HIS office! What were the odds that THAT would happen?

[Editor's Note: I hate to be a party pooper, but they DO work in the same town, Woodbury, which has at most 3 exchanges. So that's at most 1:3000 odds. Still pretty cool though! - JL]



Contest Results (Unofficial)

Submitted by Steve Flynn (GSSS)

The SoJARS/GSSS Open Skies 2002 Contest held on October 20, 2002, was a well-organized and fun event. Unofficial results available as of press time are as follows (see Table on back page for details):

B Egglift Duration

- 1st Ed Blair, 13 sec
- 2nd Hyperspace Team, 10 sec
- 3rd Joe Libby, 8 sec
- 4th Daniel Flynn, 7 sec
- 5th Ed Romani, 6 sec
- 6th Steve Bastow, 5 sec

A Engine Rocket-Glider Duration

- 1st Russ Mozier, 125 sec (68+57)
- 2nd Ed Romani, 77 sec (40+37)
- 3rd Hyperspace Team, 64 sec (34+30)
- 4th Joe Libby, 33 sec (DQ+33)

1/2A Streamer Duration

- 1st Ed Romani, 52 sec
- 2nd Daniel Flynn, 20 sec
- 3rd Ed Blair, 13 sec
- 4th Joe Libby, 10 sec
- 5th Steve Bastow, 5 sec

Streamer Spot Landing

- 1st Hyperspace Team, 22.6m
- 2nd Joe Libby, 23.5m
- 3rd Steve Bastow, 35.8m
- 4th Barry Berman, 48.7m
- 5th Ed Blair, 53.3m

Set Duration (30 sec)

- 1st Daniel Flynn, 4.8%
- 2nd Ed Blair, 29.6%
- 3rd Hyperspace Team, 39.8%
- 4th Ed Romani, 59.6%
- 5th Joe Libby, 80.7%

Overall Placings

- 1st Ed Blair: 508 points
- 2nd Hyperspace Team: 508 points
- 3rd Ed Romani: 466 points
- 4th Russ Mozier: 400 points
- 5th Daniel Flynn: 324 points
- 6th Joe Libby: 312 points
- 7th Steve Bastow: 82 points
- 8th Barry Berman: 32 points

Section Totals

- SoJARS: 1800 points
- GSSS: 832 points

Meeting Minutes

24 September 2002

Submitted by Art Treiman

1. Open - A. Treiman
2. Review and approve previous minutes
3. Treasurers Report - J. Coles
4. Future Launch Dates - Sept 15, rain date 9/22)
5. Launch and Failure debriefing - On dry grass and other musings, discussion of why the first launch was scrubbed due to dry grass. Discussion was also made of launch reports. There has been few recent launch reports because they are difficult to do and require a lot of time, as well as being present at the entire launch day. The consensus is that we will try to divide the work, with each person doing it once or twice a year in any style they choose. This should make for more interesting reading and hopefully more reliable reporting.
6. Newsletter - Joe Libby
 1. Congrats on another honorable mention!!!
 2. Possible change in publication schedule
 3. Possible search for editor/assistant editor.Long discussion was had about the possibility of Joe Libby stepping down as editor and/or cutting the publication schedule. We all agreed that Altitude! is terrific as it is, that Joe is integral to its success, and we should do whatever it takes to enable him to continue to publish it in whatever form he can. A key problem is that Joe is not receiving articles on time and in proper format. This is .rtf and on or before the deadline. Joe will decide on whether he will step down, continue as is, or publish less often. Also, congrats to Joe on another honorable mention! We came in tied for second in the country! That is pretty cool! Great job Joe (ed note: we support whatever you decide to do with Altitude!)
7. Web update - Paul DeCrane - seems to have been busy of late. Art will try to figure out how to edit.
8. Design of the Month Contest -
9. Update on field search - Update on Sorbello Farm - looking good, Art spoke w/ landowner, who requested we call in early October to set up a November launch!
10. Outreach -
 1. August all day session - B. Canino, P. Commander - went great!
 2. Sharon's scouts finally coming in Sept.
 3. TARC group in Plymouth Meeting, PA - A. Treiman, Joe Bouchard - Art discussed a TARC group that may use our expertise. Art also updated the group on the TARC.
 4. Cub Scout Demo at GCC 10/26 - Russ Mozier - There is a big scout fly-in at GCC 9/26. Russ will get us information.
11. Contest Committee report - Tom Mitchell, events for Open skies this fall? , and SoJARS at NARAM.
12. T-shirts - J. Libby - still plenty left!
13. Another plug for "99% Harmless Nerd" T-shirt sale - E. Romani - Ed has decided to honor the BATF's position that rocketry hobbyists are "99% Harmless Nerds" with a very stylish T-shirt offering. You can order at <http://home.earthlink.net/~evereddi/bluesky.htm> or, if you don't want to look at Ed's picture on his website, you can email Ed at beacon1040@earthlink.net.
14. Sale at Hobbies, etc. in Woodbury.
15. New meeting location - Woodbury Public Library. Close to launch site and most of our members, and free! Down side is it may narrow our focus some by having everything in same area, and room a little smaller.
16. Adjourn.

22 October 2002

Submitted by Art Treiman

Present: A. Treiman, J. Libby, R. Mozier, B. Ross, E. Blair, P. Blair, P. DeCraene, R. Depasquale, S. Bastow

1. Open- A. Treiman
2. Review and approve previous minutes.
3. Treasurers Report- J. Coles (absent).
4. Future Launch Dates- Pending meeting w/ Mr. Sorbello. Likely week before or weekend after thanksgiving. WE'll be discussing, among other things parking, launch area, layout, portajohn. A great deal of discussion and debate went on about increased liability risks with people flying larger rockets. The end result was the decision that anyone who flies composites or e motors must be a NAR member with insurance. A motion was made by Bob Ross, seconded by Joe Libby, and passed: 9 for, 0 against.
5. Launch and Failure Debriefing- AT- contest went great. Results pending.
6. Newsletter- Joe Libby-
7. Web update- Paul DeCrane, A Treiman. New site, Paul is back in the saddle and he'll try to fix the prohosting site.

8. Design of the Month Contest-no contest
9. Update on field search- just a reminder to keep looking for fields.
10. Outreach- Cub Scout Demo at GCC 10/26- Russ Mozier
11. Contest Committee report- Russ and everyone debriefed on the contest. Special thanks to Stephen Flynn. Russ will be doing our next competition in the spring. Also, ECRM will be 5/17 in Baltimore. This regional contest will feature 1/4a cluster.
12. T-shirts- J. Libby- still plenty left!
13. Adjourn business.
14. Bob Ross presentation on Oldies! Bob showed an amazing collection of cool old discontinued kits still in the shrink wrap. He was then kind enough to give out several of them to those at the meetings. Art got a Saturn IB still in the shrink wrap. Joe Libby got a Dude, someone got beautiful Titan III, among others. Guess you all should have been at the meeting!

DOCTOR FUN

14 Nov 2002



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The collective childhood trauma that has stalled a manned mission to Mars for years.

