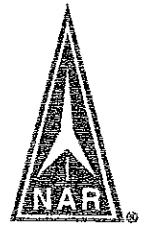


# Team Pittsburgh

Newsletter of the Pittsburgh Space Command NAR #473



Volume 15, Issue 3

#108

May/June 2003

View from Florida:

## NASA Launches Delta to Assist Military

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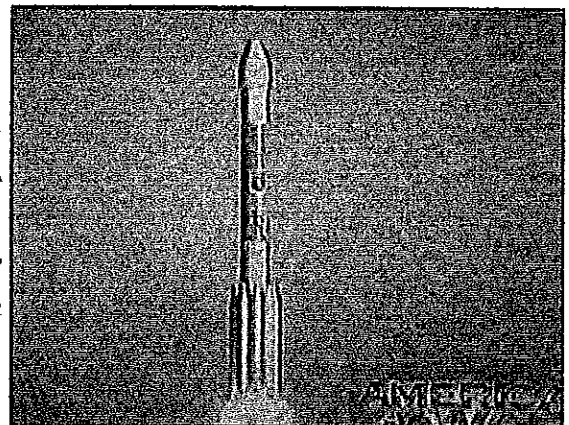
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3/31/03

Just before our return from the south, NASA announced the launch of a Delta rocket, carrying a payload for the Military. The payload was a sophisticated GPS system to be used by the Military in the war with Iraq. The launch was successful, and military sources reported that the equipment would be up and running in 2-3 weeks. (Ironically, the war was pretty well over by that time....)



We went back to Frostproof, FL to view the launch. Again we had perfectly clear, blue skies and got quite a view of the launch.

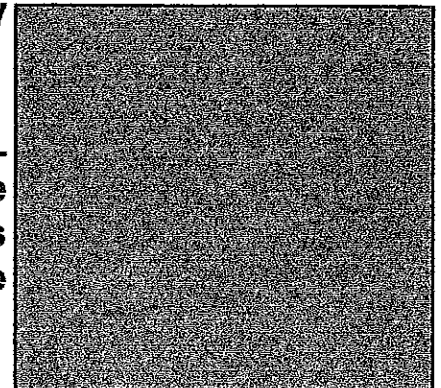


Photo captions:

Above right: The Delta rocket lifts off at 6:13 p.m. (Picture from TV)

Lower right: The launch comes clearly into view from our position in Central Florida 6:14 p.m.

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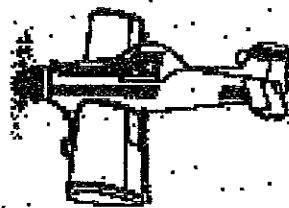
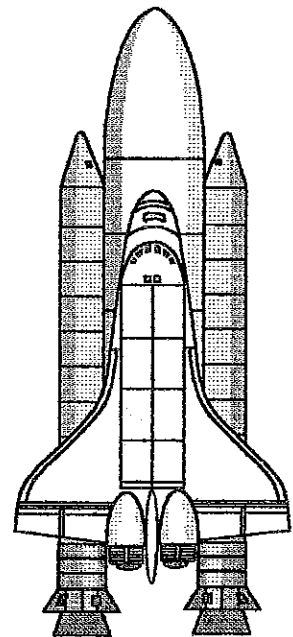
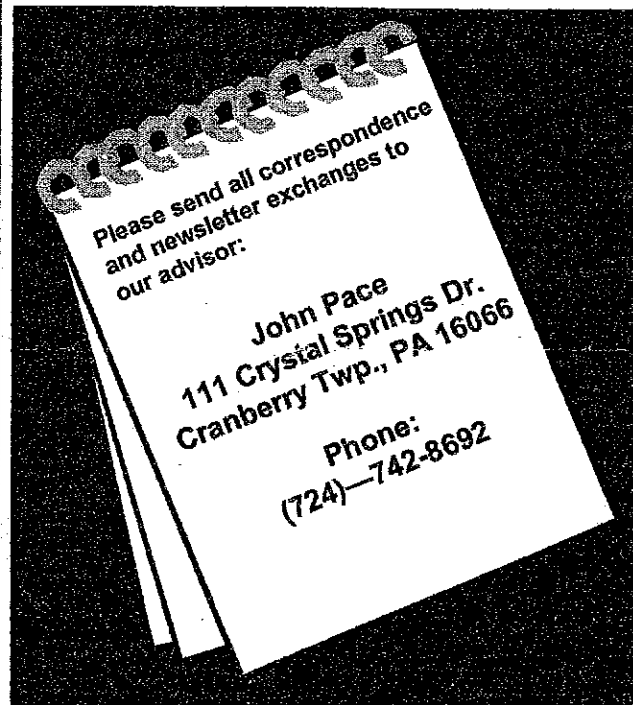
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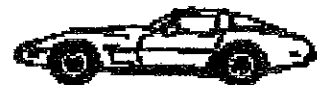


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**Mort's Column**  
**By Mort Binstock, NAR 27182**

*Team Pittsburgh Page 3*

**THANK YOU:**

I am starting my column with some special thank yous.

Thank you alternate columnist FRANCIS GRAHAM for your fine interesting column, "Rockets Beyond Strange" published in our last issue. I look forward to reading more of your articles.



Also thanks to treasurer STEVE FOSTER for his new very innovative, "Tidbits & Tips" column. Keep it up STEVE, we can all use tidbits and tips. Their usefulness makes the hobby more fun.

Are any others interested in being a columnist, alternate columnist, or guest columnist? Diversity of ideas makes for a better and more interesting newsletter!

**SMALLER RADIO CONTROL (R/C):**

I have been experimenting with R/C and very small R/C, both in model rockets and in model airplanes. I envision this technology being used eventually in very small light weight R/C rocket boost gliders. Several of us including STEVE FOSTER, TODD WUCLEVICH, and MYSELF have already flown rocket boosted gliders in the 10 to 30 ounce weight range.

I envision addition of LATEST STATE OF THE ART modern micro miniature ultra light weight radio equipment to small free flight boost gliders. This micro R/C equipment, for example, could be added to an old Estes Swing Wing, Estes Sky Dart, or to a Quest Flat Cat or to many other designs. Doing so could result in longer duration flights (by finding thermals), controlled acrobatics, plus controlled minimize the risk of model loss.

How small & light is this new state of the art radio equipment? There has been recently some exciting technology break throughs. These break throughs have allowed me to recently complete a very small and light weight electrically powered model airplane. This model plane is powered by a geared electric motor. The model is controlled by a FM radio receiver, proportional electronic motor speed controller, plus rudder and elevator proportional control. Flying time on one battery charge is easily 15 to 30 minutes.

So what is new? You have seen this type of model before! What I find amazing about this model is its weight and size. Total wingspan is 14.5", total flying weight 3/4 ounce. Yes, 3/4 ounce or 20 grams. These dimensions and weights are compatible to model rocket boost gliders.

Part of this model's secret is its technology advanced new Lithium Polymer battery. I will cover this battery break through in detail in my next column. Any one interested in details of this new technology should contact me.

**RADIO SHACK PLUG/JACK UPDATE:**

I have written articles in the past covering the use of a Radio Shack earphone plug and jack as a combination on/off switch and polarized (therefore foolproof) battery charging jack. My last article on this subject demoted Radio Shack's discontinuing the jack - the end of an era.

Well, hope continues to spring eternal! I recently promised to wire an electric model airplane being built by a friend. This friend needs all the electrical help he can get; a foolproof combination charging and on/off jack therefore is desirable.

I found at Radio Shack a substitute for the discontinued earphone plug/jack. This is a power plug rather than an earphone jack, but it works almost as well. The jack's part number is 274-1565A, the plug's 274-1567A.

The only downside to this substitute is that the plug is more difficult to mount as it is not round. Once mounted it is just as functional. To aid in cutting out the mounting opening, I made a masking tape template. I stuck this template to the model then cut out the irregular shaped opening.

This item is available from Radio Shack.

**IGNITORS:**

First a story my Father-in-law told me. Many years ago he worked for a company whose factory installed what was then a modern inventory control system. The initial system unfortunately had a flaw. Workers would occasionally return to the stock room defective parts. The defective part was simply exchanged for another, the old part returned to inventory.

You can guess what eventually happened. The system broke down when they discovered That the stock room storage bin was full of nothing but defective parts. They quickly learned from their mistake and modified their procedures to not allow return to stock faulty of parts.

You would think I would learn from this story. To my chagrin at the December launch I discovered all my AeroTech ignitors were "restocked" and all defective. WOODY HOBURG came to my rescue with an expertly made very functional ignitor. WOODY told me he made it himself for pennies an ignitor from a purchased ignitor making kit. A neat idea!

WOODY, PLEASE WRITE AN ARTICLE for this newsletter detailing where to purchase this kit, actual costs involved, and how the ignitors are made.

If the ignitors are that cheap and easy to make, I'd like to suggest a club project led by a volunteer(s). My suggestion is that the club purchase a kit or two, Make a zillion ignitors for all to use, and sell them inexpensively yet still make a small profit.

#### **AEROTECH IGNITOR TIP:**

I was about to scrap my old ignitor inventory when I remembered an old previously published tech tip. Rocketeers still swear at Copperheads every time one fails. I will not print what they say. Many Copperhead ignitor failures are due to shorts in the copper lead. Shorted Copperheads can often be salvaged!

The Copperhead's lead is actually two copper foil conductors separated with a thin insulator. Shorts occur when the two foil conductors bridge the insulator and touch. Shorted ignitors can be salvaged by simply (the end opposite the ignition material) pulling the two conductors apart.

Carefully and briefly heat with a disposable cigarette lighter the connection end (not the end with the flammable head) of the ignitor. This will cause the two foils to separate. Then simply pull the two foils apart.

#### **TOOLS AND GADGETS:**

In the past I've written articles on Dremel rotary tools. Dremels are similar in operation to a dentist's drill. Dremels are small, hand held and spin at up to 30,000 rpm. Dremel's can drill, cut, polish, grind, and more.

Three interesting accessories available include:

#### **1) AN ADJUSTABLE CHUCK SIMILAR TO THAT OF A LARGER POWER TOOL:**

Dremels' as supplied require changing a collet every time a different size drill bit is used. The adjustable chuck replaces the collet and accepts any size drill bit from 0 to 1/8 inch. Installation is easy and swift.

#### **2) A LIGHT TO ILLUMINATE THE ITEM BEING WORKED ON:**

This accessory is actually a small electric alternator similar to an automobile's alternator. The light assembly is basically a bolt that replaces the Dremel's normally supplied front bolt. The light assembly contains a magnet to generate electricity from the Dremel's rotary motion plus two bright Light Emitting Diodes (LEDs) to illuminate the work. Installation is easy and swift.

#### **3) FIBERGLASS BACKED CUTOFF WHEELS:**

These are round thin wheels which easily and cleanly cut thick balsa, plastic, and thin plywood normally used for model construction. These cut off wheels are quicker and easier to use for "difficult" cutting chores than a knife or saw. They also allow more precision cutting.

All of these Dremel accessories can be purchased from your hobby shop, Home Depot, Lowes, or direct from Dremel.

#### **MORE TOOLS AND GADGETS:**

I recently received a flyer from J&C Hobbies in Penn Hills for a miniature wireless color TV camera. This TV camera is designed to be mounted on a model and to provide wireless TV transmission. The signal is transmitted on TV channel 16 to simplify viewing. Cost is about \$113.

This TV camera can be mounted on the nose of a rocket similar to the old discontinued Estes 8mm film Cineroc. I recently saw an article where NASA did a first, mounting a camera on the nose of the space shuttle to transmit back a view during lift off of the ground. This is similar to old Estes Camroc. Unlike the \$113 hobby color TV camera, the cost of NASA's camera is a whopping \$750,000. Wow!

## Mort's Column (Continued)

### SIMPLE DECAL MAKING - A TECH TIP RERUN

I came across this old tech tip while researching the previous AeroTech faulty ignitor fix. I thought that this tech tip is still timely and worth repeating.

I recently needed a custom decal. I successfully used a new decal technique I'd like to share. I purchased at Office Depot a package of Avery brand "Clear Ink Jet Labels". These labels are relatively large, 2" tall by 4" wide. Avery's part number is 8663.

These labels come on 8 1/2" X 11" paper, 10 labels to a sheet. I printed my decals on the clear label with my ink jet printer. Colored decals can be made with a color printer. Larger decals may be made by sticking two or more labels side by side. As there is no spacing between each label, a larger decal can easily be made by allowing the printing to span two or more labels.

My ink jet printer's ink is not waterproof. I waterproofed my completed label with clear spray paint. Clear tape over the label is another waterproofing technique.

One problem printing the labels is to get the printing properly registered on each label correctly. Most good word processing programs have a label making feature. I used Word Perfect. I chose from that word processor's menu "labels" then defined my page/label dimensions. The program did the rest.

The label instructions suggest a trial printing (the labels are more expensive than plain paper) on plain paper and then comparing the two sheets by holding them up to the light. This trial printing turned out to be a good idea. It took me several attempts to get the labels to print correctly. My printing problems were operator caused, not problems with the labels or word processing program. It took me several attempts to get the hang of using this feature of the Word Perfect properly.

Try using these easily available and easy to use clear labels to make decals. Today's modern printers will print in color, graphic programs will print art work. Decals do dress up a model!

I've written about a lot of items now, time to stop. Enough for this Column. FRANCIS GRAHAM will provide the next issue's column then I'll be back.

Next time will cover the previously promised detailed information on batteries (including the new Lithium Polymer), plus a source for a useful precision low cost scale, and a glue stick tech tip.

Until then enjoy flying and this summer. As always I look forward to flying with you!

Mort Binstock NAR 27182

### New Address or Phone Number?

Please inform Mort Binstock of any address or phone number change or let him know at one of our monthly launches. Mort will then update the PSC database that he maintains for mailing labels for the newsletter.

### Mort's Address and Phone Number:

Mort Binstock  
1150 Windermere Drive  
Pittsburgh, PA 15218-1144

(412) 244-1332

### Editorial — by Richard Freed, Editor

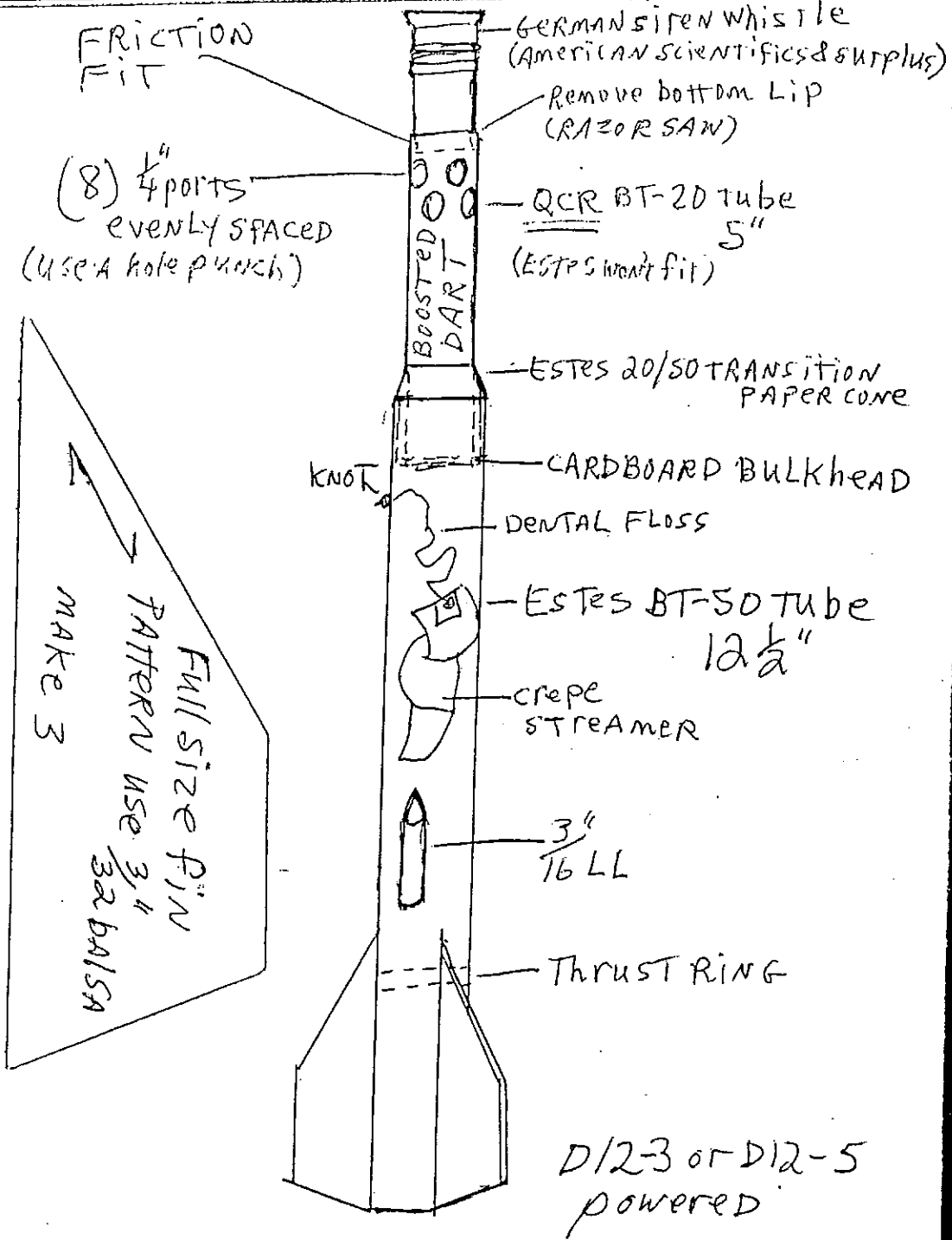
#### NEW EDITOR FOR T-P SOUGHT

I guess all good things, as they say, must come to an end. Personal schedule, aging computer equipment, etc. have made it necessary for me to step down as editor of this Newsletter.

If you have computer equipment and skills and would like to take over the editor position, please consider this as soon as possible. The editor appointment usually takes place at our August Picnic, so if you are interested in becoming the new editor, please contact Rod or Steve at a launch. Thanks. R.Freed

# "Boosted Dart Siren Rocket" (BDSR) by: Joe Pecklig 2/13/03

2



Note: Siren Whistles are available from: American Science & Surplus, PO Box 1030, Skokie, IL 60076 (www.sciplus.com) Joe reports they have great stuff and fast delivery. Ask for a free catalog.

## Notes From the Prez by Rod Schafer President, PSC

### 1. 2003 SciTech Festival Report

Once again PSC had a very successful outing at the 2003 Carnegie Science Center's SciTech Festival on April 5th & 6th. Our exhibit booth received lots of attention and we handed out many info flyers about the club and the hobby of Model Rocketry. The Micro Maxx demo launch was a big hit! We held 2 launch sessions each day and launched 4 models per session with a bonus 5th model for the last launch on Sunday that used a 10.5mm Apogee 1/4A2 in a streamer model. We recovered some of the models, but others floated away or took a drink in the river which we had expected would happen. A big Thank You to these PSC members who spent some or all of their weekend time volunteering at the exhibit booth- John Brohm, Mark Cassata, Steve Foster, Al Garcia, Phil Haim and his son's Walt, Doug, Ray, Mike Hardobey, Art Nestor, John Pace and Rod Schafer. If you have not volunteered to man the booth at the SciTech show, please consider helping out at the 2004 show.

### 2. Competition Season In Full Bloom

With the arrival of spring and early summer, competition season kicks into full gear. PSC will travel to Maryland and Virginia to participate in Regional meets and build up points for our section. We will start things off with a Regional at Lutherlyn on May 3 & 4. Come out and compete!

### 3. NSL in Pennsylvania in 2003

Over Memorial Day weekend, NAR Section #614 Northeast Pennsylvania Rocketry Association will host the National Sport Launch 2003 in Clark Summit, PA. John Brohm, myself and our families will be attending and representing PSC at this National event. While I have been to 8 NARAM's and will be attending my 9th this summer, I have never been to a NSL. I am truly looking forward to attending!

Until Next Time...  
Fly'em High,  
Rod

## Alphamania! by Steve Foster

During the Melvin-10 sport launch on July 20th 2003, PSC will be holding a special competition. This meet has designed it to make it easier for the beginner/novice/youngsters to compete and gain more experience. We will open the range at 10:00 am for this combination sport/competition event.

#### *The following special rules apply for this meet:*

- You do NOT have to have a NAR number to participate in this event
- Stock Alpha kits must be used for all flights. You may modify the motor mount (for most of these flights a 13mm motor should work better), shock cord mount or anything else you choose on the internal structure of the Alpha. The 3 main components of an Alpha kit; nose cone, body tube and fin size, are not to be altered.
- A maximum of 2 models may be used for the entire meet.
- Since this is a NAR sanctioned meet, all normal pink book rules will apply.
- Entry Fee: \$2 for Seniors / \$1 for Juniors
- Prizes awarded to the winners of each division

#### *Events for this meet:*

- A Parachute Duration    - A Streamer Duration
- Random Duration    - Open Spot Landing

#### *Notes:*

PSC has a number of Alpha kits in stock, and will be available for those who want to participate in this meet. The price for this kits are being offered at a very low price \$4/Each for Senior members and only \$2/Each for Junior members. We will have them to purchase at the next 2 PSC launches, or you can e-mail Rod at [cd@psc473.org](mailto:cd@psc473.org) or [sfoster@psc473.org](mailto:sfoster@psc473.org) to reserve your kits or if you have any other questions. Of course you can use kits you may already have. Contest Director for this meet - Steve Foster.

Alphamania.... continued

**Tips On Flying The Alpha Mania Meet  
- By Steve Foster**

• **Build at least one of the Alpha's with a 13mm motor mount.** This will give you more room to get a large parachute or streamer in the model. It will also reduce the weight of the returning model with the smaller motor casing.

• **Use an external shock cord mount,** this will make deploying the recovery device more reliable. Also there is less of a chance of having your model separate, resulting in a disqualified flight. Use a piece of strong cord (Kevlar is best) about 20" long and have it loop around the motor. You can also tape this so you model hangs horizontally from it's recovery device.

• **Random Duration:** You have to fly this event before any other timed flights. You may want to have a standard motor mount in one of your Alpha's for this. If the randomly picked time is high (it can be from 30-120 seconds) it may be best to send it up higher on a small recovery device than to risk having it float away in a thermal with a large parachute.

• **Open Spot Landing:** This event has a large luck factor, but it is usually best to keep you altitude as low as possible. But the recovery device must deploy before your model hits the ground.

• **Streamer Duration:** There will only be about 5" in your model for a streamer and wadding so the thickness of your streamer material won't be so critical. Find a material (wrapping paper, mylar banner, etc.) that won't rip easily and can also hold a folded crease. Fanfold the material most of it's length, this increases the drag of the material so it stays up as long as possible.

• **Parachute Duration:** Have 3 or 4 parachutes ready for different conditions and strategies. Some good materials for these chutes are dry cleaner bags or cheap trash bags, the thinner the material the larger chute your going to be able to get in your Alpha. Add some color to your parachute with a marker if necessary. Use baby or talc powder on your chute before folding, a large chute will only help if you can get it to fully deploy.

• **Make sure you have checked in your model and motor before flying and that the proper flight card is being used.** Make sure your returned models are marked on the flight cards. Take time to help time or measure some flights. **HAVE FUN!**



The first (of 3) launches is complete! The MADROC series has begun. The first leg of this series was flown in October in Pittsburgh. (SCST-II) Here are the locations, dates and events for the other two:

**ECRM-30 (NARHAMS) MARS-29 (NOVAAR)**

May 17-18, 2003  
Middletown, MD

June 21-22, 2003  
The Plains, VA

1/4A BG  
A HD  
Peanut SPSC  
RDA  
STA (150m)  
OSL

1/4A BG  
1/4A PD (MR)  
A Alt.  
C ELA  
D HD

**PSC Competition Meets For 2003**

**Reach For The Sky XV**

Regional

May 3-4, 2003

*1/4A Boost Glider Duration (MR)*

*A Helicopter Duration*

*B Parachute Duration*

*C Egg Lofting Duration*

*Random Duration*

*Open Spot Landing*

**Steel City Smoke Trail 3**

Regional

Oct. 11-12, 2003

*1/8A Streamer Duration\**

*1/4A Parachute Duration (MR)*

*1/2A Cluster Altitude*

*B Boost Glider Duration*

*E Super-Roc Duration*

*Random Duration*

*\*Providing RCP 2003-01 passes; otherwise this event will be changed to 1/4A SD*



# Dragon's Fire Launch Windows

## 2003 Dragon's Fire HP Schedule

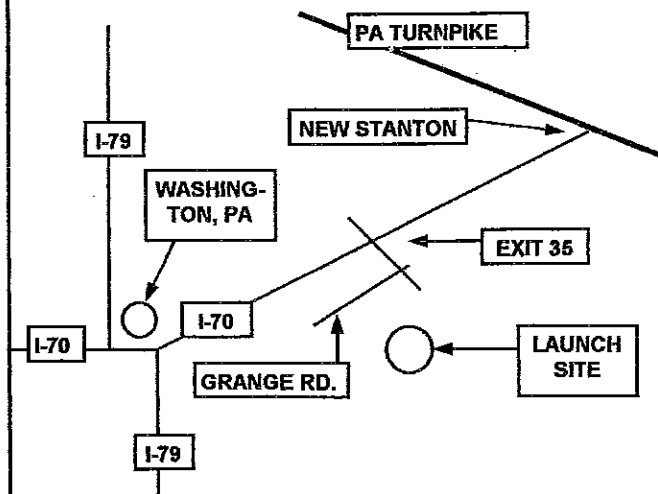
**May 31 — DF 30**  
**Aug. 16 — DF 31**  
**Sept. 20 — DF 32**  
**Oct. 11-12 — DF 33**

## PSC Launch Windows 2003

**May 3 & 4 Reach For The Sky XV**  
**June 8**  
**July 20**  
**Aug. 24 Rockets & Relaxation 9**  
**Sept. 21**  
**Oct. 11-12 Steel City Smoke Trail 3**  
**Nov. 16**  
**Dec. 14**

**ALL SPORT LAUNCHES AT LUTHERLYN  
 BEGIN AT 12 NOON.**

### Map to Dragon's Fire Launches At Jonestown Site

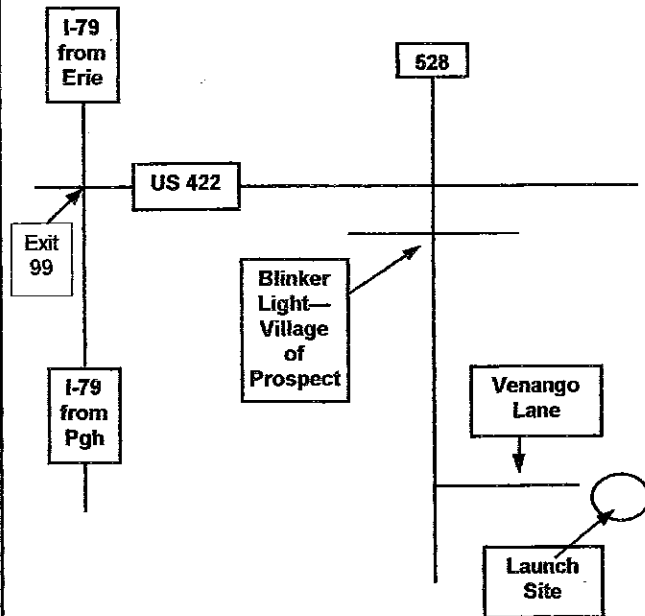


**FROM I-79:** Take I-79 south to Washington, PA. Take exit for I-70 East (Toward New Stanton). Continue for approximately 20 miles to exit 35 (old exit 13).

**FROM PA TURNPIKE:** Get off at Exit 8, New Stanton, and follow I-70 West for approximately 23 miles to Exit 35 (old exit 13).

**AT EXIT 35:** Follow route 481 for 0.2 miles to Grange Road. At this point, look for signs that will direct you to the launch area that will be used for the day.

### Map to Camp Lutherlyn PSC Launch Site



**FROM 422 —**  
 Get off at Prospect exit (528) and head south. Continue to blinker light about 0.3 miles from exit. Go straight through this intersection. Continue south on 528 for approximately 3 miles — look for a sign on the east (left) side of the road which says "Lutherlyn Rustic Retreat Center". Turn left onto dirt road and continue approx 1/4 mi to the launch site.

**NARAM-45 Announced!**  
**Evansville, Indiana**  
**Hosted by Launch Crüe**  
**August 3-9, 2003**

For more information log onto:  
[www.naram45.org](http://www.naram45.org)

<b>Impulse</b>	<b>Event</b>	<b>Description</b>
1/4A	BG	(Boost Glider Duration)
A	ALT	(Altitude)
A	HD	(Helicopter Duration)
B	PD (MR)	(Parachute Duration - MultiRound)
C	SRA	(Super-Roc Altitude)
E	SD	(Streamer Duration)
F*	DELD	(Dual Egg-Loft Duration)
	OSL	(Open Spot Landing)
	PSPSc	(Peanut Sport Scale)
	PMC	(Plastic Model Conversion)

\*F DELD may be changed to D DELD

**Team Pittsburgh**  
**Pittsburgh Space Command**  
**Richard Freed, Editor**

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