

Centuri

Rocket Times

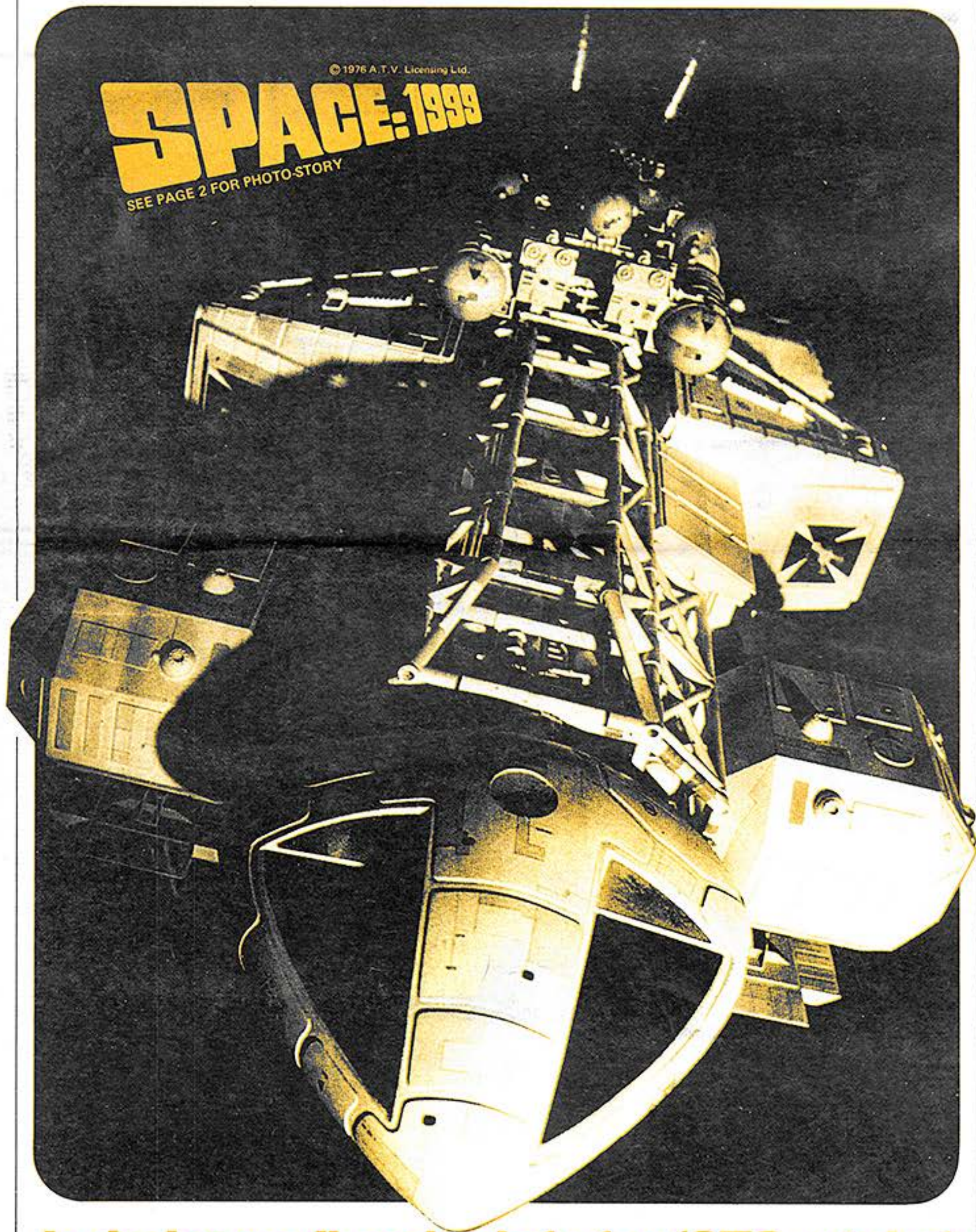
OFFICIAL CENTURI MAGAZINE OF FACTORY DIRECT NEWS

FALL/WINTER 1976: SUPPLEMENTS CATALOG 763-R

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SPACE: 1999

SEE PAGE 2 FOR PHOTO-STORY



Includes mail-order info for 1976 catalog

BONUS OFFER & INFO: PAGE 7

PRODUCT INDEX: BACK COVER

Centuri Rocket Times NEWS

About the cover



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Rocket Times

Published, now and then, by CENTURI Engineering Co., Box 1988, Phoenix, Arizona 85001

There are two kinds of "Rocket Times". One accompanies the Rocketeer catalog to make it useable for mail-ordering. The other type (usually with more pages) is published several times a year, and packed into each out-going mail-order shipment. There are no back issues or "subscriptions" available, but once a year we mail a special issue to Centuri Aerospace Team members.

Editorial

Grant Boyd, Ed.

FROM YE OLDE EDITOR'S DESK



If you're reading this instead of raking leaves or making snowballs, then you must be a fellow rocketnut! Lots of news this issue, so you'll have to listen fast!

Our very latest offering in the enclosed catalog is the KWIK-KITS... all are designed for super-fast assembly. "Phoenix Bird" is brand new, plus we have the "Argus" which you may not have really noticed before, and the ever-popular "Screaming Eagle". Check 'em out on catalog page 19.

Special features in this ROCKET TIMES are: Harry Stine's new HANDBOOK OF MODEL ROCKETRY (page 4), the last of the ENERJET engines (this page), and the brief revival of the SWIFT boost-glider kit (page 4). We had thought we were out of this old-timer, but a bunch turned up in our annual warehouse inventory. It's a classic B.I.G.

This ROCKET TIMES is a supplement to your catalog. A different issue, with more pages, is included in every outgoing mail-order. You will get whatever issue is current (#8, #9, etc.) free along with the products you order. We do not sell subscriptions. Our business is rockets, not magazines!

Future issues will have:

- Lots more photos of NARAM-18.
- Weird new contests.
- Coverage of the Space Hall of Fame.
- Nostalgia Contest winners (from RT #8).
- And stuff even we don't know about yet!

R & D SURVEY

Rocketeer response to surveys helps us decide what kind of new products to bring out.

Use the coupon below to let us know which two types of rocket kits you would most like to see Centuri produce. Just mark two squares, and circle the skill level (1, 2, 3, 4, 5), that you think they should be.

Here is an explanation of the rocket kit types:

- SCIENCE FICTION:** Exotic and futuristic; imaginary spaceships and alien rockets.
- SOUNDING RESEARCH:** Scale or semi-scale models of scientific rockets such as Nike, Tomahawk, Thor, Atlas, Vanguard.
- CHARACTERIZED:** Based on rockets of famous characters (real or imaginary), such as Buck Rogers, or Flash Gordon.
- MILITARY MISSILES:** Semi-scale models such as the SAM, Sidewinder, etc.
- AIRPLANE STYLE:** Like the Fighter Fleet, these could be inspired by famous airplanes: Concorde, SR-71, B-1 Bomber.

Use this coupon, or a facsimile.

R & D SURVEY

- | | | | | | | |
|---|-------------------|---|---|---|---|---|
| A | SCIENCE FICTION | 1 | 2 | 3 | 4 | 5 |
| B | SOUNDING RESEARCH | 1 | 2 | 3 | 4 | 5 |
| C | CHARACTERIZED | 1 | 2 | 3 | 4 | 5 |
| D | MILITARY MISSILES | 1 | 2 | 3 | 4 | 5 |
| E | AIRPLANE STYLE | 1 | 2 | 3 | 4 | 5 |

SPACE:1999 is on the air again with 24 new episodes, at a time when many other TV shows are not getting a second season. This may be the first TV show to publicly admit its weaknesses and then change them.

Major changes this season are:

- Adding Maya, who has startling powers.
- Fred Freuburger (Star Trek) as producer.
- Tighter stories with humor and love interest.

Any TV show that jolts viewers out of predictable patterns takes time to become familiar. Right now there is a large group of "Trekkies" who can't forget a show long gone from network TV. We predict that years from now SPACE:1999 too will have its nostalgic following. What will we call them? "Spacers"?

Anyone interested in fan clubs, stars addresses, photos, etc., is invited to write to Joe Fusco, SPACE:1999, Independent Television Corp., 555 Madison Ave., New York, NY 10022. Tell him Centuri sent you.

Eagle with range-extender engines and tanks.



Keonig's new helper, Tony Verdeschi (Anholt).



Familiar faces and Maya (Catherine Schell).

Book Review



THE ROCKET'S RED GLARE, by Werner Von Braun and Frederick I. Ordway III, 212 pages, 65 illustrations (33 in color), published by Anchor Press/Doubleday, Garden City, New York. Hardbound: \$9.95.

The authors are two of the world's most important rocket pioneers. Instead of concentrating on all the basic rocket history already covered in other works, this book digs into all the little known but fascinating stuff such as these unusual tid-bits:

- 15th Century rocket-powered torpedoes.
- Multi-staging in the 1700's.
- Rocket rescue of shipwreck victims in 1898.
- Cars propelled by rockets in 1930.

All this, and a lot more, in a beautifully printed and lovingly bound limited edition.

Books reviewed in this column may be found in many school and public libraries. Major bookstores also stock them, or will order them.

Quickie contest

In the last issue of Rocket Times (#8) we ran a "Quickie Contest", showing part of a real F-15 EAGLE jet fighter, and asked readers to guess its official name. The first place winner is RICHARD HING of Grand Blanc, Michigan. He wins a set of four handsome photo enlargements of the F-15 and other fighters, photographed by us at nearby Luke Air Force Base. The four second-place winners are:

ERNEST HAGLUND of Bozeman, Montana
MARK GRINDSTAFF of St. Ann, Missouri
MIKE MEISTER of Indianapolis, Indiana
MIKE NORTH of Phoenix, Arizona
Each wins one fighter photo enlargement.

Now, here's another quickie! What is the official name of the hand weapon used by the Alphans in the SPACE:1999 TV show? The first person to answer correctly will win five beautiful 8"x10" glossy photos of scenes from the show. The ten runners up will each win one of the high-quality film stills.

Just send the words, "1999 QUICKIE CONTEST", your answer and name & address on a blank piece of paper to Rocket Times Editor. We can't answer entries, but will publish the winners in a future issue.

Meanwhile, back at the launch pad

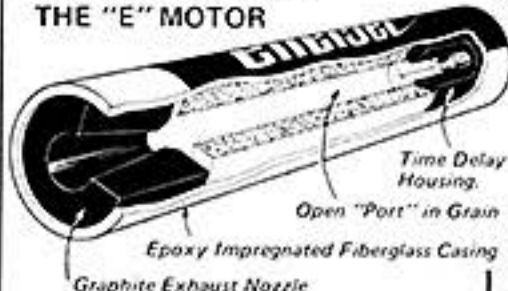
Once upon a time there was a model rocket engine of which rocketeers spoke in high respect: ENERJET... hand assembled from space-age materials by skilled craftsmen at our Arizona Engine Plant, able to loft large model rockets to incredible altitudes, all the while burning with a pure blue-white flame. Maybe you've heard of them, but assumed they were gone for ever...

Not So! We still have some, and you can buy a few if you act fast! ENERJET, INC. was a subsidiary of Centuri, which produced sophisticated high-performance rocket motors for science, industry and advanced rocketeers. ENERJETS were very expensive for us to manufacture (which is one reason we had to stop producing them!), and cost quite a bit more than you would normally expect to pay for a model rocket engine. But if you've ever seen ENERJETS perform, then you know they're worth it.

By now we have sold out all remaining stock of ENERJET rocket kits, parts, and all engines except the E24-4 and E24-10. These engines are still available at 1973 pre-inflation prices. CAUTION: These engines are only for experienced rocketeers, aged 15 or older. You must state your age on the order blank when ordering. We only have a few hundred of each type remaining, and must limit purchasers to no more than five of each type.

ENERJETS, like all engines produced by Centuri, are Contest-Certified and Safety-Certified by the National Association of Rocketry's Engine Testing & Standards Committee. By mutual agreement with Dr. Gerald Gregorik (head of that NAR Committee) the NAR will remove Contest Certification as of June 30, 1977, from all ENERJET types. This is being done to ensure fairness in competition because all ENERJETS will be pretty scarce by that time. However, all ENERJETS will retain their Safety-Certification indefinitely, making them highly useful for research and sport flying.

THE "E" MOTOR



SPECIFICATIONS

TOTAL IMPULSE	lb-sec	8.96
	N-sec	40
AVERAGE THRUST	Pounds	5.4
	Newtons	24
THRUST DURATION	Seconds	1.6
MAXIMUM THRUST	Pounds	7.6
	Newtons	33.8
INITIAL WEIGHT	Ounces	25
	Grams	74
PROPELLANT WEIGHT	Pounds	.048
	Grams	21.8
DIMENSIONS: 1.125" Dia. (28.6mm) x 30" lg. (762mm)		
RECOMMENDED MAX. CHUTE WT. (unpowered)	DELAY	
E24-4	15 or	4 sec.
E24-10	7 or	10 sec.

Lighter and operating instructions included.

\$4.00 ea.

SWEET-UP SPECIAL!
2 FOR \$7.50

Specify time delay required. Shipping Wt. 1 lb.

NOTE: Engine mounts are no longer available for ENERJETS. Mounts may be improvised from regular Centuri parts, but the design is up to the rocketeer. Make it sturdy!

Club news

The Eleventh Annual Pittsburgh Model Rocket Convention (PITTCON) was a resounding success held at the Holiday Inn in Allison, PA March 12-14, 1976. PITTCON is basically an indoor and technically oriented event, as opposed to NARAM which is an outdoor and competitive event (see NAR News).

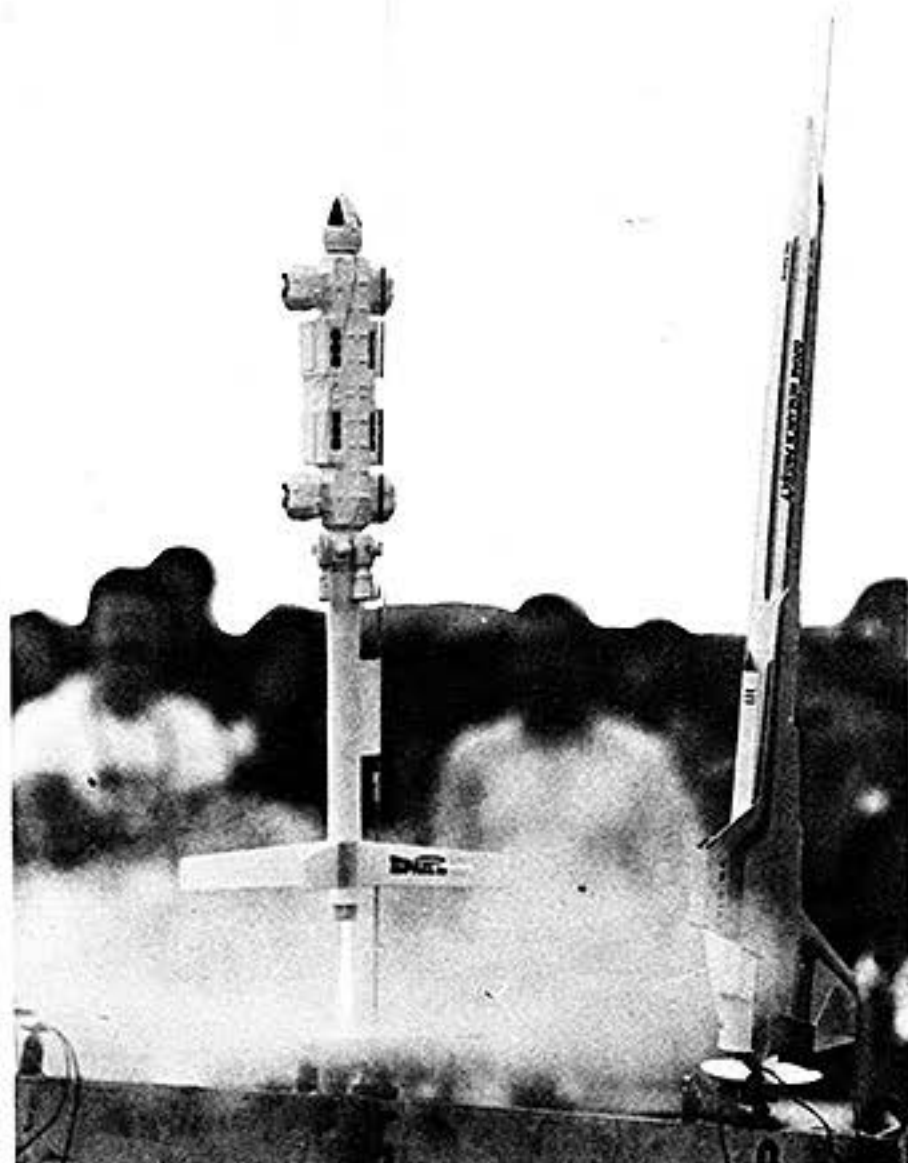
PITTCON is the second oldest annual model rocket convention (only NARAM is older). PITTCON-11 drew 100 rocketeers out of their warm homes for the trek to a wintery Pittsburgh. And it was worth it!

This year's Convention was co-hosted by Elaine Sadowski and Steve Conners, two highly competent adult rocketeers who organized

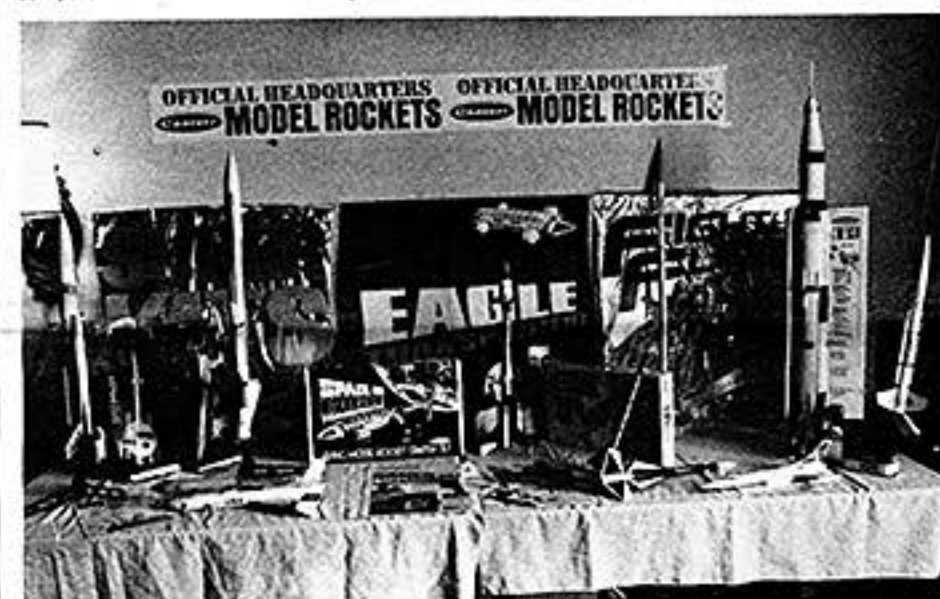
the films, several dozen R & D discussion groups, and special activities. One unique feature of all the PITTCONS is that each year there are several humorous yet challenging contests. This year featured a "Songfest" (joke-songs about model rocketry done to well known tunes), and the "Contest-Contest" (contestant invents a contest, then designs a rocket to fit it).

All manufacturers made a showing including Centuri, represented by Alan and Craig Williams. The convention was rounded out with TV coverage of the demo launch, and a guest speaker from Rockwell International, prime contractor on the Space Shuttle.

Information on the next PITTCON (and other forth coming events) is usually published in the NAR MODEL ROCKETEER magazine.



Here's the first Eagle Transporter built from a Centuri kit, on its maiden voyage at NARAM-18.



Centuri's product display was the largest one at PITTCON.

NAR news

The 18th National Association of Rocketry's Annual Meet (NARAM-18) was held near Philadelphia, Pennsylvania from August 1 thru the 7th. Centuri was there, along with 125 participants, other manufacturers and several hundred spectators. Look for extensive photo coverage in a future issue!

The National Association of Rocketry promotes model rocket safety, sanctions contests, certifies world records, provides inexpensive flying insurance, and publishes literature. For information, write to: NAR, Dept. C76 New Providence, New Jersey 07974.

Photo contest

This issue's Photo Contest winner is ADAM BLACHAFSKI of Greenvale, New York. Adam wins the \$5 merchandise certificate for this lift-off from a Centuri Power-Tower.

Want to join the Photo Contest? Send in your best photo about model rocketry (weird rocket designs, recovery scenes, humorous shots, etc.) addressed to Photo Contest, Rocket Times Editor. We can't return photos, so be sure you can spare them. Try for good contrast and sharp focus, and remember that having people in the picture makes it more interesting to our readers.



Photo: Adam Blachafski

Cartoon Contest

This issue's Cartoon Contest winner is RAY WILLIAMSON of Houston, Texas. His "Mystery Prize" is an X-Acto #82 knife chest ... see page 4.

Want to see your cartoon published? Just draw a funny cartoon about model rocketry and send it to Editor, "Rocket Times". Each issue we pick the one most suitable for publication, and award a "Mystery Prize".

Letters



Here's where you can air your views about Centuri products, model rocketry in general, or ask technical questions. We sometimes edit letters to save space. We regret that we cannot always reply to non-business letters we receive. Address letters to:

Editor, Rocket Times

Dear Editor:

Lately I have been reading about real "lifting body" aircraft such as "HL-10", "M-2" and the recent NASA "X-24B" which was the first "lifting body" to land on a conventional runway. I know you have a kit called the "X-24 Bug", but it does not look like NASA's version. Why not produce a kit which resembles the original?

JIM HOOD, Edna, TX

Real lifting bodies have moveable control surfaces and a pilot (human or robot), but our model doesn't! The design of our "X-24 Bug" was the shape our tests found worked best in an unpowered model. By the way, we named our kit long before NASA had an "X-24B" ... do you suppose some model rocketeer at NASA thought of Centuri when the real "X-24B" was named?

Dear Centuri:

Is it absolutely necessary to print "Centuri Model Rockets" on the packages you send? Most of my neighbors think they are "fireworks". One of my neighbors is our mailman and he sees everything the people on our street get. I follow all the rules of the Safety Code.

MICHAEL POULIN, Springfield, MA

We print who we are, because we're proud of it! Anytime you, or any rocketeer, need help explaining the safety of model rocketry just let us know what the problem is. We have many kinds of free publications which show what a safe hobby this is.

From out in the field

Rocketeers often ask us where they can find magazines about model rocketry. There are two obvious ones: The MODEL ROCKETEER (part of the membership benefits of the NAR) and ROCKET TIMES. Now we give an unabashed plug for another: MODEL BUILDER. This is a general model-hobby magazine (probably the only one of its type) which covers a wide range of hobbies. Each

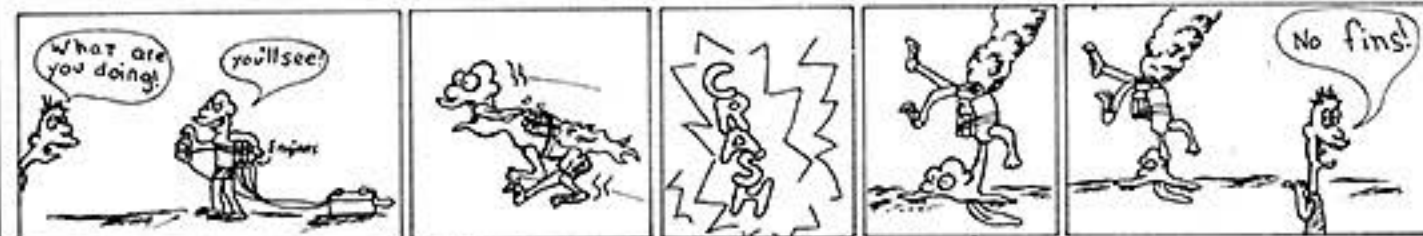
issue features a fairly long and well illustrated article on model rocketry. These are written with intelligence and wit by Doug Pratt, a well known giant among rocketeers.

Subscription information: MODEL BUILDER Magazine, 621 W. Nineteenth St., Costa Mesa, California 92627

In a future issue: Rocketrek Magazine.



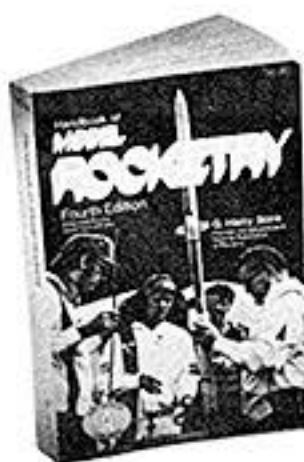
MODEL BUILDER contributor Doug Pratt conducting a seminar on high-performance engines.



By Ray Williamson

Centuri Rocket Times Goodies

Your current Centuri catalog shows products available at many Centuri dealers, and directly from us by mail-order. The products below are available ONLY by mail-order.



Official Handbook

Handbook of Model Rocketry



Fourth Edition: Completely revised by G. HARRY STINE
Founder and past president
National Association of Rocketry

Here it is! The famous "Handbook" long out of print, is back again, now bigger and better than ever. Loaded with hundreds of photos, drawings and explanations of every aspect of model rocketry. 352 fact-filled pages take you from the basics right up to the most advanced concepts. If you want only one book on model rocketry, this should be it. Official handbook of the N.A.R., 6"x9", paperbound.

#5480 Ship. Wt. 1 lb. 8 oz. \$6.95

Tech info

Mini Manual (Grant Boyd)
Model rocketry overview; pocket-sized.
8 pages #81915 IP-438 15¢

Apollo Little Joe II Picture History (Niskern)
12 pages #81414 IP-4 \$1.00

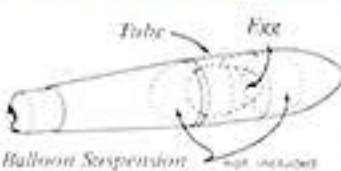
Apollo Saturn Picture History (Niskern)
8 pages #81434 IP-270 75¢

Model Rocket Lifting Bodies (Larry Brown)
2 pages #81902 IP-469 15¢

Reliable Cluster Ignition
8 pages #81905 TIR-52 35¢

Multi-Staging Principles (Grant Boyd)
2 pages #81901 IP-448 15¢

Egg Capsule



Large molded light-weight plastic capsule ideal for Egg Lifting, or create your own large payload section. 2" maximum diameter; fit into #13 Centuri body tube. Includes #20 tube for joining the capsule sections (you cut apart along groove that runs around the middle.) Ship Wt. 14 oz.

PROD. NO. 5465 (Formerly PNC-13E/ST-20)

Modeling tools

Using the right tool for the right job can make a big difference! These high quality tools are a lifetime investment.

XX-8 A handy "second knife" for emergency field repairs. Shipping Weight 3 oz. #6684 29¢

XX-1 The best knife and blade for general modeling. Shipping Weight 3 oz. #6680 75¢

XX-5 A rugged knife for heavy-duty cutting. Use this handle for the saw blade. Shipping Weight 6 oz. #6682 \$1.50

Fits No. XX-8 5 for 45¢

Fits No. XX-1 5 for 65¢

Fits No. XX-5 5 for 65¢

#6690 XB-8

#6694 XB-11

#6692 XB-24

XB-24 This saw blade is great for cutting thick balsa—fits XX-5 handle. Shipping Weight 3 oz. #6700 90¢

POCKET-SIZED DUAL KNIFE SET Contains one light and one medium-duty knife with 5 assorted blades for each knife. Packed in a clear plastic case. Shipping Weight 12 oz. #6710 \$2.75

MODEL ROCKETEERS TOOL KIT A specially selected set of tools needed most by model rocketeers, all in an attractive vinyl carrying case. Below is a complete list of the tools you receive: #6712 XC-50 Ship. Wt. 1 lb. \$5.95

1 No. 1 Knife
1 No. 5 Knife & Blade
5 XB-11 Blades
1 XB-24 Razor Saw
1 2" Wide Sanding Block
1 6" Steel Ruler

X-ACTO KNIFE CHEST #82 Set of three modeling knives, light, medium and heavy duty—all with full-in-bushing model rocketry. Contains Numbers 1, 2, and 5 knives, plus 9 assorted extra blades, packed in a handy, natural finish wood chest. XC-82 Ship. Wt. 1 1/2 lbs. #6714 \$5.50

X-ACTO HOBBY TOOL CHEST #86 Contains Numbers 1, 2, and 5 knives and complete assortment of blades, gouges, routers, and punches. Also includes X-Acto planer, sander, spokeshave, balsa stripper and steel rule. All in handsome fitted wood chest. XC-86 Ship. Wt. 2 lbs. #6716 \$19.95

THESE KITS ARE NO LONGER IN OUR CATALOG, AND WILL BE DISCONTINUED SOON. QUANTITIES ARE LIMITED.

More Kits

3-STAGE-IT TO OVER 2,000 FEET!

Get in on exciting 3-stage action. Launch "T-BIRD" and watch boosters 1 and 2 "POP" loose & flutter earthward while the 3rd stage continues to apogee for parachute ejection & safe return. Comes with see-thru capsule, plastic nose cone, reliable pass-port staging & colorful decals. A must for experimenters!

SKILL LEVEL-4

T-Bird

PROD. NO. 5069 (Formerly 2128, KC-9)

*U.S. Pat. No. 3,721,193

Now it's easier than ever to get in on this fun recovery technique! Screams skyward like a regular rocket, but ejects its engine and settles into a long gentle glide to earth! Pre-colored, pre-cut fibre parts go together fast for surprisingly good non-contest flights. Grab some sky with HUMMINGBIRD!

SKILL LEVEL-2

Hummingbird

PROD. NO. 5172 (Formerly 2144, KF-2)

SPECIFICATIONS Length 8.5" Wing Span 7.0" Net Weight .35oz

RECOMMENDED ENGINES A62 A83

ADVANCED BOOST GLIDER

SWIFT: Most high-performance B/G kit of its type available anywhere. Efficient aerodynamic design gives the advanced modeler glide durations of SEVERAL MINUTES. Large two-color decal sheet, balsa nose cone & structure, chute recovery pod, complete instructions PLUS full-size plan. Make YOUR mark with SWIFT!

SKILL LEVEL-5

Swift

PROD. NO. 5059 (Formerly KBG-3)

SPECIFICATIONS Length 16.5" Wing Span 11.8" Glider Wt. 1.0 oz.

RECOMMENDED ENGINES A83 A82

ARCON HI is a 1/16th scale flying model of the 11 foot long sounding rocket built by ARCON in 1958 for atmospheric testing. Flights up to 1800 feet. Kit features big payload capsule, Pass-Port Staging System, pre-cut balsa fins, colorful decals, and big parachute. Recapture the past with this classic!

SKILL LEVEL-4 U.S. Pat. No. 3,721,193

Arcon Hi

PROD. NO. 5063 (Formerly 2123, KC-3) (Registered Trademark Atlantic Research Corp. Alexandria, VA)

SPECIFICATIONS Length 21.5" Body Dia. 1.04" Net Wt. 2.9 oz.

RECOMMENDED ENGINES

1st Stage	2nd Stage	3rd Stage
B140	A80	A85
B140	B60	B46
B140	B140	B66
B140	C60	C67

\$395 Shipping Wt. 14 oz. Engines not included.

\$150

Shipping Wt. 4 oz. Engines not included.

\$350

Shipping Wt. 1 1/2 lbs. Engines not included.

RECOMMENDED ENGINES

1st Stage	2nd Stage
A80	A85
B60	B46
B140	B66
C60	C67

SPECIFICATIONS

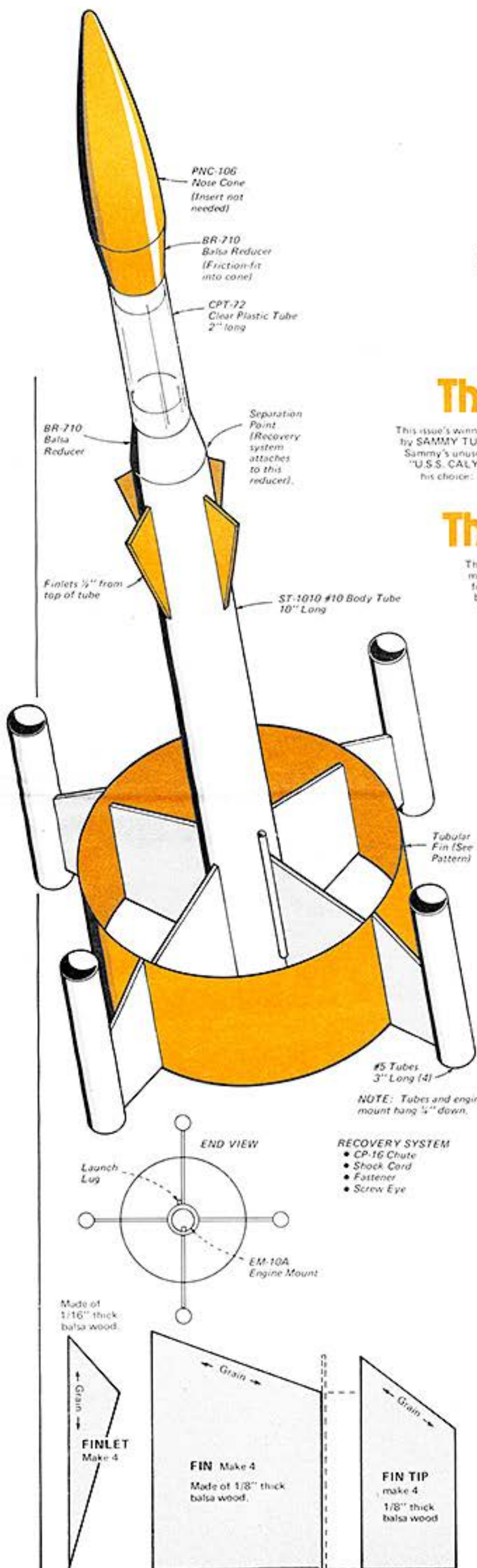
Length 23.5" Body Dia. 1.04" Net Wt. 1.75 oz.

\$395

Shipping Wt. 14 oz. Engines not included.

DESIGN CONTEST

Centuri Flying Model Rockets



The winner:

This issue's winning entry was designed and built by SAMMY TURNER of Bentonville, Arkansas. Sammy's unusual design is called the "U.S.S. CALYPSO", and won the prize of his choice: A "Saturn V" kit.

This design:

The "U.S.S. CALYPSO" is a little more challenging to build than it first appears. The large fins must be glued on neatly and accurately for the tubular fin to fit well. The tubular fin is made from thin, high-quality paperboard which can be found in most art supply stores. The fin tips and their tubes are then glued onto the tubular fin. All fin joints must be glue-filled for proper strength. There are 20 fin-joints, which makes 40 fillets. Whew!

A WINNER EVERY ISSUE!

You could be the winner of the "Rocket Times Design Contest" if you like to design your own rockets! Build your own imaginative "Bird" from Centuri Rocket Parts. Send us a photo of it along with a simple plan and parts list.

This is an on-going contest. Each winning entry is published in the next "Rocket Times"; the magazine packed into every regular mail-order shipment or the one which accompanies the mail-order catalog.

Prize

The winner will receive a prize of his or her choice... any ONE product from the current Centuri catalog! It can be any model rocket product we make... right up to the fantastic Saturn V kit!

Contest rules

1. Entries must consist of a photograph of the model, and a drawing which includes a parts list. Include your name and address.
2. Entries must be flight worthy and not to be copies of kit designs produced by model rocket manufacturing companies.
3. Entries become the property of Centuri and can not be returned or acknowledged.
4. Employees of model rocket companies and their families are not eligible to enter.
5. Entries will be judged on originality, neatness, practicality and completeness.
6. Do not send the actual model.
7. Send in as many DIFFERENT entries as you like, but don't send duplicates.
8. There is no deadline. A winner will be selected just before each issue of Rocket Times goes to press, and will be notified by mail.
9. Specify which prize you want if you win.

Send to: "Rocket Times" Design Contest
Centuri
P.O. Box 1988
Phoenix, Arizona 85001

**DON'T FORGET
THE PHOTO!**

Design tips

Here's a bunch of helpful tips to give your entry a better chance of winning.

First, put your best effort into your entry. Take your time to do a good job, so our fussy judges will take a second look at your entry!

Second, use your imagination. Our judges say they don't want to see a bunch of plain, simple rocket-rockets... straight shafts with a few ordinary fins. There are many styles of rockets you could try: Sounding rockets, military missiles, science fiction types, humorous ones, etc. There are also many many physical types to consider: Multi-staged, boost gliders, clustered engines, unusually long, short or fat rockets. Try some really experimental ideas such as multiple body tubes & nose cones, non-symmetrical fin arrangements, different recovery systems, etc.

Third, use good engineering judgement. Avoid designs with large fins placed too far forward for flight stability. Choose from available parts whenever possible.

Finally, make sure your entry is clear and readable. The drawing, photo, and parts list do not have to be "works of art", but they should be understandable.

Designing and presenting a model rocket is good experience in learning how professional engineers, scientists, and artists work. Above all, have fun!

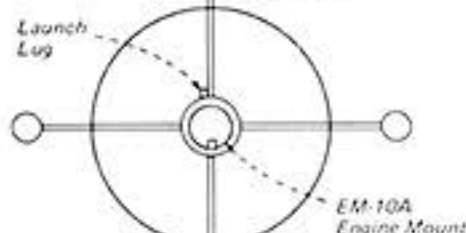
TUBULAR FIN PATTERN (Half-Scale) 1/2" = 1"

Cut from thin, smooth, flexible cardboard such as:
Vellum,
Poster Board,
Bristol,
Index Stock

RECOVERY SYSTEM

- CP-16 Chute
- Shock Cord
- Fastener
- Screw Eye

END VIEW



Made of 1/16" thick balsa wood.



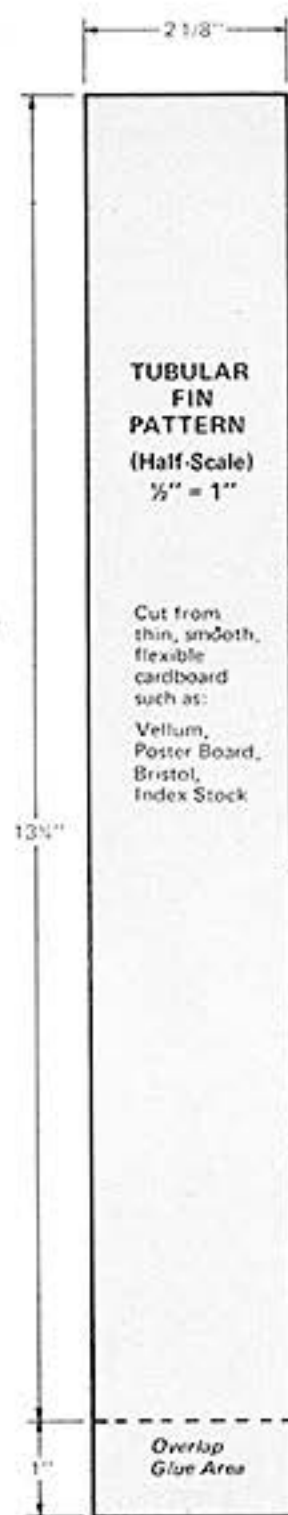
FINLET
Make 4



FIN Make 4
Made of 1/8" thick balsa wood.



FIN TIP
make 4
1/8" thick balsa wood



Centuri Rocket Times Parts

Your current Centuri catalog shows parts available at many Centuri dealers, and directly from us by mail-order. The parts below are available ONLY by mail-order.

Air frame

PAPER REDUCERS

Prod. No.	Desc.	Fits	Length	Price
6286	PR-513	#5 to #13	1.8"	25¢
6290	PR-516	#5 to #16	2.5"	30¢
6294	PR-713	#7 to #13	1.3"	50¢
6298	PR-716	#7 to #16	2"	50¢
6306	PR-813	#8 to #13	1"	50¢
6310	PR-816	#8 to #16	1.7"	50¢
6314	PR-820	#8 to #20	2.7"	60¢
6318	PR-1016	#10 to #16	1.4"	50¢

BALSA REDUCERS

Prod. No.	Desc.	Fits	Length	Price
70106	BR-78	#7 to #8	.50"	35¢
70112	BR-716	#7 to #16	2.00"	95¢
70116	BR-813	#8 to #13	1.70"	75¢

BODY TUBES

Prod. No.	Desc.	Size	Length	Price
31018	ST-56	#5	6"	15¢
31020	ST-512	#5	12"	25¢
31038	ST-73	#7	3"	15¢
31060	ST-79	#7	9"	20¢
31061	ST-712	#7	12"	25¢
31086	ST-83	#8	3"	15¢
31088	ST-88	#8	8"	25¢
31114	ST-812	#8	12"	30¢
31136	ST-108	#10	8"	25¢
31140	ST-1010	#10	10.5"	30¢
31182	ST-133	#13	3"	15¢
31188	ST-138	#13	8"	40¢
31192	ST-1313	#13	13.5"	50¢
31250	ST-1612	#16	12.8"	60¢
31272	ST-205	#20	5"	30¢
31278	ST-2013	#20	13"	75¢

CLEAR PLASTIC TUBING

Prod. No.	Desc.	Size	Length	Price
30800	CPT-71	#7	1.87"	10¢
30804	CPT-73	#7	3.25"	25¢
30806	CPT-78	#7	8"	30¢
30810	CPT-82	#8	2.5"	15¢
30816	CPT-811	#8	11.25"	30¢
30834	CPT-1010	#10	10"	35¢
30836	CPT-1018	#10	18"	65¢
30842	CPT-136	#13	6"	50¢
30846	CPT-1312	#13	12"	60¢
30850	CPT-1318	#13	18"	70¢
30830	CPT-102	#10	2"	20¢

BALSA TUBING CONNECTORS

Prod. No.	Desc.	Fits	Length	Price
70975	BTC-5	#5	.75"	25¢
70987	BTC-20	#20	1.75"	85¢

Nose cones

BALSA NOSE CONES

Prod. No.	Size	Length	Price
BC-50	#5	1.6"	25¢
BC-52	#5	1.6"	30¢
BC-72	#7	1.9"	45¢
BC-76	#7	3.1"	45¢
BC-107	#10	5.3"	85¢
BC-130	#13	1.9"	75¢
BC-132	#13	2.9"	80¢
BC-160	#16	2.5"	75¢
BC-204	#20	4.5"	\$1.95

Finishing supplies

Other useful supplies are available at hobby stores. Examples: Spray paint, plastic glue, contact cements, withhold glue (best for rockets).

BALSA FILLERCOAT The first step to getting that smooth, glossy finish on your rockets. Fills in and seals balsa grain in fins and nose cones before applying paint. Simply brush on, allow to dry, and sand lightly with #M-20 sandpaper (2 or more coats recommended). Shipping Weight 4 oz.

#6610 MF-70 35¢
#6615 DT-43 1 oz. Thinner & Brush Cleaner 25¢

BRUSH ON DOPE Perfect for high performance model rockets because it's lightweight and fast drying. Do not use on plastic parts. Apply over balsa nose cones and fins "sealed" first with #MF-70 Balsa Fillercoat. No surface preparation needed on body tubes. Dries to a smooth glossy finish. Available in Red, Orange, Silver, Yellow, White, Blue, Black, and Clear. Specify color. Shipping Wt. 4 oz.

FP-40 35¢

WHITE GLUE Ideal for field repairs, with tremendous holding power. Ideal for assembling and attaching fins, engine mounts, paper reducers, etc. Adheres to paper, balsa wood, and fabric. Dries clear. Comes in handy, unbreakable plastic tube with applicator spout. Shipping Wt. 5 oz.

#6600 GL-40 50¢

FLAMEPROOFING SOLUTION Prevents burning of tail fins, engine mounts, and other parts exposed to hot exhaust gases. Brush transparent solution on full strength, just like paint. Especially useful for swept fins. Comes in handy plastic bottle. Shipping Weight 5 oz.

#6640 FP-13 2 ounce bottle 60¢

PAINT BRUSHES Just right for applying filler coat and brush on dope to your model rockets. Top quality camel hair brushes mounted in metal ferrules with wood handles. Shipping Weight 2 oz. each.

#6660 PB-20 1/4" wide brush 35¢
#6662 PB-25 1/2" wide brush 50¢

Miscellaneous

SCREW EYES Heavy duty screw eyes for use in large balsa nose cones and payload capsules. Bright plated steel with coarse thread. Net Weight 0.1 oz. Shipping Weight 1 oz.

#5952 SE-20 Package of 3 (large) 25¢
#5948 SE-10 Package of 6 (small) 20¢

SHROUD LINE Strong, glazed finish, light weight cord (only .022" dia.). Perfect for shroud lines on custom parachutes. Sufficient line for 20 to 30 parachutes. Ship. Wt. 4 oz.

#5920 SL-70 40¢

MYLAR LAUNCHING LUGS Fantastic light weight lugs with super strength and glossy finish. Attach to rocket body with glue. Used to guide rocket along rods up to 3/16" in diameter. 0.200" I.D. Ship. Wt. 1 oz.

#38166 LL-12 2" Long 3/20¢
#38167 LL-13 3" Long 3/20¢

FIN REINFORCING MATERIAL Ultra thin lightweight Sikay material for extra strength in fin-to-body joints. Keep fins from "stripping off" on high acceleration rockets. Apply with Superbond glue. Ship. Wt. 2 oz.

#5924 SR-12 1 sheet 12"x12" 25¢

BALSA FIN MATERIAL Select grain, smooth sanded balsa sheet stock. Perfect material for rockets. Available 3"x12" in various thickness. Shipping Weight 12 oz. each.

#6400 BFM-8 1/16" 3 for 75¢
#6402 BFM-10 3/32" 3 for 85¢
#6404 BFM-12 1/8" 3 for 95¢

NICHROME IGNITER WIRE Nickel-chromium resistance wire to make igniter for model rocket engines. Glows red hot when connected to a battery current source. Complete instructions for its use included with all Centuri engines. About 2" required for each launch. Shipping weight, 2 oz.

#5958 EW-37A 180" 50¢

Launch Rod

HEAVY-DUTY VERSION

Extra-strong, 2-piece launch rod, 3/16" in diameter. Designed for heavy duty launching from the Centuri Power Tower, or launcher of your design. Highly recommended for launching of cluster-power rockets such as Saturn V, Little Joe 11, and Saturn 4B.

#5803 H. D. 3/16" Rod \$1.75

Decals

CENTURI EMBLEMS AND LOGOS Giant 4"x9" red & black decal sheet contains 23 Centuri emblems, Every size and color combination provided to give the perfect "finishing touch" to YOUR rockets.

#36603 M-314 75¢

3/8" LETTERS OR NUMBERS Easy-to-apply decals of NASA style characters on 3"x6" sheet. Use as insignia markings, identification codes, NAR numbers, etc. "Letter" decal has 63 letters, "number" decal contains six sets 0 through 9. Specify color: Red or Black.

#36609 DC-7 3/8" Letters (Red)
#36610 DC-7 3/8" Letters (Black) 25¢ each
#36611 DC-8 3/8" Numbers (Red)
#36612 DC-8 3/8" Numbers (Black)

1/4" LETTERS AND NUMBERS Several sets of letters and numbers on a single decal sheet. The generous 3"x6" sheet contains over 120 characters and miscellaneous symbols. Specify color.

#36604 DC-1 Letters & Numbers (Red) 25¢
#36605 DC-1 Letters & Numbers (Black) each

3/16" SQUARE CHECKERBOARDS Large 4"x10" sheet of glossy, colorful 3/16" checks. Adds color contrast to your models to help in tracking. Specify color.

#36613 DC-25 3/16" Check (Red)
#36614 DC-25 3/16" Check (Black) 30¢ each
#36615 DC-25 3/16" Check (Gold)

3/8" SQUARE CHECKERBOARDS Large 4"x10" sheet of glossy, colorful 3/8" checks. Ideal for larger models. Specify color.

#36630 DC-26 3/8" Check (Red)
#36631 DC-26 3/8" Check (Black) 30¢ each
#36632 DC-26 3/8" Check (White)

COLOR STRIPES Make vertical stripes, grid bands, and custom roll patterns on your rockets. Big 4"x10" sheet containing 10 stripes ranging in width from 1/32" to 1/2". Specify color you desire.

#36617 DC-29 Striped (Red) 30¢ each
#36618 DC-29 Striped (Black)

CENTURI ROLL PATTERNS Terrific for all models. Decorate your rockets just like the big ones at the "Cape"! Giant 4"x10" sheet containing four roll patterns and three grid bands. Just the right size for Centuri Body Tubes. See models in catalog for roll patterns in use. Available in Red or Black.

#36620 DC-30 (Red) For #7 Dum. 35¢ each
#36621 DC-30 (Black) For #7 Dum.
#36622 DC-32 (Red) For #8 Dum. 35¢ each
#36623 DC-32 (Black)
#36624 DC-31 (Red) For #10 Dum. 35¢ each
#36625 DC-31 (Black)

CHROME AND GOLD PLATED MYLAR Large 4"x10" sheets you can cut apart to form bright colorful bands or roll patterns. Or, you can completely chrome or gold plate your entire model! Permanent sensitive backing sticks to any surface. Extremely lightweight.

#36626 DC-33 Chrome Plated 50¢ each
#36628 DC-34 Gold Plated

ROCKET PRO-STRIPES Pressure sensitive finishing tape. Create brilliant colored stripes, bands, and roll patterns on your rockets. Easy and fast to apply. 100" on 1/8" rolls and 125" on 1/16" rolls. Available in White, Red, Black, Copper, Metallic Gold, metallic Chrome, Fluorescent Green, Fluorescent Red. Please specify both color and width. Shipping Weight 1 oz.

TT-9 (Specify Color & Width) 35¢ Roll

Start a rocket club

THINGS YOU CAN DO — Model rocketry is Aerospace in miniature. You can begin a Research and Development project. See if you can design your own rocket to reach 3,500 feet and be able to prove you did it. Use model rocketry in your school's next Science Fair if you are a student. Contests are fun too. See whose rocket can go up highest, or stay up the longest, or touch down nearest a pre-selected landing spot. You can affiliate with the National Association of Rocketry. You can join the Centuri Aerospace Team, Research... contests... or just flying for fun. You'll find a club at ten times the fun. Ask your friends and nearest hobby dealer how to join a local club.

YOUTH GROUPS — Scouts, Boy's Clubs, 4-H, and YMCA. These organizations are natural, often supplying modeling materials and giving a convenient place to work. Centuri has created for the Cub Scouts a Model Rocket Derby program which offers a complete building and flying experience. (Available only thru Boy Scout Supply Stores). The 4-H Clubs of America are also going into rocketry in a big way and have prepared a model rocket program of their own, as has Civil Air Patrol and other groups. Everybody is discovering that you can't beat Model Rocketry for creative excitement.



IN SCHOOLS — Here's a great opportunity for students to combine interest in rockets with what's going on in science class. Most teachers appreciate the extra attention to their subject and will help as an advisor. Work model rockets into school outdoor programs, hold fun demonstrations, county fairs, etc. Teachers are encouraged to write, on school letterhead for more information.

EDUCATIONAL DISCOUNTS AVAILABLE — We are pleased to offer clubs affiliated with academic institutions a discount of 20% for orders of \$50 to \$100 and 25% for orders over \$100. (We naturally cannot honor "Bonus Offers" along with these discounts.) This is, in fact, our "Educational Discount." We regret we cannot offer this discount to independent clubs, clubs in your area. If your club is affiliated with a school, please order on school stationery or with a school purchase order. Freight charges are FOB Phoenix, Arizona. We pay freight on all non-discount orders.

TEACHER INFORMATION — Centuri has a series of aid materials to assist the educator in preparing a "motivating" model rocketry program in school. Educators are invited to write on their school's letterhead for free information. Send request to:

Director of Educational Programs
P. O. Box 1988
Phoenix, AZ 85001



SUPPLEMENT TO CENTURI
CATALOG NO. 763 R

Rocket Times

FALL/WINTER 1976
SPECIAL ISSUE



BOX 1988,
PHOENIX, ARIZONA 85001



CENTURI'S E.S.S. RAVEN
AT THE NATIONALS...
SEE PAGE 3.

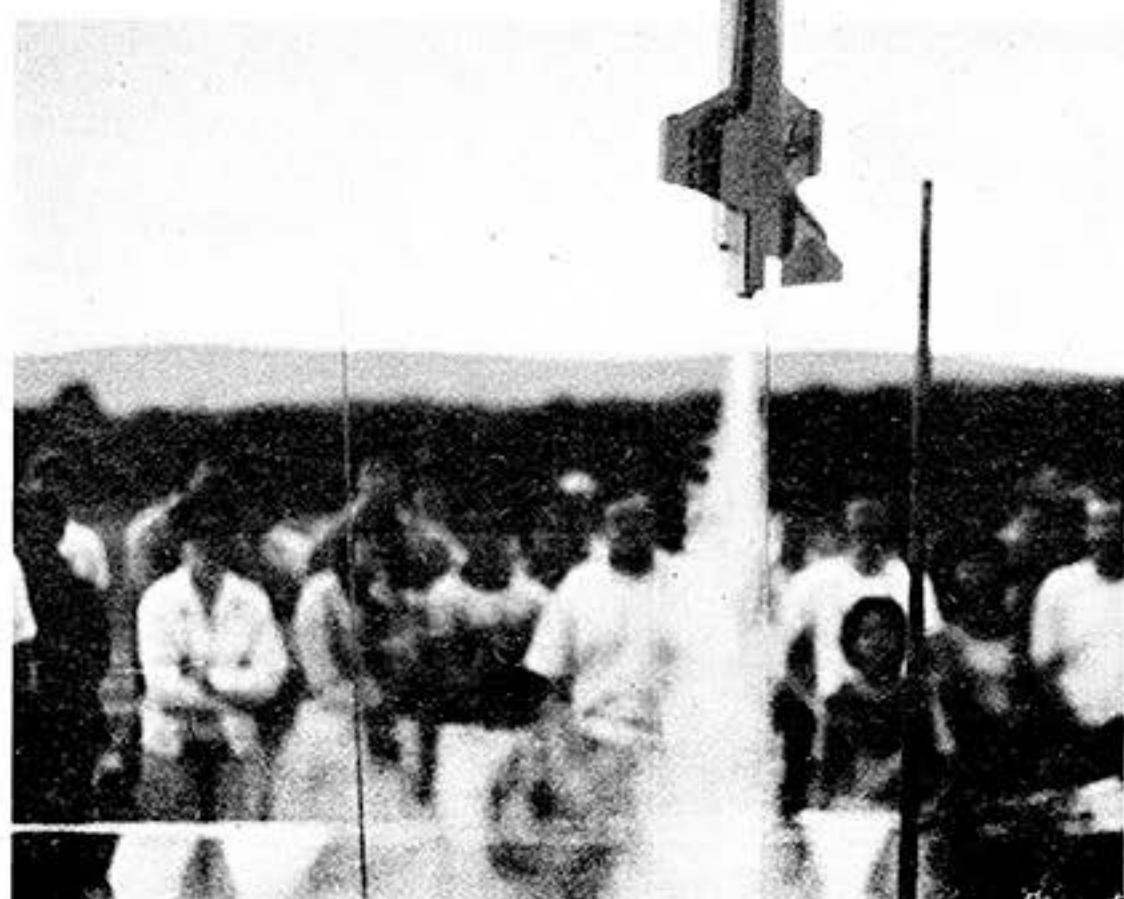


Photo: Alan Williams, N.A.R.

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