

ORBITAL REPORT



DECEMBER 1978

VOLUME 1 - ISSUE 2

IN THIS ISSUE: OUR REVIEWED

NASA SEESAT PROGRAM

10 QUESTIONS - CAN YOU ANSWER THEM?

BALSA WOOD - WHAT TO KNOW ABOUT THEM!

THE ANNUAL MIDWEST CONVENTION

DATETIME : AREA NEWS.....

Published by :



NATIONAL ASSOCIATION OF ROCKETRY

MEMBER

COVINGTON ORBITAL
MOD. ROC. CLUB
COVINGTON, INDIANA
NUMBER - 390

ROCKET QUIZ: (ANSWERS ON PAGE 3) (TAKEN FROM "BASIC CONCEPTS OF MODEL ROCKETRY"
CENTURI)

IN THE SPACE PROVIDED PUT TRUE OR FALSE

- _____ 1. ADULTS DO NOT HAVE TO FOLLOW THE SAFETY REGULATIONS.
- _____ 2. ALL MODEL ROCKETS SHOULD BE CHECKED FOR STABILITY BEFORE LAUNCHING.
- _____ 3. A MODEL ROCKET MAY NOT BE LAUNCHED UNLESS IT HAS A PARACHUTE FOR RECOVERY.
- _____ 4. THE WADDING USED IN A MODEL ROCKET SHOULD BE FLAME-PROOF.
- _____ 5. MODEL ROCKETS MUST BE GUIDED DURING LIFT-OFF
- _____ 6. PAYLOADS MUST NEVER CONTAIN ANY METAL PARTS.
- _____ 7. YOU ARE ALLOWED TO LAUNCH MODEL ROCKETS HORIZONTALLY AGAINST TARGETS ON THE GROUND IF YOU ARE CAREFUL TO MAKE SURE THERE IS NO ONE IN THE WAY.
- _____ 8. BECAUSE OF THE POSSIBILITY OF ELECTRICAL SHOCK YOU SHOULD NOT USE AN ELECTRICAL IGNITION SYSTEM.
- _____ 9. IF A MODEL ROCKETEER HAS STUDIED CHEMISTRY, HE CAN MIX HIS OWN PROPELLANTS.
- _____ 10. THE ENGINE THAT WILL GIVE YOUR ROCKET THE GREATEST ACCELERATION DURING LIFT-OFF WILL ALSO MAKE YOUR ROCKET GO THE HIGHEST.

NOTE: YOUR SCORE SHOULD BE !)), And if you look on a typewriter that means 100.

(THE FOLLOWING WAS TAKEN FROM THE MIDWEST ROCKETEER #4, WHICH IS THE OFFICIAL PUBLICATION OF WWAR #369, EDITOR IS SCOTT ZINCLER) RECEIVED NOVEMBER 2, 1978

THE ANNUAL MIDWEST CONVENTION

WIScon - 2 WILL BE HELD MARCH 31 - APRIL 1, 1979 IN TOMAH, WI, HOSTED BY THE WESTERN WISCONSIN ASSOCIATION OF ROCKETRY #369.

TENTATIVE SCHEDULE

SAT.	A.M.	9:00 - 10:00	REGISTRATION
		10:00 - 10:30	KEYNOTE ADDRESS (OPENING CERIMONIES)
		10:30 - 12:00	WORKSHOPS
	P.M.	12:00 - 12:45	LUNCH
		12:45 - 3:00	WORKSHOPS
		3:00 - 4:30	MODEL ROCKET AUCTION (INCLUDING ENERJET ENGINES (LOTS OF THEM) AND NOSTALGIA KITS AND EQUIPMENT)
		4:30 - 5:30	WORKSHOPS
		5:30 - 6:30	SUPPER
		6:30 - ???	MOVIES, SLIDES, B.S., COSTUME CONTEST, LIER'S CONTEST (BRING YOUR OWN FILM AND SHOVELS)

CONT - PAGE 3

(page 2)

SUNDAY A.M.	9:00 - 10:30	TRUSTEE OPEN FORUM AND/OR MIDWEST MEETING
	10:30 - 12:00	WORKSHOPS
P.M.	12:00 - 12:45	LUNCH
	1:00 - 3:30	LAUNCH
	3:30 - 3:45	RANGE TAKE-DOWN
	3:45 - 4:45	AWARDS PRESENTATION

CONTEST TO BE HELD THROUGH - OUT THE CONVENTION: LIER'S CONTEST, COSTUME CONTEST, CRAFTSMANSHIP, ORIGINAL DESIGN, STATIC SEMI - SCALE, NAR SANCTIONED R & D , NEWSLETTER CONTEST, MOST ACTIVE SECTION.

FOR FURTHER INFORMATION AND THE CONTEST RULES, WRITE TO THE CHAIRMAN, 324 W. MILWAUKEE STREET, TOMAH, WI 54660.

ANSWERS TO THE QUIZ ON PAGE THREE: DON'T LOOK HERE UNTIL YOU HAVE TAKEN THE QUIZ.....

GO ON, TAKE THE QUIZ FIRST, AND NO PEEKING.....DID YOU PEEK.....

OK HERE ARE THE CORRECT ANSWERS:

NUMBER 1 - YOU SHOULD HAVE PUT FALSE, WHY...ADULTS HAVE TO FOLLOW THE SAME SAFETY RULES AS ANYONE ELSE. REMEMBER WE WANT TO HAVE FUN, BUT WE WANT EVERYONE TO KEEP HIS OR HER FINGERS, EYES, ETC TOO!!!!!!!!!!!!!!BE SAFE ALWAYS.

NUMBER 2 - YOU SHOULD HAVE PUT TRUE, WHY... IT IS BEST FOR THE ROCKET TO BE STABLE SO THAT YOU WILL HAVE A BETTER CHANCE OF IT GOING UPWARD, INSTEAD OF ALL AROUND THE AREA. IT MIGHT, IF UNSTABLE, HIT YOU.....

NUMBER 3 - YOU SHOULD HAVE PUT FALSE, WHY.. THERE ARE OTHER TYPES OF RECOVERY. THE MAIN IDEA IS THAT IT IS SAFE AND THAT YOU ROCKET GET BACK TO EARTH IN ONE PIECE.

NUMBER 4 - YOU SHOULD HAVE PUT TRUE, WHY... NO FIRE BALLS SHOULD BE COMING FROM YOUR ROCKET. YOU ARE NOT TRYING TO SET THE WOODS ON FIRE, BUT BRING THE WHOLE THING BACK SAFE.

NUMBER 5 - YOU SHOULD HAVE PUT TRUE, WHY...ALL ROCKETS ARE SUPPOSE TO MOVE IN AN UPWARD DIRECTION, THEREFORE THEY NEED TO BE GUIDED. IN FACT THAT IS WHAT THE FINS DO FOR YOU.....RIGHT.

NUMBER 6 *- YOU SHOULD HAVE PUT FALSE, NO SUBSTANTIAL METALS PARTS MAY BE USED IN A MODEL ROCKET, ELECTRICAL DEVICES AS A PART OF A PAYLOAD MAY BE USED AND THEY USE WIRE WHICH IS METAL, ALSO 1oz PAYLAOD WEIGHTS ARE METAL.

NUMBER 7 - YOU SHOULD HAVE PUT FALSE, WHY....THE SAFETY CODE DOES NOT ALLOW FOR THIS EVEN IF NO ONE IS AROUND....

NUMBER 8 *- YOU SHOULD HAVE PUT FALSE, WHY....THE SAFETY CODE ONLY ALLOWS THIS METHOD OF IGNITION . IT IS THE MOST SAFE METHOD.

NUMBER 9 - YOU SHOULD HAVE PUT FALSE, WHY.....ARE YOU A MODEL ROCKETEER OR A BASEMENT BOMBER.....I HOPE A MODEL ROCKETEER. YOU WILL STAY ALIVE LONGER THAT WAY.

NUMBER 10 - YOU SHOULD HAVE PUT FALSE, WHY ...IT TAKES MORE THAN JUST A QUICK THROW TO MAKE AN OBJECT GO THE HIGHEST.

C.M.R. = "A REVIEW" "

THIS MONTH I AM NOT REVIEWING A ROCKET, BUT INSTEAD A COMPANY WHICH ONE MAY BUY ROCKETS AND PARTS FROM.

THE COMPANY IS "COMPETITION MODEL ROCKETS" OR CMR OF ALEXANDRIA, VIRGINIA. WHY THIS COMPANY, WELL I HAVE JUST ORDERED THEIR CATALOG AND HAVE ALSO PLACED AND ORDER WITH THEM, AND I GUESS THEY ARE ON MY MIND.

I BECAME ACQUAINTED WITH THE COMPANY BY AN ADD IN THE NAR MATERIAL AND DECIDED TO ORDER THEIR CATALOG. THIS WAS BACK IN OCTOBER. AFTER I RECEIVED THE CATALOG, I PLACED AN ORDER FOR SOME THINGS THAT I NEEDED, THAT WAS ON THE 28 day OF OCTOBER. CAN YOU GUESS HOW LONG IT TOOK TO GET THE ORDER BACK? ONE WEEK TO THE DAY!!!!!! I COULD NOT BELIEVE THAT A COMPANY COULD WORK THAT FAST. (I KNOW THAT I HAVE ORDERED FROM OTHERS AND NORMALLY IT HAS TAKEN AT LEAST 3 to 4 WEEKS AND MOST OF THE TIME LONGER) MAYBE THIS IS WHAT HAS GIVEN ME SUCH A GREAT IMPRESSION OF THE COMPANY, BUT I THINK THAT IT IS MORE THAN JUST THAT. IT IS GREAT TO KNOW THAT THE THINGS THAT ARE ORDERED WILL GET FIRST CLASS TREATMENT, BUT ALSO THE COMPANY HAS TO HAVE THINGS WHICH ARE NEEDED. I BELIEVE THAT THIS COMPANY DOES HAVE THE ITEMS THAT ARE NEEDED.

AT DIFFERENT MEETINGS WE HAVE TALKED ABOUT ITEMS THAT PLANS HAVE CALLED FOR AND WHERE CAN THEY BE FOUND. AS YOU KNOW, WITH SOME OF THE ITEMS, WE HAVE NOT BEEN ABLE TO LOCATE A SOURCE. I AM HAPPY TO SAY THAT WE NOW HAVE ONE AND I THINK THAT IT WILL BE A GOOD IDEA FOR YOU TO TAKE SOME TIME TO LOOK THROUGH THIS CATALOG. MR G HAS IT AND IT WILL BE AT OUR NEXT MEETING.

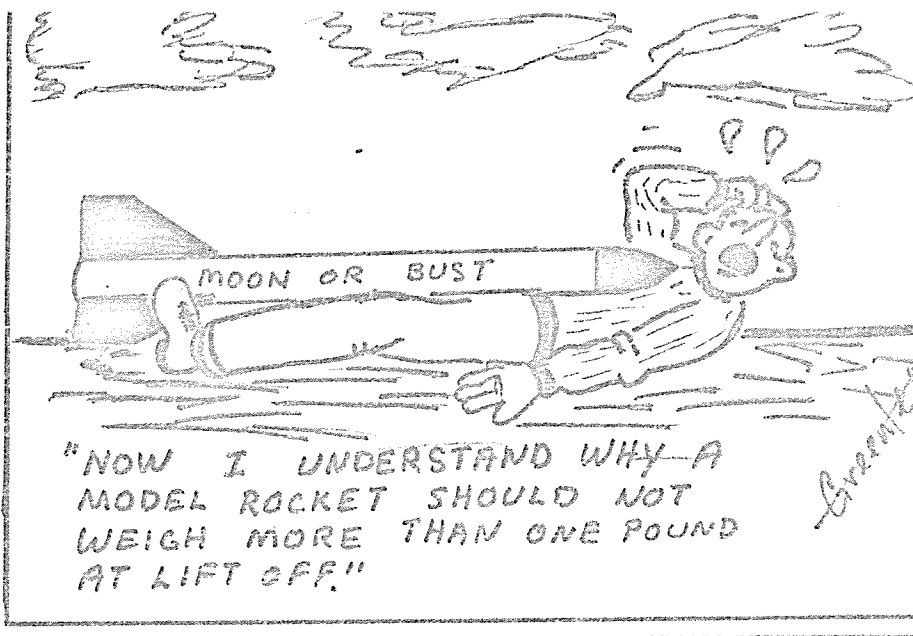
SOME OF THE MATERIALS WHICH CAN BE PURCHASE ARE: .02 Plastic sheets and Up To .06 Plastic sheets; 1/64" PLYWOOD SHEETS; ACCELEROMETER; FOXMITTER ; STREAMER MATERIAL WHICH IS TEN FEET LONG; 36" PARACHUTES; AND YES ROCKET KITS OF PROVEN WINNERS.

THIS COMPANY RECEIVES A+ IN MY BOOK AND I RECOMMEND IT TO YOU. I KNOW THAT I PLAN TO ORDER MORE THINGS FROM THEM AND I THINK THAT YOU MIGHT WANT TO TOO!

NOTE: MR G WILL BE GIVING TO ALL MEMBERS AN ORDER BLANK FOR THIS COMPANY AT THE NEXT MEETING, AND IF YOU WANT ON, BE SURE TO BE THERE.....

NOTE:

DECEMBER 12, 1978
PROGRAM WILL BE PARACHUTE
DURATION EVENT, WITH
WORKSHOP ON BUILDING
YOUR ROCKET.

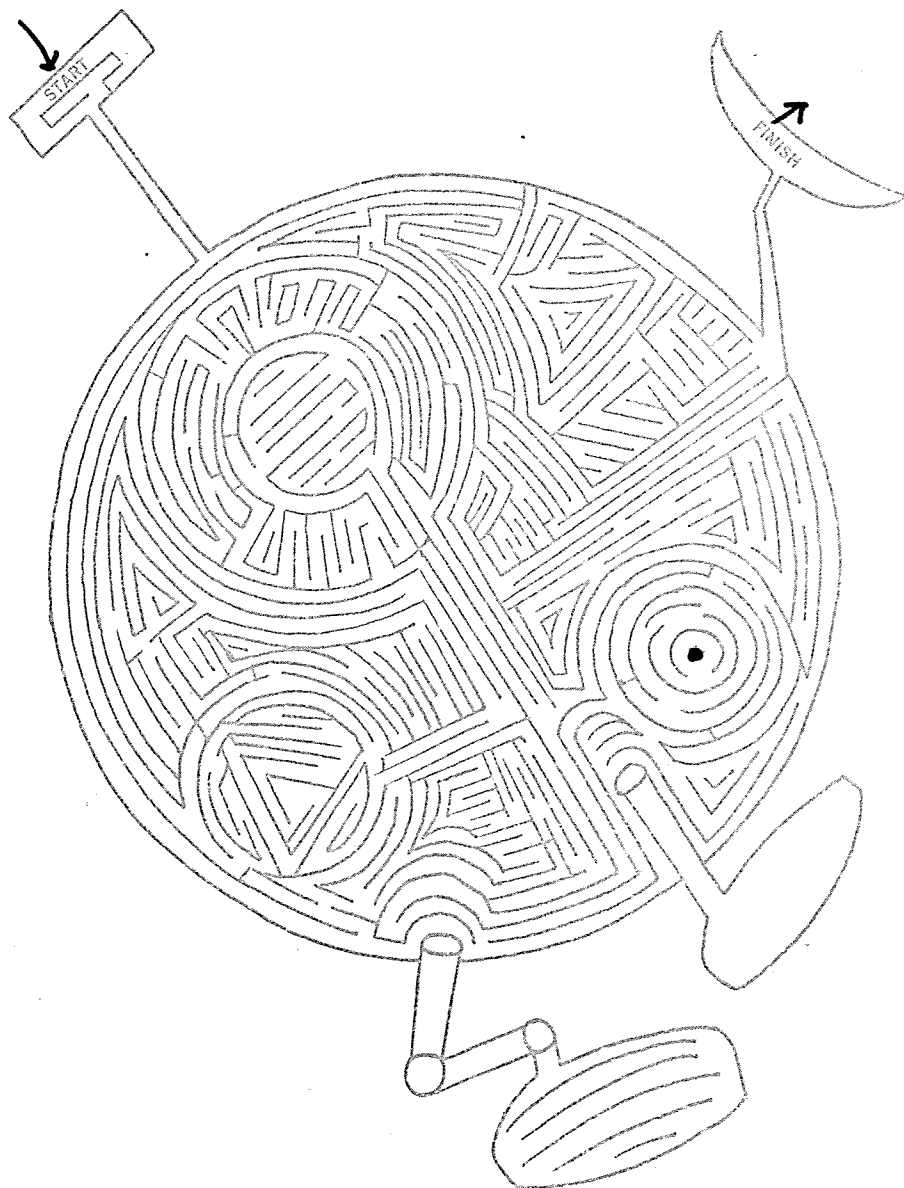
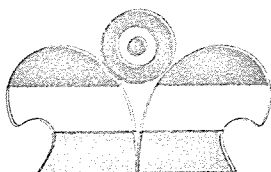


THIS PUZZLE THIS MONTH
HAS A BEST TIME OF 9
MINUTES TO SOLVE IT.
CAN YOU DO BETTER??????????

WHAT WAS YOUR TIME IN SOLVING
THE PUZZLE?

SEND YOUR TIME TO THE EDITOR
BY DECEMBER 15th. BEST TIME
WILL BE ANNOUNCED IN THE
NEXT ISSUE.

STAY LOOSE



NASA SEASAT PROGRAM:

IN A REPORT THAT I RECEIVE, AS A TEACHER, FROM NASA, THERE WAS NEWS OF THE PROGRAM SEASAT, AND I THOUGHT THAT YOU MIGHT BE INTERESTED IN HEARING ABOUT IT.

THE PUBLICATION FROM NASA THAT I OBTAINED THE INFORMATION ABOUT THE "SEASAT PROGRAM" IS NASA: REPORT TO EDUCATORS, VOL 6, No. 2 Summer 1978.

SEASAT, A PROGRAM BY NASA, TO STUDY THE WORLD'S OCEANS, WAS LAUNCHED ON 26 JUNE 1978. AN ATLAS-AGENA VEHICLE LIFTED THE SPACECRAFT INTO A 500 MILE HIGH NEAR CIRCULAR POLAR ORBIT. (means the spacecraft travel over the poles) IT WILL CIRCLE THE PLANET EARTH 14 TIMES EACH DAY, AND CROSS ABOUT 95 PER CENT OF THE OCEAN'S SURFACE EVERY 36 HOURS.

THE INSTRUMENTS ON THE SEASAT WILL SEND DATA TO THE EARTH ON SURFACE WINDS AND TEMPERATURES, TIDES AND CURRENTS, WAVE HEIGHTS AND ICE CONDITIONS, OCEAN TOPOGRAPHY AND COASTAL STORMS.

THERE ARE PLANS TO EMPLOY A MULTIPLE - SATELLITE NETWORK OF SEASATS. THIS NETWORK OF SATELLITES WOULD PROVIDE DETAIL CHARTS OF THE OCEANS, SHOWING WEATHER CONDITION, AND WOULD ENABLE SHIPPING TO SKIRT AROUND THESE STORMS, MAKING A JOURNEY LESS HAZARDS.

THE PROGRAM WILL ADD TO OUR KNOWLEDGE OF THE OCEANS OF THE WORLD, AND GIVE US A BETTER UNDERSTANDING OF THE PLANET CALLED EARTH.

UPCOMING EVENTS:

28 November 1978 - 7:30pm Orbital workshop meeting on Streamer Duration.

12 December 1978 - 7:30pm Orbital workshop meeting on Parachute Duration.

23 December 1978 = FLIGHT LAUNCH

AT THIS LAUNCH, WE WILL BE CHECKING OUT YOUR STREAMER AND PARACHUTE DURATION ROCKETS. ALSO EACH MODEL WILL BE TIMED ON EACH FLIGHT YOU MAKE AND RECORDED IN YOUR FLIGHT BOOK.

BAD WEATHER DATE: 27 December 1978

23 JANUARY 1979 - 7:30pm ORBITAL WORKSHOP MEETING ON BOOST GLIDE

WANTED ADDS.....WANTED ADDS.....WANTED ADDS.....WANTED ADDS.....

JEFF CLARK HAS SOME ROCKET MODELS HE IS WANTING TO SELL.....IF YOU WANT ANY.....
SEE JEFF AT THE MEETING OR CALL HIM... THESE ARE KIT MODELS.

RAILFUL HAS ORDERED THE NEW CENTURI MODEL FLYING SAUCER WHICH SELLS FOR \$5.50
YOU MIGHT WANT TO CHECK WITH THEM IF YOU WANT THIS MODEL..

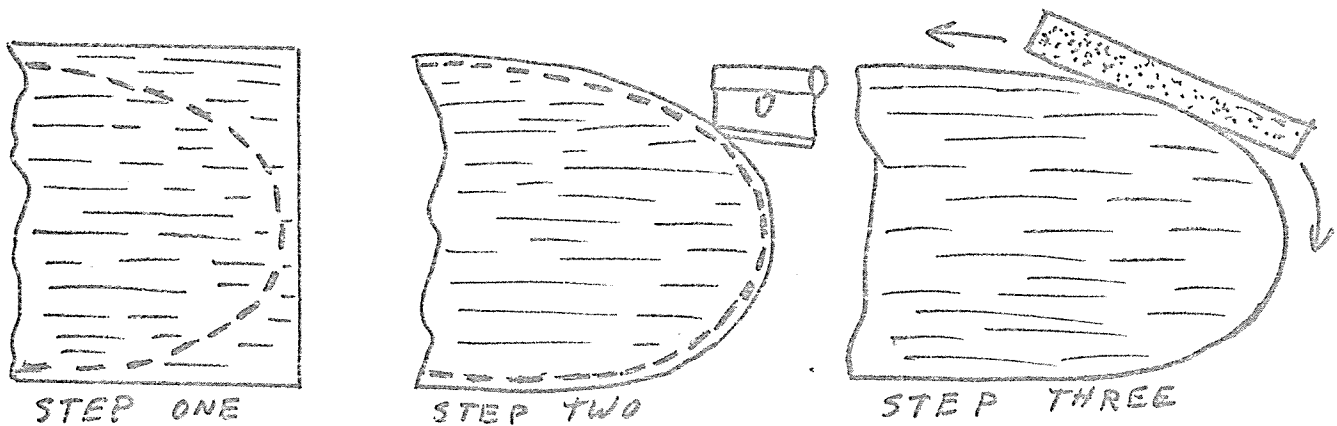
THEY ALSO HAVE THE COMPLETE LINE OF ESTES "STAR WARS" MODELS

RAILFUN HOBBY SHOP
917 MARION AVENUE
COVINGTON, INDIANA 47932

5% OFF ALL MODEL ROCKETS AND ENGINES
PHONE - 317-793-4759

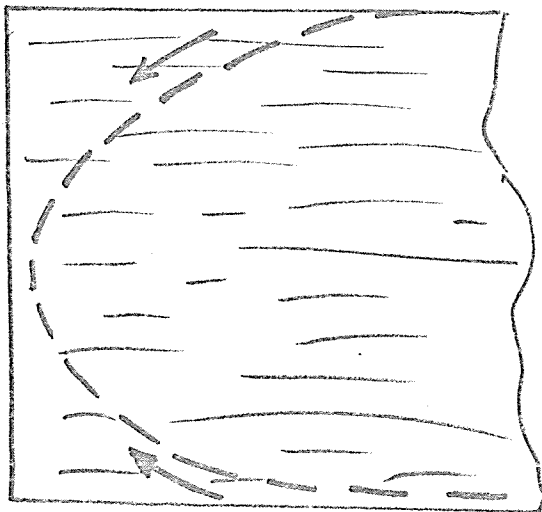
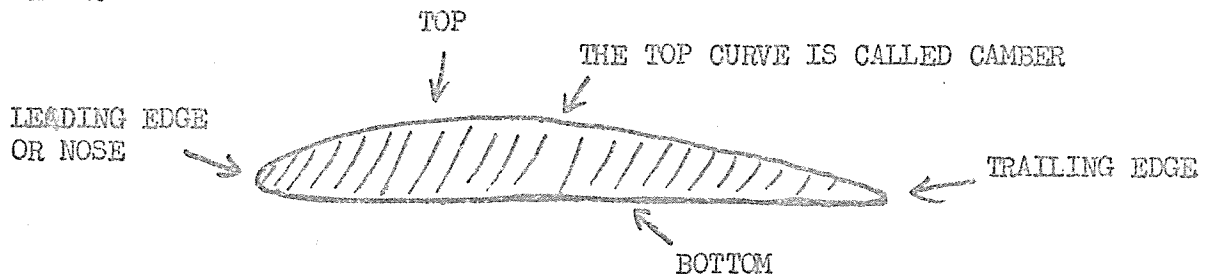
SHOP HOURS : TUE - FRI - 4 to 8 pm; SATURDAY - 10 to 5pm

CUTTING OUT BALSA PARTS:



In STEP ONE, THE LINE SHOWS WHERE AND WHAT IS TO BE CUT OUT. FIRST, CUT, AS IN STEP TWO, WITH A RAZOR BLADE OR KNIFE, CUT ABOUT $1/8$ " OUTSIDE THE LINE. IN THIS WAY, YOU WILL NOT ACCIDENTLY MESS UP THE PART THAT YOU ARE TRYING TO CUT OUT. SAND, WITH A SANDING BLOCK DOWN TO THE LINE. THIS WILL GIVE YOU A BALSA WOOD PART THAT IS SMOOTH AND NEAR PERFECT. ADD YOUR SEALER, SAND WITH FINE SANDPAPER AND THEN SHAPE AS NEEDED.

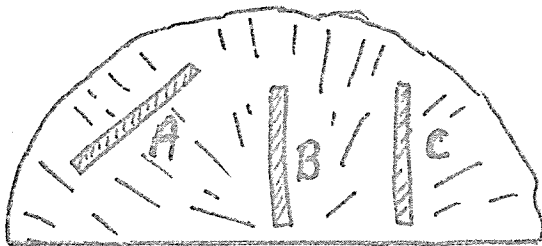
IF YOU ARE MAKING A WING OR TAIL FOR A GLIDER, REMEMBER THAT THESES PARTS HAVE TO BE SHAPED IN AN AIRFOIL FOR PROPER LIFT. AN EXAMPLE OF THE AIRFOIL SHAPE IS BELOW.



ALWAYS CUT AWAY FROM THE CENTER OF THE PART THAT IS BEING CUT OUT. EXAMPLE CUT IN THE DIRECTION AS SHOWN BY THE ARROWS.

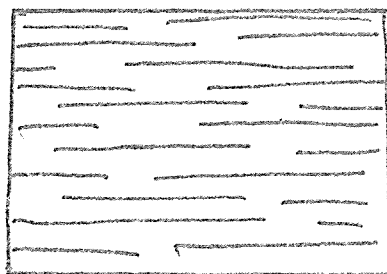
ONE IMPORTANT RULE WHEN CUTTING OUT PARTS FROM BALSA WOOD, IS TO TAKE YOUR TIME. IT IS BETTER TO DO THE JOB RIGHT, AND NOT HAVE TO DO IT OVER AGAIN. ALSO IT IS CHEAPER THAT WAY TOO!!!!!!

SOME INFORMATION ABOUT Balsa WOOD: AN AID IN MODELING

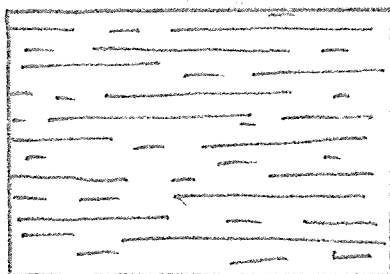


Balsa wood is imported from Ecuador, South America to the United States where it is cut into pieces for sale.

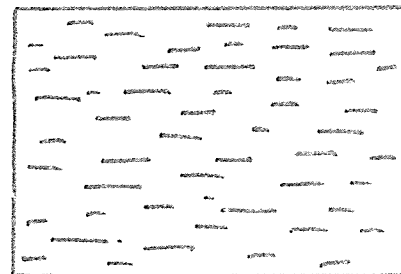
The example to the left, shows how the balsa log is cut into the different grade that are found. The grades of balsa are grade 'A', grade 'B', 'C' grade. Notice the placement of each type of grade of balsa and where it is in the log. Keeping this in mind as you read the part about each grade uses.



A grain



B grain



C grain

The above examples, give the general look of the three grades of balsa woods.

A GRADE OR GRAIN: HAS LONG GRAIN LINES AND BENDS VERY EASY. IT GOOD FOR USE TO BEND AROUND OR COVER ROUNDED OBJECTS. SUCH AS A FUSELAGE OF A GLIDER, BUT SHOULD NOT BE USED FOR THE WING, TAIL, AND PARTS WHICH WILL OR SHOULD BE FLAT. THIS TYPE OF Balsa WILL NOT STAY FLAT, BUT WILL HAVE A TENDANCE TO CURVE WHEN WET OR SEALER IS PUT ON IT. IT SHOULD NOT BE USED FOR FINS ON A ROCKET EITHER.

B GRADE OR GRAIN: HAS BOTH LONG AND SHORT GRAIN LINES. IT WILL BEND, BUT NOT AS MUCH AS A GRAIN. THIS TYPE OF Balsa WORKS GREAT FOR LEADING, TRAILING AND SPARS OF A WING WHICH IS NOT GOING TO BE SOLID. IT ALSO WORKS WELL FOR AREAS WHICH NEEDS TO HAVE A SMALL ARC OR CURVE IN THEM.

C GRADE OR GRAIN: HAS SHORT GRAIN LINES, AND WILL NOT BEND, AS THE WOOD IS STIFF. IF YOU TRY TO BEND IT, IT WILL NORMALLY BREAK OR SPLIT. THIS TYPE OF Balsa WILL GIVE YOU A LIGHT BUT STRONG PART IN YOUR MODEL. USE THIS TYPE OF Balsa FOR SOLID Balsa WINGS, TAILS, RUDDERS, OR FINS. IT WILL HAVE VERY LITTLE CURVE AND THUS WILL NOT CHANGE SHAPE WHEN SEALER OR WATER IS PUT ON.

AS A MODELER IN ROCKETRY, YOU NEED TO BECOME FAMILIAR WITH Balsa. AS IT TAKES THIS KNOWLEDGE TO MAKE A CONTEST GLIDER EITHER FOR THE BOOST GLIDER OR ROCKET GLIDE.

NEXT ISSUE, WE WILL LOOK AT SOME TOOLS THAT YOU SHOULD OBTAINED. SOME OF THESE TOOLS, YOU CAN MAKE, OTHERS YOU MAY NEED TO BUY.
ALSO WE WILL LOOK AT THE REASONS THAT A GLIDER FLIES

PARACHUTE DURATION: CMR HAS SOME NICE ROCKETS FOR PARACHUTE DURATION, IF YOU WANT TO
LOOK AT THE CATALOG, SEE MR G.

NEWSLETTER RECEIVED: NOVAAR FREE PRESS AND MIDWEST ROCKETEER

NAR MEMBER FEATURE: AL NIENAST.....NAR # 28820sr

TO ALLOW OUR MEMBERS A CHANCE TO GET AN IDEA OF WHAT OTHER MEMBERS IN THE NAR ARE LIKE
WE WILL BE PUBLISHING AND FEATURING MEMBERS FROM ACCROSS THE UNITED STATES. THIS MONTH'S
FEATURE MEMBER IS AL NIENAST. (HE WAS FEATURED IN THE MIDWEST ROCKETEER, AND THAT IS
WHERE WE GOT THIS INFORMATION ABOUT HIM, ISSUE #4, RECEIVED IN NOVEMBER)

WWARior of the Issue

SINCE ALL THE OTHER SECTIONS FEATURE THEIR MEMBERS EVERY SO OFTEN, WHY NOT US?

THIS ISSUE STAR-MEMBER IS AL NIENAST. AL (MY GRANDFATHER) WAS STARTED IN MODEL ROCKETRY
BY ME. AT FIRST, HE GAVE MODEL ROCKETRY LUKEWARM INTEREST, BUT SINCE LAST YEAR, HE HAS
ADVANCE TO ONE OF THE TOP COMPETITORS IN OUR CLUB AND PROBABLY OUR REGION. AL'S SPECIALTY
IS GLIDERS. HE ENTHUSIASTICALLY RESEARCHES AND DEVELOPS HIS GLIDERS, AND KNOWS MORE
ABOUT THEM THEN ANYBODY ELSE IN OUR AREA. AT THE PRESENT HE IS WORKING ON THE 4 and 5
CLASS GLIDERS AND THEY GLIDE BEAUTIFULLY. HE IS ALSO WORKING ON A GLIDER WORKSOP FOR
WIScon 2 AND AN R & D REPORT FOR NARAM - 21.

AL'S NAR NUMBER IS 28820sr AND HE WAS A CHARTER MEMBER OF OUR SECTION. HE IS A FORMER
BOARD OF CONTROL MEMBER AND IS NOW THE CHAIRMAN. HE ALSO CONTRIBUTES ARTICLES TO MWR
REGULARLY, PUTS MUCH TIME AND EFFORT INTO THE CLUB, AND WILL TELL YOU ANYTHING YOU
WANT TO KNOW ABOUT GLIDERS AT LENGTH - JUST ASK!

(ED. NOTE- IF ANY OF YOU NEED SOME QUESTIONS ANSWERED ON GLIDERS, AL SOUNDS LIKE THE MAN
TO ASK. WRITE TO HIM % MIDWEST ROCKETEER, 324 W. MILWAUKEE STREET, TOMAH, WI 54660)

THE ORBITAL REPORT IS THE NEWSLETTER FOR THE COVINGTON ORBITAL MOD ROC CLUB OF COVINGTON
INDIANA. ADDRESS OF THE EDITOR IS RR# 8 COX ADDITION LOT 30, CRAWFORDSVILLE, INDIANA 47933

EDITOR OF SORTS.....C.T. GREENLEE
PRESIDENT OF SECTION.....MATT SWINGLE

WRITERS.....C.T. GREENLEE, WRITTING STAFF OF THE WWAR

NEEDED.....WRITERS, AND MORE WRITERS....THIS NEWSLETTER SHOULD HAVE ARTICLES IN IT
WHICH ARE WRITTEN BY OTHER MEMBERS THAT JUST MR. G. AFTER ALL HE CAN JUST STEAL SO MUCH
FROM OTHER NEWSLETTERS. HELP HIM OUT BY WRITTING SOMETHING ABOUT MODEL ROCKETS.....

MATT I NEED AN ARTICLE FROM THE PRES.....FOR THE JANUARY ISSUE. I'LL NEED IT BY DECEMBER
10th.....

ALL ARTICLES NEED TO BE TO MR G BY THE 10th OF EACH MONTH...TRY YOU HAND AT IT.....

ANYONE MAY STEAL THE ARTICLES IF THEY SO WANT TOOOOOOOOOO!, BUT PLEASE BE SURE TO GIVE
CREDIT TO THE AUTHOR.

NOTICE.....

WE NEED MORE MEMBERS.....IF YOU KNOW SOMEBODY THAT MIGHT BE INTERESTED IN JOINING, BRING THEM WITH YOU ON THE 28th. LET THEM SEE WHAT WE ARE TRYING TO DO. THIS WAY WE WILL HAVE A GREAT CONTEST IN APRIL.

NOTE ABOUT THE FLY UP AND AWAY WHICH WILL BE IN DECEMBER. MR G IS GOING TO GIVE A PRIZE FOR THE BEST TIME OF BOTH STREAMER AND PARACHUTE. YOU WILL BE ALLOWED TO LAUNCH EACH ROCKET TWICE. THE TIME FOR EACH FLIGHT WILL BE ADDED TOGETHER, THE MEMBER THAT HAS THE GREATEST TIME WILL WIN. (PRIZE WILL BE A ROCKET THAT WILL HELP YOU IN ONE OF THE UP COMING WORKSHOPS. AND MAY HELP YOU TO WIN THE APRIL MEET) SEE YOU ALL AT THE NEXT MEETING.....UP AND AWAY WE GO.....

AREA NEWS..... AND ALL THAT STUFF!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
FLASK. FLASH..... IT HAS JUST BEEN LEARNED THAT THE ARTICLE, WRITTEN BY MR G, AND HAS A PICTURE OF MATT SWINGLE IN IT WILL APPEAR IN THE DECEMBER MODEL ROCKETEER.... WATCH FOR THIS, AS IT IS ABOUT THE LIBRARY PROJECT AND DEMO THAT MR G AND MATT DID DURING THE SUMMER.....

MATT SWINGLE, HAS BECOME ABIT LESS ACTIVE, DO TO THE HIS INABILITY TO STAND UP AND WALK WITH OUT FALLING DOWN.....HOPE YOU ARE FEELING BETTER MATT.....THE REST OF THE CLUB WANT TO BE ABLE TO BEAT YOU AT THE DECEMBER SHOOT WITHOUT YOU HAVING TO HAVE SOME REASON FOR NOT BEING ABLE TO DO WELL.....TAKE CARE, WATCH WHERE YOU ARE STEPPING.....

ALL MEMBERS SHOULD TAKE NOTE OF THE OCTOBER ISSUE OF THE MODEL ROCKETEER, PAGE 9, ENTITLED " NOTE ON NAR INSURANCE". BE SURE TO READ IT - IF YOU HAVE ANY QUESTION ABOUT IT SEE MR G AT THE MEETING ON NOVEMBER 28th.

FLIGHT LOGS WILL BE PASSED OUT AT THE NOVEMBER 28th MEETING.....REMEMBER TO BRING THE MATERIALS THAT WILL BE NEEDED TO MAKE YOUR STREAMER DURATION ROCKET.....

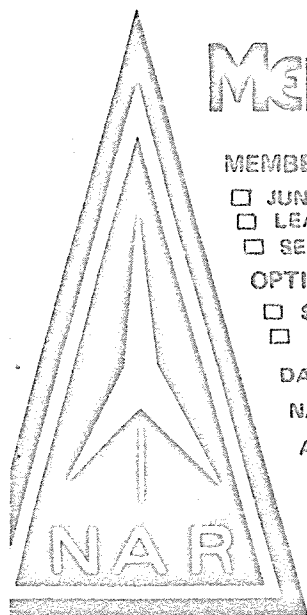
CATALOGS IN: CMR IS IN WITH EXTRA ORDER BLANKS, FLICHT SYSTEM HAS NOT COME IN AS YET!!!

(P. 100. 10)

LATE BREAKING NEWS -

FROM - Kevin Barkes- IN THE NOVEMBER ISSUE OF MODEL ROCKETEER, THERE WAS A FREEBE OFFER OF A LITTLE JOHN II BROCHURE. KEVIN BARKES HAS INFORMED US THAT AN OVER EAGER STOCKPERSON IN PENROSE HAS TOSSED THE CENTURI COLLECTION IN THE TRASH. CENTURI HAS SUPPLIED THEM WITH A SUBSTITUTE, WHICH IS AS GOOD, MAYBE EVEN BETTER. THE NEW FREEBE IS THE APOLLO SATURN - A PICTURE HISTORY. YOU CAN OBTAIN THIS FREEBE BY WRITTING TO KEVIN BARKES, 234 WHITAKER STREET, WHITAKER, PA. 15120.. REMEMBER THAT YOU WILL NEED TO SEND A 9 x 13" CHICKAMAUGA CLASP, WITH 41¢ WORTH OF POSTAGE ON IT. IF YOU NEED A CHICKAMAUGA CLASP - SEE MR G, AS HE HAS A SUPPLY OF THEM...SEND FOR YOUR FREEBE TODAY!!!!

MR. G has received the new
"CENTURI ROCKET TIMES"
And new 1978 catalog included within—



Membership Application

NATIONAL ASSOCIATION OF ROCKETRY
P.O. BOX 725, NEW PROVIDENCE, NJ 07974

MEMBERSHIP CATEGORY—Check One Only!

- | | |
|---|---------|
| <input type="checkbox"/> JUNIOR MEMBERSHIP (Under 16 as of January 1) | \$ 7.00 |
| <input type="checkbox"/> LEADER MEMBERSHIP (Under 21 as of January 1) | \$10.00 |
| <input type="checkbox"/> SENIOR MEMBERSHIP (21 or over as of January 1) | \$15.00 |

OPTIONAL MEMBERSHIP SERVICES¹

- | | |
|--|--------|
| <input type="checkbox"/> \$1,000,000 liability protection while flying model rockets | \$3.50 |
| <input type="checkbox"/> FAI Stamp for team programs and international records | \$2.00 |

DATE OF BIRTH: Mo. ____ Day ____ Yr. ____

AMOUNT ENCLOSED _____

NAME _____ DATE _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

☐ NEW ☐ RENEWAL (number _____, section no. _____) ☐ FAMILY PLAN*

*Family Plan Membership. Deduct \$2.00 (One member of family joins at the full rate, remaining members at the reduced rate — one copy of Model Rocketeer per family.)

Membership dues includes a subscription to Model Rocketeer magazine; the subscription alone costs \$3.50 for one year.

¹Insurance required for competition

(Page 11)

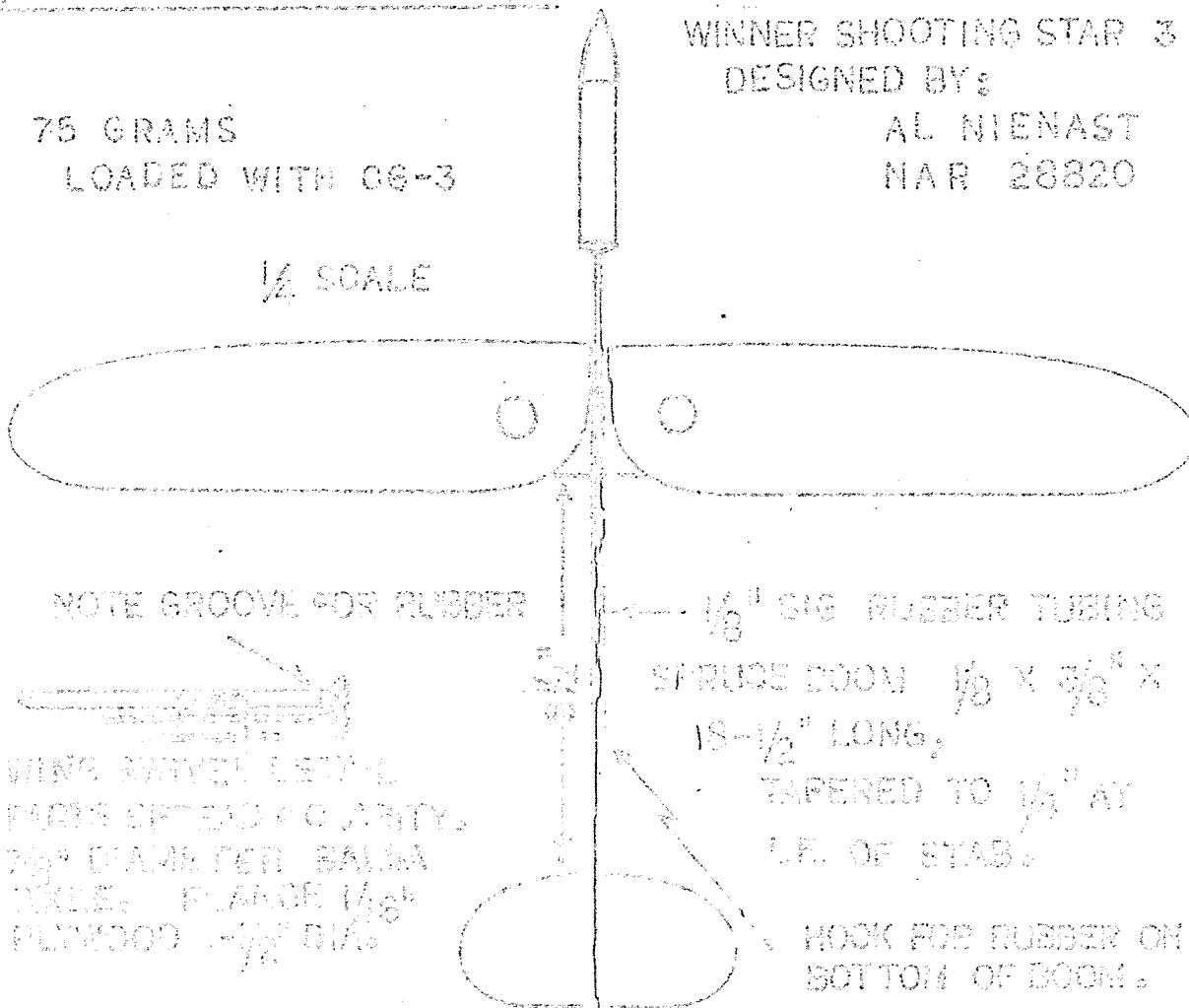
AL'S HAWK XP-1

75 GRAMS
LOADED WITH C6-3

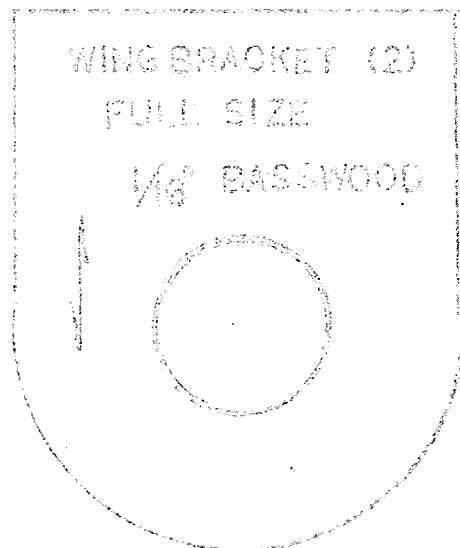
WINNER SHOOTING STAR 3
DESIGNED BY:

AL NIENAST
NAR 28820

1/2 SCALE

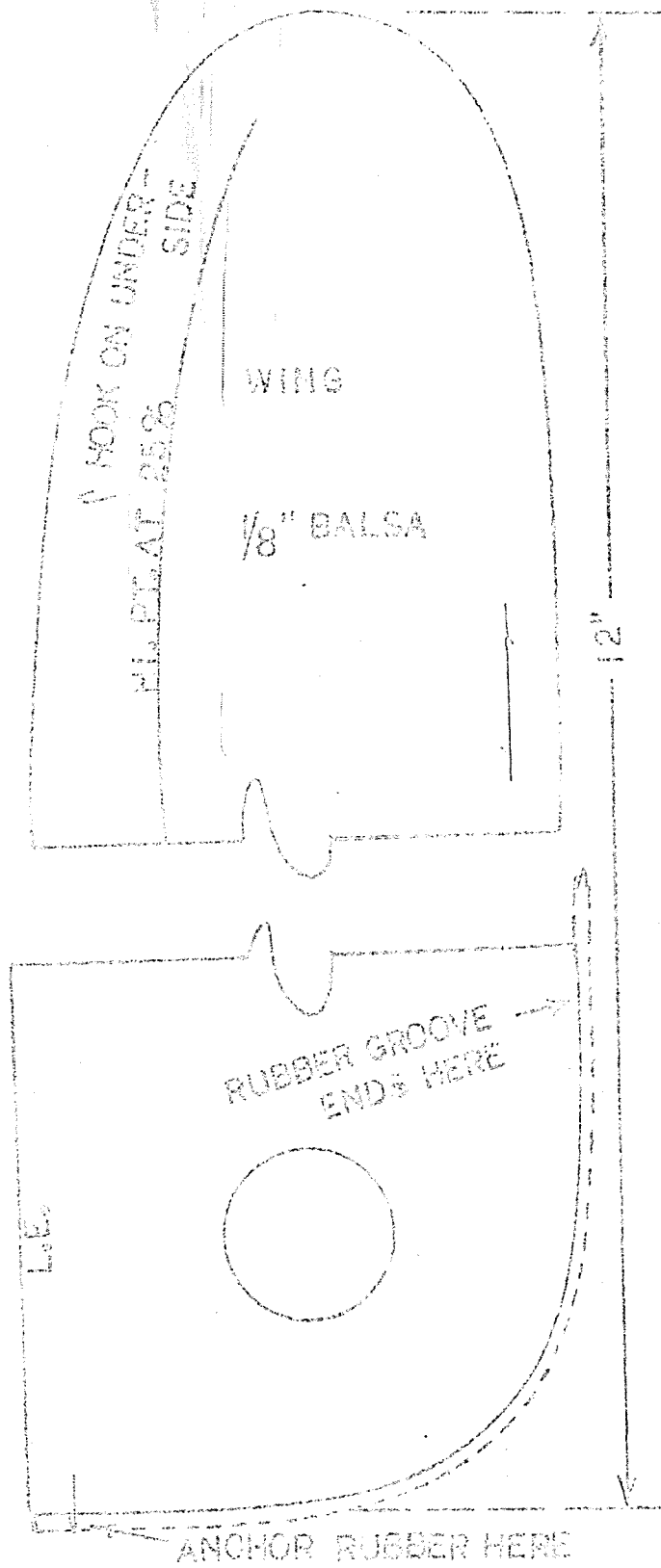


STAB INCIDENCE DETAIL

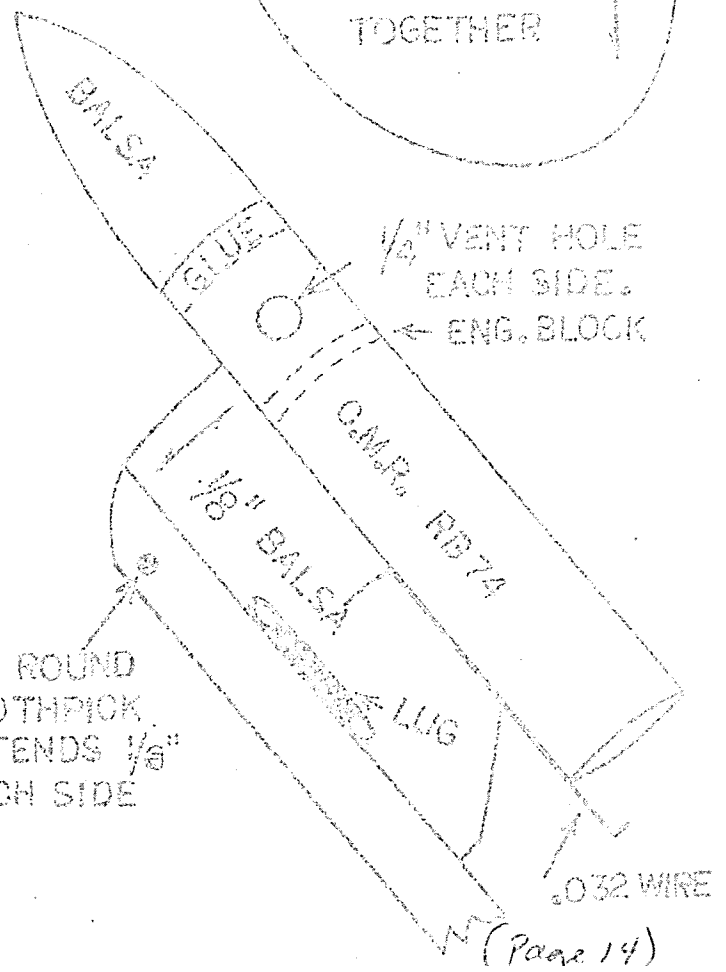
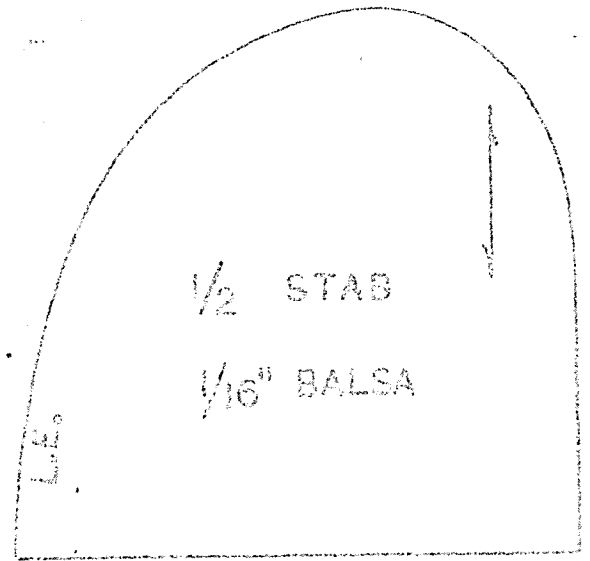


WING DIHEDRAL DETAIL

ALL FULL SIZE



GRAIN DIRECTION



LOOK AT THIS

CONTEST UPCOMING -

April

Orbital Section Club Meet - Trojan Complex

Events will be:

Class 0 Streamer Duration
Class 1 Streamer Duration
Class 1 Parachute Duration
Class 1 Helicopter Duration
Class 1 Flex Wing Duration
Sparrow Boost Glide Duration
Sparrow Rocket Glide Duration

Prizes will be awarded - a list will be published later.

.....
May

Open Meet - Trojan Complex

Events will be:

Class 0 Streamer Duration
Class 1 Streamer Duration
Class 1 Parachute Duration
Class 1 Helicopter Duration
Class 1 Flex Wing Duration
Sparrow Boost Glide Duration
Sparrow Rocket Glide Duration
Pigeon Egg Lofting (single egg)
Open Spot Landing

Prizes will be awarded - a list will be published later
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June

MAR Regional Meet - Fort Wayne, Indiana

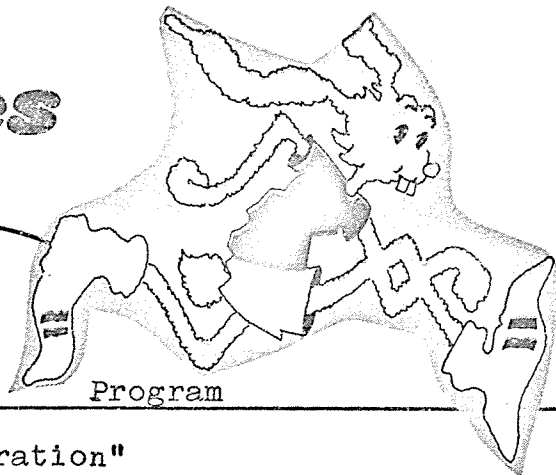
Events will be announced later when we receive the list.
.....

July

4-H Rocket Shoot Off
.....
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Activities



COVINGTON ORBITAL MEETINGS:

Month

NOVEMBER 28, 78


7pm. Room 22
Covington
Middle School

WORKSHOP - "Streamer Duration"

Materials needed for this workshop are:

- one Estes Body Tube Catalog Number 3070 (BT-5)
- one Estes Nose Cone Catalog Number 8000 (BNC-5E)
or Catalog Number 8003 (BNC-5W)
- one Estes Stage Coupler Catalog Number 3050 (JT-5C)
- tube Epoxy Glue

Fin material will be provided by the club and also the tools to cut out the fins.

Program  build a streamer duration rocket.

.....
DECEMBER 12, 78

7pm. Room 22
Covington
Middle School

WORKSHOP - "Parachute Duration"

Materials needed for this workshop are:

- one rocket kit which you want to use for this event.
white glue, epoxy glue, sanding paper, and tools
for making the rocket.
- one plastic cleaning bag (for making a parachute)

.....
DECEMBER 23, 78

Trojan Complex
10 am.

(In case of rain
December 27, same
time)

FLIGHT - LAUNCH

Materials needed will be your Streamer model rocket
with engines for Class 1
Your Parachute Duration model rocket with engines
for Class 1.

This will be a check of your model to see that it
will fly correctly. Also each model will be timed
on each flight that you make. These time will be
recorded in your flight books.

.....
JANUARY 23, 79

WORKSHOP - "Boost Glide"

Materials needed will be those to make the boost glider
that you want to make from the plans of the club.
Bring all tools and accessories that will be needed.



MAY THE NEW YEAR, GIVE TO YOU THE PEACE OF MIND, AND THE SKILL TO HOLD ON TO YOUR
PATIENCE, AS YOUR EGG LOFTER COMES DOWN WITHOUT THE PARACHUTE COMING OPEN.
HAVE A VERY MERRY CHRISTMAS AND A HAPPY NEW YEAR.