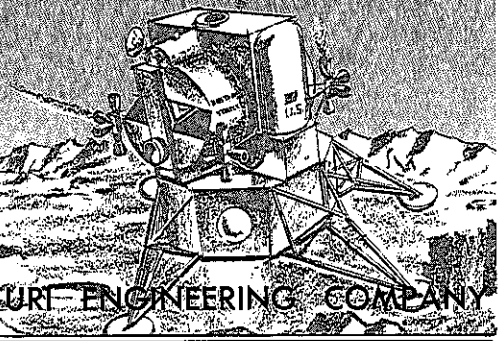


THE Centuri Newsletter

PUBLISHED for the CUSTOMERS and FRIENDS of CENTURI ENGINEERING COMPANY



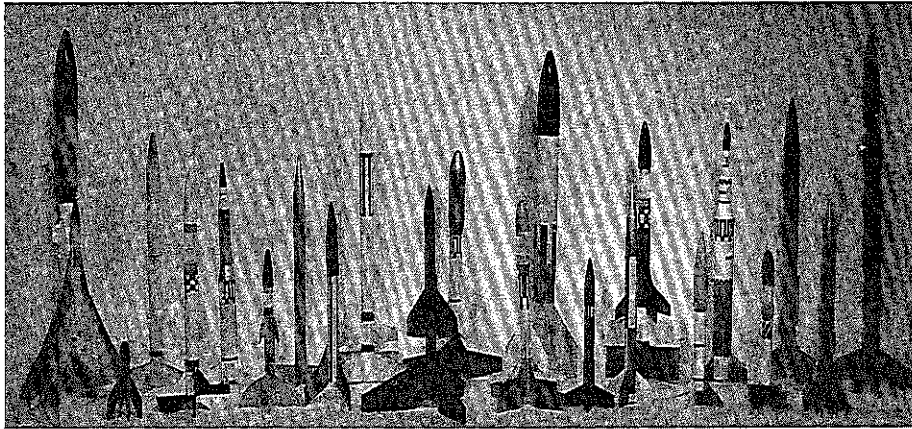
Vol. 1, No. 1

Centuri Engineering Company

Phoenix, Arizona

Nov.-Dec. 1966

NAME THE NEWSLETTER CONTEST IN FULL SWING



Colorful New 1967 Catalog Published 25 Rocket Kits - 35 Engines Now Available

It's Here!! Centuri's new 1967 Catalog is out and in the mails. If you haven't received yours yet, it should be arriving any day now; that is, if you have ordered from Centuri sometime during the past several months.

All new in every page, the 67 catalog illustrates 25 Rocket Kits and 35 different Rocket Engines. Included in these numbers are 9 new rocket kits and 15 new engines. Of particular interest, are two new kit models which were flown in the First International Model Rocket Meet. (See story on page 4.) Also available this year is a powerful 3-engine cluster model, the Defender, looking very much like the Saturn 1-B.

Our Engineering Staff is really excited about all the new Custom Parts. Wow!! What a selection!! Now we've added a #5 Series of body tubes and nose cones for step rockets and simulated upper stages, and a #8 Series of tubes and cones for use in all phases of rocket models. (See page 3). In addition to these new sizes, we've added a #275 series of Tubes, Cones, and Mounts for use with 'F' type engines.

Speaking of 'F' type engines, we now have two new MINI-MAX power ranges, the F-10's and F-14's, with booster versions and both standard and long delay options. More about these and more MINI-MAX engines on page 2.

Hot Item!! A reliable engine igniter for both single and clustered engines. Easy-to-use, the new "Sure-Shot" Igniters come in a 12-Pak with complete instructions for quick assembly and installation. The "Sure-Shots" really solve the problem of simultaneous ignition of clustered engines. Order by number IG-12 Pak-12 for 50¢

All in all, Centuri's 1967 catalog is the best yet. Thousands of hours and considerable investment have gone into developing these new products for your enjoyment. Many more products are coming and will be announced in the coming months. Remember, that all regular Centuri customers will automatically receive all new Catalogs, special announcements, and the Newsletter free.

Executive Staff Stuck — Need Your Help in Naming Newsletter

At last!! Centuri's newsletter is a reality. Beginning with this, the first issue, we will publish a bi-monthly newsletter dedicated to serving and informing the customers and friends of Centuri Engineering. However, we now have a bit of a problem. What should we name the newsletter? The Centuri Staff held a high powered meeting and decided to call in the assistance of real brain-power - you the customer. "Why not hold a Newsletter Name Contest" they said, "and offer a worthwhile prize."

So now it's your turn - - your chance to win a \$50.00 Merchandise Certificate and have your picture printed in the second issue. On the inside of the wrapper in which this newsletter came, you will find a Contest Entry Blank. Send us your first and second name choices right away, together with your name and address. Deadline for entries is December 20, 1966. Mail entries to:

CENTURI ENGINEERING COMPANY
"Newsletter Name"
3053 West Fairmont Avenue
Phoenix, Arizona 85017

The winning name will be chosen on the basis of originality and applicability to the aims of the newsletter. To help you out on this point, we will list some of these aims below.

First of all, it will inform you of the latest products and developments at Centuri. It will also announce many Special Offers not found in our catalog. We hope to acquaint our customers with the Centuri organization, its people, products, and services. It is our hope that you will come to regard us as a personal friend.

During the past several years, there have been many outstanding developments Nationally and Internationally in Model Rocketry. We will continually inform you, through this newsletter, of these new developments, beginning with a story and photos of the First International Model Rocket Meet in Dubnica, Czechoslovakia.

Turn to NEWSLETTER on p. 8

HOLIDAY GREETINGS

THANK YOU FOR A WONDERFUL YEAR

Thanks to you, this year Model Rocketry has grown, and consequently so has Centuri. The hobby has expanded to other countries and in May of 1966, the First International Model Rocket Competition was held in Czechoslovakia. (see story on page 4.) Thanks to you, Centuri was there. Model Rocketry is beginning to grow in Sweden, Finland, China, Japan, Australia, and in the Iron Curtain countries. Model Rocketry is now recognized as an International Hobby and Sport.

However, this hobby is still in its infancy, and there is much growing to do. The hobby has seen many changes and new developments this past year. Centuri has learned much through Research and will pass on this knowledge in the coming years. We hope that you will regard us as your personal friend and feel free to call on us at any time. We have truly enjoyed working for you this past year and look forward to another wonderful year of serving you. All of us here at Centuri wish you and your family a Merry Christmas.

Thank You
from Your Friends at Centuri



DID YOU KNOW? That Centuri Pays the Postage on your orders?

Yes, it's true!! Centuri now pays all the U.S. postage on your order. * We will ship your order postpaid* anywhere in the U.S. by regular surface mail. Regardless of where you live, you don't have to worry about paying the postage yourself.

*This does not include quantity discount orders or orders containing MINI-MAX Engines. All orders containing M-M engines must be shipped Express or Bus - - freight collect.

Please Use Zip Code

The Post Office Department has requested that everyone use their ZIP Code when mailing. In fact, they have advised us that after Jan. 1, 1967, third or fourth class Parcel Post will not be accepted for mailing unless it contains a ZIP Code in the mailing address. So please include your ZIP Code when you write to us or order. This new coding system will definitely speed-up your mail, both to and from Centuri.

PUBLISHER'S NOTE

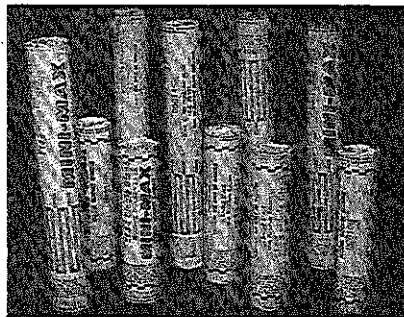
This newsletter is published by Centuri Engineering Company for its Customers and friends, to further acquaint them with the hobby of Model Rocketry and the products and services it has to offer. Our Editor requests that news items, photos, and recommendations for new articles be sent to:

CENTURI ENGINEERING COMPANY
Newsletter Publications
P. O. Box 1988
Phoenix, Arizona 85001

New Improved MINI-MAX Replace old Atlas & Hercules

After many months of research and testing, the new E and F type MINI-MAX engines are finally coming off the production line. We wish to thank our many customers who have waited, for their patience and confidence.

The 'F' type MINI-MAX are now in good supply, however, 'E' types are running behind. If your order called for 'F' types only, it has already been shipped or will be shortly. Orders containing 'E' types only, or 'E and F' types together, will be shipped just as fast as the E's can be produced. We are handling orders in this manner to avoid your having to pay double shipping charges. Most long-standing backorders have now been shipped and we hope to fill the balance of orders very soon now.



MINI-MAX is a completely new engine series, completely different from the old Atlas and Hercules engines. These new engines have stronger casings, improved nozzle design, a more energetic and controllable propellant, and more accurate delay charge.

Commenting on MINI-MAX, a customer writes, "I have flown models powered by Atlas and Hercules engines and now by the new MINI-MAX. I have come to the conclusion that the MINI-MAX is superior both in performance and reliability."

To produce the new MINI-MAX engine series, new machinery and tooling had to be developed. These changes and modifications took longer than expected. However, production is now underway and you should get reasonably prompt delivery on your next MINI-MAX order.

Gift Certificates

Christmas Delivery Guaranteed

There isn't a more appreciated Christmas gift for that young Rocketeering son or friend of yours than a new Rocket Outfit or kit with engines. If you're not sure just what to get him, let him do the selecting with a Centuri Gift Certificate.

We guarantee delivery by Christmas, anywhere in the U.S., if your request is mailed to us by December 17th. His attractive bond-like Certificate will be mailed to him immediately together with our new 1967 catalog. We will be happy to enclose a card with your name or your own card if you wish. Let us help make his Christmas a Merry one!

Minimum Order Amount Requested

Due to the increased costs of processing, packaging, and shipping your order, we ask that you try to keep your order amount to at least \$2.00 or more. Just to open, check fill, package and ship even the smallest order costs over 50¢ and this does not even include the cost of the merchandise or the postage. In other words, it costs us about \$1.65 to process and fill an order for \$1.50. Many people place several \$1.00 orders about a week apart. Please try to combine all your orders into one. By your helping us out this way, we can give you better service and we'll be around longer to supply your needs.

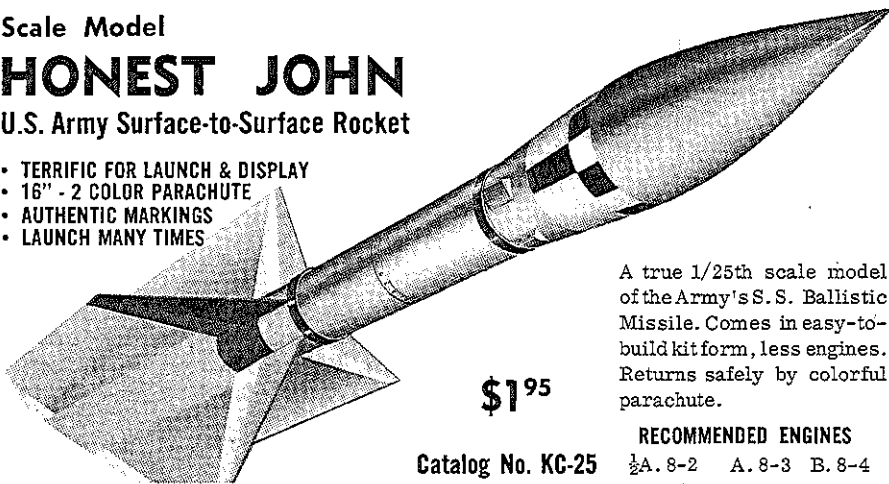
New CENTURI Products

Scale Model

HONEST JOHN

U.S. Army Surface-to-Surface Rocket

- TERRIFIC FOR LAUNCH & DISPLAY
- 16" - 2 COLOR PARACHUTE
- AUTHENTIC MARKINGS
- LAUNCH MANY TIMES



A true 1/25th scale model of the Army's S.S. Ballistic Missile. Comes in easy-to-build kit form, less engines. Returns safely by colorful parachute.

\$1⁹⁵

RECOMMENDED ENGINES

Catalog No. KC-25 $\frac{1}{2}$ A. 8-2 A. 8-3 B. 8-4

New #8 Series Custom Parts Offer Greater Design Versatility

Our new #8 Series of Custom Parts is really going places. Already, this series is being used in the Starfire, Honest John, Iris, Recruiter, Chuter-Two, and Snipe Hunter kits. Our Engineering Department has found this to be the most useful and ideal size for model rockets powered by A and B type engines.

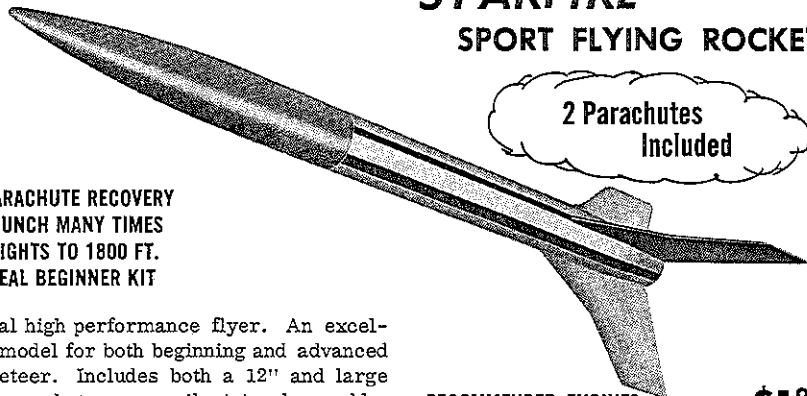
The #8 Series Parts are all those parts which fit the .865" I.D. Body Tubes, including the tubes themselves. These new parts including body tubes, nose cones, plastic capsules, reduction fittings and engine mounts, are all listed on pages 38-42 of our 1967 catalog. Why not give them a try and see for yourself.

No. KC-12

STARFIRE SPORT FLYING ROCKET

2 Parachutes
Included

- PARACHUTE RECOVERY
- LAUNCH MANY TIMES
- FLIGHTS TO 1800 FT.
- IDEAL BEGINNER KIT



A real high performance flyer. An excellent model for both beginning and advanced rocketeer. Includes both a 12" and large 20" parachute - easily interchangeable. Comes in kit form, less engines.

RECOMMENDED ENGINES
 $\frac{1}{2}$ A. 8-2 A. 8-3 B. 8-4

\$1⁹⁵

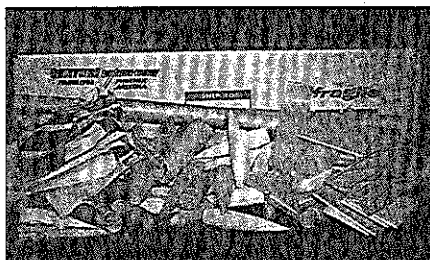
FREE Bat-Rok

\$1.95 Value

MODEL ROCKET KIT

with your order of \$10.00 or more
See Coupon on newsletter wrapper

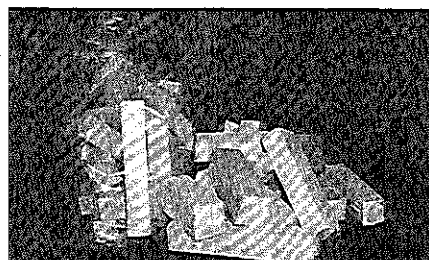
GIANT BARGAIN BOX LIMITED QUANTITY



A real bargain for that rocketeer with ingenuity and craftsmanship. This bargain box contains usable "seconds", rejected because of slight defects such as "oversize", rough spots, small dents, etc. Included are body tubes, nose cones, sheet balsa, parachutes, etc. Typical bargain box is shown above.

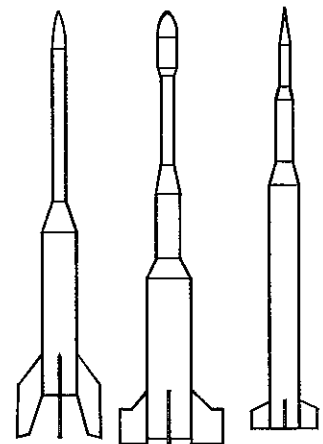
Catalog No. SP-10 **\$3⁰⁰** Postpaid

Bag of Balsa



Turn your own nose cones from this bag of balsa blocks. These blocks, ranging in length from 2" to 5" and measuring from 3/4" to 1 1/2" square, are end-pieces from our automatic nose cone making operation. All are perfectly useable for making your own nose cone designs. Typical "Bag of Balsa" shown above. Supply is limited.

Catalog No. SP-15 **\$1⁰⁰** POSTPAID



#5 Series Tubes & Cones Ideal for Step-Rockets and Simulated Upper Stages

The uppermost body section on each of the models shown above are all from the #5 Series. These parts all center around and adapt to the .515" I.D. Body Tubes as shown on page 38 of our catalog. With these miniature sized parts, it is possible to more accurately scale some of the Aero-space vehicle designs and to simulate upper stages. The BR-85 Reduction Fitting permits many combinations. Why not try this Series in your own creative designs?

Centuri Attends 1st International Model Rocket Competition at Dubnica, Czechoslovakia



Leroy Piester, owner of Centuri Engineering prepares SNIPE HUNTER model for Payload Event. Payload contains 28 grams of brass.

U.S. Model Rocket Team Good-Will Ambassadors

On May 28th and 29th of this year, a 6-man and 2 girl U.S. Team competed in the First International Model Rocket Competition in Dubnica, Czechoslovakia. In the final results U.S. Team took many awards and learned many lessons about our strong competitors. This was the first in series of competitive meets between model rocketeers of the U.S. and foreign countries. Competing against our U.S. team were representatives from Czechoslovakia, Poland, Hungary, Bulgaria, and East Germany. Russia was to have sent representatives but, they failed to show up, at least officially.

All this was arranged through the Federation Aeronautique Internationale (F.A.I.), working with the Committee for International Aeromodeling (C.I.A.M.). Since 1959, this country started holding national model rocketry championship meets annually under the sponsorship of the National Association of Rocketry (N.A.R.). These N.A.R.A.M. meets were extremely successful, and other countries began holding their own meets as the sport of model rocketry grew. In 1965, Czechoslovakia offered to host the first international meet.

Centuri was represented by its President, Leroy Piester, serving as a Team Member.

The following is an account of the Meet as told by Lee Piester:

On May 26th, all the U.S. Team members met in Frankfurt, Germany and we proceeded by Czechoslovak Airlines to Prague where we were graciously met at the Airport by a delegation of Czech Aeroklub members. The women in our group were each greeted with red roses. We were assisted through Customs and introduced to the Aeroklub members by Rudy Cerny and Otakar Saffek, who helped to arrange the Meet.

From that point on, we were guests of the Aeroklub CSSR, and were treated hospitably. That evening we walked what seemed like several miles through the streets of Prague to a small restaurant where we were met by more Aeroklub members and treated to a Czechoslovakian meal.

The next morning, we left our hotel and drove 200 kilometers across Czechoslovakia through beautiful green wooded hills, arriving in Nova Dubnica at nightfall. Our team registered for the meet at the Hotel Lunik and was introduced to more competing rocketeers from Poland, East Germany, Bulgaria, Hungary and Czechoslovakia. Several representatives from each country then witnessed static test firings of all rocket engine types to be used in the meet. For this meet, we were allowed 5 Newton-seconds of total impulse, slightly less than the I_t of a B. 8-4 engine.

Following the tests, our caravan drove up into the mountains over some pretty treacherous roads, where we were housed in a hunting-type lodge called the Hotel Vrsatec. The next morning, we drove down the mountains to a small airfield near Dubnica, which was to be our Meet site for the next two days.

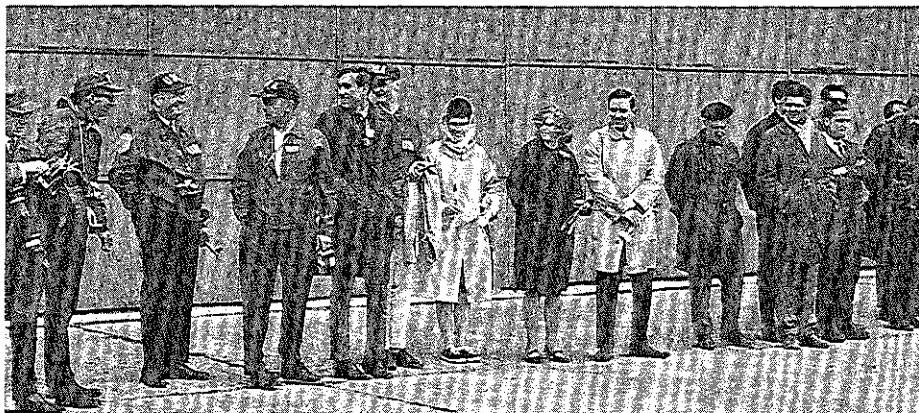
Temperature was in the low fortys and sky was solidly overcast. There was an occasional drizzle of rain and wind was blowing 15 to 20 mph.

Headquarters for the contestants was inside a hangar where we unpacked and prepared models for flight. Through interpreters, we met more competing rocketeers and compared models and engines.

The Meet opened with a formal ceremony and line-up of the competitors. First event to be held was "Payload Altitude" in which the object is to carry a 28 gram solid brass cylinder to the highest altitude. The U.S. team took this event by storm. Talley Guill took first place with 790 feet and Harry Stine's bird reached 754 feet to take second.



Mrs. Piester, and Czechoslovakian interpreter Jeri Rezler proudly wearing U.S.A. cap, entertaining Czechoslovakian children at Dubnica meet.



Line-up of U.S. Team, with some members of Czech and Polish teams shown, just prior to contest opening ceremony.

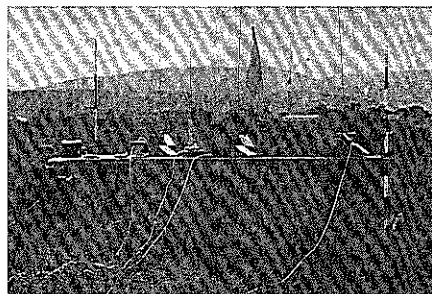
Tracking was very good. Three binocular-type, 10 power, telescopic theodolites, manned by members of the Czech Army, were sent out on points of an equilateral triangle, 300 meters on a side. Ninety-five percent of all flights were tracked.

By the way, countdowns were given in Polish. "Pet-ctyri-tri--dve--jeden--start!", we would hear. Their word, start is equivalent to our "Fire" or "lift-off".

Second event was Boost-Glide Duration, which was excelled in by the Czechs. B/G's are really the "thing" with these boys. Most foreign B/G models were quite similar to U.S. designs but slightly heavier. This additional weight helped them maintain trim in the windy weather we encountered.

Winds created real problems for the third event, "Parachute Duration". The object of this contest is, of course, to keep a parachute recovery bird up for the longest duration possible. Some of us ran into trouble when our parachute birds drifted two miles, in the wind, across a wide river which had no bridge within miles. Smart contestants used small parachutes and won, for one of the rules says that the bird with chute must be recovered. All those with large chutes drifted across the river, gone forever. The U.S. took fourth and fifth places in this event.

On the final day, after all events had been flown, each country represented staged demonstration flights in a drizzling rain. Then the swapping began back in the hangar. We swapped our competition models, pins, and badges, decals, engines, and anything else we had. I came back with a half dozen Czech, Polish, and Bulgarian models. One Polish model has long, deep throated expansion nozzle formed out of .005" thick steel foil.



U.S. Rockets on launchers

That evening, an awards dinner was held in the Hotel Vrsatec, with all contestants present. Trophies were made of gold engraved Czechoslovakian crystal glass. Winners also received gift box of Czech rocket engines presented by the ADAST Company. By the time the awards ceremony was over, U.S. Team members were really loaded down with awards.

A first major step has been made. Model rocketry has really grown up as an international sport. We are looking forward to the next Meet. Many lasting friendships were made and international goodwill strengthened.

Model Rocketry has become an important tool for the study of Science in the Iron Curtain countries. Russia alone is reported to have over 5,000 state supported model rocket clubs. They were quick to realize the educational value in Model Rocketry.



Otakar Saffek explains Boost-Glider control system to Leroy Piester.

Betty Piester, wife of Centuri President, Leroy Piester, also attended the Dubnica Meet. As she was not personally competing in the events, her time was well spent making friends with the many Czechoslovakian children who came down from the nearby mountain villages, curious to see what model rockets and Americans were really like.

At first, the children were shy and afraid, afraid we were told because of what they had been taught in their schools about Americans. After some coaxing by the interpreters Jaroslav Broz and Jeri Ressler, the children came closer and became friends with Betty. With the help of the interpreters, Betty and the children carried on conversations, played games, and sang songs. Betty even learned to speak a little Czech. She was truly our ambassador for international goodwill. She enjoyed every minute.



Czechoslovakian children from nearby village playing games with Betty Piester and interpreter Jeri Rezler.



Leroy and Betty Piester showing SNIPE HUNTER model rocket to Czechoslovakian children.

ROCKET CLUB NEWS

This Page Reserved for News of Your Club's Activities and Announcements Affecting Clubs



APOLLO Rocket Society Hosts Trophy Shoot Near Phoenix - Ambitious Program for 1967

The Apollo Rocket Society of Village Meadows School started originally as a science project at the Arrowhead School in Phoenix, Arizona. After watching a demonstration flight by the teacher, several boys and girls requested permission to fly their own as "extra credit" projects. These were all seventh and eighth grade students. The students desired to launch more often than could be done on school time and formed a group called the Arrowhead Rocketeers. This was the parent body. When Arrowhead School was closed and transferred to Village Meadows, the new name was decided upon. Membership is now comprised of Village meadows students, some graduates of Village Meadows, and at the last meeting, membership was opened to all interested local rocketeers.

Apollo (and Arrowhead) have conducted two Open meets at which gold trophies and ribbons were awarded. A competitive launch with a group from Ft. Huachuca, Ariz. was held August 9th. Following this meet, the members of Apollo started working intensively on a national competition for Phoenix in June 1967.

As a fall and winter activity the Society is planning a series of telegraphic meets, if there are any interested competitors. A telegraphic meet is where two clubs agree on events to be held, then run on their own range and exchange results telegraphically. Clubs and individuals interested in Apollo's national and telegraphic meets are invited to write to Apollo Rocket Society, c/o A. C. Aldridge, Faculty Sponsor, 2611 E. Grandview Rd., Phoenix, Arizona 85032.

Apollo's public relations department has been very successful. In its two years of existence, it has been on local television four times, had two full page newspaper write ups (with pictures) and its president was "cover boy" for a local newspaper magazine called "Teen Tattle".

F.A.A. Reminds Rocketeers of Firing Limitations

On August 23, 1966, the Federal Aviation Agency issued a bulletin reminding rocketeers of their limitations. Part 101, Subpart A-3 of the Federal Aviation Regulations specifically exempts model rockets from its regulations as long as that model rocket conforms to these requirements:

- (a) Uses not more than four ounces of propellant,
- (b) Uses slow-burning propellant,
- (c) Is made of paper, wood, or breakable plastic containing no substantial metal parts and weighing not more than 16 ounces, including the propellant; and,
- (d) Is operated in a manner that does not create a hazard to persons, property, or other aircraft.

It is your duty as a Model Rocketeer to see that you or your club follow these rules. Violations of these regulations could lead to changes in the regulations which would limit the altitude and further limit the propellant weight and gross lift-off weight of all model rockets. Protect the privileges you now have by making certain that your clustered or multi-stage conforms to these regulations.

IDEA EXCHANGE PROGRAM THROUGH YOUR MODEL ROCKET CLUB NEWS. FREE PUBLICITY

Do you belong to a model rocket club? Well, here's the place where you can see your club's activities publicized and pass on some of your valuable experience. This entire page in each issue will be devoted to club news. In fact, if more space is needed, we'll enlarge the newsletter for you.

We feel that the greatest enjoyment and educational value in Model Rocketry comes from launching with a group. This group can be no more than a few of neighborhood or school buddies getting together after school or on weekends for an informal launch. Or, this can be a formal organization with a constitution and elected officers. In either case, there are many advantages to having many rocketeers getting together at one time and place for a meeting.

In a club, each member helps the other, exchanging their ideas thus enlarging the "knowledge pool". This "exchange of ideas" is probably the most important result of club organization.

One big advantage of belonging to and launching with a club is "cost savings". Members of a Model Rocket Club can share the cost and the use of more elaborate equipment, such as multiple launchers and ignition panels, range communication systems, and tracking systems. All this equipment can be either bought or built at a fairly low cost per member. We will show, in future issues of this newsletter, how to build some of this equipment at low cost.

Club members can buy their supplies at discount by combining all their individual orders into one "club order". For example, a single order for \$30-\$50, qualifies for a 20% discount. This means you can buy \$30 worth for only \$24 plus postage. (See page 2 for more information on discounts.)

A competitive spirit grows in a club. Each member strives to improve on each flight. Competition events are held, and in such a competitive atmosphere, everyone learns. Hundreds of school sponsored clubs use this competitive spirit to encourage and hold interest in science courses.

Turn to CLUB NEWS on p. 8

Design Contest Coming!!



Centuri Model Rocket Design Contest Looking for "New Idea" Birds — Trophies and \$ Awards for Top Winners

We're looking for new rocket designs -- different and unusual designs. We're looking for "new idea" model rockets showing ingenuity and imagination. And, to find these new designs, Centuri is holding a nationwide contest offering many valuable awards.

Perhaps you've been dreaming up a new model for some time now. Well, now is your chance to bring it to life. It may even show up later as a new kit or printed plan.

Many valuable prizes will be given for winning designs. First prize is a large gold trophy, inscribed with your name and a \$50 Merchandise Certificate. Second prize is a gold trophy, suitably inscribed, and a \$25 Merchandise Certificate.

Third prize is a \$10 Merchandise Certificate, followed by Certificates of Achievement, suitable for framing, for the next twenty-five winners.

So send us your entry today. The rules of this contest are very simple.

Include as much material; such as drawings, parts lists, construction details, description of operation, and photos, as is necessary to fully explain your design.

All designs submitted must have been built and proven successful before entering. Model designs considered for Awards will be built and test flown at Centuri by the Engineering Staff.

Entries will be judged on the basis of design originality, completeness of material necessary to explain the design, and neatness of preparation.

The judges will be looking for designs, different from models available on the market today. In other words, they will be looking for "New Ideas".

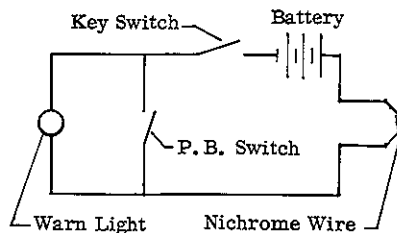
All entries must include name, address, age, name of school and class, special interests, desired career, and hobbies.

All entries must be submitted on or before January 31, 1967. Decision of the judges will be final.

All entries become the property of Centuri Engineering Company and cannot be returned. Send entry to:
NEW DESIGN CONTEST
 Centuri Engineering Company
 3053 West Fairmont
 Phoenix, Arizona 85017

OUR MISTAKE!!

Our Catalog Dept. made a goof on page 55 of our new 1967 catalog. The "Typical Ignition Circuit" shown is in error and should not be used. The correct circuit is shown here:



Centuri Looking for Writing & Engineering Talent

Centuri Engineering Company is now looking for both full-time and part-time Tech Writers and Model Designers. Experience in journalism or engineering technical writing is preferred. Model, parts, and equipment designers are also needed. Interested? Send us your resume, together with examples of your writing or designing abilities.

Six Research & Development Award Winners Announced

R & D entries are really beginning to pour in. Many of them really look good with some of the ideas destined to be put into use in the near future.

Our R & D Department has just selected and wishes to announce, the following winners.

- 1) Ron Maggiano - Age 13, Scottsdale, Ariz. \$25 Award - Submitted plans and build-up tested model which resulted in the Bat-Rok Kit.
- 2) Steve Frey - Age 13, South Williamsport Penna. - Submitted photos, drawings, and technical data on a new lo-drift recovery device called "Aero Chute". \$10 Award.
- 3) Jim Mayer - Age 15 - Waukesha, Wisc. \$10 Award - Submitted photos and drawings of scale model Titan-Dynascar.
- 4) Glen Elion - Age 17 - Wellesley Hills, Mass. Award \$5 - Submitted drawing and construction data for his "Adrenaline Super-Streak I" - 3-stage boosted combination B/G and high altitude probe.
- 5) Fred Frankena - Age 16, Grand Rapids, Mich. \$10 Award - Submitted a well done research report on "Augmenting Subsonic Rocket Performance with Ducted Propulsion".
- 6) Lee Goodspeed - Age 15, Helena, Montana \$10 Award - Sent in very good photos and drawings of an "Extendable Wing Recovery System".

In addition to these top winners, we want to give "Honorable Mention" to the following entries.

- 1) Rick Kent - American Falls, Idaho "Parallel Boosted Multi-Stage Payload"
- 2) Team Entry Ronald Drewski, Age 14 and Kevin Gureckis, Age 15, both of West Springfield, Mass. "Scale Model Nike-Hercules".
- 3) Vincent Toffling, Millis, Mass. "Prismatic-Filtered Model Rocket Camera"
- 4) Hans Hemelberg - Age 14 Rochester, Mich. "Parallel Boosted Multi-Stage Model Rocket".
- 5) Bob Morstadt Age 18 Waukegan, Ill. "Solution to Ignition Problems".
- 6) Philip Jones - Age 13 Minden, La. "Unique Payload Recovery and Landing System".
- 7) Wesley Brzozowski, Jr. - Shelton, Ct. "Modified Warning Light for Ignition System".

Turn to R & D WINNERS on p. 8

NEWSLETTER NAME Continued from page 1

Since we have found that local clubs with adult advisors actually get the most out of model rocketry, we hope to encourage the formation of more such clubs by publicizing club activities. Also, it is well known that where there are thousands of individuals and clubs all over the country dedicated to achieving similar goals, it is helpful to have a national organization representing and guiding them. For model rocketry, we have the National Association of Rocketry (N.A.R.) with headquarters in Washington, D.C. (See story on page 5.) It will be our constant aim to encourage your membership in N.A.R. and the exchange of ideas through club participation.

Everyday we receive hundreds of letters asking questions about the more technical points and problems of model rocketry. Through our Customer Service Department, we attempt to give each and every letter a personal reply. Now, however, through this newsletter, we will be able to answer many of the most often asked questions in greater detail. In many cases, these answers will be illustrated.

One of the most important aims of this newsletter will be to encourage study in the Sciences, for Model Rocketry itself is only the physical demonstration of scientific principles. To fully appreciate the extent to which model rocketry can be used, one

should have a basic understanding of Physics, Chemistry, and Math. It is our belief that participation in Model Rocketry will influence the choosing of a career in Science and Engineering.

CLUB NEWS Continued from page 6

An adult sponsor is extremely helpful to a club. The sponsor can be one of the boy's fathers, a teacher at school, a Scout Leader, recreation counselor, or an interested business man. Sponsors are helpful in organizing a formal club, locating approved launching sites, giving instructional guidance, and obtaining community cooperation.

We will continue to promote the "club idea" in future newsletters and even show you "how to get a club started". Your club news is of real interest to us and to other rocketeers. We would like to hear about your club's members and activities.

If you would like publicity for your club, send us articles, photos and any news clippings about your activities to:

CLUB NEWS
P. O. Box 1988
Phoenix, Arizona 85001

For each club's news used, Centuri will award the club a \$10 Merchandise Certificate. Be sure to include photos of your members in action.

R & D WINNERS Continued from page 7

- 8) Glenn Westerman - Age 14 Seebree, Ky. "Rear Ejection Recovery System".
- 9) Larry Rodenkirch - Age 15 Houma, La. "Scale Model Bomarc Designs" plus "ANDROMEDA - I Parallel Stages Carrier Rocket".
- 10) Jim Olson - Age 15 Wadsworth, Ohio "Dual-Shape Fin Designs"

Well done fellows!! These entries were all well thought out, tested, and proven successful, and well written up with complete descriptions, drawings, and photos where possible. If you didn't receive an award on your first entry, try again. Your work always improves with experience, and perhaps your entry will win an award.

More winners will be announced in our next newsletter. Mail all entries to:

CENTURI ENGINEERING COMPANY
R & D Dept.
P. O. Box 1988
Phoenix, Arizona 85001



Join the N.A.R.

The National Association
of Rocketry
Offers You
Many Advantages

Model Rocketeer's SAFETY CODE

- ① As a model rocketeer, I will conduct myself and my rocketry activities in a mature manner and with safety foremost in mind at all times. For I realize that the "safety conscious" modelers are solely responsible for the success of Model Rocketry as a Space Age sport and hobby. I will therefore do my part to maintain the excellent safety record of Model Rocketry.
- ② I will not compound propellants nor mix dangerous chemicals. I will use only factory-made commercial model rocket engines and will never tamper with or attempt to reload such engines.
- ③ I will build model rockets only from lightweight materials such as paper, balsa wood, and plastic -- without substantial metallic parts. Also, I will never use metallic rocket engines.
- ④ I will always equip my model rocket with a recovery device to slow its decent after its upward flight and return it safely to Earth. Just prior to the launch, I will carefully inspect the recovery device to insure its proper installation and operation.
- ⑤ My model rocket will weigh no more than 16 ounces at lift-off and the engines will contain no more than 4 ounces of propellant as prescribed by Federal regulations.
- ⑥ I will store my model rocket engines in a cool, dry place, away from heaters or other heat producing equipment. I will never smoke near rocket engines.
- ⑦ My model rockets will be ignited by remotely operated electrical means only as recommended by the engine manufacturer, and I will remain at least 15 feet away from any model being launched.
- ⑧ I will launch my model rocket from an unpopulated area, away from houses or buildings, airports, or airplanes, powerlines, highways, or trees. I will select a launch site free from dense foliage or dried grass. I will never launch in high winds or in conditions of low visibility.
- ⑨ I will always launch my rockets from a guide rod or rail type launcher which will keep the rocket in a vertical flight direction until stabilizing velocity is reached.
- ⑩ I will never launch at an angle more than 30° from the vertical nor into trajectories as weapons against targets on the ground. My models will never contain explosive or pyrotechnic warheads.
- ⑪ I will check stability of my model rockets before first flight or launch only models with proven stability to assure a predictable flight path.
- ⑫ I will always give a short countdown before launching a rocket to alert spectators and draw everyone's attention to the model about to be launched. I will always be considerate of other persons and property when engaged in rocketry activities.