



*Celebrating Fifteen Years of  
Model Rocketry in New Jersey*



# The Launch Rack

The Official Publication of The  
*Garden State Spacemodeling Society*

JULY/AUGUST/SEPTEMBER/OCTOBER 1997

ISSUE 120

**The Launch Rack** is the official publication of the *Garden State Spacemodeling Society* (Section 439 of the National Association of Rocketry) and is published for the enlightenment and entertainment of its membership.

Others interested in receiving this publication may do so for the annual subscription rate of \$7.50 for 6 issues. Overseas subscriptions are \$17.50. Please send this money payable in USD to **Arnold Klein, 2 Oneida Avenue, Rockaway, NJ 07866.**

The Editor invites and encourages all to submit articles, photographs, plans, letters to the editor, etc., for future publication. In addition to articles, the Editor welcomes and encourages constructive feedback on each an every issue. Please send all material to:

Jack Sarhage  
875 River Road  
Piscataway, NJ 08854-5549

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## LAUNCH WINDOW:

Anyone wishing to attend any GSSS activity should call the GSSS hotline (908) 658-9417 the morning of, to verify the event is still on. If the event is cancelled, the recording will be updated at 9AM.

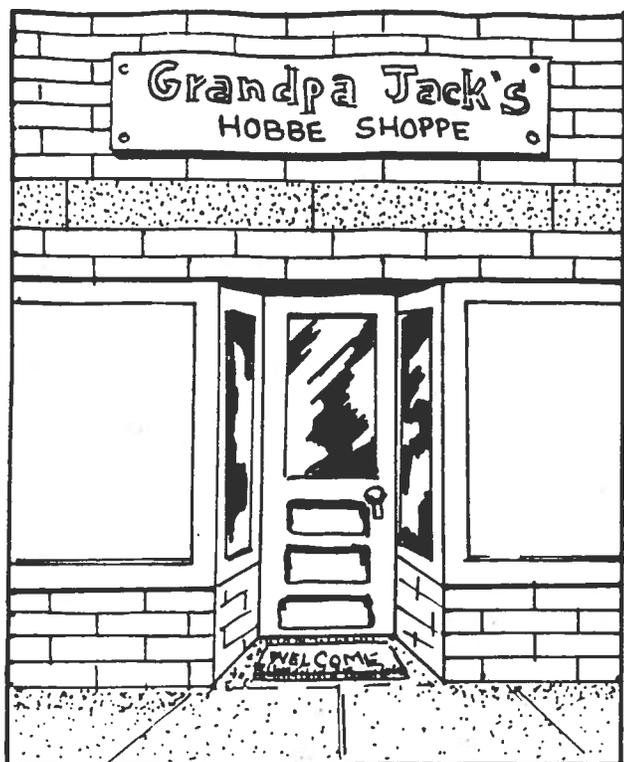
**A NOTE ON NORTH BRANCH PARK.** Please keep in mind that the park and weather conditions dictate what we allow to fly. Just because a rocket is under the one pound limit, do not assume it is an automatic launch. If the RSO does not feel the model can be safely flown or recovered within the park's boundaries, it will not be flown regardless of the weight or impulse. If some other activity shows up and starts using the adjoining fields, the RSO will reduce impulse for all flights. So, bring some small stuff just in case. **REMEMBER, WE SHARE THE PARK.** We do not pay a fee and most of us are not a resident of that county. Rocket flying fields in New Jersey are in short supply, and we are protective of the fields we have. If you're unhappy with this limitation, then we invite you to help us in gaining legal access to privately owned, large, open fields.

<u>Sat., August 23, 1997</u>	<u>Sat., September 27, 1997</u>	<u>Sat., October 25, 1997</u>
10:00 am - 3:00 pm	10:00am - 3:00 pm	10:00 am - 3:00 pm
Sport Launch	Sport Launch	Sport Launch
Funtest '97: B HD	Funtest '97: ½A Mosquito	

**ALL OF THE ABOVE LAUNCHES WILL BE HELD AT NORTH BRANCH PARK**

**ON OUR COVER:** In the top photo is the display GSSS had at the last Open House at Trailside Museum and Planetarium. This has always been fun, especially when the weather cooperates and a launch can be included. On the bottom is a shot at an earlier launch that shows several of the **REGULARS** in attendance.

**NOTE: DEADLINE FOR NEXT ISSUE IS OCTOBER 25!!**



**I'M SORRY!** That offer just doesn't seem to say enough about the tardiness of this issue, a combined one at that. It is a first for me to be sure. As I said, "I'm sorry.", just isn't enough and I feel an explanation is due you.

There are several areas of my present situation that has had played a part. First, is that the present employment I have is taking more out of me physically, as well as mentally, than I realized. This came home to me when I missed the July 26 launch. I frequently forget what day it is.

Secondly, and maybe the most important, is that model rocketry doesn't seem to hold the interest that it once did. The club that I founded in 1982 is not the same as it is today. There doesn't seem to be any goals other than a monthly launch. I don't understand the, "I just like to do my own thing" attitude expressed by several members to me.

Third, I have become very active with the Pine Creek Railroad division of the New Jersey Museum of Transportation located at Allaire State Park near Farmingdale, NJ. It is an all volunteer organization dedicated to preserving some of the old narrow-gauge railroad equipment, like the 114 year old "Lady Edith". Each Sunday I go down I am doing something different: ticket agent, conductor on the train,

track gang where I shovel ballast, help replace railroad ties, paint, build whatever it calls for to keep these bits of history operational and preserved for future generations to enjoy. The best part is the faces of the kids, ages 3 to 93.

Then, I have gotten active playing chess, both "over-the-board" and by mail.

I guess that what I am saying is that I am going to have to step down as editor of the newsletter for GSSS. This combined edition allows the Board of Directors to find another prior to the next issue.

**THANK YOU!** It is appreciated the response I got from the last issue with people sending in articles, Robert Nee (see his "Mini-Review Impulse Aerospace Check-Six"), Steve Pantuck for his coverage of the May launch.

**DISAPPOINTMENTS:** I was disappointed in the number of competitors in the Northeast Meets Southland. This was supposed to be an Open Meet. However, with only two club members competing it was down graded to a Section Meet.

Robert Gill won Open Spot Landing, A Superoc Duration and 1/2A Helicopter Duration. Tom Whymark was the over contestant. No other events were flown.

Another area was with the auction to help the *Herb Desind Memorial Scholarship Fund*. Only ONE member asked for the bid sheet but, never returned it.

**HIDDEN IGNITER:** Robert Nee was the winner of the Estes Kit No. 1940, "Marte Mk2".

Well, that is it for me.

### TREASURERS REPORT SUBMITTED BY ARNIE KLEIN

FOR THE MONTHS OF JAN-JUNE 97

Total in treasury DEC96	\$831.48
Income JAN -JUNE 97	\$ 268.00
Disbursements JAN-JUNE 97	\$299.75
New total	\$799.73

## FUNTEST '97

These are the results of the on going Funtest as it stands now:

### A Streamer Duration

Kurt Koegel with 100 points.  
Ted Rebetje with 95 points.

### A Ping-Pong Ball Duration

Kurt Koegel with 100 points.  
Ted Rebetje with 95 points

### Open Spot Landing

Robert Gill with 100 points  
Robert Nee with 95 points  
Ted Rebetje with 90 points  
Nancy Mastrola with 85 points  
Kurt Koegel with 80 points

Alex Frank (Jr.) with 100 points

### A Parachute Duration

Ted Rebetje with 100 points

\*\*\*\*\*

## SECTION NEWS



### Club ratches

We have a new shipment of patches in. If you would like one they cost \$5.00 to members and \$7.00 to non-members. These will be available at all club launches.

We also working on the possibility of transfers to be used on T-shirts of a 15th Anniversary Design by Dr. Bob! Kreutz. More information next time.

See the Treasurer's Report on page 3.

REMEMBER, the most wanted activities the members voted for were:

Sport Launches  
NAR Competitions  
Newsletter  
Permanent launch site  
Monthly meetings

grab your "elected" Board of Directors and make these happen. It's all up to YOU.

1997 is also an election year. Now is a good time to begin thinking about who you would like to govern the club. HOW ABOUT YOU!!!

### NEW MEMBERS:

It gives me pleasure to introduce two new members this time; Pete Roehvick of Yardley, PA and Alex Frank from Howell, NJ.

Be sure to welcome these folks when you see them at the next launch.

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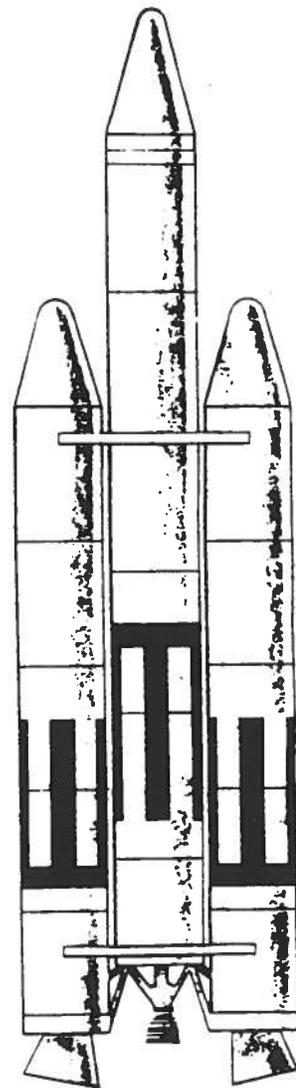
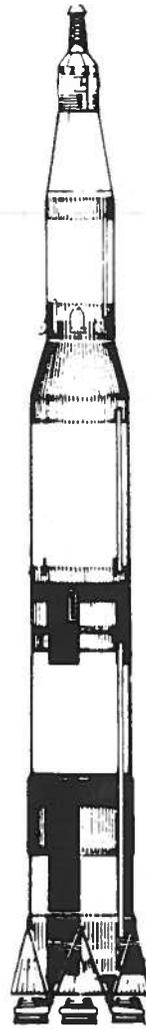
## May Sport Launch

*Contributing Editor: Steve Pantuck*

Despite a very iffy weather forecast the day turned out nicely. The sun came out for about half an hour around noon; the rest of the day was mostly lightly overcast with a light to moderate wind. About 16 people turned out: Bob Zabriskie, Kurt Koegel, myself, Robert Nee, Ted Rebetje, Bob Gill and Bob Jr., Tom Whymark and grandson Alex, Scott Johnson, Dave Statham, Jeff (I never did get your last name-sorry!), and several new members, Janet and Alex Frank, and Perry and Nancy Mastrola.

Several of the more unique flight were made by Kurt's Double Flush-Roc, which is essentially two toilet float balls. This is one model that has to be seen to be believed; I can't offer a very good description of it. Picture two toilet floats glued together end-to-end, and you pretty much have the idea. This version is a two stage model, with each stage powered by a D engine. While the upper stage engine catoed on the first flight, the flight itself was very stable and the model suffered almost no damage. On the second flight both engines functioned properly and delivered a beautiful boost, but the (rear ejected) parachute failed to deploy. Bob Z. and Bob Nee drag raced Fat Boys, with Bob Z. emerging victorious. Bob Nee also flew an Estes Spacelab and SR-X. Ted flew another of his lander-type models. Dave flew a beautiful Venus Probe. While these flights stick in my mind, many more were made, including a successful Funtest eggloft flight by one of the new junior members. I think it was Alex Frank; if I'm wrong, please correct me at the next launch.

A good time was had by all, and a lot of information was exchanged. In case it hasn't been mentioned elsewhere in this issue, there is now a GSSS Website (maintained by Scott Johnson); launch your browser to: [www.princeton.com/GSSS](http://www.princeton.com/GSSS).



## Mini-Review:

### Impulse Aerospace "Check-Six"

*Contributing Editor: Robert Nee*

After a winter of flying where I saw more than my share of hard landing, dinged fins and crimped body tubes I decided I needed a small rocket that could stand up to frequent flying. Thin paper body tubes and balsa fins aren't very durable. High power rockets have traditionally used much stronger materials such as phenolic tubing and fiberglass fins. While this makes for much stronger rockets I wanted something I could fly on smaller fields.

Impulse Aerospace's new line of Rugged Rockets brings high-power materials and construction techniques to model rocketry. The line currently consists of three rockets. The Spit-Fire, Six-Pack and Check-Six all use phenolic body tubes and fiberglass fins and bulkhead plates. All kits cost around \$20. These rockets appeared to be exactly what I was looking for.

The Check-Six is a six-finned rocket about 19" tall and 1.2" in diameter designed to be flown on 24mm engines. It includes a 3 1/2" payload section with a Nomex parachute protector. The parachute protector is a 4" square piece of fireproof cloth designed to be used in the place of wadding. It is reusable and is attached to a kevlar shock cord so it won't be lost. As mentioned before all the parts are heavy-duty, not your typical model rocket parts. Even the launch lug is made from tough, 1/8" plastic tubing. The instructions were clear and simple to follow with a nice exploded-view diagram showing all parts.

Construction went off without a hitch. There is a cardboard engine mount tube which fits snugly into the pre-slotted airframe. The kevlar shockline is attached by glued it between the engine mount tube and the airframe. After sanding the leading and trailing edges of the six fiberglass fins. They are epoxied (epoxy is used throughout the construction) into the slots in the airframe. Mounting the fins this way makes them stronger and less susceptible to popping off on landing. I was also sure to scuff the fins to allow the paint to stick to them better later. The payload section consists of a small section of phenolic tubing and a fiberglass bulkplate which is predrilled to allow for attaching the shockline. The payload section also has a hold predrilled for a screw to keep the nosecone from coming loose in flight. The 10" nylon parachute and Nomex parachute protector are attached to the shockline using snaprings which look like miniature key rings.

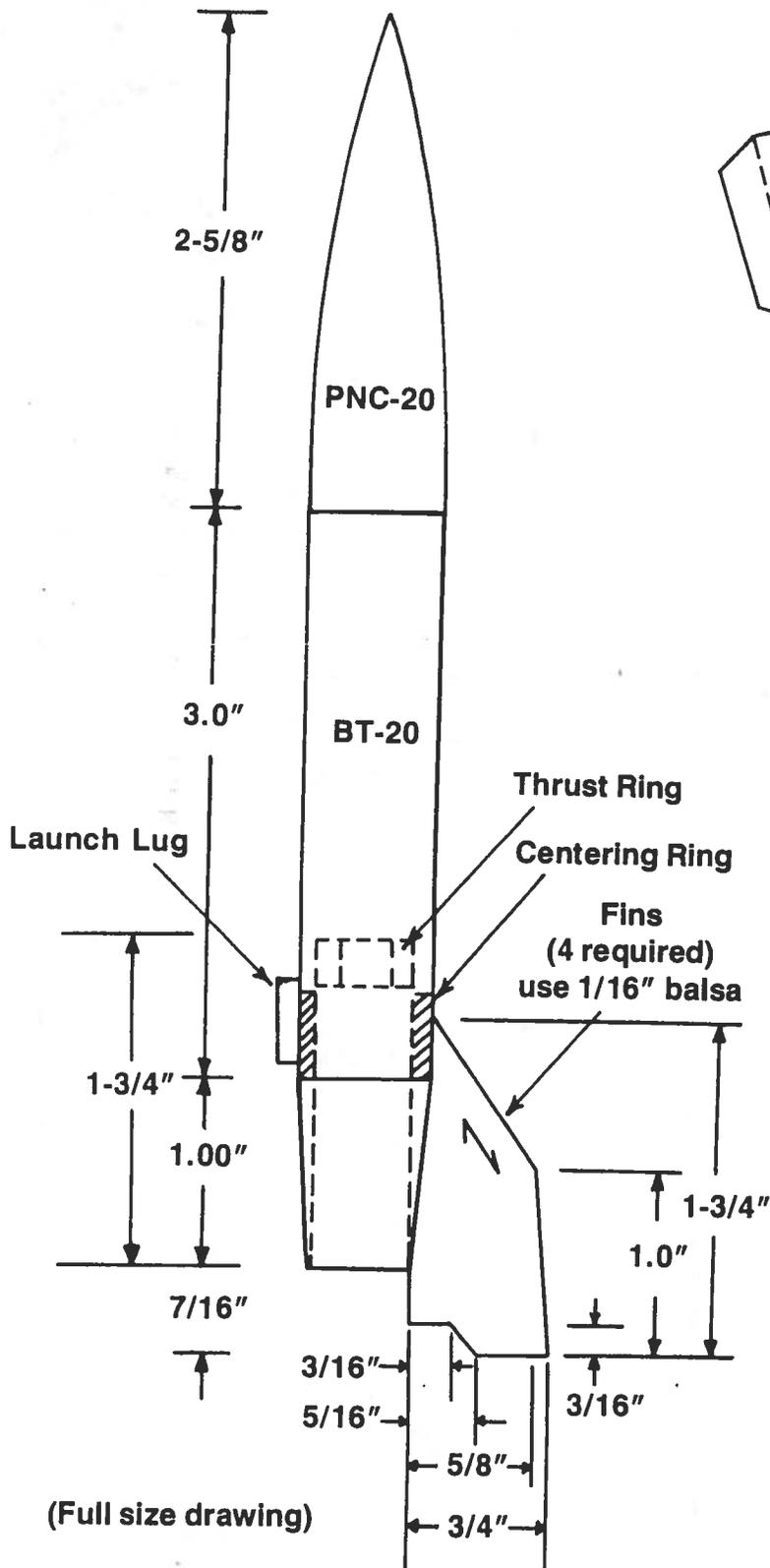
After filleting the fins with epoxy I sanded and primed the Check-Six. The phenolic tubing has no spirals so no filling is necessary, something I hate to do. I painted the rocket the suggested yellow with a black nose cone. The kit includes decals which appear to have been printed using a laser printer onto clear Avery labels. They looked cheap at first but actually looked very nice once applied. Overall finishing the rocket was easy and produced beautiful results.

I first flew the Check-Six an Estes D12-5 to about 1,000 feet. This little guy really moves. For its second flight I used a C6-3. It wobbled a bit after takeoff but straightened out after a second. The Check-Six is a bit heavier than most models of this size and is probably underpowered on a C motor. It is designed to be able to fly on 24mm motors up to a G55. My eyesight isn't good enough to fly it on anything over maybe an E motor. But the purpose of this kit was to have something durable I could fly on smaller fields so I think I will stick to D's

This brings me to one criticism I have of the kit. The shockline is made of a 24" piece of kevlar. On the third flight it broke and the nose cone separated. Luckily Jeff Taylor saw it come down and I was able to get it back. I will probably add a piece of 1/4" elastic to provide some give. Overall however I am very happy with this kit. It should remain a part of my fleet for a long time to come. Check it out at the next GSSS launch or pick up one for yourself!

# MINI V-2

A sharp "little" rocket...  
A great little conversation piece.



**Boat Tail:**  
2.8" minor radius,  
3.8" major radius,  
35° angle.

by M. E. Bowitz Los Angeles Rocket Society

## HISTORY:

The V-2 was developed in Germany as a guided missile during World War II. The official designation for the missile was A-4. The A-4 used alcohol for fuel, and liquid oxygen as an oxidizer. The missile could carry a one-ton high explosive warhead to a maximum range of 200 miles.

Under the technical leadership of Wernher von Braun, the A-4 was developed at Peenemunde, a small island on the Baltic Sea. The A-4 was a very futuristic weapon for its time, but came in too few numbers and too late to change the outcome of World War II. By May of 1945 Allied forces had defeated Nazi Germany.

Von Braun and many of his Peenemunde team surrendered to American troops. Not all of his team made it to the American area, however, and fell into Russian hands, along with the Peenemunde research center.

A total of 70 A-4's were launched (67 under project Hermes, and three later) at White Sands Missile Range in New Mexico and at Cape Canaveral, Florida.

Today's space vehicles owe much to the development of the V-2 weapon.

## THE MODEL:

The mini V-2 is a semi-scale mini-engine powered model. For recovery, a small paper streamer measuring 11 inches by 0.75 inches is sufficient. Since the volume within the body tube is limited, only 9 inches of 1/8 inch wide shock cord is recommended.

The thrust ring may be made from a 1/4 inch segment of spent mini-engine casing. The centering ring can be made from a half-inch segment of spent casing from a standard engine. Some of the paper on the inside wall of this segment may have to be peeled away to admit the BT-5 tube.

The boat-tail is made from card stock. A simple paint scheme for the model is solid gray. Recommended engines include the 1/2A3-4T and the A3-4T engines.

This model has been used by the L.A. Rocket Society for intermediate classes, where it fulfills the need for an interesting low-cost project. □

(Full size drawing)

NEWSLETTER OF NEW JERSEY'S SPACE MODELING SOCIETY

# THE LAUNCH RACK

Robert Nee  
 222 Willow Avenue - 2A  
 Hoboken NJ 07030

TO:



GARDEN STATE SPACE MODELING  
 SOCIETY -- NAR SECTION #439  
 Robert Zabratske  
 3 Peachtree Road  
 Basking Ridge, NJ 07920



## GSSS MEMBERSHIP APPLICATION

Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_  
 Zip \_\_\_\_\_ Birthdate \_\_\_\_\_  
 Phone Number \_\_\_\_\_  
 NAR number \_\_\_\_\_ GSSS number \_\_\_\_\_

### Membership Category (Check One)

- Junior (Under 16) ..... \$5.00
- Leader (16 through 20) ..... \$7.00
- Senior (21 or over) ..... \$10.00
- Family Plan (Deduct \$2.00 for each additional family member, only one Launch Rack will be sent.)

I pledge to abide by the NAR/HIA Safety Code and GSSS Constitution and Bylaws in all my non-professional rocketry activities.

Signed \_\_\_\_\_ Date \_\_\_\_\_

Send this application along with check for dues payable to: Arnold Klein,  
 2 Oneida ave Rockaway N.J. 07866

## DIRECTIONS TO NORTH BRANCH PARK LAUNCH SITE

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 Harris Corp, 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

### FROM NORTH

NJ Turnpike South to Exit 10, 287 North to Exit 13, 202/206 South to Circle

### FROM SOUTH

202 North to Milltown Rd.; or 206 North to Circle

### FROM EAST

287 North to Exit 13, 202/206 South to Circle

### FROM WEST

Rt. 78 or Rt. 80 East to 287 South to Exit 13, 202/206 South to Circle