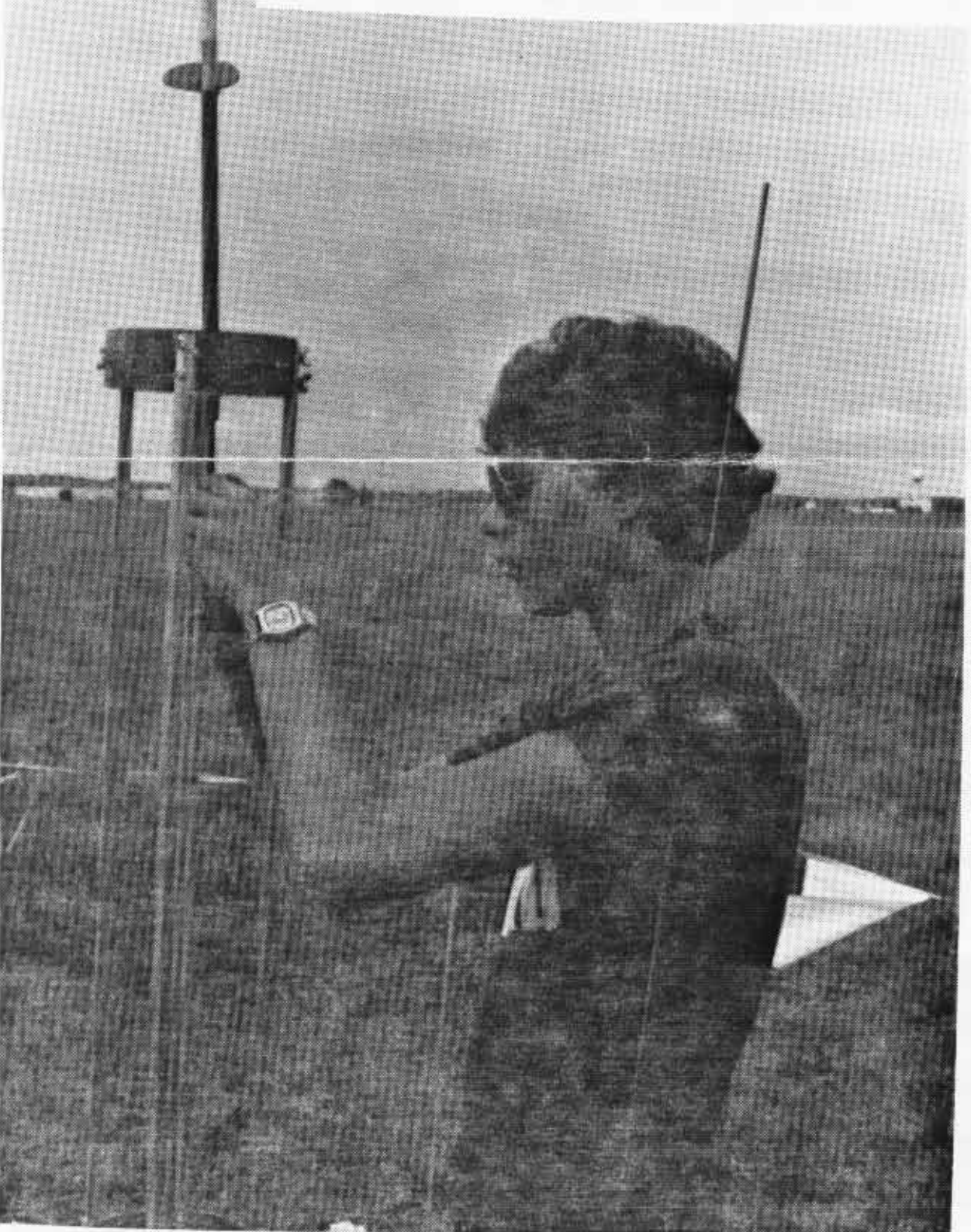


# THE LEADING EDGE



MAR-APR 84      VOLUME 7 NUMBER 2  
WINNER OF THE 1982 LAC NEWSLETTER AWARD



### ATTENTION NIRA MEMBERS!!!

If you have anything you wish to sell, trade, give away or if you a service to provide, you can now advertise it in the **LEADING EDGE'S UNCLASSIFIED ADS**. There is no cost to you as a NIRA member. And ads may run as long as necessary. To place an ad, contact Richard Gaff, Editor.

### FOR SALE PLASTIC MODEL COLLECTION

I have over 50 plastic model kits I wish to sell. Most are convertible to fly. Some are old collectors items. Mostly jets, scale model and science fiction models. Too many to list here, so write, call or ask me for a complete list. See Ric Gaff (address below.)

### FOR SALE --- OLD MOTORS

What happens to rocket motors when they go out of production? or the company folds? Why, they become valuable collector's items! I have a number of out-of-production model rocket motors that are surplus to my own collection. Start or add to your collection with some of the bargains I've got for you! Centuri and MPC mini-B's, MPC and Cox D's just to name a few. A complete list is available. See Ric Gaff (address below).

### FOR SALE MICROPROCESSOR COURSES

HeathKit microprocessor courses with completely wired trainer and expansion accessory. Voice synthesiser courses. List prices over \$1000; yours for \$500. I will negotiate and/or break up set. Courses are 6800 based. See Ric Gaff (address below).

### FOR SALE SCIENCE FICTION MAGAZINES

Over 400 Science Fiction magazines published over the last 20 years. Analog, S&SF, IF, Galaxy, IA's SFm, and many more. Also a large number of fanzines. Prefer to sell entire set but will break up. \$200 or best offer. List available. See Ric Gaff (address below).

For any of the above items write or call:

RICHARD GAFF 331 Third St.  
Northfield, IL 60093 (312)  
724-2975

### FOR SALE AIRBRUSH COMPRESSOR

Small, "Brown Junior" compressor. Two years old, in excellent condition. Only used to paint plastic models. Paid \$48 new; yours for \$20. Good starter compressor for you to learn the ins and outs of airbrush techniques. Contact Mark Bundick, 1925 North Hudson, Chicago, IL 60614; 312-642-9828.

### ANOTHER NIRA BARGAIN SALE

At the January meeting, Mr. Godron left a model rocket treasure trove for NIRA: two Centuri Saturn V's (one built and one in the box), a Cineroc (never used), a Transroc, several other Estes and Centuri kits and last, but definitely not least, a much sought after Centuri Little Joe II, still in the box!

You're probably wondering where all these goodies came from, right? They were donated to the club by a former NIRA member of 18 years ago, Bruce Morris, formally of Glen Ellyn, now living in Kittery, Maine. Mr. Morris had given the material to Mr. Godron who passed it on to us.

# T MINUS

MONTHLY NIRA MEETING - Mar.  
Glen Ellyn Civic Center - 7:30 PM

VERY IMPORTANT MEETING!! Bunny has been to visit the Park District to discuss the insurance situation! Don't miss it!

MIDCON-II Convention - Mar.  
30/Apr.1 Hazel Park, MI (near Detroit)

Workshops, manufacturers' displays, movies and more. Contact Bunny.

MONTHLY NIRA MEETING - Apr. 6  
Glen Ellyn Civic Center - 7:30 PM

Final planning for '84 competition season. Also planning for NIRA club contests and workshops.

## CONTEST CALENDAR

NOMID-84 Regional - May 5-6,  
1984 Fenton, MI; Sponsored by SEMROCS

EVENTS: D HD, D ELD, B SRD, A RG, 1/2A BG, A ISD, Pred. Dur, Sp. Sc. CONTACT: M. Zienkiewicz 28811 Sutherland, Warren, MI 48093

I want to be the first to thank Mr. Morris for his gift. The auction of the supplies at the February meeting has given us a much healthier bank account! And our members got some great Labor Day models at bargain prices. Again, thank you, Mr. Morris!

# MODEL OF THE MONTH WINNERS



The Model of the Month winner for January is Henry Veldenz and his F15 Plastic Model Conversion. Congratulations, Henry!!!



The Model of the Month winner for February is Henry Veldenz (At least I THINK it's Henry! - RG) and his sport scale Aerobee 350. Congratulations, Henry!!!



## THE LEADING EDGE

is published bimonthly by and for members of the Northern Illinois Rocketry Association, NIRA, NAR Section 117, and is dedicated to the idea that Model Rocketry is FUN! Membership dues are \$3.00 per year and include a one year subscription to the Leading Edge. Non-member subscriptions are available for \$2.00 per year. All membership and subscription fees should be sent to Bob Kaplow, 1628 Waterford Lane, Palatine, IL 60067. Articles, plans, other newsletters and news items of interest should be sent to Ric Gaff, Editor, 331 Third Street, Northfield, IL 60093. Any material in the Leading Edge may be reprinted if proper credit is given.

COVER PHOTO: Larry London prepares to fly streamer duration at NARAM-25 near Houston, Texas last year.

## CONTRIBUTORS

MARK BUNDICK  
RIC GAFF  
LARRY LONDON  
BOB KAPLOW

### LEADING EDGE STAFF

EDITOR	- Ric Gaff
HALFTONES	- Tom Pastrick
MAILING LIST	- Bob Kaplow
TYPIST	- Mark Bundick



"SOME OF THESE MODELS ARE JUST TOO  
STUBBORN FOR THEIR OWN GOOD"



# GETTING STARTED IN BOOST GLIDE.

*IT AIN'T AS HARD AS IT LOOKS!*

## Part 2: Building the Beast

Since I got no letters or phone calls, I'm assuming you folks understood everything from our last talk. Great! Just to make sure, I've included a word puzzle quiz for the ambitious ones out there to review last issue's terms and definitions.

To start the construction of any BG, make sure you have the right tools. Your handy X-Acto knife or single edged razor blade is required. If you have a razor saw, it will be helpful in cutting hard balsa or spruce. You'll need sandpaper in grits from 220 to 400. I like 3-M Wet-or-Dry paper best, but it is a bit more expensive. You'll need to make a sanding block to use your sandpaper. There are some commercially available ones that use neat tricks to hold the paper. However, since 1974, I've used a small block of wood and good ol' masking tape. It works like a charm.

If you want to get more serious in the tool department, get a razor plane or spokeshave. They hold an old style razor blade and lets you shave off balsa. While faster than sanding, you can ruin balsa by digging too deeply. It takes time to learn how to use these tools correctly. Uncle Al Neinast recommends the Diston Abrader. This looks like a small kitchen grater, takes down

wood faster than the Millenium Falcon and never clogs up. If you're in the BG game to stay, these are great items to have.

Let's begin by tackling the wing first. Remember, the wing must be properly shaped to work best. Begin by locating and drawing in your high point line. I use a pencil to do this and mark the balsa only lightly. If you bear down too hard, you put a crease in the wood, and leave an unsightly pencil or ink mark on your model. Now tape the wing down with the trailing edge even with the end of your workbench. Hold the sanding block at an angle equal to the slope of the airfoil. Try to visualize what the rear part of the airfoil will look like and begin sanding.



You'll take more wood off by starting with 220 grit and sanding against the grain. Check your work often, and clean your sandpaper, too. If you use the Abrader, check your work more often. When you get the trailing edge of the wing between  $3/32$  and  $1/16$  inch thick, remove the wing from the workbench, and switch to finer grade sandpaper. Now go to a circular sanding motion. Sanding in a circle removes deeper scratches and allows you finer control as the wing gets closer and closer to the right shape.

When satisfied with the rear part of the airfoil, start on the front, from high point to leading edge. The LE must be rounded, yet there is some slope here, too. I sand in the sloping part first using the same techniques used on the rear part, then hand sand the rounded portion.

Don't worry if you can't seem to create the perfect airfoil your first attempt. It took me a couple of years to perfect my technique, and I still don't turn out perfect wings every time I build a glider. Be patient, and keep practicing.

After the airfoil is done, you must bevel the root edges of the wing to match the dihedral angle called for in the plans. Put the root edge of the wing even with the edge of the workbench, and prop up

Wingtip to the correct angle. Place the sanding block along the edge of the wing, and remove that tiny portion of balsa hanging over the edge. Repeat with the other wing. When you glue the wing halves together, you have a much stronger joint, and if you're accurate enough, the angle between the wings will be perfect.

Now for the stab and rudder. These parts use a symmetrical airfoil, and are built just like fins on a rocket. If you have experience in sanding the "fish shape" on fins, do likewise here. I still use the sanding block on these parts, but I start with 280 grit paper. Stabs and rudders are thin, and you can sand them away to nothing very quickly. I also put symmetrical airfoils on my pylons. You should sand their root edges to fit the body tube diameter of the pod. If this sounds like work, it is. But better to have a well built, minimum drag glider than something that falls apart after one flight.

On to the boom. I generally don't do too much sanding on booms. When I did sand them and round all the edges, they kept breaking on me. Jedi George however sands the rear part of his booms into nothing but an 1/8 inch dowel with great success. Experiment. Remember to leave the following surfaces square and flat; wing and stab attachment points, and pod resting spot.

The engine mount and recovery system are built like normal model rockets. I put my launch lug 180 degrees opposite from my pylon. This puts the rod far from the glider, and if you tape the clips to the rod when flying, the clips have far less chance



of getting caught in some part of your beloved BG.

The xerclod must be cut out of the boom, and glued to the pylon. Trace the xerclod pattern onto the boom, and cut it out carefully with the sharpest thing you can find. Use a double glue joint here, and make sure the xerclod and pylon fit together with no gaps. The glider will put tremendous force on this joint during boost, so be careful. When dry, round the trailing edge of the xerclod as if it were a fin, and leave the leading edge flat. This insures a good hook that will clear the glider at ejection without hangups. If you sand the leading edge round, the glider will wobble around, and the pod can jam easily for a nifty Red Baron.

Next issue we'll try putting all the pieces together and talk about finishing methods. In the meantime, if you have any further questions, just write (1925 N. Hudson, Chicago, IL 60614) or call (312-642-9828). BG season will soon be here!



THE PARKSLEY EAGLE: A Sparrow B/G designed by Mark "Bunny" Bundick, NAR 19250

First Place Winner, C Division Hornet and Sparrow B/G,

VACUUM-I, 317 sec. in Hornet; 175 sec. in Sparrow

First Place Qualifier, U.S. International Team Flyoff, 264 sec. 1

# MATERIALS

1/8 x 3 x 12 contest balsa

1/32 x 2 x 8 C-grain balsa

1/8 x 1/2 x 16 hard balsa or  
spruce

1/8 x 1/2 x 4 1/2 hard balsa or  
spruce

5" RT-5 or RB-50

BNC-5E or NC-50S

two 1/4" launch lugs

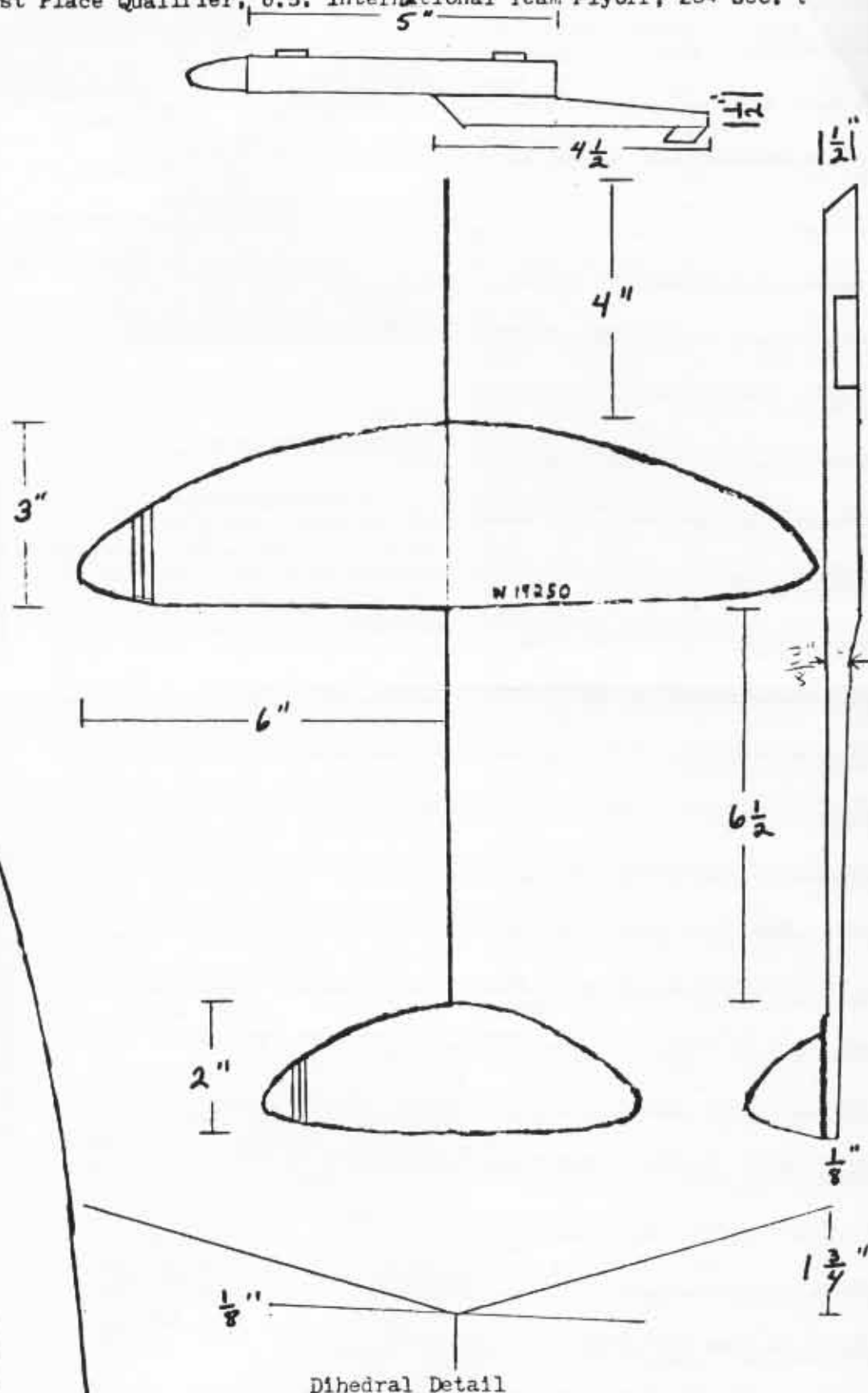
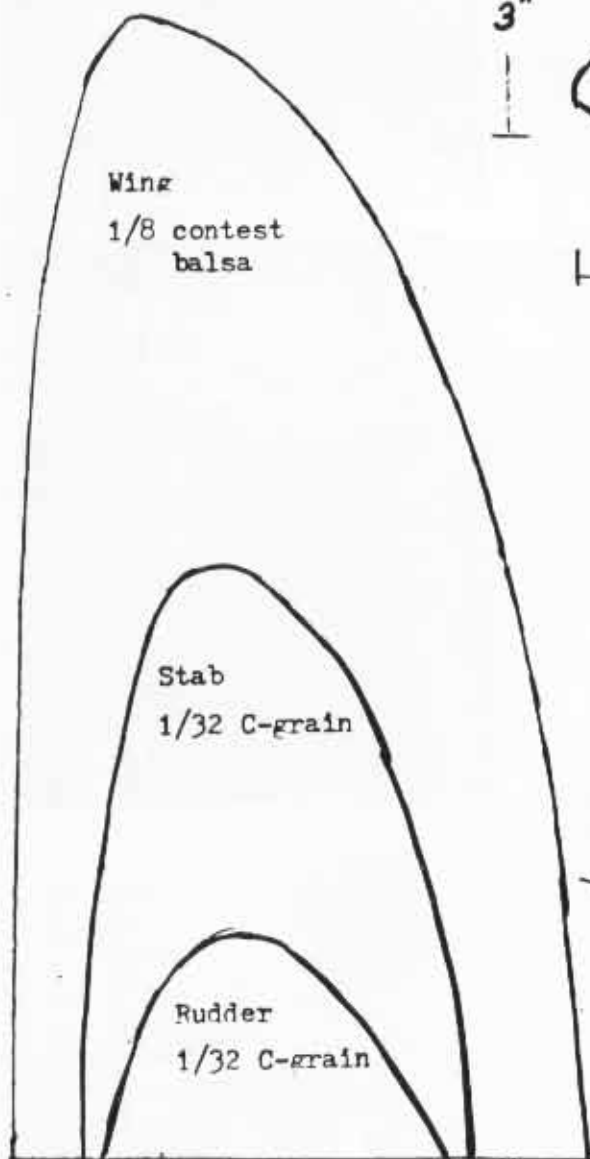
15" 30 lb test fish line

12" x 1" streamer

white glue

modeling knife

220, 320 sandpaper



Wing Area	27.1 sq. in.
Stab area	8.7 sq. in.
Aspect Ratio	3.0

# TOUR OF SMITHSONIAN AIR AND SPACE MUSEUM

by Bunny

Since its opening in 1976, the Smithsonian's National Air and Space Museum (NASM) has become the most popular tourist attraction in Washington, D.C. Its priceless collection of air and space artifacts attracts literally millions of visitors a year. The museum is open every day of the year except Christmas.

My December visit was my fifth tour of the place. NASM is divided into galleries on two floors; each gallery emphasizes a different facet of aeronautics. The main entrance hall, the "Hall of Flight" contains special historical aircraft. I always spend five or ten minutes staring at the "Spirit of St. Louis". You have to wonder what determination it took to fly a plane, smaller and more poorly equipped than my Cessna, across the ocean. I am also happy to report that the moon rock exhibit is back. It seems some tourist tried to steal the balsite sample a year or so ago. Now, once again you can still touch the rock, 4 billion years old, but there's a guard watching you all the time.

Alas, my favorite gallery, General Aviation was closed for renovation, but I found others to interest me. Jet aviation was neat for the 40+ foot long Keith Ferris mural painted on one wall. Every kind of jet aircraft was depicted, and you can buy reproductions of it in the NASM gift shop. I also liked "Testing", a gallery devoted to those who pursue the "right stuff". Included there was a barograph trace of Chuck Yeager's historic supersonic flight.

7

In the space exhibits, "Apollo on the Moon" still ranks highly with NASM visitors. A single F-1 nozzle is made to look like five with mirrors. You can hear John Kennedy's challenge to put a man on the moon, see early Apollo orbital flights, examine geology tools used by the astronauts, and watch a film of the Apollo 16 landing sequence. At the far end of the museum is a full scale mock-up of a LEM.

Ric Gaff will be happy to know that the V-2 has been moved to a slightly more prominent spot. The vehicle now includes a clear section that allows you to see the chain drive fin moving mechanism. Still no prang footage, though.

The most popular exhibits dealt with the Space Shuttle. The best one from a rocketeer's viewpoint had to be a large scale model of the beast. It allows you to see details you might want to add to your own "Columbia" or "Challenger".

The most unusual gallery is the art exhibits. Here, paintings, photo, drawings and sculpture focusing on air and space are exhibited. Most people ignore this gallery, but I always end my visit to NASM here. It's a place for quiet reflection on the mystery and majesty of flight. Don't miss this NASM attraction if you visit.

One final note to consider. Since Mom and Dad often want to do something significant on vacation, consider dropping them a hint to visit Washington, D.C.

There's tons of history, the White House, the National Gallery of Art. Maryland's fine beach resorts are but two hours away, and the Chesapeake Bay's abundant seafood is the best eating on the planet. Naturally, you can also "drop in" on NASM and make it a rocketeer's vacation, too.

## WILLY 'N ETHEL



## PAVLOV



2-17

"He's not crazy about 'Lassie Come Home'—there's no spacecraft in it."

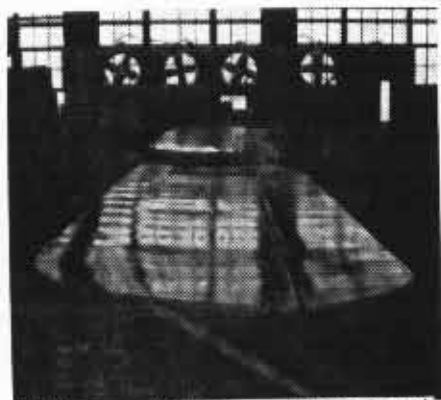


# TOUR OF WRIGHT-PAT AIRFORCE MUSEUM

My tour of the Air Force Museum at the Wright-Patterson Air Force base was very unusual. The special one time tour was "bought" from a PBS television station auction. [All NIRA members know the values that can be found at auctions! - RG] The tour covered the main museum, its Annex, the storage areas and the restoration shops. The museum's curator gave us the tour.

We began in the storage area. The first attraction was two long rows of specially sealed metal closets. They held uniforms. The old uniforms disintegrate over time, and these are saved as replacements. The rest of the room had eight foot high metal shelves full of boxes of old airplane parts; nuts, bolts, instruments, propellers, etc. It reminded me of the last scene from "Raiders of the Lost Ark".

At the end of the shelves were monstrous crates of old airplane engines, all stacked up and needing lots of restoration work. I also noticed some rockets and bombs lying around in various



Wing being repaired  
in rehab workshop.

places. The curator told us stories of all the items, including how they open all boxes upon arrival. Some folks, it seems, send empty ones.

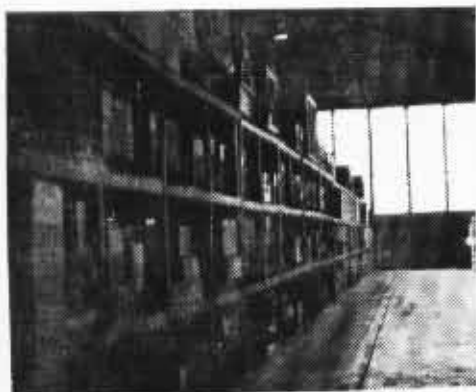
Next stop was the restoration area. Airplanes here needed everything from simple repainting jobs to total rebuilding. The most impressive rebuild jobs were a WWI fighter that was having its wings removed, and President Roosevelt's plane, which was on blocks and missing its wings and stab. We learned that the museum had every presidential plane, and has dibs on Air Force One when it retires. To me, the restoration area was like a modeler's workshop, but on a much larger scale.

We trucked over to the Annex, about half a mile from the museum. The Annex holds the more modern aircraft. The curator then pulled a huge key ring out of his pocket containing a least a hundred keys. He opened up a huge C-124C "Globemaster" cargo

plane and we went inside. The plane could have held a group of a hundred easily! I was able to open the hatch above the cockpit, sit on top of the plane and take pictures of the surrounding aircraft from my 30 foot high perch.

Also in the Annex was an F-104 (Sorry, Tom. No German markings here.) and the YF-12A, a cousin of the SR-71 "Blackbird". We didn't get to go inside to see these. The Annex is a very interesting part of the museum, and should not be missed.

The tour concluded at the main building. The main museum was unusual in that I could see aircraft from Kitty Hawk to experimental supersonic test vehicles. The WWI section was a lot of fun. I was allowed to hop into the cockpit of an old fighter. (I can see Bunny drooling now!) At first, I was moving the stick around, then decided to try the rudder. What I didn't realize is that all the controls worked, and I was tapping the wall with the rudder. After that, I decided to pass on the machine gun



Just one of many racks of  
antique airplane parts.



Heads up! Kamikaze Baka bomb frozen  
in time.



ols. We went on to the and "distant past" tion, viewed several kinds of bombers. I wondered how the bomber crews survived in such cramped spaces. Also present were the X-15, a couple of rockets, various jets, and the X-3 Stiletto.

I enjoyed my tour of the Wright-Patterson facilities. I plan to return since they have an excellent library. I want to find scale data and to investigate the missile and airplanes on display outdoors.

Larry London



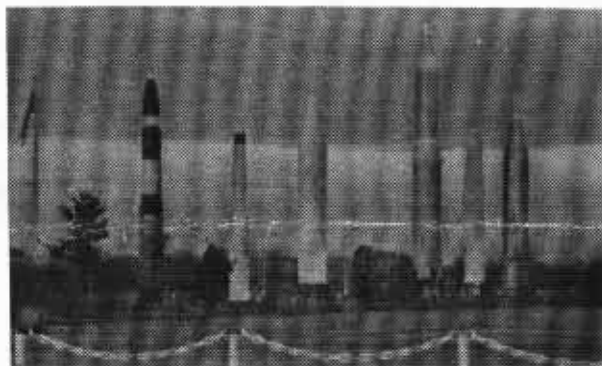
Tail end of Eisenhower's presidential plane.



Early lifting body on display in main museum.



A Japanese "Zero" in the Annex display.



Missile row outside the main musium.

### DECEMBER CLUB LAUNCH by Larry Mika

Let's face it. There was a very low attendance at the December 4, 1983 launch. Paul Nikkila and Larry Mika were the only members present. So they used Ric Gaff's definition, "Two people is a launch. One is just lonely." The temperature was in the low 40's, the field was slightly damp, but the air was perfectly still, so they decided to launch. Where was everyone? [Nice and warm at home! RG]

The launch started with two B/G flights. Larry shot off his original design, the

Rainbow, and his modified Wasp. This plan came from the archives of the Wabbitworks B/G Company. Paul sent up his Satellite Interceptor with a C6-8 CHAD stage. The birdie went straight for a second, then went into wild gyrations. The second stage refused to light, [Thank goodness! RG] so the rocket stabilized and headed towards Mother Earth. The resulting prang accordioned 4" of tube embedded the nose cone in the soil. Upon inspection, they found a 1/8" dia. hole burnt through the casing near the

nozzle. You see what could have happened to the Space Shuttle?

Next, Paul sent his Phoenix into the air three times. He used D12-3's and a 29" chute. All flights landed within 50 meters of the pad. (I told you the air was still!) Larry flew his Model of the Month X-15 twice. [Check out the plans in this issue. RG] Its perfect flights probed the realm of space.

Overall, the launch was sucessful. I remain surprised that only two members showed. Why don't all you lazy rocketeers make like bakery trucks and haul buns out to the next launch?

## NAR TRUSTEES MEETING by Bunny

Dallas, Texas served as the site for the mid-year NAR Board of Trustees meeting. Nine of 13 trustees participated in 15 hours of formal meetings and several more hours of informal sessions. For the first time in several mid year meetings, there was big news coming from the Board.

After almost five years, Chris Tavares will be stepping down from the editorship of the Model Rocketeer. Chris' tenure was marked by ever improving quality articles and graphics, a hobby shop distribution program, increased staff size and improved financial controls.

The Board considered Chris' replacement very carefully; a two hour interview in front of nine wary trustees isn't a pleasant experience. But John Pursley of Houston came through with flying colors. He presented an excellent proposal for the magazine, and got the job with a unanimous vote of the Board. The transition from Washington, D.C. to Houston is expected to be complete in 90 days.

Even bigger was the news that John, with Board approval, will be changing the name of the magazine in order to improve hobby shop sales and present a more adult image to the public. Gone is the Model Rocketeer; say hello to American Spacemodeling. The proposed mock-up graphics were very appealing. Whether or not long time members will react favorably remains to be seen.

Among other committees, Section Activities will be pursuing several new programs including recognizing non-competition activities by sections, improving the packet of materials sent to NAR

members asking how to form sections, and trying to target areas of the country with high NAR member densities which don't yet have a section.

The Contest Board announced final fees for NARAM-26 in Center Valley. Room, board, linens and the awards banquet will cost \$155 for doubles, and \$185 for singles. The contest fees are \$32 for individuals, \$45 for teams and \$5 for non-contestants. There will also be a national NARTREK convention held concurrently during NARAM. There will be workshops at night and special NARTREK-only competition events during the day. A "Pink Book" reprint is required within a year, and each NAR member will get a new copy, complete with all revisions.

Due to a lack of response from possible competitors, and large commitments on Dr. Gerry Gregorek's part, the Board withdrew its offer to host an FAI International contest. The meet was to be run over Columbus Day weekend at Ohio State.

The LAC has revived and will undertake a revision of the old "Competition Handbook". The Board created a special committee to organize and implement the long discussed Headquarters Automation Project. Complete plans for computerizing HQ operations are due by NARAM. Finally, the Publications Committee, headed by our own venerable editor, got the go-head on a project to make model rocket computer programs available on diskettes through NARTS. NIRA members, get those BASIC programs to Ric!

The mid-year Board Meetings are now a NAR tradition. The Board gets lots of work done in a short amount of time, and

attendance and interest always high, even absolutely no rocket flown at these gatherings. NAR members should take pride in the work of Board, work that ultimately makes the NAR a better place for the individual member. See you next year at AMA Headquarters in Washington, D.C.

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The new 1984 Estes catalog is available. The big news is the introduction of several new scale models, several old scale models and the dropping of the Maxi-Brute line.

Five new scale models have been added to Estes' growing scale line. A BT-80 (2.6 in. dia.) V-2 heads the list in my opinion. This D12 powered (Midi-Brute?) model, while smaller than the long gone Maxi-version looks like it will be a fun little model. This bird has balsa fins (yehhh!), a (presumably) plastic nose cone and tail cone \$9.95. The Titan II is a single engine, semi-scale version of the Air Force ICBM. At Skill Level Two, this should be a fairly simple model to build. Even easier to build is the MX Missile, a Skill Level One semi-scale model of America's latest proposed ICBM. The model should be a snap to build. And at \$5.95, it's a heck of a lot cheaper than the real thing! (anyone for a semi-scale dense pack?) Both the MX and Titan use a new method for attaching clear plastic fins. This in itself could be real interesting.

The Falklands War produced some excellent, inspired "Bloom County" cartoons. It inspired Estes to produce a semi-scale model of the French anti-ship Exocet missile.

TOH	315 F COMMON ST	WATERVILLE	MN	56098	N	487/362-8211	507/294-2859	8400	777777
CK, MARK	1925 N HUDSON AV	CHICAGO	IL	60614	NP	312/642-9028	312/732-0718	8403	810258
JEV, SCOTT N.	3748 WINSTON DR.	HOFFMAN ESTATES	IL	60108	N	312/350-4637	312/876-2440	8400	
DELANO, CHUCK	1725 MOUNTAIN COURT	DEERFIELD	IL	60019	N	312/945-5280	312/272-8699	8404	833887
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JUGAN, JON M.	600 F EUCLID	GLFN ELLYN	IL	60137	N	312/469-7202	/	8403	
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GABRIUS, AL	346 ALABAMA	CAROL STREAM	IL	60188	N	312/653-7545	/	8412	
GABRIUS, DAVID	346 ALABAMA	CAROL STREAM	IL	60188	N	312/653-7545	/	8411	
GABRIUS, JUSTIN	346 ALABAMA	CAROL STREAM	IL	60188	N	312/653-7545	/	8412	
GAFF, RICHARD	331 THIRD ST	NORTHELY	IL	60003	PN	312/724-2975	312/391-7378	9099	822986
GORDON, F. SCOTT	478 MAIN ST	GLFN ELLYN	IL	60137	NP	312/469-7202	312/469-0896	9099	809912
HOGUE, JAMES M.	20 S. IOWA ST.	ADDISON	IL	60101	N	312/834-5619	/	8504	838638
KARLOW, ROBERT G.	1628 WATERFORD LN	PALATINE	IL	60074	NGO	312/934-1160	312/394-6141	8501	811286
LARONGA, ROBERT J. JR.	725 RIFORD ROAD	GLFN ELLYN	IL	60137	N	312/469-7202	/	8404	
LENTINI, TONY	600 N ROBERTA	NORTHLAKE	IL	60164	N	312/455-7756	/	8411	834196
LINDER, DON	600 W. HELEN RD.	PALATINE	IL	60067	N	312/350-4341	312/576-2370	8400	777777
LONDON, LARRY	1811 LAWRENCE	WHEELING PARK	IL	60038	NP	312/831-5370	/	8407	832709
MADSEN, C. J.	26 INDIAN KNOLL RD	WEST CHICAGO	IL	60188	N	312/231-4195	/	8402	
MARCY, TIM	714 N BROADWAY	WHEATON	IL	60187	N	312/668-7156	/	8408	833784
MARYNIAK, GREGG E.	185 W MADISON ST #1000	CHICAGO	IL	60603	N	/	312/346-6386	8408	PFND.
MYKA, LAWRENCE	7005 INDIAN CT.	WILMINGTON	IL	60517	N	312/985-2156	/	8405	834515
MILLER, BRAXTON	P O BOX 551	MORTON GROVE	IL	60053	NP	312/296-0250	312/649-2886	8401	823860
MILLER, CHARLES J.	328 WASHINGTON BLVD#3E	OAK PARK	IL	60302	N	312/524-0061	/	8409	
NEELY, KEN	312 SPRING AVE.	GLFN ELLYN	IL	60137	N	312/469-7202	/	8405	
NIKKILA, PAUL	7652 WOODBRIDGE DRIVE	WHEELING	IL	60517	N	312/985-3277	/	8409	
ORME, DAVID	1316 E FOREST AV.	WHEATON	IL	60187	N	312/668-0431	/	8501	
PATRICK, THOMAS E.	8847 LAKE ST.	WILF	IL	60648	NP	312/470-8607	/	8501	802276
PHILLIPS, JIM	P.O. BOX 8342	ROLLING MEADOWS	IL	60008	N	312/397-2064	312/576-2448	8409	
PHILLIPS, JOHN	10 LAKE DR.	LAKEIN THE HILLS	IL	60102	N	312/658-7042	/	8400	
PUNA, WILLIAM	17 FOREST HILL RD	GLFN ELLYN	IL	60137	N	312/469-7202	/	8404	
RIEGER, GEORGE A JR	513 BROCKTON LANE	SCHAUMBURG	IL	60130	NP	312/894-4739	312/764-4491	8401	828139
RIEGER, GEORGE A JR	513 BROCKTON LANE	SCHAUMBURG	IL	60130	N	312/894-4739	/	8401	828988
RIELLEY, MATT	844 LITTLE LANE	WILMINGTON	IL	60430	N	312/739-7960	/	8412	
ROBERTO, BEN	17 CARLA LN	SCOTTSDALE	IN	47170	N	812/762-3711	317/498-3883	8401	777777
RANGFARM, STEVE	3636 E COLUMBINE	PHOENIX	AZ	85032	N	602/871-3771	/	8412	831267
SCHALK, WALTER W JR	141 CAROLINE	ELMHURST	IL	60126	N	312/279-7196	/	8409	834564
SCHALK, WAYNE A	141 CAROLINE	ELMHURST	IL	60126	N	312/279-7196	/	8409	
SCHWARTZ, ERIC F.	210551 GLEN VALLEY DR.	GLFN ELLYN	IL	60137	N	312/469-7202	/	8409	
SCHWITT, MARK	210716 BUCKINGHAM RD	GLFN ELLYN	IL	60137	NP	312/469-7202	/	8410	832216
SMITH, ROBERT W.	4815 N. WHIPPLE ST.	CHICAGO	IL	60618	N	312/583-7588	/	8502	PFND.
SPERMAN, DALE	1817 SOUTHPORT	LITSL	IL	60532	PN	312/963-7277	/	8406	823719
TULEJA, BILL	117 JULIE RD	ROLLINGBROOK	IL	60430	N	312/739-9188	/	8408	833173
VELDENZ, HENRY	818 N CHYLER	OAK PARK	IL	60302	N	312/386-6238	/	8407	826267
WARTICK, RICHARD	3949 W HAVELAND AV.	CHICAGO	IL	60618	N	312/470-8711	/	8409	
WIECK, KEVIN C.	487 COTTAGE AVE.	GLFN ELLYN	IL	60137	N	312/469-7202	/	8502	
WINDGASSEN, TIM	195 W ELW ST.	WHEATON	IL	60187	N	312/653-1386	/	8409	

This large BT-55 model looks to be a spiffy flyer. Now all we need is a semi-scale battleship! The last new scale kit is a model of the uprated Honest John. This BT-55 model is an interesting, if somewhat drab (olive drab, that is) model and could be a good beginner competition scale model.

A "new" Mercury-Redstone Kit has been added. This is actually the old Centuri kit. This is an excellent model, and it's nice to see it saved from the scrapheap. Rumor has it that Estes will be dumping their Saturn V kit in favor of the Centuri version, but it is only a rumor.

Six easy to build, under \$6 Skill Level One Kits have been added: Cougar, a four finned, BT-50 model; Harpoon, a BT-50 scale-ish looking affair with a set of large, forward

mounted fins; Marauder, a large BT-55/BT-60 payload model, resembling a sort of an enlarged X-Ray; Zinger, at \$1.95 a streamer recovered model that is the least expensive new kit. Big Yank, another long mini-brute model, is the only new mini powered bird for '84.

Skill Level Two Kits include the Titan and Honest John mentioned above, the Aries S.S.T, a supersonic transport of the future, the Defender, a D powered model with a USAF motif, and the Wasp, a D powered scale-ish model with a "ram-jet" nose cone.

Skill Level Three models begin with the Stealth, the futuristic model of a radar invisible fighter. The X-16 is a model of a futuristic suborbital fighter similar to designs proposed by the Air Force. The Starship Excalibur

is another futuristic model of a space battleship. It appears to be based on the old Estes plan given away free many years ago. The Delta Wedge is another futuristic fighter model of an "exotic fighter capable of ultra-light speed". (Shoot, even a Cessna 172 is faster than that! - Bunny) Look out, Howard Kuhn! The new Manta Bomber is out to get your favorite model! Seriously, this is kind of an interesting model with its body tube rings mounted at the end of wingtip tubes. But isn't there any room in the future for peaceful spaceships?

That pretty well covers the new Estes kits. As you might have guessed, there's not too much new in the way of parts or accessories, but there was something for just about everyone, anyway!





GLEN ELLYN TOY + CARD SHOP  
476 MAIN ST.  
KITS + ENGINES TOO!

RIC GAFF  
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NORTHFIELD IL  
60093

# SUGGESTED NIRA CONTEST SCHEDULE FOR 1984

APRIL 28-29 SECTION MEET 1 ACKERMAN PARK  
Sport Scale - 11 B Int. SD - 12  
1/2 A Int. BG - 12 C Egg Dur. - 6  
Streamer SL - 2 Open SL - 2

MAY 5-6 SECTION MEET ACKERMAN PARK  
Sport Scale - 11 B Int. SD - 12  
1/2 A Int. BG - 12 C Egg Dur. - 6  
Streamer SL - 2 Open SL - 2

MAY 13 CLUB LUNCH ACKERMAN PARK

MAY 19-20 SECTION MEET ACKERMAN PARK  
Sport Scale - 11 B Int. SD - 12  
1/2 A Int. BG - 12 1/2 A HD - 10

MAY 26-27 OPEN MEET BONG FIELD  
Sport Scale - 11 A SD - 5  
1/2 A Int. BG - 12 1/2 A PD - 5  
Pred. Dur. - 5 1/2 A RG - 12  
D Egg. Dur. - 7

JUNE 3 CLUB LUNCH ACKERMAN PARK

JUNE 9-10 OPEN MEET EORT WAYNE, IN  
Sport Scale - 11 A SD - 8  
A BG - 12 1/2 A PD - 5  
Plastic Model - 10 A RG - 12

JUNE 24 CLUB LUNCH ACKERMAN PARK  
Rain date for cancelled meets

JUNE 31-July 1 OPEN MEET BONG FIELD  
Sport Scale - 11 A SD - 5  
1/2 A Int. BG - 12 1/2 A PD - 5  
Pred. Dur. - 5 1/2 A RG - 12  
D Egg. Dur. - 7

