

Centuri

**Flying Model
Rockets**

Centuri

FLYING MODEL ROCKET OUTFIT!

EAGLE POWER

T.M.

WHAT'S AN EAGLE POWER?

Why, its a Screaming Eagle, a Powr-Pad and all the goodies needed to start flying model rockets! Requires no paint, modeling tools or special skills. Nothing else to buy, except a battery. EAGLE POWER is your best buy for price, convenience and performance.

Catalog No. SK-110
Ship. Wt. 3 lbs.

\$995



★ Sturdy "FIELD BOX" Carrying case.



★ The fabulous SCREAMING EAGLE almost-ready-to-fly model rocket kit. (See page "G")

INCLUDES TILTER
See inside back cover



★ POWR-PAD launch system

The low, heavy battery (not included) provides the same stability as in a tripod launch pad.

★ GLUE
★ CHUTE WADDING

★ INSTRUCTIONS

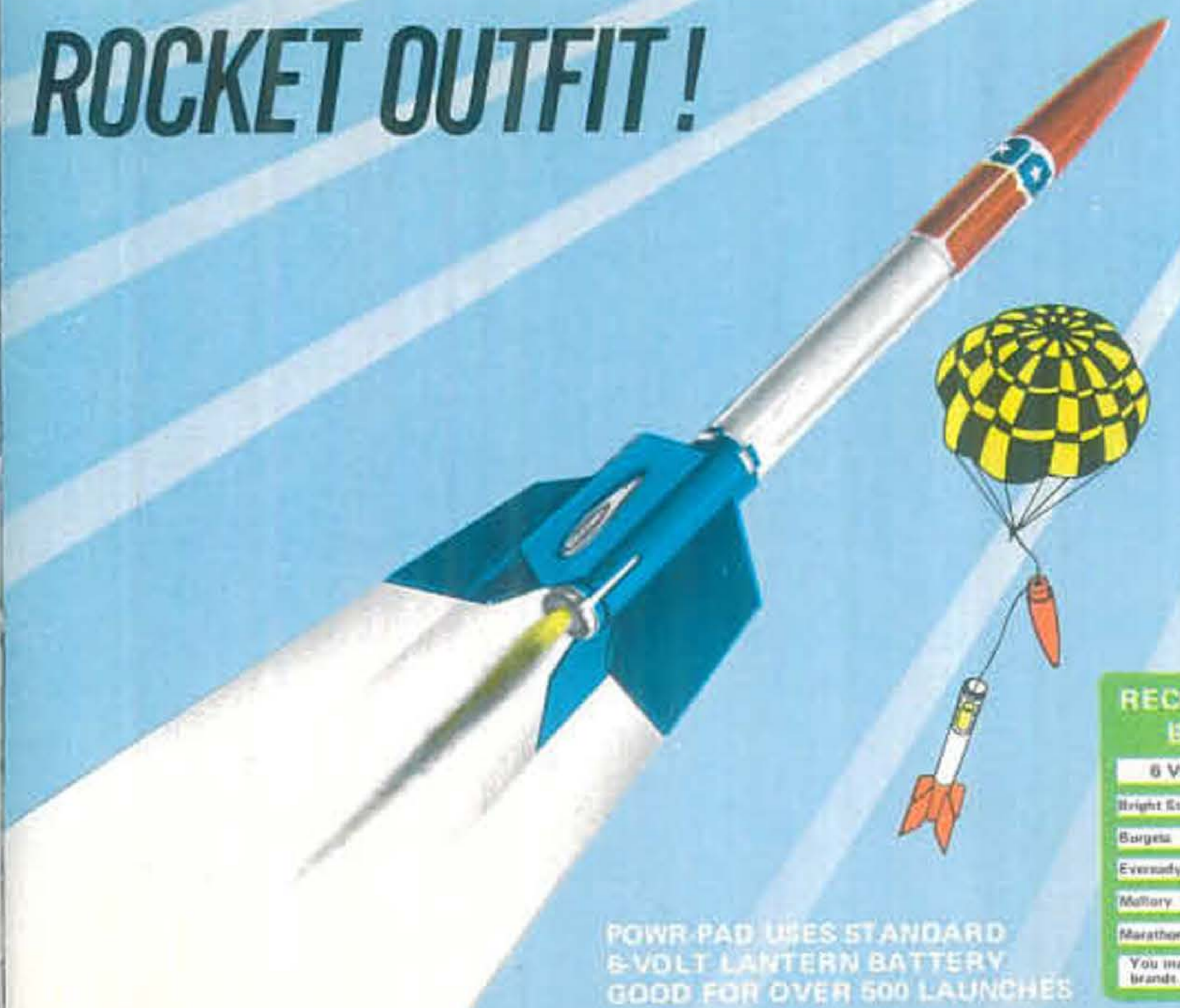
★ POWERFUL ENGINES

★ PARACHUTE

★ MANUAL

★ IGNITERS
The new Sure-Shot "Dot"

★ SAFETY KEY
Can be worn around neck. Always under your control.



POWR PAD USES STANDARD 6-VOLT LANTERN BATTERY. GOOD FOR OVER 500 LAUNCHES.

RECOMMENDED BATTERY

6 VOLT "LANTERN"	
Bright Star 158	Ray-O-Vac 818
Burgela TW-1	RCA VS317
Evershedy 731	Sears 4707
Multory 66918	Ward 8MW
Marathon 806	Wizard 7DB18

You may substitute other 6-volt brands of the same physical size.

POWR PAD
MODEL ROCKET LAUNCH SYSTEM

2-PIECE ROD
Stores away when not in use.

POWR PAD

LAUNCH SYSTEM

VERSATILE! HANDLES:

- All Standard Rockets!
- Mini-Rockets!
- All Staged Rockets!
- "A" thru "D" Engines!
- All Igniters!
- Compact & Portable!
- Fantastic Reliability!

★ WIRE HARNESS
15 feet, pre-assembled.

★ LAUNCH CONTROLLER
With check light, recessed button, chrome "stick-ons". Fits in carrying handle for portability

Battery not included

\$795

★ CARRYING HANDLE

★ Large steel BLAST DEFLECTOR

★ INCLUDES TILTER
See inside back cover

Catalog No. LIA-99
Shipping Wt. 1lb. 8 oz.

Line drawings indicate alternate version.
Motors not included

Centuri

Here is the Mini

THESE are the Mini Kits you've been waiting for! No more plain "Rocketty Rockets"...CENTURI Mini Rocket Kits are unique little jewels loaded with features and high performance.



NOVA SPORT ROCKET

Build it for REAR-EJECTED streamer... or for NOSE-EJECTED parachute! Includes Balsa Nose Cone, Balsa Fins, Decals & Chrome "Spec-Plate".

RECOMMENDED MOTORS
1/4A4-2M A4-4M
1/4A4-3M B4-5M*

SPECIFICATIONS
Length 12.4"
Body Diam. 0.76"
Net Weight 0.5 oz.

Catalog No. KM-4
Shipping Wt. 10 oz.

\$195



FIREFLASH BRITISH MISSILE

A challenging design for the skilled modelers! "Ducted" gasses eject the 12" parachute. Includes Pre-Cut Fibre-Fins, Decals, 5 Molded Cones, Nose Weight and "Spec-Plate".

RECOMMENDED MOTORS
1/4A4-3M A4-4M
B4-5M*

SPECIFICATIONS
Length 11.5"
Body Diam. 0.54"
Net Weight 1.2 oz.

Catalog No. KM-5
Shipping Wt. 10 oz.

\$250



STAR TROOPER CONTEST ROCKET

The highest-flying single-engine mini kit! Hollow molded cone for REAR-EJECTION streamer. Includes Balsa Fins, & "decals", plus parts for alternate longer version.

RECOMMENDED MOTORS
1/4A4-4M A4-6M
1/4A4-5M B4-7M*

SPECIFICATIONS
Length 5.6"
Body Diam. 0.54"
Net Weight 0.3 oz.

Catalog No. KM-3
Shipping Wt. 6 oz.

\$125

fabulous Line

T.M.

Each kit can be built in one of two different styles! The kits include new miniaturized launch "lug-lets", and "Spec-Plate" info on shiny chrome plates or right on the stick-on "Decal".



TWO-BITZ

COSTS ONLY FOUR BITS!

Two tiny Feather-Weight recovery rocket kits! Pre-Cut Fibre Sheets go together fast! BITZ #1 is Pre-Colored, with Molded Cone! BITZ #2 is for YOU to color, with Balsa Cone.

RECOMMENDED MOTORS
1/4A4-2M A4-4M
1/4A4-3M B4-7M*

SPECIFICATIONS
Length 4.5"
Body Width 0.54"
Net Weight 0.2 oz.

Catalog No. KM-1
Shipping Wt. 6 oz.

75¢

LAUNCH FROM THE POWR-PAD,
OR ANY OTHER LAUNCHER!



SATELLITE 62SL

GYRO-SPIN RECOVERY

Spins down like a copter, after engine ejection. Includes precision Molded Nose Cone, Long Wooden "Antenna" Fins (use 3 or 4), "Chrome-Decals..." no painting required.

RECOMMENDED MOTORS
1/4A4-4M A4-6M
1/4A4-5M B4-7M*

SPECIFICATIONS
Length 8.0"
Body Diam. 0.54"
Net Weight 0.2 oz.

Catalog No. KM-2
Shipping Wt. 6 oz.

\$100



MINI-DACTYL

CONTEST BOOST GLIDER

Double version for sport, or single for contest, with a spare! Includes Streamer, Balsa Cone, Giant Decal, & "Spec-Plate".

RECOMMENDED MOTORS
DOUBLE: 1/4A4-3M A4-2M B4-3M
SINGLE: 1/4A4-2M 1/4A4-3M A4-4M
B4-5M*

SPECIFICATIONS
Length 15.0" Wing Span 4.5"
Body Diam. 0.54" Glider Wt. 0.15 oz.

Catalog No. KM-6
Shipping Wt. 10 oz.

\$295

Mini-Motors

T.M.



ACTUAL SIZE COMPARISON



Mini Motors are smaller than standard model rocket engines. Being thinner and lighter, they really scream! Centuri offers the only complete line of Mini's — "A" power thru Full "B" at prices that match or beat the competition. Mini Motors feature graphite-impregnated nozzles, clearly labeled coding and the new SURE-SHOT "DOT" igniter. They fit our standard #5 body tube and are a bit longer than the competition... to squeeze the extra power in!

*"B" motors not available at all stores, and no longer available from Centuri.

PRICES AND SPECIFICATIONS Sold in 4-packs only.

Catalog Number & Type	PRICES BOX OF 4 FOR:	Total Impulse		Thrust Duration seconds	Delay Time ± 15% Seconds	Engine Weight ounces	Recom. Max. lift-off wt. (with engine) ounces
		LB-sec.	N-sec.				
1/4A4-2M	\$1.35	14	.63	16	2	.22	1.5
1/4A4-4M	1.35	14	.63	16	4	.23	1.6
1/4A4-3M	1.45	.28	1.25	.31	3	.25	2.0
1/4A4-5M	1.45	.28	1.25	.31	5	.26	1.9
A4-2M	1.55	.56	2.50	.63	2	.29	2.0
A4-4M	1.55	.56	2.50	.63	4	.30	2.5
A4-6M	1.55	.56	2.50	.63	6	.31	2.0
B4-3M	1.65	1.12	5.00	1.25	3	.36	3.5
B4-5M	1.65	1.12	5.00	1.25	5	.37	2.0
B4-7M	1.65	1.12	5.00	1.25	7	.38	2.5

Average thrust rounds to 4 newtons (14.38 ounces) for all motors.

MINI-MOTOR ADAPTER



Now you can fly your Standard-Engine Centuri rockets with Mini-Motors, too!

Easily assembled mount can be friction-fitted for temporary conversions. Instructions include recommended Mini-Motors for dozens of Centuri rockets.

Catalog No. EM-57
Shipping Wt. 3 oz.

60¢

**Welcome to the most
fascinating hobby
in the world—**

Hi there!

The art of Model Rocketry has come a long way since Centuri started in a tiny garage in 1961. Thousands of people like yourselves have helped make the Hobby/Sport/Science of Model Rocketry the safe, recognized activity it is. Over the years, bright, inquisitive people have found it a new creative outlet, and have formed a special fraternity of Rocketeers. People have found in Model Rocketry the opportunity to develop craftsman-like modeling skills, compete in clubs,

form new friendships and interests, perform science experiments, and just plain have family fun!

We at Centuri strive to bring you the finest quality products, and want to hear from you! We guarantee your satisfaction. Join us on the launch pad, "and have a ball"!

Your friend,

LEE
Leroy E. Piester, President

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MODEL ROCKETRY... a learning process in disguise!

Model rocketry has been called a "technological hobby". Since the early 1950's, rockets have become sophisticated instruments for research and the vehicles of manned space travel. Today's generation is growing up in the space age and even their hobbies reflect their growing interest and curiosity.

Model rocketry offers many young people a chance to try their hand at solving aerospace problems on their own, safely, and on a level compatible with their pocketbooks.

LISTED HERE ARE JUST A FEW OF THE MANY INTERESTING THINGS THAT A STUDENT OF MODEL ROCKETRY WILL BE DELVING INTO —

SO MANY KINDS OF MODEL ROCKETS

The variety of kits and "own-designs" built from custom parts is endless . . .

SPORT MODELS — general purpose "fun" rockets in a wide range of shapes and prices!

PAYLOAD ROCKETS — with special compartments for carrying insects and instruments. Try to launch and recover an egg without breaking it!

BOOST GLIDERS — soar up under rocket power, and glide back like airplanes.

MULTI-STAGED MODELS — fly to altitudes over one-half mile with real staging action.

HIGHLY DETAILED SCALE MODELS — challenging exact replicas of rockets that make history — spectacular lift-offs!

CLUSTERED ENGINE ROCKETS — large, impressive birds powered by several engines thrusting simultaneously.

RECOVERY SYSTEMS

PARACHUTE — the traditional, colorful way to recover model rockets.

Even the youngster gets caught up in the spirit of this; while trying out more advanced model designs, he masters some pretty sophisticated concepts — just by making the model work.

Because model rockets perform just like the big research rockets and missiles, most of the scientific principles of real rocket flight can be directly demonstrated by these miniature operating models. Just the simple acts of building, launching, and tracking model

rockets seems to "drive home" a more meaningful understanding of such school studies as math, trigonometry, physics, aerodynamics, and electronics. Learning in an exciting, meaningful way is just a natural consequence. For many young people, a model rocket project is their first experience in setting a goal, defining its solution, and combining their intellect and dexterity to accomplish that goal. And most important — discovering that it is actually fun to solve their own problems.

STREAMER — for light, extremely high fliers . . . won't drift as far away as rockets with parachutes.

GLIDE — a portion, or all, of the rocket is designed to actually glide to a safe landing.

HIGH DRAG — rockets designed to tumble slowly or "break" apart in mid-air. These have high air resistance and drag, thus falling safely.

GYRO — challenging designs that come back spinning rapidly, but falling slowly, like a helicopter.

OTHER THINGS TO DO AND TRY

HOLD CONTESTS — for parachute, streamer and boost glide duration, altitude, spot landing, etc.

CUSTOM DESIGN — learn how to build your own ideas from Centuri Custom Parts.

ALTITUDE MEASUREMENT — find out "how high it went" from the Rocketeer's Guidebook.

RESEARCH AND DEVELOPMENT — Study rocket engine thrust-time curves and data charts. Understand rocket terminology, such as: Specific impulse, average thrust, center-of-pressure, and acceleration. Demonstrate this knowledge and ability by working up a project for an extra credit report or a Science Fair.

EDUCATIONAL SERVICES FOR THE TEACHER

Centuri's Educational Programs and Services Division has prepared a series of aid materials to assist the educator in preparing a "motivating" model rocketry program in school. Includes Technical Information Reports on Aerodynamics, Stability, Altitude Prediction, etc. Educators are invited to write for a free Educational Overview Brochure on their school's letterhead. Send requests to:

Centuri Engineering Company, Inc.
Director of Educational Programs
P. O. Box 1988
Phoenix, Arizona 85001



Pre-flight testing a rocket's stability by the swing-test as described in Centuri's technical publications.

Ricky Piester



Mr. Linus Wilcox writes: I am writing to tell you what a fine time my son and I are having with your rockets. We enjoy doing things together, especially outdoors. Now we are building rockets. Last weekend we learned about a contest in our area and we drove out — my boy Marty won a ribbon, and he beat me!



Mrs. Henry Lyons writes: We have always known our son was intelligent, but he was never motivated to try at anything until he became fascinated by model rockets. Now his school work is beginning to pick up — especially in science — and we're very pleased.



Mr. Ralph Brindist, teacher, writes: I have been using model rockets since 1968 in my classroom. Many of my pupils are very hard to reach through old-fashioned teaching methods. Model rockets are exciting while gaining and holding their attention. The experience of successfully building and flying their own rocket is especially rewarding.



A Phoenix boy writes: I like rockets. "I eat, sleep, and drink rockets", my Mom says. But then she says the same thing about my dad.

CUTAWAY VIEW OF A TYPICAL MODEL ROCKET

NOSE CONE

At the frontal end, the nose cone serves to guide the airflow around the rocket. Many different shapes are used and usually made of balsa or plastic.

BODY TUBE

The body tube, made of special paper tubing, is the basic component of a model rocket. All other components are either contained inside or attached to the body tube.

WADDING

A flameproof cotton material that protects the parachute from the heat of the ejection charge. It also acts as a piston when pushing out the parachute and is expended with each flight.

THRUST RING

Positioned and glued into the body tube, the thrust ring prevents the engine from moving forward and also transmits the engine "thrust" to the airframe. Usually made from heavy wall paper tubing or balsa.

STABILIZER FINS

Usually made from balsa, the fins are attached to the aft end and serve to guide the rocket in a straight flight path after it leaves the launcher.

PARACHUTE

Ejected from the rocket at peak altitude, it slows the returning rocket to a safe speed, preventing damage to the rocket when it lands. Plastic, silk, and nylon are common parachute materials. Other types of recovery devices such as streamers are also used.

LAUNCH LUG

Slender paper or plastic tube fastened to the side of the rocket body to hold the rocket on the launch rod, and guide the rocket along the rod until sufficient air speed is reached for the fins to guide the rocket.

ROCKET ENGINE

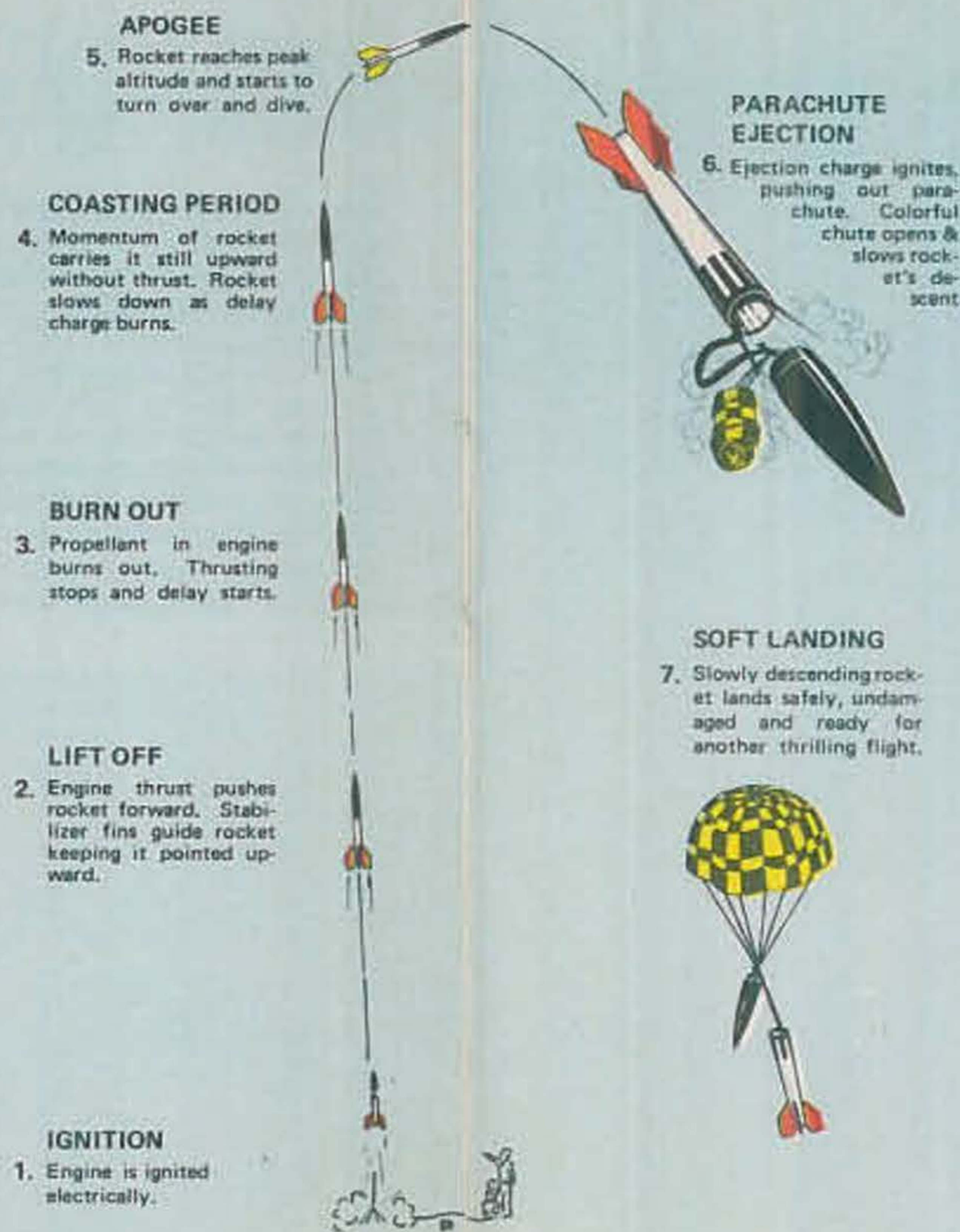
Completely self contained non-metallic power package, the model rocket engine "pushes" rocket upward when electrically ignited. A "built-in" time delay allows the rocket to coast up to its maximum altitude before an ejection charge pushes the nose cone and parachute out of the body tube.

All Centuri engines are



NAR SAFETY
CERTIFIED

HOW A TYPICAL MODEL ROCKET FLIES



WHAT IT TAKES TO BUILD AND FLY A MODEL ROCKET

Centuri model rockets come in kit form. A few basic tools and materials are required to assemble them. A basic launch system, too, is required to fly the rocket.



MODELING TOOLS

A modeling knife with a sharp blade is a must. You'll also want to have a ruler, scissors, pencil, and a small paint brush.

FINISHING MATERIALS

Centuri Superbond Glue (GL-100) is the very best to attach fins and other rocket parts. Balsa Fill-Cote and sandpaper are used to finish the balsa parts. Paint is needed, in colors of your choice to put that finishing touch to your rocket.

LAUNCH SYSTEM

A launcher is needed to start the rocket on its flight properly (see pages 52-53). A firing control device is required for electrical ignition of the rocket engine. (Also on pages 52-53.)

POWER SUPPLY

A power supply of at least 5 volts is required for electrical ignition. A 6 volt lantern battery or a 6 or 12 volt automobile battery can be used to supply ignition power. Because of its efficient electrical system, Centuri's SERVO-LAUNCHER (page 52) ignites the engines reliably with only 3 volts of battery power.

ROCKET ENGINES

Centuri manufactures 21 different model rocket engines varying power levels and delay times to push your model from 50 feet all the way up to 2000 feet. You pick the power to fit your model and launch area. Sure-Shot Igniters and instructions included in each engine package.



Model Rocket Safety

Throughout the past twelve years, over 25 million model rocket launchings have been made — most of them by young men 10 to 17 years of age . . . and establishing one of the best safety records of any youth activity. Why such an excellent record? Well, here are four good reasons:

FIRST, the rocket engines are self-contained in non-metallic casings — no mixing of chemicals. Engine reliability and performance are tested continually at the factory.

SECOND, the rocket itself is constructed of strong, but extremely lightweight materials such as balsa, paper, and plastic. And, the rockets contain recovery systems which bring them slowly and safely back down to Earth.

THIRD, the engines are ignited electrically using special igniters and safety firing switches. No matches or fuses are used.

FOURTH, and most important, is the attitude of the model rocketeers. They look upon this hobby as being exciting and educational. They don't think of rockets as toys. Hundreds of thousands of rocketeers have promoted the safety of the hobby by following the Safety Code printed here. Read this code, follow it, and enjoy this exciting hobby of Model Rocketry.

Solid Propellant Model Rocket Safety Code

- 1. CONSTRUCTION** — My model rockets will be made of lightweight materials such as paper, wood, plastic, and rubber without any metal as structural parts.
- 2. ENGINES** — I will use only pre-loaded factory made model rocket engines in the manner recommended by the manufacturer. I will not change in any way nor attempt to reload these engines.
- 3. RECOVERY** — I will always use a recovery system in my model rockets that will return them safely to the ground so that they may be flown again.
- 4. WEIGHT LIMITS** — My model rocket will weigh no more than 453 grams (16 ozs.) at liftoff, and the engines will contain no more than 113 grams (4 ozs.) of propellant.
- 5. STABILITY** — I will check the stability of my model rockets before their first flight, except when launching models of already proven stability.
- 6. LAUNCHING SYSTEM** — The system I use to launch my model rockets must be remotely-controlled and electrically operated, and will contain a switch that will return to "off" when released. I will remain at least 10 feet from any rocket that is being launched.

- 7. LAUNCH SAFETY** — I will not let anyone approach a model rocket on a launcher until I have made sure that either the safety interlock key has been removed or the battery has been disconnected from my launcher.
- 8. FLYING CONDITIONS** — I will not launch my model rocket in high winds, near buildings, power lines, tall trees, low flying aircraft or under any conditions which might be dangerous to people or property.
- 9. LAUNCH AREA** — My model rockets will always be launched from a cleared area, free of any easy to burn materials, and I will only use non-flammable recovery wadding in my rockets.
- 10. JET DEFLECTOR** — My launcher will have a jet deflector device to prevent the engine exhaust from hitting the ground directly.
- 11. LAUNCH ROD** — To prevent accidental eye injury I will always place the launcher so the end of the rod is above eye level or cap the end of the rod with my hand when approaching it. I will never place my head or body over the launching rod. When my launcher is not in use I will always store it so that the launch rod is not in an upright position.

- 12. POWER LINES** — I will never attempt to recover my rocket from a power line or other dangerous places.
- 13. LAUNCH TARGETS & ANGLE** — I will not launch rockets so their flight path will carry them against targets on the ground, and will never use an explosive warhead nor a payload that is intended to be flammable. My launching device will always be pointed within 30 degrees of vertical.
- 14. PRE-LAUNCH TEST** — When conducting research activities with unproven designs or methods, I will, when possible, determine their reliability through pre-launch tests. I will conduct launchings of unproven designs in complete isolation from persons not participating in the actual launching.

Model Rocketry is a safe hobby because tens of thousands of concerned rocketeers like you have made it so!



NO LONGER AVAILABLE AT ALL STORES . . .
CHECK OUT THE "EAGLE POWER" *INSIDE FRONT COVER*

10-in-1 Starter Outfit

EVERYTHING YOU NEED to get started in this fascinating hobby

Imagine the thrill of pressing the firing control button and watching your own rocket streak 1/4 mile skyward, returning safely by parachute. Well, here's everything you need to set up and command your own real-life rocket launching! Launch your ASTRO-1 Rocket again and again.

Easy-to-assemble rocket kit stands 16" tall, includes recovery parachute and decal. Launcher assembles in minutes! Comes with its own special batteries, steel deflector, safety key, and "continuity-check" light. Use the Servo Launch to launch nearly all type model rockets.

BIG 10 PIECE OUTFIT INCLUDES

- BIG ASTRO-1 ROCKET KIT
- LARGE COLORFUL PARACHUTE
- STRONG, FAST DRYING GLUE
- COMPLETE "SERVO" LAUNCHING SYSTEM
- SPECIAL IGNITION BATTERIES
- THREE POWERFUL ROCKET ENGINES
- SURE-SHOT IGNITERS
- PARACHUTE PROTECTOR WADDING
- ROCKETEER'S GUIDEBOOK
- STURDY "FIELD BOX" CARRYING CASE

Catalog No. SK-100

\$12.95

Shipping Wt. 3 lbs.



Rocket and launcher come in kit form

NO LONGER AVAILABLE AT ALL STORES . . .
ASK TO SEE THE NEW "BIG SHOT" OUTFIT
FOR ONLY \$14.95

22 pc. "DELUXE ROCKET OUTFIT"

3 ROCKET SQUADRON! ADVANCED LAUNCH SYSTEM!

Perfect for family or club launchings — where each member can have his own rocket and share the launching equipment. The wide range of model rocket kits include parachute systems, real 2-stage action, and payload capsules. The sturdy, versatile launch system operates off dry cells or directly from an automobile's battery! Save big money with this perfect outfit . . . loaded with all items to get started launching hi-flying rockets.

22-PIECE OUTFIT INCLUDES

ARCON-HI TWO-STAGE ROCKET KIT
JAVELIN SINGLE-STAGE ROCKET KIT
PAYLOADER 2 CARRIER ROCKET KIT
LECTRA-LINE 2 FIRING PANEL
ROCKET LAUNCHER #LIA-77
12 POWERFUL ROCKET ENGINES
MODEL ROCKETEER'S GUIDEBOOK
SURE-SHOT IGNITERS
FIELD BOX CARRYING CASE
PARACHUTE WADDING
LARGE JACKET EMBLEM

\$19.95

Catalog No. SK-102

Shipping Wt. 4 lbs.

Attractive carrying case
doubles as field box for
supplies at the launch
site.

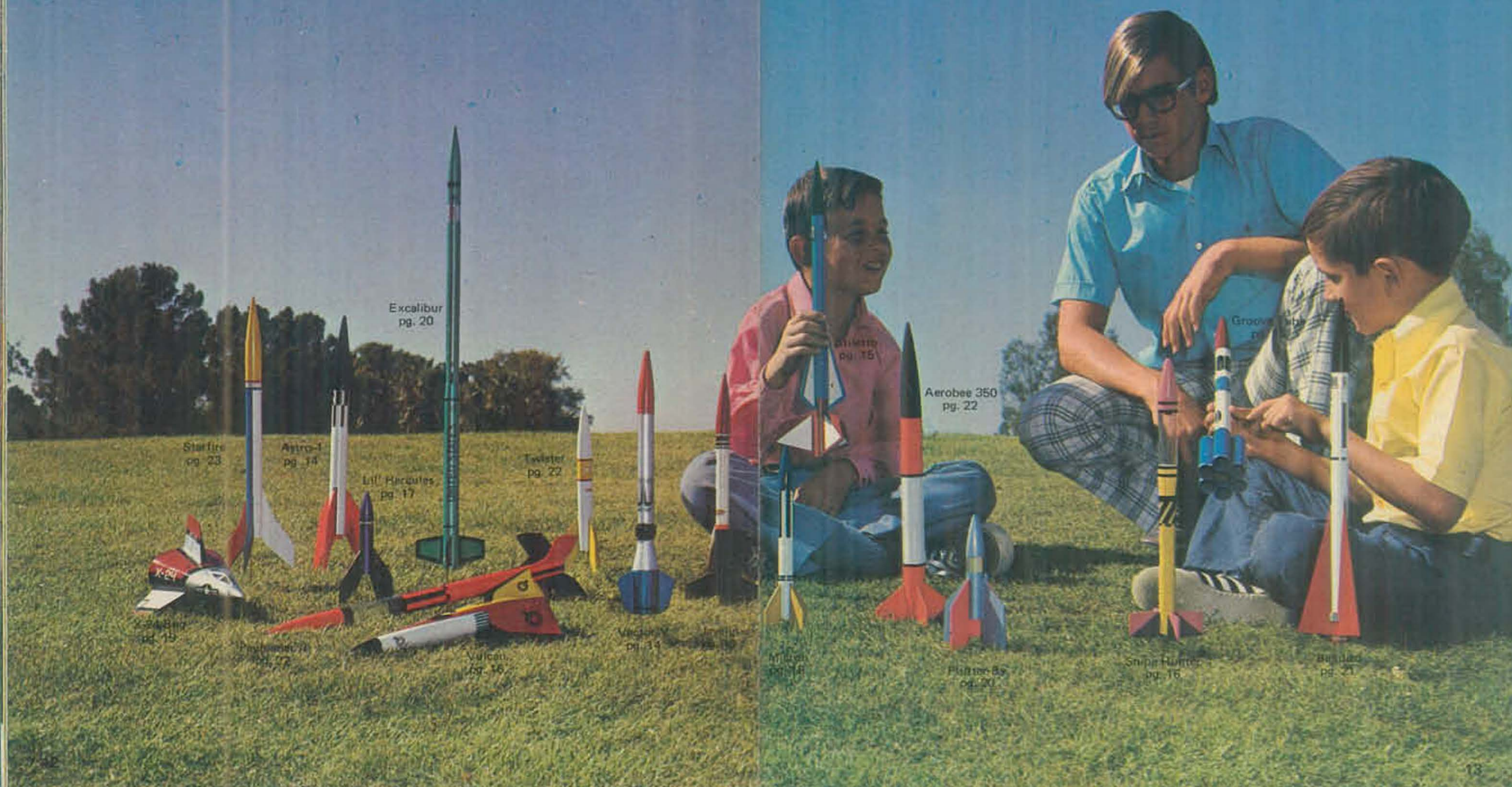
Rockets come in
kit form.



Centuri

LUNAR FLEET

**DYNAMIC, EASY-TO-ASSEMBLE MODEL ROCKETS
FUN TO BUILD AND FLY-IDEAL FOR BEGINNERS**



Starfire
pg. 23

Astro-1
pg. 14

Lill' Hercules
pg. 17

Twister
pg. 22

Starliner
pg. 18

Phantom
pg. 27

Vulcan
pg. 16

Viper
pg. 14

Light
pg. 19

Milvay
pg. 18

Plasma-B
pg. 20

Snipe Hunter
pg. 16

Harrier
pg. 21

Excalibur
pg. 20

Blitz
pg. 15

Aerobee 350
pg. 22

Groove
pg. 19

"VECTOR-V" Customizing Kit

FROM THE ALPHA CENTURI SERIES - FAST ASSEMBLY

From the secret laboratories of the planet Vecton came the VECTOR-VI. Now, from the secret laboratories of Centuri, it comes to you as a model to be flown in Earth's own atmosphere. With special die-cut fibre fins and body detail strips you can build your VECTOR-V in any one of over a dozen different configurations. Features include 2-color parachute, engine lock, and a large decal sheet with weird Vecton symbols, hatches and other goodies. In case you have not yet heard of the Vectonians and their culture, we include an illustrated Science-Fiction storysheet.



Catalog No. KB-2
Shipping Wt. 10 oz.
Engines not included.

\$1.95

SPECIFICATIONS

Length 12.5"
Max. Dia. 1.34"
Net Wt. 0.9 oz.

RECOMMENDED ENGINES

1/2A6-2 A8-3 B4-4
B6-4 C6-5

Ever Popular "ASTRO-1"

IDEAL BEGINNER'S KIT

Easy and fast to assemble, ASTRO-1 is an excellent starting kit for the beginning rocketeer. Its high performance design assures you perfect, high altitude flights every time. Upon ignition, ASTRO-1 zooms hundreds of feet into the sky and returns safely by a large colorful parachute. Kit comes complete with parachute, decals, "quick-change" engine lock, die-cut fins, payload nose cone, and illustrated instructions.

Catalog No. KB-17 **\$2.50**
Shipping Wt. 13 oz.
Engines not included.

RECOMMENDED ENGINES

1/2A6-2 B6-4
A8-3 B14-5
B4-4 C6-5

SPECIFICATIONS

Length 15"
Body Dia. 1.04"
Net Wt. 1.1 oz.

RECOMMENDED ENGINES

A8-3 B4-4
C6-5

SPECIFICATIONS

Length 18.25"
Body Dia. 0.91"
Net Wt. 1.75 oz.

Groovy "GROOVE TUBE"

Surprise your fellow rocketeers with this unusual model! The GROOVE TUBE flies straight and true, even though it looks like it shouldn't! Prove to yourself and friends that a rocket doesn't have to look like a rocket! Features engine lock, precision plastic cone, custom decals, shiny chrome trim and 2-color chute. This quickly assembled bird is off the work bench and onto the launch pad in a hurry!

Catalog No. KA-11 **\$2.50**
Shipping Wt. 15 oz.
Engines not included.

Easy To Build...
Fun To Fly...
Ideal For Beginners!

Streamlined "STILETTO"

HI PERFORMANCE TWO STAGER

The Stiletto is over a foot and a half of incredibly fast high-flying fun. The combination of sleek pre-cut fins and Passport Staging* make this model quick to build and easy to fly! Snappy looking on the launch rack, the Stiletto can be powered to reach altitudes of 2,400 feet. With its out-of-sight altitude range, the upper stage recovers by drogue streamer, while the booster stage tumbles safely to Earth. Features custom decal, a detailed staging technical report, and die-cut fins.

Catalog No. KB-1 **\$2.50**
Shipping Wt. 11 oz.
Engines not included.

SPECIFICATIONS

Length 18.25"
Body Dia. 0.76"
Net Wt. 1.1 oz.

RECOMMENDED ENGINES

1st Stage	2nd Stage
1/2A6-0	1/2A6-4
A8-0	A8-5
B6-0	B6-6
B14-0	C6-7
C6-0	

* Patent Pending

Hi-Flyin' "SNIPE HUNTER"

SEE-THROUGH PAYLOAD CAPSULE

A fantastic performer! Chosen for its high performance design, the SNIPE HUNTER was selected for competition in the "First International Model Rocket Championships" held in Czechoslovakia. Launch live insects inside plastic see-through capsule to observe effects of high acceleration rocket flights. Kit comes complete with decals and colorful parachute.

Catalog No. KB-13 \$2.50

Shipping Wt. 10 oz.
Engines not included.

SPECIFICATIONS

Length 12.5"
Body Dia. 0.76"
Capsule Dia. 0.91"
Net Wt. 0.85 oz.

RECOMMENDED ENGINES ¼A6-2 A8-5 B6-6 B14-5 C6-7



Tiny "LI'L HERC"

FEATHERWEIGHT RECOVERY

Perfect for the beginner in model rocketry! Die-cut fins, plastic nose cone, and super-simple assembly make the Lil' Hercules II a snap to build. Learn the basic model rocket principle of Center of Gravity versus Center of Pressure. Find out why the Lil' Herc II can ascend in stable flight, but tumbles back gently after engine ejection. With illustrated instructions and no recovery system to pack, the Lil' Herc II is quick to build, prep, and fly! (Now uses standard length engines.)

Catalog No. KA-1 \$1.00

Shipping Wt. 5 oz.
Engines not included.

SPECIFICATIONS

Length 6.5"
Body Dia. 0.76"
Net Wt. 0.3 oz.

RECOMMENDED ENGINES

¼A6-2 ¼A6-4

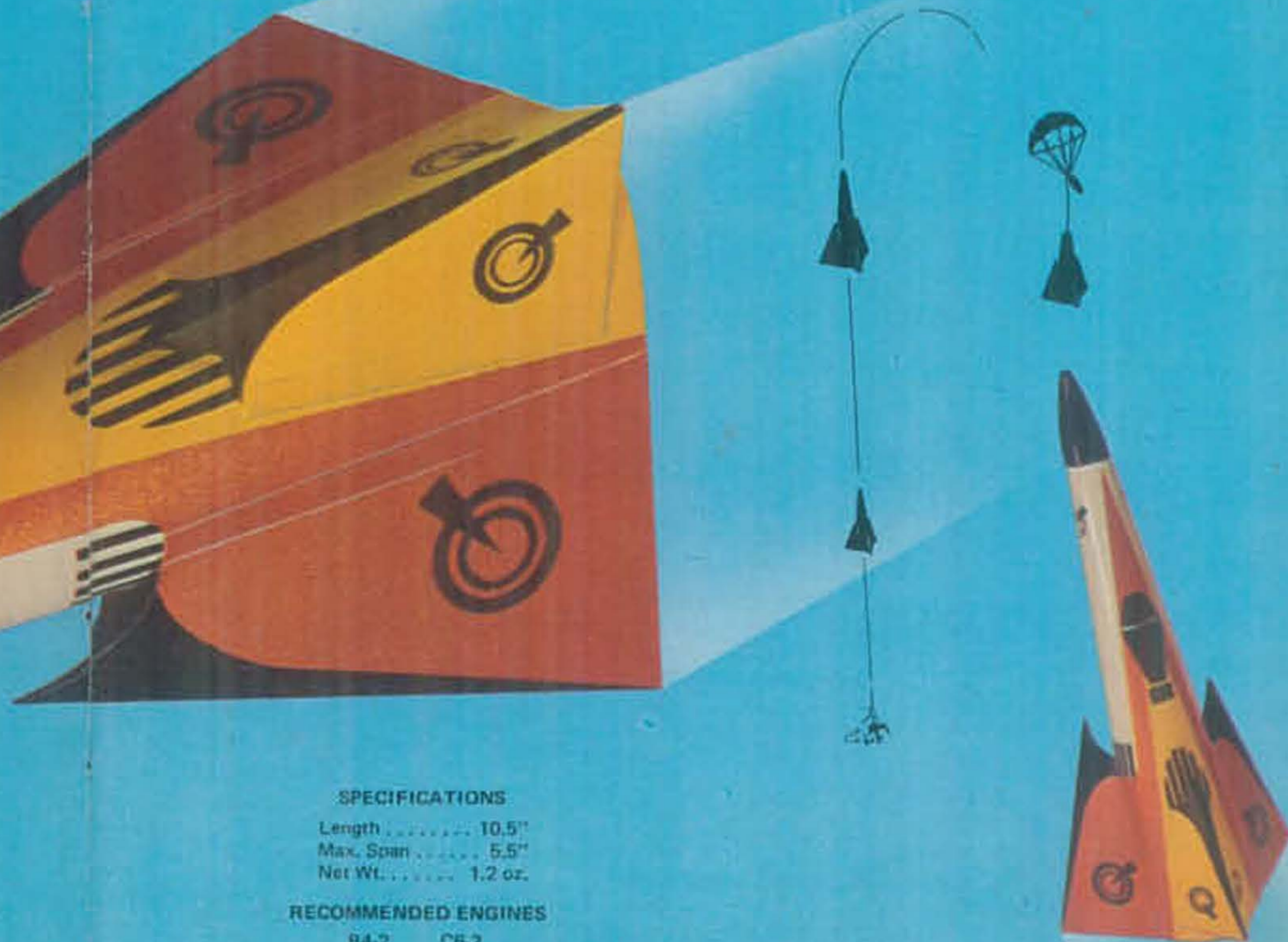
Futuristic Flights with "VULCAN"

FROM THE ALPHA CENTURI SERIES

Their ears are long . . . pointed . . . and between those strange ears ticks the incredible Vulcan mind that designs spaceships like this. The hull is an exotic cone shape. Ingenious! The body is flanked by air scoops; the rocket flies without fins. Incredible! At the peak of flight a parachute ejects to recover the ship for re-use. OUTSTANDING! And characteristically, very, very logical. The entire VULCAN life style centers around the use of intense heat and flame as hot as the pre-painted colors in the Vulcan kit . . . read about them in the kit's illustrated Science-Fiction storysheet.

Catalog No. KA-10 \$1.95

Shipping Wt. 11 oz.
Engines not included.



SPECIFICATIONS

Length 10.5"
Max. Span 5.5"
Net Wt. 1.2 oz.

RECOMMENDED ENGINES

B4-2 C6-3

Single Stager "MICRON"

EASY-TO-BUILD FLIGHTS UP TO 2000 FEET

Perfect kit for the beginner. Easy-to-build, yet will fly up to 2000 feet and return with a colorful drag streamer for a safe, soft landing. Fly it again and again. Complete kit includes decals and plastic nose cone.

RECOMMENDED ENGINES

5A5-4 A8-5 B4-6
B6-6 C6-7

SPECIFICATIONS

Length 8.5"
Body Dia. 0.76"
Net Wt. 0.4 oz.

Catalog No. KA-5 \$1.50

Shipping Wt. 8 oz.
Engines not included.

SPECIFICATIONS

Length 12.5"
Body Dia. 0.76"
Net Weight 0.6 oz.

Top Performer "JAVELIN"

CENTURI'S POPULAR BEGINNER'S KIT

This easy-to-build high altitude performer is just the right "bird" for the beginning model rocketeer. Upon lift-off, the Javelin streaks into the sky hundreds of feet and returns safely by multi-colored parachute to be launched many more times. Flights up to 2000 ft. Kit even includes decal, and plastic payload cone.

Catalog No. KC-31 \$1.95

Shipping Wt. 10 oz.
Engines not included.

RECOMMENDED ENGINES 5A5-4 A8-5 B4-6 B6-6 B14-7 C6-7

NEW!



SPECIFICATIONS

Length 7"
Wingspan 7"
Net Wt. 1 oz.

RECOMMENDED ENGINES

B4-2 C6-3 C6-0

Re-entry Vehicle "X-24 Bug"

The spacecraft of tomorrow are being tested today at White Sands. Now it's easy to assemble your own model of the manned re-entry vehicle that makes a weird sound and smoke trail as it climbs into the sky. Its unique shape actually makes the X-24 GLIDE back! Simple assembly of the pre-painted parts with glue and scissors quickly produces a truly unusual model rocket. Learn basic principles of glider theory and flight trimming. Just put the kit together and start finding out what the scientists are up to now.

Catalog No. KA-12 \$1.50

Shipping Wt. 10 oz.
Engines not included.

High Fly "FLUTTER-BY"

UNUSUAL FIN SEPARATION GYRO RECOVERY

This little fellow is a bird with a difference! Power-separates at apogee into two-wing shapes that flutter safely to Earth in tight gliding spirals. The simple recovery system and engine lock make the Flutter-by easy to prep and fun to fly over and over. Designed for low power engines, the Flutter-by is a great crowd pleaser. Kit includes custom decal, shiny high-visibility chrome trim, detailed instructions, and die-cut fins.

Catalog No. KA-9 \$1.50

Shipping Wt. 9 oz.
Engines not included.

SPECIFICATIONS

Length 8.75"
Body Dia. 0.91"
Net Wt.90 oz.

RECOMMENDED ENGINES

1/4A5-2 A8-3

See it go... "BANDITO"

THE STREAMLINED HOT ONE!

A long, sleek dragster of the skies for fast getaways! The BANDITO features unique die-cut fibre-fins, folded to create strong, formed aerodynamic wedge-shapes. This fast, hi-altitude sport rocket returns to Earth by colorful drogue streamer, to assure safe recovery. With "quick-change" engine lock, custom decal, shiny chrome trim and no sanding-sealing required, the BANDITO adds up to a hot little package of fun!

Catalog No. KA-7 \$1.95

Shipping Wt. 10 oz.
Engines not included.

SPECIFICATIONS

Length 15.5"
Body Dia. 0.70"
Net Wt. 1.8 oz.

RECOMMENDED ENGINES

1/4A5-4 A8-5
B4-6 C6-7

"EXCALIBUR" a low cost big bird!

SLEEK CLOUD-PIERCER OVER 24" LONG

More than 2 feet long, the EXCALIBUR is in a class of its own with the dynamic lines of real research rockets. Rapid assembly techniques include molded body reducer, plastic nose cone, engine lock, die-cut smooth faced fibre-fins and a minimum of tools required. Detailed assembly instructions include painting tips and customizing option to form upper section payload capsule. The custom decal sheet and bright reflective chrome trim finish off this lean bird... long on looks and performance.

\$2.50

Catalog No. KA-8

Shipping Wt. 14 oz.
Engines not included.

SPECIFICATIONS

Length 26.5"
Body Dia. 0.91"
Net Wt. 1.60 oz.

RECOMMENDED ENGINES

A8-3 B4-4 C6-5

The "TWISTER"

SPIN STABILIZED - HI ALTITUDE

See actual "Spin Stabilization" in action with this high altitude sport rocket. Specially designed canted fins spin the TWISTER as it streaks to high altitudes . . . then a parachute "pops" out, the whole rocket returns safely. Paint it in vari-colored paint patterns and watch it change colors as it flies. Kit comes with special decal, plastic payload cone, and illustrated instructions.

Catalog No. KA-2 \$1.95

Shipping Wt. 8 oz.
Engines not included.

"AEROBEE-350"¹

PAYLOAD SOUNDING ROCKET

A real flying, high altitude scale model of the 50 feet tall solid propellant rocket used to research the upper atmosphere. Terrific for both beginning and advanced rocketeer. Upon ignition, this impressive 16-1/2" model streaks hundreds of feet skyward and returns safely by parachute. Launch it again many times. See how high it will go with different engine power. Kit even includes decal and special payload nose cone.

Catalog No. KC-5 \$2.50

Shipping Wt. 10 oz.
Engines not included.

"PAYLOADER II"

SEE-THROUGH PAYLOAD CAPSULE

Great beginner kit! Launch crickets, beetles, grasshoppers, and ants up 1300 feet* into space. Clear plastic capsule allows you to observe the "passenger" both before and after flight. Study acceleration effects.** Both capsule and rocket return safely by parachute. Easy-to-build kit even includes die-cut fins, decals, and illustrated instructions.

Catalog No. KC-20 \$2.95

Shipping Wt. 14 oz.
Engines not included.



TWISTER SPECIFICATIONS

Length 11"
Body Dia. 0.91"
Net Wt. 0.9 oz.



RECOMMENDED ENGINES

A46-2 B4-6 B14-7
A5-4 B6-6 C6-7

AEROBEE 350 SPECIFICATIONS

Length 16.5"
Body Dia. 1.0"
Net Weight 1.1 oz.



RECOMMENDED ENGINES

A8-3 B14-5
B6-4 C6-5

PAYLOADER II SPECIFICATIONS

Length 18.5"
Body Dia. 1.0"
Net Wt. 1.2 oz.



RECOMMENDED ENGINES

A8-3 B14-5**
B6-4 C6-5*

No fleet is complete
without this
fantastic flyer!



Award Winning "STARFIRE"

CHUTE DURATION RECORD "BIRD"

TWO BIG PARACHUTES
INCLUDED IN THIS KIT!

A real Award Winner at the "First International Model Rocket Championship Meet" held in Dubnica, Czechoslovakia. Designed and flown by Centuri's President, Lee Piester, in the Parachute Duration event using a large 20" parachute. With its sharp looks and high altitude performance, the STARFIRE is a "boss" model for both beginner and advanced rocketeer. Flights to nearly 1800 feet . . . then parachute pops out for slow, safe return. Use 12" chute for normal flying, and 20" for very slow descent recovery. Easy to change chutes. Laminar flow boattail improves flight efficiency. Complete in kit form with decals and illustrated instructions.



RECOMMENDED ENGINES

A46-2 B6-6
A5-4 B14-7
B4-6 C6-7

SPECIFICATIONS

Length 16"
Body Dia. 0.91"
Net Wt. 1 oz.

Catalog No. KC-12 \$2.50

Shipping Wt. 10 oz.
Engines not included.

Centuri

STAR FLEET

TRY YOUR HAND WITH THESE STAR PERFORMERS
ALL KINDS OF ACTION!!



Centuri
pg. 30



MX-774
pg. 28



Long Tom
pg. 31



Iris
pg. 29



Laser-X
pg. 27



Arcan-HI
pg. 30

Mach-10
pg. 33



Tomahawk
pg. 31



Black Widow
pg. 26



Nike Smoke
pg. 29



Little Joe II
pg. 32



Quasar
pg. 26



Honest John
pg. 28



Two-Stage "BLACK WIDOW"

WITH AMAZING GLIDING BOOSTER RECOVERY

Thrilling two-stage high altitude (nearly 2000') flight topped off with unusual dual recovery. Unique booster flies like a glider after separation, slowly circling back to earth. Second stage continues to climb . . . then pops its chute and returns safely. Reliable new "Pass-Port Staging System".** Easy-to-build kit includes special decal and illustrated instructions.

** Patent Pending

Catalog No. KB-6 \$ 2.95

Shipping Wt. 10 oz.
Engines not included.

SPECIFICATIONS

Length 15"
Body Dia. 0.78"
Net Wt. 1.2 oz.

RECOMMENDED ENGINES

1st Stage	2nd Stage
A8-0	A5-4
B6-0	B4-6
C6-0*	C6-7

"QUASAR" Spaceship

Truly reminiscent of the classic Flash Gordon and Buck Rogers' spaceships, yet the QUASAR still resembles a futuristic space liner. big and impressive . . . great for displays and demonstrations. Slow and realistic at lift-off the QUASAR really climbs to over 800 feet. Kit features molded nose cone and "pod" details, Baffle Ejection System*, die-cut fins, engine lock, and big decal. Recovery is by large 2-color parachute.

Catalog No. KC-7 \$ 4.00

Shipping Wt. 16 oz.
Engines not included.

SPECIFICATIONS

Length 17.5"
Body Dia. 1.64"
Net Wt. 3.0 oz.

RECOMMENDED ENGINES

B6-4 B14-5 C6-5

"LASER-X" Space Probe

A REAL ADVENTURE IN FLYING ROCKETS

Big! Futuristic! Impressive! One of Centuri's most popular "birds", the LASER-X looks sharp and performs fantastically. It's futuristic styling and giant size (nearly 2 feet tall) gives you exciting, realistic lift-offs. Returns gently from space suspended from a large colorful parachute. Kit features pre-cut fins and big customizing decal.

Catalog No. KC-50 \$ 3.95

Shipping Wt. 11 oz.
Engines not included.

SPECIFICATIONS

Length 21.5"
Body Dia. 1.34"
Net Wt. 1.75 oz.

RECOMMENDED ENGINES

A8-3 B14-5
B6-4 C6-5

Historical "MX-774"

Scale Model of America's First Supersonic Rocket. One of Centuri's highest flyers. Inspired by the V-2, the MX-774 was developed by Convair Aviation under contract to the Air Force. It included many "firsts" now considered standard in rocket design. Centuri's flying 1/37th scale model of this famous rocket features special payload cone, recovery parachute, boost tail section, illustrated instructions, and a 2 page scale Data Sheet.

Catalog No. KA-3 **\$1.95**
Shipping Wt. 9 oz.
Engines not included.

SPECIFICATIONS

Length 11"
Body Dia. 0.91"
Net Wt. 1.1 oz.

RECOMMENDED ENGINES

1/4 A6-2 B6-6
A5-4 B14-7
B4-6 C6-7

**It's Really Fun
To Build & Fly
Scale Models!
TRY THESE!**

U.S. Army's "HONEST JOHN"

True scale operating model of the U. S. Army's famous surface-to-surface ballistic missile. This 1/25th detailed scale model lifts off the launch pad for a thrilling flight skyward, and gently returns to Earth by a brightly colored parachute. Comes in easy-to-build kit form.

Catalog No. KC-25 **\$2.75**
Shipping Wt. 12 oz.
Engines not included.

RECOMMENDED ENGINES

1/4 A6-2 B6-4
A5-4 C6-5

SPECIFICATIONS

Length 13.4"
Body Dia. 0.91"
Cone Dia. 1.14"
Net Wt. 1.1 oz.

"IRIS" Sounding Rocket

True scale operating miniature of the big Sounding Rocket produced by Atlantic Research Corporation for NASA and the Naval Research Laboratories. Build and fly this 1/25th scale model with accurate details and authentic decals. Watch it streak hundreds of feet spaceward and return gently by parachute. Kit features special payload cone and Scale Data Sheet.

Catalog No. KC-14 **\$2.95**
Shipping Wt. 10 oz.
Engines not included.

SPECIFICATIONS

Length 16.8"
Body Dia. 0.91"
Net Wt. 0.9 oz.

RECOMMENDED ENGINES

1/4 A6-2 A5-4 B6-6 C6-7

*Registered Trademark of
Atlantic Research Corporation
Alexandria, Virginia

Weather Researcher "NIKE-SMOKE"

BIG!... IMPRESSIVE!... TWO FEET TALL!

This big "bird" streaks almost out of sight and then returns gently on a large chute. Easy-to-build kit goes together fast. Features new blow-molded smoke cone, die-cut fins, authentic decals, plus Scale Data Sheet with photos and drawings of real NIKE-SMOKE.

SCALE NOTE:

This kit is an exact 1/10th scale model of the solid propellant rockets used by NASA to measure wind velocities at altitudes up to 75,000 feet. Chemicals emitted from the nose cone of the real NIKE-SMOKE during the flight form a dense white "smoke" trail which is photographically recorded to show wind movements.

SPECIFICATIONS

Length 23.7"
Body Dia. 1.64"
Net Wt. 2.3 oz.

RECOMMENDED ENGINES

B4-2 C6-5

Catalog No. KS-15 **\$3.95**
Shipping Wt. 15 oz.
Engines not included.

"ARCON-HI"†

TWO-STAGE SOUNDING ROCKET

A 1/16th semi-scale flying model of the 11 feet long sounding rocket built by ARC† in 1958 for atmospheric testing. Flights up to 1900 feet. Real two-stage operation! Watch as the booster falls away and the upper stage keeps on climbing... nearly out of sight. Then watch carefully as the parachute pops out at the peak of flight and returns the ARCON safely to Earth. Booster tumbles back gently. Put back together and launch many times. Easy-to-assemble kit features big payload capsule, Pass-Port Staging System,* colorful decals, and big parachute. Launch either as single or two-stager.

Catalog No. KC-3 \$3.95

Shipping Wt. 14 oz.
Engines not included.

†Registered Trademark of Atlantic Research Corporation of Alexandria, VA.

SPECIFICATIONS

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

RECOMMENDED ENGINES

1st Stage	2nd Stage
A8-0	A8-5
B6-0	B4-6
B14-0	B6-6
C6-0	C6-7

"CENTURION"

BIG - BIG SINGLE STAGER FUN!

Large and beautiful, here is the ideal demonstration bird for realistic slow lift-off! Single engine reliability carries this massive model to high altitudes where its performance is visible to all! This kit features Baffle Ejection System* to eliminate the need for chute wadding. Kit is complete with illustrated assembly instructions, quick-change engine lock, large parachute, and special Centurion decal.

Catalog No. KC-2 \$3.95

Shipping Wt. 16 oz.
Engines not included.

SPECIFICATIONS

Length 24"
Body Dia. 1.64"
Net Wt. 2.3 oz.

RECOMMENDED ENGINES

A5-2	B4-2	C6-5
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*Pat. Pending

"TOMAHAWK"

SCALE WEATHER SOUNDING ROCKET

The perfect scale model for beginners! Simple to build! Fly this 1/10th scale model of the real sounding rocket built by Astro-Met Division of Thiokol Chemical Corp. Use large payload capsule to carry insects or measuring devices up to 1/4 mile high and return them safely by parachute. Kit includes Scale Data Sheet showing drawings & photos of the real Tomahawk, for those modelers who want to produce an exact scale replica!

Catalog No. KC-40

\$2.95

Shipping Wt. 10 oz.
Engines not included.

SPECIFICATIONS

Length 20"
Body Dia. 0.91"
Net Wt. 1.2 oz.

RECOMMENDED ENGINES

A5-4	B14-5
B6-6	C6-7

Mighty tall "LONG TOM"

Here's a gigantic 2-stage that's even impressive just sitting on the launch pad. The Long Tom is three feet of tremendous performance, featuring Centuri's Pass-Port Staging*, molded nose cone and body reducer, Baffle Ejection System* which requires no chute wadding! The large parachute will bring this fellow back safely from altitudes up to 1/4 mile.

Catalog No. KC-4 \$4.50

Shipping Wt. 18 oz.
Engines not included.

SPECIFICATIONS

Length 35.5"
Body Dia. 1.34"
Net Wt. 3 oz.

RECOMMENDED ENGINES

1st Stage	2nd Stage
A8-0	A5-2
B6-0	B4-4
B14-0	B6-6
C6-0	C6-7

*Patent Pending.



"LITTLE JOE II"

1/100th SUPER SCALE – HIGHLY DETAILED

This high-flying jewel of a model is another Centuri technology breakthrough! Absolutely no painting required! The super scale model of NASA Apollo test vehicle #BP-13 includes pre-shaped fin material, corrugated aluminum and pre-printed roll pattern wrappers, silver fin covering material, molded Apollo capsule and accurate decals.

SPECIFICATIONS

Length 10.5"
Body Dia. 1.54"
Net Wt. 1.1 oz.

Catalog No. KS-9

\$3.25

Shipping Wt. 12 oz.
Engines not included.

RECOMMENDED ENGINES A5-2 A8-3 B4-4



"MACH-10" Rocket Plane

RUGGED – EASY TO CONSTRUCT

The Mach-10 screams skyward at speeds better than 100 m.p.h. Peeling off at peak altitude, the Mach-10 ejects a target marker (with streamer), then, after a couple of loops, settles into a circular glide path Earthward. Making a "wheels up" landing, the Mach-10 skids gently to a stop on its belly tank. Learn how its tilted tail creates lift with this revolutionary boost glider.

Fun to fly and easy to construct, the Mach-10 comes complete with illustrated instructions, 3-color decals, and die-cut balsa.

SPECIFICATIONS

Length 12"
Body Dia. 1.64"
Wing Span 11"
Glide Wt. 1.35 oz.
Net Wt. 1.85 oz.

Catalog No. KA-4

\$2.95

Shipping Wt. 14 oz.
Engines not included.

RECOMMENDED ENGINES B4-2 C6-3

Centuri

GALAXY FLEET

ADVANCED BIRDS-BIG ON LOOKS & PERFORMANCE
FOR THE EXPERIENCED ROCKETEER



Little Joe II
pg. 40

Taurus
pg. 48



Swift
pg. 44



SST Shuttle
pg. 42



T-8
pg. 43



Skylab
pg. 70



Little Joe II
pg. 40



Mercury Redstone
pg. 37



Saturn 1B
pg. 40



Saturn 5
pg. 38



**One of the largest single engine
Sport Flying Rockets
available anywhere!**

**Build and fly this scale
version of America's first
manned spacecraft!**

Interplanetary "ORION"

SUPER DETAILING - BAFFLE EJECTION

BIG!! IMPRESSIVE!! One of the largest single engine rockets available. Loaded with detail from end-to-end, the ORION is a masterpiece of advanced model engineering . . . and it flies great, too. Flights to over 400 feet with automatic parachute recovery and soft landing. Kit features special "blow-molded" nose cone, vac-formed corrugation wrappers, die-cut fins, and "Quick-change" Engine Lock. Also included are 3 simulated fuel cells, Baffle Ejection System*, a simulated exhaust nozzle, and 4 color decals. This one's a winner!

Catalog No. KC-8 **\$5.95**

Shipping Wt. 16 oz.
Engines not included.

SPECIFICATIONS
Length 22.5"
Body Dia. 2.04"
Net Wt. 4.5 oz.

RECOMMENDED ENGINES

B4-2 or C6-3

FAMOUS "MERCURY-REDSTONE"

AUTHENTIC MOLDED MERCURY CAPSULE

Unquestionably the finest, most accurately detailed flying model of the famous rocket that first carried man into space. True 1/36th scale measuring a big 2" diameter and 29" tall, yet weighs less than 4 ounces. The MERCURY Capsule and tower are molded of tough H92 styrene plastic. Even the coolant louvers are molded into the capsule. Kit features die-cut fins; big 3 color decal, and bonus Historical Data Brochure. Beautiful high altitude flights with realistic lift-off and dual parachute recovery. Terrific for display and demonstrations.

Catalog No. KS-1 **\$5.95**

Shipping Wt. 15 oz.
Engines not included.

SPECIFICATIONS
Length 29"
Body Dia. 2.04"
Net Wt. 3.7 oz.

RECOMMENDED ENGINES

B4-2 or C6-3

The Mercury Capsule included with the kit is also available separately. Fits #20 tube. Cat. No. MR-36. \$1.50

America's Moon Rocket

"APOLLO SATURN 5"

THE ULTIMATE FLYING SUPER SCALE MODEL
OVER 3½ FEET TALL!



Here is the famous Centaur Saturn 5, accepted throughout the world as the flying replica of the rocket that takes Man to the Moon! Scaled from official NASA blueprints, this is the perfect kit for rocketeers experienced in scale and cluster powered models. Performing as beautifully as it looks, the Saturn 5 lifts slowly and majestically from the launch pad. Rising rapidly under power and coasting to apogee, the Saturn deploys its colorful parachutes. The spacecraft descends slowly on its own 20" chute while the main body swings lazily earthward on a pair of large 24" chutes. A Tech Report on "Clustering Techniques" is included as background information for launching this 3 engine show stopper.

BONUS: Now includes oversize clear plastic stabilizing fins . . . easily removable for display. These fins are recommended for all flights, but are a must for a Saturn 5 converted to Enerjet power! Clear plastic fins also available separately.

Catalog No. KS-12

\$24.95

Shipping Wt. 3 lbs.
Explosives not included

SPECIFICATIONS

Length 43.5"
Body Dia. 3.88"
Net Wt. 9.2 oz.

RECOMMENDED ENGINES

3 - CB-3's

Note: The Saturn V should be launched from a heavy duty LJA-100 launcher.

Clear Plastic Fins
\$1.50

Catalog No. CPF-1

Shipping Wt. 6 oz.

THREE PARACHUTE RECOVERY

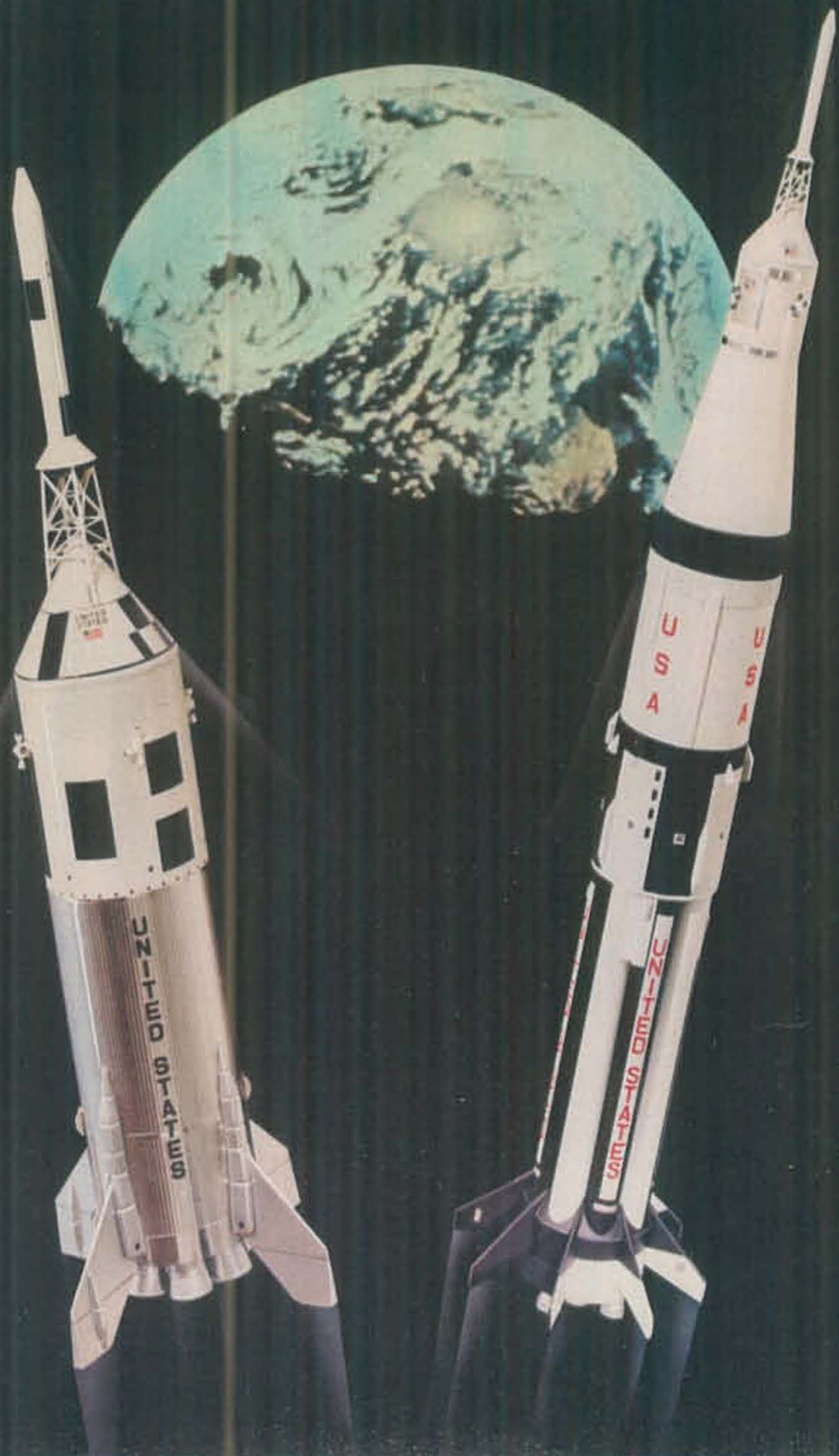


Removable display nozzles are exact copies of the real F-1 engine bells.

Easily assembled injection molded Apollo tower and capsule.

Precisely fabricated, corrugated vac-form panels.

Historical brochure provides history of Apollo program and many photos.



Apollo Tower Tester "LITTLE JOE II"

1/45 ACTUAL SCALE - CHROME BODIED - 3 ENGINE CLUSTER!

Here is a monster-sized super scale model of the last Little Joe test vehicle to be flown, NASA #CSM 002. The incredibly rich variety of exotic materials and parts in this challenging kit include printed chrome mylar corrugated skin, plasticized pressure-sensitive roll patterns, vacuum-formed fairings, injection-molded styrene, milled and sawn balsa fins, die-cut embossed simulated engine nozzles. A thrill for any skilled hobbyist, the Apollo Little Joe II thunders skyward under 3-engine cluster power. Dual chute recovery assures the safe separate return of rocket and capsule. Includes step-by-step instructions, fascinating illustrated 12 page Historical Brochure, and Sure-Shot Igniters. (Use LIA-100 launcher only.)



Catalog No. KS-8

\$17.95

Shipping Wt. 2 lbs.
Engines not included.

RECOMMENDED ENGINES

3 - B4-2's
3 - B6-4's
3 - C6-5's

SPECIFICATIONS

Length 23.4"
Body Dia. 3.4"
Net Wt. 5.5 oz.



A wide range of exotic parts.



Precision-shaped fibre components.



Removable display engine nozzles.



Strikingly colored stencils.



LOTS OF PICTURES!

In-depth book on the Little Joe program.

Moonshot Forerunner "SATURN-1B"

DUAL ENGINE POWER - UNBELIEVABLY REAL LIFT-OFFS



Massive, richly detailed super scale 1/100th model #SA-205, the first rocket to launch a manned Apollo mission. Every detail on the model is correct - down to the exact markings that appeared on the real ship. The Saturn 1-B is not a beginner's kit, but extreme care was taken in designing this kit so the average builder could turn out a museum quality model. Dual chutes, very complete step-by-step construction and painting instructions, and Cluster Technique Report are included.

SPECIFICATIONS

Length 26.9"
Body Dia. 2.62"
Net Wt. 4.4 oz.

RECOMMENDED ENGINES

2 - B6-4's
2 - C6-5's

Catalog No. KS-10 **\$13.95**

Shipping Wt. 2 lbs.
Engines not included.

Note: The Saturn 1-B should be launched from a heavy duty LIA-100 launcher.



Accurately detailed capsule & tower kit.



Full depth sawn formed corrugated body panels.



Die-cut formed fins and removable display nozzles.



Historically accurate decal sheet.



Fascinating historical brochure.

Thrilling Three Stage "T-BIRD"

A REAL POWER-HOUSE PAYLOAD CARRIER

Designed for the experienced rocketeer, the T-BIRD demonstrates the method of reaching high altitudes through staging of engines. Pass-Port Staging™ simplifies automatic ignition of upper stage engines. First and Second stages recover by aerodynamic "tumbling" while the third stage returns by colorful parachute to be flown again and again. Scientific payloads can be carried in the clear plastic capsule and nose cone to altitudes up to 2100 feet. Includes detailed instruction sheet and decal.

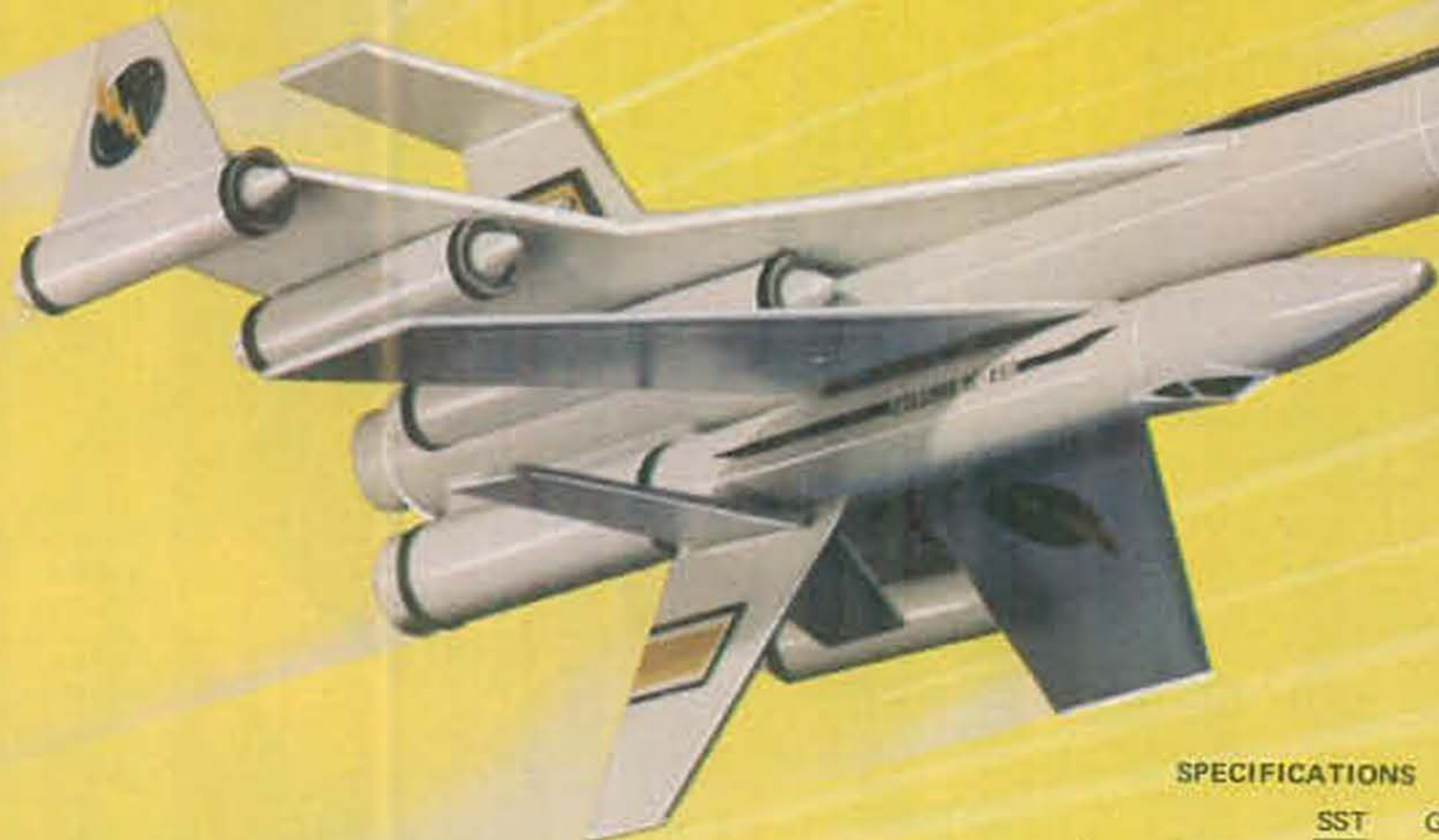
Catalog No. KC-9 \$ 3.95

Shipping Wt. 14 oz.
Engines not included.

RECOMMENDED ENGINES		
1st Stage	2nd Stage	3rd Stage
B14-0	A8-0	A8-5
B14-0	B6-0	B4-6
B14-0	B14-0	B6-6
B14-0	C6-0	C6-7

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

* Patent Pending



SPECIFICATIONS

	SST	GLIDER
Length	22.5"	8.5"
Body Dia.	1.04"	0.76"
Net Wt.	2 oz.	.6 oz.



"SST SHUTTLE-1" Dual Ship

FUTURISTIC ROCKET GLIDER SYSTEM

A novel idea for a space transportation system inspired this impressive model. Lift-offs are smooth and impressive, with the sleek SST carrying its piggyback glider to an extreme altitude. The Glider separates at apogee, beginning its long flight pattern back to Earth. Meanwhile, the SST deploys its large 2-color chute to drift safely with the craft landing horizontally in flying position! This challenging kit is complete with plastic detail parts, generous colorful decal sheet, "SST Concepts Report", and illustrated instructions.

RECOMMENDED ENGINES
B4-2 C6-3

Catalog No. KC-17 \$4.95

Shipping Wt. 18 oz.
Engines not included.



Exciting "SPACE SHUTTLE"

NASA INSPIRED - TWO GLIDE RETURN CRAFTS

Tomorrow's spacecraft will fly back from space to land like aircraft on Jet runways. The Centuri Space Shuttle model is a preview of the latest concepts, with each flight an air-show in itself: The double model lifts off dramatically, thundering skyward at a slight angle. At apogee the engine pod ejects and starts to flutter back on a streamer; Orbiter and booster ships slip into glide patterns, flying gracefully back to soft landings. Plastic cones, cockpits, die-cut fins, a large sheet of colorful decals, and detailed instructions, make this one of the most spectacular models available anywhere.

Catalog No. KC-6 **\$4.95**

Shipping Wt. 15 oz.
Engines not included

SPECIFICATIONS

	Booster Ship	Shuttle Ship
Length	15"	9.5"
Body Dia.	1.64"	1.34"
Wingspan	9.75"	4.7"
Net Wt.	2.20 oz.	.85 oz.

RECOMMENDED ENGINE
C6-3 ONLY!

"SWIFT" Boost Glider

IDEAL FOR THE MODEL PLANE ENTHUSIAST!

The Swift is the ultimate in high-performance boost-glider design! The front mounted engine carries the Swift to peak altitude where the engine pod pops off to recover by parachute. The Swift glider is released to glide for several minutes before returning gently to Earth. This efficient aerodynamic design, worked out after many tests, is a challenge for the experienced modeler. Includes large two-color custom decal sheet, instructions, and full-size plan.

Catalog No. KBG-3 **\$2.75**

Shipping Wt. 14 oz.
Engines not included

SPECIFICATIONS

Length	16.5"
Wing Span	11.2"
Glider Wt.	1.0 oz.

RECOMMENDED ENGINES

A5-2 B4-2

"TAURUS" Fleet Ship

ALIEN PLANETARY CRUISER

You can fly this interstellar craft from the far planet of Taurus at your next launch! This massive model of the proud Taurian ship is surprisingly easy to build. Kit comes with precision formed nose cones and two reducers, chrome trim, die-cut fins, quick-change engine lock and exotic Taurian decals. For a real challenge, paint your two foot model in the Taurian Admiralty color! If you are unfamiliar with the extra-terrestrial civilization of the Taurians, you'll learn about them in the kit's illustrated Science Fiction storysheet.

Catalog No. KB-3

\$3.50

Shipping Wt. 16 oz.
Engines not included.

SPECIFICATIONS

Length 23.3"
Body Dia. 1.34"
Net Wt. 2.6 oz.

RECOMMENDED ENGINES

A8-3 B4-4
B6-4 C6-5



ROCKET ENGINES

**TO POWER ALL YOUR SINGLE-STAGE,
MULTI-STAGE AND CLUSTERED ROCKETS**

Safe, reliable model rocket engines are the heart of the miniature aerospace activity that is sweeping the country. Without these tiny packages of power, there would be no nationally recognized hobby of model rocketry today. All model rocket engines are purposely designed to be ignited by remote electrical control only. This is not only the safe way to ignite engines; it is the only accurate and professional way. Model rocket engines are "one-shots" . . . that means they cannot be reloaded or re-used.

Centuri manufactures many varieties of model rocket engines to close tolerances on specially designed automatic machinery, to provide reliable, predictable performance. Engines are constantly tested on electronic monitoring equipment to assure a high level of safety and performance standards. It is neither safe nor practical for an individual to attempt to make his own engines.

In professional missile work, contractors are employed to develop and supply the actual rocket motors. In developing the giant Saturn 5, even rocket expert Werner Von Braun selected a contractor to develop his engines. Let Centuri be your engine contractor. You will be supplied with safe, reliable high-performance engines. Like professional NASA rocket engineers, you can design airframes, stabilization systems, recovery techniques, payload, advanced multi-staged systems and rocket-glider craft. The sky is the limit!

Centuri model rocket engines are regularly tested by the National Association of Rocketry (NAR) to meet many scientific performance criteria for safety and contest certification. Look for this emblem on all your model rocket engines.



NOW!

ALL CENTURI
ROCKET ENGINES
COME WITH
SURE-SHOT[®]
IGNITERS
... THE WORLD'S
MOST RELIABLE
IGNITER!

(Also available separately.)

WHAT MAKES A MODEL ROCKET FLY?

1 Model rockets are powered by miniature engines that operate just like the large atmospheric research rockets launched by various agencies. All rocket engines, big or small, operate on a reaction principle. High speed gases generated by a burning propellant escape from the rocket nozzle producing a reaction in the opposite direction, which in turn propels the rocket forward.



Gases in closed vessel inside a rocket. Pressure is equal on all sides.

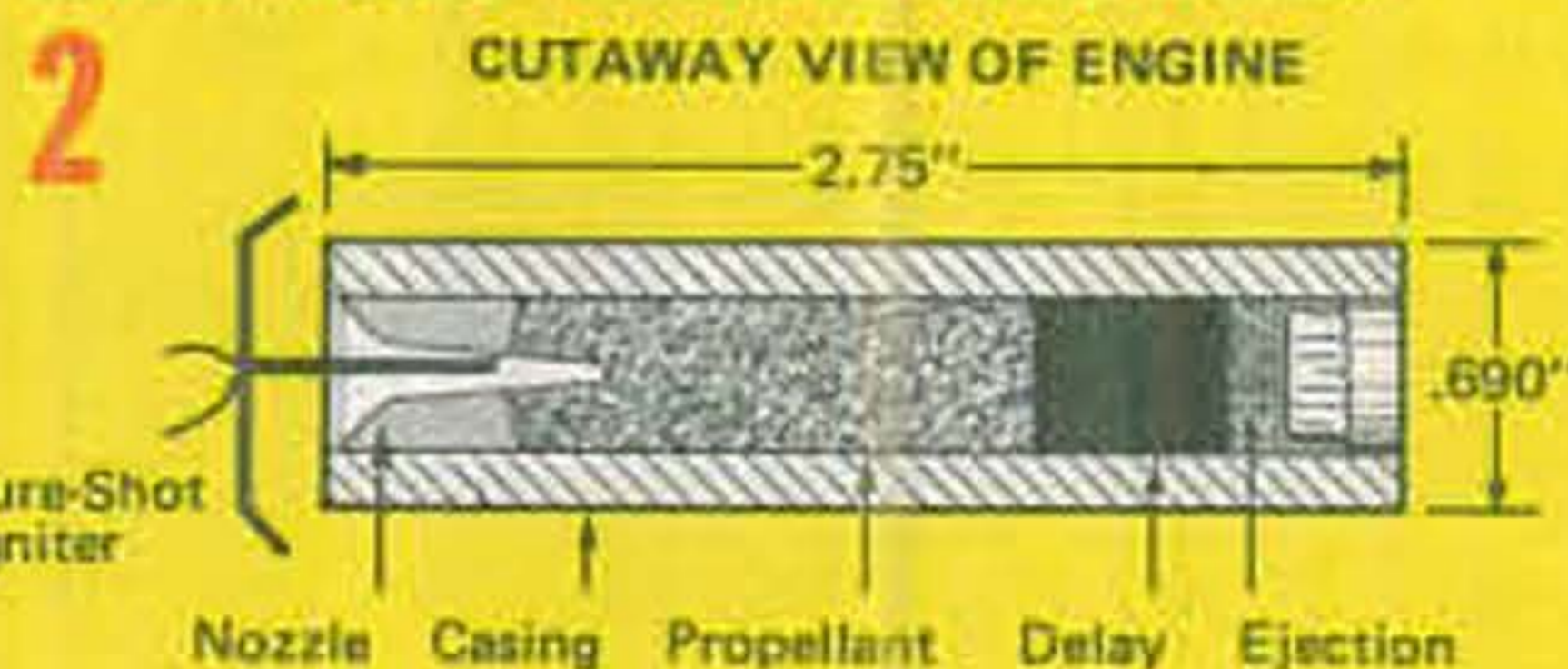


Vessel open at one end. A pressure imbalance moves rocket away from the open end. Restriction at nozzle end causes the gases to "speed up" as they leave the vessel.

In a rocket engine, continued combustion maintains a pressure imbalance causing the rocket to fly faster and faster until the propellant is used up. The propellant portion of model rocket engines is very small and burns for only a short period of time. (See engine chart.)

After the propellant is used up, your model rocket coasts upward until it runs out of velocity and starts to fall back to Earth. The peak of its flight is called "apogee". If you have used an engine with the right delay time (coasting time) an ejection charge will pop the nose cone out and deploy the parachute (or other recovery device) and return your rocket safely for another flight.

HOW A MODEL ROCKET ENGINE WORKS



HERE'S HOW IT WORKS

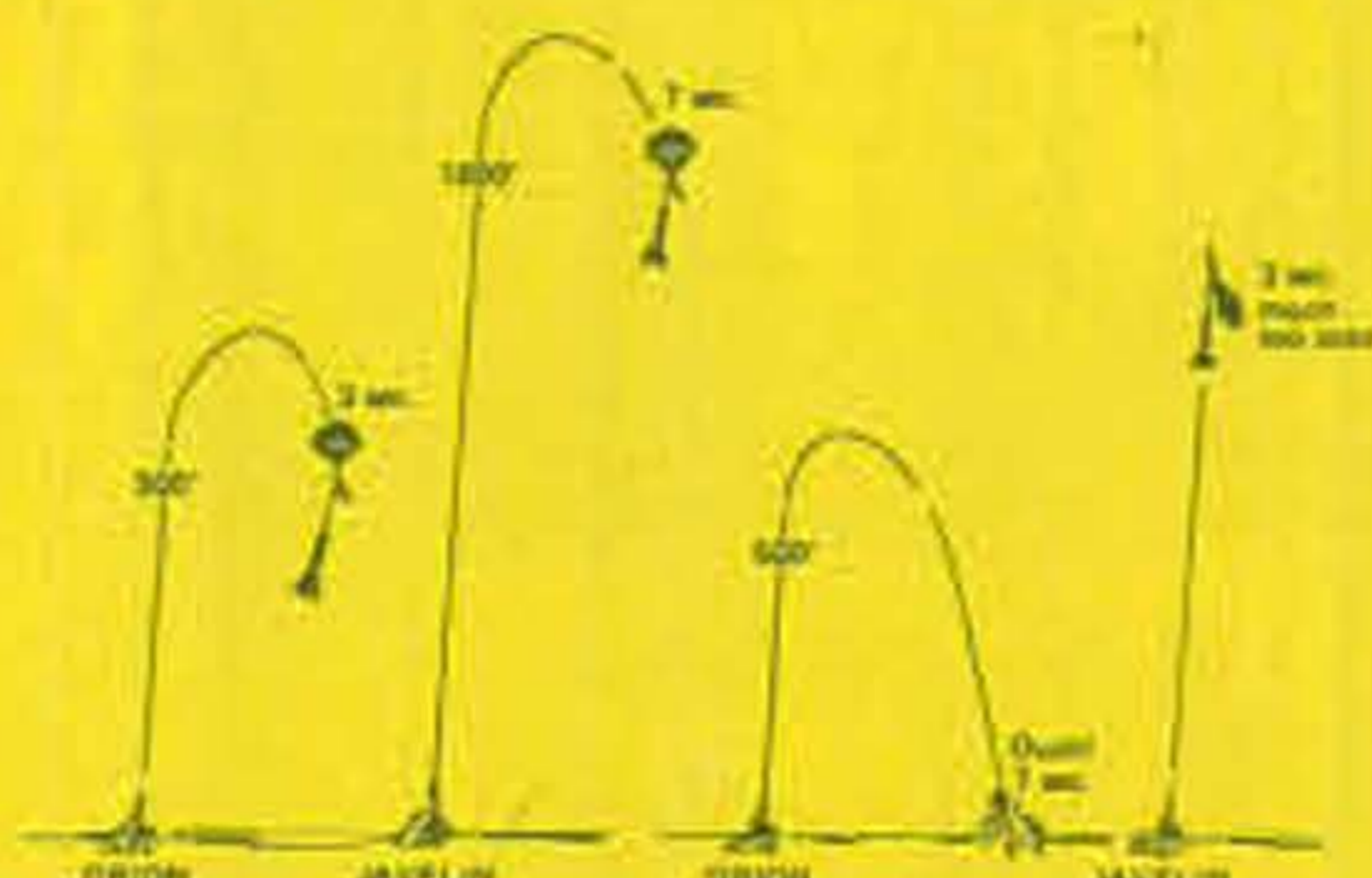
- 1** Battery operated launch system heats igniter in engine nozzle, starts propellant burning.
- 2** Engine develops pre-determined thrust. Action and Reaction principle causes rocket lift-off.
- 3** Propellant burns out, delay charge burns slowly permitting the rocket to coast to peak altitude. Produces smoke for ease of tracking.
- 4** Ejection charge ignites, providing hot, expanding gas to activate recovery system.

TWO BASIC TYPES OF ROCKET ENGINES

- 3** "End Burner" Excepting the B14 engines, all 1/4A through C engines are essentially "End Burners". The B14 "Port Burner" engine is a "Port Burner" design which consumes the propellant faster, producing higher thrust levels and correspondingly higher accelerations. B14's are ideal for lifting payloads.

A VARIETY OF ENGINES TO CHOOSE FROM

4 Model rockets are built in all kinds of shapes and sizes to do many things. Some rockets are big and heavy. These need high thrust for a good lift-off. However, they will not coast as high as a lighter rocket. Let's compare a Javelin and an Orion. A C6 type engine will fly the small Javelin over 1600 feet. The larger, heavier Orion with the same power engine flies up 500 feet. It takes almost 7 seconds for the Javelin to coast 1600 feet, so a C6-7 works for that rocket. Suppose we flew the Orion with a C6-7. In seven seconds, the larger, heavier Orion would coast up to 500 feet and all the way back down. For its shorter flight, the Orion needs a shorter delay to eject the chute at apogee — a C6-3. This example illustrates the need for a variety of delay times.



The way it should be — with recommended engines. If we switch engines: The Orion gets a bent up nose and the Javelin's chute opens long before it should, possibly ripping the chute.

Even with the same rocket, various launching field sizes, wind conditions, etc. may limit how high you want your rocket to go. That's why we offer engines in different power classes. Always use the recommended engines for your kit. Otherwise your rocket may not survive the flight.

LAUNCHING THAT NEW BIRD

5 When the Centuri Research and Development Staff tests a new design, they see first if it resembles some existing proven model rocket, in size and weight. If it does, probably it will use the same engines. Each new design is usually launched first with A engines to limit the altitude so performance can be accurately observed. Our Research and Development Department finds that all first test flights should be done with the least powerful recommended engine.

INFORMATION

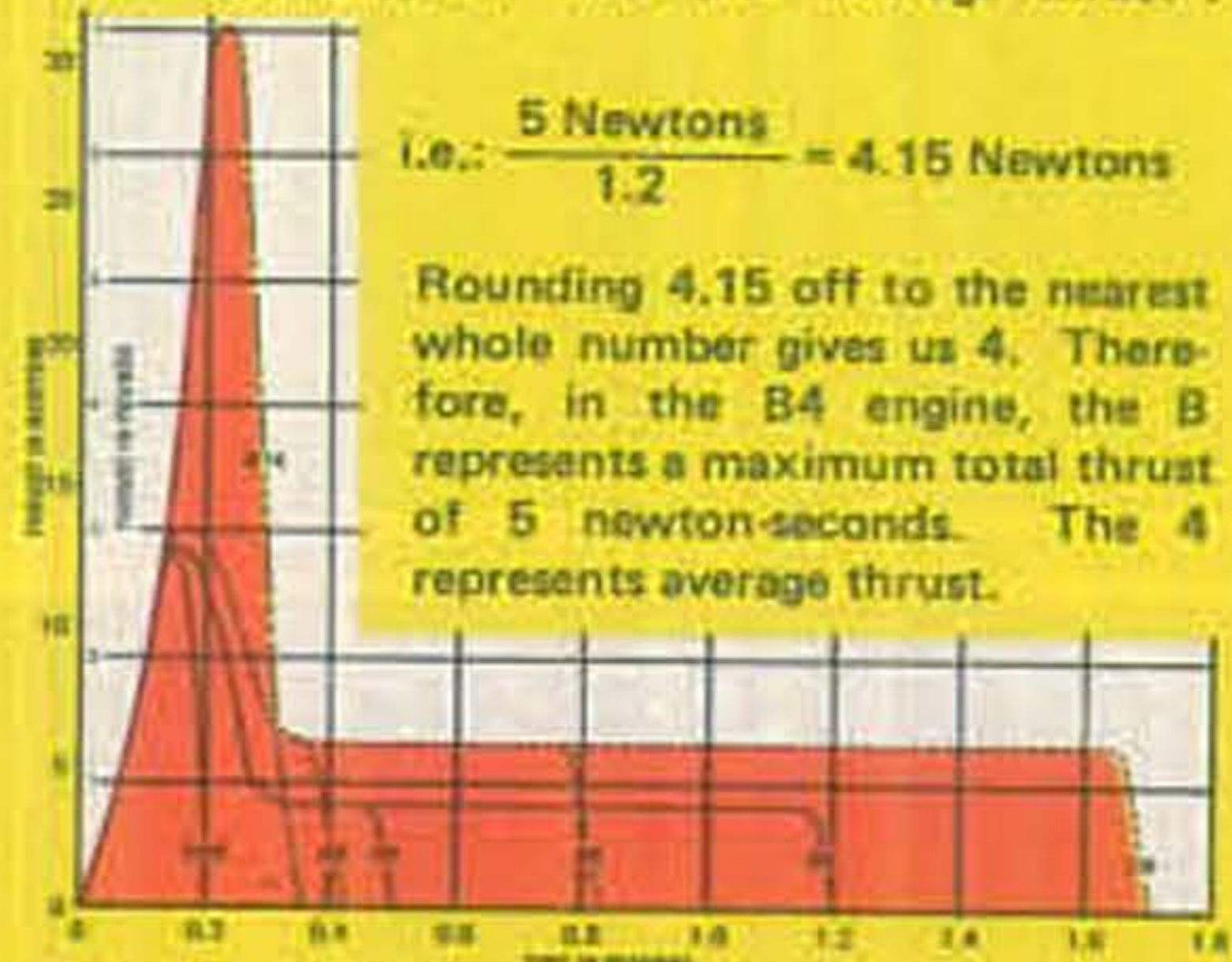
IMPORTANT ROCKET ENGINE INFORMATION TO HELP YOU HAVE SUCCESSFUL FLIGHTS

HOW TO SELECT ENGINES

6 Model rocket engines are available in a wide variety of power ratings, each for a purpose. By using only the engines recommended for your rocket you will increase your chances for a successful flight. This seemingly complex chart explains the power relationships of several classes of model rocket engines. Here's how to read it:

- The time, or duration, of engine thrusting is measured in seconds from left to right.
- The ranges of thrust (newtons* or pounds) are shown vertically by each curving line. (*Unit of force in the metric system.)

For example, the B4 engine, at the instant of ignition, has no thrust and no time has elapsed. By 0.2 seconds thrust has climbed to about 12.5 newtons and started to drop. This is called the "initial spike". By 0.4 seconds, thrust has leveled off to about 4 newtons, where it will continue until burnout at 1.2 seconds. This B4 engine is manufactured with a total impulse of 5 newton-seconds (as shown in the "Engine Chart" under "Total Impulse" column) and is at the top of the "B" class engines. It burned for 1.2 seconds. If we divide the total impulse (5 Newton-Seconds) by the thrust duration (1.2 seconds), we find the "average thrust".



If at this point you are becoming discouraged don't worry. All of this has been worked out for you in the recommended engine listings with each kit in this catalog. For people interested in more engine theory and performance, Centuri's TIR-100 Model Rocket Altitude Performance shows how to select the proper delay time for a given engine type, rocket size, and weight.

MODEL ROCKET ENGINE CODING SYSTEMS

7 **COLOR CODING** EJECTION CHARGE ENGINES are printed in GREEN or PURPLE. A green label means that the delay time is best for average single-stage rocket, while purple means the engine has a longer delay time — generally needed for the longer coasting sustainer of a multi-stage rocket, or extremely light single-stage rockets.

BOOSTER ENGINES have "zero" (0) delay times, meaning that they have no ejection charge at all. They are intended for the boosters of multi-stage rockets only. At the instant of propellant burnout, hot gasses issue forth from the forward end of the casing which ignite the engine in the next stage. All booster engines are printed with a RED label. NEVER use a booster engine in a single-stage rocket.

NUMBER CODING

A **Total Thrust Code.** Total power rated in Newton-seconds. Each letter class is twice as powerful as previous class. (Example: B engine is twice as powerful as an A engine.)

CODED TOTAL IMPULSE CHART	Engine Type	Total Impulse in Newton-Seconds	Total Impulse in Pound-Seconds
A	1/4A	0.625 to 1.25	0.15 to 0.28
B	1/4B	1.26 to 2.50	0.29 to 0.56
C	1/4C	2.51 to 5.00	0.57 to 1.12
		5.01 to 10.00	1.13 to 2.24

Total impulse is actually a measure of the total available packaged power within a rocket engine. It is found by multiplying the average thrust force of a rocket engine by its thrust duration. It immediately allows you to compare the power difference between one rocket engine and another. The higher the total impulse, the higher a rocket of a given size and weight will go.

5 **Average Thrust Code** tells how power is delivered; long duration low thrust, short duration high thrust, etc.

2 **Delay Code.** Has nothing to do with power. This number indicates in seconds, time between engine burnout and recovery system deployment.



IF YOU LAUNCH IN TOO SMALL AN AREA...

8 You'll probably lose your rocket, that's what. Even the slightest breeze will cause a chute, streamer or glide recovery rocket to drift a surprising distance. Some model rockets have been caught by upper atmosphere winds, undetectable on the ground, and drifted many miles. You can avoid this problem several ways:

- For your convenience, a launch site should be large enough for you to recover the rocket without crossing walls, roads, fences, brooks, etc.
- By avoiding launching in winds over 20 m.p.h. you will have more predictable flights.
- When in doubt, cut a "spill hole" two or more inches in diameter in the center of the chute.

This will allow the rocket to descend in a more vertical path, nearer the launch site.



- Avoid "Rocket-Eating Trees"! Finagle's Law states that trees, no matter how few and far away, attract model rockets and their parachutes, swallowing them whole. Seriously, if your returning rocket becomes stuck in a tree, be careful in recovering it. Experienced rocketeers use long sticks or a ladder; and don't take a chance on a fall.

NEVER attempt to recover a rocket from telephone or power lines. Call the appropriate utility company for assistance.



ROCKET ENGINE SPECIFICATIONS & PRICES

CHOOSING THE RIGHT ENGINE FOR YOUR MODEL ROCKET

The heart of Centuri's program is the reliable model rocket engine. Engines listed in this chart are designed for use with the Rocket Kits and with your own rocket designs built from Custom Parts. Engine 3-Packs include SURE-SHOT® igniters and complete mounting, ignition, and launching instructions.

All engines are color coded to indicate their recommended uses. GREEN labeled engines are for standard single-stage rockets. PURPLE labeled engines are for the "top stage" in multi-staged rockets, or for high-flying single-stage rockets weighing less than one ounce. RED labeled engines are intended only as BOOSTERS in staged rockets. They contain no delay or ejection charges.

ROCKET ENGINE SPECIFICATIONS AND PRICES

Catalog Number & Type	PRICES 3 FOR *	Total Impulse		Average Thrust		Thrust Duration seconds	Delay Time ± 15% seconds	Engine Weight ounces	Propellant Wt. ounces	Recom. Max. lift-off wt. (with engines) ounces
		LB-sec	N-sec	Ounces	Newtons					
SINGLE-STAGE ENGINES (Green Label)										
1/2A6-2	1.25	.28	1.25	22.40	6.23	.20	2	.53	.055	2.5
A5-2	1.35	.56	2.50	17.92	4.98	.50	2	.59	.110	3.0
A8-3	1.35	.56	2.50	28.00	7.81	.32	3	.57	.110	4.0
B4-2	1.45	1.12	5.00	14.93	4.15	1.20	2	.70	.294	4.5
B4-4	1.45	1.12	5.00	14.93	4.15	1.20	4	.74	.294	4.5
B6-4	1.45	1.12	5.00	21.59	6.00	.83	4	.78	.220	5.0
B14-5	1.65	1.12	5.00	51.20	14.23	.35	5	.69	.220	6.5
C6-3	1.65	2.24	10.00	21.08	5.86	1.70	3	.88	.440	5.5
C6-5	1.65	2.24	10.00	21.08	5.86	1.70	5	.91	.440	5.5
UPPER-STAGE ENGINES OR SINGLE-STAGE FOR LIGHTWEIGHT ROCKETS (Purple Label)										
1/2A6-4	1.25	.28	1.25	22.40	6.23	.20	4	.54	.055	1.0
A5-4	1.35	.56	2.50	17.92	4.98	.50	4	.64	.110	1.5
A8-5	1.35	.56	2.50	28.00	7.81	.32	5	.62	.110	2.0
B4-6	1.45	1.12	5.00	14.93	4.15	1.20	6	.78	.294	2.5
B6-6	1.45	1.12	5.00	21.59	6.00	.83	6	.71	.220	3.0
B14-7	1.65	1.12	5.00	51.20	14.23	.35	7	.73	.220	4.0
C6-7	1.65	2.24	10.00	21.08	5.86	1.70	7	.95	.440	3.5
BOOSTER ENGINES (Red Label)										
1/2A6-0	1.25	.28	1.25	22.40	6.23	.20	0	.48	.055	2.5
A8-0	1.35	.56	2.50	28.00	7.81	.32	0	.51	.110	4.0
B6-0	1.45	1.12	5.00	21.59	6.00	.83	0	.58	.220	5.5
B14-0	1.65	1.12	5.00	51.20	14.23	.35	0	.61	.220	7.5
C6-0	1.65	2.24	10.00	21.08	5.86	1.70	0	.80	.440	6.0

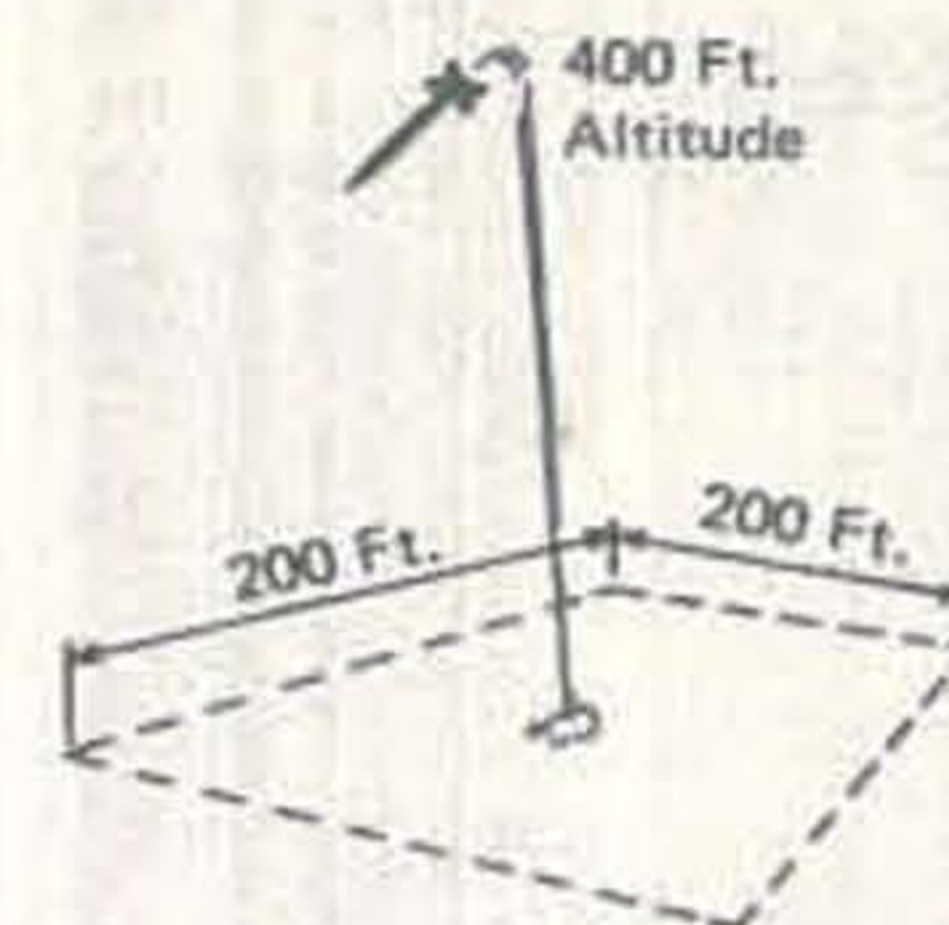
*Engines sold in 3-packs only

ESTIMATED ALTITUDE CHART

Altitudes of model rockets will vary greatly, depending on the model's length, weight, drag, shape, and many other factors. Knowing how high your rocket will fly helps you pick a large enough launch area. The chart below will give you an idea of the Maximum Altitude you can attain with typical, well-built model rockets.

CHOOSING A LAUNCH SITE

Thousands of successful rocketeers have found it is best to pick an area free of power lines, low flying aircraft, buildings and flammable vegetation such as dry hay. By following the same commonsense rules they would with any outdoor recreation, they have many happy times. These little rockets are big performers, and need a lot of room. Don't fly in your backyard, unless if you live on a farm! An ideal launch site is one whose side dimensions are at least half the expected altitudes of your rockets. Simply pace off the area, measuring your stride to get a rough idea of its size. The expected altitudes for all combinations of engines and rocket diameters are given in the "Estimated Altitude Chart".



ESTIMATED MAXIMUM ALTITUDE IN FEET

Catalog No. & Type	LARGEST TUBE DIAMETER OF MODEL					
	#7	#8	#10	#13	#16	#20
SINGLE-STAGE ENGINES (Green Label)						
1/2A6-2	200	150	100	N/A	N/A	N/A
A5-2	350	300	200	100	N/A	N/A
A8-3	500	450	300	100	N/A	N/A
B4-2	N/A	N/A	450	350	250	150
B4-4	800	700	500	400	300	200
B6-4*	750	650	450	350	250	150
B14-5*	900	700	450	300	150	N/A
C6-3	N/A	N/A	950	700	550	400
C6-5	2000	1600	1300	1000	800	500
SINGLE-STAGE ENGINES FOR LIGHTWEIGHT ROCKETS (Purple Label)						
1/2A6-4	350	250	100	N/A	N/A	N/A
A5-4	500	400	250	100	N/A	N/A
A8-5	650	550	400	200	N/A	N/A
B4-6	1200	1000	800	500	250	N/A
B6-6*	1200	900	600	350	N/A	N/A
B14-7*	1400	1000	600	250	N/A	N/A
C6-7	2400	1900	1500	1100	850	N/A
BOOSTER ENGINES (Red Label)						
1/2A6-0	Staged model flights may go as high as a half-mile, depending on engine configuration. See individual kit descriptions for more data.					
A8-0						
B6-0						
B14-0						
C6-0						

*Recommended for rockets heavier than normal.

Use this handy table for converting and studying engine data.

METRIC SYSTEM CONVERSIONS

4.45 Newtons (n) = 1 pound (lb)
 28.35 grams (gm) = 1 ounce (oz)
 25.4 millimeters (mm) = 1 inch (in)
 2.54 centimeters (cm) = 1 inch (in)

SURE-SHOT "DOT"® IGNITERS

The most reliable engine igniter! For both single and clustered engines!

Here's something you always need plenty of! Centuri Sure-Shots are universally accepted as the ultimate in model rocket igniters. Positive engine ignition everytime. Solves the problem of simultaneous ignition of clustered engines. Also perfect for single-stage flights. Use with all engines on this page. Comes in kit form—sembled in seconds. Complete instructions for assembly and use.

IG-12 Kit of 12 for 75¢

Centuri

SERVO-LAUNCHER*

A REAL BREAKTHROUGH IN FLYING MODEL ROCKET LAUNCHING SYSTEMS!!

Will launch with any standard single-engine ignition rocket*. Here's the ideal general-purpose launch system! Unique air-activated ignition system saves money... two photo-flash batteries now do the job that formally required up to six batteries. Combination Safety Key/Electric Continuity Light built right into the launch pad... where you need it! Adjustable tripod design permits launching from any terrain, and folds for easy carrying. Pre-assembled sub-components of top quality, high-impact styrene go together in minutes. Comes complete with everything but batteries. Includes Sure-Shot Igniters for testing.

\$7.95

Catalog No. LIA-65

Shipping Wt. 2 lbs.
Batteries not included.

*The Saturn 5, Saturn 1-B, 1/45th Little Joe and other cluster-power rockets require the LIA-100 Launcher.

*Pat. Pending.

Continuity light built into the launcher. "Where the action is".

Rockets not included with launchers.

Unique air-activated system eliminates cables and heavy duty power.



Folds in seconds for compact storage.

CHECK THESE ADDITIONAL FEATURES:

- ALL WIRING FACTORY INSTALLED!
- SAFETY-PLUNGER FIRING CONTROL AND 12 FEET LINE!
- QUICKLY CONVERTS INTO HANDSOME DISPLAY STAND FOR SHOWING OFF FAVORITE ROCKETS!
- INCLUDES MACHINED EXHAUST DEFLECTOR AND LAUNCH ROD!

Centuri

Standard Launchers

SPECIALIZED LAUNCH PADS FOR THE "PROS"!

Standard Tripod Launcher

Perfect for economical launches powered by car battery! Use this handy launcher with practically any ignition device, such as Centuri's Lectra-Line 1 or 2 or Professional Panel EP-612. Simply connect your firing control power leads to tabs on back of deflector, and hook up to a battery in place in a car, or to a lantern battery! This large, sturdy well-balancing tripod launch stand includes 2-piece 1/8" thick rod and launching instructions.

Catalog No. LIA-77

Shipping Wt. 3 lbs.

\$4.95



Heavy Duty Launcher

Similar to the standard tripod launcher, but still larger! The LIA-100 is designed for "big ones" or clustered models, especially the Saturn 5, Saturn 1-B, and the Little Joe 1/45th. Low center of gravity prevents tipping when launching those heavy birds. Features heavy duty 3/16" diameter by 36" long rod.

Catalog No. LIA-100

Shipping Weight 4 lbs.

\$7.95



Launcher Accessories

STANDARD LAUNCH ROD
2-piece 1/8" steel rod for "home-builts" or replacement in the Servo Launcher and LIA-77.
Shipping Wt. 3 oz.

Catalog No. LR-125 65¢

IGNITER DEFLECTOR Use a bunch of these to build your own multiple-launcher rack! Includes blast deflector, igniter leads and micro-switch - fully assembled. Shipping Wt. 2 oz.

Catalog No. ID-77 \$2.00



Centuri

Launch Controllers

FOR USE WITH THE LIA-77 AND LIA-100 LAUNCHERS

Catalog No. EFC-1
Shipping Wt. 12 oz.

\$3.95



"Lectra-Line 1"

Launch all your model rockets with this sharp looking firing control panel. Designed primarily for use with Centuri LIA-77 and 100 launchers. Use with 6 or 12 volt power supply. Safety interlock requires "Safety Key" be inserted before system will operate. "Continuity check" light tells when firing circuit is complete. Fifteen feet firing line, battery jump wire, plus complete launching instructions. Use any 6 or 12 volt Lantern Battery, Eveready #713, Burgess TW-1, Ray-O-Vac #918.

Catalog No. EFC-2
Shipping Wt. 14 oz.

\$5.95



"Lectra-Line 2"

Launch all your model rockets from any launcher using power directly off car battery - without removing battery from car! Use also with any 6 or 12 volt dry cell battery. Same features as Lectra-Line 1, plus 20 feet firing line and 5 feet power cord with large battery clips. Use any 6 or 12 volt car battery, or above dry cells.

Professional Firing Panel

Catalog No. EP-612
Shipping Wt. 1 1/2 lbs.

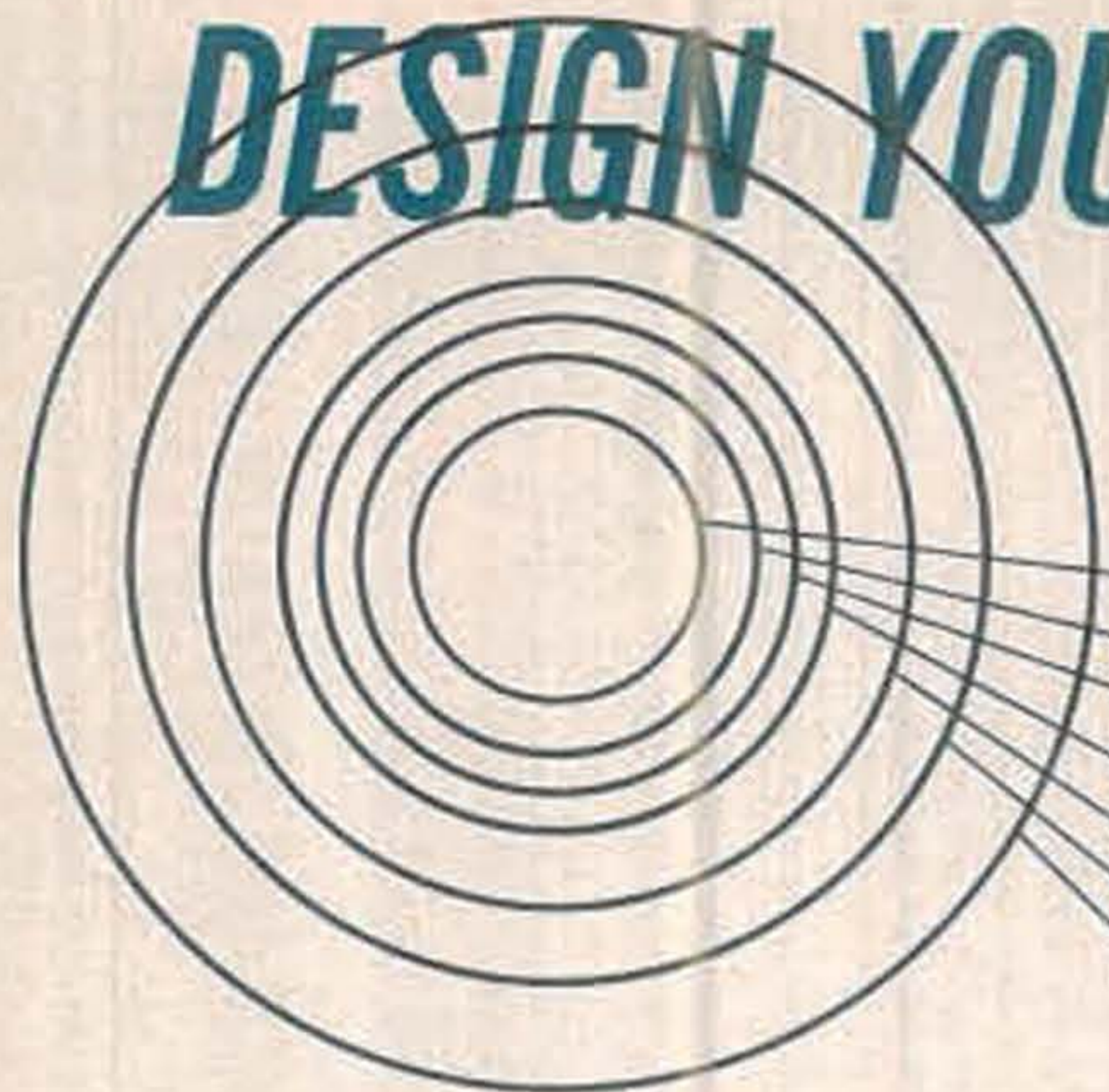
\$14.95



This is the top of the line in scientific model rocket launching control! Hefty, crackle-finish aluminum housing contains electrical safety lock, red arming light and push-button switch. Includes 25 feet firing line, 5 feet power cord, large battery clips... comes fully assembled. Use with any launcher and any batteries above.

DESIGN YOUR OWN ROCKET

IT'S FUN AND EASY TO DESIGN



- #5 SERIES
- #7 SERIES
- #8 SERIES
- #10 SERIES
- #13 SERIES
- #16 SERIES
- #20 SERIES

HOW TO SELECT PARTS

Read about the parts in the following pages to get a feel for their purposes and applications. Start with simple designs as shown below, and move on to more exotic rockets. All mating parts will have the same Series Number. For instance, any #8 series body tube will fit any #8 series nose cone, #8 series engine mount, #8 connector, etc. By using either the balsa or paper reducers, any combination of parts series can be joined together for unusual designs.

NOW IT'S FUN AND EASY TO DESIGN YOUR OWN

You don't need to be a Missile Engineer to design and build your own model rockets! After the practical experience of building and launching several rockets from kits, you'll probably have many ideas for "birds" of your own. In the following pages, you will find all the parts needed to custom build your own rocket designs.

SOME ITEMS YOU SHOULDN'T FORGET

Most model rockets will use these often overlooked parts: Launch lug for lift-off stabilization, shock cord, fastener, chute or streamer for recovery system, screw eye for balsa nose cones, and engine locks which are very useful for avoiding engine "pop-out".



Centuri

DESIGN MANUAL

32 JAMPACKED PAGES-A REAL HELPFUL GUIDE TO DESIGNING AND BUILDING ORIGINAL MODELS

OVER 180 ILLUSTRATIONS AND PHOTOGRAPHS!
EASY TO UNDERSTAND!

Loaded with construction tips, design theories, rocket plans, and flight data! Find out how to build models as good looking as the "birds" in this catalog. This storehouse of information is a fantastic bargain, and a must for your library.

Catalog No. DM-1

50¢

with Centuri parts and accessories!

AND BUILD YOUR OWN ORIGINAL MODEL ROCKETS

WHAT TO DO WHEN YOU START BUILDING

First, plan ahead to make sure you have everything you need, so you won't have any last-minute problems. Sketch your design full-size and test-fit pieces to be sure the idea is practical. Avoid having a lot of fin area forward on the model, as this will probably cause it to fly unstably, and crash. Study the Design Manual and any old kit instructions you may have, for assembly tips. Most Centuri Custom Parts come with detailed illustrated instructions for their use.

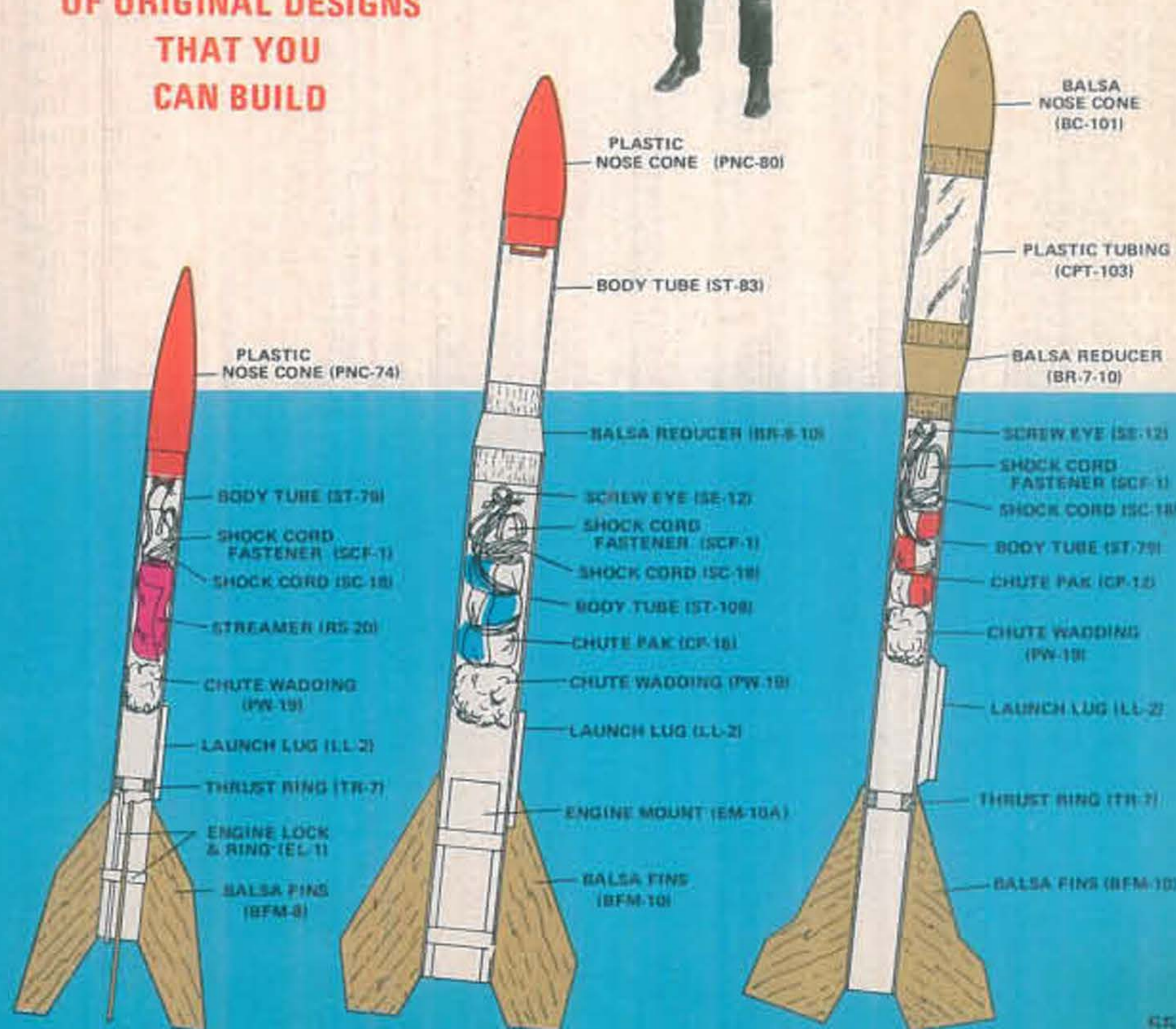
WHAT TO DO BEFORE YOU TEST FLY

Use the swing-test described in the Design Manual to be sure your rocket is aerodynamically stable . . . look through this catalog to find rockets of the same general size, shape and weight . . . and choose one of the least powerful recommended engines for the first test flight. Good Luck, and happy flying!



The stability of a new rocket design can be checked by swing-testing, as shown here.

HERE ARE SOME TYPICAL EXAMPLES OF ORIGINAL DESIGNS THAT YOU CAN BUILD



Centuri

CUSTOM ROCKET

DESIGN YOUR OWN HIGH PERFORMANCE**Centuri**

BEGINNER'S SPECIAL

Build 6 complete rockets with all these parts . . . and at a real savings. Perfect for the imaginative modeler who wants to create his own rocket designs. It's easy! Just follow the design tips and plans shown in the "Designer's Manual" (included).

BIG-BIG \$11.48 VALUE

CENTURI'S
SPECIAL
PRICE **7.95**

Catalog No. SPA-4
Shipping Wt. 1 lb. 4 oz.

**BUILD 6 SINGLE-STAGE
CUSTOM ROCKETS WITH THIS SPECIAL!**



**YOU GET ALL
THESE PARTS**

**CHECK
THIS VALUE!**

4 Body Tubes	ST-79	.80
2 Body Tubes	ST-712	.50
2 Nose Cones	BC-70	.80
3 Nose Cones	PNC-76	1.20
1 Nose Cone	BC-74	.55
1 Fin Pattern Sheet	FPS-2	.25
3 Balsa Fin Material	BFM-8	.55
1 Balsa Fin Material	BFM-10	.20
4 12" Parachutes	CP-12i	2.00
2 16" Parachutes	CP-16i	1.20
3 Screw Eyes	SE-12	.13
1 Sheet Tape Discs	TD-35	.30
1 Roll Shroud Line	SL-70	.40
6 Elastic Shock Cords	SC-18	1.00
6 Thrust Rings	TR-7	.35
6 Launch Lugs	LL-2	.25
6 Shock Cord Fasteners	SCF-1	.50
Plus		
1 Rocket Designer's Manual	DM-1	.50

TOTAL VALUE \$11.48

**YOU GET ALL THESE PARTS —
CHECK THIS VALUE!**

1 Body Tube	ST-73	.15
1 Body Tube	ST-79	.20
1 Body Tube	ST-712	.25
1 Body Tube	ST-88	.25
2 Body Tubes	ST-812	.60
2 Body Tubes	ST-1010	.60
1 Nose Cone	BC-70	.40
2 Nose Cones	PNC-74	.80
1 Nose Cone	BC-83	.65
2 Nose Cones	PNC-89	1.50
1 Nose Cone	BC-103	1.00
1 Nose Cone	PNC-106	.85
3 Thrust Rings	TR-7	.18
3 Engine Mounts	EM-8	1.50
2 Engine Mounts	EM-10A	1.20
1 Fin Pattern Sheet	FPS-2	.25
2 Balsa Fin Material	BFM-8	.37
4 Balsa Fin Material	BFM-10	.80
1 Plastic Capsule Tube	CPT-83	.25
3 12" Parachutes	CP-12i	1.50
3 16" Parachutes	CP-16i	1.80
2 20" Parachutes	CP-20i	1.40
2 Sheets Tape Discs	TD-35	.60
1 Roll Shroud Line	SL-70	.40
8 Elastic Shock Cords	SC-18	1.33
8 Shock Cord Fasteners	SCF-1	1.33
Launch Lugs	LL-2	.34
1 Flag Decal	DC-35	.75
3 Screw Eyes	SE-12	.13
Plus		
1 Rocket Designer's Manual	DM-1	.50

TOTAL VALUE \$21.88

PARTS ASSORTMENTS

ROCKETS FROM TOP QUALITY PARTS

DESIGNER'S SPECIAL

Wow! What a bargain! \$21.00 worth of supplies for only \$12.95. You save over \$8.00. With these parts, you can design and build 8 big rockets. Also includes the helpful "Designer's Manual" with rocket plans and design tips. Great for clubs and creative rocketeers who want to experiment with new rocket designs.

IDEAL FOR CLUBS

**BUILD MANY DIFFERENT
CUSTOM DESIGNS WITH THIS
SUPER VALUE!**

SAVE OVER \$8.00 NOW

**\$21.88 VALUE
FOR ONLY**

12.95

Catalog No. SPA-8
Shipping Wt. 1 lb. 8 oz.

Completed rockets
shown, not included.



Centuri

ROCKET BODY TUBES

HEAT WELDED-STRONG-SMOOTH-LIGHTWEIGHT

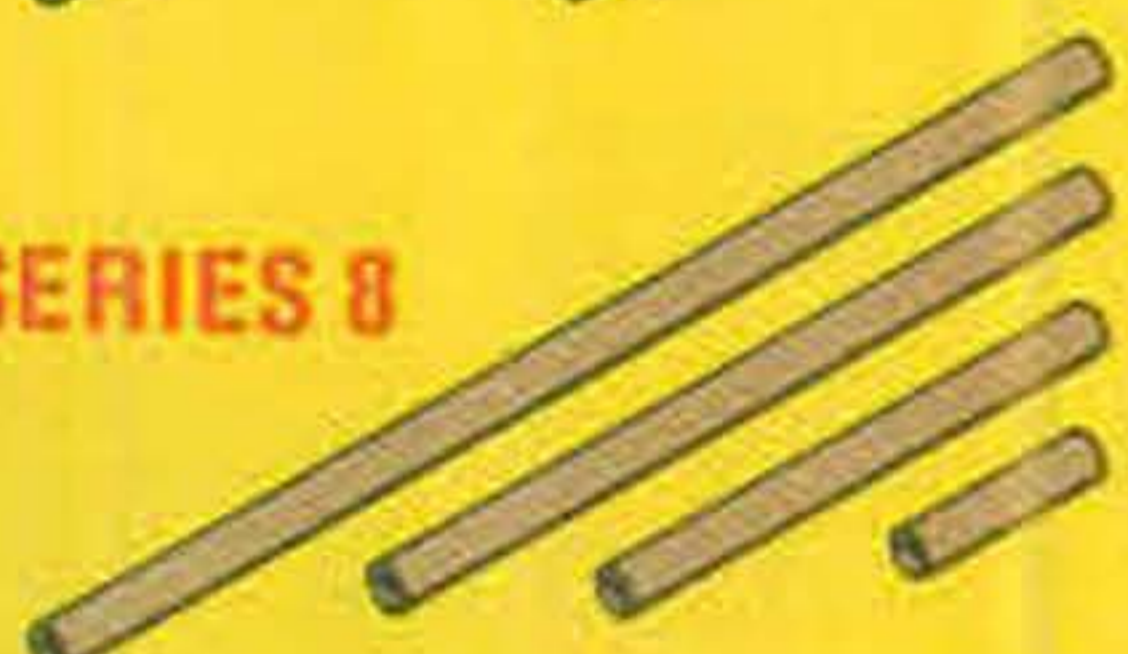
SERIES 5



SERIES 7



SERIES 8



SERIES 10



SERIES 13



SERIES 16



SERIES 20



Cat. No.	I.D.	O.D.	Length	Net Wt.	Ship. Wt.	Each
ST-518	.515"	.543"	18.0"	.240 oz	10 oz	40¢
ST-512	.515"	.543"	12.0"	.160 oz	6 oz	25¢
ST-56	.515"	.543"	6.0"	.080 oz	4 oz	15¢
ST-718	.715"	.759"	18.0"	.288 oz	12 oz	50¢
ST-712	.715"	.759"	12.0"	.192 oz	8 oz	25¢
ST-79	.715"	.759"	9.0"	.144 oz	6 oz	20¢
ST-73	.715"	.759"	3.0"	.048 oz	4 oz	15¢
ST-818	.865"	.908"	18.0"	.450 oz	12 oz	60¢
ST-812	.865"	.908"	12.0"	.283 oz	9 oz	30¢
ST-88	.865"	.908"	8.0"	.200 oz	6 oz	25¢
ST-83	.865"	.908"	3.0"	.075 oz	4 oz	15¢
ST-1018	1.00"	1.04"	18.0"	.612 oz	12 oz	70¢
ST-1010	1.00"	1.04"	10.5"	.357 oz	10 oz	30¢
ST-108	1.00"	1.04"	8.0"	.272 oz	8 oz	25¢
ST-103	1.00"	1.04"	3.0"	.102 oz	4 oz	15¢
ST-1318	1.30"	1.34"	18.0"	.738 oz	12 oz	90¢
ST-1313	1.30"	1.34"	13.5"	.553 oz	10 oz	50¢
ST-138	1.30"	1.34"	8.0"	.328 oz	8 oz	40¢
ST-133	1.30"	1.34"	3.0"	.123 oz	4 oz	15¢
ST-1618	1.60"	1.64"	18.0"	.936 oz	12 oz	\$1.20
ST-1612	1.60"	1.64"	12.8"	.665 oz	10 oz	60¢
ST-165	1.60"	1.64"	5.25"	.273 oz	8 oz	25¢
ST-2018	2.00"	2.04"	18.0"	1.184 oz	14 oz	\$1.60
ST-2012	2.00"	2.04"	12.0"	.789 oz	12 oz	75¢
ST-205	2.00"	2.04"	5.0"	.329 oz	9 oz	30¢

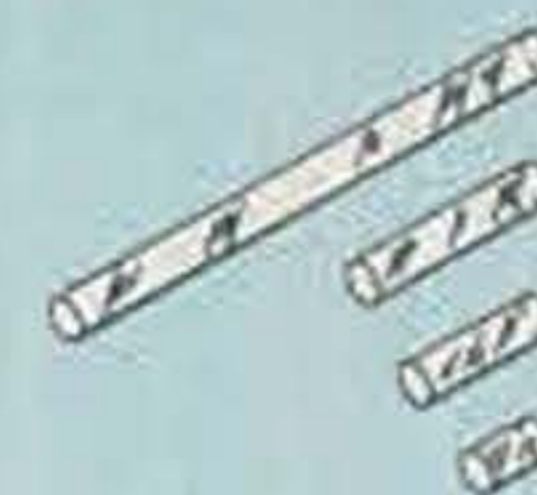
SEE PAGE 54 FOR ACTUAL SIZE DIAMETERS.

Centuri

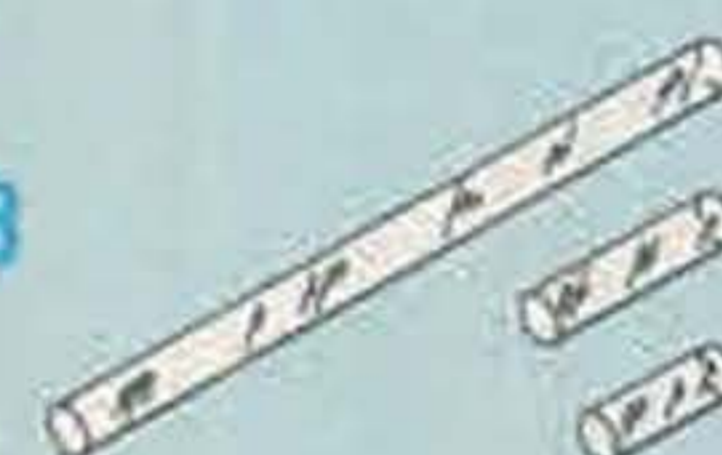
PLASTIC TUBING

ULTRA-LIGHTWEIGHT-CLEAR

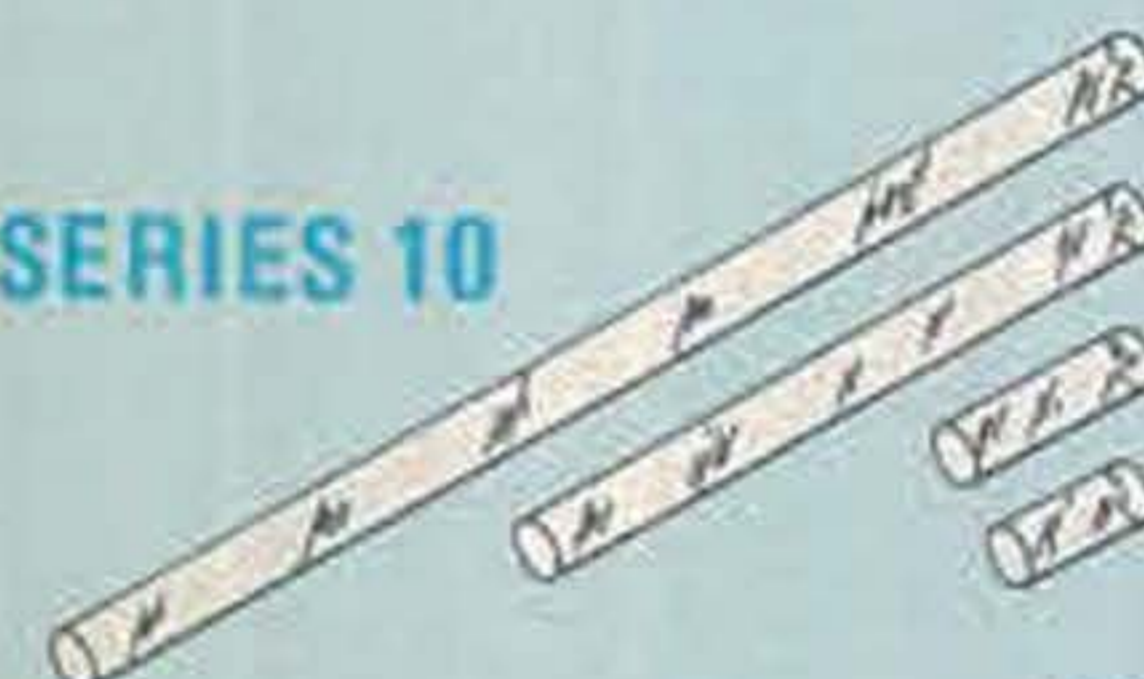
SERIES 7



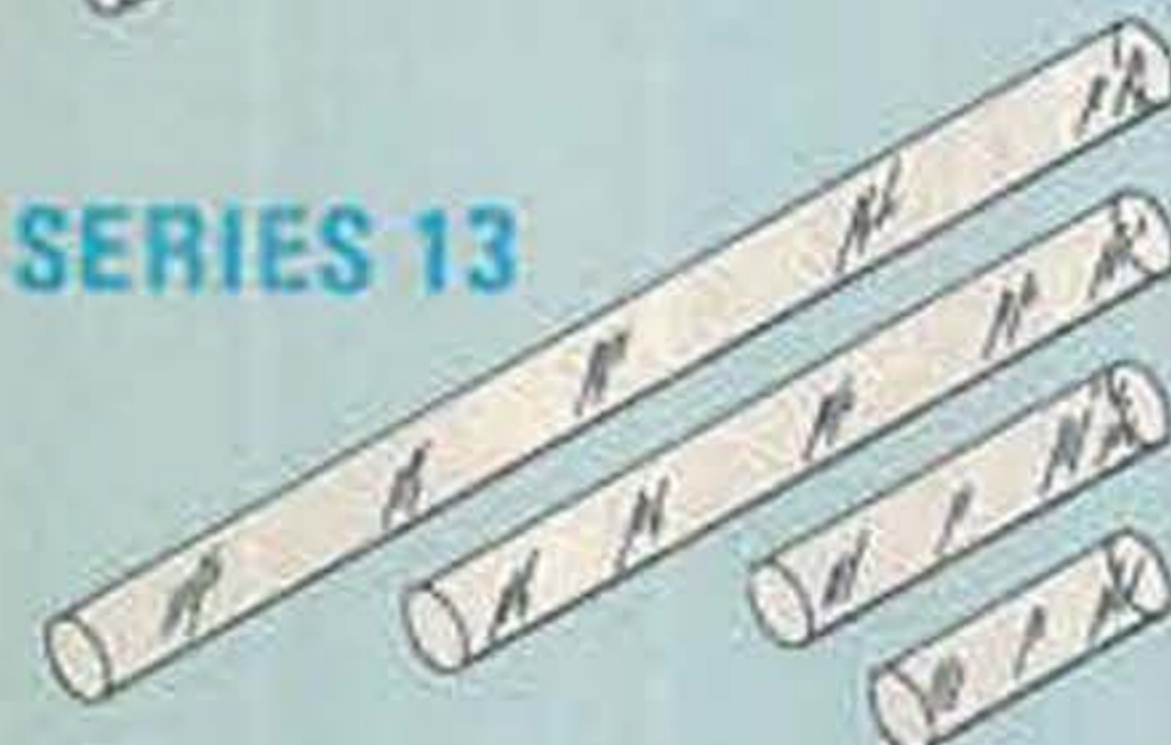
SERIES 8



SERIES 10



SERIES 13



Cat. No.	I.D.	O.D.	Length	Net Wt.	Ship. Wt.	Each
CPT-78	.715"	.741"	8.00"	.170 oz	5 oz	30¢
CPT-73	.715"	.741"	3.25"	.069 oz	3 oz	25¢
CPT-72	.715"	.741"	2.75"	.060 oz	3 oz	20¢
CPT-71	.715"	.741"	1.87"	.039 oz	3 oz	10¢
CPT-811	.865"	.891"	11.25"	.292 oz	8 oz	30¢
CPT-83	.865"	.891"	3.5"	.091 oz	4 oz	25¢
CPT-82	.865"	.891"	2.5"	.065 oz	3 oz	15¢
CPT-1018	1.00"	1.03"	18.0"	.576 oz	12 oz	65¢
CPT-1010	1.00"	1.03"	10.0"	.320 oz	8 oz	35¢
CPT-103	1.00"	1.03"	3.5"	.112 oz	4 oz	30¢
CPT-102	1.00"	1.03"	2.5"	.080 oz	4 oz	15¢
CPT-1318	1.30"	1.33"	18.0"	.720 oz	12 oz	70¢
CPT-1312	1.30"	1.33"	12.0"	.480 oz	9 oz	60¢
CPT-136	1.30"	1.33"	6.0"	.240 oz	6 oz	50¢
CPT-134	1.30"	1.33"	4.0"	.160 oz	4 oz	40¢

USE PLASTIC TUBING FOR MANY USES:

The use of clear plastic tubing in your custom designed rockets is limited only by your imagination.



SEE-THRU DISPLAY MODELS



ENLARGED PAYLOAD COMPARTMENT



SPECIAL DESIGN DECORATIVE CAPSULE AREA

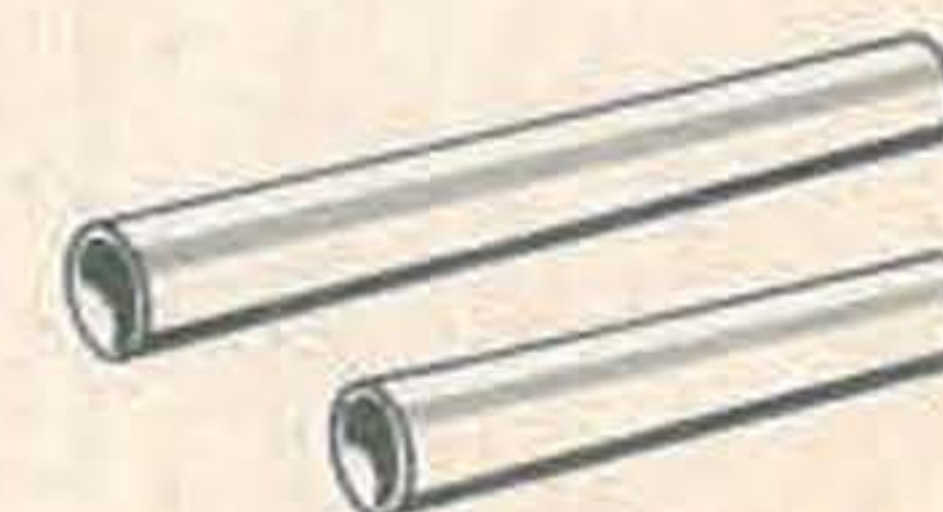
LAUNCH LUGS

TOP QUALITY EASY TO USE



WHAT IS A LAUNCH LUG?

A launch lug is a slender tube glued to a side of the rocket which slides over the steel guide rod on the launcher. This guides the rocket along the launch rod until it reaches sufficient air speed to become stable in flight.



MYLAR LUGS

Lightweight, strong lugs with hi-gloss finish. Micro-thin wall construction. Fits over 1/8" rod.

LL-2 2 1/4" long 6 for 25¢
LL-3 3" long 6 for 40¢

Centuri

PLASTIC NOSE CONES

PRECISION MOLDED-HOLLOW-BRIGHT SOLID COLORS

CHECK THESE NEW FEATURES!



These payload-carrying injection-molded cones are great time savers for the rocketeers more interested in flying than in sanding and sealing! Ready to use, in solid colors, but may be painted with enamel or lacquered enamel. NOTES: Series 5 cones are used decoratively, such as in "pods", and have no anchor lugs. Series 13 and 16 have pre-glued bases.



NO SANDING!
NO FILLING!
NO PAINTING!
PRECISION FIT!

SERIES 5



Cat. No.	"A"	"B"	"C"	Net Wt.	Ship Wt.	Each
PNC-51	.515"	.543"	1.0"	.04 oz	1 oz	35¢
PNC-54	.515"	.543"	2.2"	.07 oz	2 oz	35¢

SERIES 7



PNC-73	Discontinued					
PNC-74	Discontinued					
PNC-76	.715"	.759"	3.0"	.19 oz	4 oz	40¢

SERIES 8



PNC-80	Discontinued					
PNC-83	Discontinued					
PNC-89	.865"	.908"	4.6"	.29 oz	5 oz	75¢

SERIES 10



PNC-103	1.00"	1.04"	4.1"	.30 oz	6 oz	85¢
PNC-106	1.00"	1.04"	4.5"	.33 oz	6 oz	85¢

SERIES 13



PNC-132	1.30"	1.34"	2.7"	.35 oz	6 oz	75¢
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SERIES 16



PNC-160	1.60"	1.64"	2.5"	.40 oz	6 oz	85¢
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Centuri

BALSA NOSE CONES

MACHINED SMOOTH SURFACE-LIGHTWEIGHT



These precision machined balsa nose cones are ideal for those hi-performance birds where minimum weight is critical. "Sand n' Seal" them to provide the ultimate in a smooth surface finish.

Cat. No.	"A"	"B"	"C"	Net Wt.	Ship Wt.	Each
BC-50	.515"	.543"	1.6"	.03 oz	1 oz	25¢
BC-52	.515"	.543"	1.6"	.03 oz	1 oz	30¢
BC-54	.515"	.543"	2.4"	.04 oz	2 oz	50¢



SERIES 5

BC-70	.715"	.759"	1.6"	.04 oz	1 oz	40¢
BC-72	.715"	.759"	1.9"	.04 oz	1 oz	45¢
BC-74	.715"	.759"	3.5"	.07 oz	2 oz	55¢
BC-76	.715"	.759"	3.1"	.06 oz	2 oz	45¢
BC-79	.715"	.759"	3.6"	.06 oz	2 oz	45¢



SERIES 7

BC-80	.865"	.908"	2.1"	.09 oz	2 oz	45¢
BC-83	.865"	.908"	3.2"	.15 oz	3 oz	65¢
BC-85	.865"	.908"	3.2"	.12 oz	4 oz	60¢
BC-86	.865"	1.18"	6.2"	.36 oz	6 oz	95¢
BC-89	.865"	.908"	4.8"	.20 oz	6 oz	\$1.20



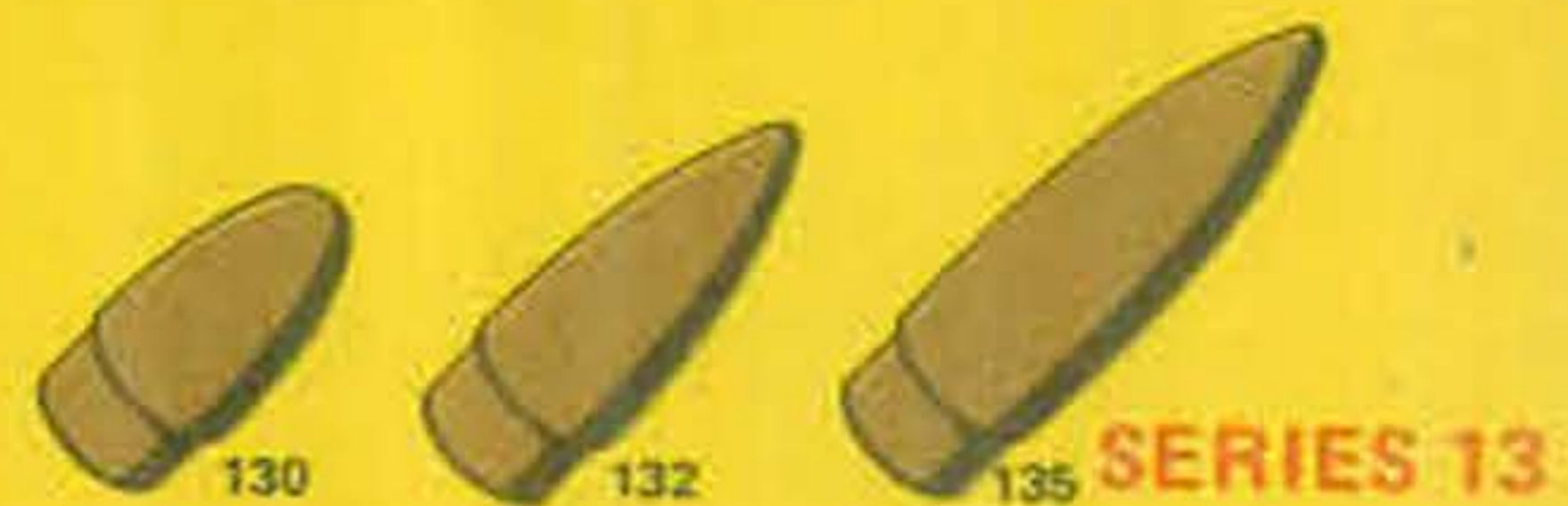
SERIES 8

BC-101	1.00"	1.04"	2.0"	.14 oz	2 oz	65¢
BC-103	1.00"	1.04"	3.9"	.17 oz	3 oz	\$1.00
BC-105	1.00"	1.04"	4.1"	.16 oz	4 oz	75¢
BC-107	1.00"	1.04"	5.3"	.22 oz	4 oz	85¢



SERIES 10

BC-130	1.30"	1.34"	1.9"	.18 oz	4 oz	75¢
BC-132	1.30"	1.34"	2.9"	.25 oz	5 oz	80¢
BC-135	1.30"	1.34"	3.9"	.30 oz	6 oz	\$1.20



SERIES 13

BC-160	1.60"	1.64"	2.5"	.20 oz	4 oz	75¢
BC-162	1.60"	1.64"	3.4"	.22 oz	6 oz	\$1.20



SERIES 16

BC-200	2.00"	2.04"	2.5"	.38 oz	5 oz	\$1.60
BC-204	Discontinued					



SERIES 20

Centuri COUPLERS,

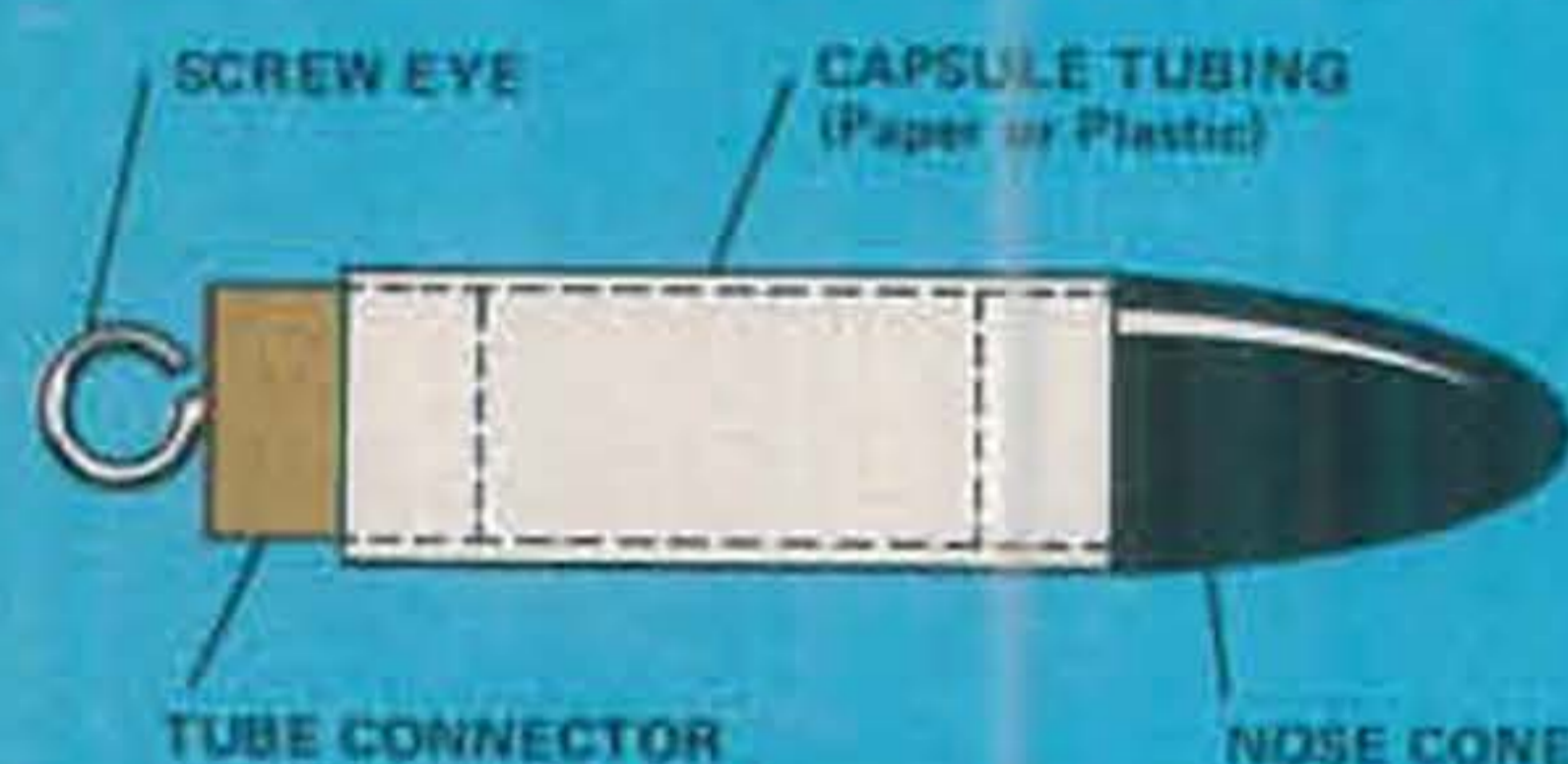
Parts needed for STAGING, PAYLOAD CAPSULES,



TUBE CONNECTORS

Featherweight round balsa plugs for connecting payload sections to main body tubes. Also useful for connecting body tubes of like diameter or wherever a solid blockage is desired. Formerly called "Solid Bulkheads".

TYPICAL PAYLOAD CAPSULE DESIGN



TUBING COUPLERS

Lightweight, rigid fiber tube sections useful for connecting body tubes of same diameter, multi-stage couplings, and body tube cutting guides. Telescopes snugly inside the tube sizes listed below.

TUBING COUPLER APPLICATIONS



Series	Cat. No.	O.D.	Length	Net Wt.	Ship Wt.	Each	Cat. No.	O.D.	Length	Net Wt.	Ship Wt.	Each
5	BTC-5	.515"	¾"	.010 oz	1 oz	25¢	HTC-5	.513"	¾"	.020 oz	1 oz	15¢
7	BTC-7	.715"	1"	.025 oz	1 oz	35¢	HTC-7A	.713"	1.0"	.023 oz	1 oz	15¢
							HTC-7CDH*	.800"	1.0"	.025 oz	1 oz	20¢
							*Slips over outside of #7 tube. Has ported relief holes for staging systems.					
8	BTC-8	.865"	1"	.085 oz	2 oz	40¢	HTC-8	.863"	1.0"	.030 oz	1 oz	15¢
10	BTC-10	1.00"	1¼"	.095 oz	2 oz	50¢	HTC-10	1.00"	1.0"	.035 oz	2 oz	20¢
13	BTC-13	1.30"	1½"	.140 oz	3 oz	60¢	HTC-13	1.30"	1.5"	.072 oz	2 oz	25¢
16	BTC-16	1.60"	1¾"	.185 oz	3 oz	70¢	HTC-16	1.597"	1.75"	.110 oz	3 oz	35¢
20	BTC-20	2.00"	1¾"	.288 oz	4 oz	85¢	HTC-20	1.998"	1.75"	.136 oz	4 oz	45¢

CONNECTORS & REDUCERS

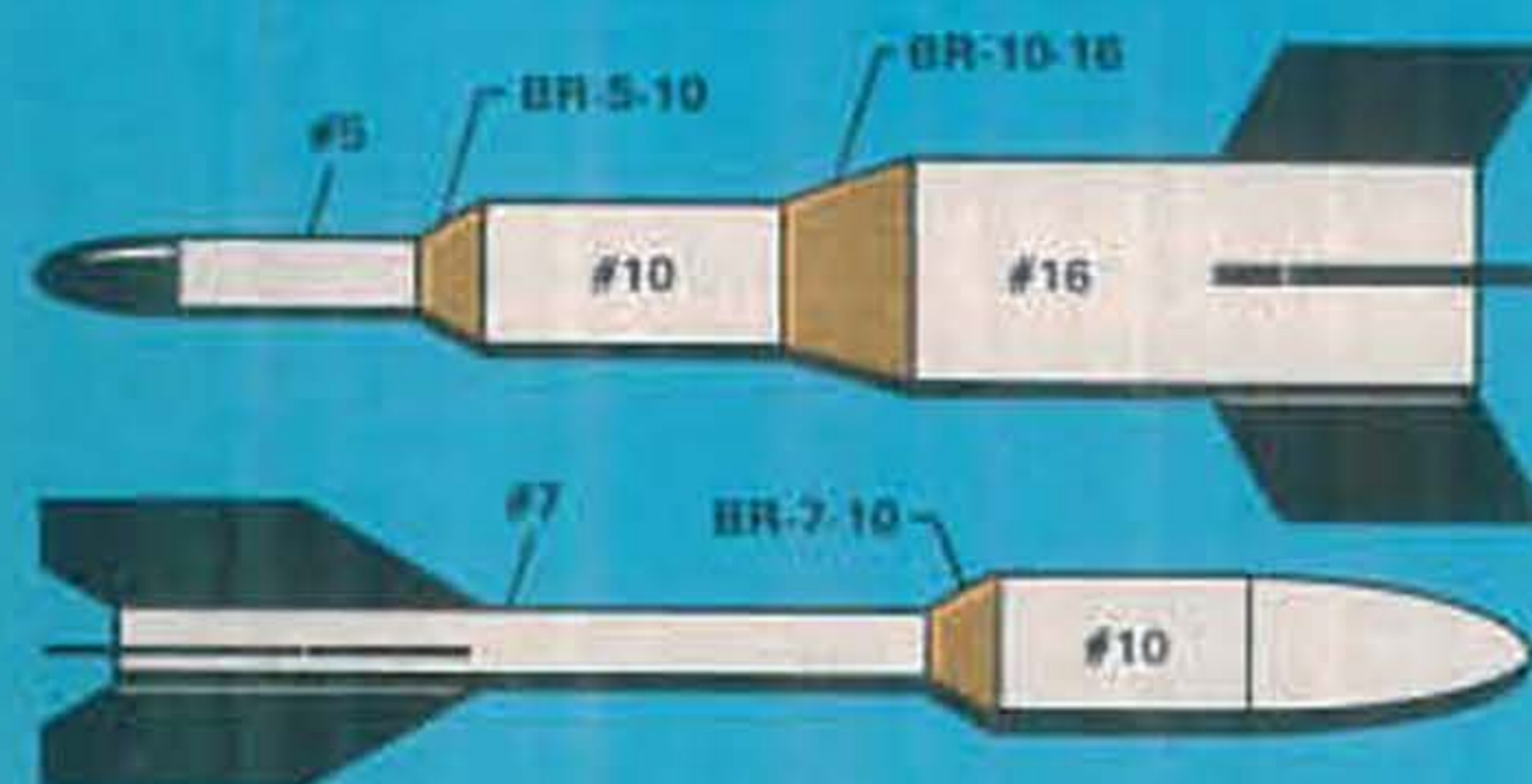
& CONNECTING DIFFERENT SIZED BODY TUBES



BALSA REDUCERS

Use these lightweight balsa adapters for connecting different sized body tubes. Especially useful for adapting a large diameter payload capsule to a small diameter booster or vice versa. Each end actually machined for snug fit joining of tubes. Shipping Wt. 4 oz each.

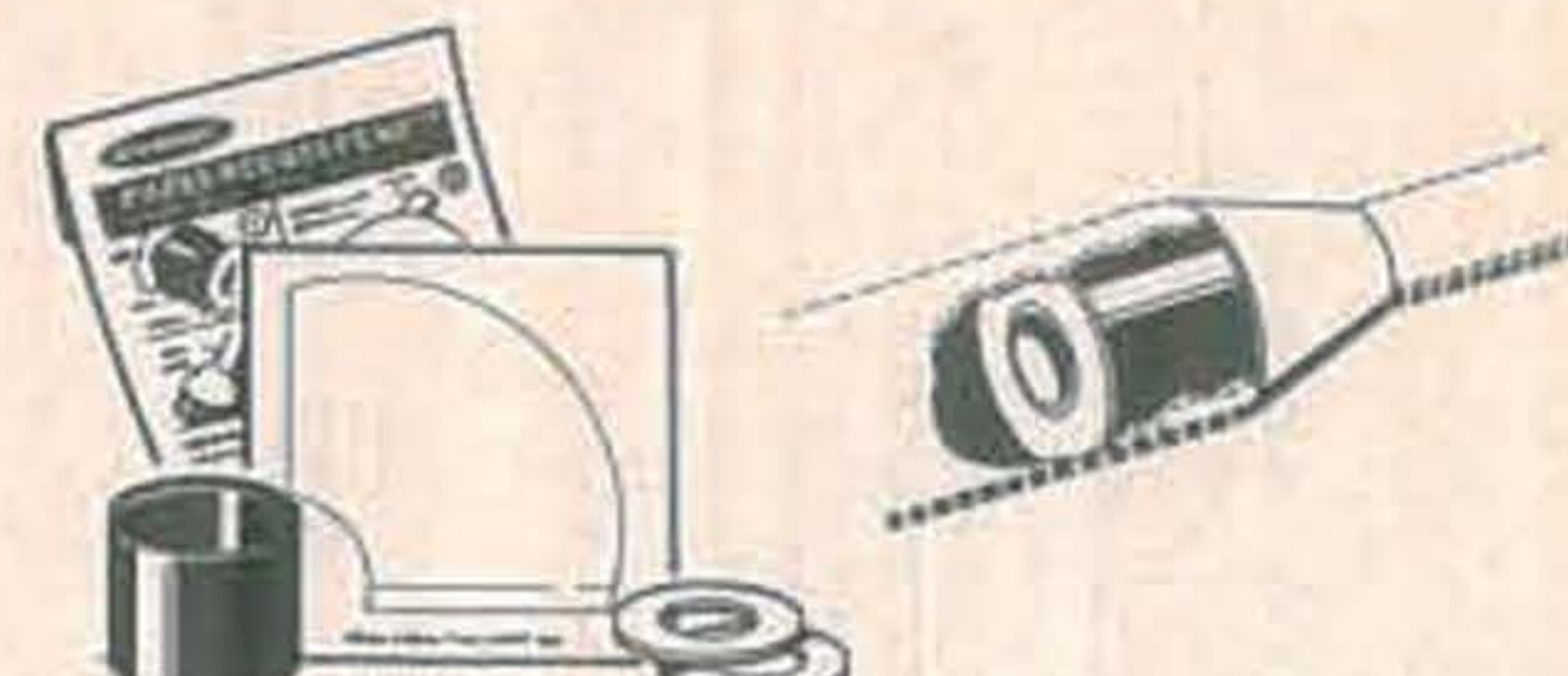
TYPICAL REDUCER APPLICATIONS



Cat. No.	Adapts "A" to "B"	Length "C"	Net Wt.	Each
BR-5-7	#5 to #7	.50"	.07 oz	40¢
BR-5-8	#5 to #8	.50"	.10 oz	45¢
BR-5-10	#5 to #10	.75"	.11 oz	50¢
BR-7-8	#7 to #8	.50"	.10 oz	35¢
BR-7-10	#7 to #10	.75"	.12 oz	50¢
BR-7-13	#7 to #13	1.50"	.18 oz	85¢
BR-7-16	#7 to #16	2.00"	.36 oz	95¢
BR-8-10	#8 to #10	.50"	.14 oz	50¢
BR-8-13	#8 to #13	1.70"	.26 oz	75¢
BR-8-16	#8 to #16	1.50"	.30 oz	\$1.20
BR-10-13	#10 to #13	.75"	.18 oz	85¢
BR-10-16	#10 to #16	1.50"	.32 oz	\$1.10
BR-13-16	#13 to #16	.75"	.24 oz	95¢

For Larger Tube Sizes, Use Paper Reducers

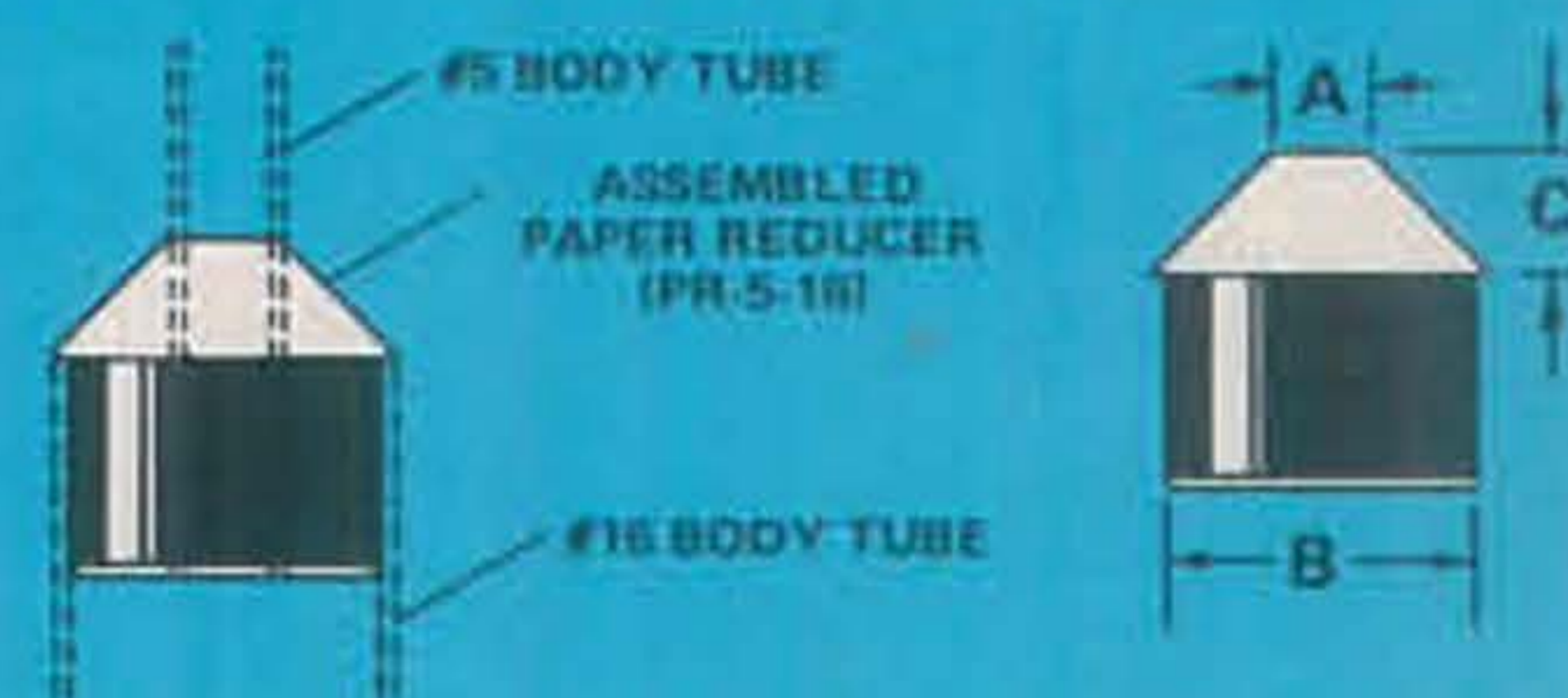
For Larger Tube Sizes, Use Paper Reducers



PAPER REDUCERS

Used to connect body tubes of different diameters. Hollow opening thru center allows passage of ejection gases. Extremely lightweight, these all fiber reducers are easy-to-assemble with glue. Includes base tube coupler, two centering discs, and adapter shroud - plus complete instructions. Shipping weight 3 ounces each.

TYPICAL ASSEMBLY



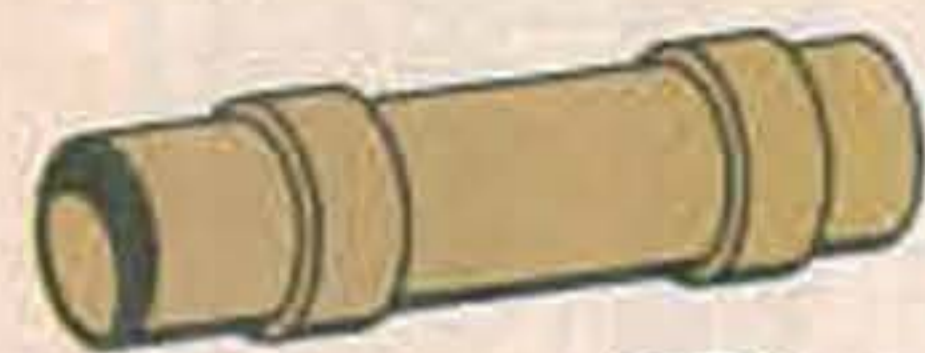
Cat. No.	Adapts "A" to "B"	Length "C"	Net Wt.	Each
PR-5-10	#5 to #10	1.2"	.12 oz	25¢
PR-5-13	#5 to #13	1.8"	.18 oz	25¢
PR-5-16	#5 to #16	2.5"	.24 oz	30¢
PR-7-13	#7 to #13	1.3"	.18 oz	50¢
PR-7-16	#7 to #16	2.0"	.24 oz	50¢
PR-7-20	#7 to #20	3.0"	.29 oz	60¢
PR-8-13	#8 to #13	1.0"	.18 oz	50¢
PR-8-16	#8 to #16	1.7"	.24 oz	50¢
PR-8-20	#8 to #20	2.7"	.29 oz	60¢
PR-10-16	#10 to #16	1.4"	.23 oz	50¢
PR-10-20	#10 to #20	2.3"	.28 oz	60¢
PR-13-16	#13 to #16	0.8"	.22 oz	50¢
PR-13-20	#13 to #20	1.8"	.27 oz	60¢
PR-16-20	#16 to #20	1.0"	.26 oz	60¢

Always look to Centuri for quality parts!

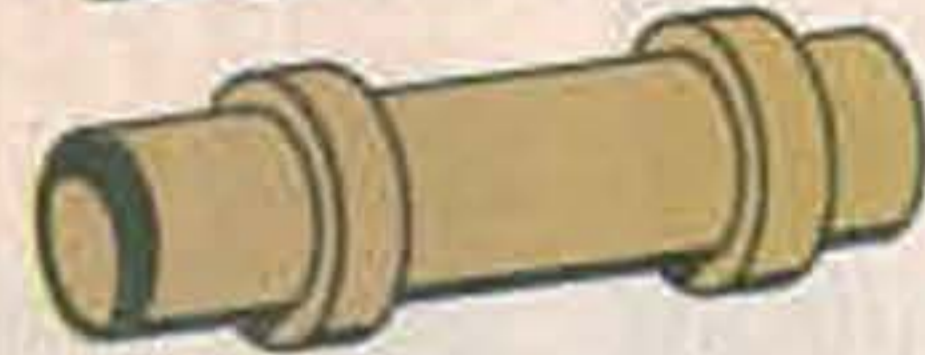
Centuri

ENGINE MOUNTS

TO CENTER AND HOLD THE MODEL ROCKET ENGINE INSIDE THE BODY TUBE



EM-8 Engine Mount fits No. 8 Body Tube Net Wt. 0.16 oz. 50¢ ea.



EM-10A Engine Mount fits No. 10 Body Tube Net Wt. 0.22 oz. 60¢ ea.



EM-10 Engine Mount fits No. 10 Body Tube Net Wt. 0.15 oz. 60¢ ea.



EM-13 Engine Mount fits No. 13 Body Tube Net Wt. 0.20 oz. 65¢ ea.

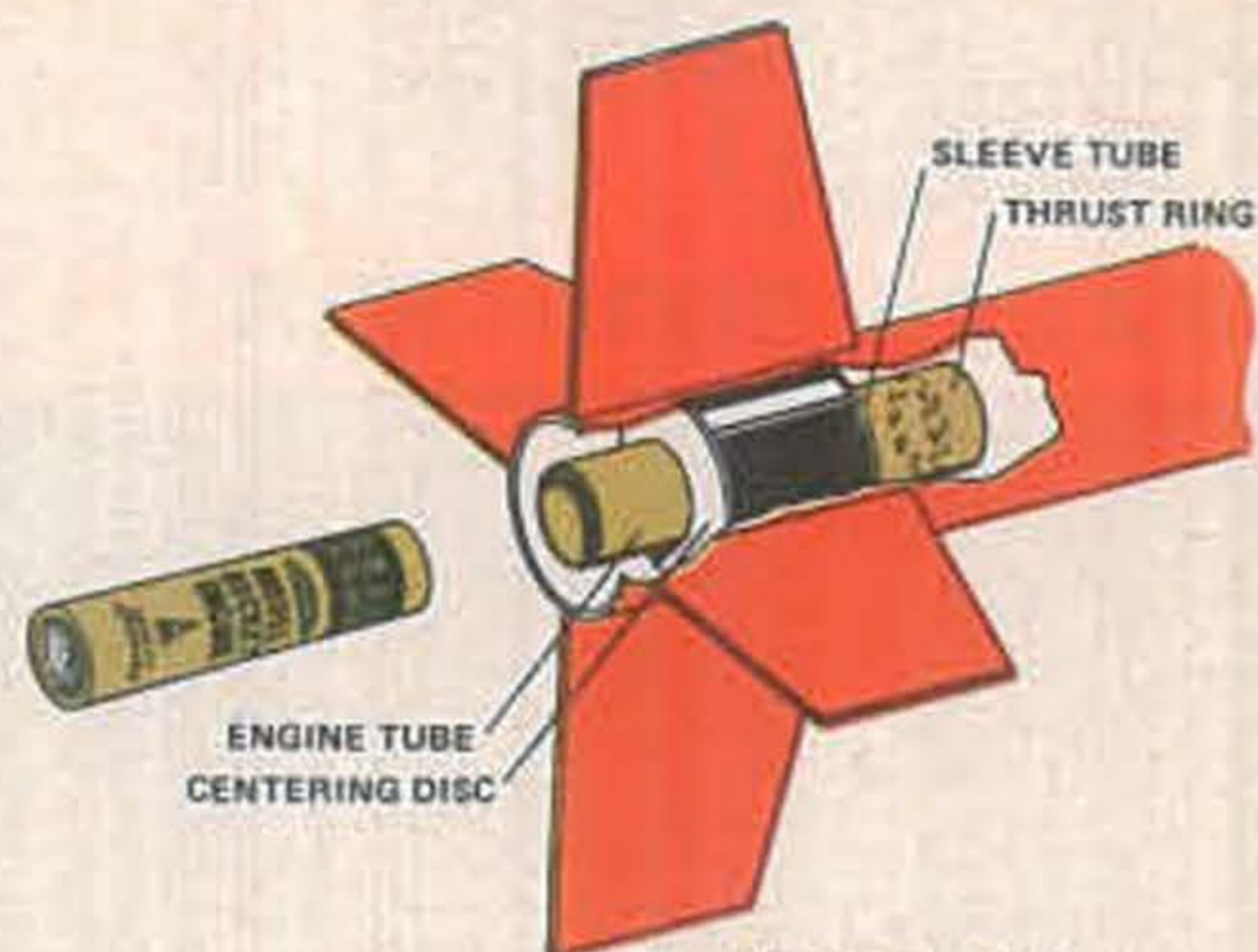


EM-16 Engine Mount fits No. 16 Body Tube Net Wt. 0.24 oz. 75¢ ea.



EM-20 Engine Mount fits No. 20 Body Tube Net Wt. 0.28 oz. 95¢ ea.

NOTE: Shipping Weight 4 oz. each



No. EM-16 Engine Mount installed in a No. 16 Body Tube.

ENGINE MOUNTS center and hold the rocket engine in the body tube. Engine pushes against thrust ring as it develops thrust. Simply assemble, slip in body tube, and glue. Mount includes centering rings, engine mount tube, and thrust ring plus sleeve tube (EM-10 thru EM-20). May be adapted to include engine locks (next page).

Centuri

STABILIZER FINS

AND OTHER USEFUL ACCESSORIES



SUPERBOND GLUE

The most perfect glue ever developed for model rockets. Holds fins on stronger and dries faster than white glue. Unbelievable strength. Use on balsa wood, paper, and fabric. Sands extremely well. Comes in handy plastic squeeze bottle with spout. Shipping Wt. 3 oz.

GL-100 49¢

Hand-selected balsa sheets pre-marked with proven fin designs. Easy-to-cut from 3/32"x3"x12" sheets for gluing to most body tube sizes. Ship. Wt. 4 oz. each.

BFC-1 3 sets of 3 small fins 35¢
BFC-2 2 sets of 3 large fins 35¢
BFC-3 2 sets of 4 medium fins 35¢

Unprinted balsa also available 3"x12" in various thicknesses.

BFM-8 1/16" 3 for 55¢
BFM-10 3/32" 3 for 60¢
BFM-12 1/8" 3 for 70¢
BFM-14 3/16" 3 for 80¢

Ship Wt. 6 oz. per set



EASY TO MAKE!

TR-7 THRUST RING

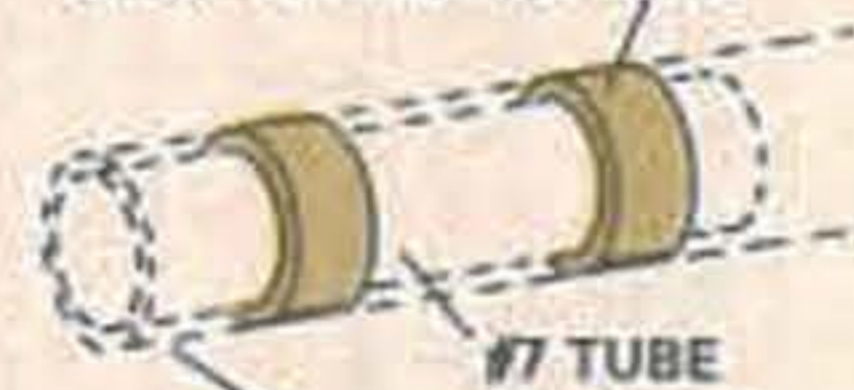


#7 THRUST RINGS

Featherweight fiber ring (3/8" long) which acts as forward engine stop when glued into any #7 Series Body Tube. Ship wt. 1 oz.

TR-7 Pkg. of 6 for 35¢

CR-8 CENTERING RING

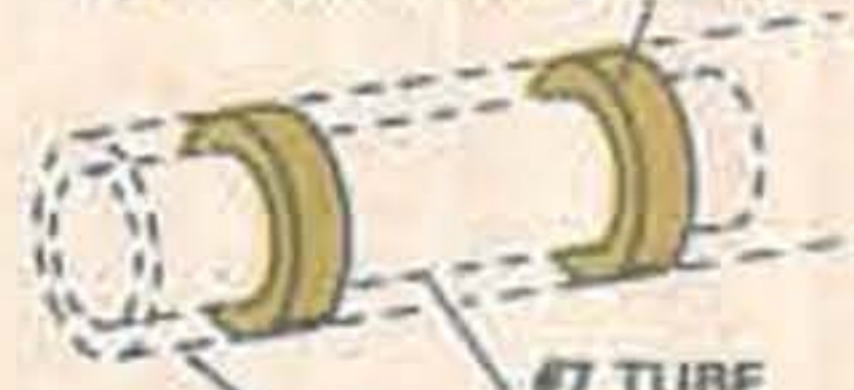


#8 CENTERING RINGS

Featherweight fiber ring which centers a #7 tube inside a #8 tube. Especially useful for making engine mounts for #8 Rocket bodies. (See EM-8 on opposite page). Ship wt. 2 oz.

CR-8 Pkg. of 6 for 50¢

CR-10 CENTERING RING



#10 CENTERING RINGS

Lightweight fiber ring which centers a #7 tube inside a #10 tube. Especially useful for #10 Rocket Bodies (See EM-10A on opposite page). Ship Wt. 2 oz.

CR-10 Pkg. of 6 for 50¢

CUT NOTCH IN ENGINE MOUNT



HOLDS ENGINE INSIDE #7 TUBE

ENGINE LOCKS

Just snap engine in to hold engine firmly in place during flight. Engine lock is plated hardened steel. Includes mylar lock ring to hold lock in place. Use on all size rockets. Ship Wt. 3 oz.

EL-1 Pkg. of 3 for 60¢

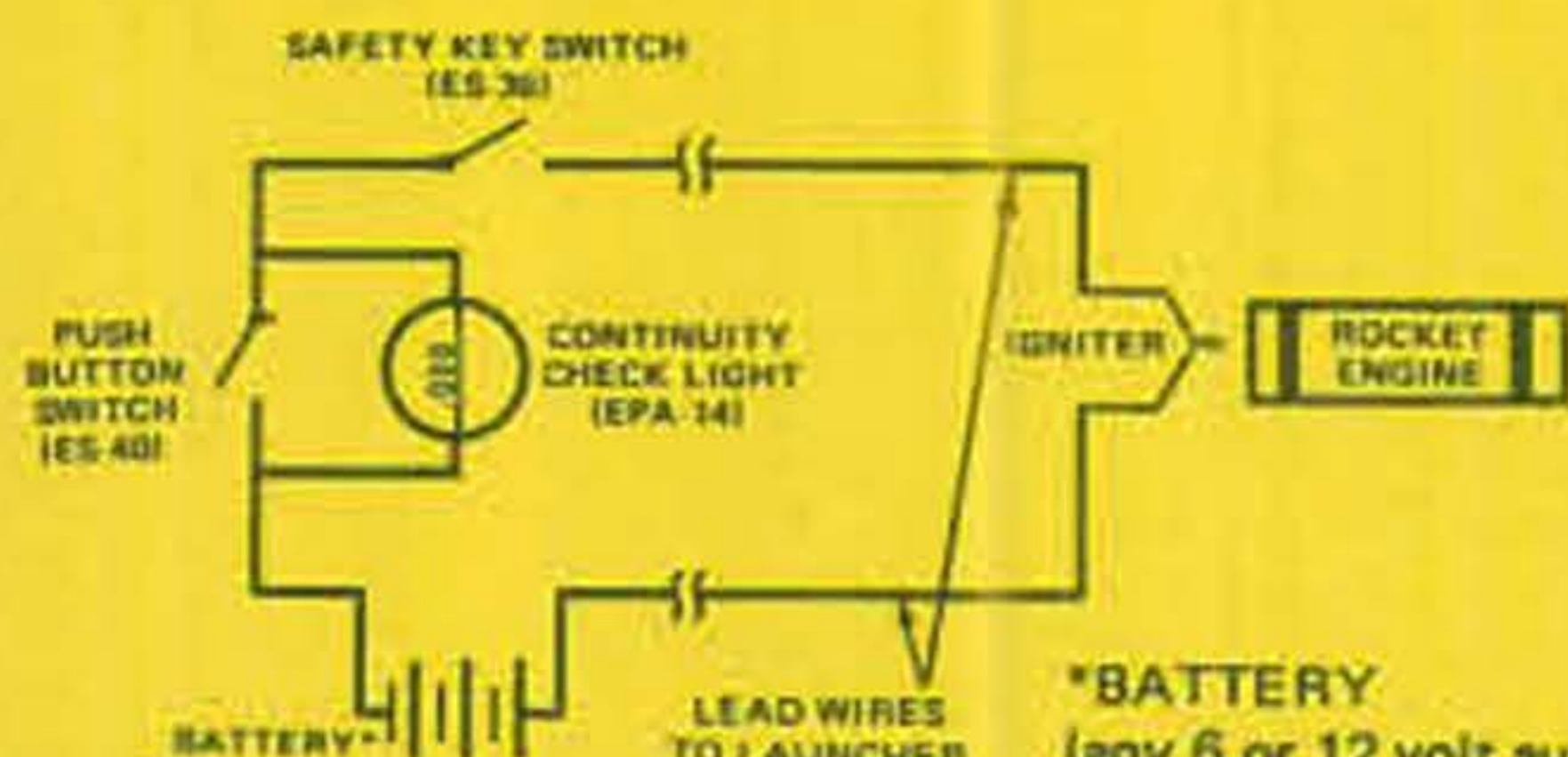
USE THE BEST... USE CENTURI!

Centuri

ELECTRICAL

SUPPLIES & EQUIPMENT

TO BUILD YOUR OWN MODEL ROCKET IGNITION SYSTEM



TYPICAL SINGLE IGNITION CIRCUIT

*BATTERY (any 6 or 12 volt auto) (Ray-O-Vac No. 918) (Eveready No. 731) (Burgess No. TW1)

Both for safety's sake and for that "professional approach", all model rockets should be ignited electrically. Shown here are most of the parts needed for electrically inclined rocketeers to build a "single ignition circuit".



MICRO-CLIPS

The very best clips for connecting ignition leads to the rocket engine igniter. Spring grip the smallest nichrome wires. Plated with highly conductive cadmium. Only 1-1/8" long. Ship. Wt. 1 ounce.

EMC-34 2 for 50¢

HEAVY DUTY BATTERY CLIPS

Great for connecting up firing circuit to car battery. Jaw opens 1-1/8" to span large terminal posts. 3" overall length. Bright copper plated steel with vinyl handle insulators in red and black.

Ship. Wt. 6 ounces.

EMC-46 2 for \$1.40



SOLDERLESS TERMINALS

Attach to ends of firing lines, igniter clip-leads, etc. to make fast and easy electrical connections. Simply slip over bare wire end and crimp into place with pliers. 1/2" long with 3/8" ring hole. Ship Wt. 1 oz.

EST-20 Pkg. of 6 for 35¢



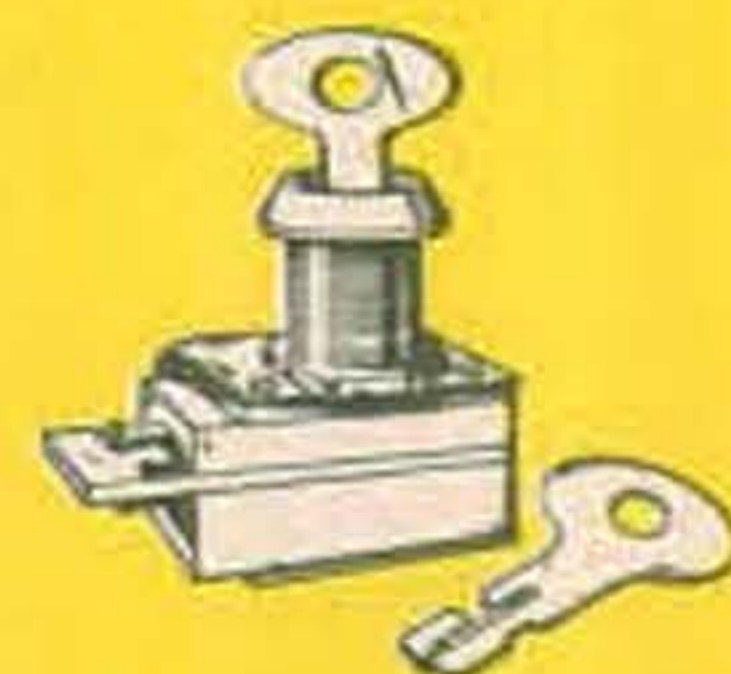
NICHROME IGNITER WIRE

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 ounces.

Cat. No. Size Length Price

EW-32 #32 48" .25

EW-32A #32 180" .50



SAFETY KEY SWITCH

Add that professional touch and extra safety to your ignition system. Safety key interlock prevents unintentional firing. Key must be inserted and turned to close circuit. Mounts in 1/2" hole. Comes with key. Ship Wt. 6 ozs.

ES-36 \$2.95

ES-36K Extra Key 35¢



CLUSTER CLIP-WHIP

For 2, 3, or 4 engine "cluster" birds. Attaches to one end of your launcher leads to distribute electrical current evenly between 2-4 engine igniters for simultaneous ignition. Includes Report TIR-52 on "Reliable Cluster Ignition" showing how to make proper hook-ups. Ship wt. 4 ozs.

ECW-1 \$1.00

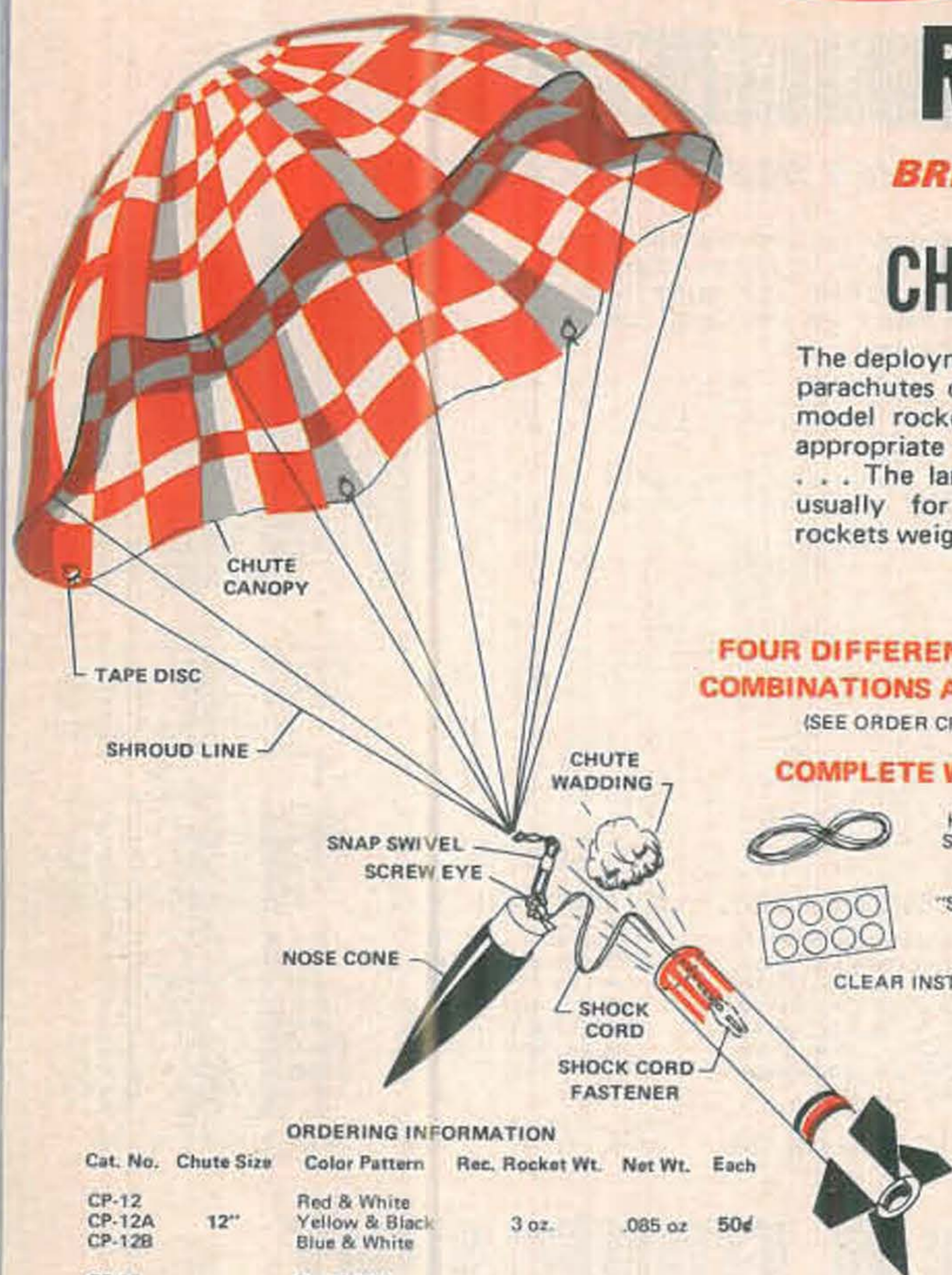
Centuri

RECOVERY DEVICES AND ACCESSORIES

BRING YOUR ROCKETS BACK TO EARTH SAFELY WITH THESE PROVEN DEVICES

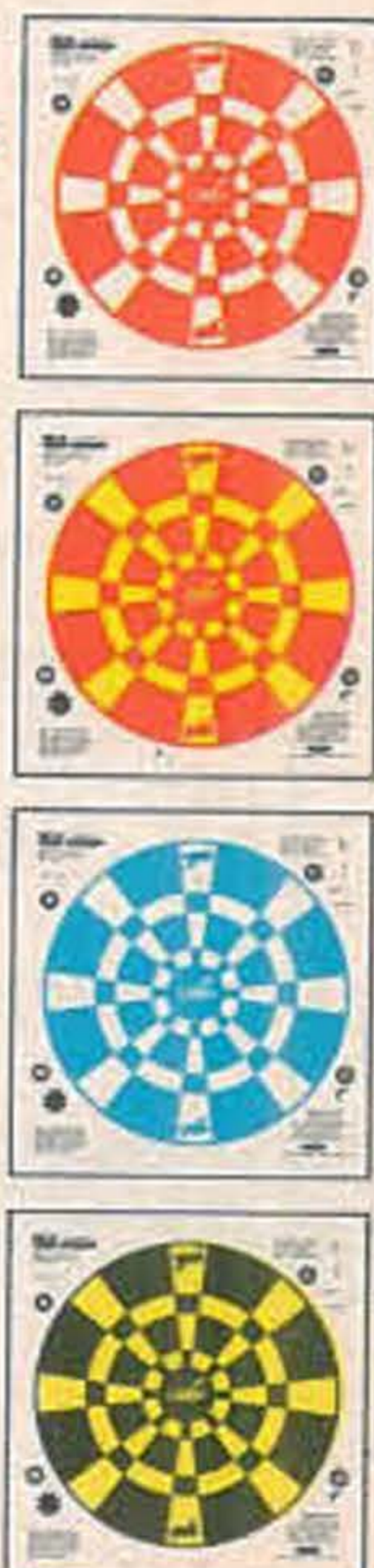
CHUTE PAKS

The deployment of these brightly colored parachutes can be the highlight of your model rocket flights. Just pick a size appropriate to the weight of your rocket . . . The large 20" and 24" chutes are usually for chute duration birds, or rockets weighing over 6 ounces.



FOUR DIFFERENT COLOR COMBINATIONS AVAILABLE (SEE ORDER CHART)

COMPLETE WITH —

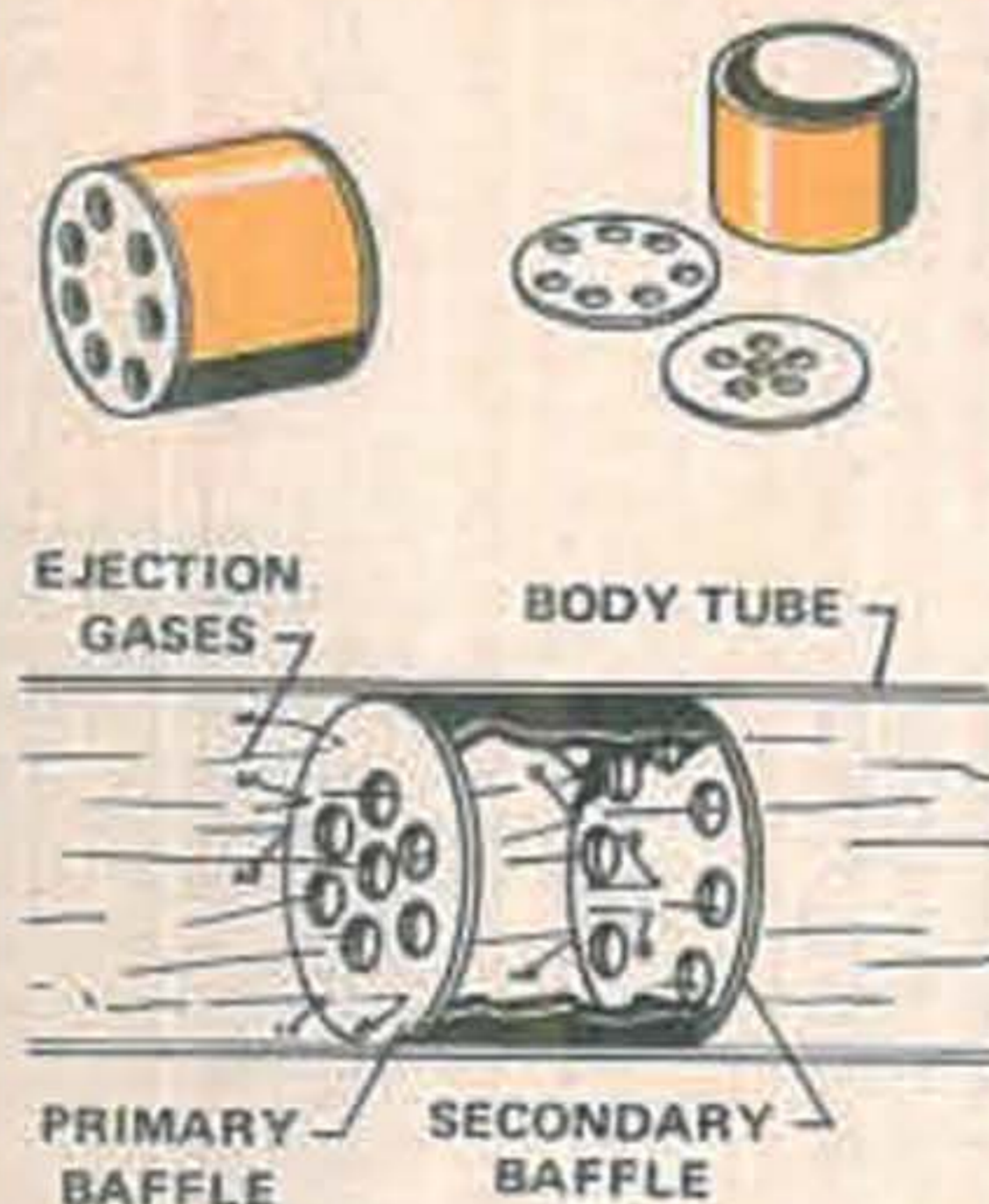


ORDERING INFORMATION

Cat. No.	Chute Size	Color Pattern	Rec. Rocket Wt.	Net Wt.	Each
CP-12	12"	Red & White	3 oz.	.085 oz.	50¢
CP-12A		Yellow & Black			
CP-12B		Blue & White			
CP-16	16"	Red & White	6 oz.	.136 oz.	60¢
CP-16A		Yellow & Black			
CP-16B		Red & Yellow			
CP-20	20"	Red & White	9 oz.	.215 oz.	70¢
CP-20A		Yellow & Black			
CP-24	24"	Red & White	12 oz.	.295 oz.	85¢
CP-24A		Yellow & Black			

EJECTION BAFFLES

ELIMINATES THE NEED FOR CHUTE WADDING!



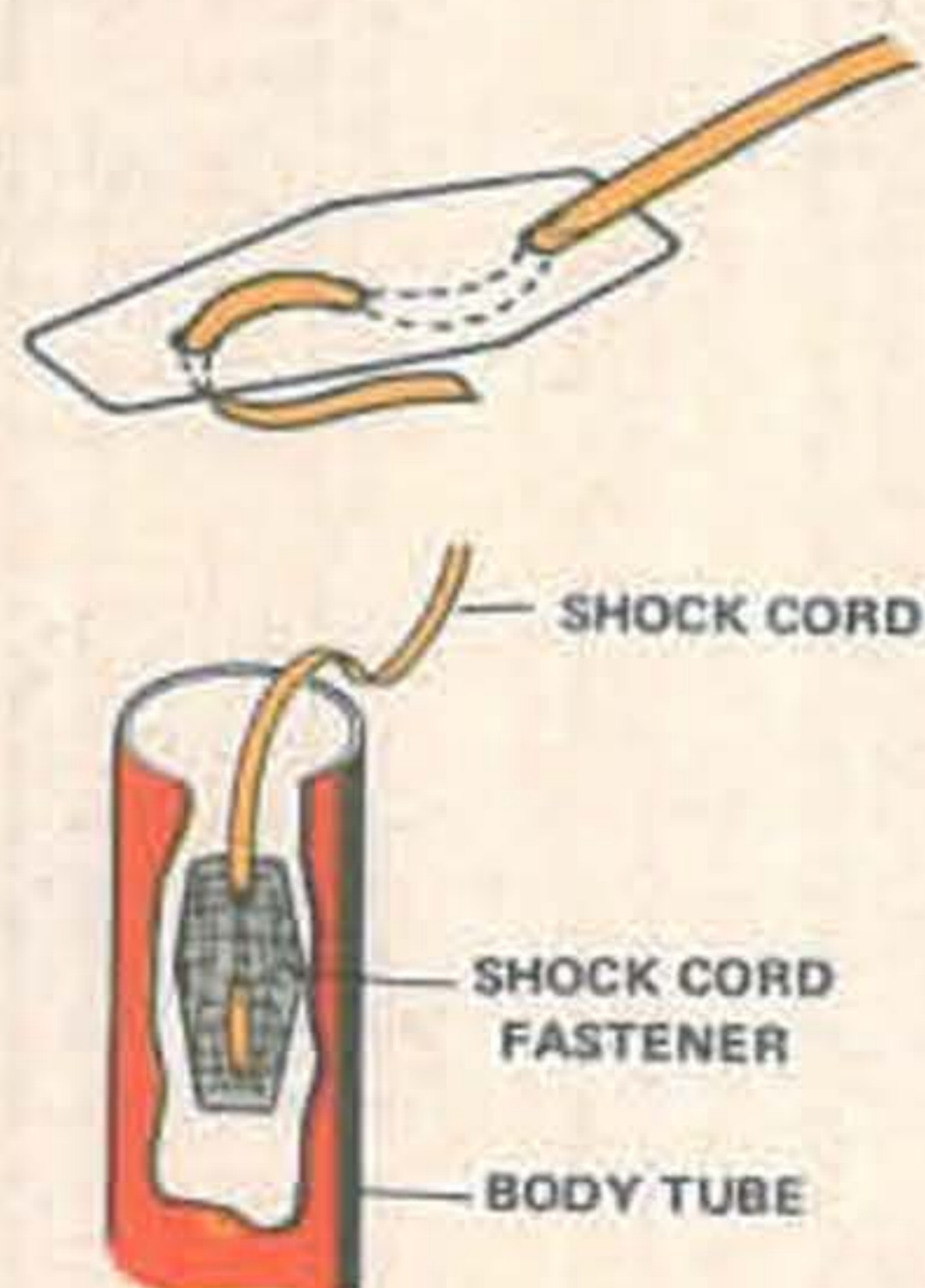
Another new idea from Centuri, these ejection baffles will eliminate the need for parachute wadding in your large diameter rockets. The precisely engineered spacing of the relief ports at either end of the baffles trap and dissipate heat without reducing the "ejection pressure" of the gases. As a result, the parachute is protected from heat—every time—with no additional protective wadding required. These ejection baffles are permanently installed and need never be replaced.

Pat. Pending

Cat. No.	Fits Tube Size	PRICE
EB-13	#13	50¢
EB-16	#16	60¢
EB-20	#20	75¢

SHOCK CORD FASTENERS

FASTENS EASILY AND PERMANENTLY!

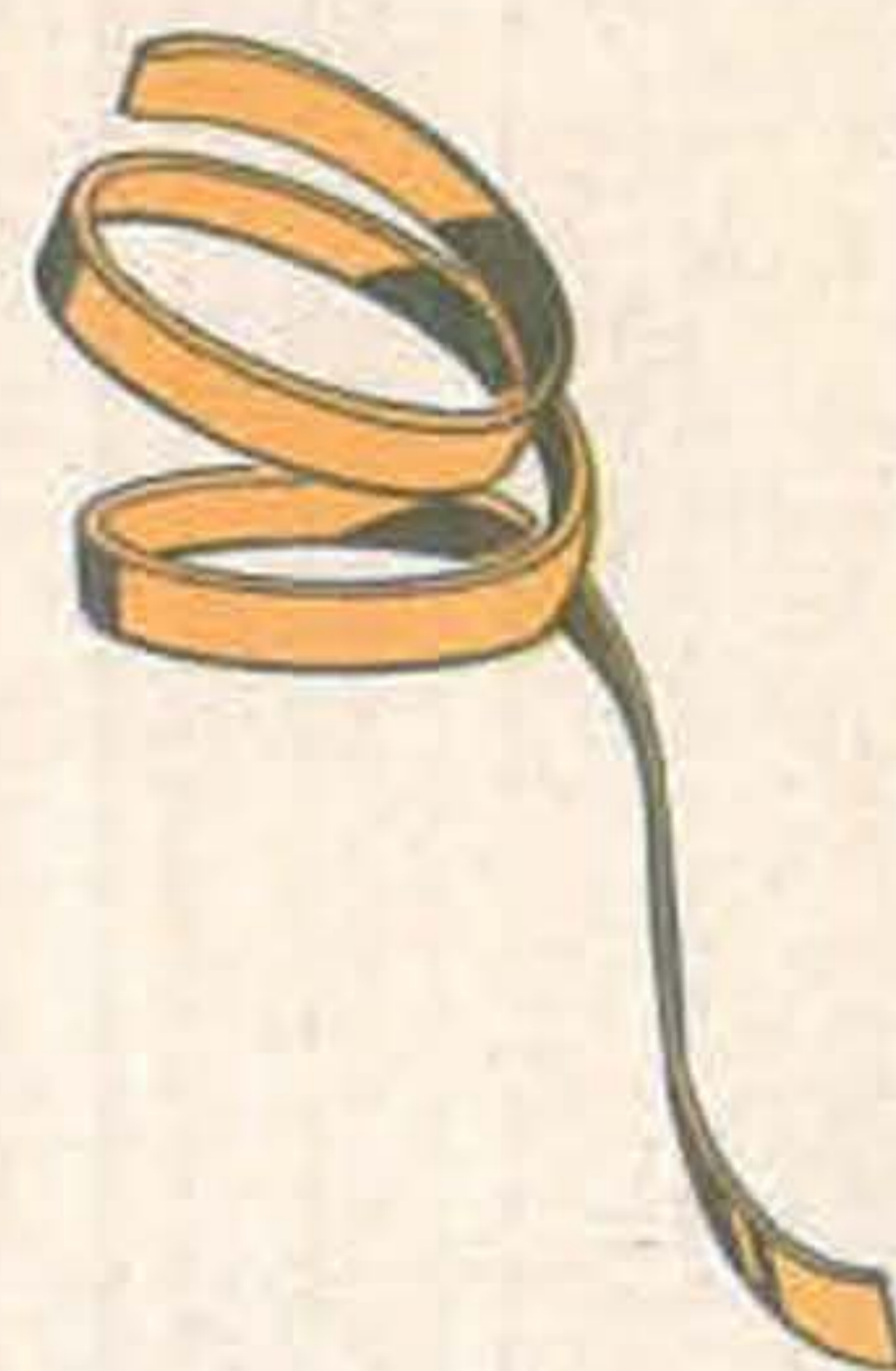


These scientifically designed shock cord fasteners will anchor the shock cord easily and permanently into any size body tube. The die cut fasteners are made of a special heat resistant foil woven with nylon fibers for extremely high strength. Permanent, pressure-sensitive backing simplifies attachment to the inside of the body tube. Won't pull out — no messy gluing — fits all body tubes from #7 through #20.

SCF-1 Pkg. of 6 for 50¢

SHOCK CORD

STRONG-LIVE ACTION



Strong, live action elastic cord which connects the recovery system to the rocket body and absorbs the shock of parachute opening. Perfect for all chute recovery "birds" using any 1/2 A through C type engines. For the best bargain, buy a roll and cut the length you need!

Cat. No. Width Length PRICE

For light to medium wt. rockets (0.5 to 2.0 oz.)

SC-18	1/8"	16"	3/50¢
SC-18A	1/8"	12 ft. roll	50¢ ea.

For medium to heavy wt. rockets (2 to 6 oz.)

SC-20	1/4"	16"	3/35¢
SC-20A	1/4"	12 ft. roll	75¢ ea.



PLASTIC DRAG STREAMERS

Good recovery for lightweight rockets weighing up to one ounce. Bright fluorescent orange plastic flegging 1-1/8" wide x 36" long. Net wt. .09 oz. Includes tape discs plus instructions. Ship wt. 2 oz.

RS-20 Pkg. of 3 for 50¢



TAPE DISCS

Sheet of 35 pressure sensitive discs used to fasten shroud lines securely to plastic drag streamers. Only 1/2" in diameter, discs are extremely lightweight and very low bulk. Shipping wt. 1 oz.

TD-35 per sheet - 30¢



SNAP SWIVELS

Tiny, lightweight hooks for quick snap-on attachment of parachute to rocket. Keeps shroud lines from twisting during recovery and makes it easy to switch chutes from rocket to rocket. Shipping wt. 1 oz.

SW-12 Pkg. of 6 for 35¢



SCREW EYES

For easy attachment of recovery system to nose cone or payload capsule. Extremely lightweight - bright chrome plated. Two sizes available.

SE-10 Pkg. of 6 for 25¢

SE-12 Pkg. of 6 for 25¢



CHUTE WADDING

Lightweight flameproof cotton which protects parachutes or streamers from the engine's hot ejection gases. Pack between engine and chute. Directions included. Enough for up to 30 flights. Ship wt. 6 oz.

PW-19 Lg. Package 75¢



PARACHUTE POWDER

Fine powder, sprinkled on parachute during folding acts as lubricant to help chute glide out of body tube. Also creates dust cloud when chute opens to aid in tracking. Comes in 2 oz. shaker can. Ship wt. 6 oz.

PDR-17 90¢



SHROUD LINE

Strong, glassed finish, lightweight cord (only .022" dia.) Perfect for shroud lines on custom parachutes. Sufficient line for 70 to 30 parachutes. Choice of red or black, please specify color. Ship wt. 4 oz.

SL-70 72 yd. spool 40¢



CHROME MYLAR PARACHUTE MATERIAL

Square yard of hi visibility chrome mylar. (Only .0005 inch thick.) Complete instructions for making your own 4, 6, or 8 sided parachutes up to 24" across, plus "How to Fold & Pack Chutes". Ship wt. 4 oz.

MCM-36 sq. yd. \$1.50

Centuri

DECORATIVE MATERIALS AND DECALS

GIVE YOUR MODEL THAT "PROFESSIONAL" FINISH

MILITARY INSIGNIAS Dress up your models with these sharp looking military symbols and insignias. Beautifully printed in brilliant red, white and blue colors on clear. Big 3 1/2" x 9" sheet. Cut apart, easy-to-apply.

DC-3 75¢ each

MISSILE MARKINGS A must for every rocketeer. Use these colorful markings on all your model rockets. Identify Center of Pressure, Center of Gravity, stages, payload capsules, plus hatch covers and signs just like you see at the "Cape". Printed in brilliant red, white, and black on clear. Large 3 1/2" x 9" sheet. Cut apart, easy-to-apply.

DC-4 75¢ each

U.S. FLAG DECALS 17 Beautiful red, white & blue miniature American Flags on large 4" x 10" sheet. Perfect scale dimensioned - 3/4" thru 1 1/4" long. Also includes "USA" and "UNITED STATES" symbols plus USA wrap around banners. Use these terrific decals to add "finished" touch to models.

DC-35 75¢ each

#7 Centuri ROLL PATTERNS Add that touch of realism to your models. Makes 'em look like the real ones at Cape Kennedy. Big 4" x 10" sheet includes five roll patterns, 4 girth bands, plus U.S. markings. Designed to perfectly fit Centuri's #7 body tubes. Available in Red or Black on clear. Specify color.

DC-30 35¢ each

#8 Centuri ROLL PATTERNS Just like the paint patterns used on the big missiles to indicate whether it is "rolling" in flight. Big 4" x 10" sheet contains 5 roll patterns, 3 girth bands, and U.S. markings. Designed to fit around a #8 body tube. Available in Red or Black on a clear background.

DC-32 35¢ each

#10 Centuri ROLL PATTERNS Terrific for all models. Decorate your rockets just like the big ones at the "Cape". Giant 4" x 10" sheet containing four roll patterns and three girth bands. Just the right size for #10 Centuri Body Tubes. See models in catalog for roll patterns in use. Available in Red or Black on clear. Specify color when ordering.

DC-31 35¢ each

CHROME & GOLD PLATED MYLAR Large 4" x 10" sheets you can cut apart to form bright circular bands or roll patterns. Or, you can completely chrome or gold plate your entire model. Pressure sensitive backing sticks to any surface. Extremely lightweight.

DC-33 Chrome Plated 50¢ each
DC-34 Gold Plated 50¢ each

DRESS UP YOUR ROCKETS WITH DECALS

Add that "professional" touch of realism to your rockets with roll patterns, flags, girth bands, checks and missile markings. Dress up your models to look like the "big ones" from Cape Kennedy. Color contrast also helps in "tracking" your birds.

AUTHENTIC DETAIL MARKINGS FOR SCALE MODELS

COLOR CONTRAST FOR HIGH ALTITUDE TRACKING



3/8" LETTER DECALS Easy to apply! Use for insignia markings, model names, etc. Includes 68 letter characters plus 3 "NAR" symbols in NASA style lettering on 3 1/2 x 6" sheet. Available in red or black on clear.

DC-7 25¢ each

3/8" NUMBER DECALS Perfect NASA style 3/8" high numbers. Use for NAR numbers, code markings, identification numbers, etc. Includes 6 number sets 0 thru 9, plus "NAR#". Available in red or black on clear.

DC-8 25¢ each

1/4" LETTERS & NUMERALS Perfect 1/4" high NASA style figures for all your models on large 3 1/2 x 6" sheet. Use for rocket markings, club numbers, field box I.D., etc. Available in red or black on clear. Easy to cut out and apply to any surface.

DC-1 25¢ each

3/16" SQUARE CHECKERBOARDS Large 4" x 10" sheet of glossy, colorful 3/16" checks on clear background. Adds color contrast to your models to help in tracking. Available in Red, Black, Gold, and White. Specify color.

DC-25 30¢ each

3/8" SQUARE CHECKERBOARDS Large 4" x 10" sheet of glossy, colorful, big 3/8" checks on clear background. Ideal for larger models. Available in Red, Black, Gold, and White. Specify color.

DC-26 30¢ each

COLOR STRIPES Make vertical stripes, girth bands, and custom roll patterns on your rockets. Big 4" x 10" sheet containing 10 stripes ranging in width from 1/32" to 1/2". Available in Red, Black or Yellow on clear background. Specify color you desire when ordering.

DC-29 30¢ each

VERSATILE-EASY TO USE ROCKET PRO/STRIPE

Pressure-sensitive trimming tape. Create brilliant colored stripes, bands, and roll patterns on your rockets. Easy and fast to apply. Available in 1/8" and 1/16" wide rolls, 100" on 1/8" rolls and 125" on 1/16" rolls. Please specify both color and width.

COLORS AVAILABLE ARE:

- White Red Black
- Copper Metallic Gold
- Metallic Chrome
- Fluorescent Cerise
- Fluorescent Red

Cat. No. TT-9 35¢ Roll



Fly this fantastic "SKY-LAB"

ROCKET POWERED SPACE STATION!

Hanging in space, rolling slowly . . . chrome solar panels flash in the sun. Two docking collars receive men and supplies from visiting space shuttle craft. Fifteen scientist/astronauts live and work within the vast craft, probing the universe's secrets with instruments projecting from the main body. Highly detailed body wrapper, instrument housings, colorful decals, and specially molded plastic cones make the Skylab the year's most spectacular model. If you want a rewarding project, give this one a try.

Catalog No. KB-4

\$5.95

Shipping Wt. 16 oz.
Engines not included.



ORIGINATION:
Length . . . 2.04
Body Dia . . . 2.04
Height . . . 2.4 oz

RECOMMENDED ENGINES:
A-1 . . . CB-1

BUNCHES OF NEW KITS

BY

Centuri



HUMMINGBIRD

SPORT BOOST GLIDER

Now it's easier than ever to get in on this fun recovery technique! Pre-colored, pre-cut light-weight fibre parts go together in a jiffy!

RECOMMENDED ENGINES: 1/8A6-2 A5-2
 SPECIFICATIONS: Length 8.5", Wing Span 7.0", Net Weight .35 oz.

Catalog No. KF-2 \$150
 Shipping Wt. 6 oz.



JAYHAWK

SEMI-SCALE "AQM-37A"

Styled after the U.S. Navy target drone with terrific realism! Includes 3-color decals, pre-cut fibre fins, molded nose cone and parachute.

RECOMMENDED ENGINES: 1/8A6-2 A5-4 B4-6 B6-6 C6-7
 SPECIFICATIONS: Length 12.6", Body Diam. 0.91", Net Wt. 1 oz.

Catalog No. KF-1 \$250
 Shipping Wt. 9 oz.



SKY DEVIL

CUSTOM-FIN ROCKET

A basic rocket, with a twist . . . the balsa fin shapes can be cut from any one of eight different patterns! Includes Spec-Plate, molded cone and parachute.

RECOMMENDED ENGINES: 1/8A6-4 A8-5 B4-6 B6-6 C6-7
 SPECIFICATIONS: Length 12" to 14", Body Diam. 0.76", Net Wt. 0.8 oz.

Catalog No. KB-10 \$150
 Shipping Wt. 6 oz.



SCRAM-JET

MILITARY STYLED

Unique off-center fins highlight this "Pseudo-scale" kit! Includes parachute, molded cone, 2-color decals, engine lock, and pre-cut balsa fins.

RECOMMENDED ENGINES: 1/8A6-4 A8-5 B4-6 B6-6 C6-7
 SPECIFICATIONS: Length 18.8", Body Diam. .76", Net Wt. 1.3 oz.

Catalog No. KF-4 \$250
 Shipping Wt. 11 oz.



MOONRAKER

DUAL CONFIGURATION

Power separation at apogee . . . 2-sections gyro-flutter safely back to earth. Features changeable shape, pre-cut fibre fins,

SPECIFICATIONS: Length 5.5", Body Diam. 0.76", Net Wt. 0.3 oz. \$100

RECOMMENDED ENGINES: 1/8A6-4 A5-4 A8-5

Catalog No. KB-11
 Shipping Wt. 5 oz.



NOMAD

NAVAL MISSILE

It's not a scale model . . . but sure looks like a real U.S. Navy missile! Includes parachute, molded cone, pre-cut fibre-fins & vanes, engine lock, chrome bands, and a fabulous 2-color decal sheet and "Spec-Plate".

RECOMMENDED ENGINES: A8-3 B4-4 B6-4 C6-5
 SPECIFICATIONS: Length 18.0", Body Diam. 1.0", Net Wt. 1.75 oz.

Catalog No. KB-5 \$350
 Shipping Wt. 12 oz.



EXCALIBUR 2

TWO-STAGE PROBE

Real Business with patented "Passport Staging". Includes pre-cut fibre-fins, molded cone & reducer, decals, chrome Spec-Plate and parachute.

RECOMMENDED ENGINES: 1st Stage A8-0 B6-0 B14-0 C6-0, 2nd Stage A8-5 B4-6 B6-6 C6-7
 SPECIFICATIONS: Length 29.5", Max. Diam. 0.91", Net Wt. 2.1 oz. Catalog No. KF-5 Shipping Wt. 12 oz.

\$295



ARROW 300

ADVANCED 3-STAGER

For experienced rocketeers. Includes balsa cone, 12 pre-cut fibre-fins, giant decal, payload section, Spec-Plate, parachute, plus reliable Pass-Port Staging.*

RECOMMENDED ENGINES: 1st Stage B6-0 B6-0 C6-0, 2nd Stage A8-0 B6-0 C6-0, 3rd Stage 1/8A6-4 or A5-4 A8-5 or B4-6 B6-6 or C6-7

SPECIFICATIONS: Length 37.7", Body Diam. 0.91", Net Wt. 2.5 oz. Catalog No. KB-7 Shipping Wt. 14 oz. \$395

*Pat. No. 3,721,193

2 A.R.T.F.

ALMOST
READY
TO FLY

NO TOOLS OR PAINT NEEDED

Assemble under 1/2 hour!
All parts pre-colored!
Only requires glue!



SCREAMING EAGLE

SPORT ROCKET

Ideal for group projects!
Shiny chrome "decals"!
Out-a-sight with a "C"!
'Chute & engine lock!
5 Built-in colors!

RECOMMENDED
ENGINES

A5-4 A8-3 B4-6
B6-6 B14-5 C6-7

SPECIFICATIONS

Length 18.4"
Body Diam. 1.34"
Net Weight 1.6 oz.

\$250

Catalog No. KF-3
Shipping Wt. 14oz.
Engines not included



\$450

Catalog No. KB-9
Shipping Wt. 16 oz.
Engines not included

RECOMMENDED
ENGINES

A8-3 B6-4 B4-4
B14-5 C6-5

SPECIFICATIONS

Length 28.5"
Body Diam. 1.34"
Net Weight 3.0 oz.

ARGUS

RESEARCH ROCKET

2 different nose cones!
Styled after the "X-17"!
Great for demonstrations!
Detailed stick-on "decals"!
Dual 'chutes & engine lock!



LAST MINUTE SPECIALS!




TO NEW FOR THE MAIN CATALOG PAGES

GREAT PARTS
FOR YOUR
CUSTOM JOBS

PLASTIC NOSE CONES

Cat. No.	Price	Description
 PNC-55	25¢	"Satellite 62 SL" style . . . fits #5. For "pods" and such. Ship. Wt. 1 oz.
 PNC-102	\$1.20	"Sky-Lab" style . . . fits #10. Includes "bands". Ship. Wt. 2 oz.
 PNC-165	\$1.20	"Quasar" style . . . fits #16. Includes "cockpit". Ship. Wt. 3 oz.
 PNC-167	\$1.20	"Nike Smoke" style . . . fits #16. Includes "hatches". Ship. Wt. 3 oz.
 PNC-231	\$1.20	"Orion" style . . . fits #20. Includes "hatches". Ship. Wt. 2 oz.

PLASTIC REDUCERS (Apply tape to allow gluing)

Cat. No.	Price	Description
 PSR-78	35¢	Joins #7 and #8 tubes. Includes eyelet. Ship. Wt. 1 oz.
 PSR-813	55¢	Joins #8 and #13 tubes. Includes eyelet. Ship. Wt. 2 oz.
 PSR-1620	70¢	Joins #16 and #20 tubes. Includes eyelet. Ship. Wt. 3 oz.

POWR-PAD TILTER

\$125

Cat. No. T-99



GREAT FOR BREEZES
AND SPOT LANDING!

Compensates for "weather-cocking" and parachute drift. Adjusts infinitely within 30° of vertical. Attaches easily to any standard Powr-Pad. Ship. Wt. 4 oz.

TILTER IS NOW INCLUDED WITH POWR-PAD & EAGLE POWER

POWR-CONTROL

GENERAL PURPOSE
LAUNCH CONTROLLER



\$495

Cat. No. EPC-3

A "Spin-Off" from the Powr-Pad . . . includes 15 feet of firing line with 5 feet of jumper cable with LARGE battery clips. Use any heavy duty 6 or 12 volt battery . . . even a car battery. Can be modified for cluster ignition. Ship. Wt. 12 oz.

SPEC-PLATES



BONUS
METALLIC
SPEC-PLATE

SIMPLY CUT ON DOTTED
LINE, PEEL OFF BACKING,
AND RUB ONTO ROCKET!

Another new idea from Centuri — metallic "Spec-Plates". Included at no extra cost with many Centuri kits is this unique black and shiny "Spec-Plate"! Like the specification data on many real rockets, this pressure-sensitive "Spec-Plate" provides just the right finishing touch to your models. These "Spec-Plates" list the recommended engines for your rocket. No more guess work!

#8 BOOSTER

Convert the Excalibur, Groove Tube and other #8 size rockets to 2-stage power. Includes tough pre-cut fibre fins, shiny chrome "stick-ons" and instructions. Shipping Weight 3 oz.

Cat. No. KBB-8 85¢

Centuri

DECAL SHEET

Giant 4" by 9" two color decal sheet contains 23 Centuri emblems. Adds that "finishing touch" to your rockets. Ship. Wt. 1 oz.

Cat. No. M-314 50¢

A FAR-UP WAY TO GET STARTED

ALTITUDES UP TO
2000 FEET!

5
APOGEE
Peak of flight

6 **PARACHUTE EJECTION**
Caused by engine's
ejection charge

Centuri

EAGLE^{T.M.}
POWER

4
COASTING
To gain altitude

7 **SOFT LANDING**
Recovers undamaged

3
BURN-OUT
Of engine propellant

2
LIFT-OFF
From launcher

1
IGNITION
By electrical launcher

SEE
INSIDE
FRONT
COVER



YOUR NEARBY CENTURI DEALER IS: