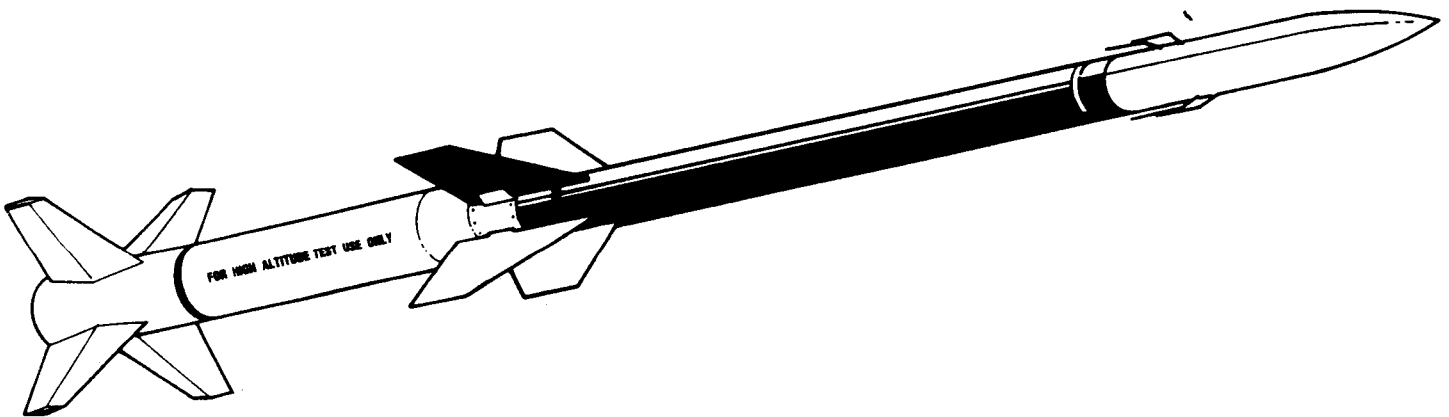


**OFFICIAL NEWSLETTER OF
THE SOUTHERN PENNSYLVANIA AREA ASSOCIATION OF ROCKETRY**

VOLUME 9, ISSUE 2 MARCH/APRIL 1996

INSIDE:

HIGH POWER & CONTEST SCHEDULES



KIT REVIEW:

NCR PHANTOM 4000

PLUS: THE BIGGEST SPORT LAUNCH OF THE YEAR

The Countdown

Volume 9, Issue 2

March/April 1996

The Countdown is the newsletter of SPAAR, the Southern Pennsylvania Area Association Of Rocketry, NAR Section #503, PO Box 127, Reamstown, PA 17567, as well as of Tripoli Susquehanna/#71. Non-member subscription rate, \$6 per year, six issues. Please make all submissions to address above. Material may be used with proper credit. [except for Elvis, of course. He can do anything.]

Section President: Dale Greene
Section Advisor: Glenn Feveryear
Tripoli Prefect: Ed Miller
Ed's Favorite Color: 1967 Corvette Metallic Blue

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Thanks to: Doug Gardei, George Fetter & Ten Dollar Bill

SCHEDULE

SATURDAY, MARCH 16, 9AM TO 1PM: WORKSHOP & MEETING, HOMEDCO COMMUNITY ROOM, HARRISBURG AVE., LANCASTER.

SUNDAY, APRIL 14, 1PM TO 5PM: SPAAR SPORT LAUNCH, COCALICO HIGH SCHOOL, DENVER. PRACTICE EVENT: 1/2A STREAMER DURATION.

FRIDAY, APRIL 19, 7PM TO 9PM: MONTHLY BUSINESS MEETING, HOMEDCO BUILDING, HARRISBURG AVE., LANCASTER.

SUNDAY, MAY 5, 1PM TO 5PM: SPAAR SPORT LAUNCH, COCALICO HIGH SCHOOL, DENVER. PRACTICE EVENT: B EGGLOFT DURATION.

FRIDAY, MAY 17, 7PM TO 9PM: MONTHLY BUSINESS MEETING, HOMEDCO BUILDING, HARRISBURG AVE., LANCASTER.

SECTION MEETING MINUTES

Date: 17 February 1996

Present: Ed Miller, Glenn & Daniel Feveryear, Dale Greene, George Fetter, John Yost, Dan Weinhold, George Beever.

Treasurer: Not present, however George Beever reported five new members: Rick and Rheilly Knauer, Lititz; Brian Royer, Ephrata; and Jay & Alan Shepard, Ephrata. Also reported an information request from Robert Conrad, Mechanicsburg.

Section Advisor: Glenn is working on the section charter renewal; asked any member who is planning to obtain insurance do so. This will help with the charter renewal process. Also reported being contacted by an interested party from the Allentown area.

High Power: Ed stated that he is in the process of trying to obtain the proper maps of the Allentown area, in order to file for a waiver for RAMTEC-4. Also submitted a list of upcoming HPR launches, and discussed what appears to be an easing of restrictions on the shipment of Class B motors.

Newsletter: George reported that the Jan/Feb issue is done and passed out copies to those present.

Competition: Glenn provided information on upcoming contests in the area.

Old Business: None.

New Business: None.

At the end of the regular business meeting, Section Advisor Glenn Feveryear suggested that the NARAM Feasibility Committee meet, since all of the members were present. Input was also asked of those other members present.

While this meeting took place, a video of the club's 1995 launches was shown.

The meeting adjourned at 1:00PM.

After the meetings were over, those present worked on various projects: John Yost, an Estes "Bailout" kit; Glenn and Daniel Feveryear worked on an Estes kit; and George Beever, something that required cutting mucho body tubes. Ed Miller brought some new models, such as his Estes Mercury-Atlas, and two scratchbuilt designs. One was the latest incarnation of his "Warp Drive" series. This one is designed to use 38mm motors in a minimum diameter body tube. The other was a multi-engine monster using PML tubing. Can't wait to see that one fly, Ed!

To those who didn't make it, there is one more workshop left, on March 16. Hope to see you there!

UPCOMING HIGH-POWER LAUNCHES**NATIONAL SPORT LAUNCH**

Argonia, KS
 March 22-24
 For Information, call:

Mark Johnson
 [316] 733-4804

Lodging:

Ramada Inn
 [316] 942-7911

CULPEPER, VIRGINIA

May 4-5
 For Information call:

Mike Showalter
 [540] 547-2539

Lodging:

Comfort Inn, Culpeper
 [540] 825-4900

15,000 Foot Waiver

CEDARVILLE, NEW JERSEY

April 13-14
 For Information call:

Damian Russo
 [609] 794-2689

Lodging:

Ramada Inn
 Vineland, NJ
 [609] 696-3800

15,000 Foot Waiver

LDRS-XV**ORANGEBURG, SOUTH CAROLINA**

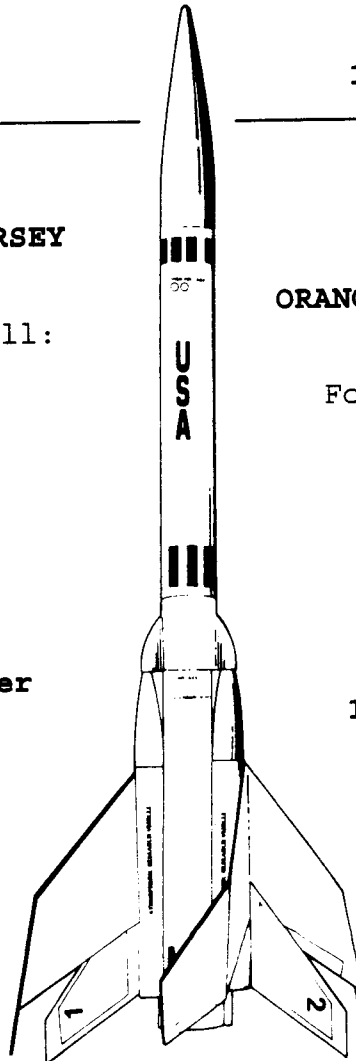
July 4-7
 For Information call:

Jim Conn
 [803] 831-0979

Lodging:

Days Inn
 [803] 534-0500

15,000 Foot Waiver



96-2-15

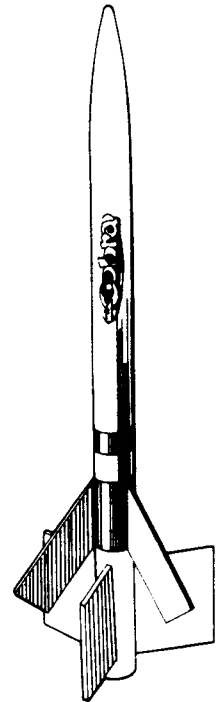
Contest in our Area

Date: April 13-14, 1996
Event: ECRM-23
Location: Middletown, MD
Class of Event: Regional
Contest Events: PMC, B HD, 1/2A BG, 4A Cluster Alt
Contact: Tom Lyon, PO Box 1746, Prince Frederick, MD 20678
call (301) 855-9457 or email 74640.407@compuserve.com
FAA Waiver: 4000 AGL applied for

Date: May 4
Event: VACUUM-20
Location: Manassas, VA
Class Of Event: Open
Contest Events: 1/2A SD, OSL, A PD(MR), A HD
Sponsor: NOVAAR, NAR 205
Contact: Dan Winings, 8910 Golden Oak Dr., Apt L, Manassas, VA 22110
or call (703) 331-1463
Notes: 1500 gram max wt, 5000 ft. ceiling

Date: May 25-26, 1996
Event: NYSPACE
Location: Johnstown, NY
Class of Event: Regional
Contest Events: A ALT, B SD, B HD (MR), C PAY, SPSC
Sponsor: ASTRE, NAR 471
Contact: Chuck Hemker (518) 869-7001/km.hemker@pti-us.com;
or Chuck Weiss (518) 883-8312

Date: June 1
Event: NICE-??
Location: Manassas, VA
Class of Event: Open
Contest Events: B BG, 30-Second PreD, A Alt, 1/2A HD, 1/2A PD
Sponsor: NOVAAR, NAR 205
Contact: Dan Winings, 8910 Golden Oak Dr., Apt L, Manassas, VA 22110
or call (703) 331-1463
Notes: 1500 gram max wt, 5000 ft. ceiling



6 Date: June 15-16, 1996
 Event: RAMTEC-4
 Location: Center Valley, PA
 Sponsor: SPAAR, NAR 503
 Class of Event: Regional
 Contest Events: B SD, C HD, D DELA, SpSc
 Contact: Glenn Feveryear, CIS 102436,2375, or write to:
 RD 1 Box 1C, Delta, PA 17314 or call 717-456-5570

Date: June 22-23, 1996
 Event: To B or Not to B
 Location: TBA
 Class of Event: Dual Open Meet
 Contest Events: B ELD, B SD, B SRD, SPSC
 Sponsor: ASTRE, NAR 471
 Contact: Chuck Hemker (518) 869-7001/km.hemker@pti-us.com;
 or Chuck Weiss (518) 883-8312

FLIGHT LOG

February 11, 1996

<u>#</u>	<u>FLYER</u>	<u>MODEL</u>	<u>MANUF</u>	<u>MOTOR[S]</u>	<u>RESULT</u>
1	Brian Royer	Mosquito	Estes	E A10-3	Good Flight

SPAAR SPORT LAUNCH

- OR -

"I've got to do this, just to make it official"

It was cold...it was windy...it was not a good day to fly rockets. So, what's your point? If you get two or more SPAAR members together, you know what eventually happens. Despite the brutal cold and high winds, Brian Royer said, "I've got to do this...", and he did. Down came the tailgate, out came the launcher and the Mosquito; a **very** quick 5-second count, and off she went. Of course, no one could find the little critter, even after an extensive search. Well, sort of. The model was eventually recovered, so Brian will have to try to lose it another day. But by doing so, Brian made this an official SPAAR Sport Launch. After this, sanity prevailed, and everyone beat a hasty retreat to the warm confines of Mountainside Hobbies!

From the Messy Workbench
Product Review: North Coast Rocketry Phantom 4000
by Douglas Gardei

(Authors note: This article is about the old NCR Phantom 4000, not the newer Estes/NCR Phantom 4000.)

Specifications

Price: \$44.95

Length: 50"

Dia.: 3.9"

Weight: 25oz (w/o motor)

Recommended Motors:

Impulse: F30-6, G50-7

Aerotech: F25-4W, F40-4W, F50-4T, F52-5T, G40-7W, G64-7W, G80-7T

Others: Aerotech: G54-6W, G104-6T

North Coast Rocketry is a my kind of rocket company. They make good looking, large, easy to build kits and sell them for a good price. I have known about NCR for about four years. However, I have never purchased any of their kits. Then I got the Phantom 4000 for Christmas in 1993.

The Phantom 4000 is an impressive large rocket that is very easy to build. Measuring fifty inches long and four inches in diameter, this model can really move with a G motor to altitudes over 1000 ft. Recovery is with a 36" nylon parachute. Her features are pre-cut plywood fins, plastic nose cone, large decal sheet, and a gorilla shock cord mounting system. She can fly on most F and G motors. Retail price is between 40 and 50 dollars.

The Phantoms parts are well protected in its large box. To satisfy your curiosity, the parts are as follows: Large 3.9" dia. body tube, a long 29mm motor tube, 2 plywood centering rings, a thrust ring, 3 plywood fins, gorilla shock cord mount kit (aircraft cable with crimps), a nice strong elastic shockcord, 36" red nylon parachute, a very large plastic nose cone, a short elastic strap, two quarter inch dia. launch lugs, one large decal sheet and a very detailed instruction booklet. I choose 5 minute epoxy for assembly.

After sanding the fins, construction started with the motor mount. The nice thing about the Phantom's motor tube is it is long enough for a full H motor. But since I was 14 (at the time, now I am 16), I knew I couldn't fly the beast on an H so I cemented the thrust ring far enough forward for a NCR G motor. After drilling two holes in the forward centering ring, I cemented both rings onto the motor tube.

Marking the fin locations on the body tube was the next step. After the fin lines were extended the length of the body tube, I used the instructions recommendation of punching small holes along the fin location lines. These strengthen the bond between the fins and the body tube.

After the cement cured on the motor tube, the gorilla shock cord

mounting system was assembled. This was accomplished by passing the cable through the two holes on the forward centering ring and crimping the end of it onto the cable. Then a loop was made on the other end. After that, the shockcord was tied to the aircraft cable loop.

After the motor mount was epoxied into the body tube, the three fins were attached. This was the most difficult step of the whole kit. The plywood fins are too heavy for the sticky epoxy to hold them up. A lot of masking tape was used to prevent the fins from sliding down the air frame or worse yet, falling off before the epoxy cures. Finally, both launch lugs were epoxied onto the model.

Finishing the model consisted of applying epoxy fillets to all fin and launch lug joints on the bodytube. After some minor sanding, a second fillet was applied using Bondo Spot Putty. Then some more sanding work was done. Finally, the whole model was sprayed with several coats of Automotive Grey Primer. Then I sprayed the Phantom with Sunny Red spray paint (I wanted black, but I ran out). I lost the decals to the Phantom so I decorated it with stencils, a sharp marker and after a couple of flights, some blue electrical tape.

The post-finishing steps were finishing the recovery system. This involved drilling two holes in the base of the nose cone and making a loop with the short elastic strap. Then the shockcord is fastened to the loop and the parachute tied to the shockcord.

Prepping the Phantom 4000 involved placing a good amount of wadding in the body tube (I use fiberglass from my workshops attic). Then the large parachute is folded and carefully placed into the body tube so it won't get caught in the aircraft cable. Prep the motor using the manufacturers instructions. You will need to apply tape to the motor to prevent motor ejection. I usually wrap a couple layers of 3/4" masking tape around the motor about one inch away from the aft end. Then using one inch masking tape, I wrapped enough tape around the motor at the aft edge to equal the thickness of the motor mounts motor tube (for short 29mm motors). Then the motor is inserted into the motor tube. Finishing the job off with several wraps of tape over the motor and motor tube.

Since this writing, I have flown my Phantom 4000 eleven times. The motors used were as follows: one F22-5J, three F25-4W's, two F40-4W's, one G40-7W, three G64-7W's (1 catoed), and one G80-7T (All Aerotech).

Flights with F25's are very spectacular. The Phantom roars off the pad, its slow speed makes the Phantom look like its clawing its way up into the heavens. Altitude is about 600-800 ft. This is a great motor to use in the Phantom 4000 if you want a good demonstration.

F40's are excellent motors to use if you want some speed but don't want to lose much altitude. However, the two second burn time makes the flight seem very short.

The G40 is the motor of choice if you want maximum altitude. The amount of smoke and fire are amazing and the three second burn time gives you a lot of time to take a lot of pictures. The Phantom 4000 seems to go on

9 forever. Altitude is about 1000-1200 ft.

To be honest, the G64 is my favorite motor to use in the Phantom. The amount of smoke and flame and speed makes the G40 look like a whimp. The altitude is a bit lower though.

If you want to scare the pants off your old man, put a G80 in this bad boy. The second you push the button (or turn the switch) the Phantom jumps into the sky at unbelievable speed. I never thought a blue thunder motor could be so loud! Apogee is lower than the slower burners, but it sure is fun.

Never fly the Phantom 4000 on an Aerotech F22 blackjack. It does not produce enough thrust for a good altitude. Ejection is about a foot above the ground. Good thing the Phantom is very strong and the body tube just crimped in. To fix it, I just stretched it tight and coated it with epoxy. Any body want a piece of 4" circular sod?

The Phantom 4000 is an excellent model. The catalog said it was a perfect model for a beginner in advance model rocketry. Believe me, it is. It is worth every penny. This model was the candidate for my first G motor (to bad it blew up) and most of my other G motors I have fired. This model is also very sturdy, It has survived a cat and a prang. I just hope the Estes version is as good as this one.

NAR "PRACTICE EVENT": 1/2A STREAMER DURATION

Back in the late 80's and early 90's, the club used to fly an NAR contest event during each Sport Launch. The purpose was to have some fun, learn about competition flying, and maybe get some more people interested in this facet of the hobby. We haven't done this for a few years, but we've revived it for '96. The first event will be on April 14, when we will fly **1/2A Streamer Duration**. The rules are simple: use a 1/2A motor, use a streamer that is at least 5 times as long as it is wide, and add up the time, in seconds, of two qualified flights. A qualified flight is one in which everything works properly, such as the recovery system deploying and the motor not kicking out. One flight must be "returned", meaning that you must show the recovered model from at least one flight to the RSO. The other flight needn't be recovered.

For those just starting out, or who want to get an idea of what this type of flying is all about, a good idea is to use a commercially available kit. Estes makes a number of kits using the BT-5; use a mylar or tissue paper streamer and a 1/2A3-4 motor, and you're in business. You can even stick a 1/2A6-2 in the good 'ol Alpha, replace the 'chute with a streamer, and be good to go.

Competition flying is a little different animal, but it's still flying rockets. Go ahead, take a shot. The scores will be totaled up, and at the end of the flying season, kits will be awarded.

Mountainside Hobbies Rocket Kits

Yes, we now have our own line of kits!

ASP18 This is a sport scale kit of the ASP research rocket. This model flies great on C6-3's. The ASP18 is 34" long, 1.6" in diameter and weights 7oz. Only **\$18.99**

ASP24 As above, this is a sport scale rocket equipped with a 24mm motor mount. Flies great on E15-4's or E11-3's and small F engines. 50" long 2.6" diameter. Only **\$28.99**

V2 2.6 Our famous V-2 kit featuring 24mm mount. Great sport scale rocket with plastic tailcone. Flies on D12-5's & E15-7's. 22 1/2" long 2.6" diameter. Only **\$21.99**

IRIS24 Sport scale model of the IRIS rocket. Great preformer on E15-4's, E11-3's, E28-4's and F24-7's. 50 3/4" long and 2.6" diameter. Big rocket for only **\$29.99**

AeroBee 350 2.6 This sport scale research rocket is over 56" tall and weights only 14oz with 2.6" diameter. Great for E15-4's. Big rocket for only **\$31.99**

NEW KIT RELEASES!!

V2 4.0! Its here! Its what you've been waiting for. A 4.0" diameter V-2 rocket which flies great on F25-4's, F40-4's, G40-7's & G80-7's. Features include precut plywood fins, precision cut ply centering rings, heavy plastic PRE SLOTTED tail cone, through wall right to the motor mount fin assembly, and a 28" bright nylon parachute. This rocket is 34" tall, 4.0" diameter, and weights 35oz. All this for only **\$59.99**

ADR 4.0 This is a great sport rocket to enter into the higher power levels. Excellent flier on F25-4's, F40-4's, G40-7's & G80-7's and even small H engines. Pre cut plywood fins, 29mm motor mount, 28" bright nylon parachute all make this kit a great value. 50" tall & 4.0" in diameter make for a real attention getter! Only **\$44.99**

Miscellaneous MSH Rocketry Products

MSHWD100 Large bag of rocket recovery wadding one bag is enough for 25 flights of 2.6" rockets. 1 bag only **\$2.99**

MSHSC102 1/4" Shock Cord \$0.60/yard

MSHSC103 3/8" Shock Cord \$0.65/yard

MSHSC104 1/2" Shock Cord \$0.75/yard

MSHSC105 3/4" Shock Cord \$1.15/yard

MSHEL101 12V Launch Control System Great if you're getting started in AeroTech Engines or others that require 12 volts. Also excellent for use with Estes. Includes 30' of heavy gauge wire with microclips to go to your launch pad. Also included are 12V battery clips to allow you to use your car battery or any 12V power system. Only **\$26.99**

All **Mountainside Hobbies** kits feature pre cut fins (plywood or balsa). **NEW** products in the works include a 4.0" Saturn V with many detailed features. A 4.0" to 3.0" Terrier/Sandhawk where the first stage will be designed for G40's with the top stage being flown on F25. The Sandhawk may also be flown alone. Other products in the works include a Microprocessor Controlled Launch Control System that will include built in stopwatch for timing flights. The MCLCS will be able to handle up to 256 launch pads using only 1 piece of 2 conductor wire. This will make a great club launch system with out the clutter of all the wiring you currently are use to.

Mountainside Hobbies, 25 E Main St., Ephrata, PA 17522 or phone (717) 733-4140

K.L.O.U.D. BUSTERS, INC.

AND

KOSMO

PRESENTS THE

NATIONAL SPORT LAUNCH

AT THE

ARGONIA LAUNCH COMPLEX

March 22,23 and 24, 1996

10,000 ft Waiver March 22, &23

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Allen Swayze

Compuserve 71435,527

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KLOUD Buster Home Page

<http://www.tyrell.net/~petek>

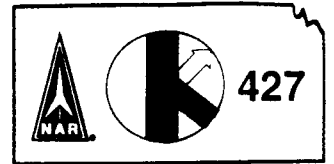
For Reservations

Ramada Inn Airport

5805 W Kellogg

Wichita, KS 67209

(316) 942-7911



REGISTRATION FEES:

In Advance - Before March 10

\$15 individuals

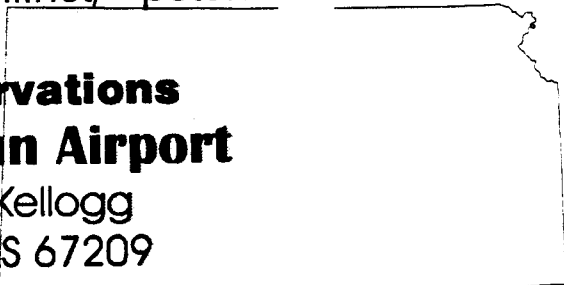
\$20 families

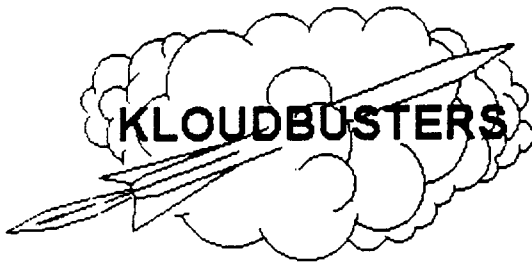
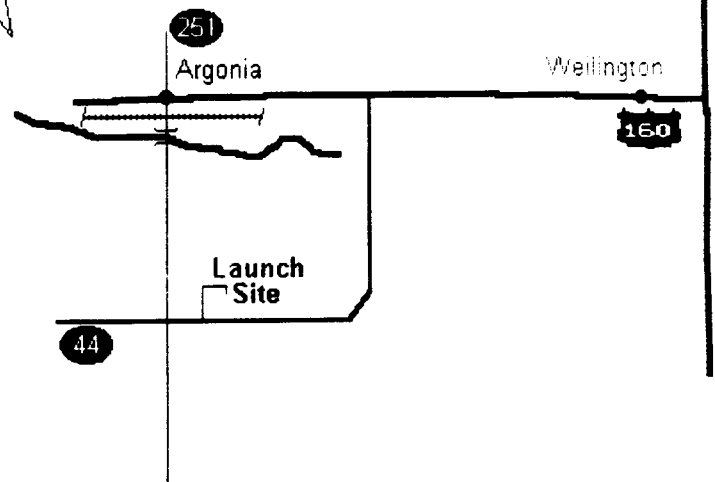
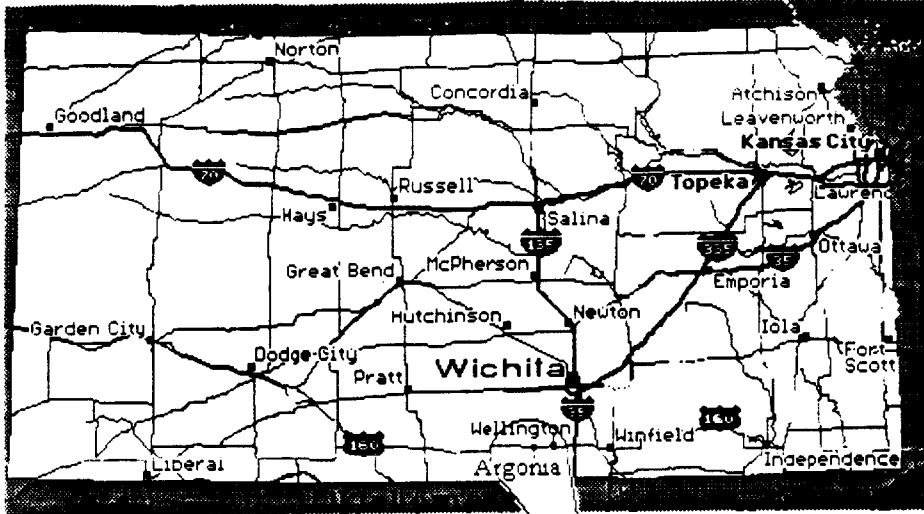
At the field:

\$20 individuals

\$25 families

NAR TOWN MEETING AND NAR
J/K/L HIGH POWER WRITTEN EXAM
SATURDAY NIGHT.





Directions to the Launch Site

From I-35, exit at the Wellington Exit, US 160 (Exit #19). Head west on 160 through Wellington, then 19 miles until you reach the town of Argonia. Turn left onto Main Street (Kansas Highway 210) and continue south through town, going a total of 8 miles from US 160 to a 4-way stop. Turn left on to Highway K-44 and go one mile east to a gravel road. Turn left and go north one mile to the first intersection (you will be proceeding up the west edge of the launch area, then right again. The entrance to the parking area is about 1/4 mile east.

Coming from Wichita, it is possible to save a little time if you're willing to take back roads. From the Ramada or other hotels in the general vicinity of the airport, go east toward downtown Wichita on US 54 (Kellogg Ave) until you reach the exit for highway K-42. Take K-42 southwestward out of town (it becomes a two-lane road shortly after you pass the Cessna Aircraft plant) until you reach the unincorporated town of Suppesville, about 29 miles from the K-42/US-54 junction. Here you will find a golf course, furniture store, and a Coastal Mart. Go left on the county road (blacktop), which will take you some 20 miles south, through the town of Milton and beyond. Eventually (after the 20 miles, you'll cross US 160 and proceed 8 miles south, etc., as above.

THE SOUTHERN PENNSYLVANIA AREA ASSOCIATION OF ROCKETRY

Membership Application

Name _____ Address _____

Phone _____ Age _____ Date of Birth _____

NAR # _____ Tripoli # _____

I have been flying rockets for _____ years. I have not yet flown a model rocket _____.

DUES: 18 years of age or older: \$10 per year.

15,16,17 years of age: \$7 per year.

14 and under: \$5 per year

Family Plan: Oldest member joins at full price, all other family members 1/2 price; one issue of the Countdown per family.

Return this form to: SPAAR, PO Box 127, Reamstown, PA 17567.

THE NATIONAL ASSOCIATION
OF ROCKETRY

TRIPOLI ROCKETRY ASSOCIATION
[HIGH POWER ROCKETRY]

For more information on the
NAR, write:

For more information on the
TRA, write:

NAR Headquarters
PO Box 177
Altoona, WI 54720
1-800-262-4872

Tripoli Rocketry Assn.
PO Box 339
Kenner, LA 70063-0339

