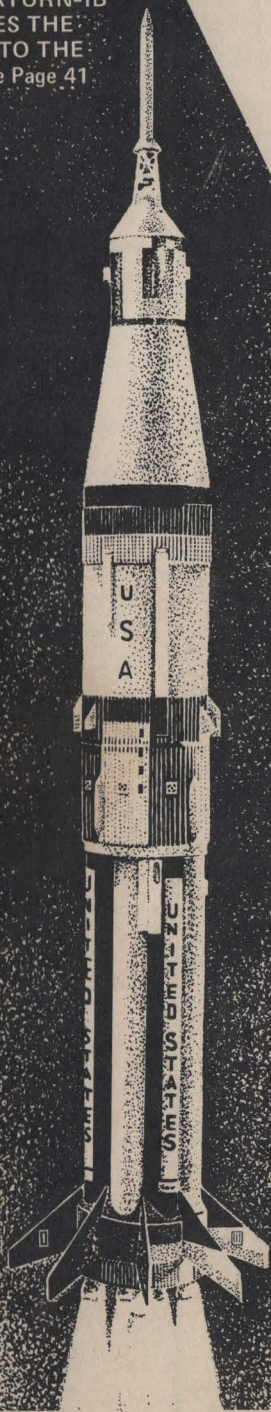
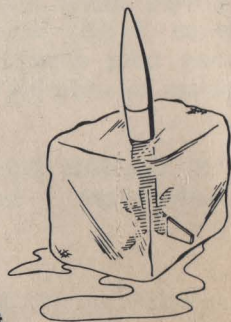


THIS IS THE SATURN-1B
WHICH CARRIES THE
ASTRONAUTS TO THE
SKY-LAB. . . See Page 41



Why is this rocket frozen?



SEE
PRICE
"FREEZE"
INFO
INSIDE
THIS
COVER

Flying Model Rockets

Centuri

ATTENTION: Lower Prices

HERE IS YOUR PRICE "FREEZE" INFORMATION

We will be forced to raise prices on some items on (or about) December 1, due to higher material and labor costs. This catalog lists the prices that will be in effect after December 1, 1973. Please refer to the following list for current lower prices . . . use catalog price if item is not listed here. You may take advantage of these lower prices by ordering before December 1.

P.S. The little rocket on the cover isn't really frozen . . . but its price is!

— MODEL ROCKET KITS —

		(STANDARD)
KA-1	Lil' Herc	.75
KA-2	Twister	1.50
KA-4	Mach-10	2.50
KA-5	Micron	1.25
KA-7	Bandito	1.75
KA-8	Excalibur	1.85
KA-9	Flutter-By	1.35
KA-10	Vulcan	1.50
KA-11	Groove Tube	1.75
KA-12	X-24 Bug	1.00
KB-1	Stiletto	1.75
KB-2	Vector V	1.50
KB-3	Taurus	2.75
KB-5	Nomad	2.50
KB-6	Black Widow	2.25
KB-7	Arrow-300	2.75
KB-9	Argus	3.50
KB-11	Moonraker	.85
KB-13	Snipe Hunter	1.75
KC-2	Centurion	3.00
KC-3	Arcon-Hi	3.00
KC-4	Long Tom	3.50
KC-5	Aerobee-350	2.25
KC-6	Space Shuttle	4.00
KC-14	Iris	2.50
KC-17	SST Shuttle	4.00
KC-20	Payload II	2.50
KC-25	Honest John	2.25
KC-31	Javelin	1.50
KC-40	Tomahawk	2.00
KC-50	Laser X	3.25
KS-8	Little Joe II 1/45	14.50
KS-10	Saturn 1B	9.95
KS-12	Saturn V	17.95
KS-15	Nike Smoke	3.50
KBG-3	Swift	2.50
KF-1	Jayhawk	1.75
KF-4	Scram-Jet	1.75
KF-5	Excalibur 2	2.50

ROCKET ENGINES

1/2A6-0	.90
1/2A6-2	.90
1/2A6-4	.90
A5-2	1.00
A5-4	1.00
A8-0	1.00
A8-3	1.00
A8-5	1.00
B4-2	1.10
B4-4	1.10
B4-6	1.10
B6-0	1.10
B6-4	1.10
B6-6	1.10
B14-0	1.30
B14-5	1.30
B14-7	1.30
C6-0	1.30
C6-3	1.30
C6-5	1.30
C6-7	1.30

MINI-MOTORS

1/4A4-2M	.95
1/4A4-4M	.95
1/4A4-3M	1.05
1/4A4-5M	1.05
A4-2M	1.15
A4-4M	1.15
A4-6M	1.15
B4-3M	1.25
B4-5M	1.25
B4-7M	1.25

OUTFITS & PARTS ASSORTMENTS

SK-100	Starter Outfit	10.95
SK-110	Eagle Power	7.50
SPA-4	Beginners Special	6.95
SPA-8	Designers Special	10.95

—LAUNCHERS & ACCESSORIES—

LIA-65	Servo Launcher	6.95
LIA-99	Power-Pad Launcher	5.50
LIA-100	H.D. Tripod Launcher	6.95
EFC-2	Lectra Line II Control	4.95
PW-19	Chute Wadding	.45
ID-65	Deflector	.75
ID-77	Deflector	1.75
EMC-46	Battery Clip Pair	1.00

—DECALS—

DC-3	Military Insignias	.35
DC-4	Missile Markings	.35

—RECOVERY DEVICES—

CP-12	12" Parachute	.35
CP-16	16" Parachute	.40
CP-20	20" Parachute	.45
CP-24	24" Parachute	.60
RS-20	Drag Streamers	.35
SCF-1	Shock Cord Fasteners	.35

—MISCELLANEOUS PARTS—

EL-1	Engine Locks	.50
GL-100	Super Bond Glue	.40

—BODY TUBES—

ST-718	.30
ST-818	.35
ST-1018	.40
ST-1318	.60
ST-1612	.50
ST-1618	.65
ST-2012	.65
ST-2018	.85

—BALSA NOSE CONES—

BC-76	.40
BC-79	.40
BC-83	.55
BC-85	.55
BC-86	.85
BC-89	.70
BC-101	.45
BC-103	.65
BC-105	.65
BC-135	.90
BC-162	.90
BC-200	1.10



**Flying Model
Rockets**

Centuri

FLYING MODEL ROCKET OUTFIT!

EAGLE POWER^{T.M.}

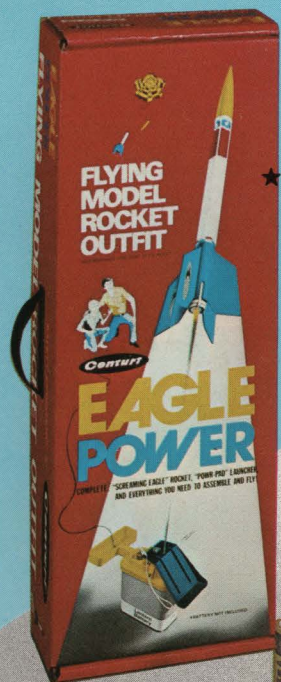
WHAT'S AN EAGLE POWER?

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.

\$850



★ Sturdy "FIELD BOX" Carrying case.



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



★ POWR-PAD launch system

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

★ GLUE

★ CHUTE WADDING

★ IGNITERS
The new Sure-Shot "Dot"!

★ INSTRUCTIONS

★ MANUAL

★ PARACHUTE

★ Powerful ENGINES

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

SEE INSIDE BACK COVER FOR LAUNCH ROD TILTER ACCESSORY.



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

RECOMMENDED BATTERY

6 VOLT "LANTERN"

Bright Star 158	Ray-O-Vac 918
Burgess TW-1	RCA VS317
Eveready 731	Sears 4707
Mallory M-918	Ward 8MW
Marathon 896	Wizard 7D8918

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

★ WIRE HARNESS
15 feet, pre-assembled.

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

★ 2-PIECE ROD
Stores away when not in use.

T.M.

POWR PAD

LAUNCH SYSTEM

VERSATILE! HANDLES:

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

Easily assembled with a screwdriver.

★ Large steel BLAST DEFLECTOR

Battery not included

\$650

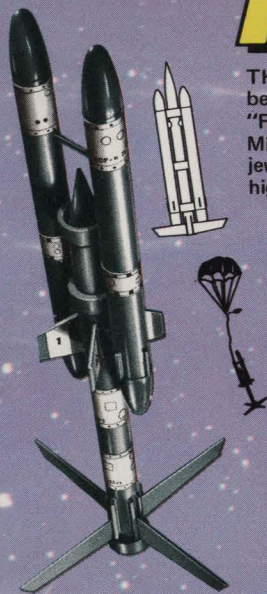
Catalog No. LIA-99
Shipping Wt. 1lb. 8 oz.

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 "Rocket 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
¼A4-2M A4-4M
¼A4-3M B4-5M

SPECIFICATIONS
Length 12.4"
Body Diam. 0.76"
Net Weight 0.6 oz.

RECOMMENDED MOTORS
¼A4-3M A4-4M
B4-5M

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

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
¼A4-4M A4-6M
¼A4-5M B4-7M

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

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

95¢

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.

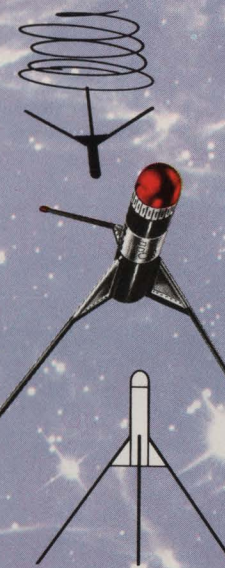
RECOMMENDED MOTORS
¼A4-2M A4-4M
¼A4-3M B4-7M

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

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

50¢

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
¼A4-4M A4-6M
¼A4-5M B4-7M

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

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

75¢



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: ¼A4-3M A4-2M B4-3M
SINGLE: ¼A4-2M ¼A4-3M 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.

\$225

Mini-Motors

T.M.

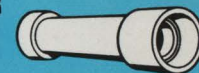
Mini Motors are smaller than standard model rocket engines. Being thinner and lighter, they really scream! Centuri offers the only complete line of Mini's - "¼A" power thru Full "B" at prices that match or beat the competition. Mini Motors feature graphite-impregnated nozzles, clearly labeled coding 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!

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 engines) ounces
		LB-sec.	N-sec.				
¼A4-2M	1.15	.14	.63	.16	2	.22	1.5
¼A4-4M	1.15	.14	.63	.16	4	.23	1.0
¼A4-3M	1.25	.28	1.25	.31	3	.25	2.0
¼A4-5M	1.25	.28	1.25	.31	5	.26	1.5
A4-2M	1.40	.56	2.50	.63	2	.29	3.0
A4-4M	1.40	.56	2.50	.63	4	.30	2.5
A4-6M	1.40	.56	2.50	.63	6	.31	2.0
B4-3M	1.50	1.12	5.00	1.25	3	.36	3.5
B4-5M	1.50	1.12	5.00	1.25	5	.37	2.0
B4-7M	1.50	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.

35¢



ACTUAL SIZE COMPARISON



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,

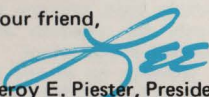

Leroy E. Piester, President

TABLE OF CONTENTS

Introduction & Background	2
Starter Outfit	8
Deluxe Outfit	10
Lunar Fleet Kits (Beginner Skill)	12
Star Fleet Kits (Intermediate Skill)	24
Galaxy Fleet Kits (Experienced Skill)	34
Engine & Launching Tips	47
Engine Selection Chart	50
Launch Systems	52
Parts Introduction	54
Parts Assortments	56
Body Tubes	58
Nose Cones	60
Couplers & Connectors	62
Balsa & Paper Reducers	63
Engine Mounts & Electric Parts	64
Fin Material	65
Recovery Devices	66
Decals & Colored Tape	68



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.



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!

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



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 Brindisi, 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

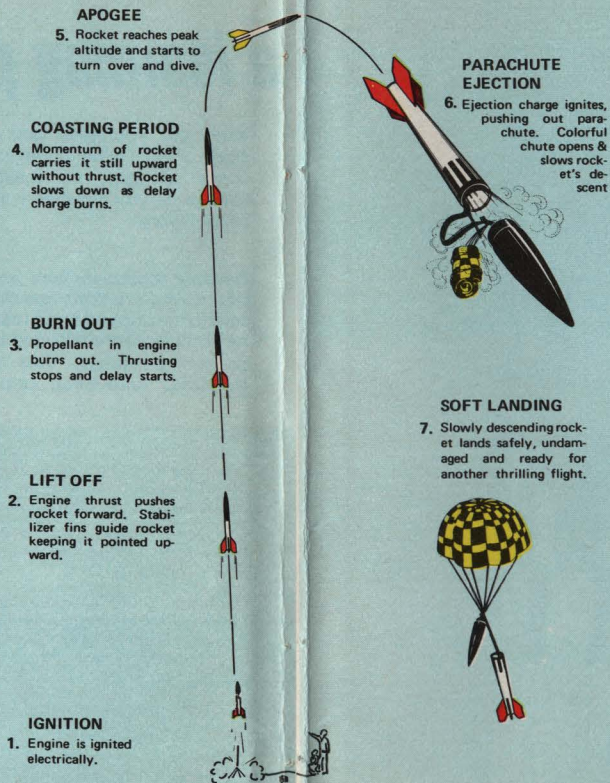
Completely self contained non-metallic power package, the model rocket engine "pushes" rocket upward when electrically ignited. A "built-in" time delay allows the rocket to coast up to its maximum altitude before an ejection charge pushes the nose cone and parachute out of the body tube.

All Centuri engines are



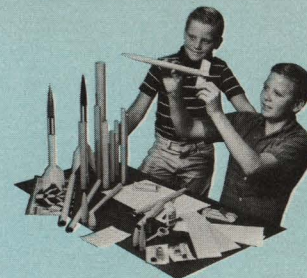
NAR SAFETY
CERTIFIED

HOW A TYPICAL MODEL ROCKET FLYS



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 Fil-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 6 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

- CONSTRUCTION** — My model rockets will be made of lightweight materials such as paper, wood, plastic, and rubber without any metal as structural parts.
- 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.
- 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.
- 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.
- STABILITY** — I will check the stability of my model rockets before their first flight, except when launching models of already proven stability.
- 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.

- 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.
- 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.
- 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.
- JET DEFLECTOR** — My launcher will have a jet deflector device to prevent the engine exhaust from hitting the ground directly.
- 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.

- POWER LINES** — I will never attempt to recover my rocket from a power line or other dangerous places.
- 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.
- 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!



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

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.

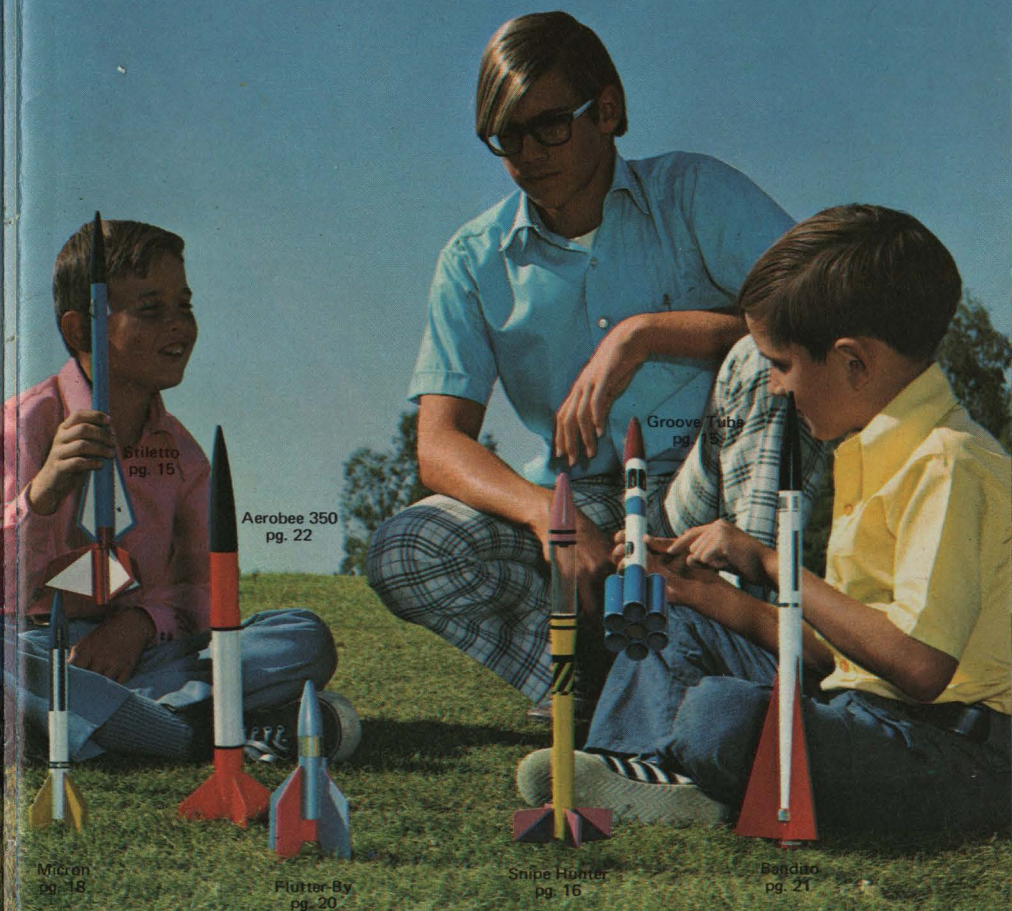
Rockets come in kit form.



Centuri

LUNAR FLEET

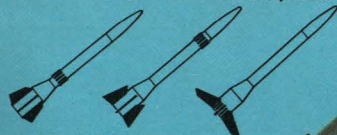
**DYNAMIC, EASY-TO-ASSEMBLE MODEL ROCKETS
FUN TO BUILD AND FLY-IDEAL FOR BEGINNERS
90¢ TO \$2.75**



"VECTOR-V" Customizing Kit

FROM THE ALPHA CENTURI SERIES — FAST ASSEMBLY

From the secret laboratories of the planet Vecton came the VECTOR-V! 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.

\$1.75

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 **\$2.00**

Shipping Wt. 13 oz.
Engines not included.

RECOMMENDED ENGINES

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

SPECIFICATIONS

Length 16"
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.

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

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 **\$2.00**
Shipping Wt. 15 oz.
Engines not included.

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 **\$2.00**
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 \$2.00

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 1/4A6-2 A8-5 B6-6 B14-5 C6-7

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. KB-2 \$1.75

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

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 90¢

Shipping Wt. 5 oz.
Engines not included.



SPECIFICATIONS

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

RECOMMENDED ENGINES

1/4A6-2 1/4A6-4



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

1/8A6-4 A8-5 B4-6
B6-6 C6-7

Catalog No. KA-5 \$1.50

Shipping Wt. 6 oz.
Engines not included.

SPECIFICATIONS

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



SPECIFICATIONS

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

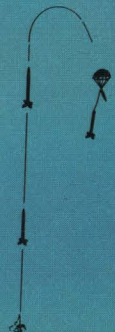
Top Performer "JAVELIN"

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 \$1.75

Shipping Wt. 10 oz.
Engines not included.



RECOMMENDED ENGINES 1/8A6-4 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 \$1.25

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 6.75"
Body Dia. 0.91"
Net Wt.90 oz.

RECOMMENDED ENGINES

1/4A6-2 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 \$1.75

Shipping Wt. 10 oz.
Engines not included.

SPECIFICATIONS

Length 15.5"
Body Dia. 0.76"
Net Wt. 1.5 oz.

RECOMMENDED ENGINES

1/4A6-4 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.

\$2.00

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 \$1.75
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 \$2.75
Shipping Wt. 14 oz.
Engines not included.



TWISTER SPECIFICATIONS

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



RECOMMENDED ENGINES

1/4A6-2	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

1/4A6-2	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 \$2.00
Shipping Wt. 10 oz.
Engines not included.

Centuri

STAR FLEET

TRY YOUR HAND WITH THESE STAR PERFORMERS
ALL KINDS OF ACTION!!
\$1.75 TO \$4.00



Centurian
pg. 30



MX-774
pg. 28



Long Tom
pg. 31



Iris
pg. 29



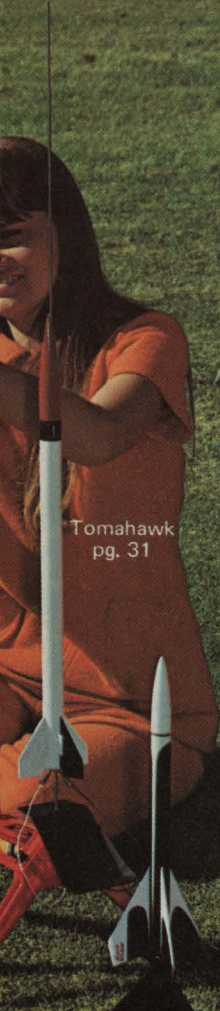
Laser-X
pg. 27



Arcon-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 \$2.50

Shipping Wt. 10 oz.
Engines not included.

SPECIFICATIONS

Length 15"
Body Dia. 0.76"
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 \$3.50

Shipping Wt. 14 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, boat tail section, illustrated instructions, and a 2 page scale Data Sheet.

Catalog No. KA-3 **\$1.75**

Shipping Wt. 9 oz.
Engines not included.

SPECIFICATIONS

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

RECOMMENDED ENGINES

½A6-2 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.

SPECIFICATIONS

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

RECOMMENDED ENGINES

½A6-2 B6-4
A5-4 C6-5

"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 upward and return gently by parachute. Kit features special payload cone and Scale Data Sheet.

Catalog No. KC-14 **\$2.75**

Shipping Wt. 10 oz.
Engines not included.

SPECIFICATIONS

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

RECOMMENDED ENGINES

½A6-2 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 rocketsonde 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 **\$3.50**

Shipping Wt. 14 oz.
Engines not included.

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

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

"CENTURION"

BIG - BIG SINGLE STAGER FUN!

Large and beautiful, here is the ideal demonstration bird for realistic slow lift-offs! 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 **\$3.25**

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
------	------	------

*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

\$2.25

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 **\$3.95**

Shipping Wt. 16 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

\$2.75

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
PRICES START AT \$2.75



Taurus
pg. 46

Swift
pg. 44

SST Shuttle
pg. 42

T-Bird
pg. 43

Skylab
pg. 70

Little
Joe II
pg. 40

Mercury
Redstone
pg. 37

Saturn 1B
pg. 40

Orion
pg. 36

Saturn 5
pg. 38

Centuri

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



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 \$4.95

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

MORE GALAXY FLEET ROCKET KITS

START ON PAGE 37

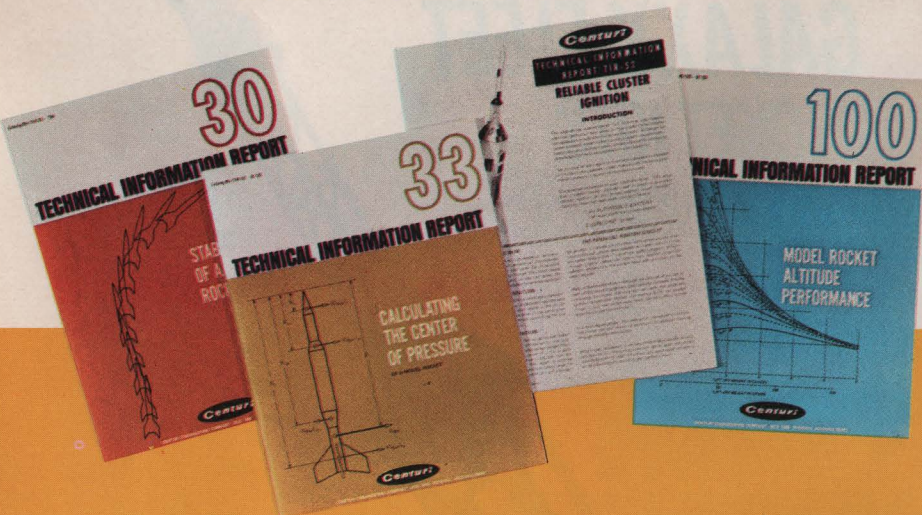


BUT FIRST...
we'd like to
interrupt this catalog
to insert some
ordering information
and other exciting items
that'll make rocketry
even more fun for you!

Centuri

TECHNICAL REPORTS

DESIGNED TO HELP YOU BUILD BETTER AND HIGHER FLYING MODEL ROCKETS



TIR-30 STABILITY OF A MODEL ROCKET IN FLIGHT

You've probably heard that a stable rocket flight requires that the center-of-pressure must lie behind the center-of-gravity. Well, what is center-of-pressure? What does the word "stability" really mean? Are there any simple tests to tell if a new rocket will be stable? How come rockets head into the wind instead of being blown with the wind? These and many more important questions are fully answered in TIR-30.

Catalog No. TIR-30 Shipping Wt. 6 oz. 75¢

TIR-33 CALCULATING THE CENTER OF PRESSURE OF A MODEL ROCKET

TIR-33 shows you how to calculate and locate the exact center-of-pressure so you can achieve maximum performance together with an adequate margin of stability. Helps to show if additional nose weight is necessary. Helpful in balancing scale birds with very little fin area. Fully illustrated, it includes all necessary equations; designs tips plus sample problems, along with easy-to-use graphs which eliminate most of the arithmetic steps.

Catalog No. TIR-33 Shipping Wt. 6 oz. \$1.00

TIR-52 RELIABLE CLUSTER IGNITION

The technique of "clustering" model rocket engines for higher liftoff thrust is now made easy. This fully illustrated report explains the "whys" and "hows" in obtaining reliable electrical ignition of 2 or more engines in a cluster. TIR-52 shows how to select the best power source and how to wire up the igniters. Improve your "clustering" success by reading this 8 page report.

Catalog No. TIR-52 Shipping Wt. 3 oz. 35¢

TIR-100 MODEL ROCKET ALTITUDE PERFORMANCE

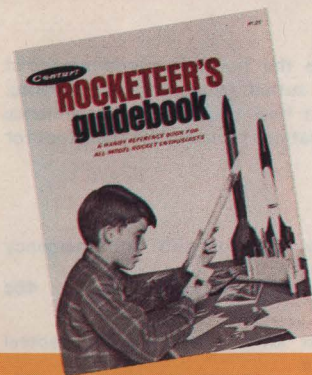
Predict the peak altitudes which will be reached by single stage rockets using 1/2A thru F type engines with easy-to-use graphs. Also more graphs for selecting the best engine delay time. No math calculations needed whatever. These graphs plus discussion sections will help you understand how engine thrust, rocket weight, and aerodynamic drag on various nose & body shapes are interrelated in their affects on performance.

Catalog No. TIR-100 Shipping Wt. 10 oz. \$1.00

Centuri

HANDBOOKS AND POSTERS

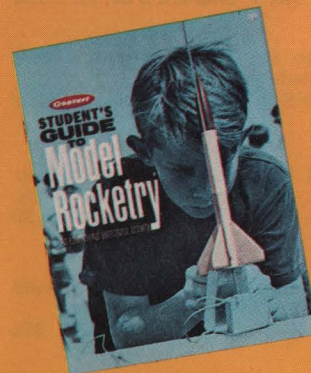
KEEP THIS HELPFUL INFORMATION IN YOUR LIBRARY



ROCKETEER'S GUIDEBOOK

Just the answer for the aspiring rocketeer who wants to find out for himself "what it is all about". The "Rocketeer's Guidebook" is a fact-filled, clearly-written, 36 page reference which will fill an important place in your model rocketry library as you become involved in America's fastest growing Space-age hobby.

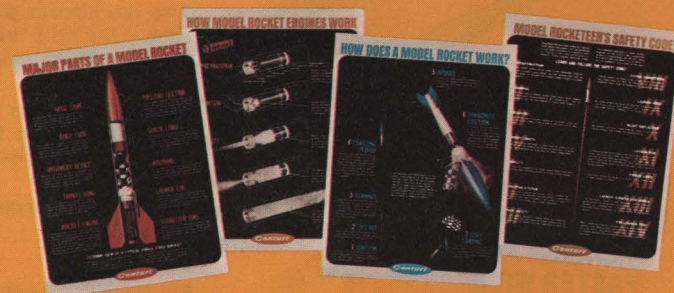
Catalog No. RG-36 \$1.25
Shipping Wt. 8 oz.



STUDENT'S GUIDE TO MODEL ROCKETRY

Your "best guide" for a complete introduction of "model rocketry" and "rocketry" in general. Loaded with photographs and illustrations, it explains how to get started in model rocketry and how to conduct rocket research projects. Programmed learning includes "Self-Tests" to measure your increased knowledge. Perfect for bringing fun science into the classroom!!

Catalog No. TB-10 \$1.75
Shipping Wt. 1 lb.



MODEL ROCKET WALL POSTERS

SHOWS WHAT IT'S ALL ABOUT!

These new colorful wall charts are great for the school room, the club room and your room. Each of the four posters deals with a specific aspect of rocketry; components of a model rocket, how a model rocket works, how a model rocket engine works, safety code for model rocketeers. Each poster measures 14 1/2" x 20" and is printed in two colors on quality varnished card stock. If you're serious about rocketry, you should have these! Delivered rolled — with no folds.

Set of four
\$3.00

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

MODELING TOOLS, KNIVES AND KITS

BUILD BETTER MODELS WITH THE CORRECT MODELING TOOLS

Here are the finest in modeling tools! Each is suited to a particular purpose. Find out how you can further enhance your creations by using the right tool for the job!

A handy "second knife" for emergency field repairs.
Cat. No. XK-8 Ship. Wt. 3 oz. . . . 40¢

The best knife and blade for general modeling.
Cat. No. XK-1 Ship. Wt. 3 oz. . . . 75¢

Similar to the XK-1, but with a more massive blade and handle.
Cat. No. XK-2 Ship. Wt. 4 oz. . . . 90¢

A rugged knife for heavy-duty cutting. Use this handle for the saw blade.
Cat. No. XK-5 Ship. Wt. 6 oz. . \$1.35

Centuri's custom Rocket-Ruler engraved with 10^{ths}, 12^{ths}, and subdivisions.
Cat. No. XR-6 Ship. Wt. 3 oz. . . . 85¢

This saw blade is great for cutting thick balsa — fits XK-5 handle.
Cat. No. XB-34 Ship. Wt. 3 oz. . . . 55¢

Use these tweezers for holding delicate parts — also ideal for applying decals.
Cat. No. XT-7 Ship. Wt. 2 oz. . . . 35¢

Fits No. XK-1 handle.
Cat. No. XB-10 15¢ each/5 for 65¢

Fits No. XK-1 Handle.
Cat. No. XB-11 15¢ each/5 for 65¢

Fits No. XK-2 and XK-5 Handle.
Cat. No. XB-24 15¢ each/5 for 65¢

Fits No. XK-8 Handle.
Cat. No. XB-8 10¢ each/5 for 45¢

ROCKET BUILDING IS EASIER AND FASTER WITH "SHARP" BLADES.

MODEL ROCKETEERS TOOL KIT

A specially selected set of tools needed most by model rocketeers all in an attractive vinyl carrying case. Below is a complete list of the tools you receive:



- 1-No. 1 Knife
- 1-No. 5 Knife & Blade
- 5-XB-11 Blades
- 1-XB-34 Razor Saw
- 1-2" Wide Sanding Block
- 1-6" Steel Ruler

XC-90 Ship. Wt. 1 lb. \$5.50

POCKET-SIZED DUAL KNIFE SET

Contains one light and one medium duty knife with 5 assorted blades for each knife. Packed in a clear plastic case.

GC-78 Ship. Wt. 12 oz. \$2.75

X-ACTO KNIFE CHEST #82

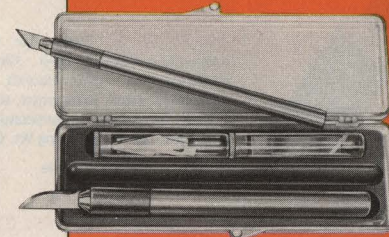
Set of three modeling knives, light, medium, and heavy duty — all useful in building model rockets. Contains Numbers 1, 2, and 5 knives plus 9 assorted extra blades, packed in a handy, natural finish wood chest.

XC-82 Ship. Wt. 1½ lbs. \$5.75

X-ACTO HOBBY TOOL CHEST #86

Contains Numbers 1, 2, and 5 knives and complete assortment of blades, gouges, routers, and punches. Also includes X-Acto planer, sander, spokeshave, balsa stripper, and steel rule — all in handsome fitted wood chest.

XC-86 Ship. Wt. 2 lbs. \$16.50



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

MF-70 One ounce bottle 35¢
 DT-43 1 oz. Thinner & Brush Cleaner 35¢

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

FP-40 1 ounce bottle 35¢

PLASTIC BALSA BODY PUTTY For streamlining and strengthening fillets over fin-body joints. Fills holes or dents in body tubes, fins, and nose cones. Fast drying and sands well. Ship. Wt. 4 oz.

MF-10 1½ ounce tube 50¢

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

GL-40 2 ounce bottle 50¢

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

FP-13 2 ounce bottle 60¢

MASKING TAPE For stripping and color marking your models. Highly flexible for curved stripes. Seals tightly for clean edges — strips off clean. Use to friction-fit engines into rockets. 12 foot long rolls. Shipping Weight 1 oz. per roll.

MT-25 1/4" wide x 144" roll 30¢ per roll
 MT-50 1/2" wide x 144" roll 30¢ per roll

PAINTS, GLUES & FINISHING SUPPLIES

GIVE YOUR MODELS A "PROFESSIONAL FINISH" WITH THESE SUPPLIES



Wind tunnel tests have shown that the surface finish of rockets can affect their altitude capabilities by as much as 60%. Therefore, in order to achieve maximum altitude flights, it is advisable to give your model rockets a smooth surface finish. In summary, the smoother the surface, the higher the altitude.

STEPS TO ACHIEVING A SMOOTH AERODYNAMIC FINISH

PREPARE SURFACE — Apply fillercoat to all balsa surfaces. Sand smooth and

apply more fillercoat. Repeat process until balsa grains are completely filled.

PAINT SURFACE — Spray lacquers or lacquerized enamels are best for model rockets because of their highly evaporative solvents. Regular enamels may be used when weight is not critical. Apply an even coat of paint and allow to dry completely. Fluorescent colors require a base coat of flat white.

FINISH SURFACE — For that expert touch on your display models, lightly rub the entire painted surface with compound, wipe clean, and apply gloss wax. Now apply decal markings. Do not apply compound or wax to fluorescent colors.

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

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

GLOSS WAX For an ultra-gloss finish that reduces air friction and cuts down on drag. Apply to any painted surface with a soft cloth, let dry, then polish lightly with dry cloth to obtain bright shining finish.

GW-60 2¼ ounce jar 95¢

RUBBING COMPOUND Used by "professional" model builders to rub out "orange peel" and "overspray" after final paint job. Apply sparingly and rub on lightly with a dry cloth. Wipe off and follow with a coat of gloss wax. #GW-60. Shipping Weight 6 oz.

RBC-50 2¼ ounce jar 95¢

FLUORESCENT SPRAY PAINT High visibility, fast-drying, lacquerized paint in handy spray can. Trackers delight!! Easy to spot at high altitudes. Most popular model rocket finish. Apply over glossy white base coat to get full fluorescent effect. Available in Cerise (Pink), Yellow Orange, Red Orange and Green. Specify color. Shipping Weight 15 oz.

FP-10 6 oz. spray can \$1.55 each

LACQUERIZED ENAMEL SPRAY Ideal general finish for model rockets. Lightweight and dries in minutes to a smooth glossy finish. Use glossy white under fluorescent colors. Available in Bright Silver, Flat Black, Gloss Black, Cherry Red, Gloss White. Please specify color. Shipping Weight 15 oz.

FP-2 6 oz. spray can \$1.20 each

SUPERFINE SANDPAPER For that mirror-gloss finish on your rockets. Ideal for finish sanding on balsa fins, nose cones, and reducers. Preferred by "professional" model builders. Outlasts most other sandpapers. Six sheet pack includes 2 sheets of #600 grit, 2 - #400, 1 - #320 and 1 - #280, measuring 3" x 3½". Shipping Weight 4 oz.

FM-20 6 Sheet Assorted Pack 30¢ each

GARNET SANDPAPER For shaping and sanding fins, nose cones, engine mounts, reducers, etc. Fast cutting and long lasting. 12 sheets 4" x 5" in assorted grades — extra fine, fine, and medium.

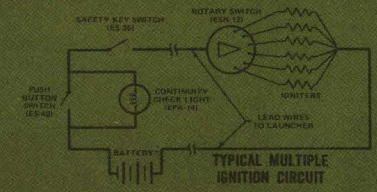
MF-15 12 Sheets Assorted Grades 35¢



ELECTRICAL SUPPLIES

USE THESE TOP QUALITY ITEMS ON YOUR CLUB LAUNCH RACK

Here are the basic parts for building your own "Multiple Ignition Circuit".



ROTARY SWITCH
 Selector switch for multiple type club launchers with up to twelve launch rods. Non-short-circuiting. Mounts in 3/8" hole. Dial Plate numbered 1-12. Mounting hardware included. Aluminum. Figures etched on black background. Ship wt. 6 ozs.

ESR-12 \$2.25



PILOT LIGHT ASSEMBLY
 Perfect for "continuity check" light or "armed" signal in your ignition circuit. Red 3/4" convex jewel with chrome plated lens holder. Mounts in 11/16" hole. The bulb is not included. Shipping weight 2 ounces.

EPA-14 Entire Assembly \$1.00
 EPB-6 6 volt bulb 25¢
 EPB-12 12 volt bulb 25¢



IGNITER-CLIP ASSEMBLY
 Just like the ones used on Centuri's LIA-50 and LIA-77 launchers. Used to carry electrical current thru the igniter. Simply connect ring terminal to the business end of your firing line and your homemade launcher is set up for electrical ignition. Includes micro-clips.

ECA-44 95¢ per set



ZIP FIRING CABLE
 Perfect for your model rocket electrical ignition system. Connect it from your firing switch out to the launcher. Flexible No. 18 two-conductor insulated cord. Ship Wt. 6 ozs.

EZP-12 12 ft. roll 95¢



PUSH BUTTON SWITCH
 Perfect for firing switch in any ignition circuit. Bright red plastic button. Momentary contact - spring loaded type (normally open). Mounts in 3/8" hole. Ship Wt. 3 ozs.

ES-40 \$1.00 each

Take the guesswork out of tracking* with a

*USED AS THE OFFICIAL TRACKING INSTRUMENT AT RECENT NATIONAL (NARAM) COMPETITIVE MEETS.



"SKY-TRAK" Rocket Altitude Finder

DON'T GUESS AT ALTITUDES... GET ACCURATE READINGS!!

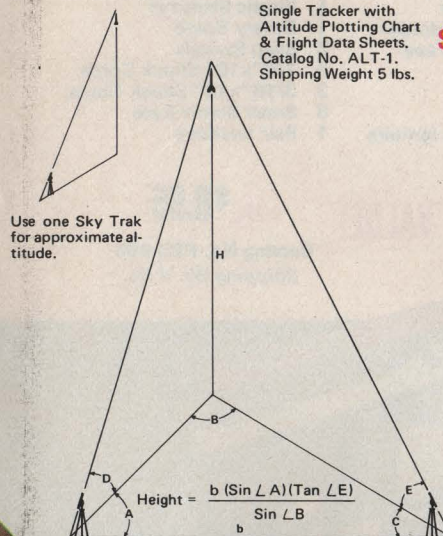
Do you really know how high your rockets go? Or, are you just guessing? Centuri's Sky-Trak Altitude Tracker will help you find out exactly how high ($\pm 5\%$). Use Sky-Trak with the "Altitude Plotting Charts" included with each tracker, to easily calculate the "apogee altitude" of each rocket you or your friends fly. Great for clubs and contest flying. Use for science projects. Very useful as a basic, inexpensive surveyor's transit for measuring height of buildings, trees, or even the width of a river. Helps you to learn trigonometry while having fun. Comes in sub-assembled kit form. Easy-to-assemble and easy-to-use.

Single Tracker with
Altitude Plotting Chart
& Flight Data Sheets.
Catalog No. ALT-1.
Shipping Weight 5 lbs.

\$ 27.50

2 Complete Trackers
plus Altitude Plotting
Chart & Flight Data
Sheets. Catalog No.
ALT-2. Shipping
Weight 9 lbs.

\$ 49.50



Use two Sky Traks for greater accuracy.

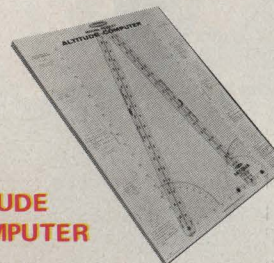
HOW SKY-TRAK WORKS

Tracking personnel pace off a baseline to a site level with the launch pad. Rocket launchings are followed, through the cross hairs in the scope, to the peak of flight. The resulting reading on the elevation protractor is "plugged" into the Altitude Computer board, to obtain altitude in feet (or meters), which is recorded on the Flight Data Sheets. Use one tracker or two. One Sky-Trak gives you approximate altitude, while two Sky-Traks give you extremely accurate altitude, usually within $\pm 5\%$ after brief tracking practice. Two Sky-Traks can compensate for wind drift, and "weather cocking".



Easy to transport.

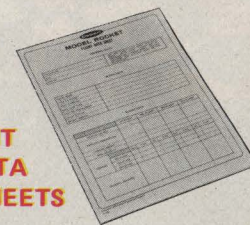
ALTITUDE COMPUTER



Compute altitudes in less than 30 seconds, with any tracker. Simply enter angle readings from one or two trackers onto chart and read rocket's altitude immediately. Big chart with plastic beam arms. Everything you need - assemble in minutes. Comes with Altitude Tracking Report plus 10 Flight Data Sheets and instructions for use.

ALC-1 Ship. Wt. 12 oz. . \$3.00

FLIGHT DATA SHEETS



Keep complete flight performance and vehicle data on every rocket you fly. Includes simplified diagrams and equations for computing altitudes using Sky-Trak 3-D Tracker. Sheets measure $3\frac{1}{2} \times 11$ ", printed both sides. Shipping Weight 10 ounces.

10 Flight Data Sheets

FDS-10 Shipping Wt. 10 oz. 35¢

50 pc. "FIELD SERVICE KIT"

YOU CAN'T AFFORD TO BE WITHOUT THESE HANDY PARTS!

All these valuable materials for model "preparing" and those "emergency" on-the-spot model repairs — packed in a good looking, sturdy metal box with 3-compartment tray to hold your rocket supplies.

- | | |
|------------------------------|-------------------------|
| 1 Modeling Knife & Blade | 2 Micro-Clips |
| 5 Extra Knife Blades | 1 Roll Shroud Line |
| 1 Bottle Superbond Glue | 1 Sheet Tape Discs |
| 1 Pkg. Chute Wadding | 1 Plastic Streamer |
| 1 Can Chute Powder | 1 Emery Board |
| 12 Sheets Ass'td. Sandpaper | 3 Snap Swivels |
| 1 Roll ½" Masking Tape | 3 1/8"x18" Shock Cords |
| 2 12" Parachutes | 3 3/16"x18" Shock Cords |
| 2 16" Parachutes | 6 Small Screw Eyes |
| 1 20" Parachute | 1 Pair tweezers |
| 1 Pack of Sure-Shot Igniters | |

OVER \$11.50 VALUE! **only \$8.95**

Catalog No. FBS-895
Shipping Wt. 4 lbs.



Use this sturdy metal case to set up your own personalized Field Service Kit. Features chromed latch, carrying handle, and hi-visibility baked enamel finish.

Box alone
\$3.75

Catalog No. FB-375
Shipping Wt. 2 lbs.



Centuri

ORDERING INFORMATION

**PLEASE READ CAREFULLY
BEFORE ORDERING**

FASTEST POSSIBLE MAIL SERVICE

At Centuri, we specialize in fast delivery. Your order will be carefully packaged and shipped out to you on the same day we receive it here in our plant.

USE THE HANDY ORDER BLANK

For your ordering convenience, we have enclosed an order blank. Please use it whenever possible. A new order form will be returned with each order. Please fill in the information requested. If our printed order blank is not available, simply write out your order on a plain sheet of paper, but be sure to add the proper amount of handling charges as shown in the chart below.

IF YOUR ORDER IS

Up to \$3.00 add 50¢ for handling
\$3.01 to \$4.00 add 40¢ for handling
\$4.01 to \$5.00 add 30¢ for handling
\$5.01 and over, no handling charge.

CENTURI PAYS THE POSTAGE

Centuri will ship your order postpaid anywhere in the U.S. by regular surface parcel post, unless otherwise requested. For extra fast delivery, see airmail information on reverse side.

PAYMENT OF YOUR ORDER

Full payment must be included with your order. Please send your payments by Check or Money Order. No C.O.D.'s please. We do not recommend sending cash; however, should it be necessary, be sure it is well wrapped. No stamps please. Be sure to include sufficient payment with your order. Any over-payment will be promptly refunded. We cannot be responsible for coins, currency, or orders lost in the mail.

PRICES IN THIS CATALOG

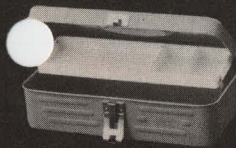
All prices in this catalog take effect December 1, 1973 and replace those in previous catalogs. Prices are subject to change without notice.

(see reverse side for more Ordering Information)

Centuri **GIVES YOU FAST, FAST SERVICE**

Centuri Engineering Company
P.O.Box 1988, Phoenix, Arizona 85001

Satisfaction Guaranteed . . . or your money back!



6 good reasons for becoming a member of

Centuri "AEROSPACE TEAM"

Centuri's Aerospace Team is a rapidly growing worldwide group of rocketeers who buy and fly the Centuri way. Membership in the "team" opens up new opportunities for you to enjoy Model Rocketry at its fullest. As a member, you'll receive valuable benefits . . . all the way from your membership materials (see below) to the 32 page Design Manual, and even bonus coupons. You'll also receive the latest catalogs and newsletters showing new products and ideas from our Research and Development staff.

How does the Aerospace Team operate? Well, you may choose to start a rocket club using this name . . . a club having regular meetings, launchings and contests, or you might just launch for fun with your friends. Either way is great! Either way, you'll be proud to be a team member.

HOW TO JOIN

Simply check the box at the bottom of the order blank and enclose 50¢ with your order of \$5.00 or more. That's all it takes! We'll send you all the membership materials shown below.

AS A MEMBER . . . YOU'LL RECEIVE ALL THIS—FREE!

MEMBERSHIP CARD

You'll be proud to show this wallet size card identifying you as a member of the "team". Also has 14 point Model Rocket Safety Code imprinted on back of card.

MODEL ROCKET DESIGN MANUAL

Worth the 50¢ in itself! Contains 32 illustrated pages showing design tips, rocket stability, recovery systems, multi-staging systems, construction techniques, and 4 rocket plans, plus dozens of photos.

FIELD BOX STICKER

Apply this colorful I.D. sticker to your school notebook, bicycle, brief case, field box, or even your rocket. Has place for your name and address.

IRON-ON SHIRT INSIGNIA

A 3-color Team Emblem for your T-shirt or jacket. Easily irons on and remains permanently. You'll be proud to identify with other Centuri Rocketeers.

WALL CERTIFICATE

A beautifully lithographed certificate with your name inscribed and ready for framing. Display it in your room at home or your club meeting room.

AEROSPACE TEAM DECAL

Large impressive 3-color decal containing 16 Team Insignias. Apply to car windows, rockets, field boxes, etc. Measures 3-1/2" x 9". Colors are red, white, and blue.

JOIN TODAY!

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



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

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.

SPECIFICATIONS

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

RECOMMENDED ENGINES

B4-2 or C6-3

Catalog No. KS-1 \$4.95

Shipping Wt. 15 oz.
Engines not included.

America's Moon Rocket

"APOLLO SATURN 5"

THE ULTIMATE FLYING SUPER SCALE MODEL
OVER 3½ FEET TALL!

Here is the famous Centuri 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

\$19.95

*Shipping Wt. 3 lbs.
Engines not included.*

SPECIFICATIONS

Length 43.6"
Body Dia. 3.96"
Net Wt. 9.2 oz.

RECOMMENDED ENGINES

3 - C6-3's

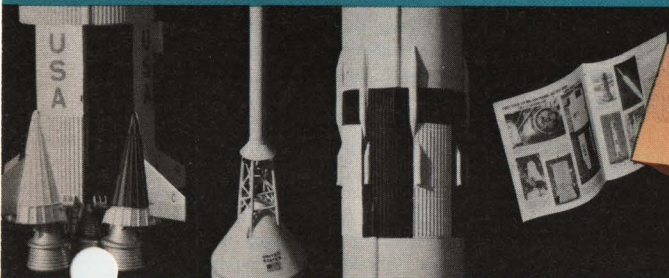
Clear Plastic Fins
\$1.00

Catalog No. CPF-1

Shipping Wt. 6 oz.

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

THREE PARACHUTE RECOVERY

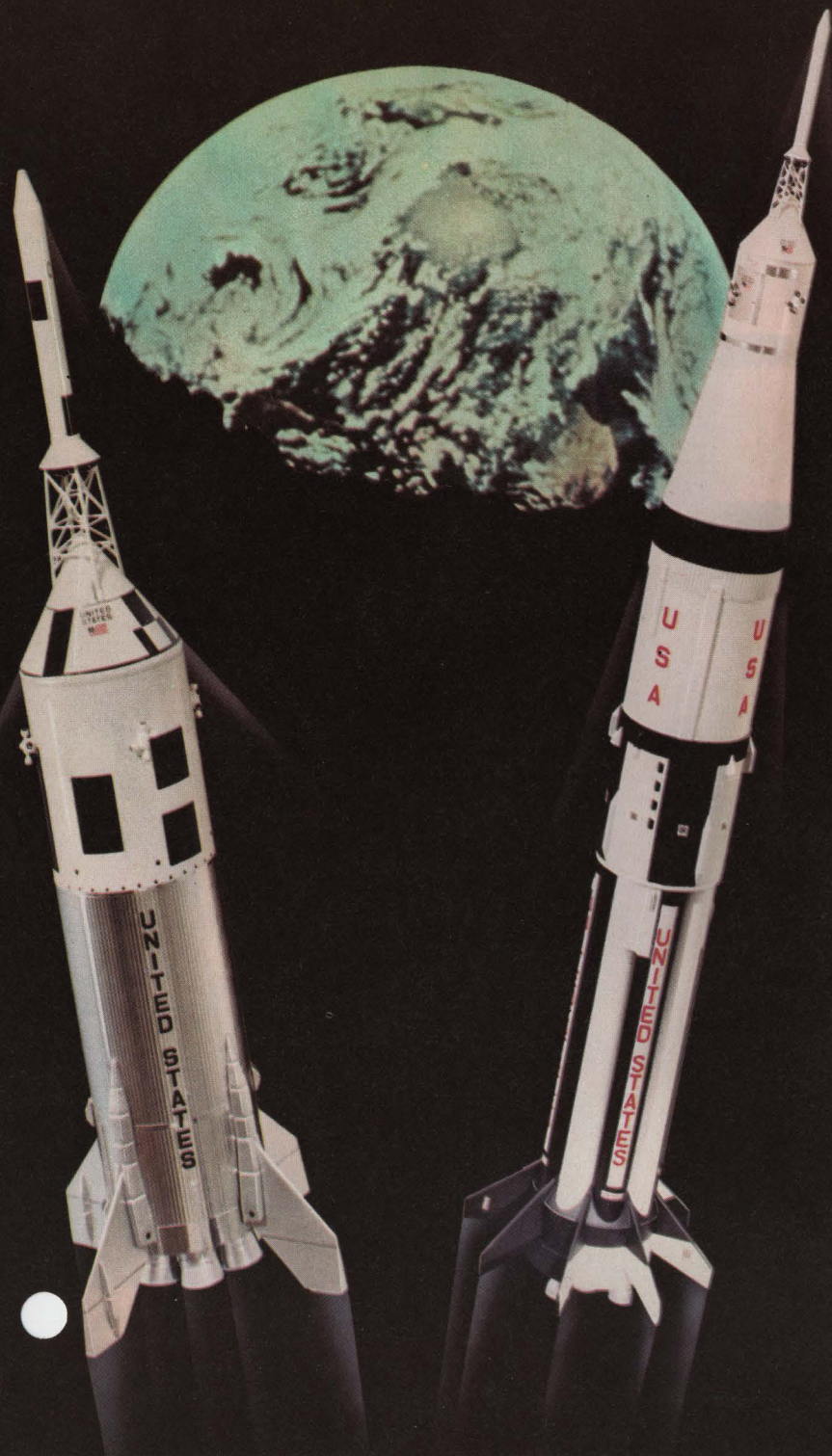


Removable display nozzles are exact copies of the real F-1 engine bells.

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 **\$15.95**

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 chutes.

In-depth book on the Little Joe program.

LOTS OF PICTURES!

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.

Catalog No. KS-10 **\$10.95**

Shipping Wt. 2 lbs.
Engines not included.

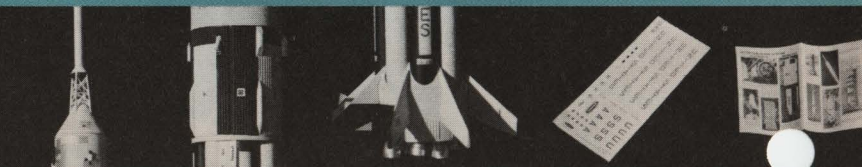
Note: The Saturn 1-B should be launched from a heavy duty LIA-100 launcher.

SPECIFICATIONS

Length 26.8"
Body Dia. 2.62"
Net Wt. 4.4 oz.

RECOMMENDED ENGINES

2 – B6-4's
2 – C6-5's



Accurately detailed capsule & tower kit.

Full depth vacu-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 **\$3.50**

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



"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.



SPECIFICATIONS

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

RECOMMENDED ENGINES

B4-2 C6-3

Catalog No. KC-17 **\$4.50**

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 \$ 4.50

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	11.8"
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

\$3.00

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!

NOW!

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

(Also available separately.)



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.

Centuri MODEL ROCKET ENGINE INFORMATION

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 gasses generated by a burning propellant escape from the rocket nozzle producing a reaction in the opposite direction, which in turn propels the rocket forward.



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

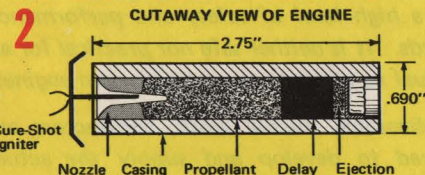


Vessel open at one end. A pressure imbalance moves rocket away from the open end. Restriction at nozzle end causes the gasses to "speed up" as they leave the vessel.

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

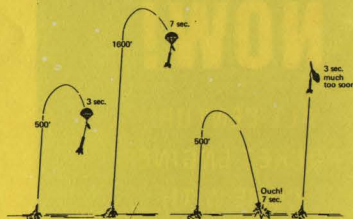
- 1** Battery operated launch system heats igniter in engine nozzle, starts propellant burning.
- 2** Engine develops pre-determined thrust. Action and Reaction principle causes rocket lift-off.
- 3** Propellant burns out, delay charge burns slowly permitting the rocket to coast to peak altitude. Produces 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.

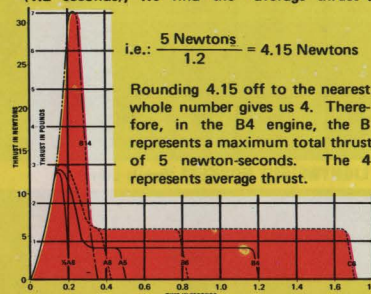
MODEL ROCKET ENGINE INFORMATION

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	0.626 to 1.25	0.15 to 0.28
	A	1.26 to 2.50	0.29 to 0.56
	B	2.51 to 5.00	0.57 to 1.12
B	B	5.01 to 10.00	1.13 to 2.24
	C		

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.



- 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.



Centuri

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		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
	3 FOR*	FOR*	LB-sec	N-sec	Ounces	Newtons					

SINGLE-STAGE ENGINES (Green Label)

¼A6-2	1.10	.28	1.25	22.40	6.23	.20	2	.53	.055	2.5
A5-2	1.20	.56	2.50	17.92	4.98	.50	2	.59	.110	3.0
A8-3	1.20	.56	2.50	28.00	7.81	.32	3	.57	.110	4.0
B4-2	1.30	1.12	5.00	14.93	4.15	1.20	2	.70	.294	4.5
B4-4	1.30	1.12	5.00	14.93	4.15	1.20	4	.74	.294	4.5
B6-4	1.30	1.12	5.00	21.59	6.00	.83	4	.78	.220	5.0
B14-5	1.50	1.12	5.00	51.20	14.23	.35	5	.69	.220	6.5
C6-3	1.50	2.24	10.00	21.08	5.86	1.70	3	.88	.440	5.5
C6-5	1.50	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)

¼A6-4	1.10	.28	1.25	22.40	6.23	.20	4	.54	.055	1.0
A5-4	1.20	.56	2.50	17.92	4.98	.50	4	.64	.110	1.5
A8-5	1.20	.56	2.50	28.00	7.81	.32	5	.62	.110	2.0
B4-6	1.30	1.12	5.00	14.93	4.15	1.20	6	.78	.294	2.5
B6-6	1.30	1.12	5.00	21.59	6.00	.83	6	.71	.220	3.0
B14-7	1.50	1.12	5.00	51.20	14.23	.35	7	.73	.220	4.0
C6-7	1.50	2.24	10.00	21.08	5.86	1.70	7	.95	.440	3.5

BOOSTER ENGINES (Red Label)

¼A6-0	1.10	.28	1.25	22.40	6.23	.20	0	.48	.055	2.5
A8-0	1.20	.56	2.50	28.00	7.81	.32	0	.51	.110	4.0
B6-0	1.30	1.12	5.00	21.59	6.00	.83	0	.58	.220	5.5
B14-0	1.50	1.12	5.00	51.20	14.23	.35	0	.61	.220	7.5
C6-0	1.50	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)

¼A6-2	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

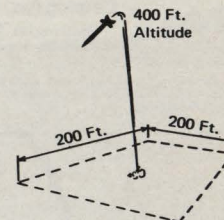
SINGLE-STAGE ENGINES FOR LIGHTWEIGHT ROCKETS (Purple Label)

¼A6-4	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)

¼A6-0	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 every time. 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 — assembled in seconds. Complete instructions for assembly and use.

IG-12 Kit of 12 for 60¢



"E" and "F" Engines
for the experienced rocketeer!!

The fantastic performance of Enerjet engines open up a new world of creative research and enjoyment for the experienced rocketeer. Enerjet model rocket engines have replaced the Mini-Max line. A complete catalog describing the new Enerjet kits, engines, and accessories is available for 25¢ from:

ENERJET CATALOG #721
 3057 West Fairmount Ave.
 Phoenix, Arizona 85017

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.

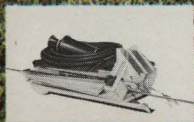
**The Saturn 5, Saturn 1-B, 1/45th Little Joe and other cluster-power rockets require the LIA-100 Launcher.

*Pat. Pending

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

Rockets not included with launchers.

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



Folds in seconds for compact storage.



BATTERIES

Made by a leading American manufacturer and tested to high amperage ratings for launching. Two required for use in the Centuri Servo-Launch. Shipping Wt. 5 oz. each. Catalog No. SPA-1 . . . 35¢ each

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 self-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. 5 oz.

Catalog No. LR-125 60¢



IGNITER DEFLECTOR Use a bunch of these to build your own multiple-launcher rack! Includes blast deflector, igniter leads and micro-clips - fully assembled. Shipping Wt. 8 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

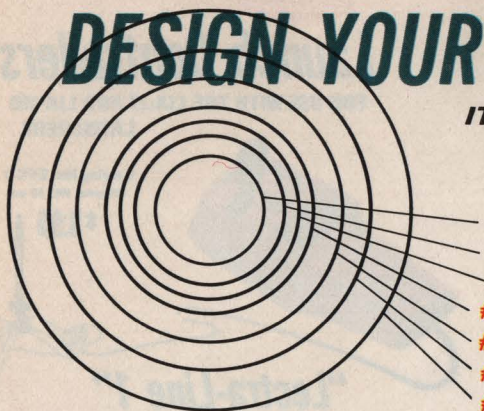
Catalog No. EP-612
Shipping Wt. 1 1/2 lbs.

\$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

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 JAM PACKED 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.

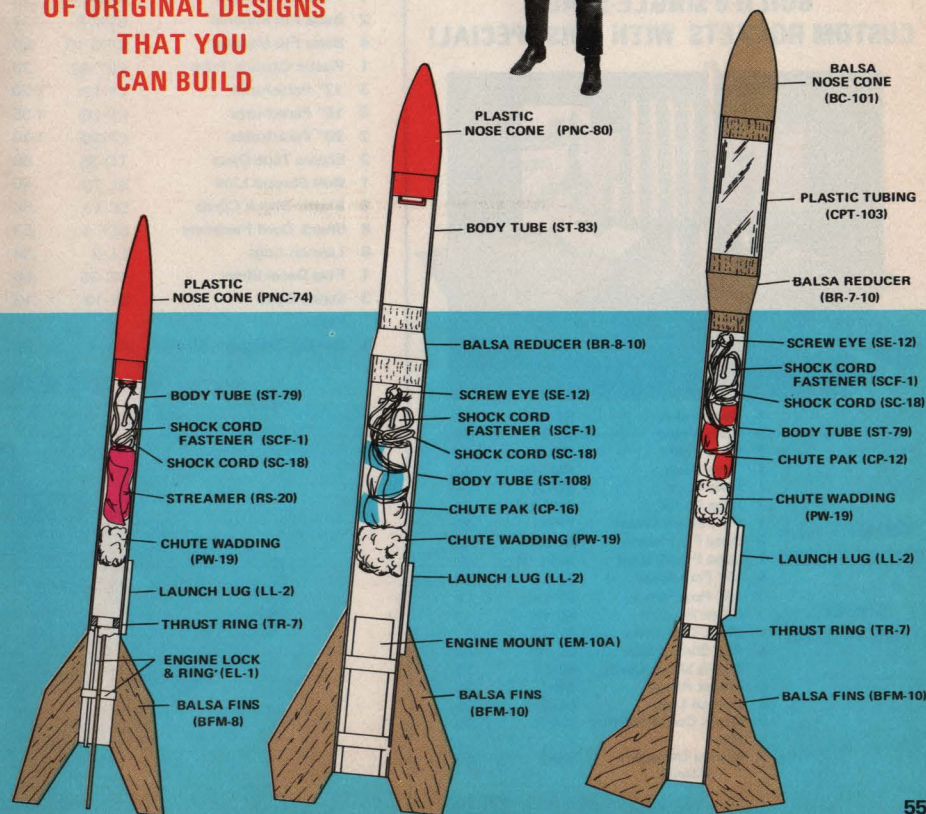
WHAT TO DO BEFORE YOU TEST FLY

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 PARTS ASSORTMENTS

DESIGN YOUR OWN HIGH PERFORMANCE**ROCKETS FROM TOP QUALITY PARTS****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 \$9.88 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!



4	Body Tubes	ST-79	.80
2	Body Tubes	ST-712	.50
2	Nose Cones	BC-70	.60
1	Nose Cone	PNC-76	.40
1	Nose Cone	BC-74	.45
2	Nose Cones	PNC-74	.80
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	1.60
2	16" Parachutes	CP-16i	.90
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	.50
6	Thrust Rings	TR-7	.35
6	Launch Lugs	LL-2	.25
6	Shock Cord Fasteners	SCF-1	.40
Plus			
1	Rocket Designer's Manual	DM-1	.50

TOTAL VALUE \$9.88

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	.30
2	Nose Cones	PNC-74	.80
1	Nose Cone	BC-83	.60
2	Nose Cones	PNC-89	1.20
1	Nose Cone	BC-103	.75
1	Nose Cone	PNC-106	.75
3	Thrust Rings	TR-7	.18
3	Engine Mounts	EM-8	.90
2	Engine Mounts	EM-10A	.60
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	.20
3	12" Parachutes	CP-12i	1.20
3	16" Parachutes	CP-16i	1.35
2	20" Parachutes	CP-20i	1.10
2	Sheet Tape Discs	TD-35	.60
1	Roll Shroud Line	SL-70	.40
8	Elastic Shock Cords	SC-18	.66
8	Shock Cord Fasteners	SCF-1	.53
8	Launch Lugs	LL-2	.34
1	Flag Decal Sheet	DC-35	.50
3	Screw Eyes	SE-12	.13
Plus			
1	Rocket Designer's Manual	DM-1	.50

TOTAL VALUE \$17.06

DESIGNER'S SPECIAL

IDEAL FOR CLUBS

Wow! What a bargain! \$17.00 worth of supplies for only \$11.95. You save over \$5.00. 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.

BUILD MANY DIFFERENT CUSTOM DESIGNS WITH THIS SUPER VALUE!

SAVE OVER \$5.00 NOW

\$17.06 VALUE FOR ONLY

\$11.95

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



Cat. No.	I.D.	O.D.	Length	Net Wt.	Ship. Wt.	Each
ST-518	.515"	.543"	18.0"	.240 oz	10 oz	30¢
ST-512	.515"	.543"	12.0"	.160 oz	6 oz	25¢
ST-56	.515"	.543"	6.0"	.080 oz	4 oz	15¢

SERIES 7



ST-718	.715"	.759"	18.0"	.288 oz	12 oz	35¢
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¢

SERIES 8



ST-818	.865"	.908"	18.0"	.450 oz	12 oz	40¢
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¢

SERIES 10



ST-1018	1.00"	1.04"	18.0"	.612 oz	12 oz	45¢
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¢

SERIES 13



ST-1318	1.30"	1.34"	18.0"	.738 oz	12 oz	65¢
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¢

SERIES 16



ST-1618	1.60"	1.64"	18.0"	.936 oz	12 oz	75¢
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¢

SERIES 20



ST-2018	2.00"	2.04"	18.0"	1.184 oz	14 oz	95¢
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

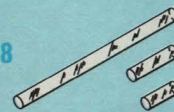
ULTRA-LIGHTWEIGHT-CLEAR

SERIES 7



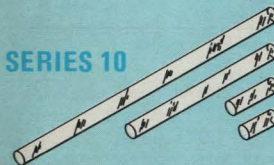
Cat. No.	I.D.	O.D.	Length	Net Wt.	Ship. Wt.	Each
CPT-78	.715"	.741"	8.00"	.170 oz	5 oz	25¢
CPT-73	.715"	.741"	3.25"	.069 oz	3 oz	15¢
CPT-72	.715"	.741"	2.75"	.060 oz	3 oz	15¢
CPT-71	.715"	.741"	1.87"	.039 oz	3 oz	10¢

SERIES 8



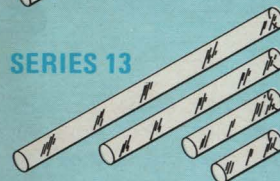
CPT-811	.865"	.891"	11.25"	.292 oz	8 oz	30¢
CPT-83	.865"	.891"	3.5"	.091 oz	4 oz	20¢
CPT-82	.865"	.891"	2.5"	.065 oz	3 oz	15¢

SERIES 10



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	20¢
CPT-102	1.00"	1.03"	2.5"	.080 oz	4 oz	15¢

SERIES 13



CPT-1318	1.30"	1.33"	18.0"	.720 oz	12 oz	65¢
CPT-1312	1.30"	1.33"	12.0"	.480 oz	9 oz	45¢
CPT-136	1.30"	1.33"	6.0"	.240 oz	6 oz	30¢
CPT-134	1.30"	1.33"	4.0"	.160 oz	4 oz	25¢

USE PLASTIC TUBING FOR MANY USES:

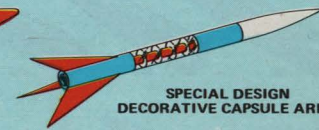
The use of clear plastic tubing in your custom designed rockets is limited only by your imagination.



SEE-THRU
DISPLAY MODELS



ENLARGED PAYLOAD
COMPARTMENT



SPECIAL DESIGN
DECORATIVE CAPSULE AREA

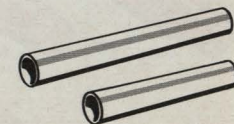
LAUNCH LUGS

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 high-gloss finish. Micro-thin wall construction. Fits over 1/8" rod.

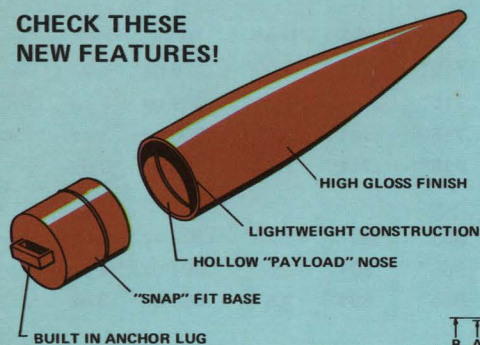
LL-2 2 1/4" long 6 for 25¢
LL-3 3" long 6 for 30¢

Centuri

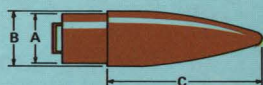
PLASTIC NOSE CONES

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 lacquerized 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



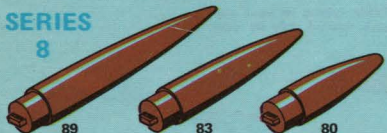
Cat. No.	"A"	"B"	"C"	Net Wt.	Ship Wt.	Each
PNC-51	.515"	.543"	1.0"	.04 oz	1 oz	25¢
PNC-54	.515"	.543"	2.2"	.07 oz	2 oz	35¢

SERIES 7



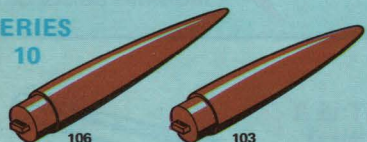
PNC-73	.715"	.759"	2.3"	.14 oz	3 oz	30¢
PNC-74	.715"	.759"	3.4"	.20 oz	4 oz	40¢
PNC-76	.715"	.759"	3.0"	.19 oz	4 oz	40¢

SERIES 8



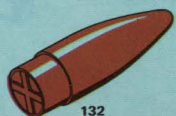
PNC-80	.865"	.908"	2.0"	.15 oz	3 oz	40¢
PNC-83	.865"	.908"	3.3"	.24 oz	4 oz	50¢
PNC-89	.865"	.908"	4.6"	.29 oz	5 oz	60¢

SERIES 10



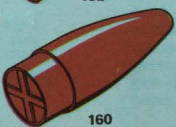
PNC-103	1.00"	1.04"	4.1"	.30 oz	6 oz	65¢
PNC-106	1.00"	1.04"	4.5"	.33 oz	6 oz	75¢

SERIES 13



PNC-132	1.30"	1.34"	2.7"	.35 oz	6 oz	70¢
---------	-------	-------	------	--------	------	-----

SERIES 16

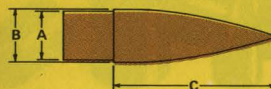


PNC-160	1.60"	1.64"	2.5"	.40 oz	6 oz	75¢
---------	-------	-------	------	--------	------	-----

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	40¢



SERIES 5

BC-70	.715"	.759"	1.6"	.04 oz	1 oz	30¢
BC-72	.715"	.759"	1.9"	.04 oz	1 oz	35¢
BC-74	.715"	.759"	3.5"	.07 oz	2 oz	45¢
BC-76	.715"	.759"	3.1"	.06 oz	2 oz	45¢
BC-79	.715"	.759"	3.6"	.06 oz	2 oz	45¢



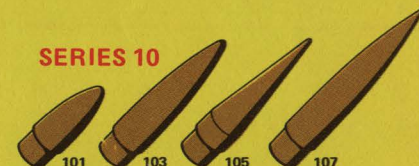
SERIES 7

BC-80	.865"	.908"	2.1"	.09 oz	2 oz	45¢
BC-83	.865"	.908"	3.2"	.15 oz	3 oz	60¢
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	80¢



SERIES 8

BC-101	1.00"	1.04"	2.0"	.14 oz	2 oz	50¢
BC-103	1.00"	1.04"	3.9"	.17 oz	3 oz	75¢
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	95¢



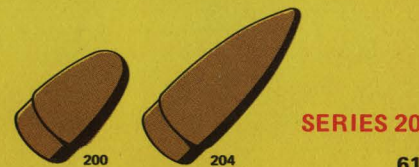
SERIES 13

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	95¢



SERIES 16

BC-200	2.00"	2.04"	2.5"	.38 oz	5 oz	\$1.20
BC-204	2.00"	2.04"	4.5"	.65 oz	6 oz	\$1.40

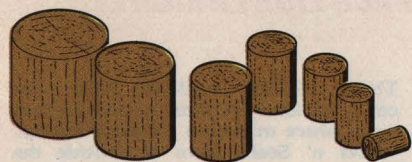


SERIES 20



COUPLERS,

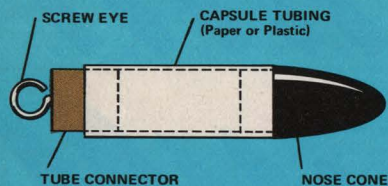
Parts needed for STAGING, PAYLOAD CAPSULES,



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".

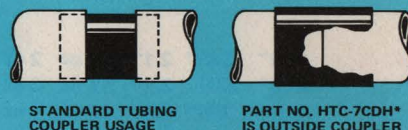
TYPICAL PAYLOAD CAPSULE DESIGN



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



CONNECTORS & REDUCERS

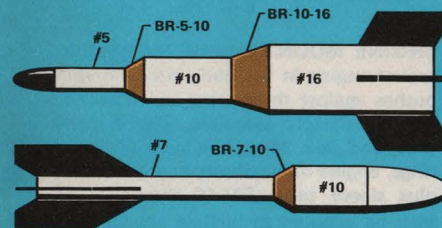
& CONNECTING DIFFERENT SIZED BODY TUBES



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.

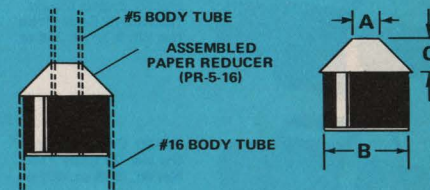
TYPICAL REDUCER APPLICATIONS



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



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	10¢
7	BTC-7	.715"	1"	.025 oz	1 oz	30¢	HTC-7A	.713"	1.0"	.023 oz	1 oz	10¢
							HTC-7CDH*	.800"	1.0"	.025 oz	1 oz	15¢
8	BTC-8	.865"	1"	.085 oz	2 oz	35¢	HTC-8	.863"	1.0"	.030 oz	1 oz	10¢
10	BTC-10	1.00"	1¼"	.095 oz	2 oz	40¢	HTC-10	1.00"	1.0"	.035 oz	2 oz	15¢
13	BTC-13	1.30"	1½"	.140 oz	3 oz	45¢	HTC-13	1.30"	1.5"	.072 oz	2 oz	15¢
16	BTC-16	1.60"	1¾"	.185 oz	3 oz	50¢	HTC-16	1.597"	1.75"	.110 oz	3 oz	20¢
20	BTC-20	2.00"	1¾"	.288 oz	4 oz	65¢	HTC-20	1.998"	1.75"	.136 oz	4 oz	20¢

*Slips over outside of #7 tube. Has ported relief holes for staging systems.

Cat. No.	Adapts "A" to "B"	Length "C"	Net Wt.	Each	Cat. No.	Adapts "A" to "B"	Length "C"	Net Wt.	Each
BR-5-7	#5 to #7	.50"	.07 oz	30¢	PR-5-10	#5 to #10	1.2"	.12 oz	25¢
BR-5-8	#5 to #8	.50"	.10 oz	35¢	PR-5-13	#5 to #13	1.8"	.18 oz	25¢
BR-5-10	#5 to #10	.75"	.11 oz	35¢	PR-5-16	#5 to #16	2.5"	.24 oz	30¢
BR-7-8	#7 to #8	.50"	.10 oz	35¢	PR-7-13	#7 to #13	1.3"	.18 oz	25¢
BR-7-10	#7 to #10	.75"	.12 oz	35¢	PR-7-16	#7 to #16	2.0"	.24 oz	30¢
BR-7-13	#7 to #13	1.50"	.18 oz	45¢	PR-7-20	#7 to #20	3.0"	.29 oz	35¢
BR-7-16	#7 to #16	2.00"	.36 oz	60¢					
BR-8-10	#8 to #10	.50"	.14 oz	40¢	PR-8-13	#8 to #13	1.0"	.18 oz	25¢
BR-8-13	#8 to #13	1.70"	.26 oz	55¢	PR-8-16	#8 to #16	1.7"	.24 oz	30¢
BR-8-16	#8 to #16	1.50"	.30 oz	60¢	PR-8-20	#8 to #20	2.7"	.29 oz	35¢
BR-10-13	#10 to #13	.75"	.18 oz	55¢	PR-10-16	#10 to #16	1.4"	.23 oz	30¢
BR-10-16	#10 to #16	1.50"	.32 oz	60¢	PR-10-20	#10 to #20	2.3"	.28 oz	35¢
BR-13-16	#13 to #16	.75"	.24 oz	60¢	PR-13-16	#13 to #16	0.8"	.22 oz	30¢
					PR-13-20	#13 to #20	1.8"	.27 oz	35¢
	For Larger Tube Sizes, Use Paper Reducers				PR-16-20	#16 to #20	1.0"	.26 oz	35¢
	For Larger Tube Sizes, Use Paper Reducers								

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. 30¢ ea.



EM-10A Engine Mount fits No. 10 Body Tube Net Wt. 0.22 oz. 30¢ ea.



EM-10 Engine Mount fits No. 10 Body Tube Net Wt. 0.15 oz. 35¢ ea.



EM-13 Engine Mount fits No. 13 Body Tube Net Wt. 0.20 oz. 35¢ ea.

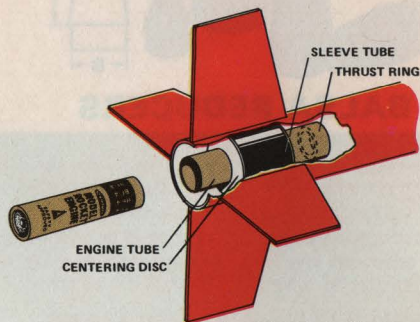


EM-16 Engine Mount fits No. 16 Body Tube Net Wt. 0.24 oz. 35¢ ea.



EM-20 Engine Mount fits No. 20 Body Tube Net Wt. 0.28 oz. 40¢ 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).



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¢

STABILIZER FINS

AND OTHER USEFUL ACCESSORIES

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!

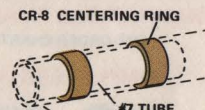


TR-7 THRUST RING

#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 35¢

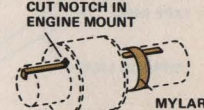


CR-10 CENTERING RING

#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 35¢



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¢

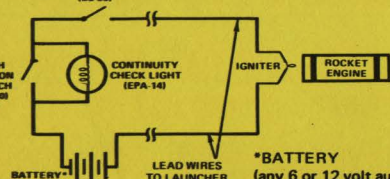
USE THE BEST...
USE CENTURI!

Centuri

ELECTRICAL

TO BUILD YOUR OWN MODEL ROCKET IGNITION SYSTEM

SAFETY KEY SWITCH (ES-36)



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 35¢
\$1.25 per dz.



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 \$1.20



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.

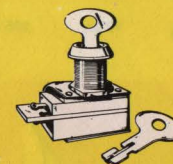
EST-20 Pkg. of 6 for 35¢



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

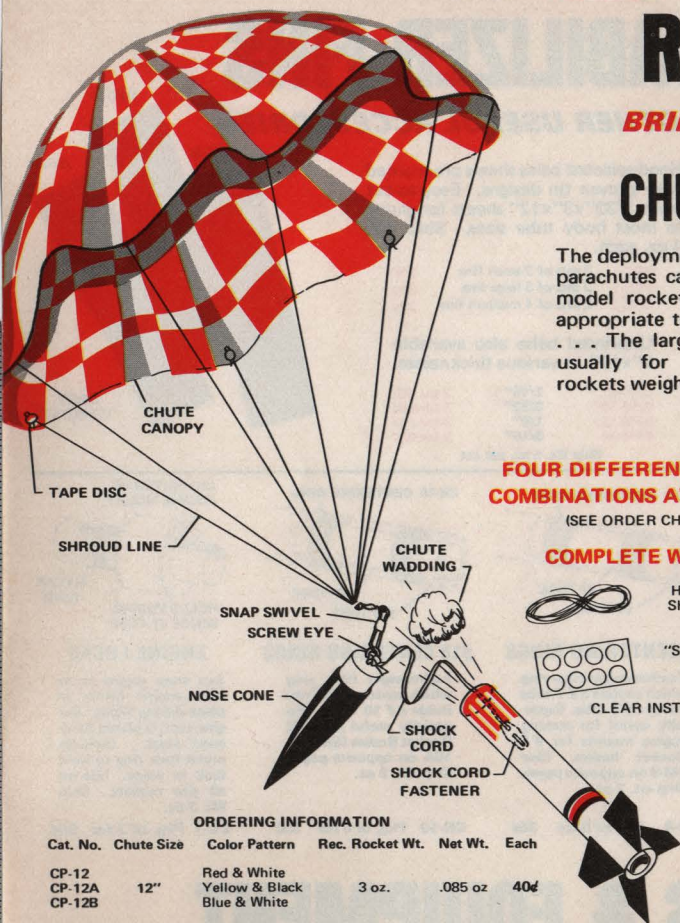
Centuri

RECOVERY

BRING YOUR ROCKETS

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

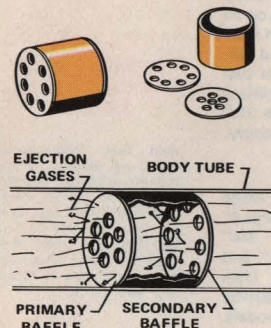
Cat. No.	Chute Size	Color Pattern	Rec. Rocket Wt.	Net Wt.	Each
CP-12	12"	Red & White	3 oz.	.085 oz	40¢
CP-12A		Yellow & Black			
CP-12B		Blue & White			
CP-16	16"	Red & White	6 oz.	.136 oz	45¢
CP-16A		Yellow & Black			
CP-16B		Red & Yellow			
CP-20	20"	Red & White	9 oz.	.215 oz	55¢
CP-20A		Yellow & Black			
CP-24	24"	Red & White	12 oz.	.295 oz	70¢
CP-24A		Yellow & Black			

DEVICES AND ACCESSORIES

BACK TO EARTH SAFELY WITH THESE PROVEN DEVICES

EJECTION BAFFLES

ELIMINATES THE NEED FOR CHUTE WADDING!



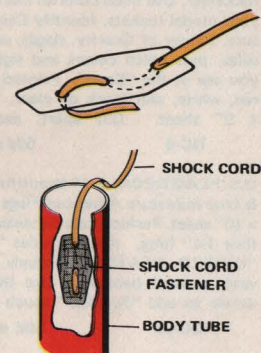
Another new idea from Centuri, these ejection baffles will eliminate the need for parachute wadding in your large diameter rockets. The precisely engineered spacing of the relief ports at either end of the baffles trap and dissipate heat without reducing the "ejection pressure" of the gases. As a result, 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	40¢
EB-16	#16	40¢
EB-20	#20	50¢

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 40¢

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 1/2A 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" 3/25¢

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 flagging 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 40¢



TAPE DISCS

Sheet of 35 pressure sensitive discs used to fasten shroud lines securely to plastic parachutes or 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 50¢



PARACHUTE POWDER

Fine powder, sprinkled on parachute during folding acts as lubricant to help chute slide 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 75¢



SHROUD LINE

Strong, glazed finish, lightweight cord (only .022" dia.) Perfect for shroud lines on custom parachutes. Sufficient line for 20 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 36" 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 3½" x 9" sheet. Cut apart, easy-to-apply.

DC-3 50¢ 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 3½" x 9" sheet. Cut apart, easy-to-apply.

DC-4 50¢ 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 1¼" long. Also includes "USA" and "UNITED STATES" symbols plus USA wrap around banners. Use these terrific decals to add "finished" touch to models.

DC-5 50¢ 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 3½" 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

¼" LETTERS & NUMERALS Perfect ¼" high NASA style figures for all your models on large 3½" 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

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

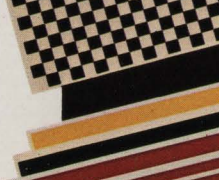
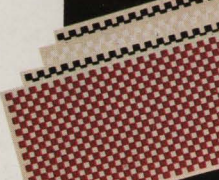
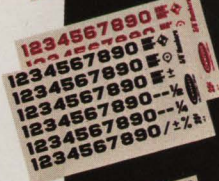
Cat. No. TT-9 35¢ Roll

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 ½". Available in Red, Black or Yellow on clear background. Specify color you desire when ordering.

DC-29 30¢ each





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 **\$4.95**

Shipping Wt. 16 oz.
Engines not included.

SPECIFICATIONS

Length 24.5"
Body Dia. 2.04"
Net Wt. 3.4 oz.

RECOMMENDED ENGINES

C-7 C-8 C-9 C-10 C-11 C-12 C-13 C-14 C-15 C-16 C-17 C-18 C-19 C-20 C-21 C-22 C-23 C-24 C-25 C-26 C-27 C-28 C-29 C-30 C-31 C-32 C-33 C-34 C-35 C-36 C-37 C-38 C-39 C-40 C-41 C-42 C-43 C-44 C-45 C-46 C-47 C-48 C-49 C-50 C-51 C-52 C-53 C-54 C-55 C-56 C-57 C-58 C-59 C-60 C-61 C-62 C-63 C-64 C-65 C-66 C-67 C-68 C-69 C-70 C-71 C-72 C-73 C-74 C-75 C-76 C-77 C-78 C-79 C-80 C-81 C-82 C-83 C-84 C-85 C-86 C-87 C-88 C-89 C-90 C-91 C-92 C-93 C-94 C-95 C-96 C-97 C-98 C-99 C-100



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
1/2A6-2 A5-2

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

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

\$125



JAYHAWK

SEMI-SCALE "AQM-37A"

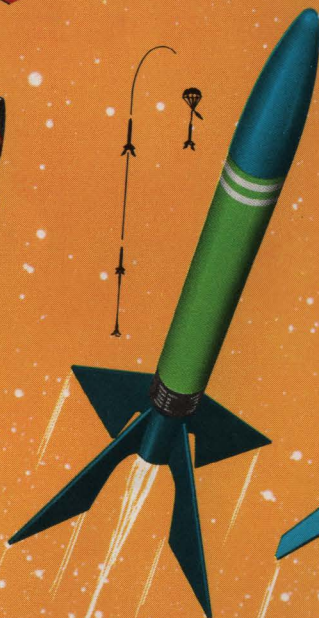
Styled after the U.S. Navy target drone with terrific realism! Includes 3-color decals, pre-cut fibre fins, molded nose cone and parachute.

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

SPECIFICATIONS
Length 12.6"
Body Diam. 0.91"
Net Wt. 1 oz.

Catalog No. KF-1
Shipping Wt. 9 oz.

\$200



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
1/2A6-4 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
Shipping Wt. 6 oz.

\$125



SCRAM-JET

MILITARY STYLED

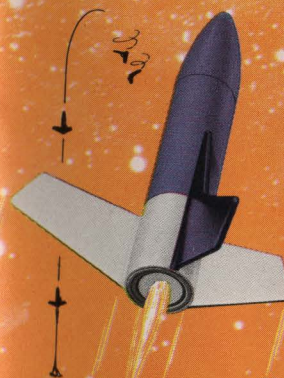
Unique off-center fins highlight this "Pseudo-scale" kit! Includes parachute, molded cone, 2-color decals, engine lock, and pre-cut balsa fins.

RECOMMENDED ENGINES
1/2A6-4 A8-5 B4-6 B6-6 C6-7

SPECIFICATIONS
Length 18.8"
Body Diam. .76"
Net Wt. 1.3 oz.

Catalog No. KF-4
Shipping Wt. 11 oz.

\$200



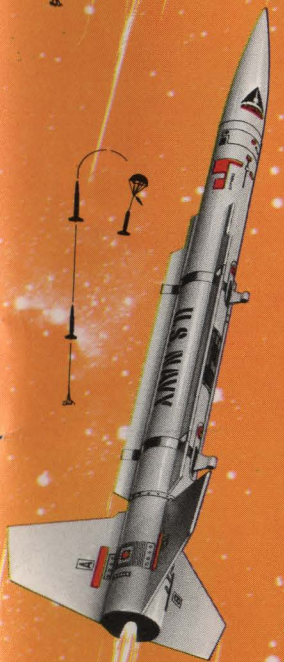
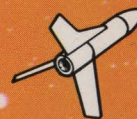
MOONRAKER

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.

95¢



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
Shipping Wt. 12 oz.

\$300

EXGALIBUR 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.

\$275



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 1/2A6-4 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.

\$300



RECOMMENDED ENGINES
1/2A6-4 A5-4 A8-5

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

*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

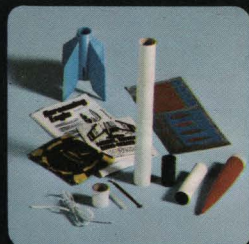
SPECIFICATIONS

Length 16.4"
Body Diam. 3.91"
Net Weight 1.16 oz.



\$200

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



\$375

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	2/30¢	"Satellite 62 SL" style . . . fits #5. For "pods" and such. Ship. Wt. 1 oz.
 PNC-102	75¢	"Sky-Lab" style . . . fits #10. Includes "bands". Ship. Wt. 2 oz.
 PNC-165	90¢	"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	\$1.00	"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.

POWR-CONTROL

GENERAL PURPOSE LAUNCH CONTROLLER

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.

\$395

Cat. No. EFC-3



SPEC-PLATES



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!

LOOK FOR THEM IN MORE CENTURI KITS AS TIME GOES BY!

#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¢**



FREEBIE \$7.50

MY ORDER IS FOR:
OR MORE

PLEASE SEND MY FREEBIE. (check one)

POWR-PAD TILTER

MOONRAKER KIT

Redeemable only at Centuri Engineering Company.

YOUR CHOICE FREE WITH \$7.50 ORDER, OR MORE

POWR-PAD TILTER

Terrific Accessory

\$1.25
VALUE

(See pg. "H")



OR



MOONRAKER KIT

95¢
VALUE

(See pg. "F")

FREEBIE \$12.50

MY ORDER IS FOR:
OR MORE

PLEASE SEND MY FREEBIE. (check one)

CHUTE KITS (12", 16", 20", 24")

JAYHAWK KIT

Redeemable only at Centuri Engineering Company.

4 CHUTE KITS

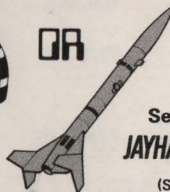
One of each size
12" 16" 20" 24"

\$2.10
VALUE

(See pg. 66)



OR



**Semi-Scale
JAYHAWK KIT**

(See pg. "E")

FREEBIE \$20.00

MY ORDER IS FOR:
OR MORE

PLEASE SEND MY FREEBIE. (check one)

3 BOXES OF ENGINES

SST SHUTTLE KIT

Redeemable only at Centuri Engineering Company.

3 BOXES OF ENGINES Plus Igniters

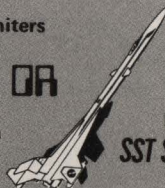
Choose any
3 types

VALUE UP TO
\$4.50

(See pg. 50)



OR



**Dual Action
SST SHUTTLE KIT**

(See pg. 43)

\$4.50
VALUE

FREEBIE \$30.00

MY ORDER IS FOR:
OR MORE

PLEASE SEND MY FREEBIE. (check one)

BEGINNER'S SPECIAL

CHUTER-2, EGG CRATE, POINT

Redeemable only at Centuri Engineering Company.

BEGINNER'S SPECIAL

Parts for 6 rockets

\$7.95 VALUE

(See pg. 56)



OR



**POINT
EGG CRATE
CHUTER-2**

Old-Timers!

③ KITS

Factory fresh,
but not in
current catalog.

**ORIGINAL
\$8.25
VALUE**

CASH IN ON THIS Centuri "FREEBIE" OFFER!

Mark and cut out appropriate coupon . . . Staple or clip to your next mail order.

CENTURI ENGINEERING COMPANY

P.O. Box 1988, Phoenix, Arizona 85001

Third Class

Postmaster: If undeliverable, please do not return

Friendly reminders for Christmas



Here's your chance to let family and friends know exactly what you would like getting on that famous December morning. Maybe this year you won't have to grind out thank-you notes for all those disgusting practical gifts, like ties and shirts.

(Put this friendly reminder inside a book being read.)

(Hang this friendly reminder around the car ignition key.)

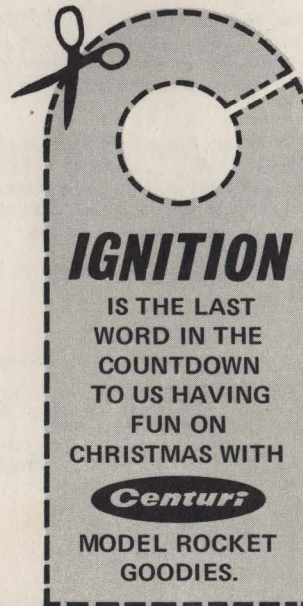
(Put this friendly reminder where it will be surely seen.)

Book Mark

YOU WOULD SCORE A HIGH MARK IN MY BOOK, IF YOU SAW MY BOOK OF

Centuri

MODEL ROCKET SUPPLIES BEFORE THIS CHRISTMAS



IGNITION

IS THE LAST WORD IN THE COUNTDOWN TO US HAVING FUN ON CHRISTMAS WITH **Centuri** MODEL ROCKET GOODIES.

DON'T READ THIS!

UNLESS YOU WANT TO KNOW MY HEARTS DESIRE . . .

Centuri

AND YOU COULD MAKE THIS A MODEL ROCKET CHRISTMAS

(Place this friendly reminder under car windshield wiper.)

THIS IS NOT A TRAFFIC TICKET

BUT YOU ARE HEREBY REQUESTED TO APPEAR at our house ON THE DATE OF December 25 WITH EVIDENCE OF **Centuri** MODEL ROCKET STUFF. SHOULD YOU FAIL TO APPEAR, YOU WILL MISS OUT ON LOTS OF FUN FOR US ALL.



Centuri

CENTURI ENGINEERING COMPANY

The quality leader in high flying model rockets

Dear Rocketeer,

Here's your personal copy of the latest Centuri Catalog... with more new products than ever before! Check the first few pages to see... **EAGLE POWER**: Lowest-priced complete rocket outfit... **POWR-PAD**: Revolutionary new launch system... **MINI-LINE**: Miniature Motors and wild little mini rocket kits...

Scan the last few pages to find... **BUNCHES OF NEW KITS**: 8 sleek "birds" with performance and pizzaz... 2 **A.R.T.F.** Two Almost Ready To Fly pre-colored kits... **POWR-CONTROL**: Universal launch controller for all model rockets...

There's more... New improved **SURE-SHOT "DOT"** igniters now easier to install... Metallic **"SPEC-PLATES"** (included free with many kits) shows recommended engines... And the largest variety of engine types, now that Enerjet advanced products are available in many stores.

All the folks here at CENTURI join me in wishing you Seasons' Greetings!

Your Friend,

Leroy E. Piester,
President

CENTURI ENGINEERING COMPANY

P.O. Box 1988, Phoenix, Arizona 85001

Third Class

Postmaster: If undeliverable, please do not return.

**BULK RATE
U.S. POSTAGE
PAID
PERMIT NO. 691
PHOENIX, ARIZONA**

JAMES ZALEWSKI
12122 GALLAGHER
HAMTRAMCK MI 48212

7