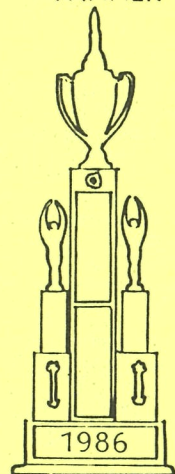
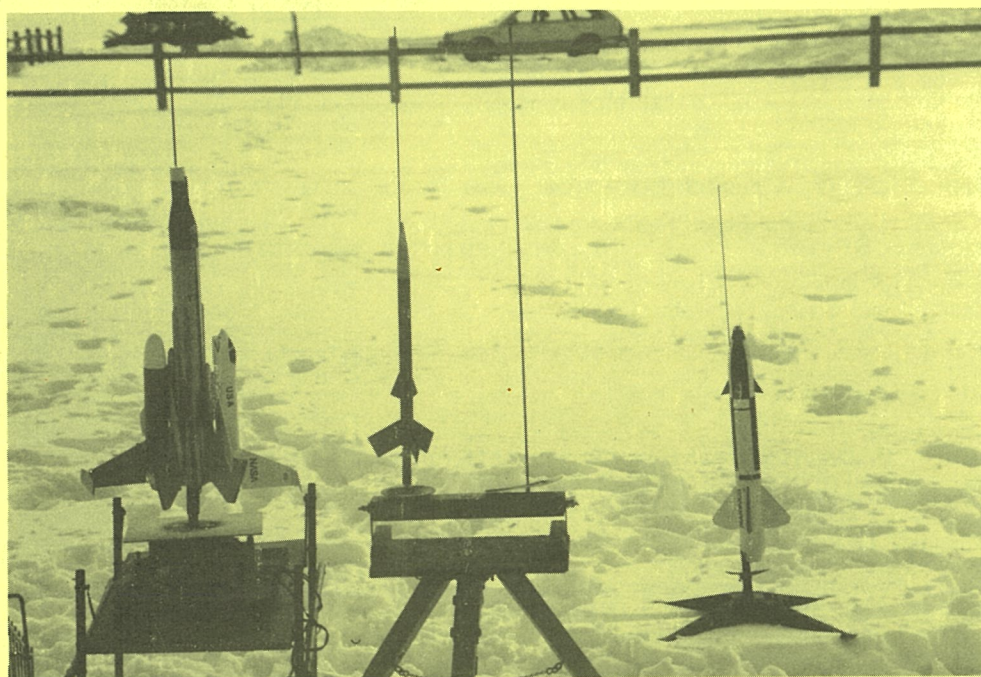


WINNER



NORTH AMERICAN  
ROCKWELL TROPHY



**INSIDE: Balloon Ejection Method  
and Plans of "MY PHIRST"**

## LAUNCH RACK

VOL. V, ISSUE 34

March 1987

Jack Sarhage, Editor  
875 River Road  
Piscataway, NJ 08854

The LAUNCH RACK is the official publication of the Garden State Space-modeling Society (Section 439 of the National Association of Rocketry) and is published monthly (except for combined issues in May/June and July/August) for the enlightenment and entertainment of the membership.

Others interested in receiving this publication may do so for the yearly subscription rate of \$3.00. Please send this fee to the editor.

The Editor invites and encourages all to submit articles, photographs, plans, etc. to be included.

The deadline for material to be published in the next issue is March 24, 1987.

### Your Status:

- ( ) Your subscription ends with this issue.
- ( ) If and "X" appears in this space it is time to think about renewing your GSSS membership. It expires on \_\_\_\_\_!



### Editor's CLIPPINGS

#### ELECTION NEWS

No, there has not been an election and one won't take place until November, and you will take part in it.

Sure it is a long way from November, but we have lots of new members since the last one and they need to know how it works.

First, you as a member have the duty to elect those officers that will run your club for the next two years. That's right! Two years. So, if you would like to run, or you are nominated know what you are getting into. Back to nominations. You nominate the person that would best run your club. The present officers would automatically appear on the ballot unless they make it known that they do not wish to be re-elected.

Make sure your nomination wants the job and then send it in. Deadline for this is the October Open Board Meeting.

You should nominate a person for all three positions, President, Vice-President and the Secretary-Treasurer.

The nominations will appear on a ballot in the November issue of the LAUNCH RACK. Vote for one in each category and mail it in by December 1.

The new officers will be announced at the December Open Board Meeting and in the December issue of the newsletter.

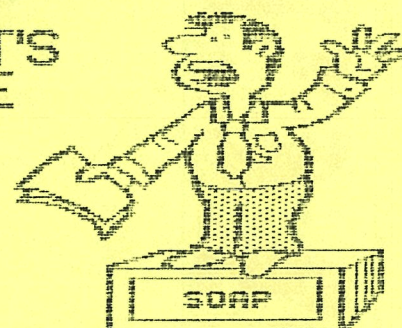
Your nominee can write a campaign address as to why they should be elected

to the position nominated for, to appear along with the ballot in the November newsletter.

Simple, right? Right!

## PRESIDENT'S MESSAGE

BY  
BOB ZABRISKIE



Well, here we are, contest time has arrived. Our new Contest Director for the 1987-88 Contest Year is "Dr. Bob" Kreutz. Bob is as anxious to get going as you members who compete are. I know that there have been many boost-gliders, rocket gliders and helicopter model constructed over the winter and you are all raring to go.

There are three contests on our schedule this year. You all know that it takes a lot of work to make these a success. So, even if you are not going to compete, come on out as we need timers, judges, etc. If, three contest are not enough myself and others will be making trips to Virginia and New York so feel free to come along.

Also, I would like to remind you of the support we will need at upcoming displays and demo-launches. (CONTINUED PAGE 7)

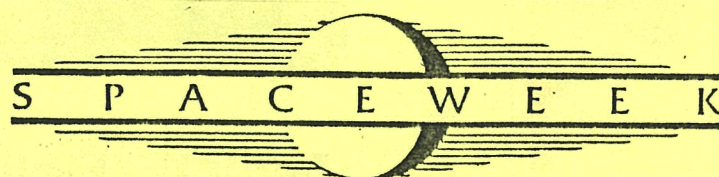
## LETTERS TO THE EDITOR



(Ed. Note: The following was addressed to the Section Advisor from Manuel Mejia, Jr. "Low-power Rocket Enthusist")

"...In issue # 33 of the LAUNCH RACK you stated that the new NAR Safety Code was not legal in the State of New Jersey. ...In reality the new Safety Code is partially legal. This fact is true because NJ defines a model rocket as "aero model that is propelled by means of a model rocket engine, includes a recovery device, ...is made out of paper, wood, or breakable plastic, contains no substantial metal parts, and weighs no more than 16 oz" (page 2 of the rule book). There is no rule that states that a model rocket motor (engine) must weigh 113 gms. ...the only requirement the motors must comply with is that they be NAR and Dept. of Labor approved.

To summarize, 125 gm. rocket engines can be used...as long as the rocket does not weigh more than 16 oz. All hobbyists should note this..."





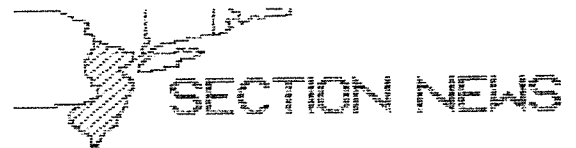
Bob Zabriskie has found the perfect way to keep from loosing or damaging your favorite rocket. Leave it in the bag. Photo by Steve Pantuck.

### February Sport Launch by Steve Pantuck

The weather for this launch was remarkable for February—it was clear, very sunny, and warm, probably in the mid 40s for most of the day. Initially there was absolutely no wind; a little after 10:30 the wind started blowing fairly strongly (as usual), but it later died to a reasonable level. There was only a bit of snow on the field, though the field became kind of muddy as the day warmed up.

Probably because the weather was so good, a large number of members turned up to fly. Present at the launch were: Steve, Bob Zabriskie, Jack, Don, Carl Cufone, Dr. Bob, Mark, Joyce, Manuel, Arnie, Ted, Glen Phillips, Bruce Canino, and Sharon and Rachel Selig. There were also several visitors at the launch; Joyce brought her sister Stephanie, and Mark brought a friend named Stan and his son Michael, who was a great help in recovering rockets.

Steve flew the new Estes Der V-3 kit, which turned out to be a great flyer and brought his 20 x 30 poster of the famous V-2 cato in memory of the fact that the cato occurred at last year's February sport launch.



In celebration of National Dental Health Month, Dr. Bob flew his I-2th, a kit with a mold of a tooth for a nose cone and a spring loaded poster reading "Ignore your teeth and they'll go away." Unfortunately, the poster got tangled up on both flights and failed to deploy properly. He also brought a beautiful C-powered Ariane plastic model conversion, which flew very well (though not very high), but which landed rather hard and fell apart. Because Ted helped Dr. Bob prep it, Bob accused him of hexing the Ariane as he did the MMU from the November launch. As Ted put it, "When I saw how good the flight was, I was afraid my hex wouldn't work, but when it landed the hex kicked in." Ted may also have hexed himself, though, because his original lander (the one with the gold pantyhose container nose) died during its flight.

Among the many kits Mark brought and flew were four that were particularly interesting. He had an old Estes Constellation, an old Estes Avenger, and the original Estes Mark—not the current (or relatively recent) Mark II, but the Mark. He also brought a self-designed large rear-ejection model. Despite almost unanimous pre-flight derogatory comments about it from the rest of us, it performed beautifully, though Mark agreed that it may have been a bit too lightly powered. In addition to bringing brownies, cookies and candy, Joyce flew her Maverick for several beautiful flights. Stephanie brought her first rocket, an Estes Vector, and had several beautiful flights. After one hard landing a fin had to be glued back on, and it must have been slightly crooked, because the kit did an amazing set of vertical barrel rolls as it climbed out of sight.

Arnie flew a Cineroc twice, once mounted on a Tomahawk D-Region and once on a Big Bertha. He also finally succeeded in getting his Hitchhiker Glider to separate from his Big Bertha and brought a large (fluorescent orange) F7- powered kit, which landed well beyond the field behind us but was still recovered.

One thing that became irritating was the amount of air traffic overhead. In addition to one R/C plane that refused to stay out of our area, the recent changes in the air traffic routes resulted in a much greater number of planes crossing by than there have been in the past. Numerous countdowns had to be held to allow aircraft to clear the area.

Had this launch been a contest, several people would most likely have taken some prizes. Stephanie's Vector would have won altitude hands down, guesstimated at 2,000 plus feet with a C engine, beating out even Arnie's F-powered kit. Spot landing would have been a close event; contenders would have been as follows: Steve's Der V-3, Don's Flying Saucer (which almost landed on his head), and Dr. Bob's White Shadow. If booster spot landing were a valid category, Mark would have taken that—his booster landed right at the foot of the launcher! Of course, he only had a  $\frac{1}{2}$  A6 in it....

(CONTINUED PAGE 7)



## BALLOON EJECTION METHOD

By William Morse  
Copyrighted 1983  
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The model rocket design given on page 6 is for a rocket that uses a balloon as part of its mechanism to eject a parachute. The type of Rocket Engine used with this design is one which does not have an ejection charge.

A description of the balloon ejection method, how it functions and the way in which a model rocket that uses this method is made follows:

A. Top of Catch Stick - It is attached to a balloon (C) which has been stretched over the top of the rocket casing (B-1) and secured to the casing by tying a piece of 8 lb. test monofilament line around it and the casing. The Catch Stick functions by securing itself at notch (G) to the monofilament line (loop) extending out from the top of the rocket engine (D). Attaching the Catch Stick to the monofilament line is accomplished in two steps.

1. The top of the Catch Stick (A) is pushed down through the casing (H) using length of 3/16 inch diameter dowel until part F extends out of the end of the casing and catches itself on the rim of the casing. At this point with the portion of the Catch Stick consisting of F and G extending out of the casing and secured to the casing's rim, the 3/16" diameter length of dowel is removed.
2. The bottom of the Catch Stick extending out from the casing is placed through the monofilament loop (I) and then the loop is placed in notch G on the stick. The bottom casing (L) with its tubular stabilizers (M) is then joined to the top casing. After the rocket is fired and at the end of its flight the portion of the monofilament line (I) inside the top of the engine burns in half releasing the Catch Stick. The Catch Stick is then pulled by the contracting balloon up through the casing knocking the parachute and the nose cone off.

B-1. Balloon stretched over the top of the casing and tied to it with a piece of 8 lb. test monofilament line. A thin piece of brown gummed paper tape (approx. 1/8") is glued around the top of the casing to ensure that the line does not slip off after it is tied.

B-2. Is a good way to tie a knot in the monofilament line. The advantage of tying a knot this way is that it

## MY PHIRST

(A Cluster of Parachutes Model)  
Designed by Glen Phillips

For something different in the way of recovery: I used three, 6-inch parachutes cut from kitchen type plastic garbage bags. Shroud lines can be made from carpet thread available at any hardware store and some super markets. You can purchase a roll for under \$1.00 and it has several hundred feet on it. It is much cheaper than buying shroud line, but is the same thing. Make 3 lines per chute each 20-inches long. Three chutes have a tendency to tangle upon impact, it is wise to use swivels. This type of recovery provides a safe, soft landing but with rapid enough decent to make retrieving just a few paces from the launch rack.

The fins are made of two pieces. Cut the balsa to size. Lay the pieces on a piece of waxed paper, apply a bead of glue to the surfaces to be attached. Wait about one minute, or until the glue becomes tacky, then join the two pieces. When the joint has dried, smear some white glue along the seam, repeat until all the cracks have been filled in and you have a smooth surface. Repeat for the other side and sand.

Form the typical engine tube using 2 RA-2050 centering rings, a piece of BT-20 and an engine block. About 1/4" should extend beyond the end of the body tube.

This model performs well with any 18mm engine from A to C, and exhibits good stability with little or no roll. Good luck.

See the design of "My Phirst" on the next page. (Ed. Note: Glen flew a larger version at the February sport launch.)

will allow the monofilament loop to slip tight around the balloon and casing.

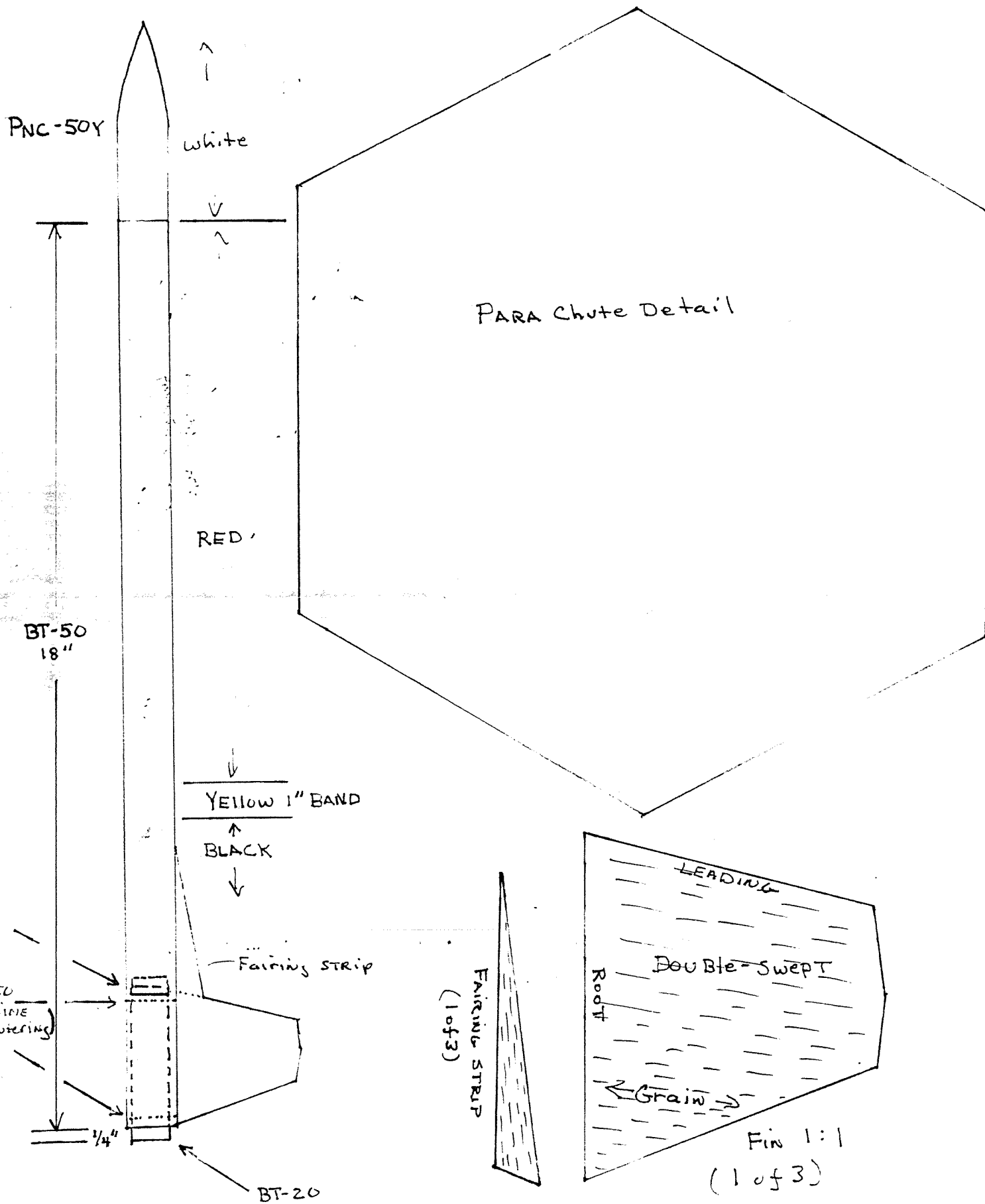
- C. The balloon as it appears inside the casing. The type of balloon which should be used for this purpose, because it is strong and good quality, goes under the name of Oak Rubber and is manufactured by Oak Rubber Co., Ravenna, OH 44266. The width of the balloon (uninflated) when measured with a ruler is approx. 7/8". A 2" piece is cut from the balloon measuring from the end without the mouth hole. A balloon when installed properly will work for many flights. However, as a consequence of it remaining in a stretched position over the rim of the casing it will weaken in a few days and have to be replaced.

(Ed. Note: Part II will appear in the next issue. It covers making the Catch Stick, attaching the balloon and installing the parachute.)

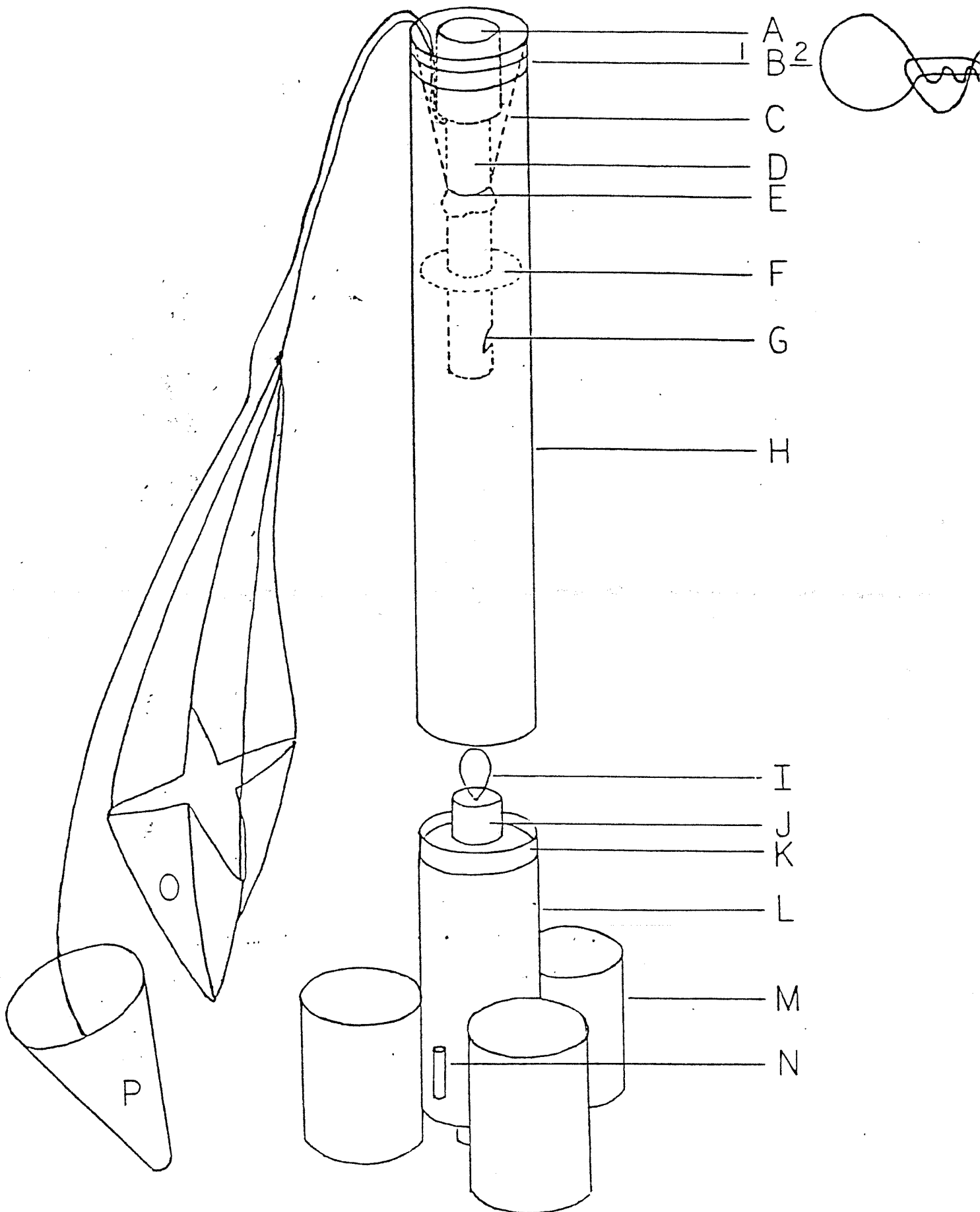
## OUR COVER

Photographer Steve Pantuck covered the February sports launch. The top photo is of Mark Cascella and his vintage Estes "Nighthawk". It was an early boost-glider. The photo on the bottom shows the North Branch Park field and the 8 to 10 inches of snow on the ground with some of the rockets prepared for launch.

Originally NAMED: MyPhirst  
(As it was "my first" design)



# PARACHUTE EJECTION MECHANISM



Don's car volunteered to be the marker for a new event, the "automobile spot landing contest." Quite a few kits kicked their engines, and most of these kicked engines hit Don's car. Carl's Saturn-V PMC engine, Mark's Birdie, Mark's Birdie engine, and Mark's Centuri Laser-X engine all landed on Don's car. Don himself was nearly hit by several of Bob Zabriskie's B/G pods.

As if this wasn't enough, Don suffered one more problem: when he tried to leave, his car sank into the mud and just slid around for a while. He finally got going with some pushing help from Steve, Bruce and Sharon, though Steve and Bruce were heard to make some nasty remarks after slipping in the mud a few times.

All things considered, it was an excellent launch and the best weather we've had in quite a while. Fun was had by everyone there, and we're looking forward to seeing you all at Goddard III next month!

#### BECOME A LEGEND IN YOUR OWN TIME .....or, set a new national record.....

What me? you ask. Sure you CAN do it and what's more you have probably done it and didn't know it at the time.

First, you must be in an NAR Sanctioned Contest or Records Trial. You must also be an NAR member in order to file for a NAR record. GSSS records are something else and will be discussed another time.

What are the standing records of the events in the contest you are flying in. How you gonna know if you set a new one or not.

Let's look at GODDARD III. This is not an FAI Contest so we will skip the international events. I will list the event and the present record according to Division.

#### A Boost-Glide Duration

Division A: 247 seconds M. Beyers  
Division B: No record established.  
Division C: 301 seconds D. Cook

Okay, Division B (Age 15, 16 and 17) go for it. Any qualified flight is a record. The other two times can be beat and have.

#### B Egg-loft Duration

Division A: 29 seconds, R. Freeman  
Division B: No record established.  
Division C: 199 seconds, ZunoFark Team

Again, it is wide open in Division B and the other two present records are within reach.

#### B Helicopter

Division A: No record established.  
Division B: No record established.  
Division C: 34 seconds, Lou Dick Team

What can I say? Do it!!

#### C Superoc Duration

Division A: No record established.  
Division B: No record established.

Division C: 868 points, H. Pell

Again, another wide open event.

So when you enter GODDARD III and fly your events on March 15 make it known that your flight is a record attempt. Naturally, there is some documentation that goes along with these attempts and we will be happy to help you with it if you let us know.

GSSS members hold two National records.....they are,

Division A: 1/2A Boost-glider  
Eddie Glembocki  
41 seconds (05/31/86)

Division B: B Streamer Duration  
Karl Zabriskie  
41 seconds (07/20/85)

We will do our part in helping our members go for these records by making this information available before each contest. This way you'll know what your shooting for, if you will excuse the expression.

GSSS RANGE STORE.....The following items are offered to club members:

GSSS Patches.....	\$ 3.50
GSSS Caps (Red and White Baseball Type) with- out patch.....	3.00
GSSS Club shirt (comes with your name on it and club's).....	15.00

Send your order, include size and money to Bob Zabriskie, 123 Duer St. No. Plainfield NJ 07060.

REMEMBER, all club members can advertise their wants, trades, to sell, etc. in the GSSS Range Store.....and get this price, FREE, FREE.

Send your ad to the Editor. His address is on page two in the masthead.

---

#### President's Message continued.....

Don't forget the trips that are planned for Goddard Space Flight Center and Wallops Island Flight Center (VA).

If you look in Issue No. 32 of the LAUNCH RACK you will find the schedule showing dates for these trips. Mark them on your calendar if you haven't done so.

See you at the launch,  
Bob Zabriskie

\*\*\*\*\*

#### Section News continued.....

OPEN BOARD MEETING HELD 25 FEBRUARY 1987.....Called to order by Bob Zabriskie, President. Attending were Bob Z., Manuel Mejia, Arnie Klein, Ed Saur, Ted Rebatje and Jack Sarhage. In absence of the Secretary a motion was made that the minutes appearing in the LAUNCH RACK be accepted as shown. (M-S-P) Bob Zabriskie reported on behalf of the Treasurer that there was a balance of \$152.42 in the treasury after purchasing necessary contest supplies. Bob also read a letter from Mr. Charles Howorth indicating that when the Science and Technology Center is complete at Liberty State Park we would be able to assist in that program.

(Continued on page 8)

Section News continued.....

(Open Board Meeting cont'd.)

Ted Rebetje Chairman of the Safety Committee reported on the success of the last sports launch. He (and Manuel Mejia) reported that Model Rectifier Corp., in Edison, NJ is importing 30 new engines from Japan. Presently these are undergoing test by the NAR and should be certified later on.

Contest and Records Chairman not present. It was reported that several had registered for the March contest and that he was prepared.

Activities Committee (No Chairman). Bob Zabriskie reported that Y Indian Guides had notified him that their rain date was the same as that for Picatinny Display/Demo. We have the man-power to cover both if necessary.

Ed Saur brought up the subject of improving interest among new rocketeers and especially young people. He felt that continuing the B/G events was the best way to go in lieu of other payloads presently available.

Arnie Klein and Manuel Mejia, Jr. have put together an index of "Selected Articles From Model Rocketry and Model Rocketeer". This is a two volume effort.

The meeting was adjourned at 9:15 PM. (We thank Arnie Klein for having the meeting at his home in Rockaway.)

**OPEN BOARD MEETING DATE.....**The next meeting will be on 24 March 1987 at the JFK Library, Hoes Lane, Piscataway. Begins at 7:15 PM. Post-contest talk session.

## HISTORICAL LAUNCHES

By Bob Zabriskie



- 03-01-63 NIKE-CAJUN launched from Wallops Island, VA
- 03-03-59 JUNG Rocket launched with Pioneer IV moon probe.
- 03-07-47 U-2 launched from White Sands MR, NM
- 03-11-60 Pioneer-5, Venus probe launched.
- 03-16-66 Gemini-8 launched from KSC.
- 03-17-58 Vanguard-I test Satellite launched on Test Vehicle No. 4.

03-25-61 Explorer X launched on a "straight 3" Delta from Cape Canaveral.

03-26-61 Aerobee launched from Wallops Island, Va.

## IN SEARCH OF NEMESIS

From the Editor. I want to apologize for not having Part V appear in this issue. I assure you that our heroes are doing fine although we did leave them in sort of a fix when last we heard from them.

They WILL be with us next time along with our GODDARD III report, Part 2 of the Balloon Ejection System and other planned goodies.

## COUNTDOWN (5-4-3-2-1)

a calendar of upcoming events....

### MARCH

15 GODDARD III (Open Meet) Events: 1/2A IPD; A B/G (No flex-wings); A ISD; B ELD; B HD; C SRD; and Predicted Duration. Entry Fees: Division A & B \$6.00, Division C \$10.00. NAR Sanctioned Contest No. 1009-870. Contest Director: Dr. Bob Kreutz, 1301-A Comanche Ave., Point Pleasant, NJ 08742.

24 Open Board Meeting at JFK Library, Hoes Lane, Piscataway, NJ. 7:15 PM

### APRIL

3-4 16th Annual Pearl River (NY) Modroc Seminar. If you attended last year you will receive information. If not, contact Mr. Dick Nelson, Pearl River Middle School, 520 Gilbert Avenue, Pearl River, NY 10963. Pre-registration is required no later than March 30th for the fee of \$12.00. Registration at the door is \$22.00. Limited to 300 people. Ask any one that has been, it is a great day!!

?? ASTRO-5 (Open Meet) Events to be announced. Contact Jeff Vincent, Box 95, New Scotland, NY 12127.

26 SPRINGTIME Sports Launch. North Branch Park in Bridgewater Township. Begins at 9:00 AM

28 Open Board Meeting at JFK Library on Hoes Lane, Piscataway. Begins 7:15 PM

### MAY

03 Y Indian Guides Launch. Location and assistance requirements to be advised.

16 Display and demo-launch at Picatinny Arsenal Open House.

26 Open Board Meeting. Location to be advised. Begins at 7:15 PM.

30 "Arc to ARCTURUS" Sports Launch at North Branch Park, Bridgewater Township. Begins 9:00 AM.

### JUNE

05 Lincoln School launch. Contact Manuel Mejia.

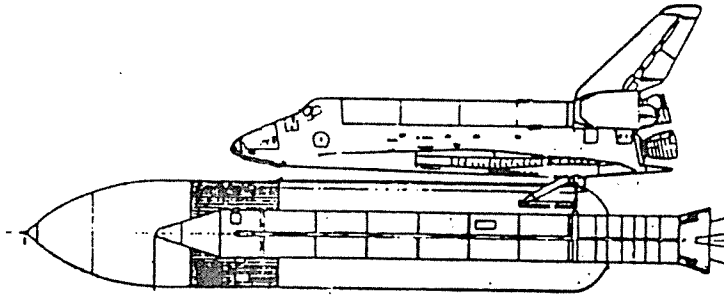
6-7 SPACE EXPO 87 Display and demo Launch at Cradle of Aviation Museum, Mitchel Field, Garden City, NY. See enclosed information in newsletter for details.

20 GSSS-4 (Section Meet) North Branch Park. Events: 1/2A Parachute Duration, 1/2A Streamer Duration, 1/2A Int'l Boost-glider (No flexible wings), A Helicopter, B Superoc Duration, Streamer Spot Landing. Contest Director: Dr. Bob Kreutz.

23 Open Board Meeting. Location to be advised. Begins 7:15 PM.

THE CRADLE OF AVIATION MUSEUM IN COOPERATION WITH  
THE SPACE FRONTIERS SOCIETY OF LONG ISLAND  
PRESENTS

# SPACE EXPO 87



Cradle of Aviation Museum, Mitchel Field, Garden City  
Saturday and Sunday, June 6 & 7, NOON - 5 PM

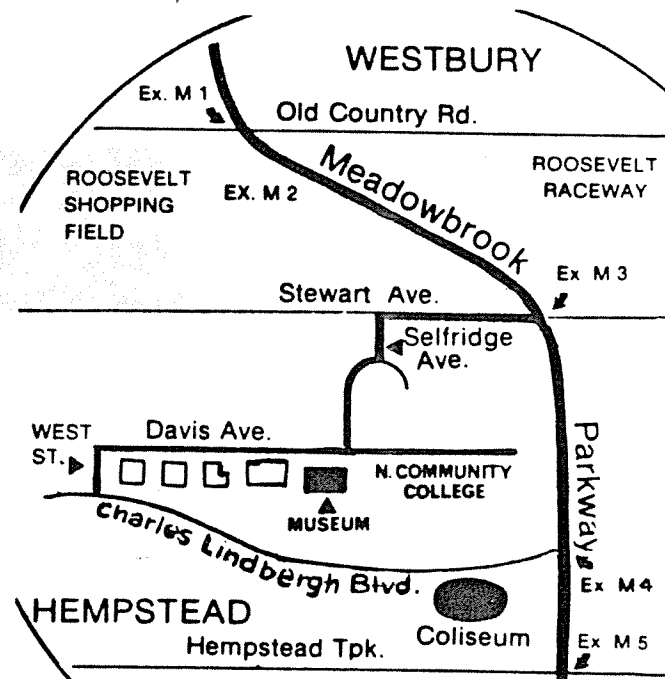
- \* Spectacular exhibits of original Spacecraft including Apollo 18 Lunar Module and Prototype Space Shuttle
- \* First Public Showing of full size Space Station Habitat module and Command Center
- \* Planetarium shows in STARLAB, inflatable planetarium (Courtesy Science Museum of Long Island)
- \* Amateur radio satellite communications demonstration
- \* Model rocketry exhibit and LAUNCH!
- \* Additional exhibits on Manned Spaceflight, The Space Studies Institute, the Space Frontiers Society, Alternate technology, Space spinoffs, and more!
- \* NASA Films
- \* Distinguished Speakers
- \* Lunar Lander videogames

**ALL EVENTS FREE!!**

**CALL (516) 222-1191 FOR  
ADDITIONAL INFORMATION**

THE LONG ISLAND  
SPACE FRONTIER SOCIETY

*PROMOTING MANNED SPACE DEVELOPMENT*



Take Route 287 to exit for Route 18, Piscataway. Follow signs for Rutgers Stadium onto Temp. Rte. 18 (River Road). Take jughandle at first light onto Centennial Ave., follow 1 mi.+ and make right onto Hoes Lane; follow 1 mi.+ to John F. Kennedy Library on right. Monthly meetings from 7 to 9 pm.

### MEETINGS

202/206 South to Circle  
Rt. 78 or Rt. 80 East to 287 South to Exit 13,  
FROM WEST  
287 North to Exit 13, 202/206 South to Circle  
FROM EAST  
202 North to Milltown Rd.; or 206 North to Circle  
FROM SOUTH  
202/206 South to Circle  
NJ Turnpike South to Exit 10, 287 North to Exit 13,  
FROM NORTH

North Branch Park is very near the traffic circle  
junction of NJ Routes 22, 28, 202, and 206, near  
Somerville. Follow 202 South from the circle for  
2 miles, past Ortho Pharmaceutical and RCA Solid  
State Div., under railroad trestle marked "4H is  
Tops", to right turn onto Milltown Road. Make first  
left after firehouse and 4H Center on right; follow  
path to open field. Monthly launches from 10-4.

### LAUNCHES

### DIRECTIONS TO GSSS EVENTS

### GSSS MEMBERSHIP APPLICATION

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone Number \_\_\_\_\_  
Are you an NAR member? \_\_\_\_\_  
If so, provide NAR number. \_\_\_\_\_  
Membership Category (Check One)  
( ) Junior (Under 16) ..... \$4.00  
( ) Leader (16 through 20) ..... \$6.00  
( ) Senior (21 or over) ..... \$9.00  
This is a (renewal) \_\_\_\_\_ (new) \_\_\_\_\_ application.  
I pledge to abide by the NAR/HIA Safety Code in  
all my non-professional rocketry activities.  
Signed \_\_\_\_\_ Date \_\_\_\_\_  
Send this application along with check for dues to:  
Karl Zabriskie, GSSS Secretary/Treasurer  
123 Duer Street  
North Plainfield, NJ, 07060

GARDEN STATE SPACEMODELING  
SOCIETY -- NAR SECTION #439  
c/o Jack Sarhage  
875 River Road  
Piscataway, NJ 08854-5549

TO:

NOVAAR FREE PRESS  
501 South Taylor Street  
Arlington VA 22204

Forward:  
Brian Robinson  
6600 Weatherford Ct.  
Arlington, Va.  
22101

# THE LAUNCH RACK

NEWSLETTER OF NEW JERSEY'S SPACEMODELING SOCIETY

